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Annual DUI Defense Update

December 4, 2020

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ICLEF Electronic Publications

Feature Release 4.1
August 2020

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Please feel free to contact ICLEF with additional suggestions on ways we may further improve our electronic publications. Thank you.

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ANNUAL DUI DEFENSE UPDATE

December 4, 2020

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The information and procedures set forth in this practice manual are subject to constant change and therefore should serve only as a foundation for further investigation and study of the current law and procedures related to the subject matter covered herein. Further, the forms contained within this manual are samples only and were designed for use in a particular situation involving parties which had certain needs which these documents met. All information, procedures and forms contained herein should be very carefully reviewed and should serve only as a guide for use in specific situations.

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ANNUAL DUI DEFENSE UPDATE

Agenda



- 8:30 A.M. Registration**
- 8:50 A.M. Welcome and Introduction
- Mark A. Foster, Program Chair
- 9:00 A.M. Trial Preparations
- Mark A. Foster & Shaunda Lynch
- 10:00 A.M. Refreshment Break**
- 10:15 A.M. Foundational Issues in a Blood Case
- Charles J. Rathburn, Jr
- 11:15 A.M. Drug Pharmacology
- Dr. Robert J. Bellotto, Jr
- 12:15 P.M. Lunch Break**
- 1:15 P.M. ECIR II
- Dr. Robert J. Bellotto, Jr
- 2:15 P.M. Refreshment Break**
- 2:30 P.M. I did the best I could: A discussion about insufficient Samples
- Todd L. Sallee
- 3:30 P.M. Sentencing Alternatives & Treatment Courts - Mental Health Courts/ Veterans Courts and Forensic Diversion / Drug Courts (roundtable discussion)
- Hon. David D. Kiely, Magistrate Jill R. Marcrum
William Wells, and Mark Foster (moderator)
- 4:30 P.M. Adjournment**

December 4, 2020

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ANNUAL DUI DEFENSE UPDATE

Faculty



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Panel:

Honorable David D. Kiely

Vanderburgh County Circuit Court

Magistrate Jill R. Marcrum

Vanderburgh Superior Court

William Wells

Executive Director, Vanderburgh County
Drug and Alcohol Deferral Service

December 4, 2020

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Mark A. Foster

Foster O'Daniel Hambidge & Lynch, Evansville



Mark has strived to continue his own education in the area of DUI defense as well as teach others. Mark is certified in the administration of National Highway Traffic Safety Administration Standardized Field Sobriety Test. In addition, he is a certified operator of the BAC DataMaster by National Patent Analytical Systems. The following is a list of articles Mark has written for numerous seminars where he was a lecturer; "DUI Dram Shop," ICLEF, 1990; "Criminal Law", ICLEF, 1990; "Planning Your First Criminal Defense," ICLEF, 1997; "DUI," ICLEF, 1998; "What Every Lawyer Should Know about DUI," ICLEF, 1998; "DUI," ICLEF, 1999; "DUI & HTV-Quebec City, Quebec" ICLEF, 1999; "Traffic Law School," ICLEF, 2000; "Criminal Law-LasVegas," ISBA & ICLEF, 2001; "The Best of DUI," ICLEF, 2001; "Civil and Criminal Evidence," ICLEF, 2001; "DUI Defense," ICLEF, 2002; "Misdemeanor Court," Legal Aid Society, 2002; "Traffic Law School," ICLEF, 2002; "DUI Experts, Technology and Equipment," ICLEF, 2003; "Hot Topics – DUI," EBA, 2003; "Traffic School for Lawyers," ICLEF, 2004, "DUI," ICLEF, 2005; "DUI," ICLEF, 2006; "DUI," ICELF, 2008; "DUI," ICELF, 2008; "DUI," ICLEF, 2009; "The DUI Trial," ICLEF, 2010; "DUI," ICLEF, 2011; "DUI at Trial," ICLEF 2012; "Defending the Sex Crime Case," ICLEF, 2012; ICLEF, 2013; Current State of DUI Defense; Inside the Minds: Trends in DUI Discovery," 2011 Published by Aspatore, Super Lawyers 2011; 2012; 2013 ; Best Lawyers in Indiana 2011; 2012; 2013; DUI – ICLEF 2011, DUI @ Trial – ICLEF 2012, Defending The Sex Crimes Case – ICLEF 2012, Current State of DUI Defense – ICLEF 2013; Reality CLE (Criminal Law) – ICLEF 2013.

Hon. David D. Kiely
Vanderburgh County Circuit Court



Judge, Vanderburgh Circuit Court

Magistrate Jill R. Marcrum
Vanderburgh Superior Court



Vanderburgh Superior Court

Dr. Robert Belloto, Jr R.PH., PH.D

Drug Pharmacology and ECIR II, Beavercreek, OH

Dr. Robert John Belloto Jr. R.PH., PH.D is a Pharmacist - Geriatric based out of Beavercreek, Ohio, and his medical specialization is Pharmacist - Geriatric.

Shaunda Lynch

Foster O'Daniel Hambidge & Lynch, LLP, Evansville



Shaunda Lynch began her legal career in 2000, after graduating from Western Washington University and Willamette University College of Law. She is licensed in both Indiana and North Carolina. Shaunda relocated to Evansville and married Evansville native Chad Schmidt in November, 2000. She began in private practice, emphasizing in medical malpractice defense, business/corporate law, and intellectual property and expanded into family law with two local firms.

In 2002, she joined the Vanderburgh County Prosecutor's office as a Deputy Prosecutor, where she spent six years focusing on the prosecution of impaired drivers. While there, she received M.A.D.D. Indiana's Prosecutor of the Year award for 2005, as well as recognition as one of Indiana's Outstanding Prosecutors for 2005, as awarded by the Governor Council on Impaired and Dangerous Driving. In 2008, her family moved to Asheville, North Carolina, where she served as Assistant District Attorney for Buncombe County and emphasized in child abuse and sex offense cases. In 2009, Shaunda moved back to Indiana and was appointed Chief Deputy Prosecutor for Perry County, Indiana.

As a prosecutor, Shaunda has been considered an expert on impaired driving offenses and has extensive trial practice in all criminal matters. In that regard, Shaunda has been asked to serve several times as a faculty member for the Indiana Prosecuting Attorney's Council Annual Trial Advocacy Course – teaching new prosecutors trial skills and practices, as well as serving as an instructor for the Southwestern Indiana Law Enforcement Academy in 2006, 2007 and 2008.

Shaunda joined Foster, O'Daniel, Hambidge & Lynch in 2011, and focuses on DUI/criminal defense, divorce, personal injury, estate planning, business law and intellectual property. She completed Intoximeter EC/IR II Operator Training Course taught by Dr. Alfred Staubus, PharmD, PhD in 2014.

Charles J. Rathburn

Rathburn Law Office, Indianapolis



Charles James Rathburn Jr. is one of the most highly trained attorneys in the United States and specifically in the State of Indiana in this highly specific area of law. Mr. Rathburn is one of a few attorneys in the United States who is been qualified as an expert on breath testing, the standardized field sobriety tests, and alcohol's effects on the human body. He has countless hours of training in these areas and has been invited to speak nationally on these topics. In addition, Mr. Rathburn trains attorneys and judges about how a breath testing machine accepts a sample, analyzes a sample and provides a result from each breath delivery.

Todd Sallee

Sallee Law LLC, Indianapolis



For more than ten years, *Attorney Todd L. Sallee* has dedicated his practice to representing those accused of committing crimes. Over twelve years ago he began his career as an intern in the Indianapolis Marion County Prosecutor's Office and then as a full-time deputy prosecuting attorney.

He honed his skills as a trial lawyer in this fast-paced legal environment. He was involved in cases ranging from misdemeanors to major- and lower-level felony crimes, and traffic infraction cases. Mr. Sallee learned the intricacies of prosecuting a criminal case and how to exploit weaknesses in the prosecution's case which he now applies to the benefit of the clients he defends.

He has tried hundreds of cases, and zealously represents his clients' interests to the fullest extent a case allows. While attorneys may settle on the facts of a case as they are perceived and have become increasingly complacent in their profession; he has continued to work at the craft by trying cases and attending seminars, both locally, and on a national level, to find new, innovative ways to challenge the evidence standing in the way of his clients' innocence and freedom.

He has successfully fought cases in counties and jurisdictions across the State of Indiana and is dedicated to providing the strongest possible defense as he advocates for each client and counsels them compassionately as they navigate the difficult path of being criminally accused.

AREAS OF PRACTICE

- Criminal Law
- Traffic Violations
- Expungements
- DUI
- Federal and State Felonies & Misdemeanors

BAR ADMISSIONS

Indiana

EDUCATION

- Indiana University School of Law, Indianapolis, Indiana
J.D.
- Hanover College

B.A.

Major: Communication

CLASSES/SEMINARS

Speaker on DUI law to new and young lawyers and firms, "Nuts and Bolt of DUI Defense", Indiana Bar Association Annual Seminar

PROFESSIONAL ASSOCIATIONS AND MEMBERSHIPS

- National Association of Criminal Defense Lawyers (NACDL)
- Indianapolis Bar Association, Criminal Justice Section
- Moot Court Judge for Indiana University Law School
- Judge Pro Tem, Marion Superior Courts, and Traffic Division
- American Bar Association
- National Advocacy for DUI Defense

PAST EMPLOYMENT POSITIONS

Indianapolis Marion County Prosecutor's Office, Intern, Deputy Prosecuting Attorney

William Wells
DADS Program Director
Evansville, Indiana

Drug and Alcohol Deferral Service Director
Vanderburgh County Misdemeanor Court

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Section Two

Foundational Issues in a Blood Case..... Charles J. Rathburn, Jr.

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Exhibit #31

Exhibit # 32

Product Catalog - BD Life Sciences – Preanalytical Systems

BD Certificate of Compliance

BD Lab Notes – Volume 19, No. 1, 2009

Video Link - <https://www.youtube.com/watch?v=RKuUPO6NNcU>

Section Three

Drug

Pharmacology.....Dr. Robert J. Belloto, Jr. R.Ph., Ph.D., M.S. (Stat.)

Dr. Belloto CV

PowerPoint Presentation

Section Four

ECIR II..... Dr. Robert J. Belloto, Jr. R.Ph., Ph.D., M.S. (Stat.)

Chemical Tests for Intoxication – Training Course for Breath Test Operator Certification

Letter Re: Sensor Technology used in the ECIR I and ECIR II Instruments in Wyoming

2017 IAFS Staubus Poster

Intox EC/IR II Resource Reading Material

Gallagher Letter

Martin Letter

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Section Six

Sentencing Alternatives & Treatment

Courts / Mental Health Courts / Veterans

Courts & Forensic Diversion / Drug Courts...

Mark A. Foster, Moderator

Honorable David D. Kiely

Magistrate Jill R. Marcum

William Wells

Vanderburgh County Mental Health Court Policy and Procedures Manual

Participation Agreement and Conditions

Section One

Trial Preparations

Mark A. Foster

Foster, O'Daniel, Hambidge & Lynch LLP
Evansville, Indiana

Shaunda C. Lynch

Foster, O'Daniel, Hambidge & Lynch LLP
Evansville, Indiana

Section One

**Trial Preparations..... Mark A. Foster
Shaunda C. Lynch**

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ICLEF 2020 ANNUAL DUI DEFENSE UPDATE

MARK A. FOSTER AND SHAUNDA LYNCH

INTERVIEW

- Interview form
- Affidavit of Probable Cause
- Driving Record
- Google Earth

DISCOVERY

- **Video:**
 - Body Cam, Interview
 - 3rd Party Video
 - Breath Test Video
- **Hospital Records:**
 - Client's Records
 - 3rd Party Request
 - Serum Test

I.C. 35-36-11-1 ET SEQ

- Notice to Present Lab Tests
- Answer-Demand to Cross-Examine
- Due within 10 days

PRIVATE INVESTIGATOR

- Go to scene
- Video
- Pictures
- Look at evidence in police custody

DEPOSITIONS

- Have a reason
- Prepare the State/disclose defense
- Lock in testimony of officer
- Lab analyst

PLEA NEGOTIATIONS

- Know the players
- Educate the prosecutor
- Integrity

TRIAL PREP

- Theory of defense
- Trial notebook
- Witness preparation
- Cross preparation
- Client preparation
- Know the Rules of Evidence

JURY SELECTION

- Jury consultant
- Run juror's records
- Theory of case

STATE OF INDIANA)
)
COUNTY OF VANDERBURGH)

SS: IN THE VANDERBURGH CIRCUIT COURT
2017 TERM

STATE OF INDIANA)
)
VS.)
)
COLEMAN SHERIDAN)

CAUSE NUMBER: ~~2016-1612-F4-007110~~

NOTICE OF INTENT TO PRESENT EVIDENCE OF LABORATORY TESTS

Comes now the State of Indiana by Samuel C. Arp II, Deputy Prosecuting Attorney and files the State's Notice to present evidence of laboratory testing and results during the trial in this proceeding.

Specifically the State will offer evidence related to a report issued by AIT Laboratories which was reported on 10-3-2016. Said report bares Laboratory Case #: ~~9103004~~ and consists of three pages (Comprehensive Drug Panel), copies of which have previously been provided the Defendant.

Respectfully submitted,

Samuel C. Arp II

Samuel C. Arp II
Deputy Prosecuting Attorney

CERTIFICATE

I, Nicholas Hermann, Prosecuting Attorney for the First Judicial Circuit of Indiana do hereby certify that a copy of the above pleading has been served on counsel for all defendants in the above cause by electronic service, in person or by United States Mail on or before the date of filing.

Nicholas Hermann
Prosecuting Attorney
First Judicial Circuit

STATE OF INDIANA) IN THE VANDERBURGH CIRCUIT COURT
) SS:
COUNTY OF VANDERBURGH)
STATE OF INDIANA)
)
VS.) CAUSE NO. [REDACTED]
)
[REDACTED])

ANSWER TO NOTICE OF INTENT TO INTRODUCE LABORATORY TESTS

COMES NOW the Defendant [REDACTED], by counsel, Mark A. Foster of FOSTER, O'DANIEL, HAMBIDGE & LYNCH, and pursuant to I.C. 35-36-11-3 demands that the person who prepared the laboratory report and tested the substances in question, be present at the trial for the purposes of cross examination.

Respectfully submitted,

/s/ Mark A. Foster

**Mark A. Foster, #8452-98
FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP
3820 Oak Hill Road
Evansville, IN 47711
Telephone: (812) 424-8101
Facsimile: (812) 437-8364**

ATTORNEYS FOR DEFENDANT

CERTIFICATE OF COMPLAINE

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

/s/ Mark A. Foster

Mark A. Foster, #8452-98

**FOSE, O'DANIEL, HAMBIDGE & LYNCH, LLP
By: Mark A Foster, #8452-98
3820 Oak Hill Rd
Evansville, IN 47711
Telephone: (812) 424-8101**

ATTORNEY FOR DEFENDANT

STATE OF INDIANA)
) SS: IN THE VANDERBURGH CIRCUIT COURT
 COUNTY OF VANDERBURGH)
 STATE OF INDIANA)
 vs) CAUSE NO. [REDACTED]
)
 [REDACTED])
 Defendant)

VERIFIED MOTION TO EXCLUDE TESTIMONY

The Defendant, by counsel, respectfully moves this Court to exclude from evidence any testimony or statements of the State’s witness, [REDACTED], pursuant to Indiana Rule of Trial Procedure 37(B)(2)(b) and Rule of Criminal Procedure 21. In support of the Motion, the Defendant states the following:

1. On two (2) occasions, the State’s witness, [REDACTED], was served with a subpoena requiring his attendance at a deposition being taken by defense counsel on behalf of the Defendant.
 - a. On May 14, 2016, The State’s witness was served with a subpoena to attend a deposition at 3820 Oak Hill Road, Evansville, Indiana on June 1, 2016 at 3:00 p.m. On June 1, 2016, the State’s witness failed to appear.
 - b. On October 8, 2016, The State’s witness was served with a subpoena to attend a deposition at 3820 Oak Hill Road, Evansville, Indiana on October 10, 2016 at 1:00 p.m. On October 10, 2016, the State’s witness failed to appear.
2. The Defendant has been prejudicially denied the opportunity to depose the witness for the State and the right to ascertain any and all evidence in the possession and control of the State, or its agents which may be favorable to the Defendant and material to the issue of guilt or punishment, or that could reasonably affect any evidence proposed to be offered into evidence against the Defendant, or that may be relevant to the subject matter of this cause of action, or in any manner may aid the Defendant in ascertainment of the truth. Brady v Maryland, 373 U.S. 83, 10 L. Ed.2d 215, 83 S.Ct 1194 (1963).

3. The Defendant has a right under the Indiana Code and Rules of Trial Procedure to discovery, including the taking of depositions from those persons listed as State's witnesses. Murphy v. State, 265 Ind. 116, 352 N.E. 2d 479 (1976).
4. Failure to permit a deposition of a State's witness cannot be harmless error being that one cannot presume that no exculpatory or mitigating evidence would have arisen from the deposition. Murphy v. State, 265 Ind. 116, 352 N.E. 2d 479 (1976); Reed v. State, 748 N.E.2d 381 (Ind. 2001) (at the very least, the defendant was entitled access to the witness prior to trial to have the opportunity to develop and pin down the witness's testimony or at least have sworn testimony to impeach any variances.)

WHEREFORE, the Defendant, by counsel, respectfully requests this Court to exclude from evidence any testimony or statements of the State's witness, ~~Samuel Darussan~~, pursuant to Indiana Rule of Trial Procedure 37(B)(2)(b) and Rule of Criminal Procedure 21, and for all other relief just and proper in the premises.

Mark A. Foster # 8452-98

I affirm under the penalties of perjury that the foregoing representations are true and correct to the best of my knowledge and belief.

Mark A. Foster, #8452-98

**CERTIFICATION OF COMPLIANCE OF PLEADINGS
WITH TRAIL RULE 5(G) AND CERTIFICATE OF SERVICE**

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

Further, a copy of the above and foregoing pleading was served, either personally or by depositing the same in the United States Mail, on the following:

Doug Brown, Deputy Prosecutor
Vanderburgh County Prosecutor's Office
One NW MLK Jr. Blvd
Civic Center Complex, Room 108
Evansville, IN 47708

FOSTER, O'DANIEL, HAMBIDGE & LYNCH

By: _____

Mark A. Foster, #8452-98
Attorney for Defendant

FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP
By: Mark A. Foster # 8452-98
3820 Oak Hill Rd.
Evansville, IN 47711
Telephone: (812) 424-8101
Facsimile: (812) 437-8364

ATTORNEYS FOR DEFENDANT

STATE OF INDIANA)
) SS: IN THE VANDERBURGH CIRCUIT COURT
COUNTY OF VANDERBURGH)

THE STATE OF INDIANA)
)
-VS-) CASE NO.: [REDACTED]
)
[REDACTED])
)
DEFENDANT)

NOTICE OF THIRD PARTY DISCOVERY REQUEST

COMES NOW Defendant, [REDACTED], by counsel, Mark A. Foster of Foster, O’Daniel, Hambidge & Lynch, and verifies that he has provided a copy of the documents received from Third Party, Deaconess Hospital. A flash drive containing pdf files of all documents received from Deaconess Hospital was personally delivered to the prosecutor on January 24, 2019 by the Defendant’s Attorney, Mark A. Foster.

Respectfully submitted,
FOSTER, O’DANIEL, HAMBIDGE & LYNCH

/S/ Mark A. Foster
Mark A. Foster, #8452-98
Attorneys for Defendant

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

/S/ Mark A. Foster
Mark A. Foster, #8452-98

FOSTER, O’DANIEL, HAMBIDGE & LYNCH, LLP
By: Mark A. Foster, #8452-98
3820 Oak Hill Road
Evansville, IN 47711
Telephone: (812) 424-8101
Attorney for Defendant



REQUEST FOR DRIVER RECORDS

State Form 53789 (R11 / 2-15)
Approved by State Board of Accounts, 2015
Bureau of Motor Vehicles

BUREAU OF MOTOR VEHICLES

Attn: Driver Records Requests
100 N. Senate Ave., Rm N412
Indianapolis, IN 46204

The Indiana Bureau of Motor Vehicles (BMV) driver and vehicle records are open to the public except those protected by law. Recipients of records must comply with the applicable state and federal privacy laws for usage, distribution, and record keeping. Information in a record that identifies a person is statutorily restricted by Ind. Code §§ 9-14-3-5, 9-14-3.5-5, and 9-14-3.5-7 and can only be released in the circumstances outlined below.

A person's name, address, or telephone number can only be released if:

(1) you provide written consent of the person to whom the personal information pertains; or
(2) you provide proof of identity and a representation that use of the information will be strictly limited to at least one of the uses outlined in Ind. Code § 9-14-3.5-10. You must specify which use in Ind. Code § 9-14-3.5-10 applies to you. A person's image, Social Security number, medical or disability information, driver's license number, federal identification number, or a reproduction of his/her signature on his/her application for an Indiana ID card, learner's permit, or driver's license can only be released if:

- (1) you provide the express written consent of the person to whom the information pertains; or
- (2) you provide proof of identity and a representation that use of the information will be strictly limited to at least one of the uses outlined in Ind. Code § 9-14-3.5-10(1), Ind. Code § 9-14-3.5-10(4), Ind. Code § 9-14-3.5-10(6) or Ind. Code § 9-14-3.5-10(9). In your request, you must specify which use in Ind. Code § 9-14-3.5-10 applies to you.

Records will not contain confidential juvenile information, unless you, as the requestor, are the individual to whom the information belongs, or the parent, legal guardian, or authorized representative of that individual. If you otherwise are entitled to confidential juvenile information, you must obtain it from the appropriate court.

Many of the BMV public records are immediately available through a subscription to the online service at IN.gov. Your own records are also immediately available online at myBMV.com. Paper copies may be requested by completing this form.

- INSTRUCTIONS:**
1. Complete in blue or black ink or type.
 2. Complete all five (5) steps when requesting records. If any of the steps are not completed, the request will be returned.
 - STEP 1 - Complete applicable information.
 - STEP 2 - Complete as many identifiers as possible.
 - STEP 3 - Only check one box except if the request is for Confidential Juvenile Information. Additional record requests must be completed on separate forms.
 - STEP 4 - Must provide at least one qualification and complete the intended use of the record.
 - STEP 5 - Indicate the payment amount, sign and date the request form.
 3. Include payment with completed form. Acceptable forms of payment are money order, cashier's check, business check or personal check (customer must have an INDIANA BMV record to process a personal check). Make checks payable to the Bureau of Motor Vehicles.
 4. Mail the completed form to the address indicated above.
 5. Please allow two (2) to four (4) weeks to process this request.

STEP 1: The person submitting this form must provide the following information.		
Name of person or business (first name, middle name, last name) Foster, O'Daniel, Hambidge & Lynch, LLP	Telephone number 812-424-8101	E-mail address slynch@fohlaw.com
Mailing address (number and street, city, state and ZIP code) 3820 Oak Hill Road, Evansville, IN 47711		
Last 4 digits of Social Security Number (This information is for security purposes only.) XXX-XX-_____	Last 4 digits of record of admission number (I-94) (if applicable) XXXXXXX_____	Federal identification number if requestor is a business (This information is for security purposes only.) 27-4530500

STEP 2: Person named in Step 1 is requesting information on the following person. (Please include as many identifiers as possible, as drivers often have identifiers in common.)		
I consent to the release of my restricted information (defined above) to the requestor.		
PRINTED NAME: _____		SIGNATURE: _____
Name of driver (first name, middle name, last name)	Driver's license number, if known	
Last 4 digits of driver's social security number, if known XXX-XX-_____	Last 4 digits of record of admission number (I-94) (if applicable) XXXXXXX_____	Driver's date of birth (mm/dd/yyyy), if known
Last known Indiana mailing address (number and street, city, state and ZIP code) 825 E. Blackford, Evansville, IN 47713		

STEP 3: Select the type of record(s) you are requesting.

Certified Driver Record (\$4.00 fee)

Certified Driver History (\$8.00 fee) - Specify the documents being requested: _____

Proof of Insurance (*Specify vehicle year, vehicle make and date of accident.*)

Record Containing Confidential Juvenile Information - I am requesting records that contain confidential juvenile information, and:

The record belongs to me. *You must include a copy of your photo identification.*

I am the parent, legal guardian, or authorized representative (i.e., POA, Attorney) of the individual to whom the confidential juvenile information belongs. *You must include a copy of your photo identification.*

Record Containing Sealed/Expunged Information - I am requesting records that contain sealed/expunged information, and:

These records are being requested pursuant to a court order. *You must include a copy of order.*

I am a law enforcement official and I am requesting these records in the course of my official duty.

STEP 4: If you wish to receive restricted information, indicate your qualification to receive the information. You must mark at least one (1) category. You must identify to which use the information will be strictly limited.

I am requesting my records that contain my restricted information.

I am a legal guardian or have power of attorney for the person named in the requested records containing restricted information. *Must provide a copy of the documents granting guardianship or power of attorney.*

I am a law enforcement officer requesting: records containing restricted information to use for investigation purposes and/or the use of a photograph.

Badge number: _____ Law enforcement agency: _____

Name and title of the agency's chief officer (e.g. John Smith, Sheriff) _____

I am requesting the information for use in connection with a civil, criminal, administrative, or arbitration proceeding.

I am requesting for use by a government agency in carrying out its functions:

Government entity: _____

Government function(s): _____

I have provided the consent of the person whose information I am seeking.

The permissible under Ind. Code § 9-14-3.5-10 identified above.

The following permissible use under Ind. Code § 9-14-3.5-10 _____

STEP 5: Fill in the amount of money owed, then sign and date. I swear or affirm under the penalties of perjury that all of the information on this form is true and accurate and any restricted information I receive will be only be used for the stated permissible purpose under Ind. Code § 9-14-3.5-10.

Total amount owed: \$8.00

Printed name

Shaunda Lynch, Esq.

Signature

Date (mm/dd/yyyy)

STATE OF INDIANA)
COUNTY OF VANDERBURGH) **SS: IN THE VANDERBURGH SUPERIOR COURT**

STATE OF INDIANA)
Plaintiff)
))
vs.) **CAUSE NO. ~~2015-1610-CM-00591~~**
))
~~DAVID READ~~)
Defendant)

DISCOVERY MOTION

COMES NOW Defendant, ~~David Read~~, by counsel, Conor O’Daniel of Foster, O’Daniel, Hambidge & Lynch, and hereby requests the Court to order the Prosecuting Attorney to disclose to Defendant's counsel, and in the case of a tangible item, to present for examination, inspection and copying, the following:

1. The names and last known address of all persons who the State of Indiana intends to use in the prosecution of this cause of action.
2. The names and last known addresses of all persons who have knowledge of any facts or matters which would tend to establish the innocence of Defendant of the crime charged herein, or tend to impeach or contradict any of the evidence to be offered by the State of Indiana at the trial of the within cause of action.
3. All written or recorded statements and memoranda of any oral statements made by any of the witnesses listed by the State of Indiana as the State's witnesses.
4. Any and all statements taken from any witnesses or potential witnesses known to the State of Indiana.
5. Any evidence or information known to the State of Indiana, or any of its representatives, officers or employees, which would tend to establish the innocence of Defendant of the

crime charged herein, and any evidence or information which would be favorable to Defendant in the defense of this case.

6. To require the State of Indiana to produce copies or to furnish for copying any and all photographs, video tapes and/or sound recording tapes which the State of Indiana intends to rely upon in the prosecution of this cause.
7. To require the State of Indiana to give to the Defendant's counsel copies of, or furnish the originals for use in copying, any and all documents or other tangible things seized in connection with the prosecution of this cause.
8. To require the State of Indiana to give to Defendant's counsel copies of any and all expert witness reports in the possession of the State of Indiana, its officers, agents or prosecutors.
9. A copy of the criminal record of all of the State's witnesses listed in response to this Discovery Motion.
10. Any and all records concerning the blood draw tests of Defendant, David Read's blood, urine or other bodily substance, including the protocol established pursuant to I.C. 9-30-6-6; the name of the individual who established the protocol; the name of the individual who drew the blood and took the urine or other bodily substance; the name of the individual who tested the blood, urine or other bodily substance; the type of analysis used to test the blood, urine and other bodily substance; and the results of those tests.
11. The name of the vendor of the Alcohol Assay and the Instruction Manual for the Assay that is provided by the manufacturer.
12. To require the State of Indiana to provide to Defendant's counsel copies of or to furnish the originals for use in copying any and all documents the State intends to rely on or use

as evidence in this cause.

13. To require the State of Indiana to provide to Defendant's counsel copies of or to furnish the originals for use in copying any and all *body cam videos, in-car video tapes, booking tapes, intoxilyzer tapes, PEN Camera tapes, in car camera tapes*, and Jail Inventory List taken at the time of Defendant's arrest.

WHEREFORE, Defendant, by counsel, moves the Court to require the State of Indiana to provide Defendant with the above requested information, and for all other just and proper relief in the premises.

Respectfully submitted,
FOSTER, O'DANIEL, HAMBIDGE & LYNCH

Conor O'Daniel # 19506-82
Attorneys for Defendant

CERTIFICATE OF COMPLIANCE AND SERVICE

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

I further certify that a copy of the above and foregoing Discovery Motion was served upon Doug Brown, Deputy Prosecutor, Vanderburgh County Prosecutor's Office, One NW MLK Jr. Blvd., Civic Center Complex, Room 108, Evansville, IN 47708, via U.S. Mail, postage prepaid, on this the _____ day of October, 2016.

Conor O'Daniel # 19506-82

FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP
By: Conor O'Daniel # 19506-82
3820 Oak Hill Road
Evansville, IN 47711
Telephone: (812) 424-8101
Attorney for Defendant

STATE OF INDIANA)
COUNTY OF VANDERBURGH) SS: IN THE VANDERBURGH SUPERIOR COURT

STATE OF INDIANA)
Plaintiff)
vs.) CAUSE NO. ~~2005-1610-CV-01591~~
~~DAVID READ~~)
Defendant)

ORDER GRANTING DISCOVERY MOTION

COMES NOW Defendant, by counsel, and Defendant having heretofore filed his Discovery Motion and the Court having examined said Discovery Motion and having been duly advised in the premises, NOW FINDS as follows:

That the State of Indiana should be, and hereby is, ordered to respond to Defendant's Discovery Motion within thirty (30) days of the date of this Order.

DATED this ____ day of _____, 2016.

Judge/Magistrate
Vanderburgh Superior Court

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

Conor O'Daniel #19506-82

FOSTER, O'DANIEL & HAMBIDGE, LLP
By: **Conor O'Daniel # 19506-82**
3820 Oak Hill Rd.
Evansville, IN 47711
Telephone: (812) 424-8101
Attorney for Defendant

STATE OF INDIANA)
COUNTY OF VANDERBURGH) **SS: IN THE VANDERBURGH CIRCUIT COURT**
STATE OF INDIANA)
vs.) **CAUSE NO. [REDACTED]**
[REDACTED])
Defendant)

NOTICE OF INTENT TO SERVE THIRD PARTY REQUEST FOR PRODUCTION OF DOCUMENTS WITH SUBPOENA DUCES TECUM

Pursuant to Trial Rule 34C of the Indiana Rules of Trial Procedure, the Respondent, by counsel, Shaunda Lynch, Foster, O’Daniel, Hambidge & Lynch, LLP, will serve a Third Party Request for Production of Documents and Subpoena *Duces Tecum* in the attached format upon the following:

Deaconess Health System

American Medical Response

The proposed Third Party Request for Production of Documents and Subpoena *Duces Tecum* will be served no earlier than fifteen (15) days from the date of service of this notice.

FOSTER, O’DANIEL, HAMBIDGE & LYNCH, LLP

Shaunda Lynch, # 22656-82
3820 Oak Hill Road
Evansville, Indiana 47711
Telephone: (812) 424-8101
Facsimile: (812) 437-8364
Attorneys for Defendant

CERTIFICATE OF COMPLIANCE AND SERVICE

The undersigned certifies that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G), and that a copy of the foregoing documents was served upon the following via U.S. Mail, postage pre-paid, on this the _____ day of October, 2016:

Doug Brown, Deputy Prosecutor
Vanderburgh County Prosecutor's Office
One NW MLK Jr. Blvd
Civic Center Complex, Room 108
Evansville, IN 47708

Shaunda Lynch

STATE OF INDIANA)
) SS: VANDERBURGH SUPERIOR COURT
COUNTY OF VANDERBURGH)

STATE OF INDIANA)
)
v.) CAUSE NO. [REDACTED]
)
[REDACTED])
Defendant)

THIRD PARTY REQUEST FOR PRODUCTION

TO: HIGHEST RANKING OFFICIAL
Deaconess Health System
PO Box 1230
Evansville, IN 47706-1230

Comes now, Defendant, [REDACTED], by counsel, Shaunda Lynch, Foster, O'Daniel, Hambidge and Lynch, LLP, and pursuant to Rule 34 of the Indiana Rules of Procedure, hereby requests that you produce and permit counsel for Defendant, Cody Clark, to inspect and copy the following designated documents in conformity with the attached Subpoena Duces Tecum issued pursuant to Trial Rule 45(B):

Any and all records of [REDACTED] in your possession.
Patient/Client: [REDACTED]
Patient/Client DOB: [REDACTED]
Date of service: [REDACTED]

The production, inspection and copying of the matters herein requested and subpoenaed shall be held at the offices of Foster, O'Daniel, Hambidge and Lynch, LLP, 3820 Oak Hill Road, Evansville, Indiana on the 9th day of December, 2016, at 10:00 a.m.

You are expressly notified that, pursuant to Trial Rule 34 of the Indiana Rules of Procedure, are entitled to security against damages or payment of damages resulting to you from this request.

You are further notified that you may respond to this request by submitting to its terms by proposing different terms, by objecting specifically or generally to the request by serving written response thereto to the party making the request within thirty (30) days, or by moving to quash pursuant to Trial Rule 45(B) of the Indiana Rules of Procedure.

FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP

Shaunda Lynch, # 22656-82

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

Shaunda Lynch, # 22656-82

FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP
By: Shaunda Lynch, #22656-82
3820 Oak Hill Road
Evansville, Indiana 47711
Telephone: (812) 424-8101
Facsimile: (812) 437-8364
Attorneys for Defendant

STATE OF INDIANA)
) SS: IN THE VANDERBURGH CIRCUIT COURT
 COUNTY OF VANDERBURGH)
 STATE OF INDIANA)
)
 vs.) CAUSE NO. [REDACTED]
)
 [REDACTED])
)
 Defendant)

SUBPOENA DUCES TECUM

TO: HIGHEST RANKING OFFICIAL
 Deaconess Health System
 PO Box 1230
 Evansville, IN 47706-1230

You are commanded to be and appear at Foster, O’Daniel, Hambidge & Lynch, LLP, 3820 Oak Hill Road, Vanderburgh County, Evansville, IN, on the 9th day of December, 2016, at 10:00 a.m., and to bring with you all documents and other items set forth in Request for Production served of even date herewith and a copy of which is attached hereto and made a part hereof and then and there in said Court to produce any and all Deaconess Health System records on [REDACTED] with a service date of November 18, 2015.

WITNESS, Officer of said Court, at Evansville, this _____ day of October, 2016.

Shaunda Lynch, # 22656-82
 FOSTER, O’DANIEL, HAMBIDGE & LYNCH, LLP
 3820 Oak Hill Road
 Evansville, Indiana 47711
 Telephone: (812) 424-8101
 Facsimile: (812) 437-8364
 Attorneys for Defendant

STATE OF INDIANA)
) SS: IN THE VANDERBURGH CIRCUIT COURT
COUNTY OF VANDERBURGH)

STATE OF INDIANA)
)
Plaintiff)
)
vs.)
)
~~BODY CLARK~~)
)
Defendant)

CAUSE NO. ~~STATE 1601-FG-00023~~

SUBPOENA DUCES TECUM

We command you to summon:

~~William D. Arney~~
~~2409 Powell Avenue~~
Evansville, IN 47714-24287

If he may be found in your bailiwick, to appear at the office of FOSTER, O'DANIEL, HAMBIDGE & LYNCH, whose address is 3820 Oak Hill Road, Evansville, Indiana 47711, on or before the **20th day of January, 2017**, and to furnish to Foster, O'Daniel, Hambidge & Lynch copies of the following information:

Any and all insurance records pertaining to your Deaconess Bill (Invoice 140548437) for the date of service of November 18, 2015, including but not limited to the Explanation of Benenfits (EOB) from your insurance showing what your insurance paid and proof of what you owe or have paid out of pocket for the purpose that Shaunda Lynch may have copies of any such documents for and on behalf of the Defendant in a certain cause pending in said Court wherein the STATE OF INDIANA is Plaintiff and wherein Joshua Ingle is the Defendant, and not depart his office without leave thereof. Herein Fail Not, and of this Writ make due service and return.

WITNESS, Clerk of said Court, at Evansville, this 28th day of December, 2016.

CARLA J. HAYDEN, CLERK

By: _____
Shaunda Lynch #22656-82

FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP
By: **Shaunda Lynch # 22656-82**
3820 Oak Hill Road
Evansville, Indiana 47711
Telephone: (812) 424-8101
Facsimile: (812) 437-8364
ATTORNEYS FOR DEFENDANT

SERVE VIA Certified Mail:

~~William D. Arney~~
~~2409 Powell Avenue~~
Evansville, IN 47714-24287

STATE OF INDIANA)
)
 COUNTY OF VANDERBURGH) IN THE VANDERBURGH CIRCUIT COURT

STATE OF INDIANA)
)
 vs.) CAUSE NO. [REDACTED]
)
 [REDACTED])

NOTICE OF INTENT TO TAKE DEPOSITION

TO: Nicholas Hermann, Prosecuting Attorney
 Vanderburgh County Prosecutor’s Office
 Civic Center Complex, Room 108
 1 NW Martin Luther King Jr. Blvd.
 Evansville, IN 47708

Please take notice that on the **17th day of December, 2015**, commencing at **2:00 P.M.** at Foster, O’Daniel, Hambidge & Lynch, LLP, 3820 Oak Hill Road, Evansville, IN 47711, the Defendant in the above entitled cause of action, pursuant to Trial Rule 30 of the Indiana Rules of Procedure, will take the deposition of **Trooper Lucas Zeien, Trooper Mitch Wier of the Indiana State Police, and Officer Jeremy Mathews, of the Evansville Police Department** upon oral examination before a Notary Public or before some other officer authorized by law to administer oaths. You are hereby invited to attend and cross-examine.

FOSTER, O’DANIEL, HAMBIDGE & LYNCH

By: _____
 Shaunda Lynch, #22656-82
 3820 Oak Hill Rd.
 Evansville, IN 47711

ATTORNEYS FOR DEFENDANT

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

 Shaunda Lynch, #22656-82

STATE OF INDIANA)
)
 COUNTY OF VANDERBURGH) IN THE VANDERBURGH CIRCUIT COURT

STATE OF INDIANA)
)
 vs.) CAUSE NO. 82C01-1506-F4-003152
)
 ANTHONY ROBINSON)

SUBPOENA

GREETINGS:

We command you to summon: **Officer ~~Jeremy Matthews~~**, of the **Evansville Police Department**

If he may be found in your bailiwick, to appear for a deposition on **December 17, 2015 at Foster, O’Daniel, Hambidge & Lynch, LLP**, 3820 Oak Hill Road, Evansville, IN 47711 at **2:00 P.M.**, in a certain cause pending in the Vanderburgh Circuit Court, wherein STATE OF INDIANA is the Plaintiff and wherein Anthony Robinson is the Defendant, and not depart without leave thereof.

Herein Fail Not, and of this Writ make due service and return.

WITNESS, Clerk of said Court, at Evansville, Indiana this ____ day of November, 2015.

DEBBIE STUCKI, CLERK

By: _____
 Deputy

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

 Shaunda Lynch # 22656-82
 FOSTER, O’DANIEL, HAMBIDGE & LYNCH
 3820 Oak Hill Rd.
 Evansville, IN 47711
 ATTORNEYS FOR DEFENDANT

SERVED BY EMAIL: **Officer Jeremy Matthews**
 c/o T. Owen
TOwen@evansvillepolice.com

STATE OF INDIANA)
) SS: IN THE VANDERBURGH SUPERIOR COURT
 COUNTY OF VANDERBURGH)
 STATE OF INDIANA)
)
 v.) CAUSE NO. ~~82D02-1512-P6-007840~~
)
~~RODNEY BROSHIARS, JR.~~)

PETITION FOR PRE CONVICTION SPECIALIZED LICENSE

Comes now the Defendant, ~~Rodney Broshears, Jr.~~, by counsel, Foster, O’Daniel, Hambidge, & Lynch, by Shaunda Lynch, and petitions the Court for a Pre Conviction Specialized License pursuant to I.C. 9-30-16-1 et seq and in support thereof states as follows:

1. The Defendant is ~~twenty-three (23)~~ years of age, his date of birth is ~~January 5, 1993~~, and he resides at ~~92 E. 1200 South, Haubstadt, IN 47631~~
2. The Defendant’s driving privileges were suspended by the Indiana Bureau of Motor Vehicles on or about December 18, 2015.
3. This specialized driving privilege is being granted pre-conviction in lieu of the administrative license suspension.
4. The Defendant’s drivers license number is ~~478-83-7394~~
5. The Defendant does not hold a commercial driver’s license.
6. The Petitioner is not suspended for refusing to submit to a chemical breath test under I.C. 9-30-6.
7. The Petitioner’s suspension is not due to a conviction for an offense that resulted in the death of another person.

WHEREFORE, the Petitioner requests that the Court grant the Petition for Pre Sentence Specialized License and for all other relief just and proper in the premises.

RODNEY BROSHEARS, JR.

I, the undersigned, affirm under the penalties for perjury that the above and foregoing representations are true and correct to the best of my knowledge.

RODNEY BROSHEARS, JR.

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

Shaunda Lynch, #22656-82

CERTIFICATE OF SERVICE

I hereby certify that a copy of the above and foregoing verified petition was served upon Nicholas Hermann, Vanderburgh County Prosecutor's Office, Civic Center Complex Room 108, 1 NW Martin Luther King Jr. Blvd., Evansville, IN 47708 and the Kent Abernathy, Commissioner of the Indiana Bureau of Motor Vehicles, Indiana Government Center North, 100 North Senate Ave., Rm. N405, Indianapolis, IN 46204 by first class mail, the ____ day of January, 2016.

Shaunda Lynch, #22656-82

Prepared by:
FOSTER, O'DANIEL, HAMBIDGE & LYNCH
By: Shaunda Lynch # 22656-82
3820 Oak Hill Rd.
Evansville, IN 47711
Telephone: (812) 424-8101
Facsimile: (812) 437-8364
ATTORNEYS FOR PETITIONER

Petition/Spec. License (Broshears) 2

January 13, 2016

**Bureau of Motor Vehicles
Attn: Driver Records Requests
100 North Senate
State Office Building, Room N412
Indianapolis, IN 46204**

**RE: ~~Andrew R. Stone~~
DOB: ~~October 28, 1993~~
Drivers License No. unknown
SSN: ~~311-11-7361~~**

Dear Sir or Madam:

Please be advised that I have been retained to represent the above-stated individual in a legal action entitled *State of Indiana vs. Andrew Stone* in the Gibson Superior Court under Cause No. ~~26D01-1508-FG-000399~~. Therefore, this letter is to request that you forward to me a copy of the "hard packet," more particularly, all letters of suspension and/or reinstatements which were sent to my client for you in representing him in the previously captioned matter. I have enclosed my firm's check in the amount of \$8.00, representing the fee for the packet.

This is to further advise you that the Bureau of Motor Vehicles is entitled to security against damages or payment of damages resulting from this request. Thank you for your cooperation in this matter; and should you have any questions, please do not hesitate to contact me.

Sincerely,

FOSTER, O'DANIEL & HAMBIDGE, LLP

**Shaunda Lynch
Attorney at Law**

**SL:dsd
Enclosure**

CLIENT INFORMATION SHEET

PERSONAL INFORMATION:

TODAY'S DATE: _____

Name: _____

Social Security No: _____

Spouse _____

Date of Birth: _____

Address: _____

Home Phone: _____

City/State/Zip: _____

Cell Phone: _____

Email: _____

Correspondence will be sent via email unless box checked: Do not use email

EMPLOYMENT INFORMATION:

Employer: _____

Work Phone: _____

Address: _____

Length of time w/this employer: _____

Salary/hourly wage: _____

REFERRED BY:

- Yellow pages, Church, By former client, fohlaw.com website, Other attorney, Other internet website, Was former client, Other

CRIMINAL MATTERS (If you are here on a criminal matter please complete this section)

By Initialing I give Foster, O'Daniel, Hambidge & Lynch Permission to Check My Driving Record

Driver's License No.: (Criminal Matters) _____

FAMILY MATTERS (If you are here on a family matter please complete this section)

Opposing Party, No. of Children, Is opposing party represented by an attorney?, Children's Names and dates of birth, If, yes, who, Address/Phone (if known)

BELOW FOR OFFICE USE ONLY

FINANCIAL ARRANGEMENT

Flat fee, Arrangement, Retainer, Hourly rate, Contract/Promissory Note signed?

- Mark A. Foster, Conor O'Daniel, Timothy Hambidge, Shaunda Lynch

CASE TYPE:

- Felony, Misd, Expungement, Specialized License, Petition to Modify, Protective Order, Divorce, Post Divorce, Paternity, Post Paternity, CHINS, Juvenile, Corporate, Estate Planning, Estate, Guardianship, Adoption, Personal Injury, Civil, Small claims

PROGRESS NOTES:

Initial Case file (Odyssey/MyCase), Run BMV Driving Record, Discovery Motion, Subpoena Intox/Booking Tape, Enter Appearance, Hearing Date, Move date to, Entered into Billing

STATE OF INDIANA)
) SS: IN THE VANDERBURGH SUPERIOR COURT
 COUNTY OF VANDERBURGH)
 STATE OF INDIANA)
)
 v.) CAUSE NO. ~~82D01-1702-CM-00061~~
)
~~MARY N. POTTS~~)

MOTION TO REMOVE RECORD OF SUSPENSION

COMES NOW Defendant ~~MARY N. POTTS~~, by counsel, Shaunda Lynch of FOSTER, O'DANIEL, HAMBIDGE & LYNCH, and moves the Court to order the Bureau of Motor Vehicles to remove any record of suspension from the defendant's driving record, and in support thereof states as follows:

1. That the defendant was previously charged and her license was suspended under cause number ~~82D01-1702-CM-00061~~, pursuant to I.C. 9-30-6-9(c).
2. That Cause No. ~~82D01-1702-CM-00061~~ was terminated in favor of the Defendant by reason of completion of the DADS Program.
3. That pursuant to I.C. 9-30-6-13.5, because the defendant's case (filed under I.C. 9-30-5) was terminated in her favor, the Bureau of Motor Vehicles should remove any record of suspension numbers 1 and 2, including the reason therefor, from the Defendant's official driving record.

Respectfully Submitted,

FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP

By: /s/ Shaunda Lynch
 Shaunda Lynch, #22656-82

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

/s/ Shaunda Lynch
 Shaunda Lynch, #22656-82

FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP

By: Shaunda Lynch, # 22656-82
 3820 Oak Hill Road
 Evansville, IN 47711
 Telephone: (812) 424-8101

Attorney for Defendant

CONFIDENTIAL - EXCLUDED FROM PUBLIC ACCESS PER A.R. 9(G)

STATE OF INDIANA)
) SS: IN THE VANDERBURGH SUPERIOR COURT
 COUNTY OF VANDERBURGH)
 STATE OF INDIANA)
)
 v.) CAUSE NO. [REDACTED]
)
 [REDACTED])
 [REDACTED])

ORDER ON MOTION TO REMOVE RECORD OF SUSPENSION

COMES NOW Defendant [REDACTED], by counsel, Shaunda Lynch of FOSTER, O'DANIEL, HAMBIDGE & LYNCH, and having filed his Motion to Remove Record of Suspension, and the Court having considered the same and being duly advised in the premises, now makes the following order:

IT IS, THEREFORE, CONSIDERED, ORDERED, ADJUDGED AND DECREED by the Court that the Bureau of Motor Vehicles remove the probable cause suspension from Defendant [REDACTED] official driving record under driver's license number [REDACTED], effective the date of this Order.

DATED this ____ day of _____, 2017.

JUDGE/MAGISTRATE
 VANDERBURGH SUPERIOR COURT

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

/s/ Shaunda Lynch
Shaunda Lynch, #22656-82

FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP

By: Shaunda Lynch, #22656-82

3820 Oak Hill Road

Evansville, IN 47711

Telephone: (812) 424-8101

Facsimile: (812) 437-8364

Attorney for Defendant

STATE OF INDIANA)
) SS: VANDERBURGH SUPERIOR COURT
 COUNTY OF VANDERBURGH)
 STATE OF INDIANA)
)
 v.) CAUSE NO. [REDACTED]
)
 [REDACTED])
)
 Defendant)

SUBPOENA DUCES TECUM

TO THE VANDERBURGH COUNTY PROSECUTOR, GREETINGS:

We command you to summon: **Carla Moore or Susie Mattingly**

If he may be found in your bailiwick, to provide to Attorney Shaunda Lynch, of the law firm FOSTER, O'DANIEL, HAMBIDGE & LYNCH, at 3820 Oak Hill Rd., Evansville, Indiana, 47711 on or before the 20th day of December, 2016 the following:

NCIC Report on [REDACTED]

in a certain cause pending in the Vanderburgh Superior Court, Misdemeanor/Traffic Division, wherein STATE OF INDIANA is the Plaintiff and wherein [REDACTED] is the Defendant, and not depart the Court without leave thereof.

Herein Fail Not, and of this Writ make due service and return.

WITNESS, Clerk of said Court, at Evansville, IN this 6th day of December, 2016.

CARLA J. HAYDEN, CLERK

By: _____
 Shaunda Lynch, #22656-82

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

 Shaunda Lynch, #22656-82
 FOSTER, O'DANIEL, HAMBIDGE & LYNCH
 3820 Oak Hill Rd.
 Evansville, IN 47711
 Telephone: (812) 424-8101
 ATTORNEYS FOR DEFENDANT

SERVED BY EMAIL: cmoore@vanderburghgov.org
 smattingly@vanderburghgov.org

STATE OF INDIANA)
) SS: IN THE WARRICK SUPERIOR COURT NO 2
 COUNTY OF WARRICK)
 STATE OF INDIANA)
)
 v.) CAUSE NO. [REDACTED]
)
 [REDACTED])
 [REDACTED])

ORDER FOR PRE-CONVICTION SPECIALIZED LICENSE

Comes now the Court and having heard evidence on the Defendant’s Petition for Pre-Conviction Specialized License and having previously GRANTED the Defendant’s Motion for Specialized License and finds as follows and amended:

1. The Defendant is [REDACTED] twenty-four (24) years of age, his date of birth is [REDACTED] June 28, 1993, and he resides at [REDACTED] 6022 Summit Pointe Way, Newburgh, IN 47630.
2. The Defendant’s driving privileges were suspended by the Indiana Bureau of Motor Vehicles on or about November 7, 2017.
3. This specialized driving privilege is being granted pre-conviction in lieu of the administrative license suspension.
4. The Defendant’s drivers license number is [REDACTED] 5150-02-400.
5. The Defendant does not hold a commercial driver’s license.
6. The Defendant is not suspended for refusing to submit to a chemical breath test under I.C. 9-30-6.
7. The Defendant’s suspension is not due to a conviction for an offense that resulted in the death of another person.
8. The Defendant may operate a vehicle for the following reasons:
 - a. to and from work/employment
 - b. to and from medical appointments/emergencies
 - c. to and from any and all alcohol or drug treatment
 - d. to and from church

9. The Defendant shall maintain financial responsibility during the period of specialized driving privileges.

10. The Defendant must have a copy of this Order present at all times when the Defendant is operating a vehicle.

IT IS THEREFORE ADJUDGED, ORDERED and DECREED by the Court that the Amended Petition is GRANTED for specialized driving privileges on the conditions stated above.

DATE: _____

JUDGE, WARRICK SUPERIOR COURT NO. 2

Distribution To: Michael Perry, Warrick County Prosecutor
Kent Abernathy, Commission of the Bureau of Motor Vehicles
Shaunda Lynch, Esquire, Attorney for Defendant

Prepared by:
FOSTER, O'DANIEL, HAMBIDGE & LYNCH
By: Shaunda Lynch # 22656-82
3820 Oak Hill Rd.
Evansville, IN 47711
Telephone: (812) 424-8101
Facsimile: (812) 437-8364
ATTORNEYS FOR DEFENDANT

STATE OF INDIANA)
) SS: VANDERBURGH SUPERIOR COURT
 COUNTY OF VANDERBURGH)
 STATE OF INDIANA)
)
 v.) CAUSE NO. [REDACTED]
)
 [REDACTED])
)
 Defendant)

SUBPOENA DUCES TECUM

TO THE SHERIFF OF VANDERBURGH COUNTY, GREETINGS:
 We command you to summon: **Lt. Tenbarga**

If he may be found in your bailiwick, to provide to Attorney Shaunda Lynch, of the law firm FOSTER, O'DANIEL, HAMBIDGE & LYNCH, at 3820 Oak Hill Rd., Evansville, Indiana, 47711 on or before the 20th day of December, 2016 the following:

A copy of the booking tape, DataMaster, Sally Port and booking hallway taken of:
 Defendant: [REDACTED] In Case No.: [REDACTED]
 Date of Arrest/Tape: **November 22, 2016 at approximately 9:02 p.m.**

in a certain cause pending in the Vanderburgh Superior Court, Misdemeanor/Traffic Division, wherein STATE OF INDIANA is the Plaintiff and wherein [REDACTED] is the Defendant, and not depart the Court without leave thereof.

Herein Fail Not, and of this Writ make due service and return.

WITNESS, Clerk of said Court, at Evansville, IN this 6th day of December, 2016.

CARLA J. HAYDEN, CLERK

By: _____
 Shaunda Lynch, #22656-82

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

 Shaunda Lynch, #22656-82
 FOSTER, O'DANIEL, HAMBIDGE & LYNCH
 3820 Oak Hill Rd.
 Evansville, IN 47711
 Telephone: (812) 424-8101
 ATTORNEYS FOR DEFENDANT

SERVED BY EMAIL: Lt. K. Tenbarga
 [REDACTED] Ktenbarga@vanderburghsheriff.com

STATE OF INDIANA)
) SS: VANDERBURGH SUPERIOR COURT
 COUNTY OF VANDERBURGH)
 STATE OF INDIANA)
)
 v.) CAUSE NO. [REDACTED]
)
 [REDACTED])
 Defendant)

SUBPOENA DUCES TECUM

We command you to summon: **Princeton Dispatch**
310 W. State Street
Princeton, IN 47670

If he may be found in your bailiwick, to appear at the office of FOSTER, O'DANIEL, HAMBIDGE & LYNCH, whose address is 3820 Oak Hill Road, Evansville, Indiana 47711, on or before the 15th day of November, 2016, and to furnish to Foster, O'Daniel, Hambidge & Lynch copies of the following information:

Records of any and all calls concerning a possible impaired driver, or police run on April 13, 2016 between the hours of 10:00 p.m. to 12:00 a.m., more specifically the dispatch of Princeton Police Department's officer Jason Swan's concerning the stop of [REDACTED] at approximately 11:46 p.m.

For the purpose that Shaunda Lynch may have copies of any such documents for and on behalf of the Defendant in a certain cause pending in said Court wherein the STATE OF INDIANA is Plaintiff and wherein [REDACTED] is the Defendant, and not depart his office without leave thereof. Herein Fail Not, and of this Writ make due service and return.

WITNESS, Clerk of said Court, at Evansville, this 3rd day of November, 2017.

CARLA J. HAYDEN, CLERK

By: _____
 Shaunda Lynch, # 22656-82

FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP
 By: Shaunda Lynch, #22656-82
 3820 Oak Hill Road
 Evansville, Indiana 47711
 Telephone: (812) 424-8101 Facsimile: (812) 437-8364
 ATTORNEYS FOR DEFENDANT

SERVE VIA Email: Gibson County Sheriff / Attn: Brandi Kell
 bkell@Gibsoncountysheriff.com

STATE OF INDIANA)
) **SS: IN THE VANDERBURGH SUPERIOR COURT**
 COUNTY OF VANDERBURGH)

STATE OF INDIANA)
)
) **vs.**)
)
)
)

D/O/B:)
DL#)

CAUSE NO.

ORDER

COME NOW Defendant, _____, in person and by counsel, FOSTER, O'DANIEL, HAMBIDGE & LYNCH, by Mark A. Foster, and the State of Indiana; and the State withdraws the allegation of refusal, and the parties now stipulate that the Defendant did not refuse the chemical test for intoxication.

And this Court being duly advised in the premises and having heard the agreement of the parties, now finds as follows:

1. That the Defendant did not refuse the chemical test for intoxication, however, if he submitted to a chemical test for intoxication he would have tested .08% or greater which is a chemical test failure.
2. That the Defendant has entered the drug and alcohol deferral program as of April 3, 2017.
3. That the defendant's driving privileges shall be suspended for a period of forty-five (45) days beginning February 21, 2017.
4. The defendant's license shall be reinstated _____.
5. That the Clerk of the Court shall forward a copy of this Order to the Indiana Bureau of Motor Vehicles.

IT IS THEREFORE ADJUDGED, ORDERED AND DECREED, by the Court that the Bureau of Motor Vehicles modify the administrative suspension refusal to an administrative suspension failure; and that the defendant's license is suspended for a period of forty-five (45) days beginning February 21, 2017.

MAGISTRATE, VANDERBURGH SUPERIOR COURT

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

Mark A. Foster, #8452-98
Attorney for Defendant

FOSTER, O'DANIEL, HAMBIDGE & LYNCH

By: Mark A. Foster, #8452-98
3820 Oak Hill Rd.
Evansville, IN 47711
Telephone: (812) 424-8101
Facsimile: (812) 437-8364

ATTORNEYS FOR DEFENDANT

STATE OF INDIANA)
) SS: VANDERBURGH CIRCUIT COURT
 COUNTY OF VANDERBURGH)
 STATE OF INDIANA)
)
 v.) CAUSE NO. [REDACTED]
)
 [REDACTED])
)
 Defendant)

SUBPOENA DUCES TECUM

We command you to summon: **Keeper of the Records
 Deaconess Health System
 600 Mary Street
 Evansville, IN 47747**

If he may be found in your bailiwick, to appear at the office of FOSTER, O’DANIEL, HAMBIDGE & LYNCH, whose address is 3820 Oak Hill Road, Evansville, Indiana 47711, on or before the **19thth day of December, 2018**, and to furnish to Foster, O’Daniel, Hambidge & Lynch copies of the following:

Any and all records/documents/information in regards to the collection and analysis of the blood sample(s) collected from [REDACTED] (DOB: [REDACTED]) on the 14th of July, 2017, including but not limited to the specifics as outlined in the Request for the Production of Documents attached hereto as Exhibit “A”

for the purpose that Mark A. Foster may have copies of any such documents for and on behalf of the Defendant in a certain cause pending in said Court wherein the STATE OF INDIANA is Plaintiff and wherein Justin DeClue is the Defendant, and not depart his office without leave thereof. Herein Fail Not, and of this Writ make due service and return.

WITNESS, Clerk of said Court, at Evansville, this 19th day of November, 2018.

CARLA J. HAYDEN, CLERK

By: /S/ Mark A. Foster
 Mark A. Foster, #8452-98

FOSTER, O’DANIEL, HAMBIDGE & LYNCH, LLP
 By: Mark A. Foster, #8452-98
 3820 Oak Hill Road
 Evansville, Indiana 47711
 Telephone: (812) 424-8101
ATTORNEYS FOR DEFENDANT

SERVE VIA Certified Mail: **Keeper of the Records
 Deaconess Health System
 600 Mary Street
 Evansville, IN 47747**

November 19, 2018

Deaconess Hospital
Medical Records Custodian
600 Mary Street
Evansville, IN 47747

RE: Our Client: ~~Justin DeChis~~
Date of Blood Draw: ~~July 14, 2017~~
Date of Birth: ~~September 15, 1981~~

Dear Medical Records Custodian:

Please find enclosed a *Subpoena Duces Tecum* and *Request for Production of Documents* with regard to our client, ~~Justin DeChis~~. We respectfully request that you forward copies of the information requested with regard to ~~Mr. DeChis~~, as specifically outlined in the Request for Production of Documents.

Thank you in advance for your anticipated cooperation. Should you have any questions, please do not hesitate to contact the office.

Sincerely,

FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP

Debbie Denton
Legal Assistant to Mark A. Foster

/dsd
Enclosures

STATE OF INDIANA)
) SS: VANDERBURGH CIRCUIT COURT
COUNTY OF VANDERBURGH)

STATE OF INDIANA)
)
v.) CAUSE NO. [REDACTED]
)
[REDACTED])
)
Defendant)

TO: Keeper of the Records
Deaconess Health System
600 Mary Street
Evansville, IN 47747

REQUEST FOR THE PRODUCTION OF DOCUMENTS

I. Introduction

On July 14, 2018, blood was collected from Mr. Justin DeCline, DOB [REDACTED], at the Deaconess Hospital by Chelsea Williams. The blood sample(s) of Mr. DeCline were then analyzed at Deaconess Hospital Laboratory by an unknown analyst. All information is requested regarding the collection and analysis of these sample(s).

II. Specific Request

COMES NOW, Defendant, Justin DeCline, by counsel, Mark A. Foster, Foster, O'Daniel, Hambidge and Lynch, LLP, and requests the production of the following documents or information pursuant to this Request and Subpoena Duces Tecum accompanying this Request, and would request that said information/documentation be produced at the offices of Foster, O'Daniel, Hambidge & Lynch, 3820 Oak Hill Road, Evansville, Indiana, 47711, on or before the 19th day of December, 2018, to-wit:

- 1) Any and all documentation reflecting, concerning or evidencing the name and description of the kind of test or analysis performed.
- 2) Any and all documents reflecting, concerning, or evidencing whether the test or analysis was performed on plasma, serum, or whole blood and whether the analysis was performed on the substance itself or on some derivation (such as head space gas) of the substance.

- 3) Any and all specifications for all blood sample collection kits provided to or ordered by Deaconess Hospital, Evansville, Indiana, especially those relating to the samples collected from [REDACTED] herein.
- 4) Any and all written procedures for all quality assurance testing of all blood sample collection kits provided to or ordered from Deaconess Hospital, Evansville, Indiana referred to in Question #1 above.
- 5) Any and all written requirements, directions, protocols, and/or instructions for the collection of blood samples distributed with the above referenced collection kits or distributed directly to the individual(s) responsible for the collection of the blood samples, including the blood sample collection kits used herein.
- 6) Any and all written requirements, directions, and/or instructions for the proper storage, prior to and subsequent to, the transportation of the blood samples collected herein.
- 7) Any and all written procedures for the intake and/or receipt of blood samples into the laboratory, especially as it relates to the blood samples taken from [REDACTED] herein.
- 8) Any and all written procedures for the storage of the blood samples prior to, during, and after analysis and especially as it relates to the blood samples collected and analyzed herein.
- 9) Any and all written procedures for the transfer of blood samples from person to person within Deaconess Hospital, Evansville, Indiana.
- 10) Any and all written procedures for the alcohol/volatile analysis of blood samples, plus calculation details and the criteria for necessary standards and sample re-analysis, especially as it relates to the blood samples of [REDACTED], herein.
- 11) Any and all written procedures for the purchase of and/or for the in-house preparation of all "known" standards, controls and blanks used in conjunction with the alcohol/volatile analysis, especially as it relates to the samples of [REDACTED] that were analyzed herein by Deaconess Hospital, Evansville, Indiana.
- 12) Any and all written procedures of Deaconess Hospital, Evansville, Indiana, for the quality assurance program for, and maintenance of, all analytical balances, quantitative sample measuring devices (automatic and manual), and analytical instruments.
- 13) Provide copies of all paperwork included in the laboratory file-including the case information sheet/form from the blood kit; all chain of custody forms; all case notes; all complete sample log sheets for analytical runs which include the sample in question; and all control data sheets filed after the analytical run.
- 14) Provide copies of all instrumental analytical data generated in conjunction with these samples – including all standards, plus calibration calculations; all controls and blanks and samples in question.

- 15) Produce all of the maintenance records for all equipment relating to performing the test(s) on the samples of **Mr. DeClue** herein.
- 16) Provide the name, make, model and manufacturer of all devices used to analyze the blood samples of **Mr. DeClue** and all written manuals and related documentation from the manufacturer concerning those devices.
- 17) Produce the written procedure for the analysis of the mixture of volatile substances, plus the analytical data from the most recently analyzed mixture.
- 18) Produce all documentation related to any chemicals, enzymes, and/or reagents used for the analysis of **Mr. DeClue**'s blood, including all documentation from the distributor of the assay kits and/or chemicals. (Examples of assay kits used for ethanol analysis using enzyme immunoassay method are Beckman LX and DxC, Siemens, Microgenics Dimension, Abbott Aeroset, Abbott AxSYM, Ortho Vitros, and Roche Various.)

This Request for Production of Documents and Things is made in accordance with Trial Rule 34 of the Indiana Rule of Civil Procedure. You are advised that you, as the entity to whom this Request for Production is directed, are entitled to security against damages resulting from this Request.

You may respond to such request by submitting to its terms, by proposing different terms, by objecting specifically or generally to the request by serving written response to the party making the request within thirty (30) days, or by moving to quash as permitted by Rule 45(B).

Respectfully submitted,

/S/ Mark A. Foster

Mark A. Foster, #8452-98
Attorney for the Defendant

CERTIFICATE OF COMPLIANCE

I hereby certify that the foregoing document complies with the requirements of Trial Rule 5(G) with regard to information excluded from the public record under Administrative Rule 9(G).

/S/ Mark A. Foster

Mark A. Foster, #8452-98

FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP

By: Mark A. Foster, #8452-98

3820 Oak Hill Road

Evansville, Indiana 47711

Telephone: (812) 424-8101

Facsimile: (812) 437-8364

Attorneys for Defendant

**AFFIDAVIT OF MEDICAL RECORDS CUSTODIAN
FOR AUTHENTICATING WRITTEN DOCUMENTS**

I, _____, being duly sworn, states as follows:

1. I am the custodian of the records of Deaconess Hospital, 600 Mary Street, Evansville, Indiana. I supervise all record-keeping at Deaconess Hospital's office and am familiar with its record-keeping practices.
2. I have examined the medical records and reports attached to this affidavit number pages one (1) through (____), inclusive. They are originals and/or exact copies of records retrieved from the permanent records of ~~Justin DeClue~~ relative to the medical treatment of ~~Justin DeClue~~ commencing ~~July 14, 2017 and also July 15, 2017~~.
3. The record was made in the routine course of business, at or near the time of the events recorded.
4. The record was made by employees(s) of Deaconess Hospital, who had personal knowledge of the facts recorded and/or based upon information transmitted by Deaconess Hospital, who had personal knowledge of the facts recorded.
5. The record is in a standard form used by Deaconess Hospital, and it is the regular practice of Deaconess Hospital to make such a record.

I AFFIRM, under the penalties for perjury, that the foregoing representations are true and correct, to the best of my knowledge and belief.

STATE OF INDIANA)
) SS:
COUNTY OF VANDERBURGH)

Before me, the undersigned Notary Public in and for said County and State, personally appeared the within named _____, who acknowledged the execution of the foregoing instrument to be her/his voluntary act and deed.

WITNESS my hand and Notarial Seal this _____ day of _____, 2018.

Signature of Notary Public

Printed Name of Notary Public

My Commission Expires: _____

Residence of Notary Public:

_____, Indiana

January 9, 2018

Deaconess Hospital
Medical Records Custodian
600 Mary Street
Evansville, IN 47747

RE: Our Client: ~~Justin DeCina~~
Date of Accident: ~~July 14, 2017~~
Date of Birth: ~~September 15, 1981~~

Dear Medical Records Custodian:

Please find enclosed an **Authorization to Release Medical Information** and an **Affidavit of Medical Records Custodian for Authenticating Written Documents** with regard to our client, ~~Justin DeCina~~. We respectfully request that you forward copies of **all Emergency Records records and laboratory reports** with regard to ~~Mr. DeCina~~, specifically for the accident date of **July 14, 2017** and also for **July 15, 2017**.

We are unsure whether your facility charges a retrieval fee per I.C. 16-39-9 or whether the fee is based on a per-page charge. Accordingly, our office will either pay said fees prior to your sending the requested documents or pay said fees after you send the documents, whichever you prefer.

We greatly appreciate your help in this matter. Should you have any questions, please do not hesitate to contact us.

Thank you.

Sincerely,

FOSTER, O'DANIEL, HAMBIDGE & LYNCH, LLP

Marcy L. Mayden
Legal Assistant to Mark A. Foster

/mlm
Enclosures

Section Two

Foundational Issues in a Blood Case

Charles J. Rathburn, Jr.
Rathburn Law Office
Indianapolis, Indiana

Section Two

Foundational Issues in a Blood Case..... Charles J. Rathburn, Jr.

Exhibit #30

Exhibit #31

Exhibit # 32

Product Catalog - BD Life Sciences – Preanalytical Systems

BD Certificate of Compliance

BD Lab Notes – Volume 19, No. 1, 2009

Video Link - <https://www.youtube.com/watch?v=RKuUPO6NNcU>

- MOHCI
- COH
- DUC

Section K
Page 2.1
Effective Date 09/26/01
Revised Date 02/24/04
Revised Date 04-04-05
Review Date _____

CLINICAL SERVICES POLICY AND PROCEDURE

NAME: VENIPUNCTURE

PAGE 1 OF 5 PAGES

I. **PURPOSE:**

To provide guidelines for safe and correct venipuncture technique.

II. **POLICY:**

Blood samples are drawn upon physician staff order. If unable to obtain sample after two attempts are made, obtain help. Use the common site of the basilic and cephalic veins located in the antecubital area of the arm, unless unable to palpate vein in this area.

III. **EQUIPMENT:**

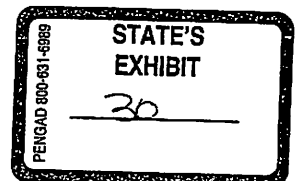
- Alcohol sponges or Zepherin
- Cotton
- Tourniquet
- Band-aid
- Vacutainer needle
- Auto-drop needle holder
- Auto-drop disk adapter
- Appropriate Vacutainer tubes
- Exam gloves

IV. **PROCEDURE:**

Steps

Rationale

- | | |
|---------------------------------|-------------------------------------|
| 1. Wash your hands. | |
| 2. Assemble required equipment. | |
| 3. Put on exam gloves. | 3. Following universal precautions. |



CLINICAL SERVICES POLICY AND PROCEDURE

PAGE 2 OF 5 PAGES

<u>Steps</u>	<u>Rationale</u>
4. Identify patient and explain procedure, being certain that patient has followed any preparation required for test (e.g., fasting.)	
5. Have patient sit or lay down on exam table with arm well supported in downward position.	5. This avoids movement. Laying patient down may keep them from fainting or becoming dizzy and falling.
6. Prepare equipment. Attach needle to the Vacutainer holder, leaving the needle shield in place.	
7. Label the collection tube with the patient's name and specimen ID number.	7. If you are drawing blood from more than one patient, it is best to label the tubes after you have drawn the blood. Often when tubes are pre-labeled, people have a tendency to use the wrong tube, if they are in a rush or under pressure.
8. Apply the tourniquet directly above the elbow joint with sufficient pressure to prevent venous return. Have the patient clench his fist to aid in venous distention. Have the patient keep his fist clenched during the procedure.	8. Do not allow the patient to pump fist during procedure as this may distort certain lab values.
9. Inspect the area to visualize the vein. Palpate the vein.	9. Choose the largest convenient vein just distal to the venous junction, in the antecubital fossa. Choose a site below the elbow crease for patient comfort and to prevent a hematoma.

CLINICAL SERVICES POLICY AND PROCEDURE

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Steps	Rationale
10. Cleanse the skin with alcohol or Zepherin, depending on the test to be done and allow to dry.	10. Do not use alcohol during alcohol and drug screening. NOTE: Do not palpate vein again after cleansing.
11. Insert tube into the holder up to the needle.	11. Pushing tube onto needle before inserting needle in arm may cause you to lose pressure from Vacutube.
12. Remove needle shield.	12. Shield should be left on until the last possible moment to promote sterility and safety.
13. Using your nondominant hand, draw the skin over the puncture site until tense. Gently insert the needle with the bevel up, through the skin and into the vein.	13. The bevel of the needle should be facing upwards, because by doing this, the sharpest point of the needle is inserted first.
14. Place two fingers at the end of the holder; wit your thumb, push the tube onto the needle to the end of the holder.	14. Be sure to keep the needle steady.
15. Release tourniquet when blood begins to show in tube.	15. May also have patient unclench fist at this time.
16. Pull the tube off the needle when the tube is full. If drawing more than one tube, insert another onto needle at this point.	16. It is important to keep a firm grip on the Vacutainer needle holder so the needle will not be displaced in the patient's arm.

CLINICAL SERVICES POLICY AND PROCEDURE

PAGE 4 OF 5 PAGES

Steps	Rationale
17. Disengage needle from tube and then withdraw the needle from the vein.	17. Not disengaging the needle from the tube prior to withdrawing may cause patient discomfort and may result in a hematoma. <u>Tourniquet must be off before withdrawing needle.</u>
18. Apply pressure with a sterile sponge to the puncture site and have patient elevate his arm for a few minutes.	18. Elevation prevents oozing of blood at the puncture site.
19. For tubes that contain additives, gently invert eight to ten times to mix blood thoroughly with additive. <u>Do not shake.</u>	19. Vigorous mixing may cause hemolysis.
20. Apply a band-aid to the puncture site.	
21. Discard needle in designated container.	
22. Remove gloves.	22. Following universal precautions.
23. Wash hands.	
24. Fill out required lab requisitions and label tubes if this has not already been done.	

CLINICAL SERVICES POLICY AND PROCEDURE

PAGE 5 OF 5 PAGES

NOTE: If a vein cannot be found (either visually or by palpation), do not try a blind stick. Check with the patient to see which veins have previously been used for blood sampling or if he has had problems in the past. Listen to the patient. More often than not, the patient will be helpful. If this is of no help in finding a vein, ask for assistance.

Unless you are experienced in drawing blood from hands or wrists, do not do so without supervision or without first checking with someone more experienced to see if they can find something in the patient's arm. The procedure for drawing blood from hands and wrists can vary according to the size of the veins available. Also, having blood drawn from these sites can be painful.

SOURCES: Adapted from Mosby's Fundamentals of Medical Assisting
Margaret A. Shea, Sharon A. Zakus; and from Lippencott Manual of
Nursing Practices, 1st edition

Approved- _____

M. P. Della
Medical Director

4/4/05
Date

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Section J
Page 2.1
Effective Date 09/26/01
Revised Date 02/24/04
Revised Date 10/21/08
Review Date _____

CLINICAL SERVICES POLICY AND PROCEDURE

NAME: VENIPUNCTURE

PAGE 1 OF 5 PAGES

I. PURPOSE:

To provide guidelines for safe and correct venipuncture technique.

II. POLICY:

Blood samples are drawn upon physician staff order. If unable to obtain sample after two attempts are made, obtain help. Use the common site of the basilic and cephalic veins located in the antecubital area of the arm, unless unable to palpate vein in this area.

III. EQUIPMENT:

Alcohol Pad
Cotton
Tourniquet
Band-aid
Vacutainer needle
Auto-drop needle holder
Auto-drop disk adapter
Appropriate Vacutainer tubes
Exam gloves

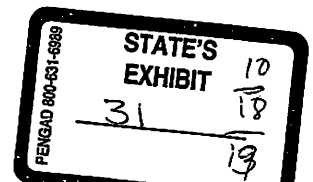
IV. PROCEDURE:

Steps

1. Wash your hands.
2. Assemble required equipment.
3. Put on exam gloves.

Rationale

3. Following universal precautions.



CLINICAL SERVICES POLICY AND PROCEDURE

PAGE 2 OF 5 PAGES

<u>Steps</u>	<u>Rationale</u>
4. Identify patient and explain procedure, being certain that patient has followed any preparation required for test (e.g., fasting.)	
5. Have patient sit or lay down on exam table with arm well supported in downward position.	5. This avoids movement. Laying patient down may keep them from fainting or becoming dizzy and falling.
6. Prepare equipment. Attach needle to the Vacutainer holder, leaving the needle shield in place.	
7. Label the collection tube with the patient's name and specimen ID number.	7. If you are drawing blood from more than one patient, it is best to label the tubes after you have drawn the blood. Often when tubes are pre-labeled, people have a tendency to use the wrong tube, if they are in a rush or under pressure.
8. Apply the tourniquet directly above the elbow joint with sufficient pressure to prevent venous return. Have the patient clench his fist to aid in venous distention. Have the patient keep his fist clenched during the procedure.	8. Do not allow the patient to pump fist during procedure as this may distort certain lab values.
9. Inspect the area to visualize the vein. Palpate the vein.	9. Choose the largest convenient vein just distal to the venous junction, in the antecubital fossa. Choose a site below the elbow crease for patient comfort and to prevent a hematoma.

CLINICAL SERVICES POLICY AND PROCEDURE

PAGE 3 OF 5 PAGES

<u>Steps</u>	<u>Rationale</u>
10. Cleanse the skin with alcohol or Zepherin, depending on the test to be done and allow to dry.	10. Do not use alcohol during alcohol and drug screening. NOTE: Do not palpate vein again after cleansing.
11. Insert tube into the holder up to the needle.	11. Pushing tube onto needle before inserting needle in arm may cause you to lose pressure from Vacutube.
12. Remove needle shield.	12. Shield should be left on until the last possible moment to promote sterility and safety.
13. Using your nondominant hand, draw the skin over the puncture site until tense. Gently insert the needle with the bevel up, through the skin and into the vein.	13. The bevel of the needle should be facing upwards, because by doing this, the sharpest point of the needle is inserted first.
14. Place two fingers at the end of the holder; wit your thumb, push the tube onto the needle to the end of the holder.	14. Be sure to keep the needle steady.
15. Release tourniquet when blood begins to show in tube.	15. May also have patient unclench fist at this time.
16. Pull the tube off the needle when the tube is full. If drawing more than one tube, insert another onto needle at this point.	16. It is important to keep a firm grip on the Vacutainer needle holder so the needle will not be displaced in the patient's arm.

CLINICAL SERVICES POLICY AND PROCEDURE

PAGE 4 OF 5 PAGES

Steps

17. Disengage needle from tube and then withdraw the needle from the vein.
18. Apply pressure with a sterile sponge to the puncture site and have patient elevate his arm for a few minutes.
19. Discard needle in designated container.
20. For tubes that contain additives, gently invert eight to ten times to mix blood thoroughly with additive. Do not shake.
21. Apply a band-aid to the puncture site.
22. Remove gloves.
23. Wash hands.
24. Fill out required lab requisitions and label tubes if this has not already been done.

Rationale

17. Not disengaging the needle from the tube prior to withdrawing may cause patient discomfort and may result in a hematoma. Tourniquet must be off before withdrawing needle.
18. Elevation prevents oozing of blood at the puncture site.
20. Vigorous mixing may cause hemolysis.
22. Following universal precautions.

CLINICAL SERVICES POLICY AND PROCEDURE

PAGE 5 OF 5 PAGES

NOTE: If a vein cannot be found (either visually or by palpation), do not try a blind stick. Check with the patient to see which veins have previously been used for blood sampling or if he/she has had problems in the past. Listen to the patient. More often than not, the patient will be helpful. If this is of no help in finding a vein, ask for assistance.

Unless you are experienced in drawing blood from hands or wrists, do not do so without supervision or without first checking with someone more experienced to see if they can find something in the patient's arm. The procedure for drawing blood from hands and wrists can vary according to the size of the veins available. Also, having blood drawn from these sites can be painful.

SOURCES: Adapted from Mosby's Fundamentals of Medical Assisting
Margaret A. Shea, Sharon A. Zakus; and from Lippencott Manual of
Nursing Practices, 1st edition.

Approved: _____

Director of Practice Operations

10/21/08

Date

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Section M
Page 9.1
Effective Date 4/06/04
Revised Date 10/21/08
Revised Date _____
Review Date _____

CLINICAL SERVICES POLICY AND PROCEDURE

NAME: **BLOOD ALCOHOL COLLECTION**

PAGE 1 of 3 PAGES

I. PURPOSE:

To provide client companies with another accurate way to screen for alcohol usage.

II. POLICY:

Due to the fast rate of metabolism of alcohol, it is imperative in "Probable Cause" cases to collect the sample first. This means that once the secretarial staff has authorization from the client company and they have obtained proper picture ID from the patient, the nursing staff must bring the patient to a room and initiate this procedure. They are not to wait, for example for the secretarial staff to complete the patient's chart.

III. EQUIPMENT:

Authorization for Release of Protected Health Information form
SBMF Non-regulated Custody and Control form
One (1) Grey Top
Povidine sponges for skin prep
Band-Aid
Ink Pen
Vaccutainer
Tourniquet
Gloves
Cotton Ball

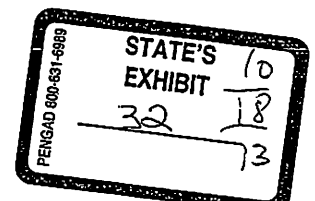
IV. PROCEDURE:

Steps

1. Obtain proper picture identification of patient (driver's license preferred) and record of consent. (See specific procedure.)

Rationale

1. Verifies positive identification.



CLINICAL SERVICES POLICY AND PROCEDURE

NAME: BLOOD ALCOHOL COLLECTION

PAGE 2 of 3 PAGES

<u>Steps</u>	<u>Rationale</u>
2. Explain and witness signing of Release of Protected Health Information form. Completed form is placed in patient's chart.	
3. Obtain a Non-Regulated Custody and Control Form. Complete the CCF the same way you would for a urine drug screen. Exception: Under Section E in Step 1 (test to be performed). The collector needs to write in T641. Also, in Step 2 on the CCF (specimen temperature) write in the blank area "N/A" blood).	
4. Obtain the requested blood specimen using Povidine swab for skin prep.	4. Swabbing with alcohol may interfere with the validity of the test.
5. Prepare the label. a. Place the peel off specimen seal from the Custody and Control Form over the top and down sides of collection tube. b. Collector dates and patient initials seal c. Instruct donor to complete Step 4. d. Complete Step 5. At "Specimen Container(s) released to" mark the other box and write in Stover MS.	
6. Place sealed blood in appropriate biohazard container for transport.	

CLINICAL SERVICES POLICY AND PROCEDURE

NAME: BLOOD ALCOHOL COLLECTION

PAGE 3 of 3 PAGES

Steps

Rationale

7. Complete the Custody and Control Form. Place completed copy number 1 (original to laboratory) with specimen into shipping container and place in locked refrigerator until transported to designated laboratory.

Approved



Director of Practice Operations

10/21/08

Date

BD Life Sciences – Preanalytical Systems



BD Vacutainer®
Specimen Collection
Products

BD Microtainer®
Capillary Products



Product Catalog



Helping all people
live healthy lives

BD Life Sciences – Preanalytical Systems

See the Total Value

For more than 60 years, BD has advanced the science of specimen collection that has helped enable laboratory tests to become the foundation for 70 percent of all medical decisions.*

Today, the **BD Vacutainer®** product family is a gold standard in sample collection. That is why America's leading hospitals rely upon it to enhance sample quality and protect their nurses, phlebotomists and other caregivers from costly accidental needlestick injuries.

These products—backed by unrivaled customer support and training—help hospitals every day to enhance lab productivity and workflow by reducing retests, recollects and instrument downtime.

**70 patients worldwide
every second** have diagnostic
samples collected with
BD Vacutainer specimen
collection products

To learn about BD Vacutainer® specimen collection products, educational materials or services offered by **BD Life Sciences – Preanalytical Systems**, please contact your local BD Sales Consultant today.

You can also contact us via:

BD Technical Services at **1.800.631.0174**

or submit an inquiry at **www.bd.com/vacutainer/contact**

BD Customer Service at **1.888.237.2762**

or visit us anytime online at **www.bd.com/vacutainer**

* The Lewin Group (2005). *The Value of Diagnostics: Innovation, Adoption, and Diffusion into Healthcare*. Published for the Advanced Medical Technology Association. Falls Church, VA: Lewin Group; 2005:1.



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Venous Products



BD Vacutainer® Blood Collection Tubes

BD Vacutainer® Blood Collection Tubes are clinically shown and supported with numerous clinical studies on a vast array of analytes and diagnostics platforms to document the efficacy, performance characteristics and ease of use. At BD, we understand that it's not just a test...it's a patient and the accuracy of your test result that matter most.



BD Vacutainer® SST™ Tubes

BD Vacutainer® SST™ Tubes contain spray-coated silica to aid in clotting and a polymer gel for serum separation. Samples processed in these tubes are used for serum determinations in chemistry, blood donor screening and infectious disease testing.* BD Vacutainer® SST™ Tubes provide an efficient means of serum sample preparation and help to improve laboratory workflow.



Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
367981	P	13 x 75	3.5	Conventional Red/Gray	Paper	Clot Activator/ Polymer Gel	100/1000
367983	P	13 x 75	3.5	BD Hemogard™/ Gold	Paper	Clot Activator/ Polymer Gel	100/1000
367977	P	13 x 100	4.0	BD Hemogard™/ Gold	Paper	Clot Activator/ Polymer Gel	100/1000
367989	P	13 x 100	5.0	BD Hemogard™/ Gold	See Thru	Clot Activator/ Polymer Gel	100/1000
367986	P	13 x 100	5.0	BD Hemogard™/ Gold	Paper	Clot Activator/ Polymer Gel	100/1000
367987	P	16 x 100	7.5	Conventional Red/Gray	Paper	Transport Tube Clot Activator/ Double Polymer Gel	100/1000
367988	P	16 x 100	8.5	Conventional Red/Gray	Paper	Clot Activator/ Polymer Gel	100/1000
367985	P	16 x 125	10.0	Conventional Red/Gray	Paper	Transport Tube Clot Activator/ Double Polymer Gel	100/1000

 BD Hemogard™ Closure  Conventional Rubber Stopper

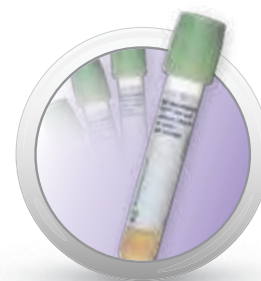
* The performance characteristics of these tubes have not been established for infectious disease testing in general; therefore, users must validate the use of these tubes for their specific assay-instrument/reagent system combinations and specimen storage conditions.



www.bd.com/vacutainer

BD Vacutainer® PST™ Tubes

BD Vacutainer® PST™ Tubes contain spray-coated lithium heparin and a polymer gel for plasma separation. Samples processed in these tubes are used for plasma determinations in chemistry. BD Vacutainer® PST™ Lithium Heparin Tubes eliminate the need to wait for a clot to form, making it an ideal tube for STAT procedures, as well as for patients receiving anticoagulant therapy. They provide the convenience of gel separation with the added advantage of improved turnaround time.



Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
368056	P	13 x 75	3.0	Conventional/ Green/Gray	Paper	Lithium Heparin 56 USP Units with Polymer Gel	100/1000
367960	P	13 x 75	3.0	BD Hemogard™/ Lt Green	Paper	Lithium Heparin 56 USP Units with Polymer Gel	100/1000
367961	P	13 x 100	3.5	BD Hemogard™/ Lt Green	Paper	Lithium Heparin 65 USP Units with Polymer Gel	100/1000
368824	P	16 x 100	4.0	Conventional/ Green/Gray	Paper	Lithium Heparin 64 USP Units with Polymer Gel	100/1000
367962	P	13 x 100	4.5	BD Hemogard™/ Lt Green	Paper	Lithium Heparin 84 USP Units with Polymer Gel	100/1000
367964	P	16 x 100	8.0	Conventional/ Green/Gray	Paper	Lithium Heparin 126 USP Units with Polymer Gel	100/1000

BD Vacutainer® RST Tube

BD Vacutainer® Rapid Serum Tubes (RST) contain thrombin-based clot activator and polymer gel for serum separation. Samples processed in these tubes are used for serum determinations in chemistry. A five-minute clotting time makes this tube ideal for STAT testing in the emergency department as well as clinical laboratories striving to improve test turnaround and workflow efficiencies.



Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
368774	P	13 x 100	5.0	BD Hemogard™/ Orange	Paper	Thrombin-based clot activator	100/1000

BD Vacutainer® Fluoride Tubes

BD Vacutainer® Fluoride Tubes are used to collect samples for glucose determinations.



Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
367587	P	13 x 75	2.0	BD Hemogard™/ Gray	Paper	Sodium Fluoride 3 mg, Na ₂ EDTA 6 mg	100/1000
367921	P	13 x 75	2.0	BD Hemogard™/ Gray	Paper	Sodium Fluoride 5 mg, Potassium Oxalate 4 mg	100/1000
368587	P	13 x 75	4.0	Conventional/ Gray	Paper	Sodium Fluoride 10 mg, Potassium Oxalate 8 mg	100/1000
367922	P	13 x 75	4.0	BD Hemogard™/ Gray	Paper	Sodium Fluoride 10 mg, Potassium Oxalate 8 mg	100/1000
367925	P	13 x 100	6.0	BD Hemogard™/ Gray	Paper	Sodium Fluoride 15 mg, Potassium Oxalate 12 mg	100/1000
367729	G	13 x 100	7.0	BD Hemogard™/ Gray	Paper	Sodium Fluoride 30 mg	100/1000
367001	G	16 x 100	10.0	Conventional/ Gray	Paper	Sodium Fluoride 100 mg, Potassium Oxalate 20 mg	100/1000

BD Vacutainer® Serum Tubes

BD Vacutainer® Plus Plastic Serum Tubes have spray-coated silica and are used for serum determinations in chemistry. Samples processed in these tubes may also be used for routine blood donor screening, immunohematology and diagnostic testing of serum for infectious disease.*



Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
366668	P	13 x 75	3.0	Conventional/Red	Paper	Clot Activator, Silicone Coated	100/1000
367812	P	13 x 75	4.0	BD Hemogard™/ Red	Paper	Clot Activator, Silicone Coated	100/1000
367814	P	13 x 100	5.0	BD Hemogard™/ Red	Paper	Clot Activator, Silicone Coated	100/1000
367815	P	13 x 100	6.0	BD Hemogard™/ Red	Paper	Clot Activator, Silicone Coated	100/1000

 BD Hemogard™ Closure  Conventional Rubber Stopper

* The performance characteristics of these tubes have not been established for infectious disease testing in general; therefore, users must validate the use of these tubes for their specific assay-instrument/reagent system combinations and specimen storage conditions.



www.bd.com/vacutainer

BD Vacutainer® Serum Tubes – *continued*

Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
368660	P	13 x 100	6.0	Conventional/Red	Paper	Clot Activator, Silicone Coated	100/1000
366430	G	16 x 100	10.0	Conventional/Red	Paper	Silicone Coated	100/1000
367820	P	16 x 100	10.0	Conventional/Red	Paper	Clot Activator, Silicone Coated	100/1000

BD Vacutainer® Heparin Tubes

BD Vacutainer® Heparin Tubes are spray-coated with either lithium heparin or sodium heparin. Samples collected in these tubes are used for plasma determinations in chemistry.



Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
366664	P	13 x 75	2.0	BD Hemogard™/Green	Paper	Lithium Heparin 37 USP Units	100/1000
367671	G	13 x 75	2.0	BD Hemogard™/Green	Paper	Sodium Heparin 33 USP Units	100/1000
366667	P	13 x 75	3.0	Conventional/ Green	Paper	Lithium Heparin 56 USP Units	100/1000
367884	P	13 x 75	4.0	BD Hemogard™/Green	Paper	Lithium Heparin 75 USP Units	100/1000
367871	P	13 x 75	4.0	BD Hemogard™/Green	Paper	Sodium Heparin 75 USP Units	100/1000
367886	P	13 x 100	6.0	BD Hemogard™/Green	Paper	Lithium Heparin 95 USP Units	100/1000
367880	P	16 x 100	10.0	Conventional/ Green	Paper	Lithium Heparin 158 USP Units	100/1000



BD Hemogard™ Closure



Conventional Rubber Stopper

BD Vacutainer® Heparin Tubes – *continued*

Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
367878	P	13 x 100	6.0	BD Hemogard™ / Green	Paper	Sodium Heparin 95 USP Units	100/1000
366480	G	16 x 100	10.0	Conventional / Green	Paper	Sodium Heparin 158 USP Units	100/1000
367874	P	16 x 100	10.0	Conventional / Green	Paper	Sodium Heparin 158 USP Units	100/1000

BD Vacutainer® EDTA Tubes

BD Vacutainer® spray-coated EDTA Tubes are used for whole blood hematology determinations, immunohematology testing and blood donor screening.*



Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
367842	P	13 x 75	2.0	BD Hemogard™ / Pink	Crossmatch	K ₂ EDTA 3.6 mg	100/1000
367841	P	13 x 75	2.0	BD Hemogard™ / Lavender	Paper	K ₂ EDTA 3.6 mg	100/1000
367856	P	13 x 75	3.0	BD Hemogard™ / Lavender	Paper	K ₂ EDTA 5.4 mg	100/1000
367835	P	13 x 75	3.0	Conventional / Lavender	Paper	K ₂ EDTA 5.4 mg	100/1000
367862	P	13 x 75	4.0	BD Hemogard™ / Lavender	See Thru	K ₂ EDTA 7.2 mg	100/1000
367844	P	13 x 75	4.0	Conventional / Lavender	Paper	K ₂ EDTA 7.2 mg	100/1000

 BD Hemogard™ Closure  Conventional Rubber Stopper

* The performance characteristics of these tubes have not been established for infectious disease testing in general; therefore, users must validate the use of these tubes for their specific assay-instrument/reagent system combinations and specimen storage conditions.



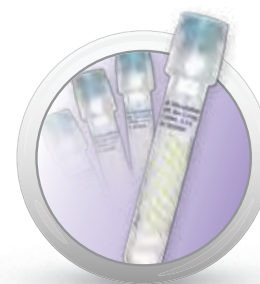
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BD Vacutainer® EDTA Tubes – *continued*

Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
367861	P	13 x 75	4.0	BD Hemogard™/Lavender	Paper	K ₂ EDTA 7.2 mg	100/1000
367863	P	13 x 100	6.0	BD Hemogard™/Lavender	Paper	K ₂ EDTA 10.8 mg	100/1000
367899	P	13 x 100	6.0	BD Hemogard™/Pink	Crossmatch	K ₂ EDTA 10.8 mg	100/1000
368661	P	13 x 100	6.0	Conventional/Lavender	Paper	K ₂ EDTA 10.8 mg	100/1000
366450	G	13 x 100	7.0	Conventional/Lavender	Paper	K ₃ EDTA 12.15 mg (15% Sol, 0.081 mL)	100/1000
366643	P	16 x 100	10.0	BD Hemogard™/Lavender	See Thru	K ₂ EDTA 18 mg	100/1000
368589	P	16 x 100	10.0	Conventional/Pink	Crossmatch	K ₂ EDTA 18 mg	100/1000

BD Vacutainer® Citrate Tubes

BD Vacutainer® Citrate Tubes with 3.2% buffered sodium citrate solution are used for routine coagulation studies.



Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
363080	P	13 x 75	1.8	BD Hemogard™/Lt. Blue	Paper	Buffered Sodium Citrate (0.109M, 3.2%)	100/1000
363083	P	13 x 75	2.7	BD Hemogard™/Lt. Blue	Paper	Buffered Sodium Citrate (0.109M, 3.2%)	100/1000
367947	G	13 x 75	4.5	BD Hemogard™/Lt. Blue	Paper	Buffered Sodium Citrate (0.109M, 3.2%), Theophylline, Adenosine, Dipyridamole (0.3 mL)	100/1000
369714	G	13 x 75	4.5	BD Hemogard™/Lt. Blue	Paper	Buffered Sodium Citrate (0.105M, 3.2%)	100/1000



BD Hemogard™ Closure



Conventional Rubber Stopper

BD Vacutainer® Specialty Tubes

BD offers a wide array of tubes to meet your specialty testing requirements.

Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
Blood Group Typing, HLA Phenotyping, DNA and Paternity Testing							
364816	G	13 x 100	6.0	Conventional/ Yellow	Paper	Acid Citric Dextrose (ACD) Solution B consists of Trisodium Citrate, 13.2 g/L, Citric Acid, 4.8 g/L, and Dextrose, 14.7 g/L	100/1000
364606	G	16 x 100	8.5	Conventional/ Yellow	Paper	Acid Citric Dextrose (ACD) Solution A consists of Trisodium Citrate, 22.0 g/L, Citric Acid, 8.0 g/L, and Dextrose, 24.5 g/L	100/1000
Lead Testing							
367855	P	13 x 75	3.0	BD Hemogard™/ Tan	Paper	K ₂ EDTA 5.4 mg	100/1000
Sterile Exterior Pouch							
366401	G	16 x 100	10.0	Conventional/Red	Paper	Silicone Coated K ₃ EDTA (12.15 mg)	50/1000
		13 x 100	7.0	Conventional/ Lavender	Paper		
Trace Element Testing							
368381	P	13 x 100	6.0	BD Hemogard™/ Royal Blue	Paper	K ₂ EDTA 10.8 mg	100/1000
368380	P	13 x 100	6.0	BD Hemogard™/ Royal Blue	Paper	Serum Clot Activator (Silicone Coated)	100/1000
Westergren Sedimentation Rate Determination (Buffered Citrate)							
369741	G	13 x 75	2.4	BD Hemogard™/ Black	Paper	Buffered Citrate (32.0 mg Sodium Citrate 4.2 mg Citric Acid/mL) 0.6 mL	100/1000
Whole Blood Microbiology Sodium Polyanethol Sulfonate							
364960	G	16 x 100	8.3	Conventional/ Yellow	See Thru	Sodium Polyanethol Sulfonate (SPS) (0.35% in 0.85% Sodium Chloride) 1.7 mL	100/1000
Discard/No Additive Tubes							
366703	P	13 x 75	3.0	BD Hemogard™/ Clear	Paper	No Additive	100/1000
366704	P	13 x 75	3.0	Conventional/ Red/Light Gray	Paper	No Additive	100/1000
366408	P	13 x 100	6.0	BD Hemogard™/ Clear	Paper	No Additive	100/1000



BD Hemogard™ Closure



Conventional Rubber Stopper

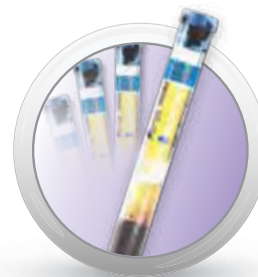


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BD Vacutainer® Molecular Diagnostic Testing / Cell Preparation Tubes

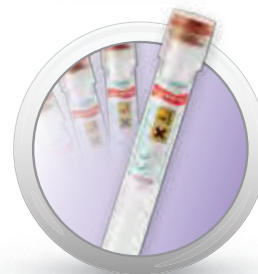
BD Vacutainer® Mononuclear Cell Preparation Tubes (CPT™)

The one-step, closed-system tube for blood collection, mononuclear cell separation and transportation offers convenience, safety and reproducibility that may contribute to increased lab productivity. This product is for *in vitro* diagnostic use.



PAXgene® Blood RNA Tube

The PAXgene® Tube offers a convenient and closed system for the collection, storage and transportation of whole blood that requires intracellular RNA stabilization. The PAXgene® tube is for *in vitro* diagnostic use and is CE-marked.



BD Vacutainer® Plasma Preparation Tubes (PPT™)

The one-step, closed-system tube for blood collection, undiluted plasma preparation and transportation offers convenience, safety and high-quality plasma for molecular diagnostic testing. This product is for *in vitro* diagnostic use.



Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
Cell Preparation Tubes (CPT™)							
362760	G	13 x 100	4.0	Conventional/ Lt. Blue/Black	Mylar	Sodium Citrate 0.45 mL of 0.1 Molar	60/Case
362753	G	16 x 125	8.0	Conventional/ Red/Green	Mylar	Sodium Heparin minimum 198 USP units	60/Case
362761	G	16 x 125	8.0	Conventional/ Lt. Blue/Black	Mylar	Sodium Citrate 1.0 mL of 0.1 Molar	60/Case
PAXgene® Blood RNA Tube							
762165*	P	16 x 100	2.5	BD Hemogard™/ Red	Paper	Additive 6.9 mL	100/Case
Plasma Preparation Tubes (PPT™)							
362788	P	13 x 100	5.0	BD Hemogard™/ Pearl White	Mylar	K ₂ EDTA 9 mg	100/1000
362799	P	16 x 100	8.5	BD Hemogard™/ Pearl White	Mylar	K ₂ EDTA 15.8 mg	100/1000
362800	P	16 x 100	8.5	BD Hemogard™/ Pearl White	Paper	K ₂ EDTA 15.8 mg	100/1000

 BD Hemogard™ Closure  Conventional Rubber Stopper

* PAXgene® Blood RNA Kit (North American Catalog #762164) can be ordered from QIAGEN, or visit <http://www.PreAnalytix.com>
PAXgene is a trademark of PreAnalytix GmbH

Proteomics Analysis and Protein Preservation

BD™ P100 Blood Collection System for Plasma Protein Preservation

BD™ P100 enables greater recovery and preservation of plasma proteins by the immediate mixing of blood with proprietary protease inhibitors. The on-board stabilizers, specifically formulated for human plasma, provide point-of-collection protection of valuable plasma proteins that are subject to proteolytic degradation and modification after blood collection.*



Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Anticoagulant	Additive	Packaging (Tubes/Kit)
366422	P	13 x 75	~2.0	BD Hemogard™/ Clear	3.6 mg K ₂ EDTA	Proprietary Protein Stabilizers	20 tubes; 10 tubes/foil pouch 2 foil pouches/kit
366448	P	16 x 100	~8.5	BD Hemogard™/ Clear	15.8 mg K ₂ EDTA	Proprietary Protein Stabilizers	24 tubes; 6 tubes/foil pouch 4 foil pouches/kit

BD™ P700 Blood Collection System for Plasma GLP-1 Preservation

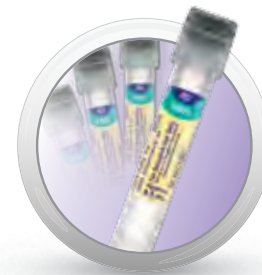
BD™ P700 is especially suited as the blood collection tube of choice for assays that require quantitation and measurement of the preproglucagon-derived glucose regulatory peptide, glucagon-like peptide 1 (GLP-1). P700 contains a proprietary dipeptidyl peptidase IV (DPP-IV) protease inhibitor that provides immediate protection of GLP-1 from degradation in plasma.*




Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Anticoagulant	Additive	Packaging (Tubes/Kit)
366473	P	13 x 75	~3.0	BD Hemogard™/ Lavender	5.4 mg K ₂ EDTA	Proprietary DPP-IV Inhibitor	20 tubes; 10 tubes/foil pouch 2 foil pouches/kit

BD™ P800 Blood Collection System for Plasma GLP-1, GIP, Glucagon and Ghrelin Preservation

BD™ P800 is especially suited as a blood collection tube of choice for assays that require quantitation and measurement of the glucagon-like peptide 1 (GLP-1), glucose-dependent insulinotropic polypeptide (GIP), glucagon and ghrelin. P800 contains a proprietary cocktail of protease, esterase and DPP-IV inhibitors that provides immediate protection of bioactive peptides from degradation in plasma.*



Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Anticoagulant	Additive	Packaging Box/Case
366420	P	13 x 75	~2.0	BD Hemogard™/ Clear	3.6 mg K ₂ EDTA	Proprietary Cocktail of Protease, Esterase and DPP-IV Inhibitors	100/Case
366421	P	16 x 100	~8.5	BD Hemogard™/ Clear	15.3 mg K ₂ EDTA	Proprietary Cocktail of Protease, Esterase and DPP-IV Inhibitors	100/Case

 BD Hemogard™ Closure

* For research use only. Not for use in diagnostic procedures.



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Venous Products



BD Vacutainer® Eclipse™ Blood Collection Needles

The BD Vacutainer® Eclipse™ Blood Collection Needle is a safety-engineered, multi-sample blood collection needle that offers a simple, effective way to collect blood while reducing the possibility of needlestick injuries. It features a safety shield that allows for one-handed activation to cover the needle immediately upon withdrawal from the vein and confirms proper activation with an audible click.

BD Vacutainer® Eclipse™ Blood Collection Needle with Pre-Attached Holder is ready to use right out of the package, with no assembly required. Its integrated safety shield and holder maximizes OSHA compliance by protecting clinicians from potential front and back-end needlestick injuries.



Reference Number	Description	Needle Gauge	Needle Length (Inches)	Shield Color	Packaging Box/Case Quantities
368607	BD Vacutainer® Eclipse™ Blood Collection Needle	21	1.25	Green	48/480
368608	BD Vacutainer® Eclipse™ Blood Collection Needle	22	1.25	Black	48/480
BD Vacutainer® Eclipse™ Blood Collection Needles with Pre-Attached Holder					
368650	BD Vacutainer® Eclipse™ Blood Collection Needle with Pre-Attached Holder	21	1.25	Green	–/100
368651	BD Vacutainer® Eclipse™ Blood Collection Needle with Pre-Attached Holder	22	1.25	Black	–/100



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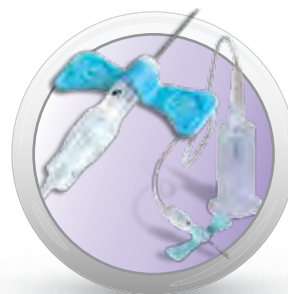
BD Vacutainer® Blood Collection Sets

A successful venipuncture begins with choosing the appropriate site and equipment for the procedure. Healthcare workers should select safety-engineered products that help contribute to high-quality specimens, patient comfort and healthcare worker safety. The BD line of winged blood collection sets can help you achieve these clinical goals.



BD Vacutainer® Push Button Blood Collection Sets

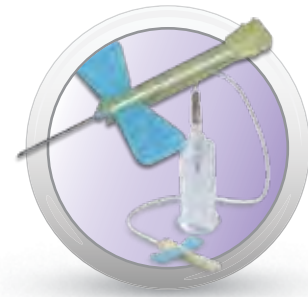
The BD Vacutainer® Push Button Blood Collection Set offers a clinically demonstrated split-second retracting safety needle to help reduce costly needlestick injuries. It is available with a pre-attached holder for added convenience and to help meet OSHA single-use standards.



Reference Number	Needle Gauge	Needle Length (Inches)	Wing Color	Tubing Length (Inches)	Configuration With or Without Luer	Packaging Box/Case Quantities
367344	21	.75	Green	12	With	50/200
367342	23	.75	Light Blue	12	With	50/200
367341	25	.75	Royal Blue	12	With	50/200
367326	21	.75	Green	12	Without	50/200
367324	23	.75	Light Blue	12	Without	50/200
367323	25	.75	Royal Blue	12	Without	50/200
367338	21	.75	Green	7	With	50/200
367336	23	.75	Light Blue	7	With	50/200
367335	25	.75	Royal Blue	7	With	50/200
BD Vacutainer® Push Button Blood Collection Sets with Pre-Attached Holder						
367352	21	.75	Green	12	Pre-Attached Holder	20/100
368656	23	.75	Light Blue	12	Pre-Attached Holder	20/100
368659	25	.75	Royal Blue	12	Pre-Attached Holder	20/100

BD Vacutainer® Safety-Lok™ Blood Collection Sets

The BD Vacutainer® Safety-Lok™ Blood Collection Set is simple and easy to use. The safety mechanism can be activated immediately after the blood draw, helping to protect you against needlestick injury. It is also offered with a pre-attached holder for added convenience and to help meet OSHA single-use holder standards.



Reference Number	Needle Gauge	Needle Length (Inches)	Wing Color	Tubing Length (Inches)	Configuration With or Without Luer	Packaging Box/Case Quantities
367281	21	.75	Green	12	With	50/200
367283	23	.75	Light Blue	12	With	50/200
367285	25	.75	Royal Blue	12	With	50/200
367296	21	.75	Green	12	Without	50/200
367297	23	.75	Light Blue	12	Without	50/200
367298	25	.75	Royal Blue	12	Without	50/200
367287	21	.75	Green	7	With	50/200
367292	23	.75	Light Blue	7	With	50/200
367294	25	.75	Royal Blue	7	With	50/200
BD Vacutainer® Safety-Lok™ Blood Collection Sets with Pre-Attached Holders						
368652	21	.75	Green	12	Pre-Attached Holder	25/200
368653	23	.75	Light Blue	12	Pre-Attached Holder	25/200



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BD Vacutainer® Accessories

BD Vacutainer® Accessories are designed for secure and safe specimen sampling. This product offering includes direct-access sampling, transfer devices and tourniquets. These products offer convenience and ease of use and complement the family of BD Vacutainer® and BD Microtainer® products.



BD Vacutainer® Holder

The BD Vacutainer® One Use Holder is compatible with the entire BD Vacutainer® Blood Collection System: BD Vacutainer® Eclipse Blood Collection Needle, BD Vacutainer® Safety-Lok™ Blood Collection Set, BD Vacutainer® Push Button Blood Collection Set and BD Vacutainer® Multiple Sample Luer Adapter.



Reference Number	Description	Packaging Box/Case Quantities
364815	BD Vacutainer® One Use Holder	250/1000
364597	BD Vacutainer® Ribbed Pediatric Tube Adapter	10/100

BD Vacutainer® Blood Transfer Device

The use of a needle to transfer venous blood from a syringe to a blood collection tube or blood culture bottle is both a dangerous procedure and an OSHA-prohibited practice. The BD Vacutainer® Blood Transfer Device was designed with healthcare workers' safety in mind. This single-use device reduces the risk of transfer-related injuries, while maintaining the specimen integrity required for accurate results.



Reference Number	Description	Packaging Box/Case Quantities
364880	BD Vacutainer® Blood Transfer Device	-/200

BD Vacutainer® Luer-Lok™ Access Device

The BD Vacutainer® Luer-Lok™ Access Device is designed for sterile, secure and safer specimen sampling. This device provides the security of a threaded, locking luer connection—the patented BD Vacutainer® Luer-Lok™ that replaces a luer slip device. The product is also compatible with a female luer connection or needleless IV site designed for luer-lock access, and luer locking Foley Catheter sampling ports.



Reference Number	Description	Packaging Box/Case Quantities
364902	BD Vacutainer® Luer-Lok™ Access Device	–/200
367290	BD Vacutainer® Luer Adapter	100/1000

BD Vacutainer® Specimen Collection Assembly

Compatible with any split-septum collection port designed for blunt plastic cannula access.



Reference Number	Description	Packaging Box/Case Quantities
303380	BD Vacutainer® Specimen Collection Assembly with BD™ Blunt Plastic Cannula	25/200

BD Vacutainer® Stretch Latex-Free Tourniquet

Concerned about latex sensitivity? The BD Vacutainer® Stretch Latex-Free Tourniquet is ideal for practitioners and facilities that want to eliminate latex from their healthcare products. This free-of-latex tourniquet will not cause a latex-induced allergic reaction in latex-sensitive patients or employees. Convenient packaging allows for easy, one-at-a-time dispensing of tourniquets—encouraging a single-use policy that helps reduce the danger of cross-contamination between patients and healthcare workers.



Reference Number	Description	Packaging Box/Case Quantities
367203	BD Vacutainer® Stretch Latex-Free Tourniquet	25/500



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Capillary Products



BD Microtainer® Capillary Blood Collection System

BD Microtainer® Capillary Products feature a complete system designed to provide safety, accuracy and comfort for capillary blood sampling and collection, to meet your varying sample requirements and meet the needs of your most fragile patients.



BD Microtainer® Contact-Activated Lancets

The BD Microtainer® Contact-Activated Lancet has been designed with a positive patient experience in mind. The contact-activation method facilitates a consistent puncture depth and minimizes the likelihood of having to repeat the puncture. It covers only a small area at the contact point, resulting in improved visibility of the puncture site for the clinician and greater accuracy of lancet positioning when performing the puncture. Its innovative ergonomic design allows for a more comfortable grip. The lancet automatically retracts into the device, which prevents the lancet from being reused. In addition, the lot number is laser etched on each lancet for easier tracking.



Reference Number	Width and Depth (mm)	Blood Volume	Color	Packaging Box/Case Quantities
366592	30 G x 1.5	Low Flow	Purple	200/2000
366593	21 G x 1.8	Medium Flow	Pink	200/2000
366594	1.5 mm x 2.0	High Flow	Blue	200/2000

BD Microtainer® Quikheel™ Lancets

Maximize blood flow while minimizing pain in heelsticks on newborns with the safety-engineered BD Microtainer® Quikheel™ Lancet. Easy, one-handed activation releases a retractable surgical blade for making a precise, consistent incision that produces sufficient blood flow to conduct PKU testing. A perfect solution for your newborn screening tests. Sizes are color-coded for infant and preemie.



Reference Number	Width and Depth (mm)	Blood Volume	Color	Packaging Box/Case Quantities
368100	1.75 x 0.85	Low Flow (Preemie)	Pink	50/200
368101	2.50 x 1.00	High Flow (Infant)	Teal	50/200



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BD Microtainer® MAP Microtube for Automated Process

BD Microtainer® MAP Microtube for Automated Process is the first one-piece instrument-compatible microtube to offer both standard full-size patient identification labels as well as compatibility with most automated hematology instruments. The BD Microtainer® MAP tube is designed to improve the labeling and processing time of capillary blood collection and testing in patients such as infants, children, oncology and the elderly.



Approved for hematology
and lead testing!

Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Color	Additive	Fill Volume (µL)	Packaging Box/Case Quantities
BD Microtainer® MAP Microtube Automated Process						
363706	P	13 x 75	Lavender	1.0 mg K ₂ EDTA	250-500	50/200

BD Microtainer® Blood Collection Tubes

BD Microtainer® Blood Collection Tube was designed for ease-of-use and helps to ensure that a quality capillary blood sample is collected. The wider-diameter BD Microtainer® Tube with BD Microgard™ Closure features an integrated collector and improved mixing ability. This full array of microcollection tubes is available for hematology and chemistry applications, and is color-coded to match the array of evacuated BD Vacutainer® Blood Collection Tubes.



Reference Number	Color	Additive	Fill Volume (µL)	Packaging Box/Case Quantities
BD Microtainer® Tubes with BD Microgard™ Closure				
365967	Gold	Clot Activator/ SST™ Gel	400-600	50/200
365978	Gold	Clot Activator/ SST™ Gel (Amber)	400-600	50/200
365963	Red	Silicone Coated	250-500	50/200
365974	Lavender	K ₂ EDTA	250-500	50/200
365985	Mint Green	Lithium Heparin/ PST™ Gel	400-600	50/200
365987	Mint Green	Lithium Heparin/ PST™ Gel (Amber)	400-600	50/200
365965	Green	Lithium Heparin	200-400	50/200
365992	Gray	NaFI/Na ₂ EDTA	400-600	50/200
365976	N/A	Tube Extender	N/A	50/200



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Urine Products



BD Vacutainer® Urine Collection System


BD Urine Collection Products offer the advantages of a closed system, for both patients and healthcare workers alike. Patients receive more reliable results, due to decreased preanalytical variability. Healthcare workers derive more safety on the job because they do not need to pour potentially contaminated urine into tubes, while the efficiency of the closed system eliminates the need for re-collections and re-labeling and reduces the potential for preanalytical errors. The preservatives in the BD Urinalysis Tube and the C&S Tube allow for delayed testing and are in compliance with CLSI guidelines.



BD Vacutainer® Urine Collection Kits

The BD Vacutainer® Urine Collection System provides a wide array of urine collection products to meet your everyday urine testing needs. The BD proprietary, mercury-free urinalysis preservative maintains sample integrity for up to 72 hours at room temperature, while the BD microbiology preservative maintains bacterial viability for up to 48 hours at room temperature to help reduce contamination rates. From collection to transport to specimen preservation, BD Vacutainer® Urine Products help you handle the most commonly collected and analyzed body fluid.

Reference Number	Description	Tube Size/ Draw Volume	Closure Type/Color	Additive/Concentration	Packaging Box/Case Quantities
364957	Complete Kit: Sterile Screw-Cap Collection Cup with Integrated Transfer Device and Plus Plastic Conical Tube with Preservative for Urinalysis and Plus Plastic C&S Preservative Tube and Castile Soap Towelettes	16x100 mm 8.0 mL	Conventional/ Red/Yellow	Ethyl Paraben, Sodium Propionate and Chlorhexidine Preservative	50 Kits/Case
		13x75 mm 4.0 mL	Conventional/ Gray	Boric Acid, Sodium Formate and Sodium Borate Preservative	
364956	Complete Kit: Sterile Screw-Cap Collection Cup with Integrated Transfer Device and Plus Plastic Conical Tube for Urinalysis and Plus Plastic C&S Preservative Tube and Castile Soap Towelettes	16x100 mm 8.0 mL	Conventional/ Yellow	No Additive	50 Kits/Case
		13x75 mm 4.0 mL	Conventional/ Gray	Boric Acid, Sodium Formate and Sodium Borate Preservative	
364954	C&S Cup Kit: Sterile Screw-Cap Collection Cup with Integrated Transfer Device and Plus Plastic C&S Preservative Tube and Castile Soap Towelettes	13x75 mm 4.0 mL	Conventional/ Gray	Boric Acid, Sodium Formate and Sodium Borate Preservative	50 Kits/Case
364953	C&S Transfer Straw Kit: Transfer Straw and Plus Plastic C&S Preservative Tube	13x75 mm 4.0 mL	Conventional/ Gray	Boric Acid, Sodium Formate and Sodium Borate Preservative	50/200


 Conventional Rubber Stopper



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BD Vacutainer® Urine Collection Kits – *continued*

Reference Number	Description	Tube Size/ Draw Volume	Closure Type/Color	Additive/ Concentration	Packaging Box/Case Quantities
364946	Urinalysis Cup Kit: Sterile Screw-Cap Collection Cup with Integrated Transfer Device and Plus Plastic Conical Tube with Preservative for Urinalysis	16x100 mm 8.0 mL	Conventional/ Red/Yellow	Ethyl Paraben, Sodium Propionate and Chlorhexidine Preservative	50 Kits/Case
364981	Urinalysis Cup Kit: Sterile Screw-Cap Collection Cup with Integrated Transfer Device and Plus Plastic Round Bottom Tube for Urinalysis	16x100 mm 10.0 mL	Conventional/ Yellow	No Additive	50 Kits/Case
364989	Urinalysis Cup Kit: Sterile Screw-Cap Collection Cup with Integrated Transfer Device and Plus Plastic Conical Tube for Urinalysis	16x100 mm 8.0 mL	Conventional/ Yellow	No Additive	50 Kits/Case
364990	Urinalysis Transfer Straw Kit: Transfer Straw and Plus Plastic Round Bottom Tube for Urinalysis	16x100 mm 10.0 mL	Conventional/ Yellow	No Additive	50/200
364991	Urinalysis Transfer Straw Kit: Transfer Straw and Plus Plastic Conical Tube for Urinalysis	16x100 mm 8.0 mL	Conventional/ Yellow	No Additive	50/200
364943	Urinalysis Transfer Straw Kit: Transfer Straw and Plus Plastic Conical Tube with Preservative for Urinalysis	16x100 mm 8.0 mL	Conventional/ Red/Yellow	Ethyl Paraben, Sodium Propionate and Chlorhexidine Preservative	50/200

 Conventional Rubber Stopper

BD Vacutainer® Urine Bulk Products

Reference Number	Description	Tube Size/ Draw Volume	Closure Type/Color	Additive/ Concentration	Packaging Box/Case Quantities
364951	Bulk Tube: Plus Plastic C&S Preservative Tube	13x75 mm 4.0 mL	Conventional/ Gray	Boric Acid, Sodium Formate and Sodium Borate Preservative	100/1000
364958*	Bulk Tube: Plus Plastic C&S Preservative Tube	13x75 mm 4.0 mL	BD Hemogard™/ Olive Green	Boric Acid, Sodium Formate and Sodium Borate Preservative	100/1000
364992	Bulk Tube: Plus Plastic Conical Bottom Tube with Preservative for Urinalysis	16x100 mm 8.0 mL	Conventional/Red/ Yellow	Ethyl Paraben, Sodium Propionate and Chlorhexidine Preservative	100/1000
365017	Bulk Tube: Plus Plastic Round Bottom Tube with Preservative for Urinalysis	16x100 mm 8.0 mL	BD Hemogard™/ Yellow	Ethyl Paraben, Sodium Propionate and Chlorhexidine Preservative	100/1000
364980	Bulk Tube: Plus Plastic Conical Tube for Urinalysis	16x100 mm 8.0 mL	Conventional/ Yellow	No Additive	100/1000
364979	Bulk Tube: Plus Plastic Round Bottom Tube for Urinalysis	16x100 mm 10.0 mL	Conventional/ Yellow	No Additive	100/1000
366408	Bulk Tube: Plus Plastic No Additive (Z) Tube	13x100 mm 6.0 mL	BD Hemogard™/ Clear	No Additive	100/1000
364975	Urine Collection Cup with Integrated Transfer Device	—	—	—	200/Case
364966	Urine Transfer Straw	—	—	—	100/1000



BD Hemogard™ Closure



Conventional Rubber Stopper

* Coming soon



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Education Services

At BD, We pledge to

continually support the healthcare professional's need for high-quality educational tools and training assistance by providing these value-added programs.



Helping You Get the Most Value from Preanalytical Processes

When your facility selects BD Vacutainer® specimen collection products, it is getting more than just tools that are shown to provide clinical and economic benefits. Your institution also gains access to world-class technical support and educational services that can help derive maximum value and efficiency from hospital-wide sample collection and transport processes.

Training and Educating Your Staff

BD recognizes the importance of continuous learning in today's challenging healthcare environment. That is why we are committed to helping your institution achieve its educational goals and state-mandated requirements in a convenient, cost-efficient manner. Our comprehensive portfolio of training and educational tools and services includes:

- ✓ **S.P.I.R.I.T.®** (Safety Product In Service Resources Initiative Training) provides on-site healthcare workers training on BD Vacutainer® safety-engineered products
- ✓ **Web-based product training** provides course-completion certificates to help you maintain training and compliance records

Comprehensive educational catalog with products made available through strategic alliances with leading professional associations, authors and publishers, as well as items created exclusively by BD.

Helping You Achieve Quality and Compliance

Given the proliferation of technology, instruments, analytes, reagents and methods, your laboratory professionals have a need for information to validate results and comply with CAP and CLSI recommendations.



Clinical Documentation

More than 100 clinical studies on a vast array of BD Vacutainer® and BD Microtainer® products. **Also Available: Clinical Documentation Reference Manual**



Facts About Needlesticks

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


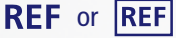





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Packaging Symbols Services

Handling Symbols

	Use By		<i>In Vitro</i> Diagnostic Medical Device
	Batch Code		Temperature Limitation
	Do Not Reuse		Manufacturer
	Catalog Number		Keep Away From Sunlight
	Method of Sterilization Using Irradiation		This End Up
	Consult Instructions For Use		Fragile, Handle With Care

Additive Symbols

K2E	EDTA - dipotassium salt
9NC	Tri-Sodium Citrate 9:1
FX	Fluoride and Oxalate
FE	Fluoride and EDTA
LH	Lithium Heparin
NH	Sodium Heparin
Z	No additive

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BD Diagnostics
Preanalytical Systems
150 South 1st Avenue
Broken Bow NE 68822 US

CERTIFICATE OF COMPLIANCE

Page: 1 of 2

Product Name : TUBE GLU GC 16X100 10.0 PLBL GR NAF/KOX
Catalog Number : 367001
Batch Number : 3064345
Expiration Date : 2015/03/31

CERTIFICATION OF COMPLIANCE

This material number is a (TUBE GLU GC 16x100 10.0 PLBL GR NAF/KOX) BD Diagnostics Preanalytical Systems Blood Collection Tube reorder #367001. Manufacturing specification for this tube requires the following amounts of powdered additives in each tube.

Potassium Oxalate 18.0mg. to 23.0mg. (Nominal 20.0mg.)
Sodium Fluoride 90.0mg. to 115.0mg. (Nominal 100.0mg.)

This tube is manufactured specifically for blood alcohol determination. The chemicals added to this tube will not disturb the integrity of the blood sample relative to the alcohol content.

Vacuum in the tube is set to draw 9.3mL to 10.7mL (Nominal 10.0mL). Using a specific gravity for blood of 1.057 grams the following would be the minimum and maximum percent of additive to blood.

Potassium Oxalate 0.16% to 0.23% (Nominal 0.19%)
Sodium Fluoride 0.80% to 1.17% (Nominal 0.95%)

Sterility Claim:

All products which are labeled as either "Sterile" or "Sterile Interior" and released for sale by BD Diagnostics Preanalytical Systems are certified to be sterile as long as the product package or product is unopened and undamaged. For those products labeled "Sterile Interior" only the product interior is sterile.

Manufacturing Claim:

BD Diagnostics Preanalytical Systems products are manufactured in accordance with the medical device regulations (21CFR820) and comply with Medical Device Reporting (MDR) Regulations (21CFR803). All products and manufacturing facilities comply with FDA registration and listing requirements (21CFR807). The released products satisfy BD Diagnostics Preanalytical Systems finished product specifications. The Broken Bow facility is also ISO 13485:2003 certified.

Broken Bow Quality Assurance
Release date: 2013/04/15
Name: Terri Gaedke

This certificate is produced and controlled electronically and is valid without handwritten signatures.



BD Diagnostics
 Preanalytical Systems
 150 South 1st Avenue
 Broken Bow NE 68822 US

CERTIFICATE OF COMPLIANCE

Product Name : TUBE GLU GC 16X100 10.0 PLBL GR NAF/KOX
Catalog Number : 367001
Batch Number : 3064345
Expiration Date : 2015/03/31

Michelle L. Miller

Michelle L. Miller,
 Interim QA/RA Manager

Acknowledgement
 State of Nebraska)
 County of Custer)

On this daybefore me, Collette Ferguson, the undersigned officer, personally appeared, Michelle L. Miller, known to me to be the person whose name is subscribed to this instrument and acknowledged that he executed the same for the purpose therein contained. IN WITNESS WHEREOF, I have here unto set my hand and official seal.

Collette Ferguson



Collette Ferguson, Notary Public
 My Commission Expires 11/23/2015

LabNotes®

A Newsletter from
BD Diagnostics –
Preanalytical Systems

Volume 19, No.1, 2009

BD Vacutainer®



1949–2009

LabNotes Tip

Tube inversions:

How many times to invert



5 inversions
SST and plastic
serum tubes



8-10 inversions
EDTA, heparin and
other additive tubes



3-4 inversions
Sodium citrate tubes

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The Evolution of Evacuated Blood Collection Tubes

Valerie Bush, PhD, FACB, MT(ASCP)
and Richmond Cohen, PhD

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The introduction of evacuated tubes greatly enhanced the precision and accuracy of test results by reducing errors in collection, (eg, blood-to-additive ratios or contamination).

This article reviews the history of evacuated tubes, the regulations and manufacturing of evacuated tubes, the additives used in evacuated tubes, and some environmental factors influencing product performance.

“A laboratory test is no better than the specimen, and the specimen no better than the manner in which it was collected.” So stated the advertising language of BD (Becton Dickinson and Company) to promote the first evacuated blood collection tubes, back in the late 1940s and early 1950s.¹ This technology for blood collection, patented in 1949, is substantially similar to the technology pervasive in clinical practice today.

Consider what it was like to draw blood without an evacuated tube system. Even before collecting blood, the laboratory had to prepare solutions for the additive tubes (eg, EDTA, citrate) and dispense them into test tubes for blood anticoagulation. Then, to identify the proper draw volume, the laboratory had to etch lines in the borosilicate glass tubes. The phlebotomist collected blood specimens

with needles and glass syringes. For patients who required many tests, the phlebotomist might have to stick the patient multiple times, at least once for chemistry, once for hematology, and once for coagulation.

After collection, the phlebotomist would transfer the blood into a series of test tubes. They sealed the tubes with black rubber stoppers for transportation of the specimens to the laboratory. For electrolyte measurements, they added mineral oil to the tubes to prevent loss of CO₂. For serum specimens, the technologist would use wooden applicator sticks to loosen the clot from the tube walls.

Before drawing blood from the next patient, the laboratory would wash the syringes and tubes. This required many rinse cycles to remove all of the soap residue.

Needles were resterilized and occasionally sharpened using a grinding wheel.

The shortcomings of these techniques are numerous. First, the patient is subjected to the pain of multiple needle entries to the vein. Secondly, the possibilities for errors to occur during the collection and transfer process and the safety risks are apparent. Also, time is consumed with the multiple punctures and transfers.

continued on page 2



Packaging of
Vacutainer® tubes as
they were packaged
in vacuum cans.

LabNotes



Dr. Ana Stankovic

As Featured in
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The Art of the Blood Test

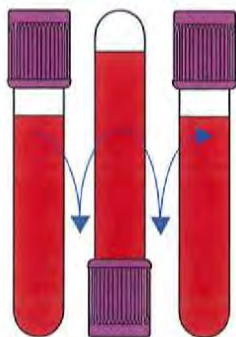
Not-So-Simple

Click Here for Full Article
or visit bd.com/labnotes
(Volume 19, No 1)

LabNotes Tip

How to perform a tube inversion correctly:

A correct inversion is one complete turn of the wrist, back and forth



= 1 Inversion

Letter from the editor

In this issue of LabNotes, we travel back in time to 1949 when the first evacuated blood collection tube was invented and introduced to modern medicine. This early breakthrough technology (evacuated tube and needle), offered by BD and known as the Evacutainer, became a standard method for collecting blood for laboratory testing. Indeed, it remains a ubiquitous worldwide means for collecting blood specimens throughout healthcare and medical research to this day.

During this time of year, we also join in spirit with the healthcare community as they celebrate the important part that clinical laboratorians play in support of overall patient care. Known throughout the United States as National Medical Laboratory Professionals Week, or simply Lab Week, it is a time when these skilled professionals are recognized and appreciated for their key role in disease diagnosis. It is a sentiment that we at BD wholeheartedly share.

Regards,

Dr. Ana K. Stankovic, Editor

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The Evolution of Evacuated Blood Collection Tubes
continued from page 1

History of Evacuated Tubes

The introduction of evacuated blood collection systems provided greater safety, while offering ease-of-use, speed, and accuracy in blood-to-additive ratios. Many advancements in blood collection techniques and devices have been made in recent years.² However, the technique of blood collection with the first evacuated tubes was not quite the same as the process used today. During blood collection with evacuated tubes, as one end of the needle enters the patient's vein, the other end can penetrate through the rubber stopper as the tube is pushed into the open end of the holder. The vacuum enables the tube to fill with the appropriate volume of blood. Additional tubes may be inserted into the holders after completion of the previous draw, when multiple specimens are required.

The first evacuated tube patent, Evacutainer, was invented by Joseph Kleiner and assigned to BD in 1949.³ Prior to the issuance of the patent, Kleiner approached BD with the Evacutainer. BD subsequently hired Kleiner as a consultant for the product and changed the name of his tube to Vacutainer®. Shortly thereafter, it became one of the company's largest selling items.

BD Vacutainer® tubes were packaged and shipped in vacuum tins similar to coffee cans. This was a breakthrough at the time because previously, a heavy clamp was used to prevent the stoppers from popping off during autoclaving. Initially, BD made only 1 kind of Vacutainer® tube, but now it makes hundreds of styles and sizes. The current evacuated tube system utilizes color-coded stoppered tubes containing the vacuum and a holder that supports a double-ended needle. The color-coded closures differentiate tube types.

BD was the only evacuated tube manufacturer in the United States until the early 1970s when other manufacturers entered the market.

Today, there are regulatory agencies and guidelines that ensure the consistency in the design and manufacture of blood collection systems [eg, Food and Drug Administration (FDA); International Standardization Organization (ISO); and Clinical Laboratory Standards Institute (CLSI)].⁴⁻⁶ Federal requirements governing investigations involving medical devices were enacted as part of the Medical Device Amendment (1976) and the Safe Medical Devices Act (1990).⁷ These amendments to the Federal Food, Drug and Cosmetic Act define the regulatory framework for medical device development, testing, approval, and marketing. Additionally, the Federal Quality System Regulation (QSR) and ISO define quality system requirements for the manufacture of medical devices.^{8,9} Any class I or II products on the market prior to 1976 were grandfathered from the premarket notification (to the FDA) requirement. The Needle Stick Safety and Prevention Act revises and builds upon the Bloodborne Pathogen Directive promulgated by the federal Occupational Safety and Health

Administration (OSHA).¹⁰ Provisions of the new law require changes to an institution's current exposure control plan to include 'safety-engineered' products for blood collection. The definition of safety-engineered medical devices includes plastic evacuated tubes with shielded caps.

Manufacturing Evacuated Tubes

At least 2 standards organizations, CLSI and ISO, have promulgated standards for the manufacturer of evacuated tubes.^{5,6} These standards define the tube dimensions for compatibility with centrifuges and automated instruments, draw and fill accuracy, types of additives and additive tolerances, sterility, and labeling criteria. Manufacturers are encouraged to follow these guidelines to obtain CE mark*. Furthermore, all class I and II medical devices sold in the United States must receive clearance from the FDA and Center for Device and Radiologic Health (CDRH) prior to sale. Included in the FDA's review of the 510k (premarket notification) are the physical description of the product and contents, as well as product performance for safety and effectiveness. General manufacturing practices are described below.

Glass evacuated blood collection tubes can be made from glass canes cut to predetermined lengths and fired at one end to close the bottom. Plastic blood collection tubes may be manufactured by an injection-molding process.¹¹ A mold is made to the specific size of tube desired. Typically, in the molding process, a hot, molten material is injected into a cold mold for the tube. After the tube material cools and solidifies, the mold is opened, and the tube is ejected.

Once the tube is formed, additives may be topically applied and dispersed along the inner wall of the tube.¹² Most of these additives are considered to be "dry." Tubes are spray coated with additive formulations onto the inner wall using a series of nozzles. Dispensing is achieved by either pressure activation or volume displacement. The coating is dried by forced air or vacuum. Alternatively, additives that are dispensed into the tube as a fluid and remain as a liquid are considered "wet." A gel barrier may also be dispensed into the formed tube for gel separator tubes. After any additive or gel is inserted,

the tubes are then evacuated and stoppered. An evacuating-closure device evacuates the interior of the tube and applies a stopper to the opening of the tube.¹² The tubes are subsequently labeled appropriately. In the early days, evacuated tubes were hand assembled and not sterilized, but now manufacturers in the United States run automated machine lines and sterilize their tubes. Sterilization is typically accomplished by irradiation after evacuation and is now only rarely achieved through autoclaving.¹³ After sterilization the tubes are wrapped and boxed for shipping.

Additives

Although there are evacuated glass blood collection tubes without additives used to yield serum [or used as discard tubes], all other evacuated tubes contain at least some type of additive. Many of these additives are the same as those used in transfer tubes before evacuated tubes were introduced. The additives range from those that promote faster clotting of the blood, to those that enable anticoagulation, and to those that preserve or stabilize certain analytes or cells. The inclusion of additives at the proper concentration in evacuated tubes greatly enhances the accuracy and consistency of test results and facilitates faster turnaround times in the laboratory.

Additives may exist as either dry or liquid ("wet") in evacuated tubes depending on whether the tube is glass or plastic, and depending on the stability of the solution. The CLSI and ISO define the concentrations of these additives dispensed into tubes per milliliter of blood.

Inorganic Additives

There are several different types of inorganic additives in blood collection tubes. These include those that are completely inorganic in composition, (eg, silica and sodium fluoride), and those that are alkaline metal salts of organic acids, [(eg, disodium ethylenediaminetetraacetic acid (Na_2EDTA), K_3 or K_2EDTA , trisodium citrate, and potassium oxalate)]. Most dry additives tend not to be a limiting factor in determining the shelf

life of the evacuated tube.

For hematology applications, EDTA is available in three forms, including dry additives (K_3EDTA or Na_2EDTA) and a liquid additive (K_3EDTA). EDTA is combined with a metal cation to enhance its solubility and maintain pH. K_2EDTA is slightly more soluble than Na_2EDTA and is the anticoagulant recommended by the International Council for Standards in Hematology.¹⁵ EDTA is an efficient anticoagulant which does not affect cell counts and minimally affects cell size. EDTA prevents clotting by chelating calcium, an important cofactor in coagulation reactions.

The amount of EDTA per milliliter of blood is essentially the same for all 3 forms of EDTA (1.5-2.2 mg/mL).⁶ However, slight differences in hemoglobin may be observed between K_2EDTA and K_3EDTA due to dilutional effects from K_3EDTA .¹⁵



For coagulation testing, only liquid additives are currently available. This is to preserve the 9:1 ratio (blood:citrate) recommended for coagulation testing.¹⁶ To maintain this ratio, coagulation tubes are typically available in glass (to reduce water loss). Evacuated plastic coagulation tubes consisting solely of PET have special packaging to prevent water vapor from escaping over the shelf life of the tube. Also available are plastic evacuated tubes containing liquid additives with a polypropylene insert tube within the PET outer tube. In such configurations, the inner polypropylene tube prevents the loss of water vapor, while the outer PET tube preserves the vacuum.

Trisodium citrate ($\text{Na}_3\text{C}_6\text{H}_5\text{O}_7 \cdot 2\text{H}_2\text{O}$), buffered or unbuffered, is the current standard anticoagulant for coagulation testing. Some manufacturers buffer with citric acid to maintain the pH and minimize damage to the glass tube wall. Some manufacturers may also coat the glass tube wall. Before coagulation testing became automated, several citrate concentrations in evacuated tubes were available. Today, it is available as either a 3.2% or 3.8% concentration. Different citrate concentrations can have significant effects on aPTT and

PT results so interchanging these within a laboratory is not recommended.¹⁶ The different citrate concentrations affect different patient populations and reagent responsiveness.¹⁷

“The usage of gel barriers has provided a large benefit in collecting, processing, and storage of the specimen in the primary tube.”

Biochemical Additives

Biochemical additives or enzymes (ie, heparin or thrombin) are susceptible to instability and/or degradation. Exposure to irradiation during sterilization of tubes and to moisture or light during the shelf life of the product can limit the stability of biochemical additives. As a result, some of these additives are often only available in glass tubes.

Heparinized plasma is commonly used in chemistry in STAT or routine analyses. Heparin is a

mucopolysaccharide combined with a cation (Na⁺, Li⁺, NH₄⁺) to enhance its solubility. It anticoagulates blood by inhibiting thrombin and Factor Xa. Evacuated heparin tubes contain 10 to 30 USP units/mL of blood.⁶

A special additive mixture that is found only in glass evacuated tubes for coagulation testing is called CTAD (citric acid, theophylline, adenosine, and dipyridamole). The CTAD cocktail minimizes platelet activation after blood collection.¹⁸ This additive is sensitive to light and is currently only available in glass evacuated tubes.

Thrombin tubes are often used for STAT serum testing due to the short clotting time. Thrombin is an enzyme that converts fibrinogen to fibrin. Thrombin tubes are available in either glass or plastic. Thrombin is dispensed into tubes to 2 NIH units/tube.⁶

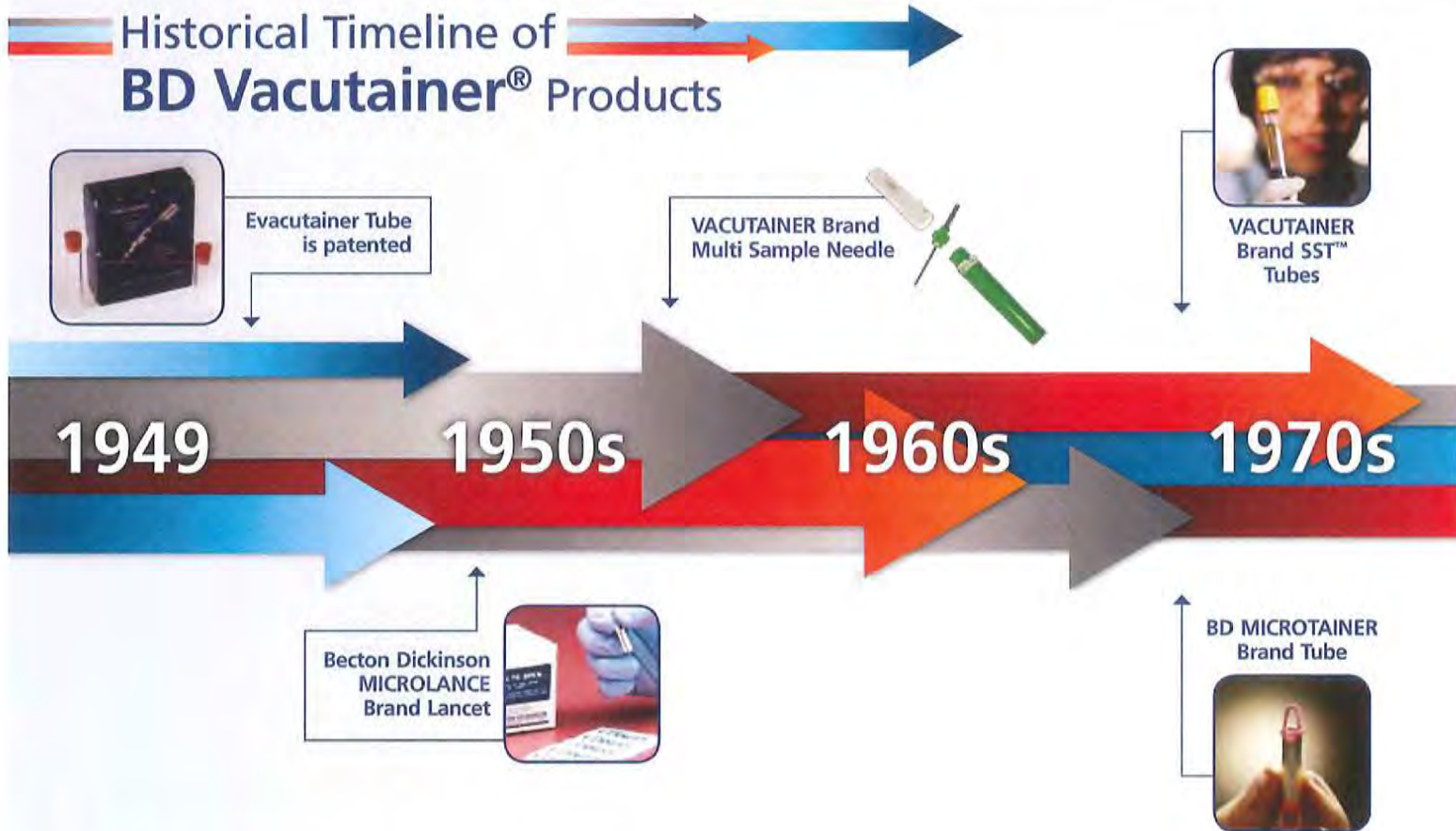
Gel

The function of the gel is to provide a physical and chemical barrier between the serum or plasma and the cells. The usage of gel barriers has provided

a large benefit in collecting, processing, and storage of the specimen in the primary tube.

Separator gels are capable of providing barrier properties because of the way they respond to applied forces. After blood is drawn into the evacuated gel tube, and once centrifugation begins, the g-force applied to the gel causes its viscosity to decrease, enabling it to move or flow. Materials with these flow characteristics are often called thixotropic. Once centrifugation ceases, the gel becomes an immobile barrier between the supernatant and the cells.

When first introduced, separator tubes contained a silicone gel, but these were unstable after sterilization. Gels are generally comprised of more than one component. They may consist of a primary organic phase, referred to as a resin, an inorganic powder, and a network stabilizer.²⁰ The inorganic phase is needed to adjust the density of the gel so that it is between the density of the serum or plasma and the cells. To render the organic and inorganic



phases compatible, a chemical stabilizer must be added as another component to the gel. Due to the composite nature of gels, the shelf life of gel tubes is finite.

Expiration Dates of Evacuated Tubes

The expiration dates of glass tubes are generally limited by the shelf life of the additives because vacuum and water-vapor losses are minimal over time. As reviewed in the earlier sections, gels and additives sensitive to irradiation and the environment are often the limiting factors in determining expiration dates for glass tubes.

The expiration dates of evacuated plastic tubes are often also limited by the same factors that were noted for glass tubes. In addition, evacuated plastic tubes do sustain a measurable loss of vacuum over time, and some evacuated plastic blood collection tubes may have their expiration dates determined by their ability to assure a known draw volume. Most evacuated tubes on the market have at least a 12-month shelf life.

Expiration dates are determined through shelf-life testing performed under known environmental conditions. Shelf life of an evacuated tube is defined by the stability of the additive, as well as vacuum retention. If the environmental conditions under which evacuated tubes are stored are not consistent with those recommended by the manufacturer, it is possible that the draw volume of the tubes may be affected. In the next section, we will discuss the potential impact of such environmental factors on the draw volume of evacuated tubes.

Environmental Factors Affecting Evacuated Tubes

It is important to understand that evacuated blood collection tubes are not completely evacuated. In fact, there is a small amount of gas (air) still residing in the tube, at low pressure. The higher the pressure of the gas inside the tube on the date of manufacture, the lower the intended draw volume will be for a tube of a given size. The draw volume specified for a given tube is achieved by manufacturing the tube at a designated evacuation pressure.

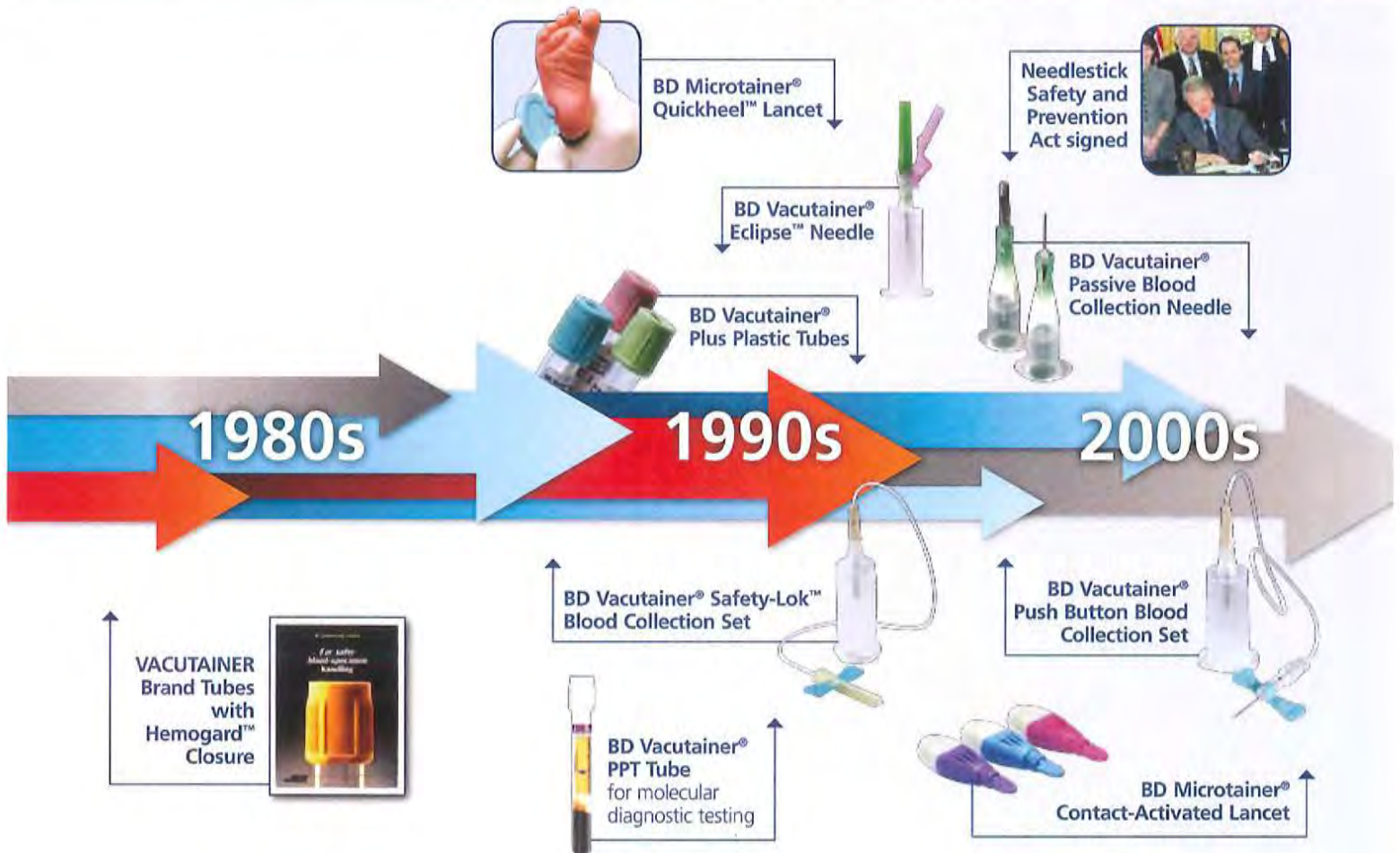
The dynamics of blood collection inside the tube are based on the ideal gas law: $PV=nRT$

In the equation, P is the pressure inside the tube, V is the volume that the gas occupies, n is the number of moles of gas inside the tube, R is the universal gas constant, and T is the temperature inside the tube.

According to the equation, if the moles of gas and the temperature do not change, the product of pressure and volume is a constant. Consider now the role of the residual gas during the blood collection process in an evacuated tube. When blood starts filling the tube, the residual gas inside is confined into a decreasing volume, causing the pressure of the gas to increase. When the pressure of this gas reaches ambient pressure, the collection process is completed for that tube.

Note that because there is gas inside the tube on the date of manufacture, environmental conditions could alter the pressure of this gas inside the tube during storage and impact the

continued on page 6



resulting draw volume. Therefore, it is important that tubes be stored under recommended conditions.

Temperature

To understand the impact of temperature on draw volume, the ideal gas law is again applied. According to the equation, if tubes are stored at low temperature, the pressure of the gas inside the tube will decrease. This would lead to an increase in draw volume for the evacuated tube. Conversely, higher temperatures could cause reductions in draw volume.

Also, it should be noted that the stability of certain other tube additives, for example, biochemicals or even gel, could be negatively impacted by increased temperature in evacuated tubes. As discussed above, gel is a heterogeneous compound that could possibly sustain some degradation when exposed to high temperatures.

BD was the only evacuated tube manufacturer in the United States until the early 1970s when other manufacturers entered the market.

Altitude

In situations where blood is drawn at high altitudes ($\geq 5,000$ feet), the draw volume again may potentially be affected. Because the ambient pressure at high altitude is lower than at sea level, the pressure of the residual gas inside the tube will reach this reduced ambient pressure during filling earlier than if the tube were drawn at sea level. Hence, the draw volume will be correspondingly lower.

Humidity

The impact of storage under different humidity conditions could potentially impact only plastic evacuated tubes, due to the greater permeability of these materials to water vapor relative to glass. Conditions of very high humidity could lead to the migration of water vapor inside a tube that contains a moisture-sensitive material, such as a lyophilized additive. Conditions of very low humidity could hasten the escape of water vapor from a tube containing

a wet additive. It is possible that such storage conditions could compromise the accuracy of clinical results.

Light

As previously mentioned, the CTAD additive is photosensitive. Normally, this additive has a slightly yellow appearance that becomes clear when no longer viable. These tubes are generally packaged in small quantities to minimize exposure to light.

Summary

Blood collection and analysis are useful diagnostic tools in the practice of laboratory medicine. The advent of evacuated blood collection tubes significantly improved accuracy and precision, safety, ease-of-use, and speed of the diagnostic process. We have shown the progression of technology and regulatory events that have brought evacuated tubes to their current status. We have discussed factors that influence evacuated tube performance. Tube material, additive stability, and environmental conditions impact the expiration dates of certain tubes. It is important to store evacuated blood collection tubes under the conditions recommended by the manufacturer to assure an accurate draw volume and clinical results over the shelf life of the product. ■

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NOTE: Beginning January 1, 2005, the National Committee for Clinical Laboratory Standards (NCCLS) officially changed its name to Clinical Laboratory Standards Institute (CLSI). Where NCCLS was referred to in the original text of this article, the name CLSI has been substituted.

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BD Laboratory Consulting ServicesSM

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Lasting Solutions for...

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Improving Productivity

Lowering Operating Expenses

Elevating Patient Care

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BD Vacutainer[®]
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See us at upcoming trade shows



LabNotes

A Newsletter from
BD Diagnostics –
Preanalytical Systems

Volume 19, No.1, 2009

IN THIS ISSUE

- ◆ **The Evolution of Evacuated Blood Collection Tubes**
- ◆ Letter from the Editor
- ◆ Historical Timeline of BD Vacutainer[®] Products
- ◆ The Not-So-Simple Art of the Blood Test

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04/09 VS8050

PRESORTED
FIRST-CLASS MAIL
U.S. POSTAGE
PAID
BD

Video Hyperlink

<https://www.youtube.com/watch?v=RKuUPO6NNcU>

Indiana Continuing Legal Education Forum

Foundational Issues in Blood Cases

Chuck Rathburn, December 4, 2020

Indiana Continuing Legal Education Forum

Foundational Issues in Blood Cases

1. Blood Specimen Collection
2. Blood Specimen Transportation and Storage
3. Blood Specimen Analysis

Garbage in, garbage out.

Implied Consent

Indiana Code § 9-30-6-1

A person who operates a vehicle impliedly consents to submit to the chemical test provisions of this chapter as a condition of operating a vehicle in Indiana.

SCOTUS Decisions

1. *Schmerber v. California*, 384 U.S. 757; 86 S. Ct. 1826; 16 L. Ed. 2d 908;(1966)
2. *McNeely v. Missouri*, 569 U.S. 141; 133 S. Ct. 1552; 185 L. Ed. 2d 696; (2013)
3. *Birchfield v. North Dakota*, 579 U.S. ____ ; 136 S. Ct. 2160; 195 L. Ed. 2d 560; (2016)
4. *Mitchell v. Wisconsin*, 588 U.S. ____; 139 S. Ct. 2525; 204 L. Ed. 2d 1040: (2019)

Indiana Code § 9-30-6-6(a)

Chemical tests on Bodily Substances

Sec. 6. (a) A physician, **a person trained in** retrieving contraband or **obtaining bodily substance samples and acting under the direction of or under a protocol prepared by a physician**, or a licensed health care professional acting within the professional's scope of practice and **under the direction of or under a protocol prepared by a physician**, who:

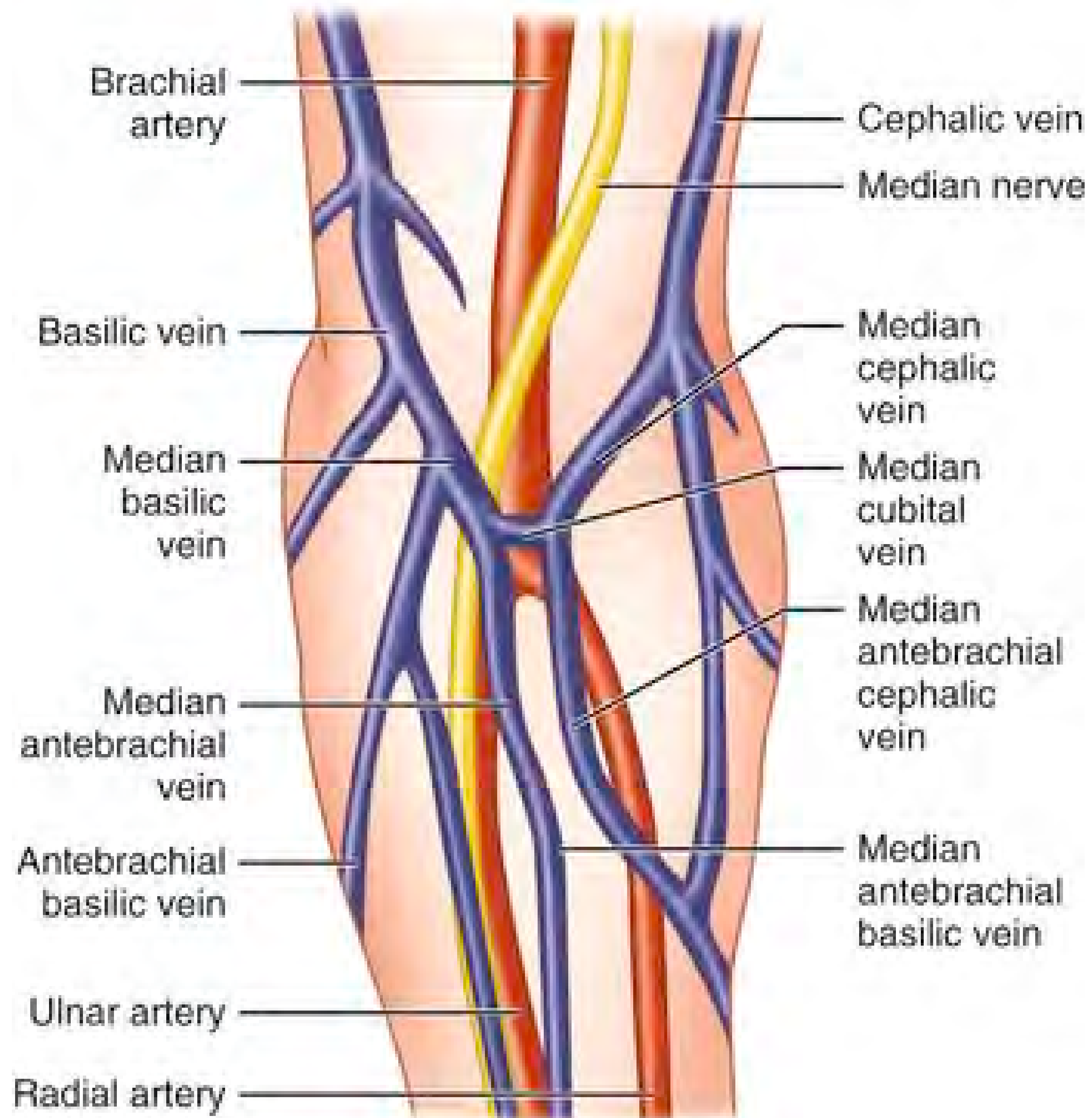
Bisard v. State 26 N.E.3d 1060

SECTION J
PAGE 2-3

CLINICAL SERVICES POLICY AND PROCEDURE

PAGE 3 OF 5 PAGES

<u>Steps</u>	<u>Rationale</u>
10. Cleanse the skin with alcohol or Zepherin, depending on the test to be done and allow to dry.	10. Do not use alcohol during alcohol and drug screening. NOTE: Do not palpate vein again after cleansing.
11. Insert tube into the holder up to the needle.	11. Pushing tube onto needle before inserting needle in arm may cause you to lose pressure from Vacutube.
12. Remove needle shield.	12. Shield should be left on until the last possible moment to promote sterility and safety.
13. Using your nondominant hand, draw the skin over the puncture site until tense. Gently insert the needle with the bevel up, through the skin and into the vein.	13. The bevel of the needle should be facing upwards, because by doing this, the sharpest point of the needle is inserted first.
14. Place two fingers at the end of the holder; wit your thumb, push the tube onto the needle to the end of the holder.	14. Be sure to keep the needle steady.
15. Release tourniquet when blood begins to show in tube.	15. May also have patient unclench fist at this time.
16. Pull the tube off the needle when the tube is full. If drawing more than one tube, insert another onto needle at this point.	16. It is important to keep a firm grip on the Vacutainer needle holder so the needle will not be displaced in the patient's arm.



<https://www.youtube.com/watch?v=RKuUPO6NNcU>

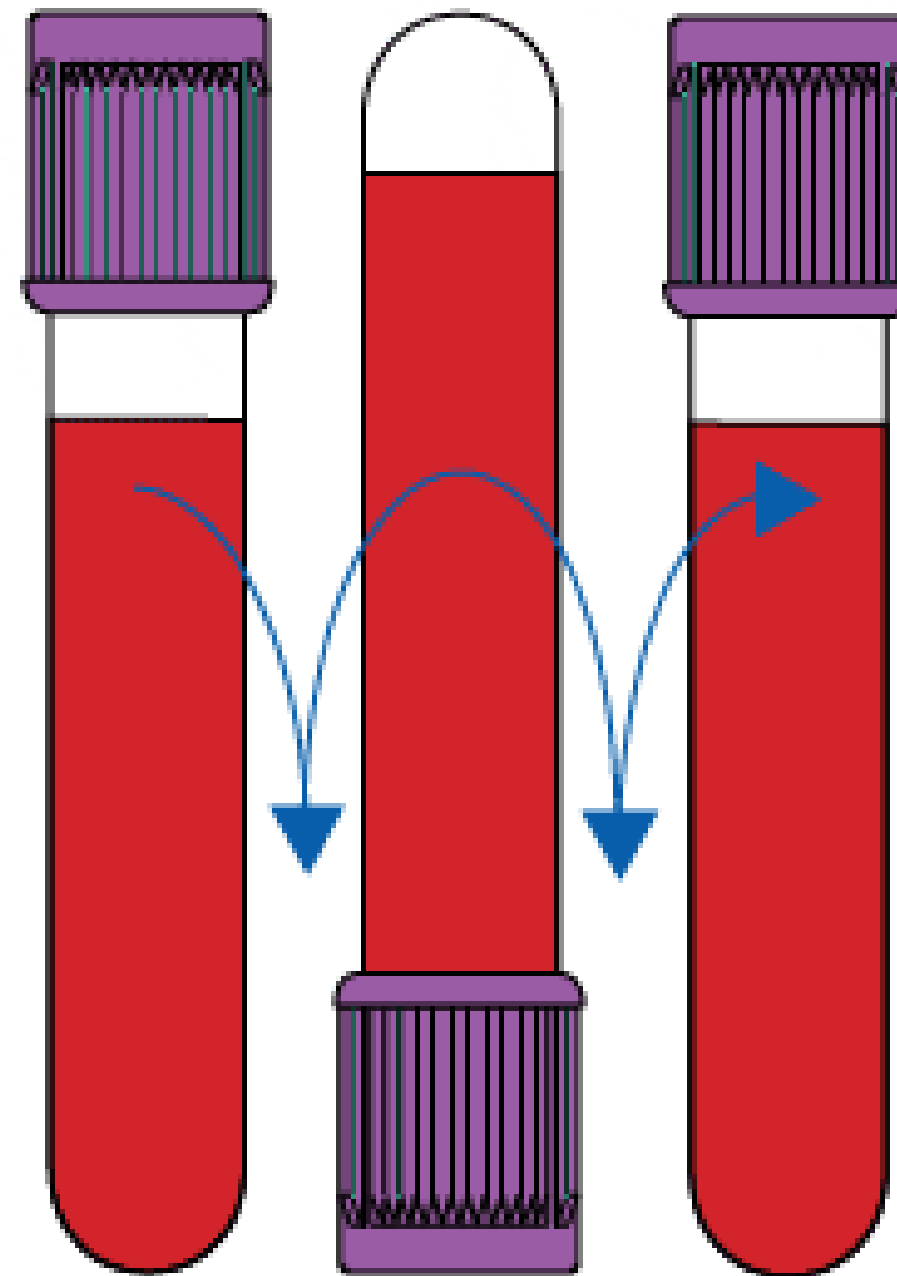
Safe and Effective Blood Draw



LabNotes Tip

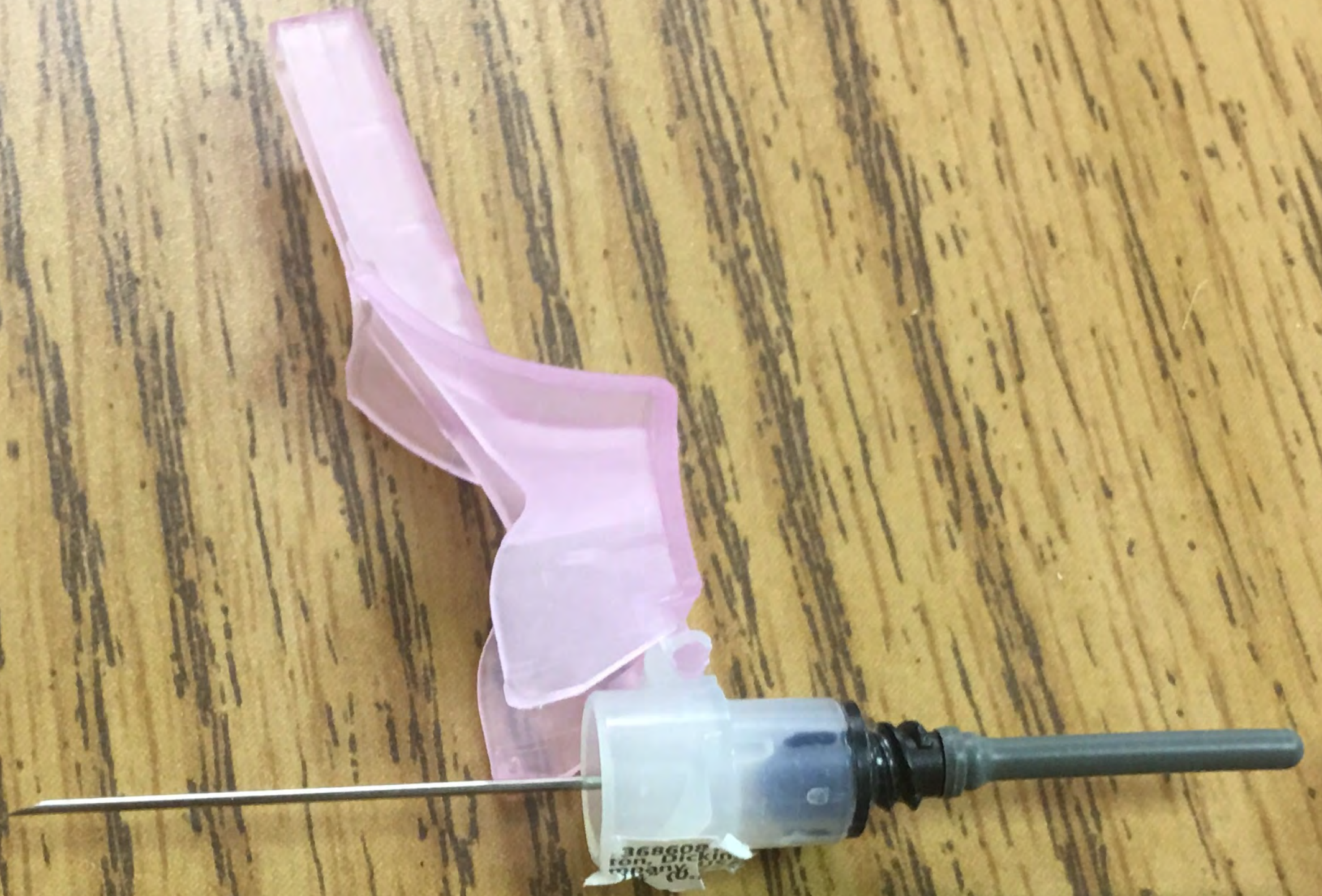
How to perform a tube inversion correctly:

A correct inversion is one complete turn of the wrist, back and forth



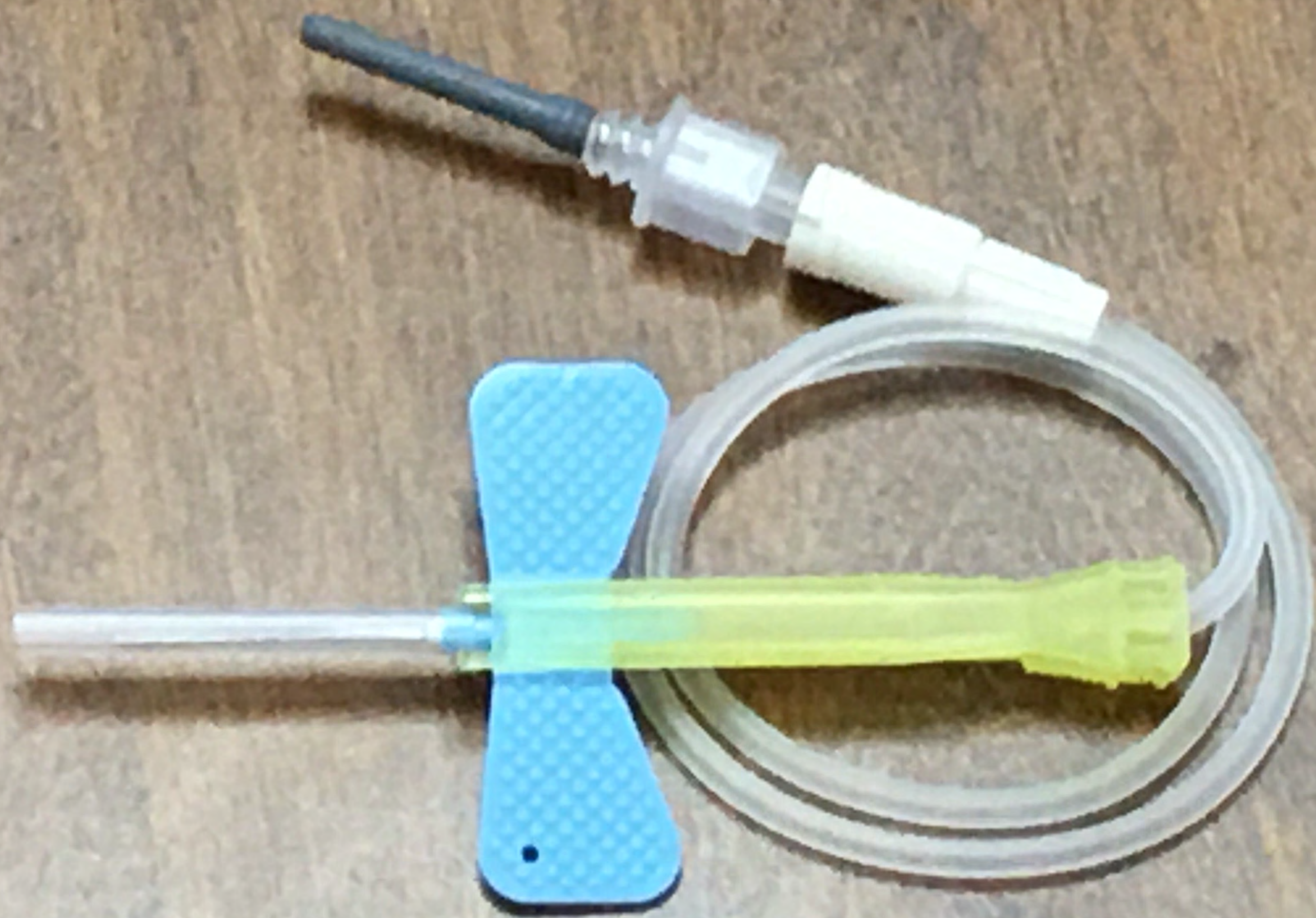
= 1 Inversion

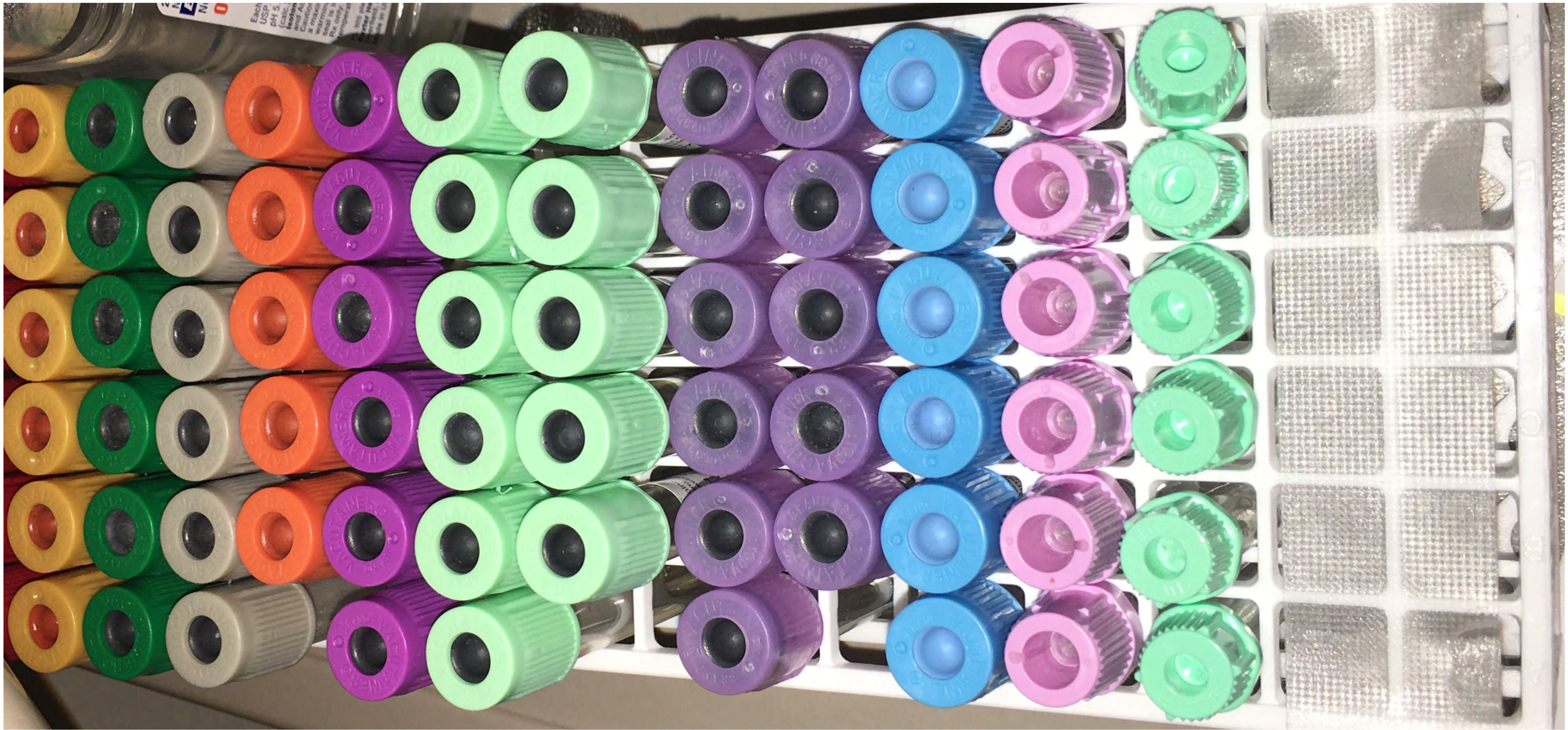




8301508
ON
2mm

4202694
2019-07





BD Vacutainer® Fluoride Tubes

BD Vacutainer® Fluoride Tubes are used to collect samples for glucose determinations.

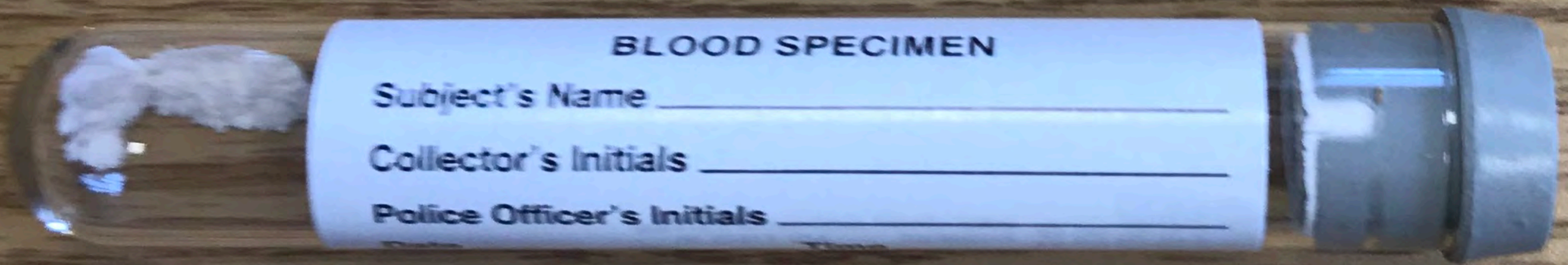
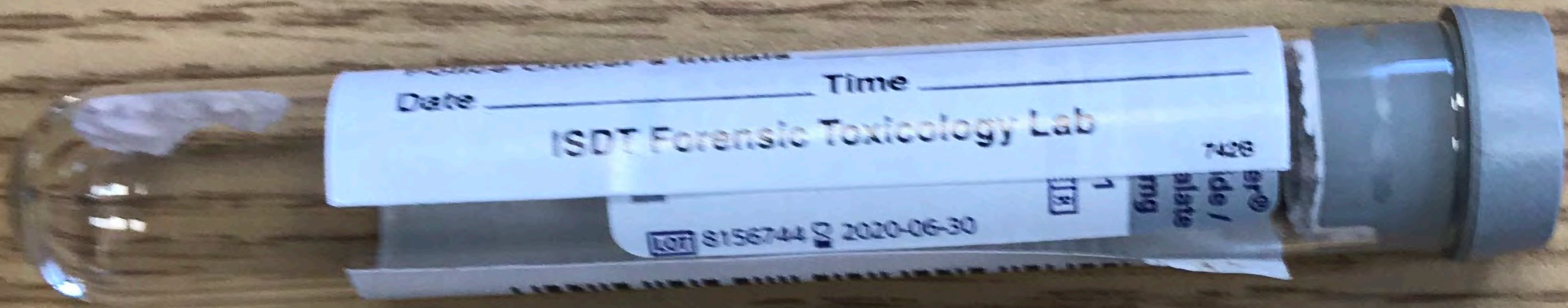


Reference Number	Glass (G) or Plastic (P)	Tube Size (mm)	Draw Volume (mL)	Closure Type/Color	Label Type	Additive/Concentration	Packaging Box/Case Quantities
367587	P	13 x 75	2.0	BD Hemogard™/ Gray	Paper	Sodium Fluoride 3 mg, Na ₂ EDTA 6 mg	100/1000
367921	P	13 x 75	2.0	BD Hemogard™/ Gray	Paper	Sodium Fluoride 5 mg, Potassium Oxalate 4 mg	100/1000
368587	P	13 x 75	4.0	Conventional/ Gray	Paper	Sodium Fluoride 10 mg, Potassium Oxalate 8 mg	100/1000
367922	P	13 x 75	4.0	BD Hemogard™/ Gray	Paper	Sodium Fluoride 10 mg, Potassium Oxalate 8 mg	100/1000
367925	P	13 x 100	6.0	BD Hemogard™/ Gray	Paper	Sodium Fluoride 15 mg, Potassium Oxalate 12 mg	100/1000
367729	G	13 x 100	7.0	BD Hemogard™/ Gray	Paper	Sodium Fluoride 30 mg	100/1000
367001	G	16 x 100	10.0	Conventional/ Gray	Paper	Sodium Fluoride 100 mg, Potassium Oxalate 20 mg	100/1000

BD Vacutainer® Serum Tubes

BD Vacutainer® Plus Plastic Serum Tubes have spray-coated silica and are used







BD Diagnostics
Preanalytical Systems
150 South 1st Avenue
Broken Bow NE 68822 US

CERTIFICATE OF COMPLIANCE

Product Name : TUBE GLU GC 16X100 10.0 PLBL GR NAF/KOX
Catalog Number : 367001
Batch Number : 3064345
Expiration Date : 2015/03/31

CERTIFICATION OF COMPLIANCE

This material number is a (TUBE GLU GC 16x100 10.0 PLBL GR NAF/KOX) BD Diagnostics Preanalytical Systems Blood Collection Tube reorder #367001. Manufacturing specification for this tube requires the following amounts of powdered additives in each tube.

Potassium Oxalate 18.0mg. to 23.0mg. (Nominal 20.0mg.)
Sodium Fluoride 90.0mg. to 115.0mg. (Nominal 100.0mg.)

This tube is manufactured specifically for blood alcohol determination. The chemicals added to this tube will not disturb the integrity of the blood sample relative to the alcohol content.

Vacuum in the tube is set to draw 9.3mL to 10.7mL (Nominal 10.0mL). Using a specific gravity for blood of 1.057 grams the following would be the minimum and maximum percent of additive to blood.

Potassium Oxalate 0.16% to 0.23% (Nominal 0.19%)
Sodium Fluoride 0.80% to 1.17% (Nominal 0.95%)

Sterility Claim:

All products which are labeled as either "Sterile" or "Sterile Interior" and released for sale by BD Diagnostics Preanalytical Systems are certified to be sterile as long as the product package or product is unopened and undamaged. For those products labeled "Sterile Interior" only the product interior is sterile.

Manufacturing Claim:

BD Diagnostics Preanalytical Systems products are manufactured in accordance with the medical device regulations (21CFR820) and comply with Medical Device Reporting (MDR) Regulations (21CFR803). All products and manufacturing facilities comply with FDA registration and listing requirements (21CFR807). The released products satisfy BD Diagnostics Preanalytical Systems finished product specifications. The Broken Bow facility is also ISO 13485:2003 certified.

Broken Bow Quality Assurance
Release date: 2013/04/15
Name: Terri Gaedke

This certificate is produced and controlled electronically and is valid without handwritten signatures.

CERTIFICATION OF COMPLIANCE

This material number is a (TUBE GLU GC 16x100 10.0 PLBL GR NAF/KOX) BD Diagnostics Preanalytical Systems Blood Collection Tube reorder #367001. Manufacturing specification for this tube requires the following amounts of powdered additives in each tube.

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Sodium Fluoride	0.80% to 1.17% (Nominal 0.95%)

CAUTION:

1. Practice Standard Precautions. Use gloves, gowns, eye protection, other personal protective equipment, and engineering controls to protect from blood splatter, blood leakage, and potential exposure to bloodborne pathogens.
2. All glass has the potential for breakage. Examine all glass for potential damage in transit before use, and take precautionary measures during handling.
3. Handle all biologic samples and blood collection "sharps" (lancets, needles, luer adapters, and blood collection sets) according to the policies and procedures of your facility. Obtain appropriate medical attention in the event of any exposure to biologic samples (for example, through a puncture injury), since they may transmit viral hepatitis, HIV (AIDS), or other infectious diseases. Utilize any built-in used needle protector, if the blood collection device provides one. BD does not recommend resheilding used needles. However, the policies and procedures of your facility may differ and must always be followed.
4. Discard all blood collection "sharps" in biohazard containers approved for their disposal.
5. Transferring a sample collected using syringe and needle to a tube is not recommended. Additional manipulation of sharps, such as hollow bore needles, increases the potential for needlestick injury.
6. Transferring samples from syringe to an evacuated tube using a non-sharps device should be performed with caution for the reasons described below.
 - Depressing the syringe plunger during transfer can create a positive pressure, forcefully displacing the stopper and sample, causing splatter and potential blood exposure.
 - Using a syringe for blood transfer may also cause over or under filling of tubes, resulting in an incorrect blood-to-additive ratio and potentially incorrect analytic results.
 - Evacuated tubes are designed to draw the volume indicated. Filling is complete when vacuum no longer continues to draw, though some tubes may partially fill due to plunger resistance when filled from a syringe. The laboratory should be consulted regarding the use of these samples.
7. If blood is collected through an intravenous (I.V.) line, ensure that line has been cleared of I.V. solution before beginning to fill blood collection tubes. This is critical to avoid erroneous laboratory data from I.V. fluid contamination.
8. Overfilling or under filling of tubes will result in an incorrect blood-to-additive ratio and may lead to incorrect analytic results or poor product performance.

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Indianapolis-Marion County Forensic Services Agency
40 S. Alabama Street
Indianapolis, IN 46204
(317) 327-3670 FAX (317) 327-3607

Laboratory Examination Report

LAB

Page 1 of 1

DATE: 05/23/2019

Agency Case #:

TO: Indianapolis Metropolitan Police Department (317) 327-3811

FROM: Kathy Walton, Forensic Scientist

EXAMINATION REQUESTED: Blood Alcohol Examination

MATERIAL SUBMITTED:

Item 1

One adhesive and evidence tape sealed yellow envelope labeled (DP18111669), containing:

Item 1.1

two gray capped plastic tubes each with label marked _____, each containing blood, one tube was analyzed.

METHODOLOGY:

Gas Chromatography and Sonicator

Lab Testing (or activity) was conducted between May 16, 2019 and May 17, 2019.

RESULTS, OPINIONS, INTERPRETATIONS:

Item 1.1

The ethyl alcohol concentration of the blood was 0.154% w/v (0.154 g/100mL) +/- 0.015 g/100mL at a coverage probability of 99.73%.

Signature:

Kathy Walton, Forensic Scientist

W4861

Report was authorized by Dustin Crawford.

Reports shall not be reproduced except in full without approval of the I-MCFSA.

Information contained in this report, other than test results and item descriptions, has been provided by the submitting agency and has not been verified by the I-MCFSA.

Results contained in this document relate only to those items tested as sampled and/or received by the I-MCFSA.

LAB

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Item 1

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RESULTS, OPINIONS, INTERPRETATIONS:**Item 1.1**

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INDIANA STATE DEPARTMENT OF TOXICOLOGY
TOXICOLOGY ANALYSIS REQUEST FORM

ISDT USE ONLY

(1) SUBJECT INFORMATION

_____	_____	_____	<input type="checkbox"/> Male
Name of Subject (Last, First, Middle Initial)	Date of Birth	Height/Weight	<input type="checkbox"/> Female

(2) SUBMITTING AGENCY

_____	_____	_____
Title (SGT., Deputy, etc.)	Printed Officer/Coroner Name	Agency
_____	_____	_____
Agency Address		Agency Case #
_____	_____	_____
City/Zip		Electronic Mail (email) Address
_____	_____	_____
Telephone	Fax	County of Occurrence

(3) TESTS REQUESTED

Alcohol **ISDT only performs testing on whole blood, serum, or plasma specimens**

Drugs* Specify the drugs suspected in your case _____

*Refer to www.IN.gov/isdt for a listing of drugs included in our blood drug panel. Please contact ISDT to make arrangements for additional drug testing to be completed at the expense of the requesting agency.

(4) TYPE OF CASE

<input type="checkbox"/> Fatal Crash <input type="checkbox"/> SBI Crash <input type="checkbox"/> PI Crash	<input type="checkbox"/> PD Crash <input type="checkbox"/> OVWI <input type="checkbox"/> Other _____	Involvement: <input type="checkbox"/> Driver <input type="checkbox"/> Passenger <input type="checkbox"/> Pedestrian <input type="checkbox"/> Juvenile	Subject: <input type="checkbox"/> Injured <input type="checkbox"/> Not Injured <input type="checkbox"/> Deceased
Non-Traffic: <input type="checkbox"/> Homicide <input type="checkbox"/> Suicide <input type="checkbox"/> Sexual Assault <input type="checkbox"/> Other (Specify) _____	Involvement: <input type="checkbox"/> Victim <input type="checkbox"/> Accused <input type="checkbox"/> Elderly <input type="checkbox"/> Juvenile	DRE EVALUATION PERFORMED <input type="checkbox"/> YES <input type="checkbox"/> NO DRE officer: _____ Email: _____	

(5) EVIDENCE COLLECTION AND CHAIN OF CUSTODY INFORMATION

Specimen Collection Notes: _____

Specimen Collected By: _____ (Print Name) Collection Facility: _____ (Print Facility Name)

Date Collected: _____ Time Collected: _____ am/pm Witness: _____

Received From	Released To	Purpose	Date	Time (am/pm)
_____	_____	_____	_____	_____
Received From	Released To	Purpose	Date	Time (am/pm)
_____	_____	_____	_____	_____
Received From	Released To	Purpose	Date	Time (am/pm)
_____	_____	_____	_____	_____

By submitting evidence to ISDT, the submitting agency agrees to allow ISDT to select the appropriate method of analysis, authorize deviations from a test method, outsource analysis, and destroy submitted specimens 1 YEAR after analysis is completed.

Case: 17-01337 User: sware 2/20/2017



Indiana State Department of Toxicology
Evidence Description Worksheet

ISDT Case Number: _____

Accessioned By: Stacey Ware

Accessioning Date: 02/20/2017

SPECIMENS

ENCLOSURES			Vial	Color	Size (mL)	Type	Approx Vol (mL)	Exp.	Name	Date	Time	Init (col)	Init (off)	Additional Information
PRIMARY Container Sealed Initialed <input checked="" type="checkbox"/> ISDT Kit Yes No <input type="checkbox"/> Evidence Envelope <input type="checkbox"/> Other (Describe other)			A	Gray	10	WB	4.3	NV	Y	Y	Y	Y	Y	
SECONDARY <input type="checkbox"/> NONE Container Sealed Initialed Plastic bag over <input checked="" type="checkbox"/> blood tubes Yes Yes <input checked="" type="checkbox"/> urine container Yes Yes <input type="checkbox"/> Other (Describe other)			B	Gray	10	WB	3.8	NV	Y	Y	Y	Y	Y	
			C	Other	Other	Urine	36.9	NA	Y	Y	Y	Y	Y	

Urine: Empty with no case information
 Container: Not Included
 Additional Information:

Init (col) - Collector's Initials; Init (off) - Officer's Initials; NV - Not Visible; WB - Whole Blood; S/P - Serum/Plasma

September 1997

T/DM6-A
Vol.17 No.14
Replaces T/DM6-P
Vol. 8 No. 10

**Blood Alcohol Testing in the Clinical Laboratory;
Approved Guideline**

This guideline provides technical and administrative guidance on laboratory procedures related to blood alcohol testing, including specimen collection, methods of analysis, quality assurance, and reporting of results.



Alcohol, at equilibrium, is generally distributed throughout the body in proportion to the water content of various fluids, tissues, and organs. In particular, the alcohol concentration of whole blood is not identical to that of plasma or of serum. However, the alcohol concentration of either serum or plasma is, in practice, the same. Both theoretical calculations, based on water content, and experimental data yield typical mean ratios of 1.12/1 to 1.18/1 in normal subjects for serum/whole blood alcohol concentrations, with typical experimental ranges of 1.05/1 to 1.25/1.^{9,10}

The specimen type analyzed should be identified. Results of alcohol analysis on serum or plasma specimens should not be converted to whole blood concentrations. If courts require the interpretation of serum alcohol concentrations or the conversion of serum concentrations to whole blood concentrations, experts can be retained to perform these functions. It is a complex issue.¹¹

2.3 Specimen Collection, Handling, and Preservation

The blood collection procedure for *forensic* alcohol determinations must be conducted so that no doubt exists as to the authenticity and validity of the specimen. In this regard, several points should be emphasized.

2.3.1 Time of Collection

The time of collection is critical information which must be recorded and should appear on the report of results.

2.3.2 Site of Venipuncture

The site of the venipuncture is usually the median cubital or one of the other superficial veins of the forearm. Veins in the lower extremities can also be used if the forearms are not accessible because of injuries or for other reasons. During the early phases of alcohol absorption, peripheral venous blood concentrations lag behind arterial blood concentrations, particularly in the lower extremities.

Blood should not be removed from veins into which intravenous fluids or other medications are being administered at the time. The dilution effect can lower the alcohol concentration. Even when the presence of such parenteral fluids would not

be expected to significantly affect the alcohol concentration of the blood, it is better to select a venipuncture site remote from the location of fluid administration in order to ensure a specimen representative of the true alcohol concentration of the specimen. If possible, it is best to collect the specimen before any treatment is begun. Ideally, venipuncture should be performed in accordance with applicable procedures described in the NCCLS document H3, *Procedures for the Collection of Diagnostic Blood Specimens by Venipuncture*.¹²

2.3.3 Disinfectant

The disinfectant used for cleansing the venipuncture site should not contain alcohol or other volatile organic substances. The most frequently employed disinfectants for this purpose are aqueous benzalkonium chloride or aqueous povidone-iodine.¹³ Studies by Dubowski and Essary¹³ have revealed that blood specimens can be significantly contaminated if alcohol containing sponges are used to cover the venipuncture site at the time when the needle is withdrawn from the vein while attached to the vacuum tube. Therefore, to avoid the possibility of contamination and legal challenges to the acceptability of the specimen collection procedure, only nonalcoholic disinfectants should be employed, and sterile dry sponges should be used to cover the venipuncture site. Further, if evacuated collection tubes are used, the tube should be removed from the multisample collection needle and holder before withdrawing the needle from the puncture site.

2.3.4 Specimen Container

The specimen container is important and will vary depending on whether serum, plasma, or whole blood is to be analyzed. If serum is required, the blood should be collected in a container without a preservative or anticoagulant and allowed to clot. The serum can be sent directly to the laboratory without further processing if the specimen is to be analyzed for alcohol content within four hours. If the analysis will be delayed, the serum should be transferred to another container and treated with sufficient sodium fluoride to produce a minimum concentration of 10 mg/mL (0.24mmol/ml).

For whole blood or plasma specimens, the type and amount of anticoagulant present is not important if the specimen is analyzed within four

hours of collection. It is only necessary that the anticoagulant not interfere with the alcohol determination and that a sufficient quantity is present in the specimen to prevent clotting. If the analysis is to be delayed, additional safeguards must be instituted to prevent changes in the alcohol content of the blood. For this purpose, potassium oxalate monohydrate (5 mg/mL of blood; 2.7 μ mol/mL) and sodium fluoride (1.5 mg/mL of blood; 3.6 μ mol/ml) are an appropriate anticoagulant and preservative combination for storage at 5 °C of initially sterile blood specimens for up to 48 hours.¹⁴ Blood alcohol specimens stored at -20 °C or below are stable indefinitely.

Specimens that are to be transported or mailed in an unrefrigerated condition, or stored for more than 48 hours should be preserved with higher concentrations of sodium fluoride (10 mg/mL of blood; 0.24mmol/mL).⁸ However, it has been documented that changes produced by contaminating microorganisms can affect alcohol concentrations in blood specimens even in the presence of preservatives. Blume and Lakatua¹⁵ reported that various organisms isolated from contaminated blood specimens were capable of producing ethanol when inoculated into bank blood. *Candida albicans* was particularly active in this regard, producing significant quantities of alcohol even in the presence of sodium fluoride. These investigators recommended that fluoride (10 mg/mL; 0.24mmol/ml) be used as a preservative and that care should be taken to assure that microbial organisms are not introduced into the specimens.

Winek and Paul¹⁶ reported that alcohol analyses of blood obtained under sterile conditions from living humans can be delayed as long as 14 days without a significant change in alcohol content. They state that this holds true whether the blood sample is refrigerated or not, or whether a preservative is added to the sample. Nevertheless, the question can still arise as to how the phlebotomist could know with certainty, even if aseptic collection techniques were employed, that no micro-organisms entered the specimen and produced changes in the alcohol concentration. For this reason, it is advisable to employ preservatives and to refrigerate specimens as additional safeguards against changes in alcohol content.

2.3.5 Size of Sample

The size of the sample should be sufficient to permit retesting, if necessary.

2.4 Specimen Handling

To ensure complete dissolution of the fluoride in the blood, the closed container of blood should be gently inverted several times immediately following specimen collection.

The laboratory request form for alcohol analysis should be completed legibly and should contain the following information:

- Patient's full name
- Identification number
- Time and date of specimen collection
- Site of venipuncture
- Phlebotomist's name
- Name and address of facility where specimens were collected.

Collection kits designed to facilitate the sampling process are available from commercial sources. Potential purchasers should determine that the kits meet their needs and comply with local laws concerning blood alcohol analysis.

Additional special specimen handling considerations are addressed in Appendix C.

2.5 Replicate Blood Specimens

When it is known at the outset that alcohol analysis results will be required for legal purposes as well as for immediate clinical patient care, it may be practical and appropriate to collect replicate blood specimens in parallel and with consideration for the required kind of specimen, e.g., unpreserved serum for immediate analysis for clinical purposes, and a preserved anticoagulated whole-blood specimen for separate medicolegal analysis. Different documentation and handling may be required in such instances.

3 Chain-of-Custody Procedures^{17,18}

3.1 Purpose

The established relationships between alcohol, trauma, and litigation ensure that the results of many medically-indicated blood-alcohol analyses

Blood Alcohol Testing in the Clinical Laboratory

Approved Guideline, September, 1997
Consensus Standard from FDA 2014

2.3.4 Specimin Collection

The specimen container is important and will vary depending on whether serum, plasma, or whole blood is to be analyzed. If serum is required, the blood should be collected in a container without a preservative or anticoagulant and allowed to clot.

Blood Alcohol Testing in the Clinical Laboratory

Approved Guideline, September, 1997
Consensus Standard from FDA 2014

2.3.4 Specimin Collection (cont.)

The serum can be sent directly to the laboratory without further processing if the specimen is to be analyzed for alcohol content within four hours. If the analysis will be delayed, the serum should be transferred to another container and treated with sufficient sodium fluoride to produce a minimum concentration of 10 mg/ml.

Blood Alcohol Testing in the Clinical Laboratory

Approved Guideline, September, 1997
Consensus Standard from FDA 2014

2.3.4 Specimin Collection (cont.)

For whole blood or plasma specimens, the type and amount of anticoagulant present is not important if the specimen is analyzed within four hours of collection.

Blood Alcohol Testing in the Clinical Laboratory

Approved Guideline, September, 1997
Consensus Standard from FDA 2014

2.3.4 Specimin Collection (cont.)

If the analysis is to be delayed, additional safeguards must be instituted to prevent changes in the alcohol content of the blood. For this purpose Potassium Oxalate monohydrate . . . and sodium fluoride are an appropriate anticoagulant and preservative combined for storage at 5° C of initially sterile blood specimens for up to 48 hours.

Blood Alcohol Testing in the Clinical Laboratory

Approved Guideline, September, 1997
Consensus Standard from FDA 2014

2.3.4 Specimin Collection (cont.)

Specimens that are to be transported or mailed in unrefrigerated condition, or stored for more than 48 hours should be preserved with higher concentrations of sodium fluoride (10 mg/ml). . . It has been documented that changes produced by contaminating microorganisms can affect alcohol concentrations in blood specimens even in the presence of preservatives.

At the testing lab

Inputing into the system

1. Opening the package
2. Inputting the information into the system
 1. Biographical
 2. Tracking number
 3. Other pertinent information
 1. Type of tube
 2. Contents
 3. Blood status

At the lab

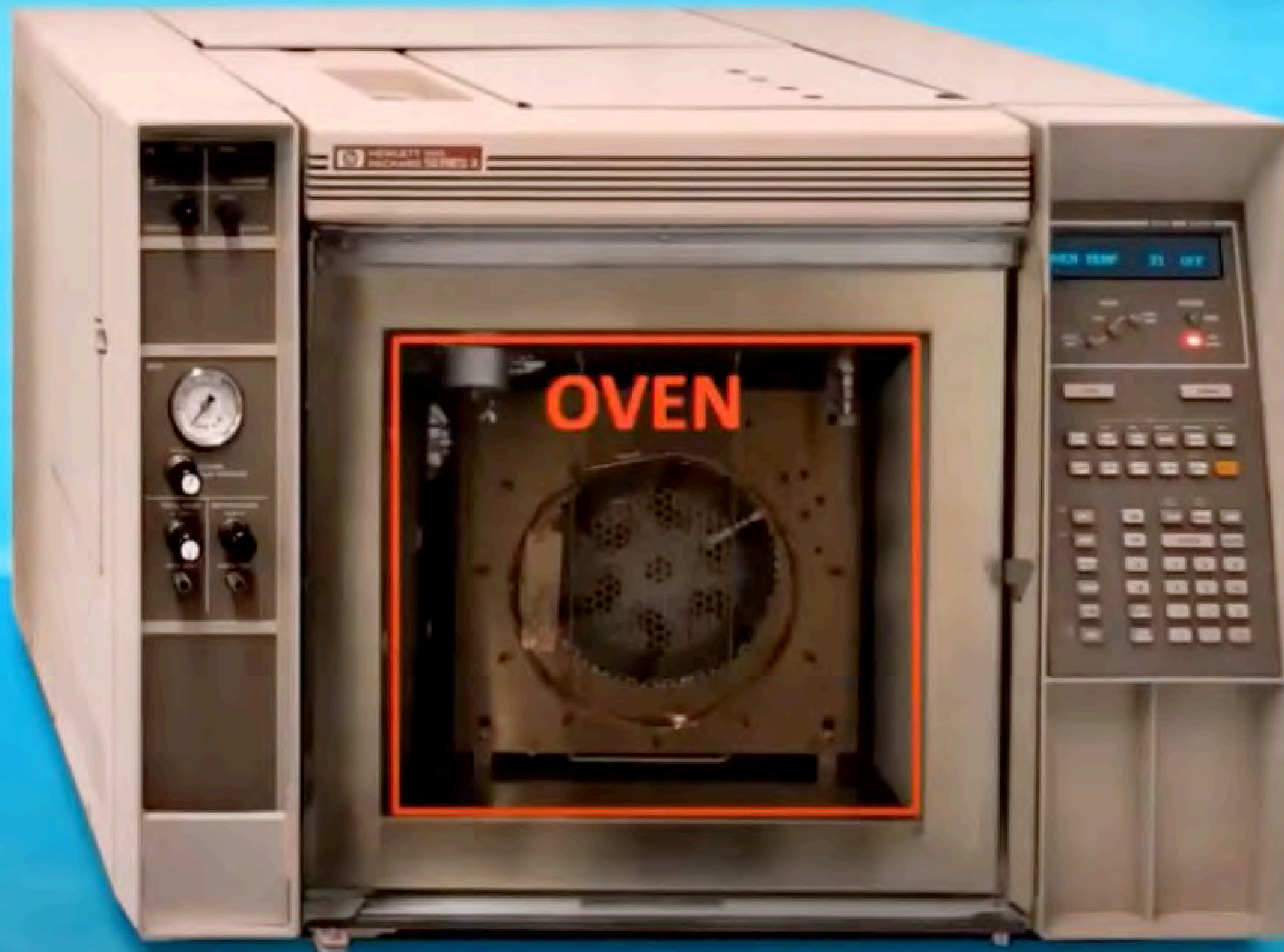
Refrigerating the sample

1. Placing the sample in an identifiable location
2. Keeping the sample cool
3. Keep the sample from contamination

At the Laboratory

Preparation for testing

1. Take sample out of refrigerator
2. Prepare work list job run sequence
3. Allow samples to acclimate to room temperature
4. Allow standards to acclimate to room temperature
5. Prepare sample into vial
 1. Prepared in same order as on run sheet
6. Place vial into gas chromatograph position
7. Run sequence



Column



At the laboratory

Analyst post run review process

1. Was the batch acceptable
 1. Using lab criteria
 2. Identify anomalies
 3. Is T-0 consistent
 4. Look at each test in the run electronically
 5. Look at each printout to confirm
 6. Assemble what is needed to be in the final report

At the laboratory

Quality control

1. Handling practices
2. There should be two separate analysis on two separate days.
3. There should be two different analysts (Annie Dookhan)

Chemical Test Discovery in Civil & Criminal Cases: A Primer

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Charles J. Rathburn, Jr



Janine Arvizu



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Section Three

Drug Pharmacology

Dr. Robert J. Belloto, Jr. R.Ph., Ph.D., M.S. (Stat.)
Beavercreek, Ohio

Section Three

Drug

Pharmacology.....Dr. Robert J. Belloto, Jr. R.Ph., Ph.D., M.S. (Stat.)

Dr. Belloto CV

PowerPoint Presentation

ROBERT J. BELLOTO JR.

R.Ph., Ph.D., M.S. (Stat.)

2372 Lakeview Dr., Ste. D

Beavercreek, OH 45431-2566

Home: (937) 431-9047 Fax: (937) 306-8480 Mobile: (937) 830-0830

E-Mail Addresses: rbelloto@woh.rr.com, rjbelloto@att.net, robertbelloto@msn.com

- EDUCATION:**
- 5/08 – 5/10** *The University of Toledo, Toledo, Ohio 43606.* The Graduate School, College of Graduate Studies, College of Arts and Sciences, Department of Mathematics, M.S. in Mathematics, Major: Statistics.
- 9/87 – 3/96** *The Ohio State University, Columbus, Ohio 43210.* The Graduate School, College of Pharmacy, Division of Pharmaceutics and Pharmaceutical Chemistry, Ph.D. in Pharmacy.
- 6/79 – 12/81** *The Ohio State University, Columbus, Ohio 43210.* The Graduate School, College of Pharmacy, Division of Pharmaceutics and Pharmaceutical Chemistry, M.S. in Pharmacy.
- 9/75 – 6/79** *The Ohio State University, Columbus, Ohio 43210.* College of Pharmacy, B.S. in Pharmacy. Major: Pharmacy, option: Pharmaceutical Science.
- 9/73 – 9/75** *Youngstown State University, Youngstown, Ohio.* Major: Chemistry.

CERTIFICATIONS:

• Pharmacy:

1. Heartsaver® First Aid. American Heart Association®, 10/2017 – 10/2019.
2. Basic Life Support (CPR and AED) Program. American Heart Association®, eCard Code 175507170129, 9/2017 – 9/2019.
3. *Board Certified Pharmacotherapy Specialist*, Board of Pharmacy Specialties, Certificate #3100069, 1/2011 – 12/2017. http://www.bpsweb.org/resources/find_bcp.cfm
4. *Certified Geriatric Pharmacist*, Commission for Certification in Geriatric Pharmacy, Certificate #823 & #2914, 1/2003 – 9/2017. www.ccgp.org
5. *Pharmacy Based Immunization Delivery*, Atlanta, Georgia. CPN #202-0011, March 2007. APhA2007.
6. *Pharmacy Based Lipid Management*, San Francisco, California. CPN #202-0010, March 2006. APhA2006.
7. *Certificate Program in Anticoagulation Therapy*, Columbus, Ohio. CPN #201-2010, December 2000. Ohio Pharmacists Association and The American College of Apothecaries.

• Forensics:

1. *Intoximeter EC/IR II Breath Operator Training Course*. Certificate of Completion. Columbus, Ohio. January 7, 2017. A & A Consultants Inc.
2. *Operator Training Course for the Draeger Alcotest® 7110 MKIII-C Version NJ3.11*. Newark, New Jersey. October 23-24, 2012. Draeger Safety Diagnostics, Inc.
3. *BAC DataMaster, K, dmt and Basic Science of Evidential Breath Alcohol Testing*. Certificate of Competency. Mansfield, Ohio. May 31 – June 2, 2012. National Patent Analytical Systems.

4. *Intoxylizer 8000 Operator's Course*, Certificate of Completion and Competency. New Orleans, Louisiana. September 13-15, 2007. MD Marketing, Inc.
5. *BAC DataMaster Breath Test Operator Course*, Certificate of Completion and Competency. Myrtle Beach, South Carolina. June 25-27, 1998. American Legal Education, Inc.

EXPERIENCE:

3/17 – Present STAFF PHARMACIST (part-time)

6/88 – 2/97 *Madison Health, Inc., 210 North Main Street, London, Ohio 43140*
(740) 845-7352

- Preparing and checking prescriptions, drug charts, intravenous admixtures, and chemotherapy
- Provide drug information for physicians, nursing staff, laboratory, and pharmacy
- Review patient charts for adverse drug reactions
- Do pharmacokinetic dosage adjustments on aminoglycosides, vancomycin, aminophylline, and other drugs
- Act as a consultant pharmacist for the extended care unit of the hospital
- Initiated the adverse drug reactions reporting program
- Attend Code Blue calls
- Assess patients for adverse drug reactions
- Identify drugs and drug substances
- Help with the interpretation of drug screens

1/94 – Present PRINCIPAL (part-time)

Belloto Research and Consulting, 2372 Lakeview Dr., Ste D, Beavercreek, OH 45431-2566
(937) 830-0830

- Provide forensic toxicology consultations concerning drug effects, opinion letters, and testimony in court, and administrative hearings
- Provide drug information consultations, depositions, opinion letters, and court testimony in pharmacy, and medical malpractice cases
- Provide medication therapy management services to patients and pharmacies
- Provide nursing home consulting services to pharmacies by reviewing patient charts in nursing homes and make recommendations concerning drug therapy, adverse reactions, and drug therapy monitoring
- Provide drug information for physicians, nursing staff
- Provide contract instructional services for pharmacy students and technicians

08/05 – 2/16 STAFF PHARMACIST

Good Samaritan Hospital, Inc., 2222 Philadelphia Dr., Dayton, Ohio 45406
(937) 734-1098 Fax: (937) 734-8216

- Preparing and checking orders, drug charts, intravenous admixtures, and chemotherapy
- Provide drug information for physicians, nursing staff, and pharmacy
- Do pharmacokinetic dosing and dosage adjustments on aminoglycosides, vancomycin, aminophylline, and other drugs
- Attend Code Blue calls
- Assess patients for adverse drug reactions
- Identify drugs and drug substances
- Help with the interpretation of drug screens

12/05 – 12/08 CONSULTANT PHARMACIST, STAFF PHARMACIST

ContinuumCare Pharmacy, Inc., 1100 Central Ave., Middletown, OH 45044-4011
(513) 422-9236

- Fill prescriptions and advise patients on selection and use of over-the-counter drugs
- Administer company procedures for prescription department
- Preparing and checking prescriptions, orders, drug charts, and intravenous admixtures
- Review patient charts in nursing homes and make recommendations concerning drug therapy, adverse reactions, and drug therapy monitoring
- Provide drug information for physicians, nursing staff, and pharmacy
- Do pharmacokinetic dosage adjustments on aminoglycosides, vancomycin, aminophylline, and other drugs
- Assess patients for adverse drug reactions
- Identify drugs and drug substances

10/04 – 4/06

STAFF PHARMACIST

*Walgreen's, 5901 Springboro Pike, Dayton, OH 45449
(937) 433-1604*

- Fill prescriptions and advise patients on selection and use of over-the-counter drugs
- Administer company procedures for prescription department

7/03 – 10/04

CONSULTANT PHARMACIST, STAFF PHARMACIST

*Pharmco, Inc., 9875 Redhill Drive, Cincinnati, OH 45242
(513) 791-3023, (702) 791-3024 Fax*

- Review patient charts in seven nursing homes and make recommendations concerning drug therapy, adverse reactions, and drug therapy monitoring
- Preparing and checking prescriptions, drug charts, and intravenous admixtures
- Provide drug information for physicians, nursing staff, and pharmacy
- Do pharmacokinetic dosage adjustments on aminoglycoside antibiotics and vancomycin
- Provide in-service education to nursing staff on medication administration

1/03 – 5/03

INSTRUCTOR (part-time)

*Nevada State College, 1125 Nevada State Dr., Henderson, NV 89015-9455
(702) 992-2057*

- Prepare and give lectures for undergraduate students in an introductory statistics course

9/01 – 3/03

ASSOCIATE PROFESSOR

*The University of Southern Nevada, 11 Sunset Way, Henderson,, Nevada 89014-2333
(702) 990-4433*

- Prepare and give lectures for Doctor of Pharmacy (Pharm.D.) students in biostatistics, pharmaceutical calculations, and introductory pharmacokinetics course
- Prepare and give lectures to students in the therapeutics and disease state management block in the areas of thromboembolism, arrhythmias, sleep disorders, and schizophrenia
- Prepare and give lectures to students in an introductory pharmaceuticals course
- Preparing and writing grants to fund research projects and instructional enhancements

12/96 – 8/01

ASSISTANT PROFESSOR

*The University of Toledo, College of Pharmacy, Department of Pharmacology,
2801 West Bancroft St., Toledo, Ohio 43606-3390.*

- Prepare and give lectures to students in introductory and graduate level pharmacokinetics courses
- Prepare and give lectures for undergraduates, Doctor of Pharmacy (Pharm.D.) students and graduate level students in pharmacology for a biostatistics course
- Review applications for admission to the graduate program, maintain department computer cluster of Macs
- Preparing and writing grants to fund research projects and instructional enhancements
- Supervisor of the Biopharmaceutical Analysis Laboratory

- 8/93 – 1/02** **STAFF PHARMACIST (part-time)**
CVS Pharmacy, 9151 South Old State Road, Columbus, Ohio 43240
(614) 846-8029
- Formerly full-time staff pharmacist and assistant manager
 - Fill prescriptions and advise patients on selection and use of over-the-counter drugs
 - Wrote pharmacy orders and controlled inventory
 - Administered company procedures for prescription department and store
- 1/95 – 3/95** **GRADUATE TEACHING ASSOCIATE**
9/87 – 8/91 *The Ohio State University, College of Pharmacy, 500 West 12th Avenue, Columbus, Ohio 43210*
(614) 292-2266
- Gave lectures to pharmacy students in an introductory pharmaceuticals course and graduate level pharmacokinetics course
 - Assisted in preparing lectures for pharmacy students in an introductory pharmaceuticals course
 - Graded papers
 - Lectured recitation sections of pharmaceutical calculations and pharmaceuticals courses
 - Wrote problems for quizzes and exams for calculations, dispensing labs, and pharmaceuticals courses
 - Tutored students in pharmaceuticals and medicinal chemistry courses
- 5/88 – 2/95** **STAFF PHARMACIST (part-time)**
National Rx Services No. 2, Inc., 255 Phillipi Road, Columbus, Ohio 43210
(614) 272-1985
- Checking and filling prescriptions
- 6/90 – 9/90** **ASSOCIATE SCIENTIST/SUMMER STUDENT**
GlaxoSmithKline, Pharmaceutical Technologies Department, Research and Development, 709 Swedeland Road, P.O. Box 1539, Mail Code L-930, King of Prussia, PA 19406.
(215) 270-5655
- Extend my studies of the dissolution models to real systems which deal with particle size distributions
 - Research sampling requirements for batches of drug product with the objective of reducing the sample size while increasing the probability of determining whether the batch is acceptable
 - Drug analyses
- 7/85 – 1/88** **PHARMACIST, MANAGER AND STORE CO-OWNER (full-time)**
Belloto's Inc., D.B.A. Mellott's Pharmacy, West Jefferson, Ohio.
- Filled prescriptions and advised patients on selection and use of over-the-counter drugs
 - Wrote pharmacy and store orders, control of inventory, store merchandiser, carried out daily paper work and trained new employees
- 12/84 – 6/85** **PHARMACIST, MANAGER (full-time)**
Kroger Sav-On Pharmacy, Washington Court House, Ohio
- Filled prescriptions and advised patients on selection and use of over-the-counter drugs
 - Wrote pharmacy orders and controlled inventory (lowered inventory \$2,700 dollars in five months, a 5% reduction)
 - Acted as consultant pharmacist for nursing home that the pharmacy serviced
 - Was responsible for welfare billing of nursing home which was six months behind when hired and current when I resigned
 - Raised the gross margin to 29.6% from 25.0%

- 11/84 – 6/85 STAFF PHARMACIST (part-time)**
Mellott's Drug Inc., West Jefferson, Ohio
- Filled prescriptions and advised patients on the selection and use of over-the-counter drugs
 - Wrote pharmacy orders and controlled inventory

- 5/76 – 11/84 PHARMACIST, ASSISTANT MANAGER (full-time)**
Gray Drug Fair Inc., Columbus, Ohio
- Filled prescriptions and advised patients on selection and use of over-the-counter drugs
 - Wrote pharmacy orders and controlled inventory
 - Lowered the pharmacy inventory by almost \$3,100 dollars in seven months in my last assignment
 - As a relief pharmacist I would help schedule and work vacations for a fourteen-store district
 - Administered company procedures for prescription department and store
 - Trained new pharmacy interns and new assistant managers
 - Handled daily paper work including daily sales reports

ABSTRACTS:

1. Belloto, R.J., Dean, A.M., and Sokoloski, T.D., Application of Mixture Response Surface Methodology to Product Formulation. *A.Ph.A. Abstracts*, **12**(1), 68(1982).
2. Belloto, R.J., Sokoloski, T.D., Moustafa, M.A., Molokhia, A.M., and Gouda, M.W., Application of Mixture Response Surface Methodology to Phenobarbital Solubility. *A.Ph.A. Abstracts*, **12**(2), 108(1982).
3. Ochsner, A.B., Belloto, R.J., and Sokoloski, T.D., Prediction of Xanthine Solubilities Using Statistical Techniques: Applications of Mixture Response Surface Methods. *A.Ph.A. Abstracts*, **13**(1), 48(1983).
4. Hinko, C.N., Emanuel, J.E., Hubbard, J.L., Rittenberger, H.J., Belloto Jr., R.J., and Messer Jr., W.S., The Effects of Antiepileptic Drugs and Amygdala Kindling on Morris Water Maze Performance in Rats. *Soc. Neurosci. Abstr.*, **23**(2), 2166(1997).
5. Batcheller, S.A., Cantrell, W., Belloto Jr., R.J. Incidence of bleeding in obese patients receiving enoxaparin. American Society of Health-Systems Pharmacists Midyear Clinical Meeting. *Am. J. Health-Syst. Pharm.*, **59**(20), 2003(2002).

PRESENTATIONS:

- **Association:**
1. Belloto Jr., R.J., Dean, A.M., Sokoloski, T.D. Application of mixture response surface methodology to product formulation. *Thirteenth Annual Pharmaceutics Graduate Student Research Meeting*. June 1981, University of Wisconsin - Madison, School of Pharmacy, 425 North Charter Street, Madison, Wisconsin 53706.
 2. Belloto Jr., R.J., Dean, A.M., Sokoloski, T.D. Application of mixture response surface methodology to product formulation. *American Pharmaceutical Association Annual Meeting*. April 24-29, 1982, Las Vegas, Nevada.
 3. Belloto Jr., R.J. An evaluation of methods used to qualify opened packages of inventories. *The Third Annual Graduate Research Forum (Administrative Sciences)*. April 20, 1989. The Ohio State University, Council of Graduate Students, 055 Jones Tower, 101 Curl Drive, Columbus, Ohio 43210-1195.

4. Belloto Jr. R.J. The application of the annealing algorithm for nonlinear regression. *Mathematical Association of America Ohio Section Spring Meeting*. April 27, 1990, The University of Cincinnati, McMicken College of Arts and Sciences, Cincinnati, Ohio 45221-0037.
5. Belloto Jr., R.J., Staubus, A.E. Annealing: an alternative method of nonlinear regression. *Twenty Second Annual Pharmaceutics Graduate Student Research Meeting*. June 16, 1990, The Ohio State University, College of Pharmacy, 500 W. Twelfth Avenue, Columbus, Ohio 43210-1291.
6. Belloto Jr., R.J. A mathematical model for the macroscopic dissolution of drugs. *The Fifth Annual Graduate Research Forum (Physical Sciences and Mathematics)*. April 20, 1991. The Ohio State University, Council of Graduate Students, 055 Jones Tower, 101 Curl Drive, Columbus, Ohio 43210-1195.
7. Belloto Jr., R.J. Half-life estimation from two consecutive, non-steady-state dosing intervals. *The Seventh Annual Graduate Research Forum (Professional Biological Sciences)*. April 17, 1993. The Ohio State University, Council of Graduate Students, 055 Jones Tower, 101 Curl Drive, Columbus, Ohio 43210-1195.
8. Belloto Jr., R.J. Existence of asymptotes, not local minima, as a cause of false convergence in some nonlinear least squares problems. *American Association of Pharmaceutical Scientists Midwest Regional Meeting*. May 23, 1994, Rosemont Conference Center, Chicago, Illinois.
9. Belloto Jr., R.J. Statistical evaluation of the horizontal gaze nystagmus test used for roadside sobriety testing. *The Ninth Annual Graduate Research Forum (Professional Biological Sciences)*. April 22, 1995. The Ohio State University, Council of Graduate Students, 055 Jones Tower, 101 Curl Drive, Columbus, Ohio 43210-1195.
10. Belloto Jr., R.J., Staubus, A.E. Experimental evidence for the Hixson-Crowell cube root law using a single spherical particle. *American Association of Pharmaceutical Scientists Midwest Regional Meeting*. May 20, 1996, Rosemont Conference Center, Chicago, Illinois.
11. Belloto Jr., R.J., White, D.B., Hinko, C.N. Linear mixed model is inadequate analysis for Morris water maze (spatial learning) experiments. *The Fifth Great Lakes Symposium on Applied Statistics*. October 23, 1998, Kalamazoo, Michigan.
12. Belloto Jr., R.J. Shortcut formulae for dosage adjustments. *American Society of Health-Systems Pharmacists Annual Meeting 2000*. June 5, 2000, Philadelphia, Pennsylvania.
13. Warner, K.K., Belloto Jr., R.J., and Bolha, III, M.J. Evidence against a drug interaction between metronidazole and ethanol. *Ohio Pharmacist's Association 123rd Annual Conference and Trade Show*. April 6, 2001. Columbus, Ohio.
14. Belloto Jr., R.J. Using the Rasch model for assigning course grades. *Midwestern Objective Measurement Seminar, The University of Illinois at Chicago and the Institute for Objective Measurement*. December 13, 2002. Chicago, Illinois.
15. Belloto Jr., R.J., Wiser, T.H, Smith, K.P, Welder, A.A., Ziance, R. Using the many-facet Rasch statistical model to rank pharmacy students for awards and scholarships. *2003 American Association of Colleges of Pharmacy Annual Meeting and Seminars*. July 21-22, 2003. Minneapolis, Minnesota.
16. Belloto Jr., R.J. Improving student learning in pharmacokinetics using reading quizzes, concept quizzes, and peer instruction: an outcome study. *2005 American Association of Colleges of Pharmacy Annual Meeting and Seminars*. July 9-13, 2005. Cincinnati, Ohio.
17. Belloto Jr., R.J. A study on the difficulty and quality of test questions in a pharmacy math course. *Fall Meeting of the Mathematical Association of America Ohio Section*. October 26-27, 2007. Wittenberg University, Springfield, Ohio.

18. Belloto Jr., R.J., Staubus, A.E. A meta-analytic review of urine alcohol testing: was the driver over the legal limit? *Society for the Scientific Detection of Crime*. May 7, 2008. Columbus, Ohio.
19. Staubus, A.E., Belloto Jr., R.J. DataMaster DMT seminar breath operator and scientific evidence in driving while under the influence cases. *South Carolina Association of Criminal Defense Lawyers*. October 7-8, 2010. Litchfield Beach and Golf Resort, Pawley's Island, South Carolina.
20. Belloto Jr., R.J., Staubus, A.E. A statistical analysis of urine:blood data and oxycodone redistribution: a simple ratio will not suffice. *American Academy of Forensic Sciences Annual Meeting*, February 24, 2011. Chicago, Illinois.
21. Belloto Jr., R.J. The design and analysis of calibration experiments and the reporting of prediction errors. *American Academy of Forensic Sciences Annual Meeting*, February 23, 2012. Atlanta, Georgia.
22. Belloto Jr., R.J., Staubus, A.E. On the statistical distribution of V_{max} for ethanol pharmacokinetics. *American Academy of Forensic Sciences Annual Meeting*, February 17, 2017. New Orleans, Louisiana.
23. Staubus, A.E., Belloto Jr., R.J. Potential miscarriage of justice due to hierarchical error messages for ethanol breath testing. *21st Triennial Meeting of the International Association of Forensic Sciences 2017*, August 25, 2017. Toronto, Ontario, Canada.
24. Belloto Jr., R.J., Staubus, A.E. Postmortem Drug Level Interpretation Using Pharmacokinetics and Statistics. *21st Triennial Meeting of the International Association of Forensic Sciences 2017*, August 25, 2017. Toronto, Ontario, Canada.

Continuing Education for Attorneys:

1. Belloto Jr., R.J. Statistical fallibility of horizontal gaze nystagmus. *The Ohio Association of Criminal Defense Lawyers Drink and Drive Seminar*. March 31, 1995. The Ohio State University, Fawcett Center, 2400 Olentangy River Road, Columbus, Ohio 43210-1027.
2. Belloto Jr., R.J., Staubus, A.E. Forensic toxicology and the Intoxilyzer 5000. *The Texas Criminal Defense Lawyers Association 2nd Annual Texas Forensics Seminar*. August 27, 2004. Center for American and International Law, Plano, Texas.
3. Belloto Jr., R.J., Staubus, A.E. Urine drug testing in the state of Ohio. *The Ohio Association of Criminal Defense Lawyers Driving Under the Influence Seminar*. March 6-7, 2008. Columbus, Ohio 43219.
4. Belloto Jr., R.J. Alcohol pharmacokinetics and working with an expert. *Lorman Education Services, DUI Strategies in Ohio*. December 2, 2008. Holiday Inn Eastgate, Cincinnati, Ohio 45245-1201.
5. Belloto Jr., R.J., Staubus, A.E. Forensic toxicology and the Intox EC/IR II. *Indiana Public Defender Council Masters of Operating While Intoxicated Defense Seminar*. March 5, 2010. Crowne Plaza Airport Hotel, Indianapolis, Indiana.
6. Belloto Jr., R.J., Staubus, A.E. The BAC DataMaster. *The Texas Criminal Defense Lawyers Association and the National College for DUI Defense, 17th Annual Mastering Scientific Evidence in DWI/DUI Cases*. April 9, 2010. Royal Sonesta Hotel, New Orleans, Louisiana 70130.
7. Belloto Jr., R.J., Staubus, A.E. The BAC DataMaster. *The Texas Criminal Defense Lawyers Association and the National College for DUI Defense, 18th Annual Mastering Scientific Evidence in DWI/DUI Cases*. April 15, 2011. Royal Sonesta Hotel, New Orleans, Louisiana 70130.

8. Belloto Jr., R.J. Working with an expert, alcohol pharmacokinetics and Ambien® (zolpidem) sleep driving. *Lorman Education Services, Strategies in Defending DUI Cases*. September 30, 2011. Holiday Inn Eastgate, Cincinnati, Ohio 45245-1201.
9. Nichols, M.J., Belloto Jr., R.J. Blood testing uncertainty. *The Annual Ohio Association of Criminal Defense Lawyers Advanced Driving Under the Influence Defense Seminar*. March 8, 2012. Columbus, Ohio 43215.
10. Nichols, M.J., Belloto Jr., R.J., Staubus, A.E. DataMaster/breath testing uncertainty. *The Annual Ohio Association of Criminal Defense Lawyers Advanced Driving Under the Influence Defense Seminar*. March 8, 2012. Columbus, Ohio 43215.
11. Belloto Jr., R.J. Synthetic cannabis and bath salts. April 19, 2013. Cincinnati, Ohio.
12. Belloto Jr., R.J. The science of blood alcohol testing. *Indiana Public Defender Council: Operating While Intoxicated: Science, New Machine, & New Laws*. August 15, 2014. Four Points by Sheraton West Lafayette, West Lafayette, IN 47906.
13. Bucher, A., Belloto Jr., R.J. A scientific and statistical assessment of the Standardized Field Sobriety Tests and the Drug Recognition Expert program. Why data mining can be your friend in the search for exculpatory evidence. *The Ohio Association of Criminal Defense Lawyers Premier Ohio Driving Under the Influence Defense Seminar*. March 12, 2015. Columbus, OH 43215.
14. Staubus, A.E., Belloto Jr., R.J. EC/IR machines: issues that have arisen over the first year of use. *OWI and SFST Seminar, Indiana Public Defender Council*. August 14, 2015. Forum Conference & Events Center, Fishers, Indiana 46037.
15. Staubus, A.E., Belloto Jr., R.J. Indiana Intoximeter EC/IR II training course. *Indiana Public Defender Council*. August 15, 2015. Forum Conference & Events Center, Fishers, Indiana 46037.
16. Belloto Jr., R.J., Staubus, A.E. Prescription medication and alcohol: interaction and metabolism – determining therapeutic versus nontherapeutic levels. *The Texas Criminal Defense Lawyers Association and the National College for DUI Defense, 24th Annual Mastering Scientific Evidence in DWI/DUI Cases*. March 24, 2017. Royal Sonesta Hotel, New Orleans, Louisiana 70130.
17. Belloto Jr., R.J. Missouri’s breath test machines: human and mechanical errors. *The Missouri Association for Criminal Defense Lawyers, 2019 Bernard Edelman DWI Law & Science Seminar*, July 18, 2019, Lodge of Four Seasons, 315 Four Seasons Dr., Lake Ozark, MO 65049.
18. Belloto Jr., R.J. Defending against alcohol monitoring violations (SCRAM & IID). *The Missouri Association for Criminal Defense Lawyers, 2019 Bernard Edelman DWI Law & Science Seminar*, July 18, 2019, Lodge of Four Seasons, 315 Four Seasons Dr., Lake Ozark, MO 65049.
19. Belloto Jr., R.J. What to know about forensics in drug cases – from overdose corruption cases, to drugged driving, to weight and identification. *The Ohio Association of Criminal Defense Lawyers 2019 Drug Seminar*, August 23, 2019, Dayton Art Institute, 456 Belmonte Park North, Dayton, OH 45405.

Continuing Education for Health Professionals:

1. Jiang, P., Belloto Jr., R.J. Role of Helicobacter Pylori in stress-related gastrointestinal mucosal damage with concomitant steroid use. *The University of Toledo, College of Pharmacy*, March 30, 2001. Toledo, OH
2. Bolha, III, M.J., Belloto Jr., R.J., and Warner, K.K. Evidence against a drug interaction between metronidazole and ethanol: a meta-analytic review. *The University of Toledo, College of Pharmacy*, March 21-22, 2002. Toledo, OH

3. Belloto Jr., R.J. What the aging body does to alter the effect of medicines. Part of Issues in geriatric pharmacotherapy: a multi-disciplinary update. *Boonshoft School of Medicine, Wright State University*, May 19, 2007. Dayton, OH 45435.

PUBLICATIONS:

Peer Reviewed:

1. Belloto Jr., R.J., Dean, A.M., Moustafa, M.A., Molokhia, A.M., Gouda, M.W., Sokoloski, T.D., Statistical techniques applied to solubility predictions and pharmaceutical formulations: an approach to problem solving using mixture response surface methodology. *Int. J. Pharm.*, 1985;**23**:195-207.
2. Ochsner, A.B., Belloto Jr., R.J., Sokoloski, T.D., Prediction of xanthine solubilities using statistical techniques. *J. Pharm. Sci.*, 1985;**74**:132-135.
3. Belloto Jr., R.J., Sokoloski, T.D., Residual analysis in regression. *Am. J. Pharm. Educ.*, 1985;**49**:295-303.
4. Bachmann, K., Belloto Jr., R.J., Differential kinetics of phenytoin in the elderly. *Drugs Aging*, 1999;**15**(3):235-250.
5. Sitaraman, S., Metzger, D.W., Belloto Jr., R.J., Infante, A.J., and Wall, K.A. Interleukin-12 enhances clinical experimental autoimmune myasthenia gravis in susceptible but not resistant mice. *J. Neuroimmunol.*, 2000;**107**:73-82.
6. Belloto Jr., R.J., Esposito, T.M., Chatel, B.P. Beneficial effects of fish and fish oils in cardiovascular diseases. *U.S. Pharm.*, 2003;**28**:38-50.
7. Schatz, R., Belloto Jr., R.J., White, D.B., and Bachmann, K.A. Provision of drug information to patients by pharmacists: the impact of the Omnibus Budget Reconciliation Act of 1990 a decade later. *Am. J. Ther.*, 2003;**10**(2):93-103.
8. Schroeder, M.M., Belloto Jr., R.J., Hudson, R.A., McInerney, M.F. Effects of the antioxidants coenzyme Q10 and lipoic acid on interleukin-1 mediated inhibition of glucose-stimulated insulin release from cultured mouse pancreatic islets. *Immunopharmacol. Immunotoxicol.* 2005;**27**(1):109-22.
9. Belloto Jr., R.J. Shortcut formulae for pharmacokinetic dosage adjustments. *Clin. Pharmacokinet.*, 2009;**48**(9):555-60.

Editorial:

1. Belloto Jr., R.J. On statins, strokes, meta-analyses, competing risks, and the onward march of science. *Ann. Pharmacother.* 2007;**41**(12):2055-7.

Book Chapters:

1. Bachmann, K.A. and Belloto Jr., R.J. Pharmacokinetic considerations in antimicrobial therapy. In: L. Jauregui, (Ed.), *Antimicrobials: Use in clinical infection*. La Paz, Bolivia: University of St. Andrews, (2002).
2. Belloto Jr., R.J. Altered pharmacokinetics in an aging population: a silent epidemic. In: C.G. Olsen, W.N. Tindall, and M.E. Clasen, (Eds.), *Geriatric Pharmacotherapy: A Guide for the Helping Professional*. Washington, DC.: American Pharmacists Association, (2007).

3. Staubus, A.E., Belloto Jr., R.J. Forensic toxicology of urine and blood levels. In: Understanding DUI Scientific Evidence, 2010 Ed.: Leading Lawyers on Analyzing New Forensic Science, Challenging Testing Procedures and Results, and Consulting Experts for Defense Arguments (Inside the Minds). Thompson Reuters/Aspatore; 2010: 257-67.
4. Belloto Jr., R.J. The DataMaster DMT and beyond. In: Understanding DUI Scientific Evidence, 2011 Ed.: Leading Lawyers and Scientists on Recent Developments in Forensic Science, Understanding Chemical and Field Sobriety Testing Procedures, and Analyzing the Validity of Test Results (Inside the Minds). Thompson Reuters/Aspatore; 2011: 387-410.

Other:

1. Belloto Jr., R.J. Batch testing: Q.C. lacking. *The Ohio Association of Criminal Defense Lawyers Vindicator*, (4):12 (1995).
2. Belloto Jr., R.J. MEDLINE® searches over the internet. *CVS Clinical Focus*, 2(7):1 (2000).

GRADUATE STUDENT:

Co-Advisor:

- Duvvuri, M. Comparison of commercially available saw palmetto products against U.S.P.'s nutritional standards and other criteria [thesis]. Toledo (OH): University of Toledo; 2001.

GRANTS RECEIVED:

Principal Investigator:

1. Precision and validation studies on a high-pressure liquid chromatographic assay for phenolics in echinacea.
Agency: Institute for Nutraceutical Advancement. *Period:* 3/5/99 – 3/5/00
Type: Industry *Amount:* \$3,000
2. Validation of a capillary column gas chromatographic assay for sterols in saw palmetto.
Agency: Institute for Nutraceutical Advancement. *Period:* 6/99 – 7/00
Type: Industry *Amount:* \$2,750
3. Validation of a capillary column gas chromatographic assay for fatty acids in extracts of saw palmetto.
Agency: Institute for Nutraceutical Advancement. *Period:* 7/99 – 7/00
Type: Industry *Amount:* \$4,000

Co-Investigator:

1. Amiodarone pharmacokinetics in neonates and children.
Agency: Wyeth Pharmaceuticals *Period:* 3/99 – 5/99
Type: Industry *Amount:* \$67,000
2. Incidence of bleeding in obese patients receiving enoxaparin.
Agency: Aventis Pharmaceuticals. *Period:* 3/02 – 3/03
Type: Industry *Amount:* \$5,000

PROFESSIONAL AFFILIATIONS:

- American Academy of Forensic Sciences (A.A.F.S.)
- American Association of Pharmaceutical Scientists (A.A.P.S.)
- American Chemical Society (A.C.S.)
- American College of Sports Medicine (A.C.S.M.)
- American Heart Association (A.H.A.)
- American Mathematical Society (A.M.S.)
- American Pharmacists Association (A.Ph.A.)
- American Society for Quality (A.S.Q.)
- American Society of Consultant Pharmacists (A.S.C.P.)
- American Society of Health-Systems Pharmacists (A.S.H.P.)
- AOAC International
- American Statistical Association (A.S.A.)
- International Association of Therapeutic Drug Monitoring and Clinical Toxicology (IATDMCT)
- Mathematical Association of America (M.A.A.)
- The Ohio Academy of Science (O.A.S.)
- Ohio Pharmacists Association (O.P.A.)
- Sigma Xi
- Society for Industrial and Applied Mathematics (SIAM)

PROFESSIONAL ACTIVITIES:

Book Reviews:

1. Belloto Jr., R.J. and Reuning, R.H. Review of Statistics for Experimenters: An Introduction to Design, Data Analysis and Model Building. *Am. J. Pharm. Educ.*, **44**:100 (1980).
2. Belloto Jr., R.J. Review of Pharmacokinetic Principles of Dosing Adjustments: Understanding the Basics. *Ann. Pharmacother.*, **36**(6):1110-1 (2002).

Editorial Review Board:

- 9/03 – Present *Annals of Pharmacotherapy*
- 5/06 – 4/09 *Journal of the American Pharmacists Association*
- 1/93 - 12/95 *The Consultant Pharmacist*

Honors:

- 2003 – 6/30/2018 Fellow of the American Society of Consultant Pharmacists (FASCP)

Reviewer:

- 1985 - 1986 *Journal of Pharmaceutical Sciences*
1995 - 1996
- 1993 - 1996 *The Consultant Pharmacist*
- 1995 *Pharmacy PoweRx-Pak*
- 1997 - Present *Annals of Pharmacotherapy*
- 1999 *Internet Journal of Chemistry*

2002 *Journal of Neuro-Oncology*
2003 *U.S. Pharmacist*
2003 *European Journal of Pharmaceutical Sciences*
2006 – 2008 *Journal of the American Pharmacists Association*

Service:

2/26/00 Serve as a Judge, *Buckeye Science & Engineering Fair*. Hosted by The DeVry Institute of Technology, Columbus, Ohio.
4/06 Serve as a Judge. *The Ohio Academy of Science State Science Day*. Ohio Wesleyan University, Delaware, Ohio
4/04
4/96-4/99

REGISTRATION:

- State of Ohio, Pharmacy License 13347

PERSONAL DATA:

- Born – Youngstown, Ohio. Hobbies include reading, running and chess.

REVISED:

- 9/4/19

DRUG PHARMACOLOGY

December 4, 2020

***Annual DUI Defense Update
ICLEF Conference Facility***

**Robert J. Belloto Jr., R.Ph., M.S.², Ph.D.
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and

**Alfred E. Staubus, Pharm.D., Ph.D.
staubus.2@osu.edu
(614) 451-1406**

A STARTING POINT

- Schulz M, Iwersen-Bergmann S, Andresen H, Schmoldt A. Therapeutic and toxic blood concentrations of nearly 1,000 drugs and other xenobiotics. *Critical Care* 2012;16:R136. (Available at <http://ccforum.com/content/16/4/R136>).
- From a practical standpoint, any therapeutic range overlaps with a toxic range and vice versa
- Old example from Widmark's book
- Widmark EMP. (1981). Principles and applications of medicolegal alcohol determination. Davis, CA: Biomedical Publications. pp. 115-6.
- Compton, R. P. & Berning, A. (2015, February). *Drug and alcohol crash risk*. (Traffic Safety Facts Research Note. DOT HS 812 117). Washington, DC: National Highway Traffic Safety Administration.

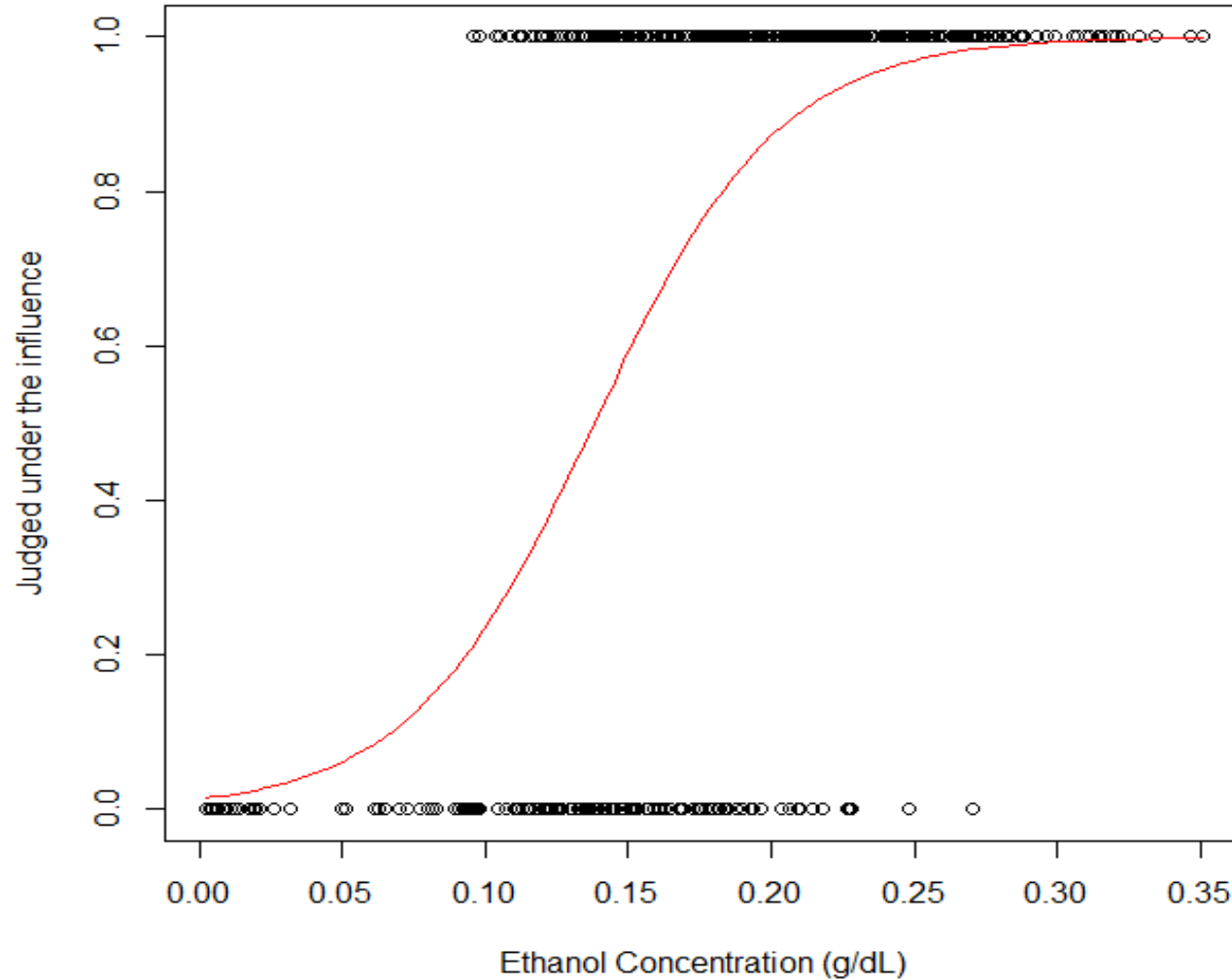
A STARTING POINT

- Widmark gives a table of the number of cases investigated, percent of alcohol “influenced”, and the concentration range
- This is useful because once the data is properly plotted or graphed, one can readily see the probabilistic nature of therapeutic and/or toxic
- Can think of this as pharmacodynamics or the dose-response relationship

A STARTING POINT

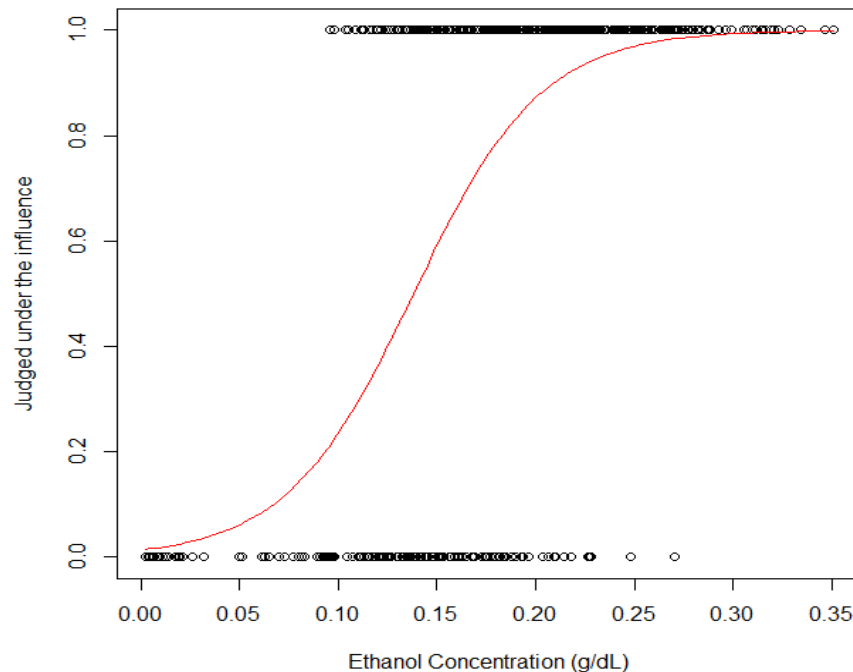
Midpoint of concentration (g/dL)	Percentage judged intoxicated
0.01113	0
0.03233	0
0.05353	0
0.07473	0
0.09593	0.3
0.11713	0.4
0.13833	0.459
0.15953	0.683
0.18073	0.79
0.20193	0.875
0.22313	0.931
0.24433	0.959
0.26553	0.966
0.28673	1
0.30793	1
0.32913	1
0.35033	1

A STARTING POINT



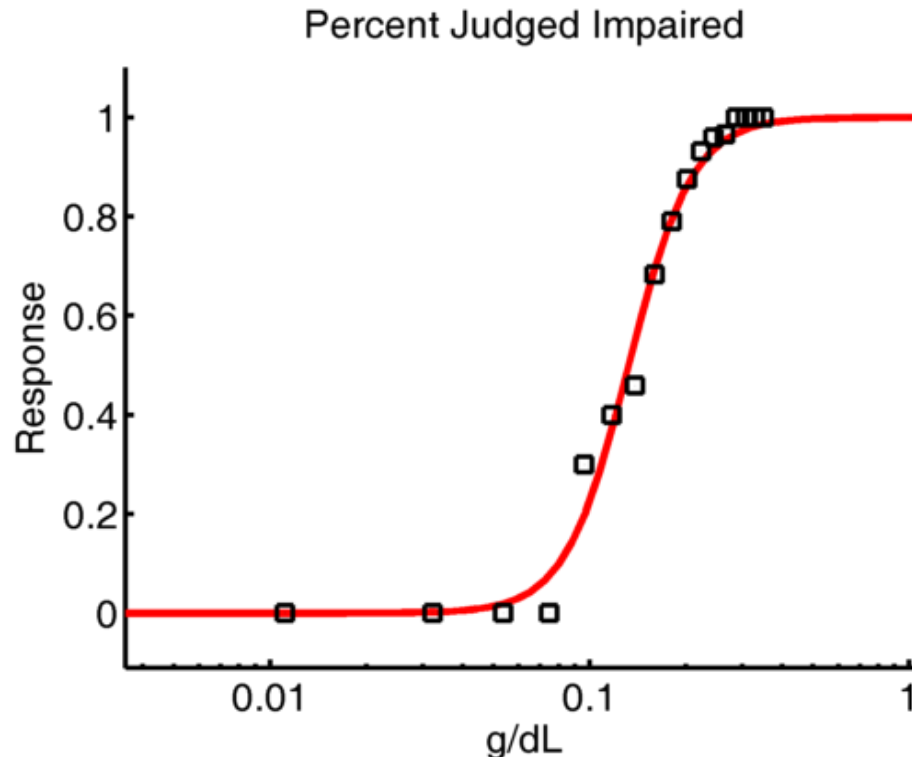
A STARTING POINT

- One can readily see that while some individuals are judged not “influenced” at concentrations up to 0.270 g/dL, many others are “influenced” at concentrations down to around 0.080 g/dL

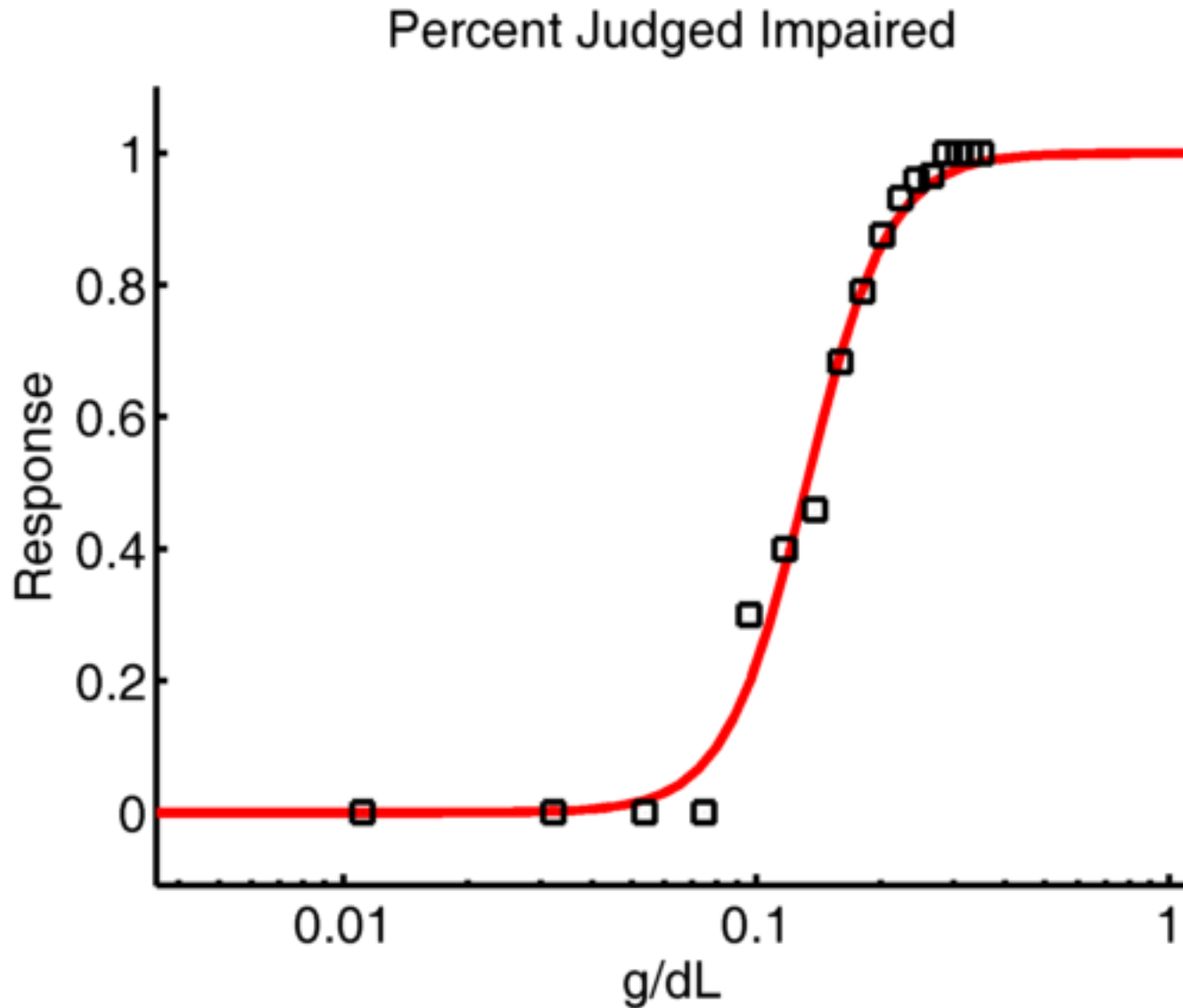


A STARTING POINT

- An alternative way to display the data is the percent judged impaired at each concentration range
- Can then analyze the data by logistic regression or other more sophisticated models



A STARTING POINT



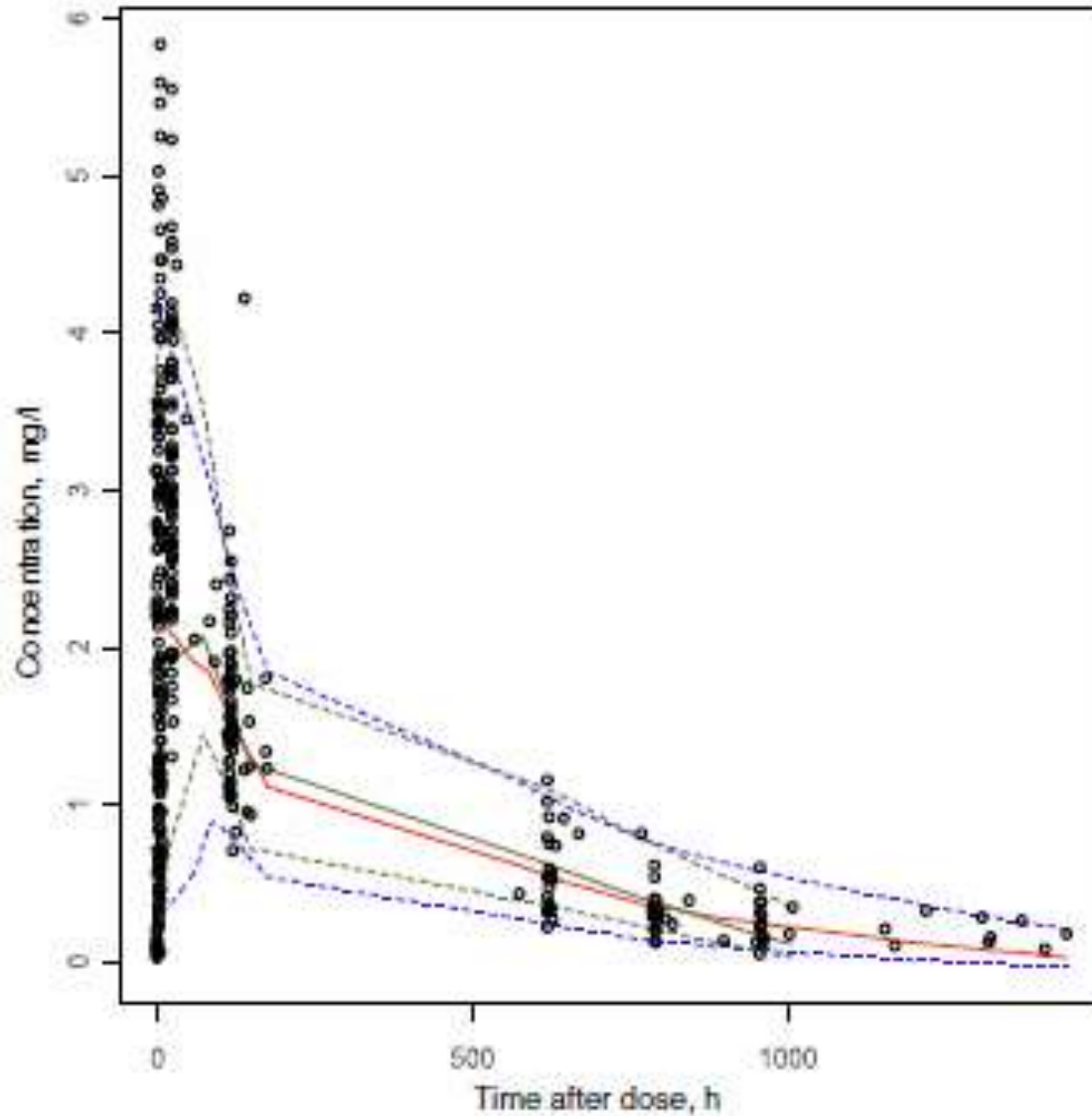
A STARTING POINT

- The data is from page 115 of Widmark
- Note the logarithm of the concentration is the x -axis
- I multiplied his ‰ by 0.106 to get g/dL and took the midpoint of each range he gave
- The equation is $E = \frac{1}{1 + \left(\frac{0.133}{C}\right)^{4.378}}$ where E is the fraction impaired and C is the alcohol concentration in g/dL
- The point at which 50% of the subjects are “under the influence” is 0.133 g/dL
- Other percentages can also be calculated after rearranging the above equation

A STARTING POINT

- This has of course, immediate applications to Dubowski's stages of intoxication which are often referred to but lack supporting documentation and data
- Dubowski KM. Alcohol determination in the clinical laboratory. Am J Clin Pathol 1980;74:747-50.
- W. Edwards Deming's thoughtful quote applies here, "In God we trust; all others bring data"!
- And additional one, "Without data, you're just another person with an opinion."

A Starting Point



A Starting Point

- Example is the drug mefloquine (an antimalarial drug)
- $n = 77$ patients
- Often called population pharmacokinetics (clinical pharmacology and toxicology)

A THERAPEUTIC RANGE

- Another example – sertraline (Zoloft®)
- Serves as a lesson that postmortem drug levels do not apply to “therapeutic” levels
- “Therapeutic” depends upon the drug, dose, and the frequency of administration
- Must always pay attention to the medium being analyzed as to whether it is blood, plasma, or serum
- You are already familiar with this as it pertains to alcohol, but alcohol is not unique in these giving different values

A THERAPEUTIC RANGE

- Our Critical Care journal article lists the therapeutic range of sertraline as 0.01 – 0.25 mcg/mL
- Then lists various references for where it obtained the data
- Let's examine this case in detail starting with the pharmacokinetics of sertraline
- Pharmacokinetics is the study of the absorption, metabolism, distribution, and excretion of drugs
- Remember, the therapeutic range depends upon the drug, dose, and frequency of dosing
- ALWAYS PAY ATTENTION TO THE UNITS

A THERAPEUTIC RANGE

- Independently verify the information

Mean (and range)

Dose,		<hr/>		
mg	n	Sertraline, $\mu\text{g/L}$	S/D ratio^a	
100	8	32 (20–48)	0.55 (0.24–0.89)	
150	3	75 (73–103)	0.59 (0.37–0.82)	
200	10	91 (40–187)	0.58 (0.34–0.90)	
250	2	94 (56–133)	0.56 (0.47–0.64)	
300	4	206 (99–309)	0.73 (0.62–0.85)	

^a Sertraline/desmethylsertraline.

A THERAPEUTIC RANGE

- If your client's drug level comes back in the range listed, then you are most likely okay
 - Unless a first dose
 - Or resumption of a previously prescribed dose where tolerance has been lost

A THERAPEUTIC RANGE

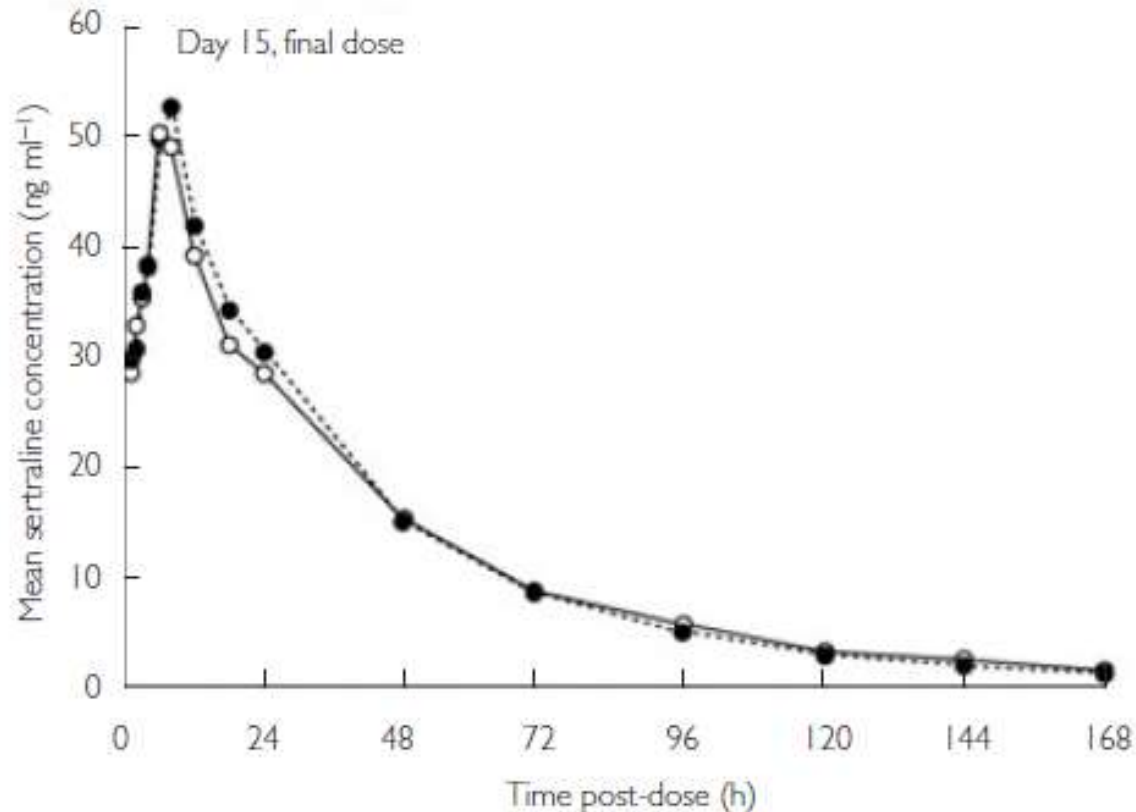
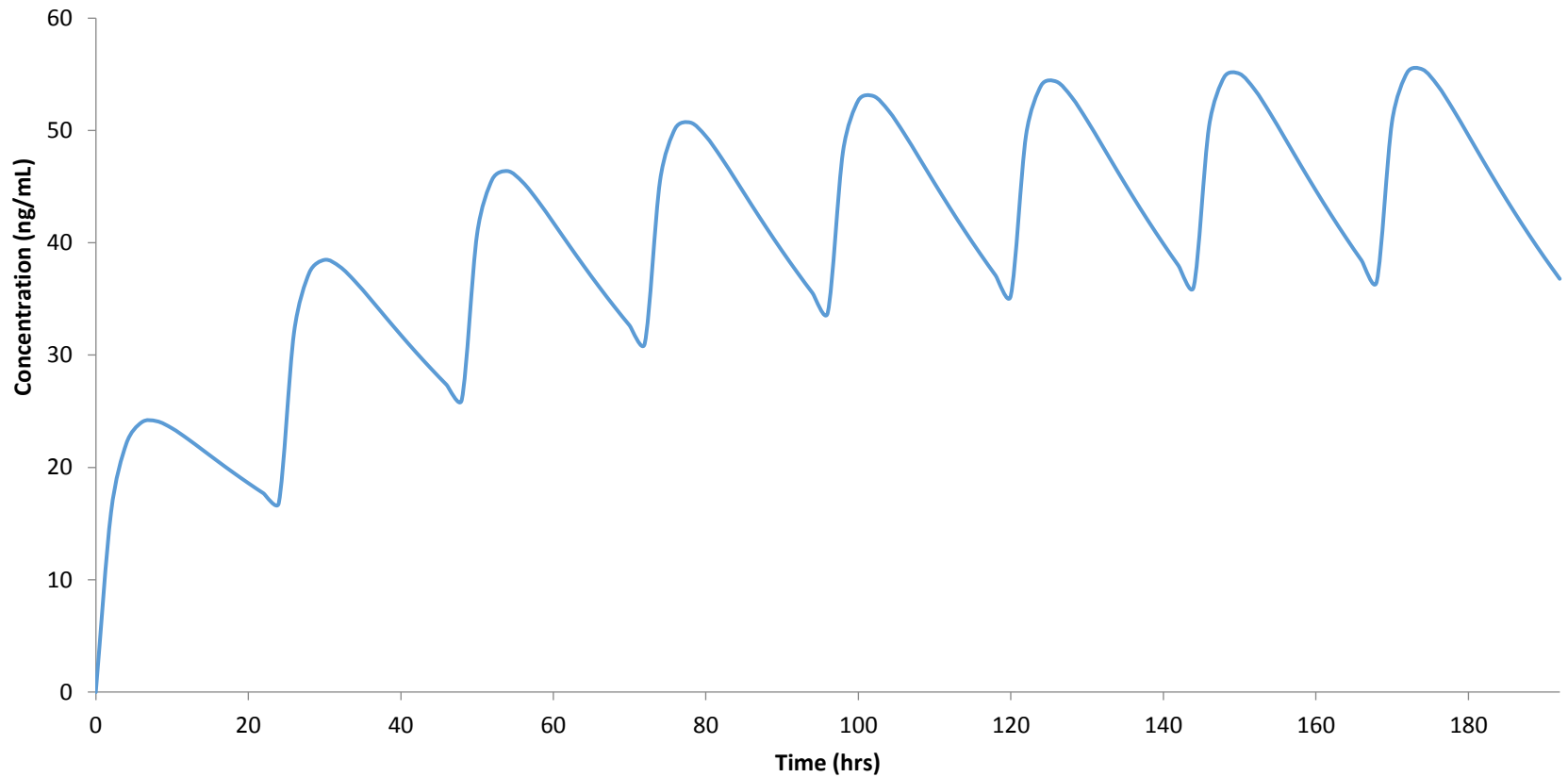


Figure 2

Mean plasma sertraline concentration over time at day 1 and after the last dose on day 15, during treatment with sertraline HCl alone and sertraline HCl + donepezil HCl. Donepezil HCl + sertraline HCl ($n = 16$) (○—○), sertraline HCl only ($n = 16$) (●—●)

A THERAPEUTIC RANGE

Average Sertraline Level for 100 mg Daily



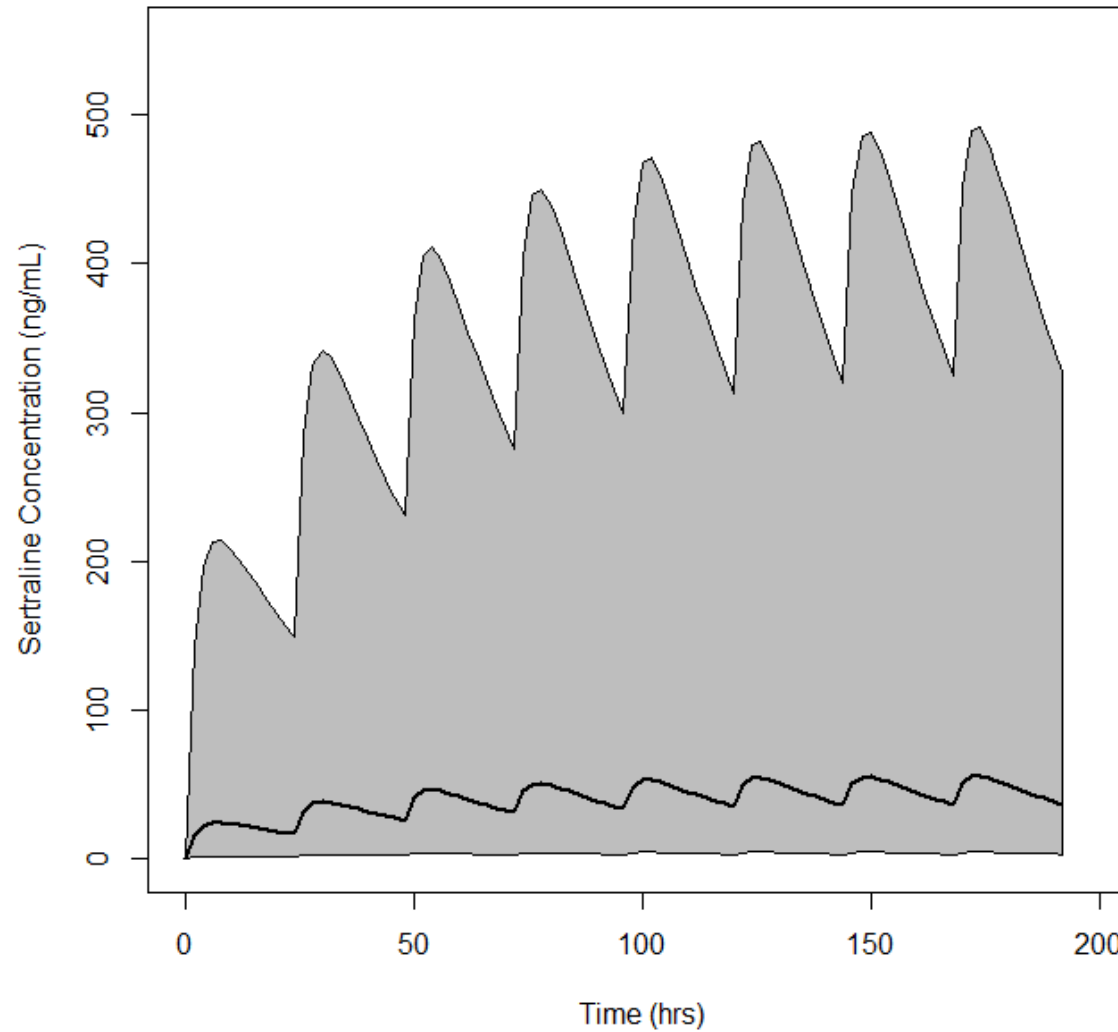
A THERAPEUTIC RANGE

- So, now we know what drug accumulation looks like
- The half-life is the determinant of when steady-state occurs (approximately 6 half-lives)
- Half-life is the time required for the drug concentration to decrease by $\frac{1}{2}$ (not applicable to ethanol, phenytoin, and a few other drugs)
- But, this is the average and we want to predict the interval where 99% of the population will lie
- This is called a prediction interval (single use only) or a tolerance interval (can be used as many times as needed)

A THERAPEUTIC RANGE

- We can calculate this population prediction interval (= tolerance interval) with four pieces of information
 - The mean of the sample concentration maximum, $C_{\max} = \bar{x} = \bar{x}$
 - The standard deviation of $C_{\max} = s$
 - The sample size, n
 - Knowing the distribution of the C_{\max} which is known to be lognormally distributed
- The lognormal distribution arises if we take the exponential of a normal random variable, e^x

A THERAPEUTIC RANGE



A THERAPEUTIC RANGE

- Notice how much the range of expected blood levels for the population expands
- Thus, our therapeutic range for sertraline 100 mg once daily becomes (0.003, 0.492) mcg/mL
- This range applies only to the living
- It is meant to encompass 99% of the population with a confidence level of 99%

A THERAPEUTIC RANGE

- If the dose is 200 mg/day, then the range will be even wider, and higher
- Unfortunately, these must be researched and recalculated for every drug, dose and frequency
- Thus, you will probably need an expert to show that your client is not abusing their prescription

A THERAPEUTIC RANGE

- It is inappropriate to apply this range to postmortem levels (i.e., levels taken at autopsy)

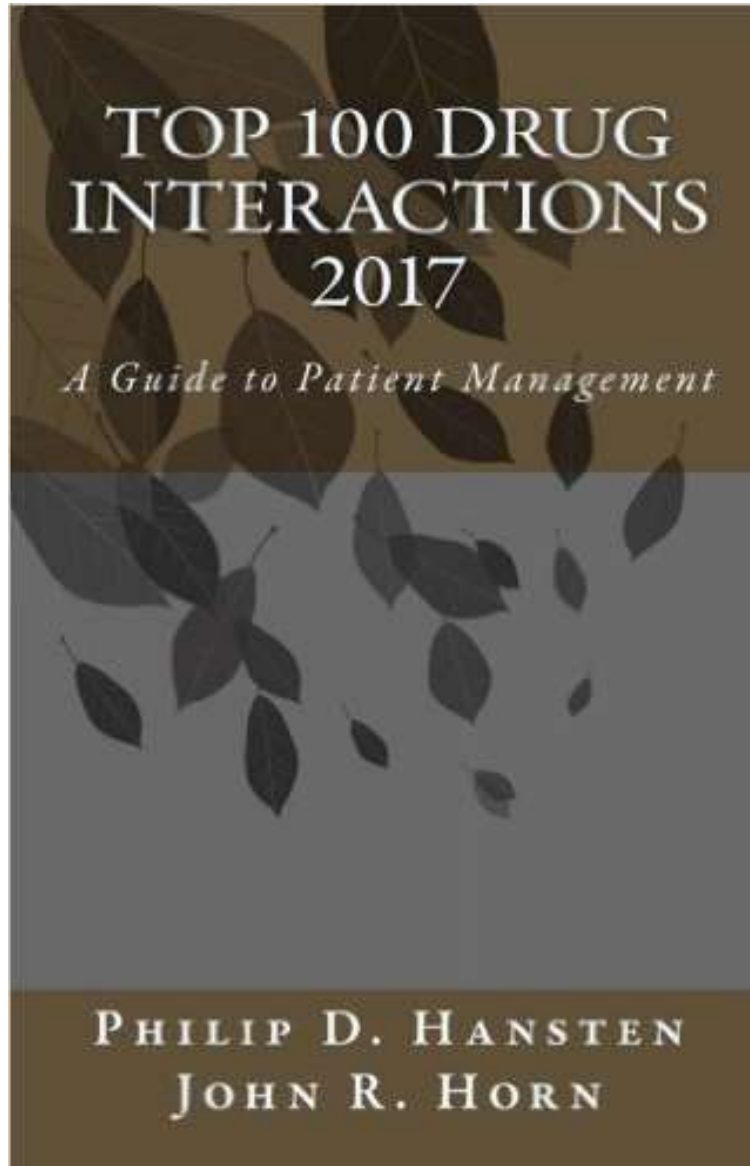
**DISPOSITION
OF
TOXIC DRUGS
AND
CHEMICALS
IN
MAN**

TWELFTH EDITION



RANDALL C. BASELT

Drug Interactions



TOP 100 DRUG
INTERACTIONS
2017

A Guide to Patient Management

PHILIP D. HANSTEN
JOHN R. HORN

PP
Pharmaceutical Press

Stockley's Drug Interactions

Twelfth edition

Edited by Claire L Preston

Drug Interactions

- Drug interactions with alcohol constitute over 40 pages of Stockley's book
- Ethanol may increase the levels of a drug the individual is taking
- Ethanol may decrease the levels of a drug the individual is taking
- Usually little or no effect

The Transitivity Paradox

- This occurs when A is positively correlated to B , and B is positively correlated to C , but A is negatively correlated with C
- In mathematics, if $A = B$, and $B = C$, then $A = C$
- In statistics, this does NOT apply
- Let $A =$ ethanol, $B =$ failure of field sobriety test, and $C =$ impairment

The Transitivity Paradox

- The preceding does not work because so many sober individuals fail field sobriety tests
- Also, they were designed to detect if someone is over 0.10 g/dL, so they have nothing to do with impairment
- What is impairment?

Drug Interactions

- Many effects are acute, and tolerance develops rapidly
- For example, diphenhydramine does cause drowsiness because of its anticholinergic properties
- However, by the fourth day no drowsiness is detectable
 - Richardson GS, Roehrs TA, Rosenthal L, Koshorek G, Roth T. Tolerance to daytime sedative effects of H1 antihistamines. *J Clin Psychopharmacol* 2002; 22(5): 511-5.

Drug Interactions



TRAFFIC SAFETY FACTS

Research Note



DOT HS 812 117

Behavioral Safety Research

February 2015

Drug and Alcohol Crash Risk

Richard P. Compton and Amy Berning

Drug Interactions

Table 4

Adjusted Odds Ratios Between Drug Class Use and Crash Risk (Adjusted for Demographic Variables: Age, Gender And Race/Ethnicity)

Drug of Interest	Adjusted Odds Ratio	95% CI*	P Value
THC (Marijuana)	1.05	0.86 – 1.27	0.65
Antidepressants	0.87	0.57 – 1.32	0.51
Narcotic Analgesics	1.14	0.85 – 1.51	0.39
Sedatives	1.27	0.93 – 1.75	0.13
Stimulants	0.94	0.72 – 1.22	0.64
Illegal Drugs	1.04	0.88 – 1.23	0.65
Legal Drugs	1.03	0.84 – 1.27	0.79

The risk of crash involvement for each category and class of drug is compared to the crash involvement rate for drug-negative drivers. An odds ratio of 1.00 means the crash involvement rate is the same. *(CI = Confidence Interval).

Drug Interactions

Table 6

Contribution of Alcohol and Drugs to Crash Risk

Drug and Alcohol Use	Adjusted Odds Ratio	95% CI*	P Value
No Alcohol / No Drug	1.00		
No Alcohol / Positive Drug	1.02	0.88 – 1.17	0.83
Positive Alcohol (< 0.05) / No Drug	0.84	0.55 – 1.29	0.43
Positive Alcohol (< 0.05) / Positive Drug	1.03	0.55 – 1.94	0.93
Positive Alcohol (≥ 0.05) / No Drug	6.75	4.20 – 10.84	<0.0001
Positive Alcohol (≥ 0.05) / Positive Drug	5.34	2.75 – 10.37	<0.0001

Shading indicates statistical significance. Reference for all conditions was no drug and no alcohol. *CI = Confidence Interval

Drug Interactions

As was described above, there was no difference in crash risk for marijuana (THC)-positive drivers who were also positive for alcohol than for marijuana (THC)-positive drivers with no alcohol, beyond the risk attributable to alcohol. Further analyses examined the potential interaction between drug use and breath alcohol concentration (BrAC). No statistically significant interaction effect on crash risk was found between any drug class or drug category and BrAC level.

Drug Interactions

- Lessons
 - Look for acute effects
 - Look at the drug levels and how they were measured
 - Low
 - Therapeutic
 - Above the therapeutic range
 - Assayed blood, plasma, or serum?

Drug Interactions

- If the client has been on the drug for more than a week, tolerance has most likely developed and I would expect no adverse effects
- Use pharmacy records and any interactions with their pharmacist and physician

Adverse Effects

- Alcohol can inhibit glucose production in the liver (gluconeogenesis)
- This can cause a transient hypoglycemia that can be quite severe
- When the body senses this, glucose is then released from muscle stores (glycogenolysis)

NATIONAL BESTSELLER

"Dr. Bernstein is a true pioneer in developing practical approaches to controlling a devastating disease that is growing at epidemic proportions in this country."

—BARRY SEARS, Ph.D., AUTHOR OF *The Zone*

Dr. Bernstein's
DIABETES
SOLUTION

A COMPLETE GUIDE
TO ACHIEVING NORMAL
BLOOD SUGARS

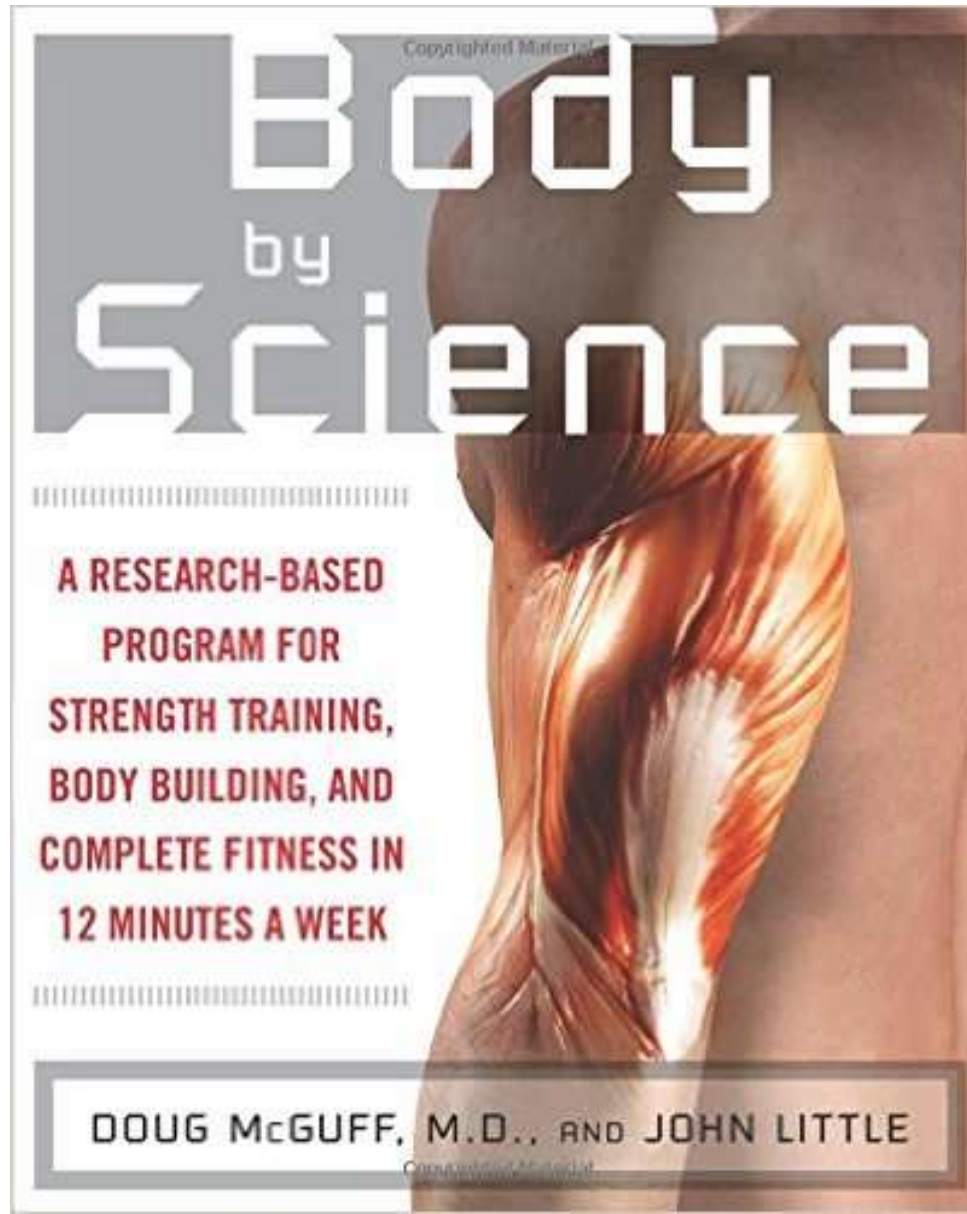
4TH EDITION,
NEWLY REVISED
& UPDATED

Richard K. Bernstein, MD

Adverse Effects

- If the person is on a low carbohydrate diet, there may not be a sufficiently large amount stored and the effect can last longer
- Muscle stores may also be depleted by a proper weight training workout

Adverse Effects



Alcohol/Ethanol/Booze

There are seven recognized stages of Alcohol Influence (ref.: Dr. Kurt Dubowski, Am. J. Clin. Pathol. 74: 749 [1980])

0.01 to 0.05 g/dL = Sobriety Stage

No apparent influence, behavior nearly normal by ordinary observation, and only slight changes detectable by special tests

Alcohol/Ethanol/Booze

0.03 to 0.12 g/dL = Euphoria Stage

Mild euphoria, sociability, talkativeness;
Increased self-confidence; decreased
inhibitions;

Diminution of attention, judgment, and
control;

Loss of efficiency in finer performance
tests.

Alcohol/Ethanol/Booze

0.09 to 0.25 g/dL = Excitement Stage

Emotional instability; decreased inhibitions

Loss of critical judgment

Impairment of memory and
comprehension

Decreased sensory response; increased
reaction time

Some muscular incoordination

Alcohol/Ethanol/Booze

0.18 to 0.30 g/dL = Confusion Stage

Disorientation, mental confusion, dizziness

Exaggerated emotional states (fear, anger, grief, etc.)

Disturbance of sensation (double vision, etc.)
and of perception of color, form, motion,
dimensions

Decreased pain sense

Impaired balance; muscular incoordination;
staggering gait, slurred speech

Alcohol/Ethanol/Booze

0.27 to 0.40 g/dL = Stupor Stage

Apathy; general inertia, approaching paralysis

Markedly decreased response to stimuli

Marked muscular incoordination; inability to stand or walk

Vomiting; incontinence of urine and feces

Impaired consciousness; sleep or stupor

Alcohol/Ethanol/Booze

0.35 to 0.50 g/dL = Coma Stage

Complete unconsciousness; coma;
anesthesia

Depressed or abolished reflexes

Subnormal temperature

Incontinence of urine and feces

Embarrassment of circulation and
respiration; possible death

Alcohol/Ethanol/Booze

0.45 dL or higher = Death Stage

Death from respiratory paralysis

Contact Information

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Section Four

ECIR II

Dr. Robert J. Belloto, Jr. R.Ph., Ph.D., M.S. (Stat.)
Beavercreek, Ohio

Section Four

ECIR II..... Dr. Robert J. Belloto, Jr. R.Ph., Ph.D., M.S. (Stat.)

Chemical Tests for Intoxication – Training Course for Breath Test Operator Certification

Letter Re: Sensor Technology used in the ECIR I and ECIR II Instruments in Wyoming

2017 IAFS Staubus Poster

Intox EC/IR II Resource Reading Material

Gallagher Letter

Martin Letter

Chemical Tests for Intoxication

Training Course for Breath Test Operator Certification

**Indiana State Department of Toxicology
550 West 16th Street
Indianapolis, Indiana 46202
Telephone: 317-921-5000**

Revised January 2015

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Legal Aspects of Breath Testing for Ethanol	35
Instrumentation and Approved Method for Breath Analysis	39
Care and Service of Intox EC/IR II	42
Laboratory Exercises	61

Chemical Tests for Intoxication
Training Course for Breath Test Operator Certification

Schedule

- 0800 – 0815 ILEA Welcome / Orientation
- 0815 – 0830 Dept. of Toxicology / Indiana Administrative Code (IAC) 260
- 0830 – 0925 Pharmacology and Toxicology of Alcohol / Evidence Submission
- 0925 – 0935 Break
- 0935 – 1030 Legal Aspects of Breath Testing for Ethanol / Recent Case Law
- 1030 – 1145 Instrumentation and Approved Method for Breath Test Analysis
- 1145 – 1300 LUNCH
- 1300 – 1700 Laboratory Exercises / Evaluations / Written Examination / Final Laboratory Exercise

Breaks will be provided between blocks of instruction as time permits.

**Chemical Tests for Intoxication
Training Course for Breath Test Operator Certification**

Course Schedule

(See Course Schedule – page 3)

Requirements:

Must be present for entire course

Must obey ILEA Rules

Course Staff:

Inspectors

Tom Pierce
Lou Brown
Dwight Holbrook

Toxicologist

Dr. Sheila Arnold
Email: sarnold1@isd.tn.gov

General Counsel

Teri Kendrick
tkendrick@isd.tn.gov

State Department of Toxicology

Objective:

To provide the training required under 260 IAC 2-2-2 for breath test operator certification.

Duties of the Department:

IC 10-20-2 (enacted 2011)

- Conduct analyses for poisons, drugs, and alcohols upon human tissues and fluids
- Report analytical findings of the department
- Consult with Indiana coroners regarding interpretation of analytical findings
- Furnish expert testimony
- Provide instruction in toxicology to law enforcement officers
- Certify law enforcement officers as required by law for administration of breath and other chemical tests
- Provide instruction and technical assistance to prosecutors and defense counsel regarding ISDT lab results
- Provide instruction to judges on toxicology and alcohol and drug testing

IAC 260

A complete copy of Title 260 is available at:

http://www.in.gov/legislative/iac/iac_title?iact=260

See Article 2 of Title 260 for current provisions.

IAC Title 260 regulates:

Selection, training, certification, and recertification of breath test operators

Selection, inspection, and certification of breath test instruments and chemicals

Approved methods for administering breath alcohol tests

Reference: IC 9-30-6-5

260 IAC 2-2-1 Selection of breath test operators

Must be employed by a law enforcement agency

“Law enforcement agency” means an agency or department with authority to apprehend criminal offenders

260 IAC 2-2-2 Training of breath test operators

The breath test operator certification training course includes training in:

- Pharmacology and toxicology of ethanol
- Legal aspects of breath testing for ethanol
- Theory, operation, and care of breath test equipment
- Use of breath test instrument using known ethanol-water or ethanol-gas standards

260 IAC 2-2-3 Recertification of breath test operators

- Must be recertified at least every two years from month of certification or recertification. **Your operator card expires on the last day of the month.**
- Must demonstrate competence by passing an examination approved by ISDT
- A person who fails the recertification exam may be given a second exam if previous certification has not been expired for more than 30 days
 - During time between first and second exams, person is not certified
- Director may suspend or revoke certification at any time

260 IAC 2-2-4 Authorization of certified breath test operators

- Administer breath tests
- Make replacements and adjustments to breath test instruments not related to calibration

260 IAC 2-3-1 Selection of breath test equipment

The department shall select breath test equipment for use for evidentiary breath testing to ensure the accurate analysis of breath specimens for the determination of breath ethanol concentrations.

- Equipment selected by the department must analyze breath samples and report a numerical value expressed as grams of ethanol per two hundred ten (210) liters of breath.

260 IAC 2-3-2 Inspection of breath test instruments

- ISDT will inspect each instrument at least every 180 days
- If the location of the instrument is changed, it must be inspected and certified prior to use
 - Moving the instrument past the length of its electrical cord is a location change
- Intox EC/IR II shall not deviate more than 5% or 0.005, whichever is greater, from the certified value of the ethanol-water standard or the value adjusted for ambient barometric pressure of the certified ethanol-gas standard

***Permitted deviation is plus or minus 5% or 0.005, whichever is greater.

Example: If the target value (“dry gas target”) is 0.077, the instrument reading of the ethanol content of the dry gas must fall within the range of 0.072 to 0.082.

Indiana Code


- ISDT sends certifications of breath test operators and instruments to the circuit court clerks.
IC 9-30-6-5(b): Failure to send a certificate does not invalidate any test.
- ISDT maintains records of certifications at its administrative office

Pharmacology and Toxicology of Alcohol

Pharmacology: Study of mechanisms by which drugs alter biological systems in an attempt to improve health and alleviate disease

Toxicology: Study of the adverse effects of chemicals on living organisms

Principle: “All substances are poisons; there is none that is not a poison. The right dose differentiates a poison from a remedy.” Paracelsus

	Toxicity Rating	Dose (mg/kg b.w.)	For Average Adult
	1. Practically non-toxic	More than 15,000	More than 1 quart
	2. Slightly Toxic	5000-15,000	1 pint-1 quart
	3. Moderately Toxic	500-5000	1 ounce-1 pint
	4. Very Toxic	50-500	1 teaspoon-1 ounce
	5. Extremely Toxic	5-50	7 drops-1 teaspoon
	6. Supertoxic	Less than 5	Less than 7 drops

Forensic Toxicology: Study of the effects of chemical substances on criminal behavior or results.

Substances

- Alcohol
- Other drugs
- Poisons

Testing

- Laboratory
- Breath Alcohol

Interpretation

- OWI
- Postmortem

History of Ethanol Testing

Sir Edward Mellanby (1884 - 1955): Established relationship between BAC and intoxication. (1919)

Erik M.P. Widmark (1889 - 1945): Described mathematical terms (rho and beta) for alcohol distribution and elimination. (1932)

Goran Liljestrand (1889 - 1968): Determined that expired air contained an ethanol concentration about 1/2000 that of blood. (1931)

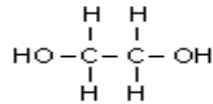
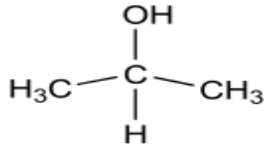
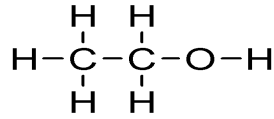
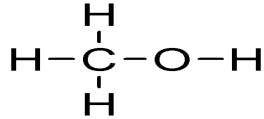
Rolla Harger (1890 - 1983): Developed first practical breath test instrument (Drunkometer).

Robert Forney (1916 - 1997): First Director of State Department of Toxicology. (1957)

Robert Borkenstein (1912 – 2002): Conducted the first study to demonstrate the relationship between BAC and the likelihood of being in a motor-vehicle accident. (1964)

Types of Alcohols

Alcohols are characterized as a chemical class of molecule having a carbon atom bound to an oxygen-hydrogen (-OH) bond.



Methanol

Wood alcohol

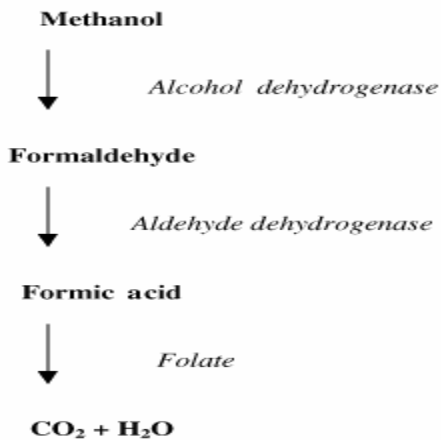
All types of alcohol can cause CNS impairment

Methanol intoxication symptoms mirror those of EtOH

Extremely toxic even at low doses (0.02-0.03 g%)

MeOH inhalation defense

Methanol Metabolism



Isopropanol

Rubbing alcohol

All types of alcohol can cause CNS impairment

Isopropanol intoxication symptoms mirror those of EtOH

Toxic (>0.04%) – metabolized to acetone

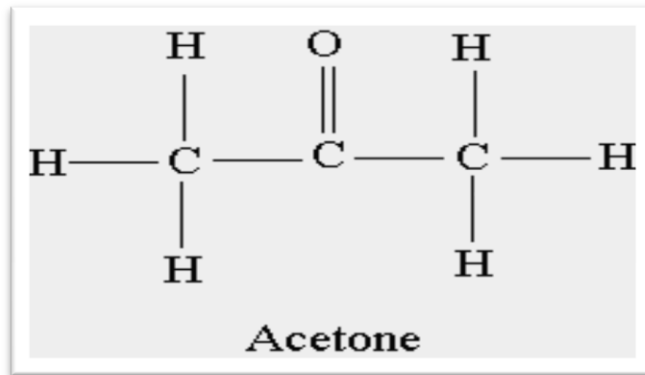
Acetone causes CNS impairment as well

Acetone longer $t_{1/2}$

Isopropanol Metabolism



Acetone (ketone)



Sources of Acetone

Metabolite of Isopropanol

Solvent

Compromised liver function

Fatty liver

Cirrhosis

Diabetic Ketoacidosis

Starvation Ketoacidosis

Ethylene glycol

Component in antifreeze

Considered a polyalcohol

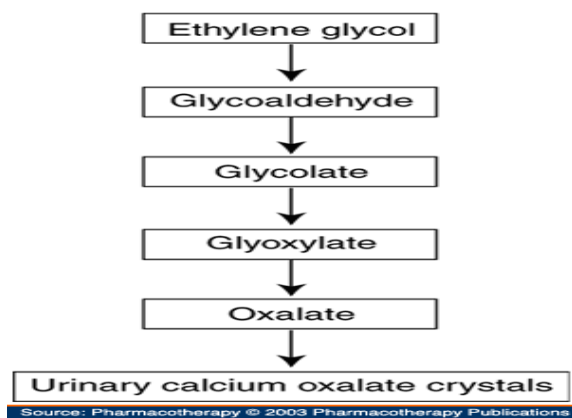
Can also cause CNS impairment

Extremely toxic

Metabolites lead to severe acidosis

Metabolites can also lead to acute renal failure

Ethylene glycol Metabolism



Alcoholic Beverages

These beverages contain the same amount of ethanol:

One beer (12 oz, 4.5%)

One glass of wine (4.5 oz, 12%)

One mixed drink (containing 1.5 oz, 80 proof)

The total amount of ethanol consumed, not the type of beverage, is important.

Fermentation

A biological process in which sugars such as glucose, fructose, and sucrose are converted into cellular energy—this conversion produces ethanol and carbon dioxide. Because yeasts perform this conversion in the absence of oxygen, ethanol fermentation is classified as an anaerobic process.

Distillation

A physical process by which ethanol is separated and purified from a mixture.

Pharmacokinetics of Ethanol = what the body does to the drug.

Absorption: how it gets in

Distribution: where it goes

Metabolism: what happens to it

Elimination: where/how it leaves

ADME

Absorption

Mouth - Esophagus - Stomach - Intestine

Mouth:

Ethanol can be absorbed from the mouth, but very slowly; not significant.

A mouth rinsed with a solution containing ethanol will be alcohol-free in about 10 minutes (MOUTH ALCOHOL).

Stomach:

Ethanol can be absorbed directly from the stomach.

The stomach normally absorbs about 20% of ingested ethanol.

Stomach has thick lining, not really designed for absorption.

Small size of EtOH permits its passage via diffusion.

Intestine:

The upper intestine normally absorbs about 80% of the ingested ethanol.

The lower intestine and lower bowel readily absorb ethanol. Most ethanol is absorbed, however, from the upper GI tract before it reaches the lower intestine.

Skin:

Ethanol has not been demonstrated in the blood as a result of absorption through the skin. If it is absorbed, the rate is lower than the rate of metabolism.

EtOH absorption defense

Absorption rate through the skin < Elimination rate

Factors that affect rate of ethanol absorption:

Presence of food in the stomach - *** **Most Important** ***

- Most foods will delay gastric emptying - ↓ absorption

Exercise - Effects vary; some studies show no effect

- Mild exercise can increase gastric emptying - ↑ absorption
- Strenuous exercise can decrease gastric emptying - ↓ absorption

Excitement or fear - ↓ absorption

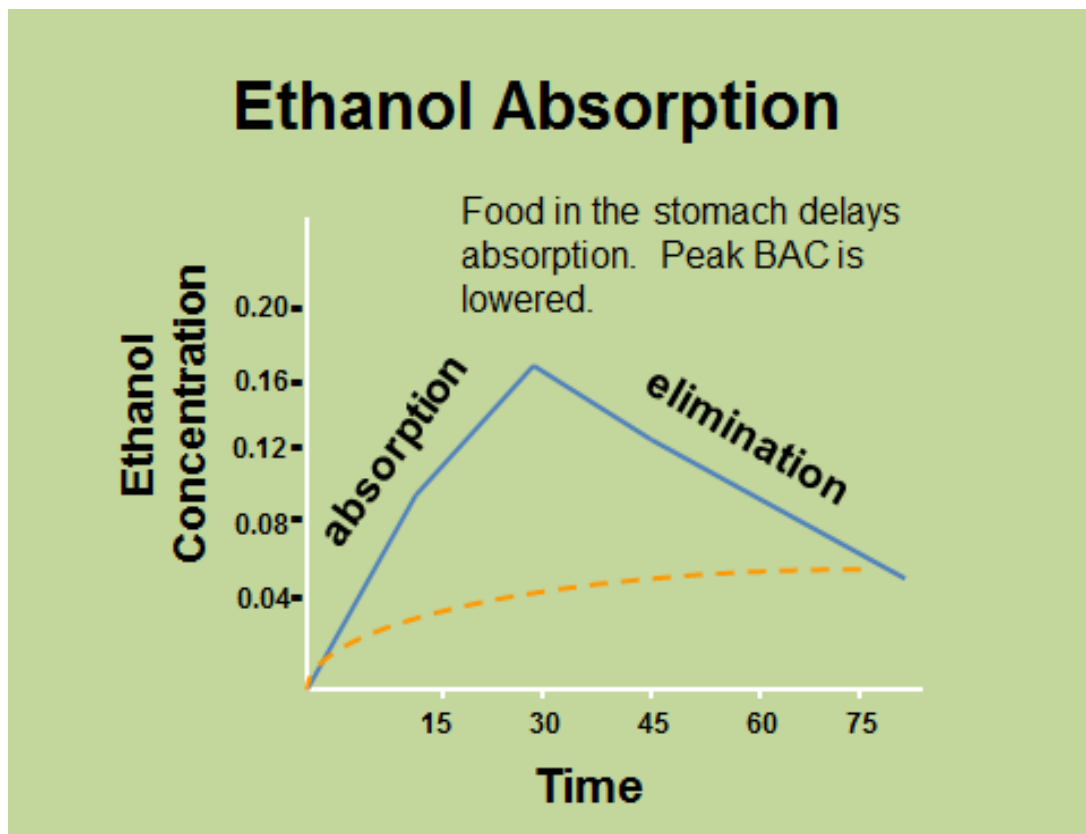
Drugs - Effects vary

Smoking - ↓ absorption

GI pathologies - Effects vary, depending on the pathology

The rate of ethanol absorption depends on the rate of gastric emptying. Increased gastric emptying will increase absorption of ethanol and result in higher peak blood/breath alcohol concentrations. Decreased gastric emptying will decrease absorption of ethanol and result in lower peak blood/breath alcohol concentrations.

Ethanol Absorption



Distribution

Ethanol is soluble in water and is distributed throughout the body based on water content.

Tissues and organs that have the highest concentration of water will have the highest concentration of ethanol.

Widmark's rho or Widmark's r

The available water content of an average male is 68%; of an average female, 55%. **For the same amount of ethanol per body weight, a woman will have a higher concentration of ethanol.**

Ethanol Metabolism



EtOH is metabolized by both the stomach and by the liver; primarily by the liver.

Some EtOH is metabolized by these organs before reaching the general circulation.

The amount of EtOH ingested, therefore, may NOT accurately reflect the calculated BAC.

Effects of Pathological Conditions on Ethanol Metabolism

Fatty Change (steatosis)

Alcoholic Hepatitis

Cirrhosis of the Liver

Diabetes

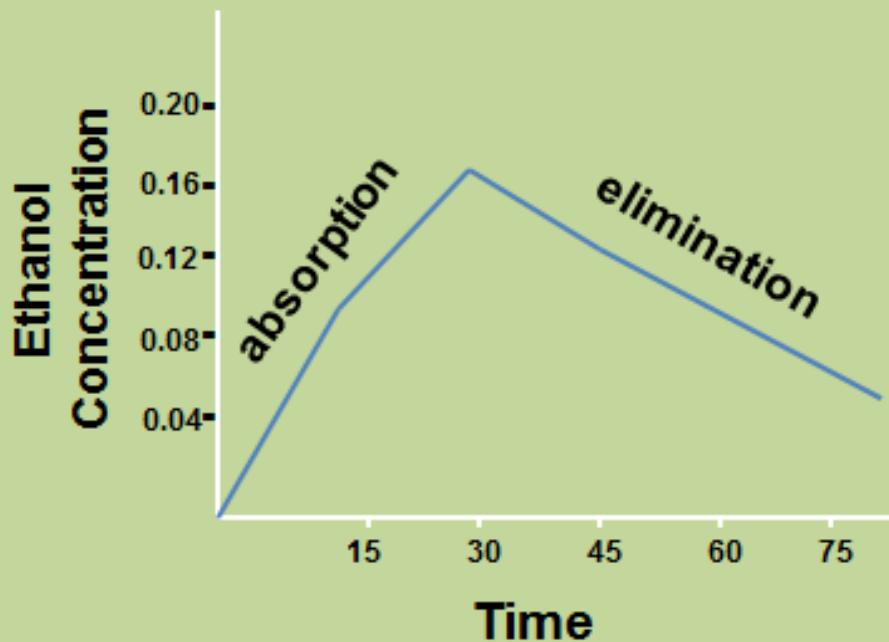
Metabolism and Elimination

Metabolism:

Approximately 90 - 95 % of absorbed ethanol is metabolized by the body prior to elimination, mostly in the liver.

The rest is excreted unchanged in urine, sweat, tears, milk, and breath.

Ethanol Elimination



Elimination of Ethanol

Ethanol disappears from the blood at a constant rate, termed Widmark's β (beta) factor.

Rate varies between individuals.

Average rate - 0.015-0.019 g% per hour

Elimination ranges from 0.010-0.025 g% per hour

Alcoholics and binge drinkers can eliminate at a rate of 0.035 g% per hour

Toxicology of Ethanol

Ethanol is a CNS Depressant.

CNS = Central Nervous System

Depressant = slows function

Even though impairment has been correlated to blood and breath alcohol concentrations, impairment is caused by ethanol in the BRAIN.

Four primary types of impairment

1. Loss of judgment and self-control
2. Impairment of vision and hearing
3. Clumsiness of voluntary muscles
4. Decreased awareness of surroundings

STAGES OF ACUTE ALCOHOLIC INFLUENCE/INTOXICATION

BLOOD-ALCOHOL CONCENTRATION grams/100 mL	STAGE OF ALCOHOLIC INFLUENCE	CLINICAL SIGNS/SYMPTOMS
0.01-0.05	Subclinical	Influence/effects usually not apparent or obvious Behavior nearly normal by ordinary observation Impairment detectable by special tests
0.03-0.12	Euphoria	Mild euphoria, sociability, talkativeness Increased self-confidence; decreased inhibitions Diminished attention, judgment and control Some sensory-motor impairment Slowed information processing Loss of efficiency in critical performance tests
0.09-0.25	Excitement	Emotional instability; loss of critical judgment Impairment of perception, memory and comprehension Decreased sensory response; increased reaction time Reduced visual acuity & peripheral vision; and slow glare recovery Sensory-motor incoordination; impaired balance; slurred speech; vomiting; drowsiness
0.18-0.30	Confusion	Disorientation, mental confusion; vertigo; dysphoria Exaggerated emotional states (fear, rage, grief, etc) Disturbances of vision (diplopia, etc.) and of perception of color, form, motion, dimensions Increased pain threshold Increased muscular incoordination; staggering gait; ataxia Apathy, lethargy
0.25-0.40	Stupor	General inertia; approaching loss of motor functions Markedly decreased response to stimuli Marked muscular incoordination; inability to stand or walk Vomiting; incontinence of urine and feces Impaired consciousness; sleep or stupor
0.35-0.50	Coma	Complete unconsciousness; coma; anesthesia Depressed or abolished reflexes Subnormal temperature Impairment of circulation and respiration Possible death
0.45+	Death	Death from respiratory arrest

KURT M. DUBOWSKI, Ph.D., D.A.B.C.C., D.A.B.F.T.
 The University of Oklahoma
 Department of Medicine
 Oklahoma City, Oklahoma

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Tolerance

With practice, the brain can learn to function better under the influence of ethanol. People vary, therefore, in their abilities to handle ethanol, not just as a result of inherent differences, but as a result of experience.

Tolerance is defined as the ability of an organism to adapt. There are two forms of ethanol tolerance, including:

- (1) Psychological: Increased ability to alter behavior in order to not appear intoxicated.
- (2) Biochemical: Increased rate of degradation of alcohol to inactive metabolites.

Ethanol Involvement in Auto Crashes

<u>% BAC</u>	<u>Enhancement Factor</u>
0.01-0.04	0.9x
0.05-0.09	1.5x
0.10-0.14	5x
0.15-0.19	14x
0.20-0.24	24x

Borkenstein, et al. 1964

Latest reanalysis of Borkenstein and other data reveals:

at .08 %	Chances are 4x
at .15 %	Chances are 25x
at .20 %	Chances are >100x

Breath Ethanol Determination

As the blood passes through the lungs, ethanol will leave and become part of the expired breath.

Ethanol's distribution between blood and breath obeys Henry's Law.

Henry's Law -- in a closed container, at a given temperature and pressure, a material in solution will be in equilibrium with the air in the space above.

Body temp = 37° C (98.6° F)

Breath temp = 34° C (93.2° F)

The ratio between the concentration of ethanol in the blood and that in the breath from the deepest part of the lung (alveolar air) is called the partition coefficient. The accepted ratio is 2100:1 in the United States.

This ratio means that 2100 mL (2.1 Liters) of alveolar air will contain the same amount of ethanol as does 1 mL of blood.

The amount of ethanol in deep (alveolar) lung air is directly related to the amount present in the blood.

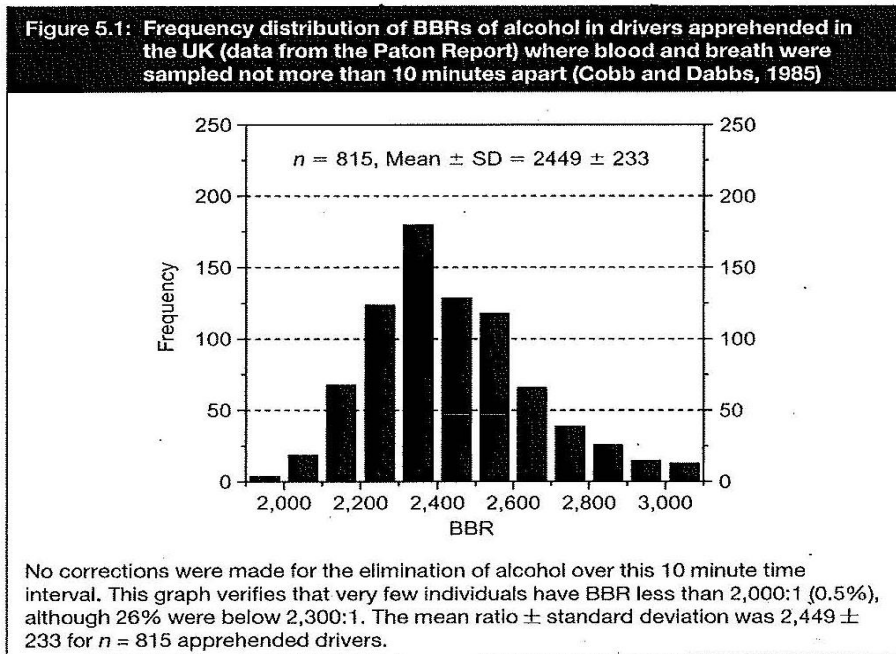
Most of the population has a blood:breath ratio greater than 2100:1

- Breath test instruments in Indiana are calibrated at a ratio of 2100:1
 - For most of the population, Indiana breath test instruments underestimate the BAC
 - A breath test should not produce a higher result than a blood test

**Relationship Between
Blood and Breath
Alcohol Concentrations
BAC = BrAC (2,100)**

Table 5.1: Blood to breath ratios of alcohol when samples were taken within 10 minutes of each other. Data taken from the Paton Report using an Intoximeter 3000 breath-alcohol analyzer (Cobb and Dabbs, 1985)

Apparent BBR	Frequency	Relative frequency	Cumulative frequency
1,900–1,999	4	0.5	0.5
2,000–2,099	19	2.3	2.8
2,100–2,199	68	8.3	11.1
2,200–2,299	124	15.2	26.3
2,300–2,399	180	22.1	48.4
2,400–2,499	129	15.6	64.2
2,500–2,599	118	14.5	78.7
2,600–2,699	66	8.1	86.8
2,700–2,799	39	4.8	91.6
2,800–2,899	26	3.2	94.8
2,900–2,999	15	1.8	96.6
3,000–3,099	13	1.6	98.2
> 3,100	14	1.8	100



Factors Affecting Partition Ratio

Temperature: An increase of 1.8 °F amounts to a 7% increase in the result

Example: An individual with a body temperature of 100.4 °F and an actual BAC of 0.0935% will have a BrAC result of 0.10%

Atmospheric Pressure: No evidence to support variations in partition ratio

Cellular Composition: 2,100 value based on hematocrit (cell volume) of 47%; hematocrit varies between 42 and 52% for males and 37 and 47% for females. A person with a lower hematocrit can have a falsely elevated BAC based on BrBAC—the variability is small and ranges from -2 to +5%

Physical Activity: Exercise can underestimate the BAC based on the BrAC

Breath to blood ratio = the ethanol in 2100 mL (2.1 L) of air is equivalent to the ethanol in 1 mL of blood.

Therefore, in 100 mL of blood there is 210 L of air.

Ethanol reporting units:

Blood – g/100 mL

Breath – g/210 L

Common Challenges to Breath Test Results

Subject vomited or burped:

The argument may be that a subject who had burped or vomited while a high concentration of alcohol existed in the stomach would exhibit falsely elevated breath ethanol levels. **Observe carefully during the 15-minute waiting period. Record your observations, including “nothing unusual.”**

Unable to give a sufficient sample due to pulmonary disorders:

Argument against refusal given for Insufficient Sample or Time Out. Cases in which this would be true are rare.

Subject was not impaired at the time of the incident.

The argument is that the subject had recently consumed an alcoholic beverage and was still absorbing ethanol at the time of the incident. (Rebutting 3-hour presumption. This is usually addressed by a toxicologist.)

Lab Ethanol Measurement

Indiana statutes are based on concentrations in whole blood.

ISDT Lab tests whole blood.

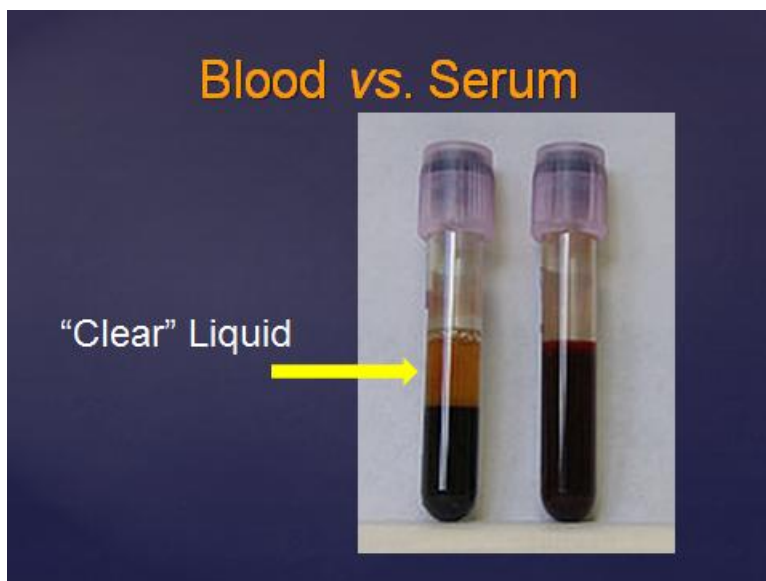
Most hospital labs test serum or plasma, with some exceptions.

Other types of samples can be tested, but have no evidentiary value in Indiana.

Ratio of ethanol in other fluid to that in whole blood:

serum/plasma	1: 1.04- 1.26
saliva	1: 1.10
urine	variable

Blood (impairment) vs. urine (use)



EVIDENCE KITS

- All supplies included
 - Blood Tubes
 - *Urine Bottle*
 - Requisition
 - COC
 - Labels
 - Enclosures
 - Directions
- Pick-up at ISDT
- Ship by FedEx
- Email: toxkits@isdt.in.gov



Security

- Limited lab access
- Convenient and secured submission of evidence
- Easy pick-up of evidence kits
- Located within secure building and only accessible during normal operating hours



The Kit



Expiration Date




Evidence Documentation

ISOT Case Number: _____
 Accessed By: _____
 Accessing Date: _____



Indiana State Department of Technology
 Evidence Description Form

ENCLOSURES			SPECIMENS																																																																						
Container	Sealed	Initialed	Vol	Color	Size (mL)	Type	Approx Vol (mL)	Exp.	Name	Date	Time	Int (off)	Int (off)	OTHER																																																											
PRIMARY																																																																									
ISOT Invoiced Kit	Y	N	Y	N	Y	N																																																																			
Evidence Envelope	Y	N	Y	N	Y	N																																																																			
Other	Y	N	Y	N	Y	N																																																																			
(Describe other)																																																																									
SECONDARY																																																																									
Plastic Bag Over StyroCard	Y	N	Y	N	Y	N																																																																			
Plastic Bag Over StyroCard & Urine Container	Y	N	Y	N	Y	N																																																																			
Other	Y	N	Y	N	Y	N																																																																			
(Describe other)																																																																									
			<table border="0"> <tr> <td><input type="checkbox"/></td> <td>Empty (urine)</td> <td>Not Included</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td>See Secondary Enclosure</td> <td>Sealed</td> <td>Y</td> <td>N</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td>Plastic Bag Over Container</td> <td>Initialed</td> <td>Y</td> <td>N</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td>Other</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>											<input type="checkbox"/>	Empty (urine)	Not Included													<input type="checkbox"/>	See Secondary Enclosure	Sealed	Y	N											<input type="checkbox"/>	Plastic Bag Over Container	Initialed	Y	N											<input type="checkbox"/>	Other													
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			Additional Information:																																																																						

ISOTF-EVD Rev. 1, Effective 03/13/13

Blood Specimen Preservation

Sodium Fluoride = Preservative

Potassium Oxalate = Anticoagulant

Temperature --- Refrigeration for extended storage

ISDT Testing Policy

All positive screening results will be confirmed

No need to request confirmation testing

All testing requested will be performed

Exception: Urine ethanol and drug analysis

Value of urine testing at prosecutor's request

Exceptions – Outsourced to NMS

Sexual assault

Child endangerment

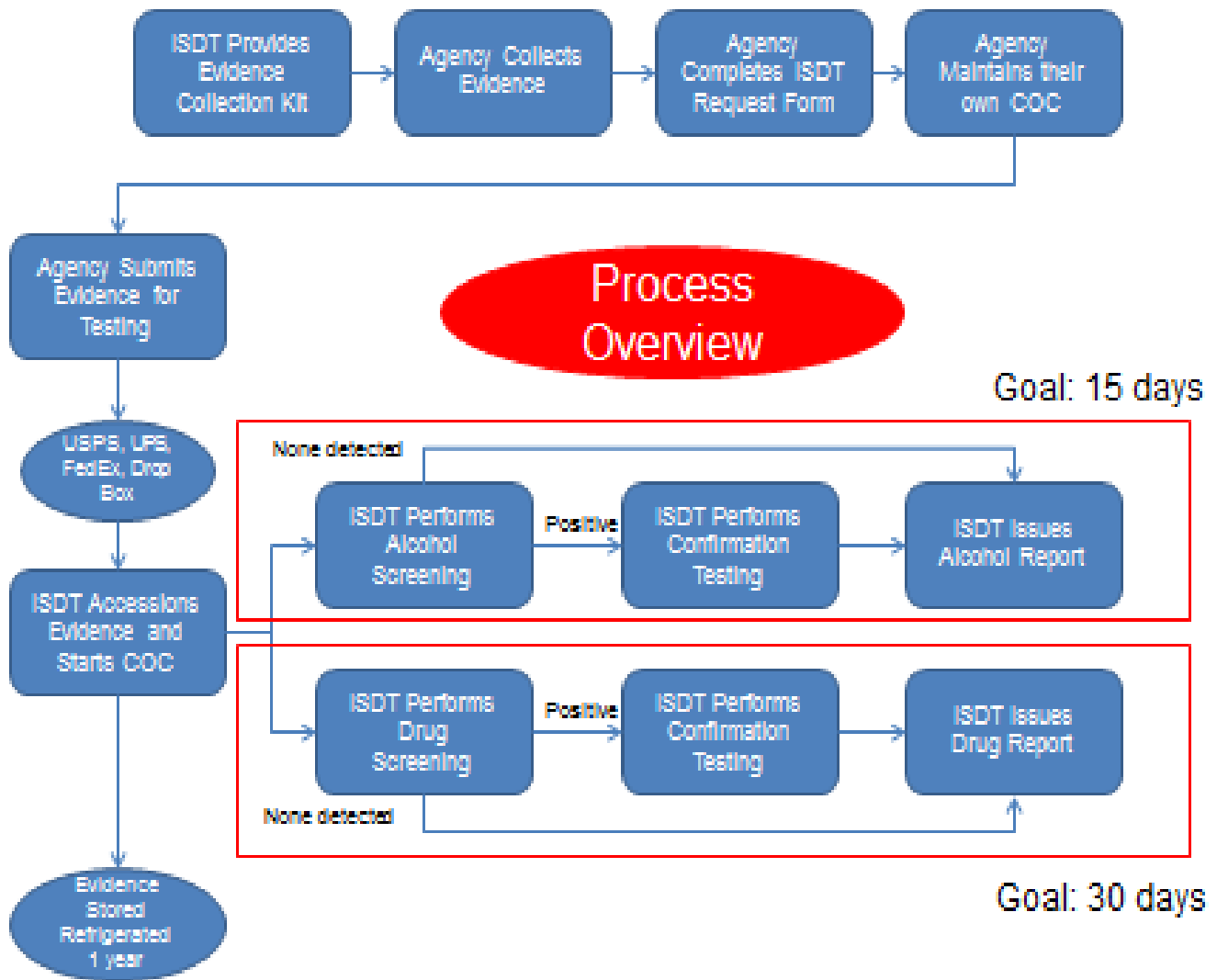
Violent Crime/Homicide

Juvenile

Target turnaround time for alcohol – 15 days

Target turnaround time for drug testing – 30 days

iResults-web-based results



Toxicology Testing Request Form

Simplified Single Page Format

INDIANA STATE DEPARTMENT OF TOXICOLOGY
TOXICOLOGY ANALYSIS REQUEST FORM

ISDT USE ONLY

(1) SUBJECT INFORMATION

Name of Subject (Last, First, Middle Initial) _____	Date of Birth _____	Height/Weight _____	<input type="checkbox"/> Male <input type="checkbox"/> Female
---	---------------------	---------------------	--

(2) SUBMITTING AGENCY

Title (SGT., Deputy, etc.) _____	Printed Officer/Coroner Name _____	Agency _____
Agency Address _____		Agency Case # _____
City/Zip _____		Electronic Mail (email) Address _____
Telephone _____	Fax _____	County of Occurrence _____

(3) TESTS REQUESTED

Alcohol <input type="checkbox"/> Blood <input type="checkbox"/>	<small>Note: Refer to www.IN.gov/ISDT for a listing of drugs included in our blood drug panel Other drug testing can be completed at the expense of the requesting agency</small>
Drugs <input type="checkbox"/> Blood <input type="checkbox"/> Other _____	
Specify the name of drug(s) involved in your case: _____	

(4) TYPE OF CASE

Traffic: <input type="checkbox"/> Fatal Accident <input type="checkbox"/> PI Accident <input type="checkbox"/> PD Accident <input type="checkbox"/> OWI <input type="checkbox"/> Homicide	Involvement: <input type="checkbox"/> Driver <input type="checkbox"/> Passenger <input type="checkbox"/> Pedestrian <input type="checkbox"/> Juvenile <input type="checkbox"/> Accused <input type="checkbox"/> Victim <input type="checkbox"/> Juvenile	Subject: <input type="checkbox"/> Injured <input type="checkbox"/> Not Injured <input type="checkbox"/> Deceased DRE EVALUATION PERFORMED <input type="checkbox"/> YES <input type="checkbox"/> NO
Non-Traffic: <input type="checkbox"/> Suicide <input type="checkbox"/> Sexual Assault <input type="checkbox"/> Other (Specify) _____		

(5) EVIDENCE COLLECTION AND CHAIN OF CUSTODY INFORMATION

Specimen Collected By: _____ <small>(Print Name)</small>		Collection Facility: _____ <small>(Print Facility Name)</small>	
Date Collected: _____	Time Collected: _____	am/pm Witness: _____	
Received From _____	Released To _____	Purpose _____	Date _____ Time (am/pm) _____
Received From _____	Released To _____	Purpose _____	Date _____ Time (am/pm) _____
Received From _____	Released To _____	Purpose _____	Date _____ Time (am/pm) _____

**AGREEMENT FOR DESTRUCTION OF SPECIMENS:
THE SUBMITTING AGENCY AGREES THAT THE SPECIMENS SUBMITTED WILL BE
DESTROYED BY ISDT ONE YEAR AFTER ANALYSIS IS COMPLETED.**

550 W. 16th Street Indianapolis, IN 46202 (T) 317-921-5000 (F) 317-278-2836

No panel choices

No need to request confirmation testing

Information collected primarily for statistical purposes and prioritization

Chain of Custody Information

Reliable Results

Screening Test – aliquot from original specimen

- 1 day for specimen preparation and analysis
- 1 day for analyst to process and review results
- 1 day for peer technical review of results

Confirmation Test – 2 different aliquots from original specimen

- 1 day for specimen preparation and analysis
- 1 day for analyst to process and review results
- 1 day for peer technical review of results
- 1 day to prepare report
- 1 day for peer administrative review

All 3 results must agree within 10%

QC samples run in the beginning, end, and after every 10-12 evidentiary samples

Calibration run for each batch

Proficiency samples tested (College of American Pathologists – CAP)

**None Detected
alcohol result**

Michigan State Department of Toxicology
TOXICOLOGY REPORT - Alcohol Analysis

Case No. 19-4098
Date of Report: October 10, 2019
Specimen Name: [Redacted]
Agency Code: 11012001
County: None

Received: 10/09/19 11:04:00 AM
Specimen Received:
Collection By: LSPS
Customer Submission #: 1027107
Specimen # 1 of 2
Specimen # 2 of 2

None Detected

de Joan

Michigan State Department of Toxicology
3000 10th St., Lansing, MI 48906
Phone No. 517-375-6000 Fax No. 517-375-6000

Page 1 of 1

INDIANA STATE DEPARTMENT OF TOXICOLOGY
TOXICOLOGY REPORT - Alcohol Analysis

ISDT CASE: 11-0215

Date of Report: December 16, 2011

Subject Name: [Redacted]

Agency Case: 0011-1452

County: Delaware

Received: 12/15/11 10:16 AM

Delivered By: LAPS

Specimen(s) Received:
Evidential Submission # ISDT 147
Sent # 1 A, Blood (at)
Sent # 1 B, Blood (at)

Alcohol Analysis Results

Sample	Matrix	Concentration	Method	Result
Blood	Whole	0.22 g/dl	GC/MS	0.020% W/V BAC

Reviewed by: *[Signature]*

Page 1 of 1

Annotations:

- One report for alcohols
- ALL positive results confirmed
- Result
- Admin Review (do not subpoena this person)
- Each analyst listed (subpoena this person)

None Detected Drug Report

INDIANA STATE DEPARTMENT OF TOXICOLOGY
TOXICOLOGY REPORT - Drug Analysis

ISDT CASE: 11-0226

Date of Report: October 12, 2011

Subject Name: JON DODD

Agency Case: 00000000

County: Bartholomew

Received: 10/10/11 11:15 AM

Delivered By: DAKR 9013

Specimen(s) Received:
Evidential Submission # ISDT 147
Sent # 1 A, Blood (at)
Sent # 1 B, Blood (at)

None Detected

Reviewed by:

DRUGS INCLUDED IN TESTING:

- Amphetamine
- Bupropion
- Carbamazepine
- Cocaine
- Codeine
- Ecstasy
- Heroin
- Marijuana
- Morphine
- Oxycodone
- Quaalude
- Valium
- Xanax

Page 1 of 1


INDIANA STATE DEPARTMENT OF TOXICOLOGY
TOXICOLOGY REPORT - Drug Analysis
SENT
NOV 21 2011

TEST CASE: 11-4343
 Officer Danielle Rosen
 Hamilton County Sheriff
 18100 Cumberland Rd
 Indianapolis, IN 46200

Date of Report: November 21, 2011
 Subject Name: [REDACTED]
 Agency Code: 06011-0304
 County: Hamilton

Received: 10/15/2011 10:00:17PM
 Delivered By: JPOF/BCR

Specimen(s) Received:
 Evidence Submission: 1-1027-407
 Item # 1.A. Street use
 Item # 1.B. Street use

Drug Analysis Results

Screening/Specimen	Analyte	Concentration	Method	Analyte
Blood	Screening			
	COCAINE	13 ug/mL	GC/MS	ANCOE SURTA
Urine	Screening			
	COCAINE	1.2 ug/mL	GC/MS	FE JCHEN
	MARIJUANA	3.2 ug/mL	GC/MS	FE JCHEN
	Opoids			
Urine	Screening			
	Hydrocodone	82 ug/mL	GC/MS	MESAN BOOMELL
Oxycodone	14 ug/mL	GC/MS	MESAN BOOMELL	

If requested additional testing results will follow.
 Please see back attached packet with the laboratory instructions.
 Specimens will be destroyed 90 days after the only report unless notified in writing to retain the specimens for a longer period of time.

540 W. 16th St. Indianapolis, IN 46202
 Phone No. 317-274-7025 FAX No. 317-275-2888

Page 1 of 2

One report for drugs
ALL positive results confirmed

If an NMS report is included it will be noted at the bottom of the report

2nd Page of Drug Report


INDIANA STATE DEPARTMENT OF TOXICOLOGY
TOXICOLOGY REPORT - Drug Analysis
SENT
NOV 21 2011

TEST CASE: 11-4343
 Subject Name: [REDACTED]

Received By: *[Signature]*

DRUGS INCLUDED IN TESTING:

- Amphetamines
- Benzodiazepines
- Barbiturates
- Cocaine
- Cocaine
- Ecstasy
- Fentanyl
- Marijuana
- Marijuana
- Opoids
- Oxycodone
- Quaalude

If requested additional testing results will follow.
 Please see back attached packet with the laboratory instructions.
 Specimens will be destroyed 90 days after the only report unless notified in writing to retain the specimens for a longer period of time.

540 W. 16th St. Indianapolis, IN 46202
 Phone No. 317-274-7025 FAX No. 317-275-2888

Page 2 of 2



ISDT CASE CHAIN OF CUSTODY REPORT

ISDT Case #: [REDACTED]

ISDT Specimen Chain of Custody

ITEM # / DESCRIPTION: OTHER ID #:		I	Biohazard Bag		
Date/Time of Transfer	From	PK	To	PK	Purpose
9/26/2011 5:14:30PM	ORCP BOX	<input type="checkbox"/>	Meyers, Erica	<input checked="" type="checkbox"/>	Receiving
9/26/2011 5:15:33PM	Meyers, Erica	<input checked="" type="checkbox"/>	Walk-In	<input type="checkbox"/>	Storage
10/3/2011 11:11:09AM	Walk-In	<input type="checkbox"/>	Colbertson, Grace	<input checked="" type="checkbox"/>	Accounting
10/3/2011 12:57:03PM	Colbertson, Grace	<input checked="" type="checkbox"/>	Trash	<input type="checkbox"/>	Trash

ITEM # / DESCRIPTION: OTHER ID #:		I-A	Blood Tube		
Date/Time of Transfer	From	PK	To	PK	Purpose
9/26/2011 5:14:30PM	ORCP BOX	<input type="checkbox"/>	Meyers, Erica	<input checked="" type="checkbox"/>	Receiving
9/26/2011 5:15:33PM	Meyers, Erica	<input checked="" type="checkbox"/>	Walk-In	<input type="checkbox"/>	Storage
10/3/2011 11:11:09AM	Walk-In	<input type="checkbox"/>	Colbertson, Grace	<input checked="" type="checkbox"/>	Accounting
10/3/2011 12:52:11PM	Colbertson, Grace	<input checked="" type="checkbox"/>	Walk-In	<input type="checkbox"/>	Storage
10/3/2011 8:25:03AM	Walk-In	<input type="checkbox"/>	Keller, Karina	<input checked="" type="checkbox"/>	Transfer
10/3/2011 8:25:05AM	Keller, Karina	<input checked="" type="checkbox"/>	Sample Prep Area	<input type="checkbox"/>	ELISA WIP
10/3/2011 11:23:50AM	Sample Prep Area	<input type="checkbox"/>	Keller, Karina	<input checked="" type="checkbox"/>	Transfer
10/3/2011 11:23:52AM	Keller, Karina	<input checked="" type="checkbox"/>	Walk-In	<input type="checkbox"/>	Storage
10/3/2011 10:48:56AM	Walk-In	<input type="checkbox"/>	Meyers, Erica	<input checked="" type="checkbox"/>	Prep sample to transfer to:
10/3/2011 10:49:00AM	Meyers, Erica	<input checked="" type="checkbox"/>	PCDC	<input type="checkbox"/>	Transfer

ITEM # / DESCRIPTION: OTHER ID #:		I-B	Blood Tube		
Date/Time of Transfer	From	PK	To	PK	Purpose
9/26/2011 5:14:30PM	ORCP BOX	<input type="checkbox"/>	Meyers, Erica	<input checked="" type="checkbox"/>	Receiving
9/26/2011 5:15:33PM	Meyers, Erica	<input checked="" type="checkbox"/>	Walk-In	<input type="checkbox"/>	Storage
10/3/2011 11:11:09AM	Walk-In	<input type="checkbox"/>	Colbertson, Grace	<input checked="" type="checkbox"/>	Accounting
10/3/2011 12:52:11PM	Colbertson, Grace	<input checked="" type="checkbox"/>	Walk-In	<input type="checkbox"/>	Storage
10/3/2011 10:57:33AM	Walk-In	<input type="checkbox"/>	Meyers, Erica	<input checked="" type="checkbox"/>	Prep sample to transfer to:
10/3/2011 10:57:37AM	Meyers, Erica	<input checked="" type="checkbox"/>	PCDC	<input type="checkbox"/>	Transfer

NOTE: [X] indicates a secured transaction (a PIN was entered)

Indiana State Department of Toxicology Testing Summary

Drug	Trade/Alternate Name	Screening Cutoff		Screening Technique	Confirmation Cutoff		Confirmation Technique
		Blood	Urine		Blood	Urine	
<i>Amphetamines</i>							
Amphetamine	Adderall	20 ng/mL	300 ng/mL	ELISA	10 ng/mL	50 ng/mL	GC/MS
MDMA (Ecstasy)	Ecstasy						
Methamphetamine	Methamphetamine						
Pseudoephedrine	Sudafed						
<i>Barbiturates</i>							
Amobarbital	Amobarbital	500 ng/mL	1000 ng/mL	ELISA	500 ng/mL	500 ng/mL	GC/MS
Butabarbital	Butabarbital						
Butalbital	Fioricet, Fiorinal						
Pentobarbital	Nembutal						
Phenobarbital	Luminal						
Secobarbital	Secobarbital						
<i>Benzodiazepines</i>							
α-hydroxyalprazolam	Alprazolam metabolite	50 ng/mL	100 ng/mL	ELISA	10 ng/mL	50 ng/mL	LC/MS/MS
7-aminoclonazepam	Clonazepam metabolite						
Alprazolam	Xanax						
Clonazepam	Klonopin						
Desalkylflurazepam	Flurazepam metabolite						
Lorazepam	Ativan				50 ng/mL		
Midazolam	Versed						
Diazepam	Valium						
Nordiazepam	Diazepam metabolite						
Oxazepam	Serax						
Temazepam	Restoril						
<i>Cannabinoids</i>							
THC	Marijuana	10 ng/mL	20 ng/mL	ELISA	2 ng/mL THC 5 ng/mL THC-COOH	10 ng/mL	GC/MS
THC-COOH	Marijuana metabolite						
<i>Carisoprodol/Meprobamate</i>							
Carisoprodol	Soma	500 ng/mL	500 ng/mL	ELISA	2000 ng/mL	2000 ng/mL	GC/MS
Meprobamate	Carisoprodol metabolite						
<i>Cocaine</i>							
Cocaine	Cocaine	50 ng/mL	300 ng/mL	ELISA	10 ng/mL	50 ng/mL	GC/MS
Benzoylcegonine	Cocaine metabolite						
<i>Fentanyl</i>							
Fentanyl	Duragesic	1.0 ng/mL	1.0 ng/mL	ELISA	1.0 ng/mL	1.0 ng/mL	LC/MS/MS
Norfentanyl	Fentanyl metabolite						
<i>Methadone</i>							
Methadone	Methadone	50 ng/mL	300 ng/mL	ELISA	10 ng/mL	50 ng/mL	GC/MS
<i>Opiates</i>							
Codeine	Tylenol #3	20 ng/mL	200 ng/mL	ELISA	10 ng/mL	N/A	GC/MS
Hydrocodone	Vicodin, Lortab						
Hydromorphone	Dilaudid						
Morphine	MS Contin						
6-MAM	Heroin metabolite						
Oxycodone	Percocet, Oxycontin						
Oxymorphone	Opana						
<i>Zolpidem</i>							
Zolpidem	Ambien	10 ng/mL	50 ng/mL	ELISA	10 ng/mL	50 ng/mL	GC/MS
<i>Alcohols</i>							
Acetone	Acetone	0.01 g%	0.01 g%	HS-GC	0.01 g%	0.01 g%	HS-GC *The lower of the two confirmations will be used to report.
Ethanol	Beer, Wine, Spirits						
Isopropanol	Rubbing Alcohol						
Methanol	Wood Alcohol						

ELISA = Enzyme-Linked Immuno-sorbent Assay

GC/MS = Gas Chromatography / Mass Spectrometry

HS-GC = Headspace – Gas Chromatography

LC/MS/MS = Liquid Chromatography tandem Mass Spectrometry

Cutoff = Lowest concentration of drug that can be reported

Trade / Alternate Name = Not meant to be comprehensive / inclusive; only meant to provide an example of alternate drug name

SPECIMEN GUIDANCE:

Blood: 10 mL minimum collected into vacutainer tube containing anticoagulant (heparin or EDTA) and preservative (NaF).

(Gray top preferred)

Urine: 10 mL minimum collected into sterile plastic container

Other: consult ISDT Toxicologist

NOTE: All positive screening results will be confirmed and quantified.

Testing Aspects of Drugs for OVWI

Type of sample

Timing of sample

Testing of sample

Interpretation of results

Types of Samples

Blood

Can show impairment

Requires person trained to draw blood

Shorter detection time window

Urine

Can show use, but not impairment

Can be taken by anyone

Most drugs detected over a longer time

Timing of Sample

For most drugs

Detectable in blood for 4 to 5 half-lives

Present in urine 2-30 days – depending on drug

Some exceptions

Inhalants

Not in urine at all

Present in blood for about an hour after use

Cannabinoids (Marijuana)

In urine for up to approximately 30 days (depends on prior use)

Testing of Sample

Screen test

Shows presence/absence of drug class

Needs confirmation for use in court

Confirmation test

Separate test for each class

Shows concentrations of individual drugs

Needs interpretation

Interpretation: Confirmation Results

Substances found

Active drugs/metabolites

Inactive metabolites

Concentrations

Can show possible level of impairment (Blood)

Can show approximate time of use (Blood and Urine)

Can determine approximate dosage (Blood)

CNS Depressants

Alcohol (ethanol, methanol, isopropanol)

Benzodiazepines – 12+, including

Valium (Diazepam)

Halcion (Triazolam)

Xanax (Alprazolam)

Barbiturates – 5, including

Amytal (amobarbital)

Nembutal (pentobarbital)

Cannabinoids

Delta-9 THC (tetrahydrocannabinol or THC)

Active drug

Detectable in blood for ~6 hrs after use

Stored in fat within the body

Delta-9 Carboxy THC (THC-COOH)

Inactive metabolite

Detectable in blood for ~24 hours after acute use

Detectable in urine for many days

Narcotic Analgesics (Opiates)

Codeine

Morphine

Hydrocodone (Hycodan, Lortab)

Hydromorphone (Dilaudid)

Oxycodone (Oxycontin, Percocet)

Oxymorphone (Numorphan)

Methadone (Dolophine)

Fentanyl

CNS Stimulants

Cocaine and metabolite

Cocaine

Benzoylcegonine (inactive)

Amphetamines

Methamphetamine

MDMA (Ecstasy, XTC)

Amphetamine

Pseudoephedrine

Other Drugs

Carisoprodol (Soma)

Zolpidem

Legal Aspects of Breath Testing for Ethanol

Reasonable Suspicion

Definition of Reasonable Suspicion

When is reasonable suspicion needed?

Recent Indiana cases:

Robinson v. State, 5 N.E.3d 362 (Ind. 2014)

State V. Keck, 4 N.E.3d 1180 (Ind. 2014)

Bowers v. State, 980 N.E.2d 911 (Ind. App. 2011)

Anticipate defense challenges when stopping a suspected impaired driver.

Phoned-in traffic complaints/tips from reliable observer

When can officer rely on tip?

When must behavior be observed by officer?

Recent Indiana case: Hassfurther v. State, 988 N.E.2d 811 (Ind. App. 2013)

Length of detention must be reasonable

Stop for minor traffic violation

Recent Indiana case: Lucas v. State, 15 N.E.3d 96 (Ind. App. 2014)

Implied Consent

A person who operates a vehicle impliedly consents to submit to a chemical test as a condition of operating a vehicle in Indiana.

Chemical test means an analysis of a person's blood, breath, urine, or other bodily substance for the determination of the presence of alcohol, a controlled substance or its metabolite, or a drug or its metabolite.

Implied Consent Advisement

If the person refuses to submit to a chemical test, you **shall** inform the person that refusal will result in the suspension of the person's driving privileges.

Recent Indiana case: State v. Schulze (Ind. App. August 2014)

Miranda Warning

Miranda warning must be given when suspect is in custody AND is being interrogated.

Many times, Miranda warning is given after the suspect fails the breath test.

Once subject is in custody, officer should not question subject about vehicle operation, impairment, crash details, etc., until *Miranda* warning is given.

In custody

Gray area – Not clearly delineated

Handcuffing suspect is placing “in custody.”

Putting suspect in police car may constitute “in custody.”

Traffic stop and asking subject to get out of car, in and of itself, is not “in custody.”

Interrogation

Neither Portable Breath Tests (PBT) nor Field Sobriety Tests (FST) are statements. They alone, therefore, do not constitute an interrogation.

Accordingly, if you do a PBT or a FST without interrogating suspect, you are not required to give the *Miranda* warning.

Similarly, breath and blood samples do not require *Miranda* warning.

Your Testimony

Preparation for testimony **begins at the time of the incident**

Recognize and document significant evidence

Compile complete and accurate notes and reports

Preparation for testimony **continues prior to trial**

Review case file

Discuss case with other officers who witnessed or assisted

Mentally organize elements of offense and supporting evidence

Revisit the scene if appropriate

Discuss case with assigned prosecutor

During Testimony

Provide specific descriptive details

Avoid vague language

Testimony regarding the breath test

Describe administering the Approved Method

1. Observation time (use same timepiece throughout)
2. Instructions given
3. Subject cooperation or lack of cooperation
4. How results are expressed

Testimony about training

Dates of your certification

Verify dates of certification with your identification card covering the period in question.

Keep current identification card with you and save all old/expired cards.

Topics taught in Training Course for Breath Test Operator Certification

This course has covered the areas required by 260 IAC 2-2-2:

- (1) The pharmacology and toxicology of ethanol
- (2) The legal aspects of breath testing for ethanol
- (3) The theory, operation, and care of breath test equipment
- (4) The use of a breath test instrument using known ethanol-water or ethanol-gas standards

Questions officers lack expertise to answer in testimony

Certification process

How instruments are certified

When instrument was last certified

Any questions regarding instrument certification materials or process

Expert testimony regarding pharmacology/toxicology of ethanol

Effect of ethanol

How much ethanol results in impairment

Mechanics of instrument operation and maintenance

How the instrument operates

How/when maintenance is done

Any other questions relating to repair and/or maintenance of instrument

“I don’t know.”

Do not volunteer more information than necessary to answer questions asked.

Focus on answering questions succinctly

Other Issues/Relevant Statutes

IC 9-30-5 and prima facie evidence of intoxication

1. 0.08 g. of ethanol per 100 ml. of blood or 210 liters of breath
2. 0.15 g. of ethanol per 100 ml. of blood or 210 liters of breath

IC 9-30-7 – implied consent for accident involving serious injury or death

“A law enforcement officer shall offer a portable breath test or chemical test to any person who the officer has reason to believe operated a vehicle that was involved in a fatal accident or an accident involving serious bodily injury.” (IC 9-30-7-3)

Blood search warrants

Metzger v. State, 6 N.E.3d 485 (Ind. App. 2014)

Missouri v. McNeely (2013 U.S. Supreme Court decision)

IC 34-47-3-1 Disobedience of process or order

IC 9-30-6-6(a) Subpoenas for hospital blood samples/test results:

If medical personnel take a sample during the course of normal treatment, the sample or test results shall be provided to an officer who requests them as part of a criminal investigation **even if the patient does not consent.**

Instrumentation and Approved Method for Breath Analysis

Intox EC/IR II

NHTSA-approved as an evidentiary breath alcohol instrument

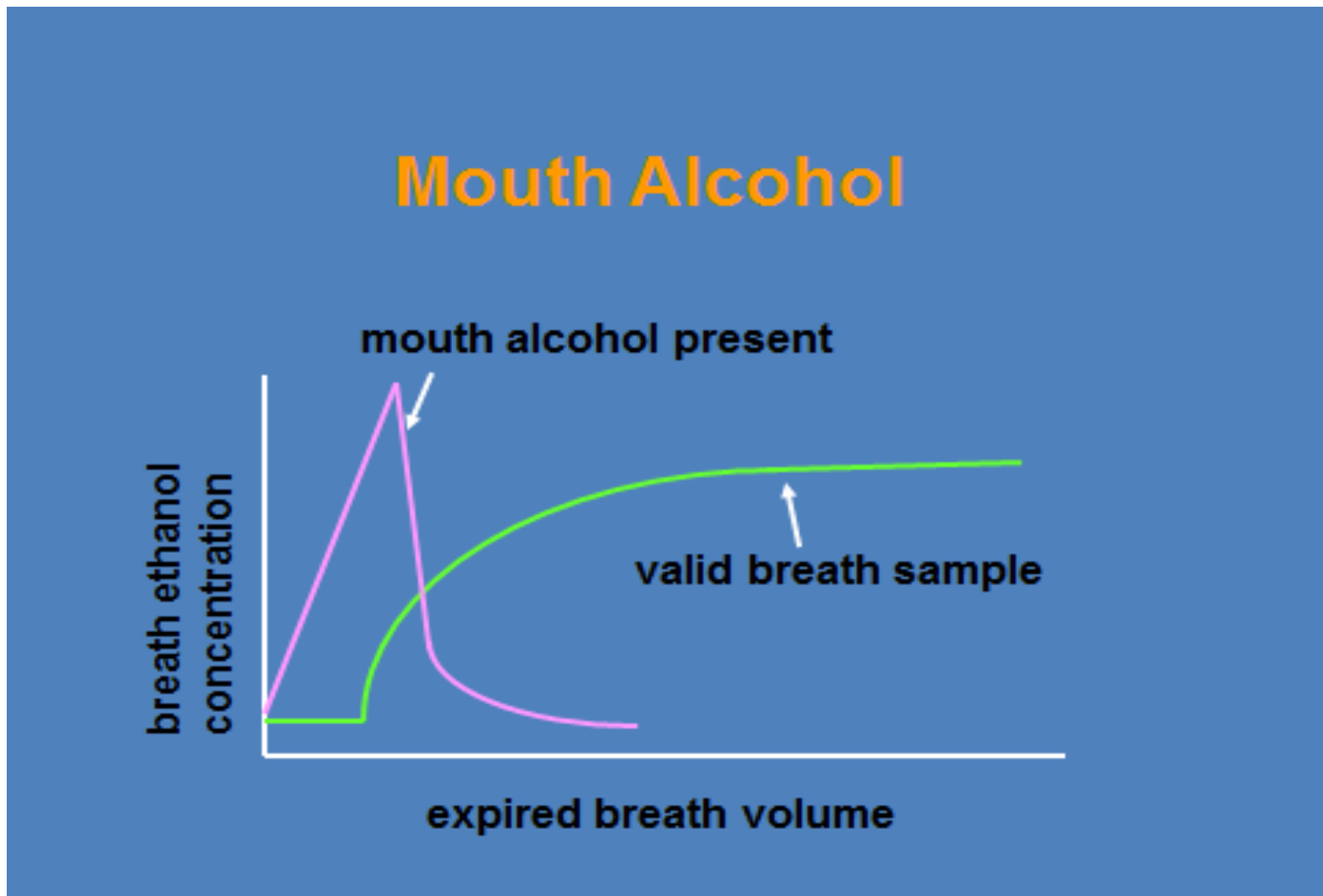
Theory of Operation

- EC = Electrochemical (fuel cell)
- IR = Infrared

- Intox EC/IR II uses fuel cell technology to measure amount of ethanol in a sample
- Intox EC/IR II uses infrared technology to detect mouth alcohol

The infrared system tracks the ethanol concentration in the sample in near real time to detect the presence of mouth alcohol, but does not produce a BAC measurement

- If mouth alcohol is present, the IR system will detect that there is a higher ethanol concentration in the subject's mouth air than in the subject's deep lung air



Intox EC/IR II

When a breath sample containing ethanol is introduced into the fuel cell sample port, an electrochemical reaction occurs.

Measurement of the electrical current produced indicates the amount of ethanol consumed by the fuel cell.

The fuel cell is specific to alcohol, but not specific to ethanol.

- Intox EC/IR II detects methanol and isopropanol (alcohols other than ethanol) as interferences.

Acetone is not a fuel for the fuel cell, so the fuel cell does not react to it.

Accuracy Checks

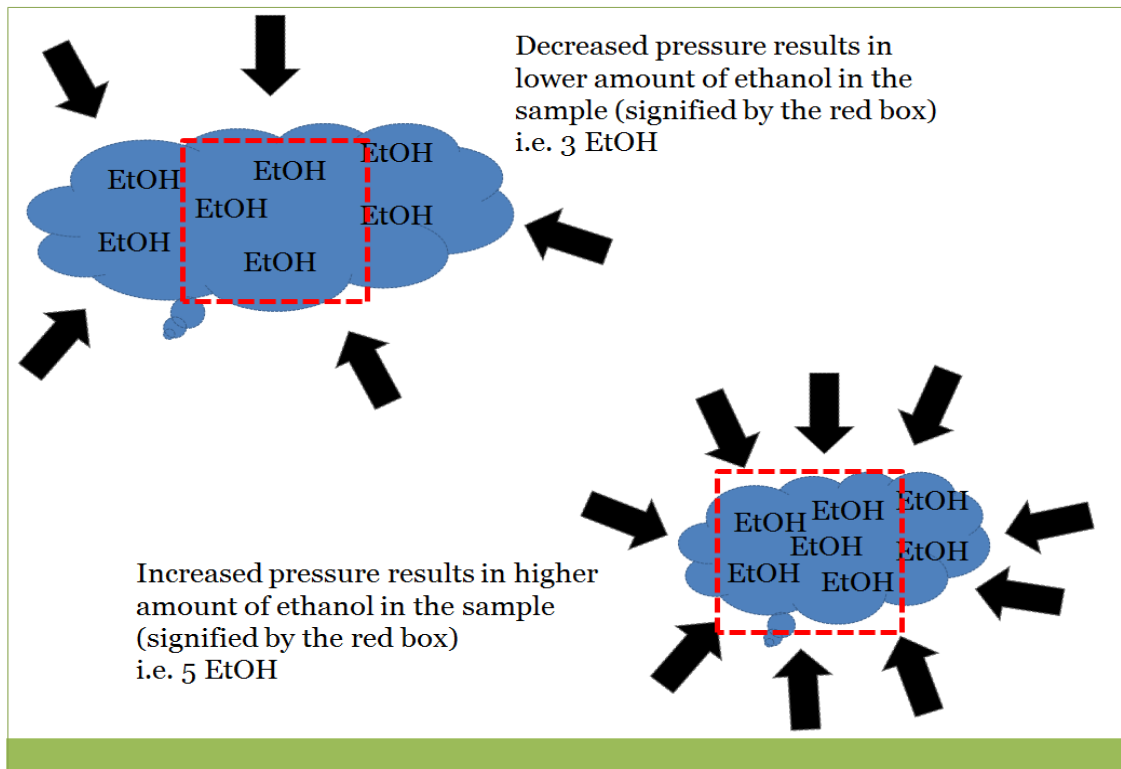
The Intox EC/IR II performs a calibration (accuracy) check before and after each breath test by testing a sample from an internal dry gas tank containing a certified value of ethanol and nitrogen.

Instrument will disable if result of each calibration check is not within 0.005 or 5%, whichever is greater, of the target value*.

*Target value = the certified value of the ethanol and nitrogen standard (dry gas in the instrument's internal tank) adjusted for the ambient barometric pressure

- Ethanol molecules in dry gas are affected by ambient barometric pressure: high pressure keeps the molecules closer together, resulting in a higher ethanol measurement; low pressure allows the molecules to spread, resulting in a lower ethanol measurement

*****The target value is listed on the instrument report as "Dry Gas Target."**



The Intox EC/IR II adjusts for this effect by measuring the ambient barometric pressure to determine a target value for itself when it measures the ethanol in its internal dry gas tank

Care of the Intox EC/IR II

Instrument should be left turned on 24/7

- Any person can turn instrument on or off***

***But this should only be done if absolutely necessary

Only persons authorized by director of ISDT may make changes that affect instrument calibration

Instrument should not be operated in environments heavy with alcohol vapor, cigarette smoke, high levels of radio frequencies, or magnetic interference.

- Intox EC/IR II is designed so that none of these environmental conditions will affect test results
- Prolonged exposure to these conditions may shorten the life of the fuel cell

Instrument displays a status message indicating the condition when:

- it fails a calibration check
 - it malfunctions
 - the dry gas tank is low
- If this occurs, notify ISDT

Other Intox EC/IR II status messages

Maximum Flow Exceeded

Potential cause: The subject blew with too much force.

Check Ambient Conditions

Potential cause: The breath tube is too close to the subject. The instrument may be detecting alcohol in the ambient air from the subject exhaling alcohol near the breath tube.

Instrument Service

To request service of an instrument, complete and email the service request form on the State Department of Toxicology website or call ISDT at 317-921-5000.

Provide the following information:

Officer's name (or name of contact person at instrument location)

Instrument location

Instrument serial number

Description of any issues and status messages displayed or printed on instrument reports.

An inspector will be notified as soon as possible and will contact the instrument location.

Approved method for Intox EC/IR II

The **approved method** that **shall be followed** in making an analysis of breath for ethanol using the Intox EC/IR II breath test instrument has twelve steps. (260 IAC 2-4-2)

***These are rules, not guidelines.**


- STEP ONE: Person to be tested must:
 - have had nothing to eat or drink,
 - not have put any foreign substance into mouth or respiratory tract, and
 - not smokewithin 15 minutes before time first breath sample is taken or at any time from first breath sample until after final breath sample
 - Fifteen-minute period can begin before subject arrives at testing site

One of the common challenges to breath test results is that the subject burped or vomited prior to the test, causing an elevated breath ethanol level. Observe the subject during the 15-minute waiting period, and record your observations, including “nothing unusual.” If the subject burps or vomits during the 15-minute period, begin a new 15-minute period, or take the subject for a blood test.

- STEP TWO: Verify that instrument is in ready mode, as indicated by instrument display
 - Check to see that the printer is online and has paper.
- STEP THREE: Press “Enter” key to start subject test


**Approved Method
for Intox EC/IR II**

- STEP TWO: Verify that instrument is in ready mode, as indicated by instrument display



The image shows a close-up of the Intoximetry instrument's display. The display is a small screen with a black background and blue text. The text reads "Instrument Ready" on the first line and "Press ENTER to Start" on the second line. Above the screen, the word "Intoximeters" is printed in a small font. To the left of the screen, the "Intox EC/IR II" logo is visible.

- STEP THREE: Press “Enter” key to start subject test



The image shows a close-up of the Intoximetry instrument's display. The display is a small screen with a black background and blue text. The text reads "Press ENTER to Start" on the first line and "Subject Test" on the second line. Above the screen, the word "Intoximeters" is printed in a small font. To the left of the screen, the "Intox EC/IR II" logo is visible.

- STEP FOUR: Insert identification card into barcode reader, or press “Enter” key and use keyboard to enter breath test operator information requested by instrument display

All of the information scanned from the operator ID card may be edited by using the instrument keyboard. Any text that is highlighted on the instrument display may be edited; e.g., a last name change or a department change.



- STEP FIVE: When requested by instrument display, enter beginning date and time of the 15-minute period

Format for date is MM/DD/YYYY

Format for time is HH:MM (military time)

Instrument will calculate 15 minutes from the beginning time entered by the operator. If the beginning time entered was not ≥ 15 minutes ago, instrument will delay start of test sequence until 15 minutes have elapsed from the beginning time entered. Examples: If beginning time entered was 10 minutes ago, instrument will wait for 5 minutes before starting the test sequence. If beginning time entered was 30 minutes ago, instrument will begin the test sequence.

Approved Method for Intox EC/IR II

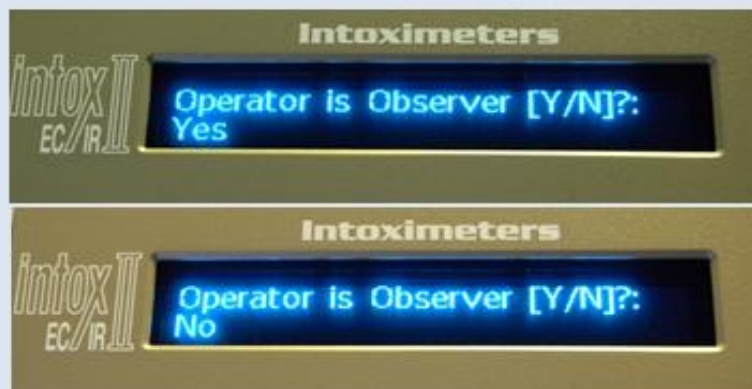
- STEP FIVE: When requested by instrument display, enter beginning date and time of the 15-minute period



- STEP SIX: When requested by instrument display, select "Y" or "N" to indicate whether operator is officer with control of subject during the 15-minute period

Approved Method for Intox EC/IR II

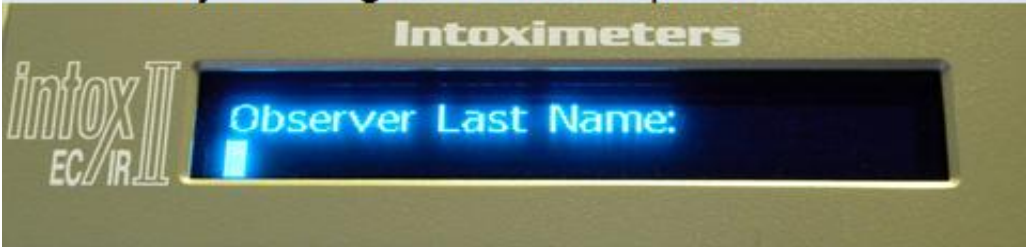
- STEP SIX: When requested by instrument display, select "Y" or "N" to indicate whether operator is officer with control of subject during the 15-minute period



- STEP SEVEN: If “N” is selected in STEP SIX, when requested by instrument display, enter information of officer with control of subject during the 15-minute period

**Approved Method
for Intox EC/IR II**

- STEP SEVEN: If “N” is selected in STEP SIX, when requested by instrument display, enter information of officer with control of subject during the 15-minute period



The image shows a close-up of the Intoximetry instrument's display. The screen is dark with blue text. At the top, the word "Intoximeters" is visible in a light green font. Below it, the "intox II EC/IR II" logo is displayed in a stylized font. The main display area shows the prompt "Observer Last Name:" in blue text, with a small blue cursor bar positioned at the beginning of the line.

- STEP EIGHT: Enter incident information requested by instrument display
Use spacebar to move between “Reason for Test:” options

**Approved Method
for Intox EC/IR II**

- STEP EIGHT: Enter incident information requested by instrument display



The image shows a close-up of the Intoximetry instrument's display. The screen is dark with blue text. At the top, the word "Intoximeters" is visible in a light green font. Below it, the "intox II EC/IR II" logo is displayed in a stylized font. The main display area shows the prompt "Reason for Test:" in blue text, with "OWI" entered below it in the same color.

- STEP NINE: Enter subject information requested by instrument display by:
 - inserting subject's driver/operator license or identification card into barcode reader or
 - pressing "Enter" key and using keyboard to enter available subject information requested by instrument display

Scanned DL info cannot be edited by keyboard

**Approved Method
for Intox EC/IR II**

- STEP NINE: Enter subject information requested by instrument display by:
 - inserting subject's driver/operator license or identification card into barcode reader or
 - pressing "Enter" key and using keyboard to enter available subject information requested by instrument display



- STEP TEN: When "Please blow" appears on instrument display, place new mouthpiece in breath tube. Instruct subject to deliver a breath sample. Remove mouthpiece when prompted by instrument display and discard.

Do not allow the test subject to handle the breath tube.

Instruct the subject: "Take a deep breath and hold it, make a tight seal around the mouthpiece, and then blow long and steady until I tell you to stop."

If minimum flow is not reached within 3 minutes from time that "Please blow"/"Press 'R' for refusal" is displayed, instrument will display "Refusal? [Y/N]." The 3-minute timer resets after each "Insufficient Sample." If this occurs 3 times, test sequence ends.

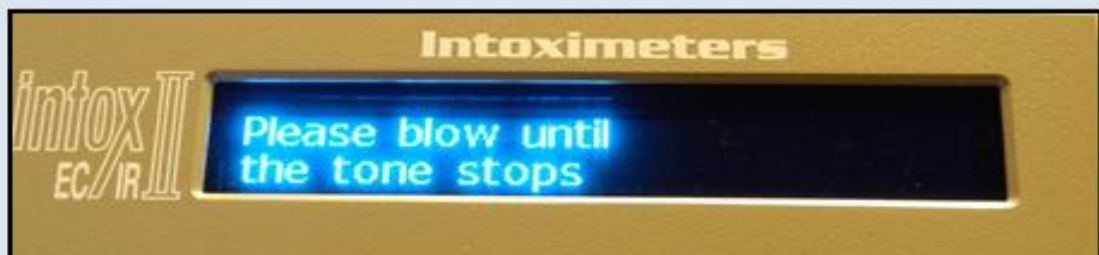
Removal of Mouthpiece: The approved method requires the removal of the mouthpiece from the breath tube in order to ensure that there will not be a mouthpiece on the breath tube during the instrument's Purge/Blank cycle, which could result in a failed Blank Check. In order to ensure compliance with this requirement, you may remove the mouthpiece after each delivery or each attempted delivery of each breath sample without waiting for the prompt by the instrument display.

- STEP ELEVEN: When “Please blow” appears again on instrument display, place new mouthpiece in breath tube. Instruct subject to deliver a breath sample. Remove mouthpiece when prompted by instrument display and discard.

After delivery of the first sample there is a 2-minute delay before the next “Purging Remove Mouthpiece” prompt.

Approved Method for Intox EC/IR II

- STEP ELEVEN: When “Please blow” appears again on instrument display, place new mouthpiece in breath tube. Instruct subject to deliver a breath sample. Remove mouthpiece when prompted by instrument display and discard.



- STEP TWELVE: Print instrument report and remove from printer; check report for numerical value of subject’s breath ethanol concentration and correct date and time and sign report where indicated

Approved Method for Intox EC/IR II

- STEP TWELVE: Print instrument report and remove from printer; check report for numerical value of subject’s breath ethanol concentration and correct date and time and sign report where indicated.



Two-test sequence with 0.020 agreement

Intox EC/IR-II: Subject Test

ISDT 550 W. 16th Street Indianapolis, IN 46202

Serial Number: 011082 Test Number: 47
Test Date: 08/07/2013 Test Time: 10:50 EDT

Operator Name: Bunion, Paul R
Operator Certification Number: G99999
Agency Name: Skyville
Observation Began: 08/07/2013 at 10:40
Observer Name: Bunion, Paul R
Driver License Number: 123456789
Subject Name: Sober, Stone
Subject D.O.B.: 05/31/1961

Dry Gas Target: 0.077
Lot Number: AG317601 Tank Number: 4 Exp Date: 06/05/2015

System Check: Passed ← internal diagnostics

Test	g/210L	Time	
BLK	0.000	11:00	blank check
CHK	0.076	11:01	calibration check
BLK	0.000	11:02	blank check
SUBJ	0.120	11:03	1 st subject sample test
BLK	0.000	11:06	blank check
SUBJ	0.118	11:06	2 nd subject sample test
BLK	0.000	11:07	blank check
CHK	0.076	11:08	calibration check
BLK	0.000	11:09	blank check

Test Status Sample Complete

RESULT: 0.118 g/210L ← subject's breath ethanol content
11:06 EDT, (the lower of the two results)
08/07/2013

ALCOHOL READINGS ARE EXPRESSED AS
GRAMS OF ALCOHOL PER 210 LITERS OF BREATH

Operator Signature

“System Check” is a set of internal diagnostics that looks at the baselines of all the instrument sensors. Although only the first system check appears on the instrument report, the instrument performs a system check before each function in the test sequence (i.e., before every blank check, every accuracy check, every subject test).

You may use this instrument report.

**Approved method for Intox EC/IR II
260 IAC 2-4-2(b)(1):**

- If “Please blow” appears on instrument display after completion of STEPS ONE through ELEVEN, perform an additional breath test, beginning with STEP ELEVEN

The instrument prompts for an additional test when the BAC results of the two previous tests in the sequence are not within 0.020 of each other.

- If “No 0.020 Agreement”*** is printed on report after this additional test:
 - perform an additional breath test, beginning with STEP TWO and proceeding through STEP TWELVE;
 - obtain an alternate chemical test for ethanol, or
 - perform a breath test on another instrument

*** **Example:** If the first test result is 0.130 and the second result is 0.100, the instrument will prompt for a third sample.

Three-test sequence with 0.020 agreement

```

                                [text omitted]
                                Dry Gas Target: 0.077
Lot Number: AG317601 Tank Number: 4 Exp Date: 06/05/2015

                                System Check: Passed

Test      g/210L      Time
BLK       0.000      11:00
CHK       0.076      11:01 ← blank check
BLK       0.000      11:02
SUBJ     0.130      11:03 ← 1st subject sample test
BLK       0.000      11:06
SUBJ     0.100      11:06 ← 2nd subject sample test
BLK       0.000      11:07
SUBJ     0.102      11:08 ← 3rd subject sample test
BLK       0.000      11:09
CHK       0.076      11:10
BLK       0.000      11:11

                                Test Status Sample Complete

RESULT: 0.100 g/210L ← subject's BAC
                                (lower of the two results within 0.020 of
                                [text omitted]                                each other is reported)

```

The lower of the two results within 0.020 of each other is reported as the subject’s BAC.

You may use this instrument report.

Three-test sequence with no 0.020 agreement

Intox EC/IR-II: Subject Test

ISDT 550 W. 16th Street Indianapolis, IN 46202

Serial Number: 011082 Test Number: 47
Test Date: 08/07/2013 Test Time: 10:50 EDT

Operator Name: Bunion, Paul R
Operator Certification Number: G99999
Agency Name: Skyville
Observation Began: 08/07/2013 at 10:40
Observer Name: Bunion, Paul R
Driver License Number: 123456789
Subject Name: Sober, Stone
Subject D.O.B.: 05/31/1961

Dry Gas Target: 0.077
Lot Number: AG317601 Tank Number: 4 Exp Date: 06/05/2015

System Check: Passed ← internal diagnostics

Test	g/210L	Time	
BLK	0.000	11:00	blank check
CHK	0.076	11:01	calibration check
BLK	0.000	11:02	blank check
SUBJ	0.130	11:03	1 st subject sample test
BLK	0.000	11:06	blank check
SUBJ	0.105	11:06	2 nd subject sample test
BLK	0.000	11:07	blank check
SUBJ	0.083	11:08	3 rd subject sample test
BLK	0.000	11:09	blank check
CHK	0.076	11:10	calibration check
BLK	0.000	11:11	blank check

Test Status No 0.020 Agreement

RESULT: *.*** g/210L ← no BAC reported
11:08 EDT,
08/07/2013

ALCOHOL READINGS ARE EXPRESSED AS GRAMS OF ALCOHOL PER
210 LITERS OF BREATH

Operator Signature

You may not use this instrument report to determine subject BAC.

**Approved method for Intox EC/IR II
260 IAC 2-4-2(b)(2):**

- If “Interfering Substance” is printed on report, perform an additional breath test beginning with STEP ONE and proceeding through STEP TWELVE

Another 15-minute waiting period is required before beginning an additional breath test.

- If “Interfering Substance” is printed on report after this additional test sequence:
 - obtain an alternate chemical test for ethanol;
 - perform a breath test on another instrument, or
 - if a numerical value for subject’s BAC is printed on a report, check for correct date and time and **sign where indicated**

Test sequence with Interfering Substance on first subject sample

```
[text omitted]
Dry Gas Target: 0.077
Lot Number: AG317601 Tank Number: 4 Exp Date: 06/05/2015

System Check: Passed ← internal diagnostics

Test      g/210L      Time
BLK       0.000      11:00      blank check
CHK       0.076      11:01      calibration check
BLK       0.000      11:02      blank check
SUBJ     *.***      11:03      1st subject sample test
BLK       0.000      11:04      blank check
CHK       0.076      11:05      calibration check
BLK       0.000      11:06      blank check

Test Status *.*** Interfering Substance

RESULT: *.*** g/210L ← no BAC reported
[text omitted]
```

If you get an “Interfering Substance” on the first test of a sequence, the sequence will end, and the result will be “Interfering Substance.”

You may not use this instrument report.

Test sequence with Interfering Substance on second subject sample

Intox EC/IR-II: Subject Test

ISDT 550 W. 16th Street Indianapolis, IN 46202

Serial Number: 011082 Test Number: 47
Test Date: 08/07/2013 Test Time: 10:50 EDT

Operator Name: Bunion, Paul R
Operator Certification Number: G99999
Agency Name: Skyville
Observation Began: 08/07/2013 at 10:40
Observer Name: Bunion, Paul R
Driver License Number: 123456789
Subject Name: Sober, Stone
Subject D.O.B.: 05/31/1961

Dry Gas Target: 0.077
Lot Number: AG317601 Tank Number: 4 Exp Date: 06/05/2015

System Check: Passed ← internal diagnostics

Test	g/210L	Time	
BLK	0.000	11:00	blank check
CHK	0.076	11:01	calibration check
BLK	0.000	11:02	blank check
SUBJ	0.120	11:03	1 st subject sample test
BLK	0.000	11:06	blank check
SUBJ	*.***	11:06	2 nd subject sample test
BLK	0.000	11:07	blank check
CHK	0.076	11:08	calibration check
BLK	0.000	11:09	blank check

Test Status *.*** Interfering Substance

RESULT: 0.120 g/210L ← subject's BAC
11:03 EDT,
08/07/2013

ALCOHOL READINGS ARE EXPRESSED AS GRAMS OF ALCOHOL PER
210 LITERS OF BREATH

Operator Signature

You may not use this instrument report unless you complete a second breath test as specified in the Approved Method, beginning with a 15-minute waiting period.

**Approved method for Intox EC/IR II
260 IAC 2-4-2(b)(3):**

- If “RFI Detected” is printed on report, locate and remove source of interference, and perform an additional breath test, beginning with STEP TWO and proceeding through STEP TWELVE

Another 15-minute waiting period is not required

- If “RFI Detected” is printed on report after this additional test sequence:
 - obtain an alternate chemical test for ethanol;
 - perform a breath test on another instrument, or
 - if a numerical value for subject’s BAC is printed on a report, check for correct date and time and **sign where indicated**

*****Intox EC/IR II case construction provides “Faraday Cage” immunity**

Test sequence with RFI Detected on first subject sample

```
[text omitted]
Dry Gas Target: 0.077
Lot Number: AG317601 Tank Number: 4 Exp Date: 06/05/2015

System Check: Passed ← internal diagnostics

Test      g/210L      Time
BLK       0.000      11:00      blank check
CHK       0.076      11:01      calibration check
BLK       0.000      11:02      blank check
SUBJ     *.***      11:03      1st subject sample test
BLK       0.000      11:04      blank check
CHK       0.076      11:05      calibration check
BLK       0.000      11:06      blank check

Test Status *.*** RFI Detected

RESULT: *.*** g/210L ← no BAC reported
[text omitted]
```

If you get an “RFI Detected” on the first test of a sequence, the sequence will end, and the result will be “RFI Detected.”

You may not use this instrument report.

Test sequence with RFI Detected on second subject sample

Intox EC/IR-II: Subject Test

ISDT 550 W. 16th Street Indianapolis, IN 46202

Serial Number: 011082 Test Number: 47
Test Date: 08/07/2013 Test Time: 10:50 EDT

Operator Name: Bunion, Paul R
Operator Certification Number: G99999
Agency Name: Skyville
Observation Began: 08/07/2013 at 10:40
Observer Name: Bunion, Paul R
Driver License Number: 123456789
Subject Name: Sober, Stone
Subject D.O.B.: 05/31/1961

Dry Gas Target: 0.077
Lot Number: AG317601 Tank Number: 4 Exp Date: 06/05/2015

System Check: Passed ← internal diagnostics

Test	g/210L	Time	
BLK	0.000	11:00	blank check
CHK	0.076	11:01	calibration check
BLK	0.000	11:02	blank check
SUBJ	0.120	11:03	1 st subject sample test
BLK	0.000	11:06	blank check
SUBJ	*.***	11:06	2 nd subject sample test
BLK	0.000	11:07	blank check
CHK	0.076	11:08	calibration check
BLK	0.000	11:09	blank check

Test Status *.*** RFI Detected

RESULT: 0.120 g/210L ← subject's BAC
11:03 EDT,
08/07/2013

ALCOHOL READINGS ARE EXPRESSED AS GRAMS OF ALCOHOL PER
210 LITERS OF BREATH

Operator Signature

You may not use this instrument report unless you complete a second breath test as specified in the Approved Method. Another 15-minute waiting period is not required.

**Approved method for Intox EC/IR II
260 IAC 2-4-2(b)(4):**

- If “Mouth Alcohol” is printed on report, perform an additional breath test, beginning with STEP ONE and proceeding through STEP TWELVE

Another 15-minute waiting period is required

- If “Mouth Alcohol” is printed on report after this additional test sequence:
 - obtain an alternate chemical test for ethanol;
 - perform a breath test on another instrument, or
 - if a numerical value for subject’s BAC is printed on a report, check for correct date and time and **sign where indicated**

Test sequence with Mouth Alcohol on first subject sample

```
[text omitted]
Dry Gas Target: 0.077
Lot Number: AG317601 Tank Number: 4 Exp Date: 06/05/2015

System Check: Passed ← internal diagnostics

Test      g/210L      Time
BLK       0.000      11:00      blank check
CHK       0.076      11:01      calibration check
BLK       0.000      11:02      blank check
SUBJ      *.***      11:03      1st subject sample test
BLK       0.000      11:04      blank check
CHK       0.076      11:05      calibration check
BLK       0.000      11:06      blank check

Test Status *.*** Mouth Alcohol

RESULT: *.*** g/210L ← no BAC reported
[text omitted]
```

If you get a “Mouth Alcohol” on the first test of a sequence, the sequence will end, and the result will be “Mouth Alcohol.” You may not use this instrument report.

Test sequence with Mouth Alcohol on second subject sample

Intox EC/IR-II: Subject Test

ISDT 550 W. 16th Street Indianapolis, IN 46202

Serial Number: 011082 Test Number: 47
Test Date: 08/07/2013 Test Time: 10:50 EDT

Operator Name: Bunion, Paul R
Operator Certification Number: G99999
Agency Name: Skyville
Observation Began: 08/07/2013 at 10:40
Observer Name: Bunion, Paul R
Driver License Number: 123456789
Subject Name: Sober, Stone
Subject D.O.B.: 05/31/1961

Dry Gas Target: 0.077
Lot Number: AG317601 Tank Number: 4 Exp Date: 06/05/2015

System Check: Passed ← internal diagnostics

Test	g/210L	Time	
BLK	0.000	11:00	blank check
CHK	0.076	11:01	calibration check
BLK	0.000	11:02	blank check
SUBJ	0.120	11:03	1 st subject sample test
BLK	0.000	11:06	blank check
SUBJ	*.***	11:06	2 nd subject sample test
BLK	0.000	11:07	blank check
CHK	0.076	11:08	calibration check
BLK	0.000	11:09	blank check

Test Status *.*** Mouth Alcohol

RESULT: 0.120 g/210L ← subject's BAC
11:03 EDT,
08/07/2013

ALCOHOL READINGS ARE EXPRESSED AS GRAMS OF ALCOHOL PER
210 LITERS OF BREATH

Operator Signature

You may not use this instrument report unless you complete a second breath test as specified in the Approved Method, beginning with a 15-minute waiting period.

**Approved method for Intox EC/IR II
260 IAC 2-4-2(5)**

- If “Insufficient Sample” or “Time Out” is printed on report, perform an additional breath test, beginning with STEP TWO and proceeding through STEP TWELVE

Another 15-minute waiting period is not required

- If “Insufficient Sample” or “Time Out” is printed on report after this additional test sequence:
 - obtain an alternate chemical test for ethanol;
 - perform a breath test on another instrument, or
 - if a numerical value for subject’s BAC is printed on a report, check for correct date and time and **sign where indicated**
- If “Insufficient Sample” or “Time Out” is caused by subject’s lack of cooperation, operator should record that test was refused
- If a numerical value for subject’s BAC is printed on a report, check for correct date and time and **sign where indicated**.

Test sequence with Insufficient Sample on first subject sample

```
[text omitted]
Dry Gas Target: 0.077
Lot Number: AG317601 Tank Number: 4 Exp Date: 06/05/2015

System Check: Passed          internal diagnostics

Test      g/210L      Time
BLK      0.000      11:00      blank check
CHK      0.076      11:01      calibration check
BLK      0.000      11:02      blank check
SUBJ     *.***      11:03      1st subject sample test
BLK      0.000      11:04      blank check
CHK      0.076      11:05      calibration check
BLK      0.000      11:06      blank check

Test Status *.*** Insufficient Sample

RESULT: *.*** g/210L ← no BAC reported
[text omitted]
```

If you get an “Insufficient Sample” or “Time Out” on the first test of a sequence, the sequence will end, and the result will be “Insufficient Sample” or “Time Out.” You may not use this instrument report.

Test sequence with Insufficient Sample on second subject sample

Intox EC/IR-II: Subject Test

ISDT 550 W. 16th Street Indianapolis, IN 46202

Serial Number: 011082 Test Number: 47
Test Date: 08/07/2013 Test Time: 10:50 EDT

Operator Name: Bunion, Paul R
Operator Certification Number: G99999
Agency Name: Skyville
Observation Began: 08/07/2013 at 10:40
Observer Name: Bunion, Paul R
Driver License Number: 123456789
Subject Name: Sober, Stone
Subject D.O.B.: 05/31/1961

Dry Gas Target: 0.077
Lot Number: AG317601 Tank Number: 4 Exp Date: 06/05/2015

System Check: Passed **internal diagnostics**

Test	g/210L	Time	
BLK	0.000	11:00	blank check
CHK	0.076	11:01	calibration check
BLK	0.000	11:02	blank check
SUBJ	0.120	11:03	1st subject sample test
BLK	0.000	11:06	blank check
SUBJ	*.***	11:06	2nd subject sample test
BLK	0.000	11:07	blank check
CHK	0.076	11:08	calibration check
BLK	0.000	11:09	blank check

Test Status *.*** Insufficient Sample

RESULT: 0.120 g/210L ← **subject's BAC**
11:04 EDT,
08/07/2013

ALCOHOL READINGS ARE EXPRESSED AS GRAMS OF ALCOHOL PER
210 LITERS OF BREATH

Operator Signature

You may not use this instrument report unless you complete a second breath test as specified in the Approved Method. Another 15-minute waiting period is not required.

Alternate Test

This is a blood test. The sample must be taken by a medical person, but a hospital is not needed.

The drawing of the subject's blood should be witnessed by an officer.

Print Last Test

Press "P" (for "Print")

Press "Enter" key

Type in Password "OPER"

Press "Enter" key

Press "Space" bar to print

Will print only the last test in the instrument memory

Maximum BrAC Result

Intox EC/IR II measures up to 0.440 BrAC

If subject BrAC is >0.440 , instrument will display "Sample Over Range"

Get blood if this happens

Laboratory Exercises

You will be required to submit the following instrument reports at the completion of these exercises:

Exercise 1: Personal breath test with duplicate copy

Exercise 2: Subject breath test

Exercise 3: Subject (instructor) breath test

Exercise 1: Complete a personal breath test by delivering two acceptable breath samples during a subject test sequence. Print and sign the instrument report. **Print a duplicate of this instrument report by use of the password protected “Print Last Test” command.**

Exercise 2: Complete a subject test sequence acting as the breath test operator and instructing another student in the delivery of two acceptable breath samples during a subject test sequence.** Print and sign the instrument report.

After completion of the above exercises, turn in your instrument reports to an ISDT instructor, and report to the classroom to take the written examination.

After your completed written examination is graded by an ISDT instructor, report to the laboratory to complete the final laboratory exercise below:

Exercise 3: Complete a subject test sequence acting as the breath test operator and instructing an ISDT instructor in the delivery of two acceptable breath samples during the subject test sequence.** Print, sign, and turn in the instrument report.

**** Emphasis should be placed on coaching the test subject on delivery of the samples in order to minimize the occurrence of “Insufficient sample” test results.**

260 IAC 2-4-2 Approved method for Intox EC/IR II breath analysis

The approved method that shall be followed in making an analysis of breath for ethanol using the Intox EC/IR II breath test instrument is as follows:

STEP ONE: The person to be tested must:

- (A) have had nothing to eat or drink;
- (B) not have put any foreign substance into his or her mouth or respiratory tract; and
- (C) not smoke;

within fifteen (15) minutes before the time the first breath sample is taken or at any time from the taking of the first breath sample until after the taking of the final breath sample.

STEP TWO: Verify that the instrument is in ready mode, as indicated by the instrument display.

STEP THREE: Press "Enter" key to start subject test.

STEP FOUR: Insert identification card into the barcode reader, or press the "Enter" key and use the keyboard to enter the breath test operator information requested by the instrument display.

STEP FIVE: When requested by the instrument display, enter the beginning date and time of the fifteen (15) minute period described in STEP ONE.

STEP SIX: When requested by the instrument display, select "Y" or "N" to indicate whether the breath test operator is the officer with control of the subject during the fifteen (15) minute period described in STEP ONE.

STEP SEVEN: If "N" is selected in STEP SIX, when requested by the instrument display, enter the information of the officer with control of the subject during the fifteen (15) minute period described in STEP ONE.

STEP EIGHT: Enter incident information requested by the instrument display.

STEP NINE: Enter subject information by:

- (A) inserting the subject's driver/operator license or identification card into the barcode reader; or
- (B) pressing the "Enter" key and using the keyboard to enter the available subject information requested by the instrument display.

STEP TEN: When "Please blow" appears on the instrument display, place a new mouthpiece in the breath tube. Instruct the subject to deliver a breath sample. Remove mouthpiece when prompted by the instrument display and discard.

STEP ELEVEN: When "Please blow" appears again on the instrument display, place a new mouthpiece in the breath tube. Instruct the subject to deliver a breath sample. Remove mouthpiece when prompted by the instrument display and discard.

STEP TWELVE: Print the instrument report and remove it from the printer; check the instrument report for the numerical value of the subject's breath ethanol concentration and the correct date and time and sign the instrument report where indicated.

OVER

If any of the following messages appear on the instrument display or report, proceed as follows:

(1) If "**Please blow**" appears on the instrument display after completion of STEPS ONE through ELEVEN, perform an additional breath test, beginning with STEP ELEVEN. If "No 0.020 Agreement" is printed on the instrument report after this additional breath test:

- (A) perform an additional breath test, beginning with STEP TWO and proceeding through STEP TWELVE;
- (B) obtain an alternate chemical test for ethanol; or
- (C) perform a breath test on another breath test instrument.

(2) If "**Interfering Substance**" is printed on the instrument report, perform an additional breath test, beginning with STEP ONE and proceeding through STEP TWELVE. If "Interfering Substance" is printed on the instrument report after this additional breath test:

- (A) obtain an alternate chemical test for ethanol;
- (B) perform a breath test on another breath test instrument; or
- (C) if a numerical value for the subject's breath ethanol concentration is printed on any instrument report, check the instrument report for the correct date and time and sign the instrument report where indicated.

(3) If "**RFI Detected**" is printed on the instrument report, locate and remove the source of the interference and perform an additional breath test, beginning with STEP TWO and proceeding through STEP TWELVE. If "RFI Detected" is printed on the instrument report after this additional breath test:

- (A) obtain an alternate chemical test for ethanol;
- (B) perform a breath test on another breath test instrument; or
- (C) if a numerical value for the subject's breath ethanol concentration is printed on any instrument report, check the instrument report for the correct date and time and sign the instrument report where indicated.

(4) If "**Mouth Alcohol**" is printed on the instrument report, perform an additional breath test, beginning with STEP ONE and proceeding through STEP TWELVE. If "Mouth Alcohol" is printed on the instrument report after this additional breath test:

- (A) obtain an alternate chemical test for ethanol;
- (B) perform a breath test on another breath test instrument; or
- (C) if a numerical value for the subject's breath ethanol concentration is printed on any instrument report, check the instrument report for the correct date and time and sign the instrument report where indicated.

(5) If "**Insufficient Sample**" or "**Time Out**" is printed on the instrument report, perform an additional breath test, beginning with STEP TWO and proceeding through STEP TWELVE. If "Insufficient Sample" or "Time Out" is printed on the instrument report after this additional breath test:

- (A) obtain an alternate chemical test for ethanol;
- (B) perform a breath test on another breath test instrument; or
- (C) if a numerical value for the subject's breath ethanol concentration is printed on any instrument report, check the instrument report for the correct date and time and sign the instrument report where indicated.

If an "Insufficient Sample" or "Time Out" message is caused by the lack of cooperation of the subject, the breath test operator should record that the test was refused and, if a numerical value for the subject's breath ethanol concentration is printed on any instrument report, check the instrument report for the correct date and time and sign the instrument report where indicated.

Intoximeters

World Leader in Breath Alcohol Testing for Over Fifty Years

12 March 2007

James M Moore,
Alcohol Coordinator,
2300 Capital Avenue,
Cheyenne,
Wyoming 82002

Re: Sensor Technology used in the EC/IR I and EC/IR II instruments in Wyoming

Dear Mr. Moore,

I am writing to confirm that the sensor technologies used in both the EC/IR I and EC/IR II instruments are the same. The major difference between the EC/IR I and EC/IR II is the use of a newer technology microprocessor in the EC/IR II made necessary when the microprocessor used on the EC/IR I was no longer manufactured.

One of the major objectives of the development of the EC/IR II was so that it could be configured to operate in an identical manner to the EC/IR I for those users who wished to progress from the EC/IR I to EC/IR II instruments.

That is:

1 The fuel cell sensor and associated sampling valve used for determining the evidential result from analyzing alcohol in the subject sample are the identical in both the EC/IR I and EC/IR II.

2 The InfraRed (IR) system, used to detect the presence of mouth alcohol in a subjects sample, used in the EC/IR I and EC/IR II are the same technology.

3 The IR detector used on the IR system are identical with the same IR Ethanol and IR CO2 frequencies used on both types of instrument.

The instrument Operator Interface (the keyboard data entry and the display messages and prompts) firmware used in the EC/IR II instrument has been designed to operate identically to that of the EC/IR I so that an operator trained on the EC/IR I instrument in Wyoming will be fully trained and functional when operating the EC/IR II.

If you require any further information please contact Intoximeters, Inc.

Yours truly,



John Evans
Technical Director
Intoximeters, Inc.

8110 Lackland Road, Saint Louis, Missouri 63114
Phone: 314-429-4000, FAX: 314-429-4170
<http://www.intox.com>

POTENTIAL MISCARRIAGE OF JUSTICE DUE TO 644 HIERARCHICAL ERROR MESSAGES FOR ETHANOL BREATH TESTING

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Abstract

All evidential breath-alcohol testing (EBT) instruments are subject to potentially yielding false elevations in their breath-alcohol test result due to mouth-alcohol contamination of the subject's breath sample despite manufacturers' efforts to incorporate mouth-alcohol detection systems. Consequently, in addition to the EBT instrument's mouth-alcohol detection system, additional safeguards are often employed: a 15-20 minute observation period and a dual breath testing protocol. To eliminate external sources of mouth-alcohol contamination, an observation period of the subject for a period of 15-20 minutes is normally conducted to ensure nothing is placed into the subject's mouth. This same observation period (if it is truly an observation period and not simply an unobserved waiting/deprivation period) also serves to potentially detect internal sources of mouth-alcohol contamination in subjects experiencing vomiting, belching, or burping. However, even the direct observation of a subject may not detect internal refluxing of residual ethanol-containing stomach contents and/or vapor through an opened lower esophageal sphincter (LES) that has been weakened in subjects with gastroesophageal reflux disease (GERD). Dual breath test results that differ by more than the presumed normal biological variability of +/- 0.020 g/210 L are indications of mouth-alcohol contamination, radio frequency interference, or some unknown problem with the subject's testing procedure and should require additional testing of the subject following a second 15-20 minute observation period.

The notifications of error messages on the instrument's digital display and/or on the printout and their hierarchical order of dominance for the detection of mouth-alcohol, no 0.020 g/210 L agreement, etc., is a software option that can vary as a function of both the manufacturer and the individual governmental agency that purchases/operates the EBT instrument.

One potential miscarriage of justice can result if the EBT instrument is programmed to only exhibit a "MOUTH ALCOHOL" error message briefly on the digital display during the detection of mouth-alcohol contamination in the subject's second breath sample and the printout contains only a "Difference > 0.02 Disapproved" error message. The hierarchical suppression of a printed "MOUTH ALCOHOL" error message can result in the EBT instrument operator retesting the subject without conducting a second observation period for the mouth-alcohol contamination to dissipate.

The authors will present the results of a case involving this particular situation in a jury trial that was pending at the time of the preparation of this abstract.

January 17, 2017, Mouth Alcohol Study

Rinsed mouth with a small amount of 80-proof vodka, waited a few minutes, and ran the Intoximeter EC/IR in the subject mode with duplicate subject testing. The first subject test yielded an apparent "valid" test result of 0.340 g/210 L at 19:36 (7:36 pm).

The second subject test at 19:38 (7:38 pm) caused a "MOUTH ALCOHOL" error message on the digital display but not on the printout. The printout for the second subject breath sample had a "***" response in place of a digital value followed by an error message of "Difference > 0.02 Disapproved".

January 18, 2017, Mouth Alcohol Study

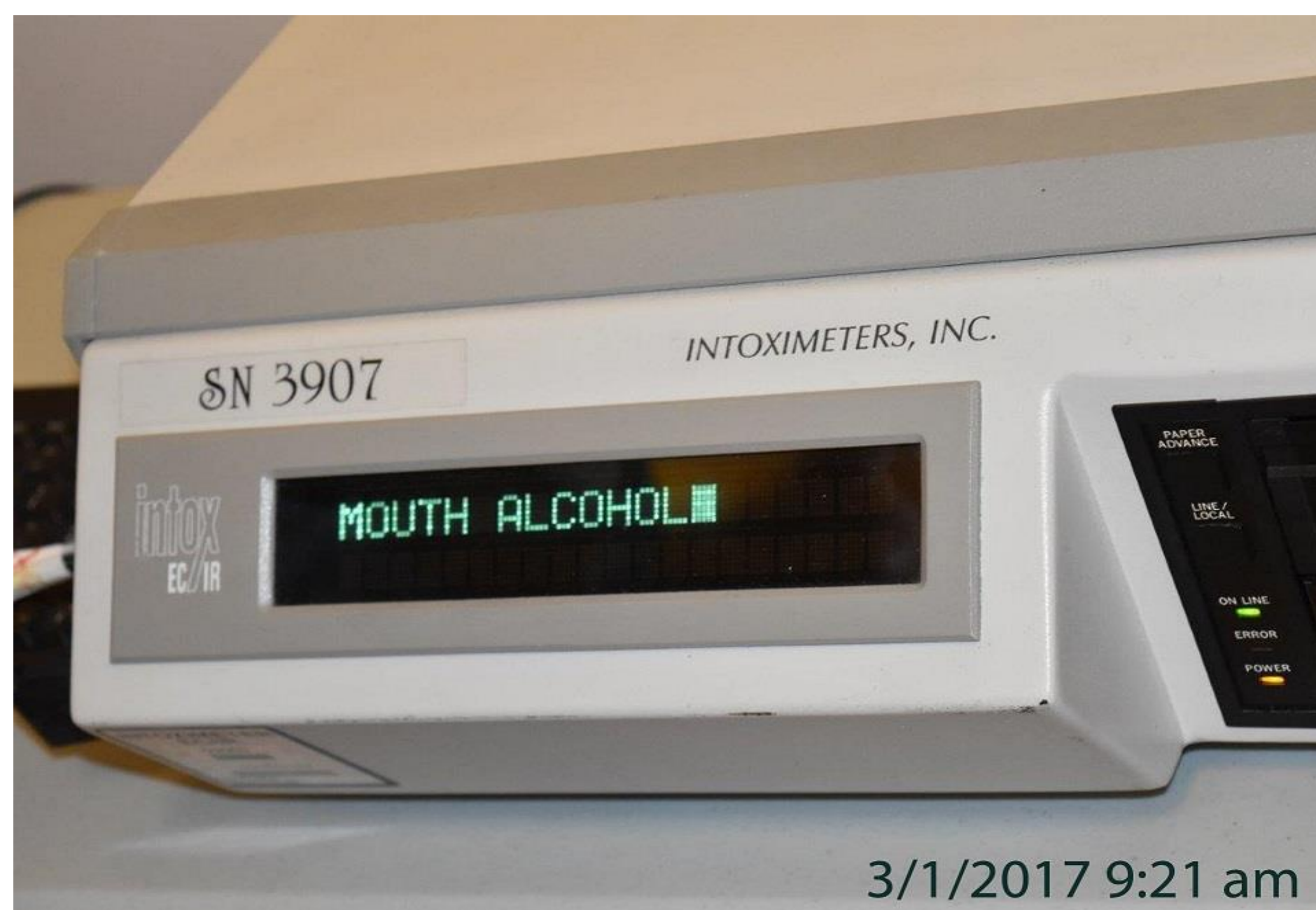
Initially a subject test was performed with no alcohol exposure. Breath test results were both 0.000 g/210 L showing subject had no alcohol in body at the start of the study. Then the mouth alcohol study of January 17, 2017, was repeated. Rinsed mouth with a small amount of 80-proof vodka, waited a few minutes, and ran the Intoximeter EC/IR in the subject mode with duplicate subject testing. First subject test yielded an apparent "valid" test result of 0.226 g/210 L at 09:10 (9:10 am). Second subject test yielded an apparent "valid" test result of 0.106 g/210 L at 09:13 (9:13 am). Intoximeter EC/IR mouth-alcohol detection system twice failed to flag the mouth-alcohol contamination. Only error message was "Difference > 0.02 Disapproved".

March 1, 2017, Mouth Alcohol Study

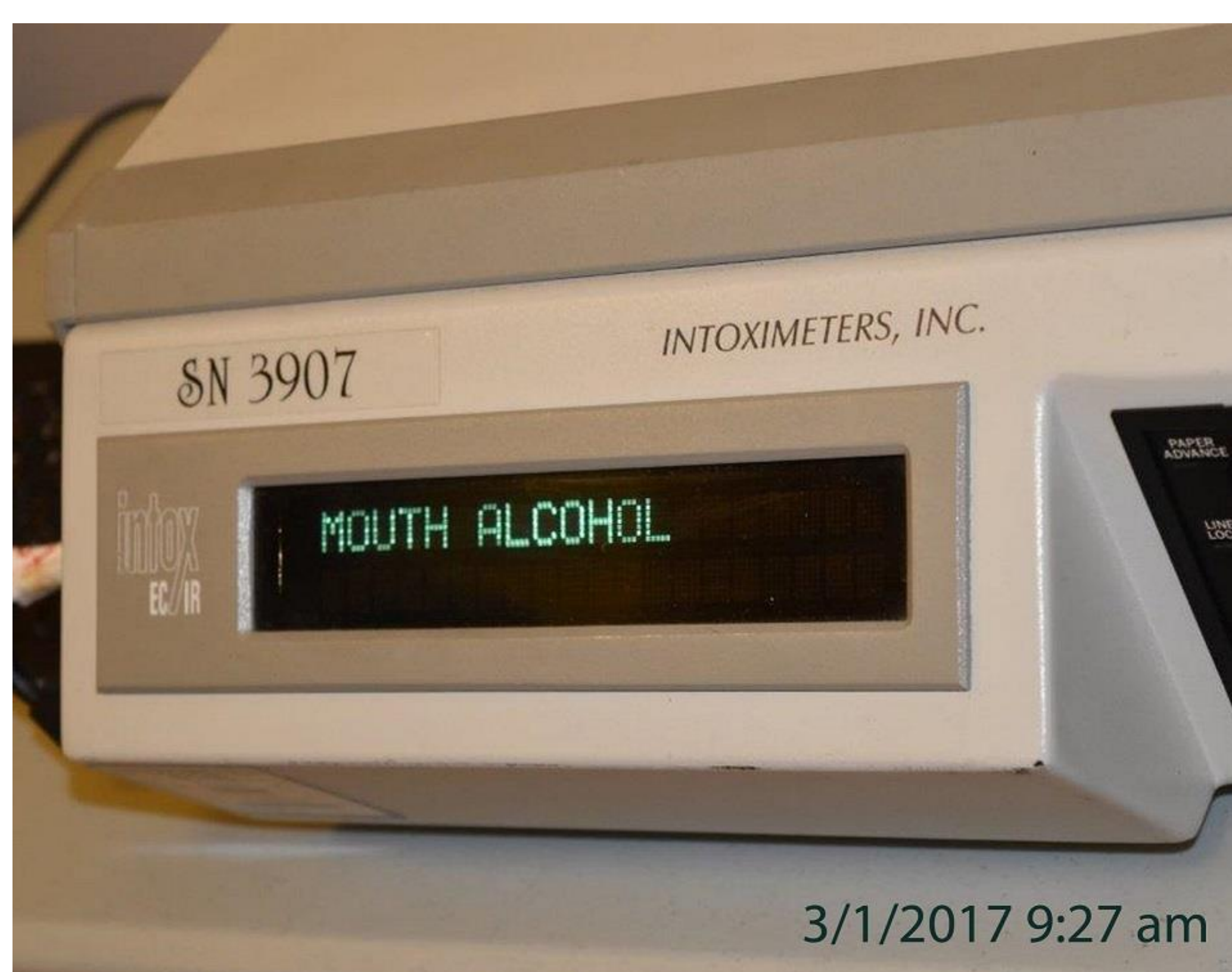
A calibration check was performed in the subject mode using a Guth Labs Alcohol Simulation Solution Lot #16340, Exp. Date: 11/4/2017, target value: 0.101 g/210 L. Test results were 0.103 g/210 L at both 08:14 (8:14 am) and 08:17 (8:17 am) – both within acceptance criteria of +/- 0.005 g/210 L. Then a subject test was performed with no alcohol exposure. Breath test results were both 0.000 g/210 L showing subject had no alcohol in body at the start of the study. A mouth alcohol study was then conducted by rinsing mouth with a small amount of 80-proof vodka, waiting a few minutes, and running the Intoximeter EC/IR in the subject mode with duplicate subject testing. First subject test yielded an apparent "valid" test result of 0.088 g/210 L at 09:06 (9:06 am). Second subject test yielded an apparent "valid" test result of 0.046 g/210 L at 09:08 (9:08 am). Intoximeter EC/IR mouth-alcohol detection system again failed to flag the mouth-alcohol contamination. Only error message was "Difference > 0.02 Disapproved".



```
Printout from the Intoximeter EC/IR showing test results for a subject with mouth alcohol contamination. The printout displays 'Difference > 0.02 Disapproved' and includes subject information such as name (STAUBUS), date of birth (11/28/47), and driver license number (F1687200).
```



```
Printout from the Intoximeter EC/IR showing test results for a subject with mouth alcohol contamination. The printout displays 'MOUTH ALCOHOL' and includes subject information such as name (STAUBUS), date of birth (11/28/47), and driver license number (F1687200).
```



A second subject test was followed with test results of 0.006 g/210 L at 09:13 (9:13 am) and 0.004 g/210 L at 09:15 (9:15 am).

A second mouth-alcohol test was then conducted with the first subject breath sample flagged as having mouth alcohol contamination at 09:21 (9:21 am) with both a "MOUTH ALCOHOL" error message on the digital display and on the printout.

A second subject test was followed with the first subject breath sample having an apparent "valid" test result of 0.041 g/210 L at 09:25 (9:25 am). The Intoximeter EC/IR mouth alcohol detection system again failed to flag the mouth-alcohol contamination. The subject then again rinsed his mouth with a small amount of 80-proof vodka, waited only a few seconds before completing the second subject breath sample that resulted in a digital display error message of "MOUTH ALCOHOL". However, the printout did NOT show any mouth alcohol error message; instead the second breath sample test result showed a "***" response at 09:27 (9:27 am) in place of a digital value followed by an error message of "Difference > 0.02 Disapproved".

Conclusions:

- 1) The printout from the Intoximeter EC/IR only reports a "MOUTH ALCOHOL" error message when the machine is able to flag mouth alcohol contamination during the first subject breath sample.
- 2) If the Intoximeter EC/IR fails to detect mouth-alcohol contamination in the first subject breath sample, but does detect mouth alcohol contamination in the second subject breath sample, then only the digital display will show the "MOUTH ALCOHOL" error message. The printout will not show the "MOUTH ALCOHOL" error message but instead will printout the error message of "Difference > 0.02 Disapproved"
- 3) If two different error messages occur when running in the subject mode, only the error message with the greater hierarchical ranking will be reported on the printout.
- 4) Failure of printing out the "MOUTH ALCOHOL" error message can result in the Intoximeter EC/IR operator retesting the subject without restarting the 15-20 minutes observation period for the mouth-alcohol contamination to dissipate.
- 5) Failure to restart the 15-20 minute observation period can result in a DUI conviction as a result of falsely high retest values due to residual mouth-alcohol contamination.
- 6) Faulty programming of Evidential Breath Testing instruments can result in a miscarriage of justice.

```
Printouts from the Intoximeter EC/IR showing test results for a subject with mouth alcohol contamination. The printouts display 'Difference > 0.02 Disapproved' and include subject information such as name (STAUBUS), date of birth (11/28/47), and driver license number (F1687200).
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INTOX EC/IR II

RESOURCE READING MATERIAL

July 2011

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NOTICE

This manual has been prepared by the staff of the National Breath Test Program (NBTP) of the RCMP Forensic Science and Identification Service (FS&IS) for the exclusive use of Qualified Technicians taking an Intox EC/IR II Course. Information contained herein only refers to the Intox EC/IR II, as configured for Canada, using the options approved by the members of the National Breath Test Program.



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HISTORY OF THE NATIONAL BREATH TESTING PROGRAM

The first scientific support for breath testing by the RCMP began with forensic scientists at the Regina Crime Detection Laboratory in 1957. The scientists were a part of the Chemistry Section and were assigned additional duties to support the fledgling novelty of breath alcohol testing by police officers in the field. These duties included preparation of the Alcohol Standard, quality control of the ampoules, training of police officers and scientific and technical support in Court as the breath test results were introduced into evidence.

The first breath alcohol testing was strictly a screening process, using voluntary samples given by suspected impaired drivers for testing by the Breathalyzer®.

The success and expansion of the field breath alcohol testing soon resulted in all parts of Canada using the Breathalyzer® and the need for a dedicated core of personnel by the RCMP to support what had become for all purposes, a Program. This resulted in the creation of the Alcohol Section in 1960. Support for the Program continued as legislation was passed in 1968 introducing forensic breath alcohol testing for impaired drivers based on reasonable and probable grounds of impairment by a driver. This was followed by more comprehensive legislation in 1976 which introduced Approved Screening Devices, putting additional demands on the Alcohol Section staff for scientific and technical support of expanded forensic breath alcohol testing requirements.

The Crime Detection Laboratories became the Forensic Laboratory Services (FLS) in 1985. In 1999, the Alcohol and Toxicology Sections of the FLS merged to form Toxicology Services in order to recognize the increasing need to consider the simultaneous presence of alcohol and drugs in impaired driving and criminal investigations. In 2002, the Director of the FLS created the National Breath Testing Program (NBTP), a component of Toxicology Services, in order to dedicate a core group of forensic scientists to support the increasing technical requirements of forensic breath alcohol testing.

The NBTP ensures that quality assurance and operational standards are identified to breath test programs supported by RCMP Forensic Laboratory Services. To accomplish this goal, the National Breath Testing Program staff provides training, instrument technical support, quality assurance of supplies and laboratory support to municipal and federal authorities. In addition to its responsibility for training, the NBTP provides disclosure and expert testimony to the legal community.



The scientific requirements that are promulgated by the NBTP establish specific requirements for administering breath tests. These requirements are based on the Recommended Standards and Procedures of the Canadian Society of Forensic Science Alcohol Test Committee. The result is a breath testing program that is scientifically based and accurate.

To accomplish the task of training, the NBTP partners with using senior police instructors to provide comprehensive training. All police instructors have many years of experience in impaired driving investigations and in the administration of screening and evidential alcohol testing. The NBTP staff is extremely grateful to these professional volunteer instructors for their dedicated service to the program.

The National Breath Test Program staff encourages inquiries.

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TOC-5

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TYPES OF BREATH TEST INSTRUMENTATION

The continuing problem of the drinking driver has necessitated the advancement of detection and testing devices for alcohol since the early years of the automobile. Breath, because of the non-invasive nature of obtaining a sample, has been an obvious medium for which testing methods have been developed.

Instrument based breath testing began in 1957 in Canada with the Breathalyzer®. This instrument relied upon a chemical reaction resulting in a color change. In the mid to late 1990's the Intoxilyzer 5000C® and BAC Datamaster C® were introduced and thereafter were the approved evidential instruments used for breath testing in Canada. These instruments utilize infrared (IR) technology to determine a Blood Alcohol Concentration.

In 2009, the RCMP selected the Intox EC/IR II as a replacement instrument for evidential testing. This instrument utilizes both IR and electrochemical (EC) analysis to derive a result. As an important note, the evolution of instrumentation through the years comes not from their accuracy and precision, but from their level of automation, data retention capabilities, and ease of operation.

APPROVED SCREENING DEVICES (ASDs)

These test devices are portable and used primarily in the field prior to arrest. They are electrochemical solid-state devices with pass/warn/fail indicators and/or a digital readout. In Canada they are approved for use after reasonable suspicion of alcohol in the body of a driver. The list of approved devices is identified in the Approved Screening Devices Order.



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TOC-6

The word "Canada" in a serif font, with a small Canadian flag above the letter 'a'.

APPROVED INSTRUMENTS

Approved instruments perform a quantitative analysis of alcohol in the breath. The Intox EC/IR II, manufactured by Intoximeters Inc., St. Louis, Missouri, is an approved instrument listed in the Approved Breath Analysis Instruments Order. The Intox EC/IR II was selected by the RCMP for use by law enforcement personnel in Canada through a competitive bidding process based on scientific, technical and cost requirements.



CHAPTER A

THEORY



In Canada it is a criminal offence for a person to operate a motor vehicle or to have care or control of a motor vehicle when the blood alcohol concentration exceeds eighty milligrams of alcohol in one hundred millilitres of blood (80 mg%).

In the vast majority of drinking / driving investigations breath samples, not blood samples are analyzed to determine the blood alcohol concentration of the person.

In Canada, breath test results for law enforcement are reported as a blood (not a breath) alcohol concentration. As such, the Qualified Technician should understand how it is possible to analyze breath for alcohol content and express the result in terms of a blood alcohol concentration.

Definition of the Intox EC/IR II

The Intox EC/IR II is an approved instrument which analyzes a sample of deep lung air and reports the results in milligrams of alcohol in 100 millilitres of blood.

In order to understand how a blood alcohol concentration relates to breath analysis, a brief knowledge of lung structure and function and gas exchange in the lungs is useful. See Fig A1.

Gas exchange occurs in the alveolar airspace (tiny air sacs located deep within the lungs). During respiration oxygen moves into the blood from the fresh air inhaled into the alveolar sacs, and carbon dioxide moves out of the blood and into the alveolar sacs to be exhaled.

Alcohol is volatile, meaning it can exist in a gas form. When alcohol is consumed, alcohol from the blood will diffuse into the alveolar airspace (similar to the carbon dioxide). A small amount of alcohol is removed from the body with each exhalation.



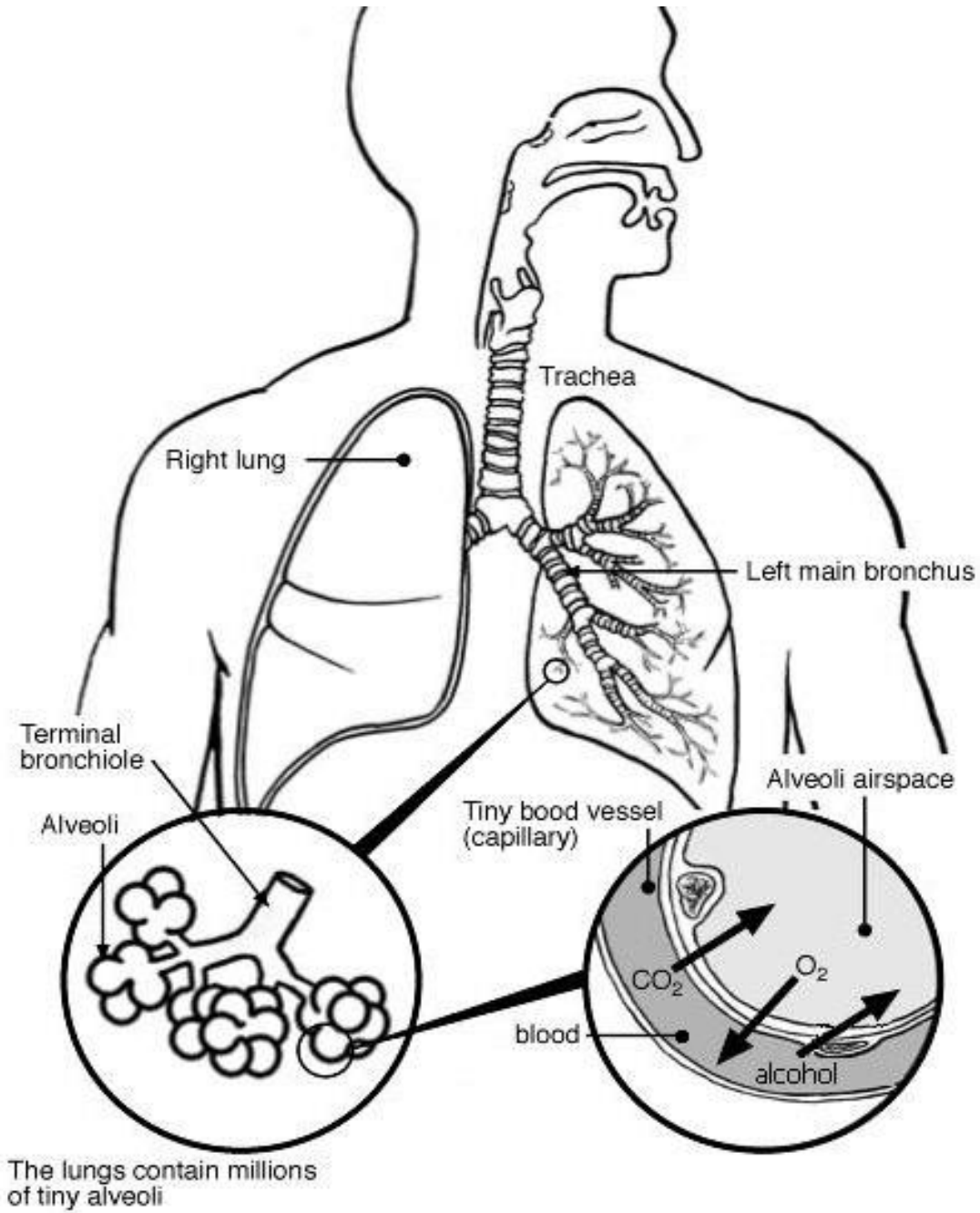


Figure A1: The lungs and the exchange of gases between the blood and the alveolar airspace

The amount of alcohol which diffuses into the alveolar airspace is directly proportional to the amount of alcohol in the blood. The exchange of alcohol from the blood into the breath is governed by Henry's Law. Henry's Law describes the actions of a volatile substance dissolved in water (or blood) and brought into contact with air.

Henry's Law states

At a given temperature the saturated vapour above a solution contains a concentration of solute proportional to the concentration of the solute in the solution.

To apply Henry's Law to breath testing consider that our solute is alcohol. The solute in the solution is the alcohol in the blood. The saturated vapour, would be the deep lung air. The temperature of the breath as it leaves the mouth is 34°C.

Henry's Law applied to breath testing

At 34°C the deep lung air contains a concentration of alcohol proportional to the concentration of the alcohol in the blood.

This law applies to all breath testing equipment (approved screening devices and approved instruments) used for law enforcement in Canada.

Henry's Law tells us that the concentration of alcohol in the deep lung air is proportional to the concentration of alcohol in the blood. If we measure the concentration of alcohol in the deep lung air, we will be able to determine the concentration of alcohol in the blood, if we know what the correct proportion is. This proportion is known as the breath to blood ratio.



The Breath:Blood ratio (2100:1)

At 34°C, 2100 parts of deep lung air contain the same amount of alcohol as 1 part of blood.

All breath test equipment used for law enforcement in Canada applies this ratio to convert the breath analysis result to a blood alcohol concentration. However, scientific studies indicate that the average breath: blood ratio is really closer to 2400:1. The significance of this is that breath test results tend to underestimate the actual blood alcohol concentration of most subject.

FACTORS WHICH AFFECT A BREATH TEST RESULT

There are a number of factors which can affect the results of a breath test. In order to obtain breath test results from a subject that accurately reflects his or her blood alcohol concentration, the terminal portion of a forced expired breath sample (deep lung air) must be analyzed. The air from the upper airways is mixed with clean room air and does not accurately reflect the person's blood alcohol level. The instrument determines when a sample of deep lung air acceptable for analysis has been provided by the breath test subject. The technician, not the instrument, determines if the samples accepted for analysis are suitable.

BREATH TEMPERATURE

Both Henry's Law and the breath: blood ratio is temperature dependant. If the mouth temperature is greater than 34°C, e.g. if subject has a fever, the breath test result will be falsely elevated. Alternatively, if the mouth temperature is less than 34°C, e.g. subject has placed ice chips in his mouth, the breath test result will be falsely lowered. Hyperventilation could also result in reducing the mouth temperature and therefore falsely lowered results.

MOUTH ALCOHOL

Mouth alcohol is residual alcohol remaining in the mouth. This can occur from recent consumption of an alcoholic drink, burp or regurgitation of stomach contents containing alcohol, belch or vomit, the recent use of mouthwash or breath fresheners containing alcohol.



The concentration of alcohol in beverage alcohol, mouthwash or breath fresheners is much higher than the breath alcohol concentration and can produce a false high breath test result if they are allowed to remain in the mouth.

In order to eliminate the potential effect of residual mouth alcohol, it is essential that the subject undergo a minimum 15 minute pre-test observation period prior to providing a breath sample.

SHALLOW BLOW

A shallow blow is when a subject provides a breath sample that meets the minimum sample acceptance criteria, but is not a sample of deep lung air. The effect of analyzing a shallow blow would be a falsely low result.

To minimize the potential of receiving a shallow blow, it is important for the QT to instruct the subject to provide a steady, continuous breath sample into the instrument until instructed to stop. The QT should closely observe the manner of blowing and effort exerted by the subject in providing the sample into the instrument to ensure compliance with the instructions.

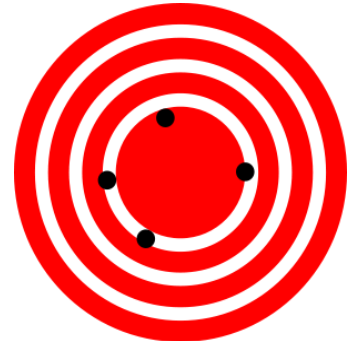


ACCURACY AND PRECISION

ACCURACY: (hitting the target)

Accuracy can only be determined when you know what the target value is. Are you close to or hitting the bull's eye? With alcohol standard with a target value of 100 mg%, results of 95, 105, 97, 103, and 100 mg% provide good accuracy as all results are within 5 mg% of the target value.

Figure A2: High accuracy, but lower precision



PRECISION (getting the same result)

Precision refers to the ability of the instrument to produce the same result with multiple analysis of the same test specimen. If we were to analyze the alcohol standard 5 times and get results of 92, 91, 91, 92, and 92, we would have good precision as the results vary by only 1 mg% from the average.

When you have a tight group that is not close to the bull's eye, this may mean that your sight needs adjusting, or in the case of an approved instrument that it needs to be recalibrated.

Figure A3: High precision, but low accuracy



ACCURACY AND PRECISION OF ALCOHOL STANDARD RESULTS

Ultimately the goal is to have both accuracy and precision in breath testing. We want a nice tight group hitting the bull's eye. Ideally, we would like the same result each time we test. Perfect results with 5 alcohol standard tests with a target value of 100 mg% would be 100, 100, 100, 100 and 100 mg%. No breath test instrument is expected to be completely accurate and precise all the time.

Figure A4: High accuracy, high precision



MARGIN OF ACCEPTABILITY

The margin of acceptability for the Intox EC/IR II is an alcohol standard result within 10% of the target value of the alcohol standard. For example, if the target value for an alcohol standard is 100 mg%, the margin of acceptability is 90 mg% to 110 mg% (inclusive). If the target value for an alcohol standard is 82 mg%, the margin of acceptability is 74 mg% to 90 mg% (inclusive).

An alcohol standard test is conducted prior to each subject breath test and each alcohol standard result must be within the margin of acceptability. A result outside of this range is not acceptable, and the testing sequence will abort.

PROPER WORKING ORDER

The Alcohol Standard test challenges the calibration of the instrument. When an alcohol standard test result falls within $\pm 10\%$ of the target value, we are confident in saying that “the instrument was found to be in proper working order by means of an alcohol standard”.



REVIEW QUESTIONS:

1. What scientific law is alcohol breath testing based on?
2. State the breath: blood ratio.
3. Why is it necessary to analyze a sample of deep lung air when determining a blood alcohol concentration?
4. How does a Qualified Technician recognize that s/he is obtaining a sample of deep lung air.
5. Why would breath testing underestimate the actual blood alcohol concentration?
6. What is the margin of acceptability of Alcohol Standard results?
7. What steps can a QT take to ensure that residual mouth alcohol does not affect a breath test result?
8. If permitted, what effect would holding ice cubes in the mouth have on a breath test result?
9. What is the suspected cause of breath test results of 190, 140 and 180 mg%?
10. What is the suspected cause of breath test results of 250, 150 and 150 mg%?



CHAPTER B

FUNCTIONAL OVERVIEW



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B-1



The Intox EC/IR II is an approved instrument that analyzes a sample of deep lung air and reports the results in milligrams of alcohol in 100 millilitres of blood.

The Intox EC/IR II employs two distinct analytical techniques to achieve a blood alcohol concentration (BAC) result. Both infrared (IR) analyses and an electrochemical sensor (i.e. fuel cell) are utilized. These techniques each offer a different advantage to the sampling process.

First, the IR system monitors the quality of the breath sample and is used to detect residual alcohol in the mouth. A flow sensor continuously monitors the breath sample to determine the exact moment to introduce the sample to the fuel cell component of the instrument for final analyses.

Second, the fuel cell is specific to alcohol and facilitates a chemical reaction that results in an electrical current. This current is then used to calculate the blood alcohol content present in each sample analyzed. In combination, the IR and fuel cell analytical systems provide all the necessary information to make a determination of an alcohol concentration and ensures that the instrument takes a sample representative of the blood alcohol content.



Figure B1 – front view of the Intox EC/IR II



FEATURES

- 1) **Breath Tube** – an insulated and reinforced plastic tube through which the subject provides a breath sample to the instrument. It is also used to draw room air into the instrument to purge the system. It is temperature controlled to $40^{\circ}\text{C} \pm 1^{\circ}\text{C}$. A clean mouthpiece is attached to the breath tube for each breath sample.
- 2) **Display** - a two line alphanumeric display that provides menu selections, both questions and responses during data entry, information on the status of the instrument, operating conditions and any instrument warnings that may affect the operation of the instrument.

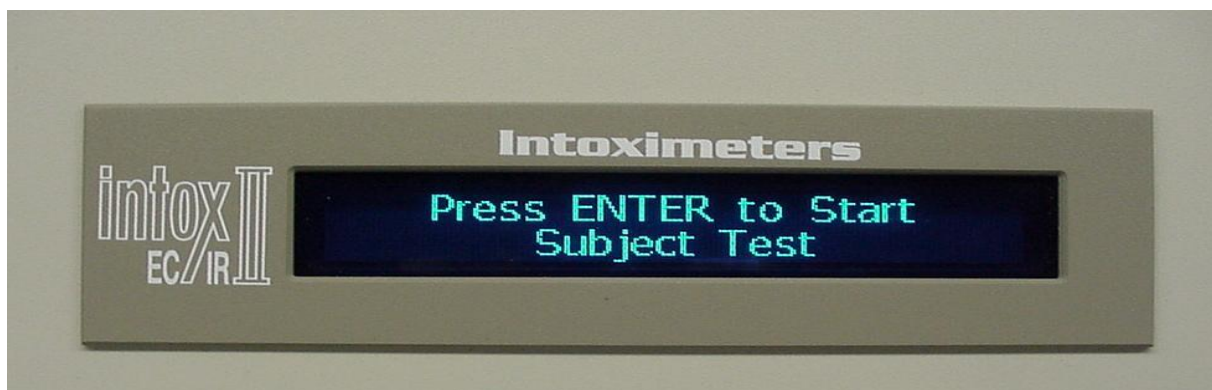


Figure B2 – view of the Intox EC/IR II display

- 3) **Keyboard** - standard keyboard, used to navigate the instrument prompts and enter data.
- 4) **Barcode Scanner** - E-SEEK 250 barcode scanner used to read mag stripe and 2D barcodes on Driver's licenses.
- 5) **Precise and accurate** - at blood BAC levels between 0 and 550 mg%.
- 6) **Standalone, Microprocessor-Controlled** - self-contained, with all necessary operating software on-board.
- 7) **Built-in Diagnostics** – analyzes instrument temperatures and electronic components.



- 8) **Software Driven Protocols** – conform to the standards of the RCMP National Breath Test Program and the ATC requirements for Canadian breath test programs.
- 9) **External Printer** - can print to PCL 5-compatible printers via a USB port.
- 10) **Wet Bath- and Dry Gas-capable** – plumbed for both wet bath simulators and dry gas cylinders for the introduction of alcohol standards. Wet bath connections at the rear of the instrument include heated inlet tubing. The dry gas compartment is located on the top of the instrument and is accessible via a lockable lid see Fig B3.



Figure B3 – Dry Gas Compartment

TECHNICAL SPECIFICATIONS

- 1) **Measurement Range** - 0 to 550 milligrams of ethanol in 100 millilitres of blood
- 2) **Specificity** - the measurement system is specific to ethyl alcohol; it does not respond to other hydrocarbons found naturally in the breath.
- 3) **Operating Temperature Range** - Indoor use, designed to operate in ambient temperatures between 5°C and 40°C.



- 4) **Internal Clock and Calendar** – An onboard battery provides back up power for the internal clock to allow it to operate during power outages or when the instrument is unplugged.
- 5) **Keyboard** – USB, AT-compatible keyboard.
- 6) **Display** - is a 256 x 32 pixel graphic vacuum fluorescent display. Displays 2 lines of characters with a minimum of 20 characters per line, rated for a lifetime of 50,000 hours.
- 7) **Input/output Connections** - one RS-232 serial communications ports, six USB ports, one RJ45 ethernet connection.
- 8) **Electrical** - 120 / 240V 60 / 50Hz. 1.7 / 0.9A
- 9) **Mechanical** - Height: 180 mm
 Width: 476 mm
 Depth: 368 mm
 Weight: 7.0 kg

TURNING ON THE INTOX EC/IR II

Before turning power on, ensure that (1) the keyboard cable is attached; (2) breath tube is connected to the breath tube inlet and the power connector on the left side of the cabinet (3) printer is connected to a USB port and turned on, and (4) card reader is connected to a USB port. To turn instrument power on, plug the Intox EC/IR II into an AC power outlet and switch the power switch (located on the rear panel of the unit) to the ON position. The Intox EC/IR II can remain on continuously which allows the user to avoid the warm-up time that is required when the instrument has been turned off for a period of time. Once you turn the instrument on the alphanumeric display will illuminate and display a series of initialization messages. The Intox EC/IR II will then go to the scrolling screen, displaying date, time, location and serial number of the instrument.

Subject tests, accuracy checks or calibrations cannot be initiated during the warm-up period, which lasts about 20 minutes. When the instrument reaches operating temperature, the scrolling screen messages will change, indicating that the instrument is ready to run tests.



FRONT PANEL DISPLAY

The graphic display shows two lines of text for menu selections, questions and responses during data entry, and information on the status and operating conditions of the instrument. After an initial warm-up period, the scrolling screen lists such things as location, instrument serial number, date & time and any warning conditions that may affect the operation of the instrument.

THE KEYBOARD CONTROLS & INDICATIONS

A Qualified Technician (QT) performs all commands from the keyboard control for all instrument functions. The keyboard supplied with the Intox EC/IR II works just as any personal computer keyboard works. The following keys have special uses in conjunction with the Intox EC/IR II:

ENTER KEY

Found in the center right portion of the keyboard and sometimes referred to as the Return Key, this key performs several functions. First, it is used to start a test sequence. When answering many of the data input questions, pressing the Enter Key saves the answer or data in memory and moves on to the next question or data entry field. Pressing the Enter key after all the subject test data entry has been completed allows the operator to review, verify and/or correct the data entered.

ESCAPE KEY

Found in the upper left-hand corner of the keyboard, this key ("**Esc**") will abort and exit the current function and return to scrolling screen. If a testing sequence (breath test, alcohol standard test, etc.) has already started when the Esc key is pressed, the test sequence aborts, an abort message is shown on the display and generally on the printout, as well.

SPACE BAR

Found at the bottom center of the keyboard, this key has two functions. Pressing the Space bar after all the subject test data entry has been completed starts a subject test. The Space Bar can also be used to toggle between options in certain menus for the selection of a specific setting.



FUNCTION KEYS

The twelve Function Keys (F1 – F12) perform pre-programmed functions and are password protected. These keys are found along the top row of the keyboard above the main set of keys.

CURSOR KEYS

The four “arrow keys” found on the lower right portion of the keyboard, are used to navigate through menus.

REAR PANEL CONNECTIONS AND CONTROLS

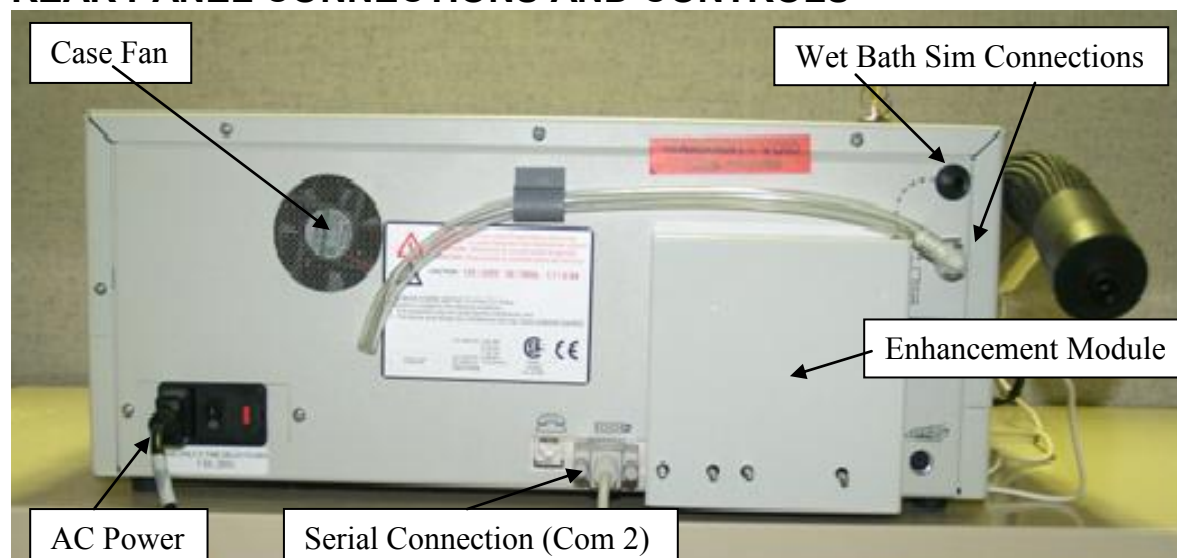


Figure B4 – rear view of the Intox EC/IR II

- 1) **Case Fan** - cools the instrument.
- 2) **AC Power** - plug-in for instrument power cord and switch to turn instrument on.
- 3) **Wet bath simulator connections** - including black plastic inlet port and tygon tubing connected to the white plastic quick connect on the vapour return port.
- 4) **Serial Connection (Com 2)** – for connection to “intelligent” wet bath simulator with serial port communication



5) **Enhancement Module** – hub that allows the following external components to be connected to the instrument: [see Fig B4]

- keyboard, a marked connection on the right side of the module
- heated simulator hose, a marked connection (5V) on the right side of the module
- card reader for drivers licenses, via any one of five USB ports on the left side of the module
- external printer, via any one of five USB ports on the left side of the module
- Ethernet connector, at the bottom of the left side of the module for RJ-45 plug to network connections

INTERNAL COMPONENTS

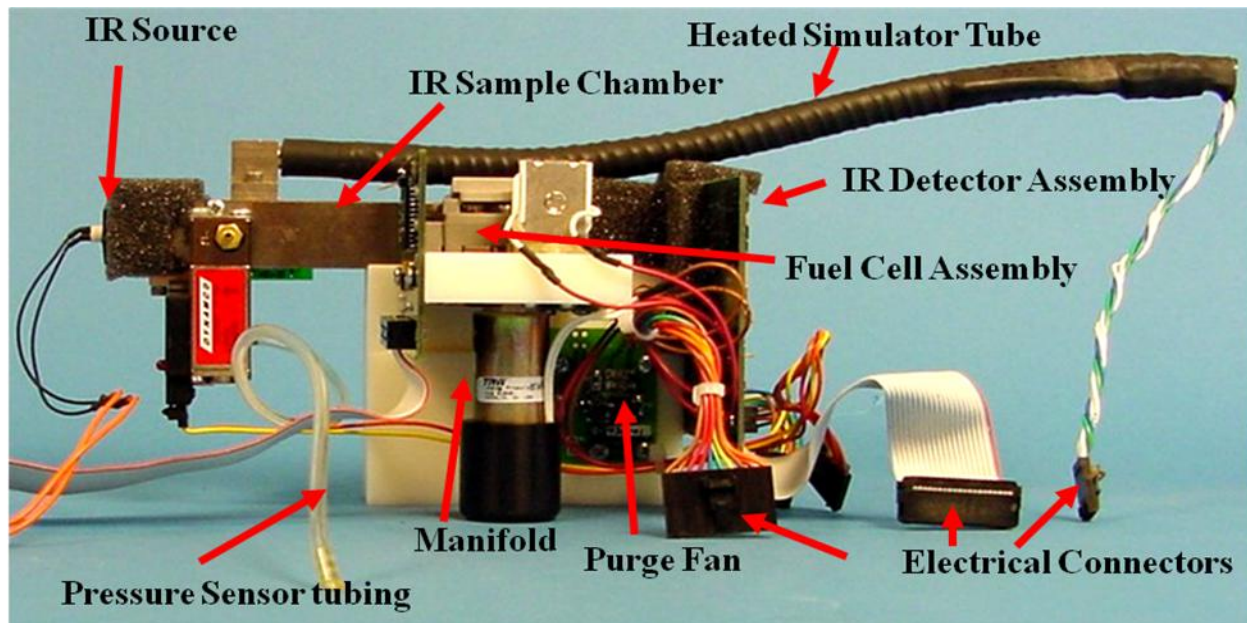


Figure B5 – internal components of the Intox EC/IR II

Figure B5 above, shows the internal components of the instrument, including the IR and fuel cell assemblies. The major components are highlighted and further detail can be found below:

- 1) **IR Source** – produces infrared (IR) energy, starting point for IR energy
- 2) **IR Chamber** – where the IR energy and the breath sample, alcohol standard or sample of ambient air come into contact



- 3) **IR Detector Assembly** – houses the IR filters and sensors; the endpoint for the IR energy and where the transmitted energy is detected
- 4) **Fuel Cell Assembly** – where the sample of breath or air is drawn in to interact with the fuel cell sensor. The assembly remains closed until the sampling criteria are met, it then opens to draw in a sample from the IR chamber for analysis.
- 5) **Heated Simulator Tube** – The tube through which the alcohol standard vapour is drawn into the instrument via a pump (not shown) from a wet bath simulator.
- 6) **Manifold** – nylon block mount for the fuel cell and IR assemblies.
- 7) **Purge Fan** – used to draw room air into the IR sample chamber to purge the system.
- 8) **Pressure sensor tubing** – this tubing leads to the pressure sensor (not shown). The pressure sensor has two purposes:
 - Pressure sensor – monitors the flow rate and volume of the subject's breath sample. This is used to decide when the instrument draws a sample of breath into the fuel cell.
 - Barometer – monitors ambient atmospheric pressure to determine the correction factor for dry gas standards. This reading is used to determine the target value for the dry gas alcohol standard at the time of the test (the target value varies according to atmospheric pressure).

RADIO FREQUENCY DETECTION

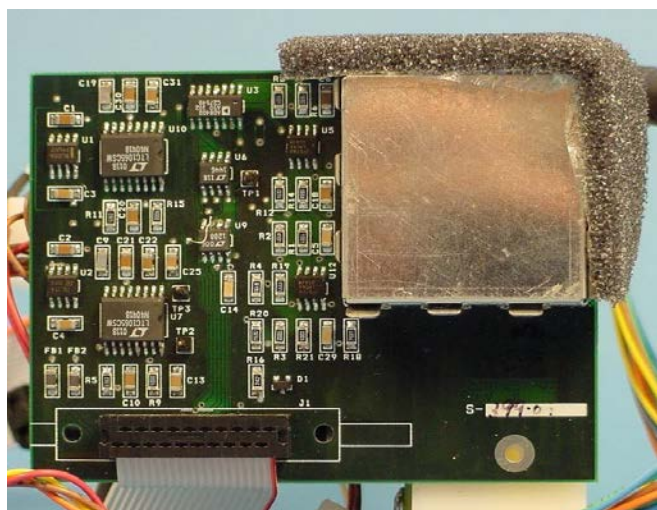


Figure B6 - Faraday cage on circuit board

The Intox EC/IR II was designed and certified by an independent laboratory to meet various radio frequency interference (RFI) immunity requirements. Although the instrument is certified as immune to certain RFI, it is recommended that no transmitting devices be used in the testing room during a test sequence.

A Faraday cage is an enclosed conducting shell that shields its interior from strong electric fields and electromagnetic waves. This metal can enhances the RFI/EMC protection which includes the design and sealing of the metal body of the instrument, as well.



If the instrument is subjected to a strong source of RFI, the instrument will abort the test and display **RFI Detected** as the status message.

BREATH SAMPLING AND ALCOHOL ANALYSIS

The Intox EC/IR II employs two distinct analytical techniques to monitor the suitability of a breath sample and to determine a blood alcohol concentration (BAC). It uses the electrochemical (EC) sensor (fuel cell) primarily to analyze the breath sample and determine the BAC. However, both the fuel cell and the infrared (IR) sensors are involved in monitoring the quality of the sample and checking for interfering substances and/or mouth alcohol.

THE FUEL CELL

The primary purpose of the fuel cell is for Blood Alcohol Concentration (BAC) determination by analyzing the breath or alcohol standard sample. A secondary function is to determine if there are interfering substances present in the breath sample.

A fuel cell is an electrochemical sensor that is specific to alcohols (see Fig B7) and provides a stable and linear response to ethyl alcohol. The fuel cell consists of a porous, chemically inert disk coated on both sides with finely divided platinum, called platinum black, with platinum wires applied to each surface and connected in a circuit. The entire assembly mounts in a plastic case which has a gas inlet that allows a fixed volume of sample (approx. 1 ml) to be introduced to the upper surface of the fuel cell.

Fuel Cell-Construction

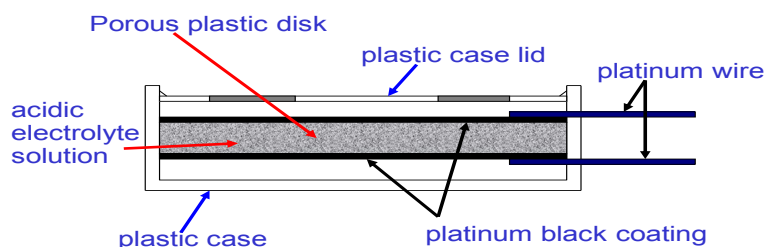


Figure B7 – Fuel Cell schematic



When ethyl alcohol comes in contact with platinum black on the upper surface, a chemical reaction occurs creating electrons and an electrical current flows through the wires to the other side of the fuel cell. The amount of current produced is proportional to the amount of ethyl alcohol present in the sample. A microprocessor evaluates the electrical current to determine the amount of ethyl alcohol present and converts it to a blood alcohol concentration.

It takes time for the chemical reaction to go to completion and the microprocessor monitors the output of the fuel cell to determine the BAC (see Fig B8). When the chemical reaction is essentially complete, the display will show the result of the analysis in milligrams of alcohol in 100 millilitres of blood.

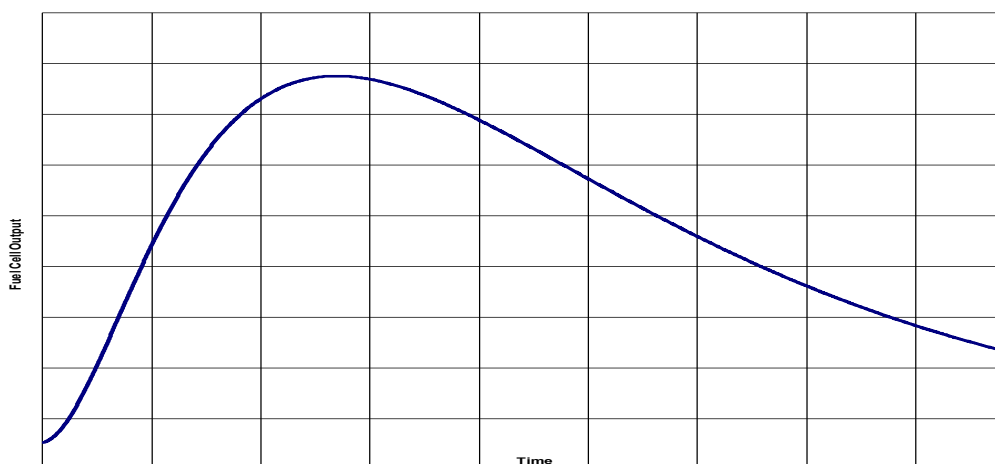


Figure B8 – output of the fuel cell over time

Fuel cells respond only to volatile substances that can be electrochemically oxidized at the surface of the cell. Fuel cells are, therefore, not sensitive to acetone or solvents based on derivatives of organic hydrocarbons. Fuel cells do, however, respond to other alcohols, such as methanol or isopropanol. However, their reaction profiles are different from that of ethyl alcohol. The Intox EC/IR II recognizes when there is an interfering substance present, displays the status message “Interfering substance” and then aborts the testing sequence.



THE INFRARED ANALYSIS SYSTEM

BASIC PRINCIPLES

Infrared absorption is another method for identifying and measuring ethyl alcohol in a sample. One property of ethyl alcohol is that it can absorb certain wavelengths of infrared energy from a light source.

That is, if infrared energy is sent through a chamber containing ethyl alcohol, not all of that infrared energy will be detected at the other end of the chamber. The energy that is “lost” is actually absorbed by the alcohol molecule, so measuring this loss at specific wavelengths of infrared energy is one way of recognizing there is ethyl alcohol in that chamber.

There is also a direct relationship between the amount of alcohol in the chamber and the amount of energy absorbed. So by monitoring the amount of energy at these specific wavelengths and measuring the amount that gets through to the detector at the end of the chamber (transmitted energy), the concentration of alcohol in the chamber can be determined by measuring how much energy is lost, or absorbed by the alcohol molecule.

This ability to absorb infrared energy is also shared by carbon dioxide. Of course, carbon dioxide is a natural component of our exhaled breath. We can monitor the presence and amount of carbon dioxide (CO₂) in this chamber in exactly the same way as we do for alcohol. CO₂ absorbs different wavelengths of infrared energy, so different wavelengths are required to “see” the loss of infrared energy due to CO₂ in the chamber. However, the same principle applies. The more CO₂ in the chamber, the greater the loss of energy at the detector for that specific wavelength of infrared energy.

The Intox EC/IR II infrared detector monitors three wavelengths (channels), one for carbon dioxide and two for ethanol. Selectivity is controlled by the use of filters. These filters have been selected to allow only the specific infrared wavelengths absorbed by ethyl alcohol or carbon dioxide to pass through. This way the detector is only looking at the loss of energy due to either ethyl alcohol or carbon dioxide.



Why monitor CO₂ when it's really alcohol that we want to measure? By looking for CO₂ in the chamber, the instrument is capable of distinguishing between a breath sample being provided by a subject and an alcohol standard or a purge. There are times when a breath sample should not be introduced, such as during a purge or during an alcohol standard test. By monitoring the CO₂ detector, the instrument is capable of recognizing when a sample of breath is being introduced into the chamber.

During a normal breath sample, the drop in infrared energy due to ethyl alcohol and the drop in infrared energy due to CO₂ are similar and follow a very similar profile. However, if mouth alcohol is present these profiles are different and the instrument can use these measurements to recognize the presence of mouth alcohol.

The infrared system in the Intox EC/IR II is used for several purposes. The IR sensor is used to not only recognize when someone is blowing into the instrument, but it can also detect residual alcohol in the mouth. Finally, the IR system is used to ensure a complete purge of the IR chamber after a test.

Figure B9 is a simplified diagram showing the infrared source, filters, infra red sample chamber and detectors.

Basic IR Detector Layout - major components

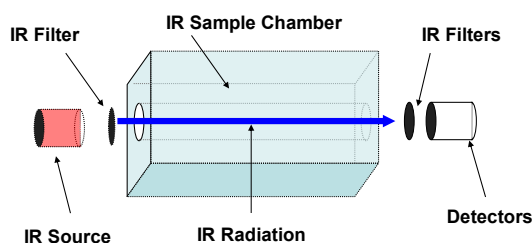


Figure B9 – schematic of a basic IR layout



MOUTH ALCOHOL DETECTION

The infrared system detects mouth alcohol by continuous monitoring of the breath sample during sample collection.

If mouth alcohol is present during breath sampling either by consumption, a burp or regurgitation, it will be quickly picked up by the breath passing through the mouth. As a result, the breath alcohol concentration at the beginning of the breath sample will be significantly higher than the deep lung portion of the breath sample.

As this breath sample is introduced into the infrared sample chamber, there will be a large decrease in transmitted energy at the ethyl alcohol wavelengths and this will be interpreted as a very high BAC. Since the infrared chamber is fairly small in this instrument (approx. 9 mL), as the breath sample continues to flow through the sample chamber the breath with high alcohol concentration will quickly be replaced with breath at much lower alcohol concentration.

The IR detector measures this change in alcohol concentration and if the difference is large the instrument immediately aborts the test and a purge will clear out the chamber. The status message "Mouth Alcohol" is displayed, and then printed on the Breath Test Report.

The micro processor compares the transmitted infrared energy from both ethyl alcohol wavelengths to the transmitted infrared energy at the CO₂ wavelength. Normally the profiles should match or track each other exactly. When there is a distinct difference between the response profiles for ethyl alcohol and CO₂, the "Mouth Alcohol" status message will also be triggered and the test is aborted.

BREATH SAMPLING SYSTEM

The breath sampling system in the Intox EC/IR II ensures that drawing a sample for analysis on the fuel cell takes place at the end of an exhalation, once enough breath has been provided to reach deep lung air. A pressure sensor continuously monitors the breath sample and sends information to the microprocessor to determine a flow rate. The microprocessor uses this flow rate to calculate the volume of breath that has been provided.



Sample acceptance criteria for the Intox EC/IR II include:

- 1) minimum flow rate of 12 L/min (0.2 L/sec), and
- 2) minimum volume of 1.5 L, and
- 3) a 5% drop in flow rate after minimum volume is reached.

The automated sample acceptance criteria of the Intox EC/IR II are such that deep lung air can be captured from the vast majority of people. There are very few people whose lung volumes are compromised to the point where they are unable to meet the automated sample acceptance criteria of the instrument due to a physiological problem.

The subject must provide a breath sample with sufficient force to produce and maintain a minimum flow rate of 12L/min. If the subject stops blowing before the minimum volume is reached or the flow rate is not sufficient, a status message is displayed and the instrument will purge the sample chamber to allow further attempts to provide a suitable sample for analysis. The purging of the IR chamber is performed by a purge fan installed in the exit port of the block and vents under the instrument.

Once the minimum flow rate has been maintained and the minimum volume has been provided, the instrument will only sample once the flow rate has dropped by 5%. At this point the instrument will draw a sample into the fuel cell for analysis.

Once the sample acceptance criteria have been met, the fuel cell sampling mechanism will be activated and a small volume (approx. 1 mL) of breath from the end portion of the breath sample will be drawn onto the fuel cell surface.

OVERVIEW OF BREATH SAMPLING SEQUENCE

- a) Subject provides breath sample
- b) Pressure sensor detects breath flow, flow rate calculated (continuously)
- c) Ethyl alcohol and CO₂ IR sensors monitor for mouth alcohol
- d) Minimum flow and volume requirements are met, then 5% drop
- e) Fuel cell is triggered to open and a sample is drawn into the fuel cell
- f) Fuel cell reaction, monitored by microprocessor
- g) Analysis of IR data
- h) No mouth alcohol based on IR data
- i) No interfering substances based on fuel cell analysis
- j) BAC calculated and displayed



CHAPTER C

OPERATIONAL PROCEDURE



Royal Canadian Mounted Police
Gendarmerie royale du Canada

C-1



The Intox EC/IR II will provide reliable results when operated by a properly trained Qualified Technician (QT) following the operational procedure outlined in this manual. The instrument is microprocessor-controlled and follows a fully automated testing sequence. The QT is required to monitor and document certain aspects of the procedure.

CRITERIA OF A PROPER BREATH TEST (PBT)

The goal in performing breath tests on a subject is to obtain a **P**roper **B**reath **T**est (**PBT**).

A PBT consists of the following three criteria:

- **Two suitable breath samples which agree within 20 mg% of each other.**
- **Two DIAGNOSTIC TESTS that have PASSED.**
- **Two ALCOHOL STANDARD tests within 10% of the target value.**

The Qualified Technician is required to take two suitable breath samples, the results of which have to be within 20 mg% of one another. This is an objective assessment of the suitability of the samples. If the results do not agree within 20mg% of each other, additional samples must be taken until this requirement is met. Obtaining two results enhances the confidence that the blood alcohol concentration is accurate and reliable. When results differ by more than 20mg%, the lack of agreement should not be attributed to instrument performance alone, and indicates that one of the two samples provided was not suitable. The software in the Intox EC/IR II will evaluate the results of the first and second breath samples to determine if subsequent breath samples are required.

Collectively, a PBT is designed to give the court confidence that the results obtained represent an accurate blood alcohol concentration. The two breath samples with results within 20 mg% of each other ensure that suitable samples of breath were obtained from the breath test subject. The diagnostic tests and the analytical results of the Alcohol Standard tests being within the acceptable range ensure that the instrument is in proper working order. Ultimately, it is up to the QT to ensure that all of the above criteria for a PBT have been satisfied before signing the breath test report and Certificate of a Qualified Technician.



BREATH TEST PROCEDURE

There are five phases to the breath test procedure:

- Observation period
- Information gathering
- Data entry
- Breath test analysis
- Final check

OBSERVATION PERIOD

The subject must be observed for at least **15 minutes** prior to each breath test to ensure:

- Nothing is in the subject's mouth. Check the subject's mouth for the presence of food, gum, tobacco or any foreign objects or substances. These materials should be removed.
- The subject has not taken anything by mouth during the observation period and that there has been no burping, belching, or regurgitation of stomach contents during this time. Record the time that the observation period commenced and the name of the member conducting the observation period.

Please refer to Chapter D for a complete discussion of the procedure for conducting the observation period.

INFORMATION GATHERING

While operating the instrument, the QT is required to enter information via the instrument keyboard. Any additional notes that the QT may be required to make should be documented in their notebook or on official forms.

The steps listed below must be completed prior to the commencement of the breath testing procedure. Therefore, certain information should be gathered prior to commencing the test.



*Step 1: **IDENTITY***: Confirm identity of subject, either through driver's license or other forms of identification.

*Step 2: **INSTRUMENT READY FOR USE***: Look at the scrolling screen and verify that the instrument is ready for use:

Instrument Ready Press ENTER to Start Subject Test

Ensure that no status message is being displayed indicating a problem with the instrument. If there is a status message indicating a problem with the instrument, the QT must resolve the problem prior to commencing the subject test. The instrument will not allow a subject test to be commenced if there is a problem with the instrument. A list of status messages is included in Chapter E.

*Step 3: **ALCOHOL STANDARD***: If the instrument is using an **Alcohol Standard (Wet Bath)** confirm the following:

- a. Simulator temperature is between 33.8°C and 34.2°C (digital display or NIST-traceable thermometer) and propeller is turning.
- b. Properly completed alcohol standard label is in place.
- c. Manufacturer and lot number on the alcohol standard label matches the manufacturer and lot number of the posted documentation.
- d. Alcohol Standard (Wet Bath) simulator solution has not expired.

The simulator solution cannot be used beyond 15 days or 50 tests, whichever comes first, and will expire at midnight on the 15th day. The instrument will monitor the expiry date of the simulator solution (expires on midnight of the 15th day), the expiry date of the alcohol standard bottle (as indicated on the alcohol standard bottle label) and the number of alcohol standard tests performed. Refer to Chapter E for list of status messages and Chapter K for alcohol standard change procedures.

Once any of these items reaches their expiry date or maximum limit, the instrument will display a status message and will not allow a test to proceed until the alcohol standard solution has been changed and data updated (**'Ctrl-F10'**). As we approach these limits, messages will appear as "Instrument Warnings" on the scrolling screen.



If the instrument is using an **Alcohol Standard (Dry Gas)** confirm the following:

- a. Properly completed Alcohol Standard Label is in place.
- b. Manufacturer, lot number and cylinder expiry date on the alcohol standard label matches the manufacturer, lot number and cylinder expiry date of the posted documentation.
- c. Alcohol Standard (Dry Gas) cylinder has not expired.

The dry gas cylinder has an expiry date of two years from the date of manufacture.

The dry gas cylinder cannot be used once the cylinder pressure drops below 50 psi.

The instrument will monitor the cylinder expiry date as well as the cylinder pressure. Refer to Chapter E for list of status messages and Chapter K for alcohol standard change procedures.

If the cylinder has passed its expiry date or below the minimum pressure limit, the instrument will display a status message and will not allow a test to proceed until the alcohol standard has been changed and data updated (F10). As we approach these limits, messages will appear as "Instrument Warnings" on the scrolling screen.

*Step 4: **CHECK MOUTH***: Verify that the subject's mouth is clear of any foreign materials.

*Step 5: **OBSERVATION PERIOD INFORMATION***: Note the time the observation period began and the name of the person conducting the observation. Verify that this person is aware of the proper observation procedures. The observation period must be at least 15 minutes and continues throughout the breath test procedure.

DATA ENTRY

Press the '**Enter**' key to begin the subject test. When prompted, enter password and press the „**Enter**“ key.



Pressing the 'Esc' key at any time during the breath testing procedure will abort the test and return the instrument to the scrolling screen.

The Intox EC/IR II is programmed to ask a number of questions prior to beginning the breath test sequence. The QT uses the keyboard to type in the answers to questions or data prompts. After each question or data entry, either the „Y“ or „N“ key, or the „Enter“ key is pressed to advance to the next question. Data entered by a QT will be printed on the Breath Test Report and/or the Certificate of a Qualified Technician, therefore it is important that it is correct and complete.

QTs have **one minute** to reply to each question or the instrument will return to the scrolling screen and the test sequence will have to be restarted.

The following table outlines the questions in the order that they are prompted on the display and the required responses:

Question #	Prompt/Display	Response/Input	Comments
Q1	Simulator Temp in Range? 33.8 – 34.2 C [Y/N]	Check the simulator solution thermometer or digital display (wet bath only) Y = move to next question N = abort to scrolling screen	This question will not appear if you are using a dry gas standard or if the instrument is configured to monitor the simulator temp.
Q2	Subject's Mouth Checked? [Y/N]	Y = move to next question N = abort to scrolling screen	Mouth must be checked prior to each test.
Q3	15 Min Subject Observation Period Complete? [Y/N]	Y = move to next question N = abort to scrolling screen	
Q4	Occurrence No.:	Alpha-numeric input by QT. Press 'Enter' to accept entry.	If not yet assigned then a unique identifier number must be used. Response = max 12 characters. This number may be required to begin subsequent tests.
Q5	Q.T. Last Name:	Alpha-numeric input. Press 'Enter' to accept entry.	As per designation. Response = max 24 characters
Q6	Q.T. First Name:	Alpha-numeric input. Press 'Enter' to accept entry.	As per designation. Response = max 24 characters
Q7	Q.T. Middle Name(s):	Alpha-numeric input. Press 'Enter' to accept entry.	As per designation. Response = max 24 characters



Question #	Prompt/Display	Response/Input	Comments
Q8	Alcohol Std Manufacturer:	Entry auto-populated from 'F10' or 'Ctrl-F10' data (Alc Std info). Press 'Enter' to verify data.	Verify the information against the Alcohol Standard Label. Info cannot be edited in this screen.
Q9	Alcohol Std Lot No.:	Entry auto-populated from 'F10' or 'Ctrl-F10' data (Alc Std info). Press 'Enter' to verify data.	Verify the information against the Alcohol Standard Label. Info cannot be edited in this screen.
Q10	Expiry Date of Sim Soln:	Entry auto-populated from 'F10' or 'Ctrl-F10' data (Alc Std info). Press 'Enter' to verify data.	Verify the information against the Alcohol Standard label. Info cannot be edited in this screen.
Q11	Swipe Driver's License or Press ENTER:	Swipe DL or press „Enter“ if license not compatible with card reader.	Accepts input from card reader for Q12 – Q16.
Q12	Subject's Last Name:	Alpha-numeric input by QT. Press 'Enter' to accept entry.	Response = max 24 characters
Q13	Subject's First Name:	Alpha-numeric input by QT. Press 'Enter' to accept entry.	Response = max 24 characters
Q14	Subject's Middle Name(s):	Alpha-numeric input by QT. Press 'Enter' to accept entry.	Response = max 24 characters If subject has no middle name, press the spacebar and 'ENTER'
Q15	Subject's Date of Birth:	Numeric input by QT in the format YYYY.MM.DD Press 'Enter' to accept entry.	A valid DOB must be entered at this time. If the DOB cannot be obtained, enter today's date.
Q16	Subject's Gender:	„M“ or „F“ Press 'Enter' to accept entry.	Use space bar to toggle between Male and Female.



Question #	Prompt/Display	Response/Input	Comments
Q17	Observation Start Time:	Numeric input by QT. Format: hh:mm (24 hr clock) Press 'Enter' to accept entry.	Entry not valid unless at least 15 min before present time.
Q18	Observer's Last Name:	Alpha-numeric input by QT. Press 'Enter' to accept entry.	Response = max 24 characters
Q19	Observer's First Name:	Alpha-numeric input by QT. Press 'Enter' to accept entry.	Response = max 24 characters
Q20	Observer's Middle Name:	Alpha-numeric input by QT. Press 'Enter' to accept entry.	Response = max 24 characters
Q21	Starting Test Sequence SPACE=Begin ENTER=Verify	Press 'Enter' to review data. To correct data, overwrite the present entry. Always review data after making any changes.	QTs have a maximum of 30 minutes at the conclusion of data entry and verification to begin each breath test sequence.

BREATH TEST ANALYSIS

- a. **Initiation of Testing Sequence:** Once the space bar has been pressed, the instrument will begin with the breath test sequence. The test number is assigned and the instrument will display:

Test Number: ####

The instrument sequentially numbers all breath test series and supervisor tests with a unique number. This number should be recorded in your notes or on an official agency form in case the test record needs to be accessed at a later time. It is advisable to provide this test number to the investigator for the file. The test data will stay in the database until the memory has been deleted.

- b. **Simulator Temperature within Range?:** Instrument then beeps once and displays:

**Simulator Temp in Range?
33.8 - 34.2 [Y/N]**

This is the final time this question is asked before the analytical sequence proceeds. This prompt will require the QT to look at the NIST-traceable



thermometer or the digital display on the simulator and verify the temperature is in the correct range. 'Y' will continue with the breath testing sequence. If 'N' is depressed, the instrument will display '**Operator abort**' and will return to the scrolling screen.

c. **Please Wait...:** Once the simulator temperature has been confirmed to be in the appropriate range, the instrument will display '**Please Wait...**' as the testing procedure is about to begin.

d. **Diagnostic Test:** The instrument will perform a diagnostic test. During the diagnostic test, the instrument is checking various baselines as well as temperatures.

When the instrument passes the diagnostic test, the instrument will display '**Diagnostic Test.../Passed**' and the testing sequence continues. If the diagnostic test is not successful, the instrument will display '**Diagnostic Test.../Failed**', the testing sequence will be aborted and the instrument will return to the scrolling screen.

e. **Purging Remove Mouthpiece:** The purge fan turns on and room (ambient) air is drawn into the instrument through the breath tube. The instrument will continuously monitor the IR detector response and the fuel cell output to ensure that both are stable. The instrument also monitors the room air for contaminants. When the purge is successful, the instrument will continue with the blank check.

If the instrument detects a contaminant in the room air or is unable to obtain a stable IR signal or stable fuel cell output, it will enter another purge cycle. If the purge is still unsuccessful after three attempts, the test sequence will be aborted.

f. **Blank Check:** Instrument then performs a blank check. The purge fan turns off and a sample of the air within the IR sample chamber is drawn onto the fuel cell. The sample is analyzed on the fuel cell to confirm that it is near zero. The blank check result will be displayed on the instrument as '**Blank: X mg/100mL**'. The result will be printed on the breath test report once the testing series has been completed.

If the fuel cell output is 4 mg% or greater, the instrument will automatically run the purge sequence again. If after three blank check attempts the result is still not



acceptable, a '**High Blank**' status message will occur. The testing sequence will be aborted and the instrument will return to the scrolling screen.

g. **Please wait...**

h. **Taking Alcohol Standard:**

(i) for instruments configured with an Alcohol Standard (Wet Bath):

The instrument pump turns on and forces air to bubble through the simulator solution. The air above the solution in the simulator becomes saturated with alcohol. A sample of the vapour is drawn into the IR sample chamber while the instrument monitors the sample with the IR analytical system. The instrument then draws a sample of the air from the IR sample chamber onto the fuel cell and the instrument will display '**Analyzing Sample**' as the fuel cell reaction takes place. The alcohol standard test result appears on the display as '**Result XXX mg/100mL**'.

The test result must be within 10% of the target value. For a 100 mg% Alcohol Standard (Wet Bath), a test result in the range of 90 mg% to 110 mg% verifies the instrument is in proper working. The instrument will display '**Alcohol Standard Test Passed**'. A test result outside of this acceptable range will cause the test sequence to abort and the status message '**Alc Std Test Out of Range**' will be displayed and printed on the breath test report. For more details regarding the alcohol standard, see Chapter K.

(ii) for instruments configured with an Alcohol Standard (Dry Gas):

The instrument will display the corrected target value for the dry gas cylinder based on the atmospheric pressure (determined by the pressure sensor) as '**Target Value: XX mg/100mL**'. A valve then opens and a sample of the Alcohol Standard (Dry Gas) enters the IR sample chamber while the instrument monitors the sample with the IR analytical system. The instrument then draws a sample of the air from the IR sample chamber onto the fuel cell and the instrument displays '**Analyzing Sample**' as the fuel cell reaction takes place. The alcohol standard test result appears on the display as '**Result XX mg/100mL**'.



The test result must be within 10% of the target value. For an 82 mg% Alcohol Standard (Dry Gas), a test result in the range of 74 mg% to 90 mg% verifies the instrument is in proper working. The instrument will display '**Alcohol Standard Test Passed**'. A test result outside of this acceptable range will cause the test sequence to abort and the status message '**Alc Std Test Out of Range**' will be displayed and printed on the breath test report. For more details regarding the Alcohol Standard, see Chapter K.

- i. **Purging Remove Mouthpiece**
- j. **Blank check**
- k. **Please wait...**
- l. **Please Blow / Press 'R' for refusal**: Once the instrument is ready to obtain a breath sample from the subject, '**Please Blow / Press 'R' for refusal**' will appear on the display.

The subject has two minutes to provide a sample into the instrument. After the first minute, the instrument display will begin to flash and a beeping tone will be heard every five seconds. In the final ten seconds, the instrument display continues to flash and the beeping tone will be heard every second until the instrument "times out". After two minutes, the status message „**Breath Timeout**“ will be displayed along with „**Test Aborted**“.

If the subject refuses to provide a breath sample, the QT can press the 'R' key and answer 'Y' to the display prompt, '**Refusal? [Y/N]**'. The display will show '**Test Refused**', the testing sequence will be aborted and '**Test refused**' will be printed on the breath test report.

Obtaining a breath sample

Shake mouthpiece to ensure one way valve is working properly. The one way valve should move and rattle. To avoid touching the mouthpiece with your fingers, hold the mouthpiece with the bag and firmly insert the mouthpiece into the breath tube. Discard mouthpiece after each use by using the plastic bag to remove the mouthpiece from the breath tube.



Instruct the subject to provide a steady, continuous breath sample through the mouthpiece into the instrument. '**Please blow...**' will appear on the display and a steady tone will be heard when the subject's breath flow has exceeded the minimum flow rate of 12 L/min (0.2 L/sec).

If the subject makes an attempt to provide a sample but fails to meet the sample acceptance criteria, the instrument displays '**Insufficient sample**'. The instrument enters a purge cycle to prepare itself for another attempt. The subject has two more attempts to provide a suitable breath sample before the instrument displays '**Refusal? [Y/N]**'. If the QT decides to allow the subject additional opportunities to provide a breath sample, press '**N**'. The instrument will conduct a purge cycle followed by '**Please Blow / Press 'R' for refusal**' to commence a second set of three attempts.

The subject has a total of three sets of three attempts, up to a total of nine attempts, to provide a suitable breath sample. After the ninth attempt to provide a proper sample, the testing sequence will automatically be aborted and the status message '**Insufficient sample**' will appear on the display. The breath test report will print '**Subj *****' on the result line and '**Test Status: Insufficient sample**' below the result.

m. **Analyzing Sample**: Once the sample acceptance criteria of the instrument have been met, the instrument will display '**Analyzing Sample**' as the fuel cell reaction takes place. The test results will appear on the display as '**Subject: XXX mg/100mL hh:mm**'. All subject test results displayed are truncated.

The word "truncate" means to "cut off the end". We truncate the last digit of a breath test result and replace it with a zero (i.e. round down). For example a breath test result of 89 mg% is reported as 80 mg%. Truncation can lower a breath test result by as much as 9 mg%. In accordance with the Recommended Standards and Procedures of the Canadian Society of Forensic Science Alcohol Test Committee, breath test results shall be truncated before being reported.

Truncation of results is another reason why breath testing tends to underestimate the actual blood alcohol concentration of a subject.



n. **Investigator Time/Date Check**: After the breath sample has been analyzed and the display shows the results and instrument time, the following three prompts appear on the display:

Enter Investigator Time
HH:MM

Enter Investigator Date
YYYY.MM.DD

Time / Date Correct?
HH:MM YYYY.MM.DD

o. **Purging Remove Mouthpiece**: Purge is the same as previously described.

p. **Blank check**: Blank check is the same as previously described.

q. **Please wait...**

r. **Countdown Screen**: Once the first breath sample sequence has been completed, the instrument displays a countdown screen. The *Criminal Code of Canada* requires an interval of at least 15 minutes between the times when the samples were taken. The Intox EC/IR II will not allow the QT to begin the second sample on the subject until 15 minutes has elapsed.

The instrument display will first indicate „**Please Wait 00:15:00**“ and begin to countdown to zero. When 15 minutes has elapsed, the display will show:

**Press Enter to begin
next breath test**

The QT has one minute to press ‘**Enter**’ at the end of the countdown screen or the display will return to the scrolling screen. If this is done, the instrument will begin a Diagnostic Test and continue with the breath test procedure.

Once the second sample has been obtained, the breath sample results will automatically be compared to one another.



If the two results for the subject are within 20 mg%, the instrument will automatically print the breath test report and display:

Print Certificate? [Y/N]

Pressing 'Y' will print a *Certificate of a Qualified Technician*.

If the QT does not press „**Enter**“ at the end of the countdown screen and the display has returned to the scrolling screen, to begin the next test on this subject the QT will need to press 'Enter', answer the initial questions and enter an active occurrence number when prompted.

THE FINAL CHECK

Confirm the criteria of a PBT have been met.

Review the breath test report and ensure that the information is correct. Sign each page of the breath test report.

Review the *Certificate of a Qualified Technician* to ensure that all of the information is correct. Sign the *Certificate of a Qualified Technician* in the signature block.

SPECIAL CIRCUMSTANCES

Multiple Subject Testing

If more than one subject is to be tested, the QT can exit the countdown screen and return to the scrolling screen by pressing 'Esc'. The instrument will display „**Return to Scrolling? [Y/N]**“. When 'Y' is pressed, the instrument beeps several times, purges the sample chamber and returns to the scrolling screen. Once the instrument has returned to the scrolling screen, another subject test can be started by pressing the 'Enter' key. A maximum of 4 occurrence numbers can be open at one time.

When „Esc“ is used and the QT returns to the scrolling screen, the time remaining for each test subject can be monitored on the scrolling screen. The scrolling screen will indicate the occurrence number, the subject's last name and the time remaining for each subject. The QT can continue with the testing procedure on a subject by pressing



'Enter', answering the pre-test questions and entering the appropriate occurrence number for that subject. The instrument will recognize the occurrence number and if the 15 minute interval is complete, the instrument will proceed with the next test. If the 15 minute interval is not complete, the countdown screen for that subject will be displayed.

Procedure for More Than Two Samples

Normally only two breath samples will be required to satisfy the 20 mg% criteria for a PBT. Occasionally more than two samples will be required to satisfy this criteria. When this occurs, the instrument recognizes that more breath samples are required and commences another 15 minutes countdown. Subsequent tests are conducted in the same manner as the previous tests until either the 20 mg% criteria is satisfied or a maximum of four breath samples have been analyzed. At the conclusion of the testing, a *Certificate of a Qualified Technician* will not be issued if there are more than two numerical results. Status messages are not numerical results and will not appear on the Certificate.

Proper instruction on how to provide a breath sample must be given to the subject to ensure a sample of deep lung air is provided by the subject and to avoid shallow breath samples.

Proper observation periods are also required to ensure mouth alcohol does not contaminate a breath sample.

Subject Refusal

Refusals fall into two categories: unequivocal refusals and equivocal refusals.

1. **Unequivocal Refusals** are situations in which the subject clearly states that he/she will not provide a breath sample. The QT should record these statements and be prepared to describe the circumstances of the occurrence and the actions of the subject.

If the breath testing sequence has begun and the subject then refuses to provide a sample, when the display shows '**Please Blow Press 'R' for refusal**', press '**R**'. The instrument then prompts „**Refusal? [Y/N]**“, type „**Y**“. The testing sequence will be aborted and the status message '**Test Refused**' will be displayed. At this point the instrument will also provide the QT the opportunity to enter a short comment (up to two-lines). The breath test report will then be printed indicating '**Test**



Refused' and the QT's short comment. Record the subject's statements indicating the refusal in your notes and/or on official forms.

2. **Equivocal Refusal** is when the subject does not verbally refuse, but fails to comply with the demand to provide samples of breath that will enable a proper analysis to be made to determine the concentration of alcohol in the person's blood.

QTs must be prepared to describe the circumstances of the occurrence and the actions of the subject and document these observations in your notes and/or on official forms. The QT must show that he/she provided clear instructions on how to provide a proper sample and provided opportunities for the subject to blow.

When the subject fails to provide a suitable breath sample, the QT should read the refusal warning to the subject and be prepared to articulate to the court why you believe that the breath sample was not sufficient for a proper analysis to be made.

When the display shows '**Please Blow Press 'R' for refusal**' and the QT presses **'R'**, the instrument then prompts **'Refusal? [Y/N]'**. If the QT presses **'N'**, the display returns to the '**Please Blow Press 'R' for refusal**' prompt. If the QT presses **'Y'**, the testing sequence will be aborted and the status message '**Test refused**' will be displayed. At this point the instrument will also provide the QT the opportunity to enter a short comment (up to two-lines). The breath test report will then be printed indicating '**Test Refused**' and the QT's short comment.

In situations where the subject has attempted to provide a sample of breath it may be necessary to prove that the instrument was capable of accepting a breath sample and/or that the mouthpiece was not blocked. In these circumstances, it is advisable to test the mouth to confirm that no blockage exists, and/or to retain the mouthpiece as evidence for court. The **'F2'** key (Quick Test) should be used by the QT to conduct a self-test to demonstrate that the instrument was capable of accepting a breath sample.



OCCURRENCE NUMBERS and TEST NUMBERS

An Occurrence Number/Identifier No./Police File No. is assigned by the QT to identify a specific subject. A Test number is assigned internally by the Intox EC/IR II to identify each test series (up to four breath samples for one subject).

1. **Occurrence Number:** All breath tests conducted on a specific subject will be associated with the same occurrence number. If the QT escapes from the countdown screen, this number is displayed on the scrolling screen with the remaining countdown time. When the QT begins a second breath test on this subject, this occurrence number must be entered to identify this subject.
2. **Test Numbers:** These numbers are used by the QT to recall tests from memory at some future date for a specific subject. This may be required to obtain a reprint of a breath test report and/or a Certificate of a Qualified Technician.



CHAPTER D

OBSERVATION PERIOD & INTERFERING SUBSTANCES



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OBSERVATION PERIOD

Breath testing is based on the premise that the amount of alcohol present in a subject's breath is proportional to the amount of alcohol in the subject's blood. If something is present in the subject's mouth that contaminates the subject's breath, it could lead to a falsely high determination of an individual's blood alcohol concentration.

Alcohol can be present in the mouth by way of recent consumption of a beverage containing alcohol, such as beer, liquor or hand sanitizer, or by using mouth wash or breath freshener, or by bringing stomach contents that contain alcohol from recent consumption into the mouth by vomiting or regurgitation. Theoretically a 'wet burp', where stomach contents are brought into the mouth, could contaminate the mouth with alcohol. The probability of a wet burp occurring twice, at least 15 minutes apart and producing two falsely high results that agree within 20 mg% of each other is extremely low. Coughs, hiccups and sneezes will not cause stomach contents to be brought up into the mouth.

While most breath testing instruments have methods to detect the presence of mouth alcohol in a breath sample, they are not 100% effective. As such, it is important that a continuous 15 minute observation period be conducted prior to the analysis of each breath sample to allow any alcohol which may be present in the mouth to dissipate. Studies have shown that 15 minutes is enough time to allow any alcohol that may be present in the mouth to dissipate and not affect a breath test result.

CONDUCTING A PROPER OBSERVATION PERIOD

The Qualified Technician may conduct the observation period themselves or delegate the duty to another member. Regardless of who conducts the observation period, the Qualified Technician is responsible to ensure a proper observation period is conducted prior to a breath test, which may require informing the designated member on how to properly conduct the observation period.

1. Search the subject to ensure they do not have products containing alcohol on their person. Check the mouth of the subject and ensure it contains no foreign objects such as tobacco, gum, food or other unusual objects as they may retain alcohol or present a choking hazard. Remove any objects if present. It is not required that piercings and dentures be removed.



2. Place the subject in the observer's field of view and within close proximity where clues of consumption, burps, or vomiting can be detected.
3. Observe the subject for at least 15 continuous minutes prior to each breath test, ensuring the subject does not drink any alcoholic beverages or other liquids, and does not place anything in their mouth, burp or vomit.
4. Restart the observation period if the subject is not maintained within close proximity and in the field of view of the observer or if the subject places anything in their mouth, burps or vomits.

The use of prescription inhalers to treat medical conditions is permitted, but the observation period should be restarted and the use and name of the inhaler documented.

An explanation of how the observation period was conducted may be required in court, so the observer should be prepared to properly articulate the procedure and observations made.

INTERFERING SUBSTANCES

An important function of any breath testing instrument is to analyze specifically for ethyl alcohol. Qualified Technicians and the courts must have confidence that results obtained by an approved instrument are from ethyl alcohol and not from another substance. While rare, some individuals will consume substances other than ethyl alcohol, either knowingly or unknowingly. In order for a substance to increase a breath test result, it must be volatile, non-toxic, present on the breath in sufficient quantities and produce a reaction on the fuel cell.

The Intox EC/IR II is designed to be specific for ethyl alcohol and to detect if other substances are present on the breath. Ethyl alcohol present on the breath and introduced into the fuel cell will create a chemical reaction that produces an electrical current. When other substances, such as gasoline, toluene, xylene and acetone are introduced into the fuel cell, no reaction takes place. In other words these substances, even if present on the breath of the subject, will have no impact on the result obtained by the instrument.



Typically when we refer to alcohol, we are referring to ethyl alcohol (ethanol), but there are other types of alcohols that may be present on a subject's breath. Methyl alcohol (methanol) and isopropyl alcohol (isopropanol) are two commonly available substances that may be consumed for their intoxicating effects. Methanol can be found in many commercially available products such as windshield washer fluid. Isopropanol is most commonly sold as rubbing alcohol and can be found in some hand sanitizers, perfume, cologne and cosmetics. Methanol and isopropanol are capable of producing a reaction on a fuel cell.

The Intox EC/IR II has a mechanism to detect and distinguish these different substances by monitoring the reaction profile in the fuel cell. When ethyl alcohol is introduced into the fuel cell, the reaction profile is predictable and consistent. When other volatile substances such as methanol or isopropanol are introduced into the fuel cell, the reaction profile of the fuel cell is different. See Fig D1.

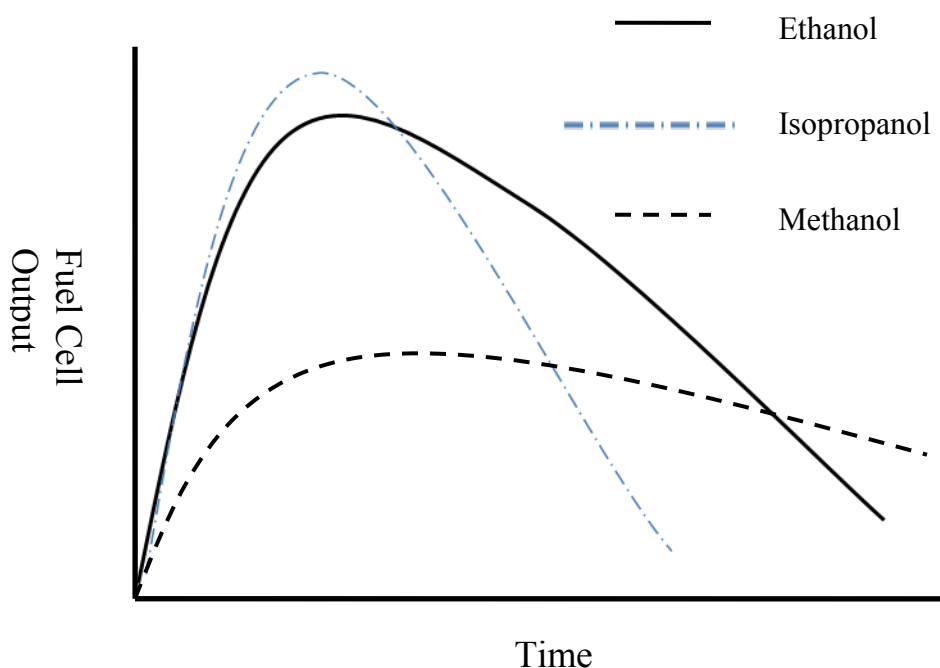


Figure D1 – Fuel Cell Output over Time (Various Substances)



As shown in Fig D1 the response of the fuel cell to isopropanol and methanol is different from that of ethyl alcohol. The Intox EC/IR II monitors the output of the fuel cell and if the response does not conform to that of ethyl alcohol, it will display the status message “**Interfering Substance**”. The instrument does not try to determine what the interfering substance is, only that the profile does not match the expected profile of ethyl alcohol.

If the Qualified Technician does encounter an “**Interfering Substance**” status message, the Qualified Technician should seek medical attention for the subject immediately. Similarly, keep in mind that many substances will not react on the fuel cell (e.g. drugs). If the level of impairment or intoxication is far greater than what may be expected for the alcohol result, the Qualified Technician should immediately consider seeking medical attention for the subject or seek a Drug Recognition Evaluating Officer if drug consumption is suspected.

OVERVIEW OF BREATH SAMPLING SEQUENCE – Interfering Substance

- a) Subject provides breath sample
- b) Pressure sensor detects breath flow, flow rate calculated (continuously)
- c) Ethyl alcohol and CO₂ IR sensors monitor for mouth alcohol
- d) Minimum flow and volume requirements are met, then 5% drop
- e) Fuel cell is triggered to open and a sample is drawn into the fuel cell
- f) Fuel cell reaction, monitored by microprocessor
- g) Analysis of IR data
- h) No mouth alcohol based on IR data
- i) Interfering substance detected based on fuel cell analysis
- j) **NO** BAC calculated. Status message displayed



REVIEW QUESTIONS:

1. Why is the observation period conducted?
2. What effect could mouth alcohol have on a breath test result?
3. What are the requirements of conducting a proper observation period?
4. How long must the observation period be? Why?
5. When should the observation period be restarted?
6. Can the QT conduct the observation period while operating the instrument?
7. Can the QT have another member conduct the observation period?
8. Who is responsible for ensuring the observation period is conducted properly?
9. Should the QT conduct a breath test if they cannot confirm the observation period was done properly?



CHAPTER E

STATUS MESSAGES & COMMAND LIST



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INTRODUCTION

The Intox EC/IR II provides information to the Qualified Technician (QT) by way of status messages indicated on the display and / or printed on the breath test printout. A status message can occur during any stage of the breath test sequence. Status messages are not error messages, but rather a way of the instrument communicating to the QT the current status of the test sequence. Status messages alert the QT to the current activities of the instrument or to a particular situation that has occurred during the testing sequence.

There are a number of status messages that can occur during the breath test sequence. Some status messages can be resolved by the QT, while other status messages will require assistance from the authorized service agent. A status message that requires assistance from the service agent should be reported as soon as possible. Additionally, any noted circumstances that may have contributed to the status message should also be reported.

There are numerous status messages that may occur, but only a few that will be encountered by the QT on a regular basis. An alphabetical list of status messages that the Intox EC/IR II may generate are listed in **Table I** below. As a QT, you should be familiar with the common status messages, why they are generated, and how to address them. If a status message occurs that does not appear on the table, contact the authorized service agent.

Status messages such as „RFI detected“, „Check Ambient Conditions“, „Breath at Improper Time“, and „High Blank“, that occur AFTER a subject sample has been accepted and analyzed, will **not** affect that particular subject sample. The breath sample result is an acceptable sample and the results can be used. There is no need to repeat the test.

Table E1 below lists the status messages in alphabetical order for quick reference.

Table E2 below lists the password-protected functions available to the Operator.

Table E3 below lists the password-protected functions available to the Supervisor.

(Check with your local breath test coordinator for Supervisor level access.)



Table E1 ALPHABETICAL LIST OF STATUS MESSAGES

Status Message	Description	Action
Access Not Allowed	The QT is not able to access the function or the incorrect password was provided	Provide the correct password for the function being accessed.
Alc. Std. Expired	Expiration date for the bottle of Alcohol Standard has passed.	Replace Alcohol Standard.
Alc. Std. Expires in X days	Warns the QT that the bottle of Alcohol Standard solution will expire in the number of days indicated	Continue testing; change Alcohol Standard prior to expiry date.
Alcohol Standard Test Out of Range	Results of the Alcohol Standard test (Wet Bath or Dry Gas) is not within the acceptable range	Check simulator temperature and / or connections; change Alcohol Standard; if condition persists, instrument calibration may be required and the authorized service agent should be contacted.
Breath at Improper Time	A breath sample is introduced into the instrument at the incorrect time during the breath test sequence	Maintain control of the subject during the test; ensure the subject provides a breath sample at the „Please blow...” prompt only. Restart the test.
Breath Timeout	A breath sample was not introduced into the instrument within 2 minutes of the „Please blow Press „R” for refusal” prompt being displayed	Restart the test; have subject provide a suitable breath sample into the instrument during the „Please blow...” prompt. Document reason for breath timeout.
Calibration error	Generated during the calibration procedure	Contact authorized service agent for assistance.
Check Ambient Conditions	An infrared absorbing substance is present in the sample chamber during the purge; the IR detector or fuel cell output is unstable	Ensure mouthpiece is removed from breath tube after sample has been provided; remove breath test subject from room before / between / after test. Restart the test. If condition persists, contact the authorized service agent for assistance.
Check Simulator Test Aborted.	Displayed when the simulator is not working correctly. In most cases this indicates a communication problem between	Ensure simulator is turned on and properly connected to instrument; if message persists, contact authorized service agent for assistance.



Status Message	Description	Action
	the instrument and the simulator.	
CO₂ Baseline Unstable	The instrument was unable to set the CO ₂ baseline to an acceptable range	Contact authorized service agent for assistance.
Diagnostic Test failed	Diagnostic check failed; failure condition detected during system diagnostic test	Contact authorized service agent for assistance.
Dry Gas Expires in X days	Indicates the number of days until the Dry Gas cylinder expires.	Continue testing; replace Dry Gas cylinder within the number of days indicated.
Dry Gas Pressure low	Dry Gas cylinder pressure falls below 100 psi	Continue testing; replace Dry Gas cylinder prior to cylinder pressure falling below 50 psi.
Dry Gas Expired	Dry Gas cylinder expiry date has passed	Replace Alcohol Standard.
Dry Gas Tank Empty	Dry Gas cylinder pressure has fallen below 50 psi	Replace Alcohol Standard.
Ethanol Baseline Unstable	The instrument was unable to set the ethanol baseline to an acceptable range	Contact authorized service agent for assistance.
Flow Baseline Unstable	The instrument was unable to set the flow baseline to an acceptable range	Contact authorized service agent for assistance.
Flow in I/R System	During the I/R baseline preparation, flow is detected	Contact authorized service agent for assistance.
Fuel Cell Leak Detected	Baseline rise during blow indicates a fuel cell leak	Contact authorized service agent for assistance.
Fuel Cell Over Range	The results of the subject test have exceeded the preset threshold value for the fuel cell	Seek medical attention for the subject if obtained on a subject sample; if obtained on an Alcohol Standard test, contact authorized service agent for assistance.
Fuel cell timeout	Fifty seconds elapsed during fuel cell analysis without meeting the criteria for a fuel cell analysis	Contact authorized service agent for assistance.
Heater Overtemp Detected	Displayed when one of the heaters has exceeded the set temperature	Contact authorized service agent for assistance.



Status Message	Description	Action
High Blank	Sensor Blank Fail; the fuel cell output is not near zero	Ensure mouthpiece is removed from breath tube after sample has been provided; remove breath test subject from room before / between / after test. Restart the test. If condition persists, contact the authorized service agent for assistance.
Instrument Not Ready	A condition exists that prevents the instrument from initiating a breath test sequence	View scrolling screen for status messages and address problem accordingly.
Insufficient Sample	Subject's breath flow has dropped by 5% before the minimum volume has been reached	Provide instructions to subject on how to provide a proper breath sample; demonstrate how to blow, if necessary; read refusal warning, if necessary.
Interfering substance	An interfering substance, such as methanol or isopropanol, was detected on the subject's breath	Seek immediate medical attention for the subject.
I/R Range Exceeded	The ethanol I/R channel has exceeded the preset maximum limits on an ethanol I/R calibration	Contact authorized service agent for assistance.
I/R Source Malfunction	The instrument has detected a problem with the I/R source	Contact authorized service agent for assistance.
I/R System Not Stable	During I/R baseline preparation, the ethanol channel varies beyond a preset threshold	Contact authorized service agent for assistance.
Mouth Alcohol	Mouth alcohol was detected on the subject's breath	Conduct a proper observation period, ensuring nothing taken by mouth for 15 minutes; wait 17 minutes and initiate breath test sequence. (Refer to Chapter B for more information)
Operator abort	The operator aborted the sequence in process by pressing the „Esc“ key	No further action required; document reason why „Esc“ key was pressed.
Printer Not Ready	When the printer is offline, out of paper, not properly selected, or otherwise malfunctioning, this will	Ensure printer is online; refill paper tray; select desired printer (i.e. External) from F9 menu; if message persists, turn off printer



Status Message	Description	Action
	be part of the scrolling screen and a test cannot be initiated	under F9 menu, continue with immediate testing and contact authorized service agent for assistance.
RFI Detected	Radiofrequency interference was detected by the instrument	Ensure no transmission of radios or cell phones during entire breath test sequence.
Sample Over Range	The value obtained exceeds the maximum permissible value as detected by the I/R detector	If message obtained on a subject test, repeat the test; if the message is obtained a second time, seek medical attention for the subject; if obtained on an Alcohol Standard test, contact authorized service agent for assistance.
Sample Solenoid Error	Sample solenoid actuation not detected	Contact authorized service agent for assistance.
Set Solenoid Error	Set solenoid actuation not detected	Contact authorized service agent for assistance.
Sim Temp out of Range	When the wet bath simulator falls out of its allowed temperature range of 33.8 – 34.2 C. Only observed when intelligent simulator is connected and monitored by the instrument.	Ensure simulator is turned on and properly connected to instrument; if message persists, contact authorized service agent for assistance.
Sim Soln Expires in X days	Warns the QT that the Alcohol Standard solution in the simulator will expire in the number of days indicated	Continue testing; change Alcohol Standard prior to expiry date.
# Sim Solution Samples Left	Indicates the number of tests remaining for the Alcohol Standard solution	Continue with test if counter is >3; change Alcohol Standard before counter reaches 0.
Solution expired	The Alcohol Standard solution in the simulator has exceeded the expiry date	Change Alcohol Standard.
System Software CRC Error	This is displayed when one of the CRC values is incorrect	Contact authorized service agent for assistance.



Status Message	Description	Action
Test Database full	The memory capacity of the instrument has been exceeded	Testing may be continued but the earliest data obtained will be overwritten (i.e. first in = first out, FIFO).
Test aborted	Associated with a status message that the instrument recognizes to abort the testing procedure	Address status message; restart test. Contact authorized service agent if necessary.
Test Refused	The QT indicated that the subject being tested is not willing to provide a breath sample by pressing the "r" key at the "Please blow" prompt	Document reason for refusal. No further action required
Wet std temp out of range	Associated with a smart simulator only. Displayed when the simulator temperature is outside of 33.8°C to 34.2°C once the breath testing sequence has been started by pressing the space bar.	Ensure simulator is on and propeller is spinning; wait until simulator temperature is within range; replace simulator, if necessary.

Table E2 OPERATOR COMMAND LIST

Key(s)	Function	Explanation
Enter	Run Subject Test	
'P'	Print Last Test	
F2	Quick Test	Used by QT following refusal to demonstrate instrument is capable of accepting breath sample.
'F'	Purge Cycle	Purge fan comes on and will remain running until the „Esc" key is pressed. Used if the sample chamber becomes flooded.
Shift F1	Pass Code Information	Views a code that may be requested by the service agent.



Table E3 SUPERVISOR COMMAND LIST

Key(s)	Function	Explanation
F1	Print Command List	Prints the list of commands.
F3	Supervisor test	Conducts FIVE Alcohol Standard tests (refer to Chapter K for more information).
F5	Print test	Reprints a test using the test number assigned by the instrument .
F8	Date / Time Setup	Changes the date and time of the instrument.
F9	General Setup	Access to location, COM ports and printer setup (see below).
F10	Dry Gas Alcohol Standard setup	Changes information with respect to the Dry Gas value, lot number and expiry date of the cylinder as well as the Dry Gas manufacturer (refer to Chapter K for more information).
Shift-F1	Pass Code Information	Views a code that may be requested by the service agent.
Shift-F2	Print Software Version	Prints software version.
Shift-F5	Print Test Summaries	Allows printing of breath test summaries or complete reports that were obtained over a period of time (see below).
Ctrl-F1	View Software Version	
Ctrl-F2	View Firmware Version	
Ctrl-F5	Browse and Print Test	Browse all test records and print report. Use left/right arrow keys to browse and Enter to print.
Ctrl-F9	Location	Allows agency name, city and province to be edited.
Ctrl-F10	Wet Bath Alcohol Standard data	Changes information with respect to the Wet Bath Alcohol Standard. Sets Alcohol Standard counter to zero. (refer to Chapter K for more information).
Ctrl-L	Alternate Language	
Ctrl-Q	Shuts down the instrument	



Key(s)	Function	Explanation
Ctrl-S	View Simulator Temperature	Temperature of simulator will be displayed if connected.
Alt-F9	Default Standard	Changes Alcohol Standard from Wet Bath, Dry Gas and breath tube by pressing the spacebar.
Alt-F10	Standard 2 counter	Views the number of draws from the Alcohol Standard solution in the simulator.
Alt-P	View Cylinder Pressure	
F	Purge Cycle	Purge fan comes on and will remain running until the „Esc“ key is pressed. Used if the sample chamber becomes flooded.
P	Print Last Test	

‘F2’ - Quick Test

This function is accessed by pressing „F2“, using the Operator password. The Quick Test function conducts a modified test sequence, i.e. Air Blank (A) – Breath Test (B). A single line of data entry is required and no Alcohol Standard test is performed. It is advisable that a quick test be performed by the QT if an equivocal refusal has been obtained.

DO NOT CONDUCT A BREATH TEST ON A SUBJECT USING THE QUICK TEST FUNCTION.

‘F8’ - Date and Time Setup

This function is accessed by pressing „F8“, using the Supervisor password. This function allows you to set the current date and / or time on the instrument as well as the current weekday.



To set Date and or Time:

- Scroll through the Date / Time menu, use the left/right arrow keys (Current Date, Current Time, Current weekday and Date Format).
- Make a change to the current date or time, use the **down arrow key** to select that option and the **down arrow key** again to highlight the selection.
- With the field highlighted type over the data to make the change. Press „**Enter**“ when the required edit has been completed.
- Press the „**Esc**“ key to return to the scrolling menu.

‘F9’ – General Setup

This function is accessed by pressing „F9“, using the Supervisor password. Use the left/right arrow keys to scroll through the following menus – Location, COM ports and Printer Setup. Use the down arrow key to select the menu option:

Location – once in the location menu, press the **down arrow key**.

- Use the left/right arrow keys to scroll through Agency Name, City and Province.
- If one of the fields is to be edited, use the **down arrow key** to select that option and the **down arrow key** again to highlight the selection.
- With the field highlighted type over the data to make the change.
- Press „**Enter**“ when the required edit has been completed.
- Press the „**Esc**“ key to return to the scrolling menu.

COM Ports - once in the COM port menu, press the **down arrow key**.

- Use the left/right arrow keys to scroll through the menu and the **down arrow key** to make the edit.
- Press „**Enter**“ when the required edit has been completed.
- Press the „**Esc**“ key to return to the scrolling menu.

Printer Setup – once in the Printer Setup menu, press the **down arrow key**.

- Use the left/right arrow keys to scroll through Print Device, Condensed Print Mode and Number of Print Copies.
- Use the **down arrow key** to select the menu.



In the Print Device or Condensed Print Mode menu:

- Use the **spacebar** to toggle between None and External.
- Press „**Enter**“ when the required edit has been completed.
- Press the „**Esc**“ key to return to the scrolling menu.

In the Number of Print Copies menu:

- The field to be edited will be highlighted.
- **Type** the number of print copies required.
- Press „**Enter**“ when the required edit has been completed.
- Press the „**Esc**“ key to return to the scrolling menu.

‘Shift-F5’ - Print Test Summaries

This function is accessed by pressing „Shift F5“, using the Supervisor password. The **space bar** is used to select an option. This function will allow the Supervisor to print a summary of all tests completed based on certain parameters. The Supervisor can also choose to print either test summaries or the complete breath test record. The following records can be printed: **All Tests, Calibration records, Supervisor Tests, Subject Tests, and Quick Tests**. Tests can be selected based on range of test numbers or by range of dates. If no test number range is entered, the instrument will print all test records, starting from the oldest test record in memory and ending with the most recent test in memory. See Appendix 2.



CHAPTER F

CERTIFICATES AND LOGS



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CERTIFICATES

Qualified Technicians should be familiar with the following two types of certificates:

1. **“CERTIFICATE OF AN ANALYST” (Alcohol Standard)**

This certificate will accompany the Alcohol Standard when received from RCMP stores. It is the certification by an Analyst that the Alcohol Standard identified within the certificate has been analyzed and found to be suitable for use with an approved instrument. As part of the subject test procedure, the Qualified Technician must compare the identification and lot number of the Alcohol Standard as noted on the information tag with the information in the certificate to ensure that it is the same verifying the Alcohol Standard is suitable for use.

2. **“CERTIFICATE OF A QUALIFIED TECHNICIAN WHO TOOK SAMPLES OF BREATH”.**

This is the certificate completed by Qualified Technician after completion of the breath tests. The certificate is to be issued if there has been a PBT and only two numerical results.

A certificate should not be issued when there is only one numeric result or when three or more numeric results are required to achieve a Proper Breath Test. A certificate is not issued when an **Interfering Substance** status message has been observed during a subject test.

In most cases the completed certificate can be produced by the Intox EC/IR II at the completion of the test. However, in some circumstances the certificate may have to be created manually. A sample list of situations when a certificate can and cannot be issued is included for your reference (Table F1).

If an error is made on the certificate, a new one should be prepared. The Notice of Intention to Produce Certificate should be completed by the officer serving the certificate.

Please note that the Qualified Technician’s name must be identified on the certificate exactly as written on the designation received from the Attorney General’s office, i.e. no abbreviations and no rank.



The identification of the alcohol standard and lot number should be identified exactly as shown on the documentation provided. Additional descriptors, punctuation marks, and/or symbols not found in the documentation are not to be included.

The time of the subject test is recorded on the certificate in relation to the Investigator's watch. Note that the time is recorded using the 24 hour clock.

The date that the QT certifies the certificate will be the date when the certificate was printed/completed and, on occasion, may differ from the date of the tests. The date the QT certifies the certificate will be auto-populated when the certificate is printed by the instrument.

Each certificate will contain an Identifier No./Police File No./Occurrence No. entered by the QT into the instrument during data entry. This number will be auto-populated in the upper right-hand corner of the certificate when the certificate is printed by the instrument.

QTs can issue a certificate even if one or both of the breath test results are below 80 mg%. Similarly, the QT can issue a certificate regardless of the amount of time that may have lapsed between the time of driving and the time of the breath tests.

Table F1 - Example of when and when to not issue a Certificate of a Qualified Technician

Test Result 1	Test Result 2	Test Result 3	Certificate of QT Issued	Instrument-generated or Manual
200	180	n/a	Yes	Instrument
200	160	190	No	n/a
200	Breath Timeout	190	Yes	Manual
Interfering Substance - Immediately Seek Medical Attention			No	n/a
Mouth Alcohol	180	180	Yes	Instrument
180	Mouth Alcohol	180	Yes	Manual
200	200 (Check Ambient Conditions)	n/a	Yes	Manual
200	REFUSAL	n/a	No	n/a



CERTIFICATE OF A QUALIFIED TECHNICIAN

I, _____,
a person designated pursuant to subsection 254(1) of the *Criminal Code of Canada* by the Attorney General of _____,
being, therefore, a qualified technician,

DO HEREBY CERTIFY:

That at _____, in the Province of _____, pursuant to a demand under subsection 254 (3) of the *Criminal Code of Canada*, I did take two samples of the breath of a person identified to me as _____,

as in my opinion were necessary to enable proper analysis to be made in order to determine the concentration, if any, of alcohol in the blood of the said person.

THAT I did receive each of the said samples directly into an Intox EC/IR II, an approved instrument as defined in subsection 254 (1) of the *Criminal Code of Canada*, that was operated by me.

THAT the analysis of each of the said samples was made by means of the said instrument operated by me and ascertained by me to be in proper working order by means of an alcohol standard which was suitable for use in the said approved instrument and identified as _____, Lot _____.

THAT the first of the said samples was taken at:
_____ hours on the _____ day of _____,
and that the result of the proper analysis of this sample was:
_____ milligrams of alcohol in 100 millilitres of blood.

THAT the second of the said samples was taken at:
_____ hours on the _____ day of _____,
and that the result of the proper analysis of this sample was:
_____ milligrams of alcohol in 100 millilitres of blood.

I FURTHER CERTIFY:

THAT the statements in this certificate are true to the best of my skill and knowledge.

DATED this ____ day of _____, _____, at _____,

Qualified Technician

NOTICE OF INTENTION TO PRODUCE CERTIFICATE

TO: _____
of _____

Take notice that, pursuant to subsection 258 (1)(g) and subsection 258 (7) of the *Criminal Code of Canada*, the prosecution intends to produce in evidence a copy of which appears above.

DATED this _____ day of _____, _____.

Signature of person serving this notice for the prosecution



LOGS

Each stage of the breath test process is documented to ensure valid and accurate breath tests. Documentation is important to the integrity of the Breath Testing Program at all breath test locations for all police agencies. They provide an organized reference system for a breath test program. The following is a recommended list of documents that could be maintained and organized in logs.

- **Personal Log:** Each QT should maintain a personal log which is a record of all breath tests conducted. These logs can be used to confirm a QTs experience with the instrument. Alcohol Standard changes could also be logged in the Personal Log, as it speaks to the QTs total experience with the instrument.
- **Instrument Usage Report:** The Intox EC/IR II has the capacity to electronically store a large amount of test data. The instrument is capable of printing a summary list of all tests conducted over a defined period of time. This information can be obtained by periodically generating a usage report (Ctrl-F5). This report may be used to satisfy disclosure requests.
- **Maintenance Log:** Records of any maintenance conducted on an instrument should be kept in the maintenance log. As per ATC guidelines, it is recommended that approved instruments and associated components (simulators) have annual service. It must be conducted by an authorized service agency. The annual service conducted by the authorized service agency, and any other maintenance performed on the instrument should be documented in this log.
- **Alcohol Standard Change Log:** Documentation related to Alcohol Standard changes must be retained and kept in a file. This may include the Certificate of an Analyst which certifies the lot of Alcohol Standard, as well as the Supervisor Test report generated at the time of each Alcohol Standard change.
- **Breath Test Bulletins:** The RCMP Toxicology Services Program and/or your local Traffic Services Section will periodically send out breath test bulletins. These bulletins may contain information regarding any updates, procedural changes, or general information that arise from case law or general breath test issues. These bulletins should be made available for all QTs.



CHAPTER G

QUALITY ASSURANCE



Royal Canadian Mounted Police
Gendarmerie royale du Canada

G-1

Canada

INTRODUCTION

Quality Assurance is a system of checks and balances. The system provides the scientific proof/support required to demonstrate the accuracy and reliability of analytical results. It is important to demonstrate to the courts that the results provided are an accurate representation of a person's true blood alcohol concentration. Breath alcohol testing is a scientific analysis. Therefore, it is critical that the procedure is carried out in a systematic fashion with proper documentation.

Quality Assurance (QA) is the documentation process of a scientific procedure. It encompasses all the rules and checks required to assure accuracy and reliability of results. This includes everything from having a standard operating procedure, standardized training for Qualified Technicians (QTs), proficiency testing of QTs, the maintenance of logs (instrument, maintenance, personal, proficiency testing, alcohol standard change), as well as a Quality Control system.

Quality Control (QC) is a check of our quality assurance system. In Breath Testing, the QC check is the Alcohol Standard Test. The alcohol standard test will challenge the instrument to determine if the instrument is in proper working order. This test will also check to see if the entire system is in compliance with the rules set out in our QA system. It is the combination of the QC test results falling within the margin of acceptability and the criteria of a proper breath test that ensure the results that are reported are accurate.

The quality assurance procedures set out in this document have been developed in accordance with currently accepted scientific principles and practices in the field of Breath Alcohol testing. The procedures are also in accordance with the recommended standards and procedures of the Canadian Society of Forensic Science Alcohol Test Committee (ATC). These standards and procedures are designed to ensure the highest possible confidence in the Intox EC/IR II Breath Test Program. They provide program guidance and uniformity while still allowing for professional judgment.

STANDARD OPERATING PROCEDURE

The standard operating procedure for breath testing is outlined in Chapter C of this document – Operational Procedure. Qualified Technicians are required to adhere to organizational guidelines when participating in the breath test program.



STANDARDIZED TRAINING FOR QUALIFIED TECHNICIANS

New course candidates will complete a comprehensive five-day Intox EC/IR II Certification course. QTs trained to use a different approved instrument will complete a comprehensive three-day Intox EC/IR II Conversion course.

Upon successful completion of the course, a certificate will be issued which will demonstrate the candidate's technical training required to operate the Intox EC/IR II. Successful candidates will then be designated as a Qualified Technician, as per the *Criminal Code of Canada*, by the Attorney General (AG) or designate of their province and/or Canada. QTs may not conduct subject breath tests until they've received their designation from the AG's office.

PROFICIENCY TESTING

Proficiency Testing (PT) is a part of any Quality Assurance System. It is performed to demonstrate the ongoing proficiency of an operator to conduct evidentiary breath tests. It is necessary that an operator remains competent, beyond their initial training, and current with improvements in the technology, any changes in policy or procedure arising from case law, or rulings under appeal.

The Canadian Society of Forensic Science Alcohol Test Committee recommends that "Each breath test program shall have a process to determine the proficiency of all QTs on an annual basis. If proficiency is not demonstrated, a Technician must successfully complete refresher training before resuming activity as a QT".

DOCUMENTATION

This program has been designed to ensure quality breath test results are produced. Each stage of the process is documented to ensure valid and accurate breath tests. The documentation and monitoring of QA/QC processes is important to the integrity of the Breath Testing Program at all breath test locations for all police agencies. They provide an organized reference system for a breath test program.

Refer to your local police service standards and policy for appropriate documentation procedures. It is the responsibility of each QT to be aware of all necessary logs, their location and how to maintain them.



BREATH TEST SUPERVISOR

To ensure a quality breath test program, each detachment/department should identify a QT to be the Breath Test Supervisor and responsible for monitoring the local program.

The main roles of the Breath Test Supervisor are to keep all records and logs in order, ensure the instrument receives its annual servicing, ensure adequate supplies are maintained, and periodically review breath test reports and certificates. If errors or discrepancies are found in the documentation, the Breath Test Supervisor should be responsible for following up and ensuring that corrective action has been taken.

It is the role of the Breath Test Supervisor to ensure that all QTs at his/her location comply with their PT requirements. The Breath Test Supervisor is responsible for monitoring the following logs:

- **Instrument Usage Report:** It is recommended that this report be generated periodically (Shft-F5) to satisfy disclosure requests.
- **Maintenance Log:** It is the responsibility of the Breath Test Supervisor at each testing location to maintain this log. All QTs must advise the Breath Test Supervisor of problems they encounter which may require instrument maintenance. The Breath Test Supervisor will also be responsible for ensuring that all breath test instruments receive annual servicing.
- **Alcohol Standard Change Log:** The Breath Test Supervisor will be responsible for reviewing the documents related to Alcohol Standard changes to ensure that proper procedure has been followed.
- **Breath Test Bulletins:** The Breath Test Supervisor will be responsible for ensuring that all QTs in their detachment/department are made aware of any new bulletins.



CHAPTER H

PHYSIOLOGY OF ALCOHOL



Royal Canadian Mounted Police
Gendarmerie royale du Canada

H-1

Canada

INTRODUCTION

This chapter will cover the absorption, distribution, and elimination (metabolism and excretion) of alcohol in the human body.

The word "alcohol" as used in this chapter will mean ethyl alcohol. Other compounds such as methyl alcohol (wood alcohol) and isopropyl alcohol (rubbing alcohol) have similar patterns of absorption, distribution and excretion as ethyl alcohol.

The physiology of alcohol describes what happens to alcohol once it has been introduced into the body, i.e. what the body does with the alcohol.

ABSORPTION

Alcohol is a small molecule which readily mixes with body water. Thus, it can be taken into the body by any of the common routes of administration. The most practical route is by oral ingestion.

As soon as alcohol comes into contact with the tissues of the mouth and throat, absorption begins. Alcohol quickly passes through these tissues and enters into the rich supply of blood vessels in this area by a process of simple passive diffusion. Unlike more complex substances such as fats, carbohydrates and proteins, alcohol requires no preliminary digestion or breakdown into smaller pieces prior to absorption, and no "carrier" to assist passage into the blood. It then travels from the mouth, down the esophagus, into the stomach.

Alcoholic beverages are retained in the stomach for a period of time prior to transfer into the small intestine. Absorption of alcohol into the blood stream can occur directly through the stomach wall, but the most rapid absorption occurs through the wall of the small intestine - a specialized tissue for the uptake of nutrients into the body. The small intestine has a surface area 1000 times greater than that of the stomach, thinner lining in the walls, and a much greater blood supply, all of which enhance absorptive capacity.

Regardless of the alcohol concentration of the beverage consumed, the concentration of alcohol in the small intestine rarely exceeds 1 - 2% v/v, and is absorbed very quickly. Thus, only the mouth, throat and stomach come into contact with high concentrations of alcohol, and only in the stomach is this contact prolonged.



Since the majority of alcohol is absorbed in the small intestine, the rate of which stomach contents travel into the small intestine will affect absorption. This is referred to as gastric emptying and the rate of gastric emptying can be affected by various factors.

Any factor which will cause the alcohol to be retained in the stomach will tend to prolong the absorption time. Conditions which allow rapid passage of alcohol into the small intestine will reduce the absorption time. Although absorption will still occur in the stomach, it will be at a slower rate. Typically, about 30% of the dose of alcohol consumed is absorbed from the stomach whereas 70% is absorbed from the small intestine (See Fig H1). Factors which may affect the rate of absorption of alcohol are detailed below.

AMOUNT OF FOOD IN THE STOMACH

All foods require some digestion or breakdown in the stomach before being emptied into the small intestine. When alcohol is taken with food, the time spent in the stomach is increased and therefore absorption will be delayed.

CONCENTRATION OF ALCOHOL IN THE BEVERAGE

Beverages with alcohol concentrations of less than 20% v/v have lower rates of absorption due to the volume of water which must also be absorbed. Beverages with alcohol concentrations greater than 40% v/v have delayed absorption because of extreme irritation to the stomach wall and the pyloric valve. The optimal rate of absorption occurs with beverages having an alcohol concentration of about 20% v/v.

RATE OF CONSUMPTION

The greater the quantity of alcohol available for absorption in the stomach and small intestine, the greater the rate of absorption. Thus, if a beverage is consumed over a shorter interval of time, it will be absorbed more rapidly. In other words, the more you drink and the faster you drink, the faster the absorption.

DRUGS, DISEASES AND EMOTIONAL STATES

Certain drugs, diseases or anxiety may cause a decrease in the activity of the stomach and small intestine and also decrease the rate of blood flow through this area. The result is a decreased rate of absorption.



Absorption of alcohol into the blood stream normally proceeds quite rapidly. With a single large dose of alcohol, the majority is absorbed within 15 minutes, and more than 90% of the alcohol is absorbed within one hour. With food in the stomach, complete absorption can take up to 2 - 3 hours.

As alcoholic beverages are normally consumed over a period of time, absorption occurs continuously with the gradual rise in blood alcohol concentration (BAC). The peak BAC usually occurs within 20 to 40 minutes after the completion of the last drink.

DISTRIBUTION

Once alcohol has been absorbed into the blood stream it is circulated throughout the body diffusing into body tissues and fluids, mixing and equilibrating with the total body water. The pattern of absorption and distribution of alcohol in the body is given schematically as follows:

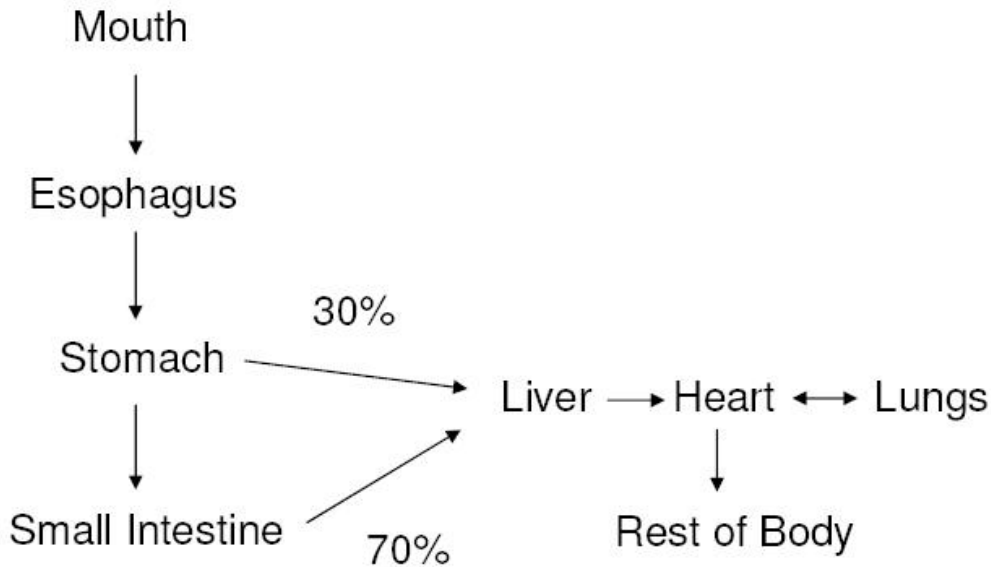


Figure H1 - Pattern of absorption and distribution of alcohol in the body

The alcohol that is absorbed from the stomach and small intestine enters the portal vein which leads directly to the liver, the major detoxifying organ of the body. The blood, on leaving the liver, mixes with blood returning from the remainder of the body prior to entering the right side of the heart. The blood is then pumped through the lungs where oxygen is taken up, carbon dioxide and other volatile compounds (like alcohol) are given off. This process takes place in the alveolar sacs or the deep lung region.

The blood, on returning from the lungs, enters the left side of the heart and it is pumped through the arterial system in the body. About one-third of the total blood volume pumped out of the left heart goes to the brain, whereas the remaining two-third goes to the rest of the body and major organs.

Alcohol is distributed in the body in proportion to the water content of the tissues and fluids. The more water there is in a particular tissue or fluid, the greater the concentration of alcohol that will be there. For example, urine will have higher water content than blood and will therefore have a higher alcohol concentration than blood. Alternatively, bone and fat have little water content and so will have very low alcohol concentrations as compared with the blood.

ELIMINATION

The elimination of alcohol from the body begins as soon as it is present in the body and continues until it has been totally removed. Elimination proceeds by two separate processes, metabolism and excretion.

Metabolism

About 90 - 98% of the total amount of alcohol consumed is removed from the body by metabolism. Metabolism, which occurs chiefly in the liver, effectively removes alcohol from the body by breaking the alcohol down into smaller molecules and changing it to other compounds. An enzyme, alcohol dehydrogenase (ADH), brings about this reaction as illustrated below. This is a multi-step process and the eventual end products of this reaction are carbon dioxide and water. Both of which are non-toxic and are excreted from the body by natural means.



In a reaction similar to that for ethyl alcohol, methyl alcohol and isopropyl alcohol are changed to more highly toxic compounds when metabolized. This accounts for their dangerous actions on the body.

Excretion

About 2 - 10% of the total amount of alcohol consumed is removed from the body by excretion. Excretion of alcohol from the body means the removal of alcohol in an unchanged form. This occurs when water leaves the body by any means, e.g., when alcohol is exhaled out in the moist breath. Examples of materials which are removed from the body and bring about the excretion of alcohol are breath, urine, sweat, tears, saliva, and feces.

RATE OF ELIMINATION

During the time a person is eliminating alcohol from his body, his BAC can be observed to change. That is, after the peak BAC has been reached, the BAC will fall steadily until there is no more alcohol left in the body.

Regardless of height, weight, sex, or amount of fatty tissue the rate of elimination is about the same for all people. The average rate of elimination is 15 mg% per hour, with a normal range of values between 10 mg% to 20 mg% per hour. Heavy drinkers usually eliminate alcohol at a higher rate than social drinkers. Alcoholics have been found to have elimination rates as high as 30 mg% per hour.

CORRELATION OF BAC WITH OTHER BODY FLUIDS

Other bodily fluids, in addition to blood, can be analyzed to determine alcohol concentration. Fluids such as urine, serum and vitreous humor are commonly seen in the forensic laboratory. However, when examining the results from these analyses, one would find the alcohol concentration in each fluid is not that same. This is because alcohol is distributed throughout the body in proportion to the amount of water in each bodily fluid. A conversion factor can be used to correct for the differences in water content between each of these bodily fluids.



Urine: Since urine has higher water content than blood, the urine alcohol concentration (UAC) is higher compared to blood alcohol concentration (BAC). Urine should not be used to determine a blood alcohol concentration as results can be variable due to pooling effects in the bladder. However, urine alcohol concentration can be used to indicate whether the individual is in the post-absorptive state, i.e. the blood alcohol concentration has reached a peak concentration. Under controlled conditions, the UAC is 30% higher than BAC.

Vitreous Humor: Since vitreous humor has higher water content than blood, the vitreous humor concentration (VAC) is higher compared to blood. This fluid is found in the eye and is generally 20% higher in alcohol content than blood. It is a good choice of sample in post-mortem cases as it is largely protected from contamination either by trauma or from bacteria.

Serum/Plasma: Blood is made up of two parts, a cellular portion containing the red blood cells and other agents as well as a liquid portion which primarily contains water. After separation, the liquid portion is called serum/plasma, depending on the separation technique. Hospitals generally conduct alcohol analysis on serum samples. Since serum has higher water content, the serum alcohol concentration (SAC) is generally higher than the whole blood alcohol concentration by 10 to 20%.

The results from hospital samples will generally be reported in units of millimoles per litre (mmol/L). As a quick rule of thumb, multiply a hospital serum alcohol concentration in mmol/L by 4 to get an equivalent whole blood alcohol concentration. For example, a hospital serum alcohol concentration of 20 mmol/L is approximately the same as a blood alcohol concentration of 80 mg%.

BAC AT TIME OF DRIVING vs BAC AT TIME OF TEST

It is important for Qualified Technicians and investigators to understand the physiology of alcohol in order to conduct a complete investigation of an impaired driver. There are circumstances in which the BAC at the time of the test may not be the same as the BAC at the time of driving. Consumption of alcohol just prior to the time of driving or just after the time of driving may create a difference between the BAC at the time of driving and the time of the breath tests.



In completing documentation to the Crown Counsel you should consider including all symptoms of impairment observed by police officers and civilian witnesses and the time at which these symptoms were observed. The details of a drinking history and/or answers to questions, may provide valuable information regarding the circumstances of the case.

Qualified Technicians and investigators you should consider including to obtain the following information:

- WHEN did drinking start?
- WHAT was consumed?
- HOW much was consumed?
- WHEN did drinking end?
- WAS there alcohol in the vehicle?
- WHAT is the subject's height/weight/gender?



CHAPTER I

PHARMACOLOGY OF ALCOHOL



It is important to understand the actions of alcohol on the human body in order to appreciate and recognize the symptoms or effects of alcohol on behaviour and performance. This chapter is designed to provide a basic understanding of what alcohol does to the body and how to assess the severity of these effects.

The pharmacologically active component of alcoholic beverages is ethanol. The other ingredients in alcoholic beverages and/or the mix that is used to dilute beverages do not generally cause any significant pharmacological effects on the body. Essentially, it is the ethanol that is responsible for the observed changes in behaviour and performance when one consumes alcoholic beverages.

DEFINITIONS

1. Pharmacology of Alcohol: The effects of alcohol on the body as these relate to mental and physical functions.
2. Central Nervous System (CNS): The brain and spinal cord.

CENTRAL NERVOUS SYSTEM (CNS) DEPRESSANT

Alcohol (ethanol) is a drug that alters normal biological processes in the body. For example, it causes diuresis (increased urine production), vasodilation (skin flushing), increased gastric secretion. Alcohol is a CNS depressant and its actions are primarily and continuously upon the central nervous system - the magnitude of the effect being dependent upon the concentration of alcohol in the body.

PROGRESSIVE EFFECTS ON CNS

The effects of alcohol on the human body are primarily due to its depressant actions on the central nervous system. The deterioration of ability and impairment of mental processes becomes greater as the BAC increases. Outlined below are four BAC ranges and the clinical symptoms one might expect to observe:



Impairment: Less than 100 mg%

- loss of inhibitions
- talkativeness
- increased self-confidence
- judgement diminished
- lessened attentiveness
- deterioration of vision
- increased reaction time
- deterioration of fine muscular co-ordination

All persons are impaired by alcohol with respect to their ability to operate a motor vehicle at **100 mg%**. This is the consensus among experts when discussing driving impairment and is based on the above factors.

Intoxication: 100 - 250 mg%

- disturbed vision
- loss of balance; equilibrium is disturbed
- vasodilatation - bloodshot eyes, watery eyes
- flushed face
- muscular in coordination
- fumbling
- unsteadiness on feet
- slurred speech
- emotional disturbance
- decreased pain sense

Severe Intoxication: 250 - 400 mg%

- depressed reflexes
- apathy, unable to move (inertia)
- stupor (conscious but not aware)
- coma (prolonged state of unconsciousness)

Death: 400 mg% or greater

- depression of the respiratory centre in brain causing respiratory collapse.



EFFECT ON SENSORY FUNCTIONS

Vision: The consumption of alcohol results in a deterioration of visual abilities in several ways and at differing BAC's:

- Acuity: clarity of vision begins to deteriorate at BACs less than 50 mg%. The degree of deterioration is dependent on the individual and increases with rising BAC.
- Depth Perception: the ability to ascertain the relative distance between objects. Deterioration commences at BACs less than 50 mg%.
- Peripheral Vision: the field of vision is reduced resulting in tunnel vision. This can begin with BACs of the range of 50 to 100 mg%.
- Double Vision: can begin to occur with BACs of 100 mg% or greater.
- Glare Recovery: at night the eyes take longer to recover after being subjected to bright light, e.g. car headlights. This begins with BACs less than 50 mg%.
- Nystagmus: an involuntary jerking of the eye as it tracks horizontally. This begins at BACs less than 50 mg% and progressively becomes worse with increasing BAC.
- Night vision: In order to distinguish objects, a stronger illumination is required and dimly lit objects cannot be distinguished at all. Alcohol appears to have the same effect on night vision as driving with sunglasses at twilight.

Hearing: The problem is attributed to a combination of reduced hearing ability and reduced attentiveness of the drinkers. In drinking environments, it is common to observe a significant increase in voice levels.

Taste and Smell: The keenness of these senses is depressed.

Touch: The keenness of these senses is depressed.



EFFECT ON DRIVING PERFORMANCE

Alcohol and Attention

The driving task has been described as a complex divided attention task involving a central visual task (tracking or maintaining the vehicle's lane position) and a peripheral visual task (scanning the environment for objects such as other traffic or potential driving hazards). Neither of the two activities appears to be individually impaired by alcohol at low BAC levels. However when combined, there is a significant deterioration even at low BACs.

Drivers who are under the influence of alcohol tend to concentrate on one task and neglect others in a divided attention situation. The decreased performance in divided attention tasks is most likely due to increased time required for information processing. Alcohol has greater effect on information processing information when attempting to perform several tasks at the same time.

Alcohol and Performance Measures

Tests of simple reaction time shows alcohol increases the time it takes to react to a signal when BAC's are above 80 mg%.

Studies examining choice reaction time where a person must attend to two or more tasks at once have reported greater alcohol impairment at lower BACs (as low as 30 mg%).

In one study where the driving situation included emergency braking and evasive manoeuvres, drivers with BAC's averaging 42 mg% performed less efficiently than when their BAC was at zero.

Alcohol and Risk Taking

Driving an automobile is usually taken for granted as being a relatively easy task, not requiring much conscious effort. The brain makes decisions and regulates motor activity based upon training and previous experience for smooth, controlled operation of an automobile. The many complex manoeuvres that one makes while driving occur automatically and one may not be consciously aware of it.



An individual takes many risks when driving, for example, merging with traffic, going through a yellow traffic light, proceeding through a busy intersection, passing another vehicle or a bicyclist, driving in the rain, or speeding. The risks are calculated on the basis of personal driving ability, road-worthiness of the vehicle, environmental factors, and traffic considerations. Actions are taken on the basis of minimal perceived risk.

When under the influence of alcohol, a person's perception and assessment of risk is altered. Impaired drivers may take greater risks because of an increase in self confidence. This is caused by a loss of critical judgment and the inability to make quick decisions in these situations. An alerting mechanism in the CNS is depressed such that a person may not recognize potentially hazardous or dangerous situations that the sensory functions detect. The sensory functions may have deteriorated and may not be supplying complete or correct information to the brain. Motor functions are impaired and that person will feel less inhibited and more self confident about his or her driving skills. As a result a person, after having consumed alcohol, is more likely to find themselves in high risk situations which would normally be avoided or treated more cautiously.

IMPAIRMENT

Impairment occurs at 100 mg% or less and is a deterioration of driving ability when compared to one's norm, as a result of the consumption of alcohol. It involves a decrease of judgment, a decrease in attentiveness, a decrease in visual acuity and an increase in reaction time.

All individuals, regardless of their tolerance to alcohol, are impaired by alcohol with respect to their ability to operate a motor vehicle at a BAC of 100 mg%.

Driving involves a series of automatic reactions combined with variable requirements for skill, judgement, and the ability to make unexpected split-second decisions. It requires co-ordination, anticipation, visual acuity, and muscular control. Impairment by alcohol is not simply the appearance of gross physical symptoms. Impairment involves a deterioration of judgement, attention, loss of fine co-ordination and control, possibly an increase in reaction time and a diminishing of sensory functions after the ingestion of alcohol.



INTOXICATION

When people speak about the effects of alcohol on a person the word "drunk" is often used. This word deals with the subjective or observable effects of alcohol and should not be confused with impairment. Intoxication is an advanced state of impairment in which the gross physical signs of the effect of alcohol are apparent: staggering, marked muscular in-coordination, slurred speech and a general confused state. These signs can become apparent when a BAC exceeds 100 mg%.

TOLERANCE

One definition of tolerance is the ability of the body to withstand or resist the effects of alcohol through adaptation. It is a matter of common observation that some people "hold their liquor" better than others. This is due to a person's tolerance to alcohol. The mechanism by which the body develops tolerance to alcohol is a complex one.

The important point to remember is that even though some people are more tolerant than others and may not exhibit physical symptoms at a given BAC, all are impaired in their ability to operate a motor vehicle when their BAC is 100 mg%. According to "Relative Probability of Causing an Accident," of the Grand Rapids Study (1964), a person with a BAC of 100 mg% is about 6 times more likely to cause an accident than if he were sober (see Fig. I-1).

ALCOHOL AND DRUGS

When alcohol and various drugs are taken in combination, unexpected results may occur. Two types of combination effects are as follows:

Potentiation: This is an additive effect where the actions of both drugs in combination, for example alcohol and barbiturates, are greater than what would be expected from each drug alone. Other drugs to avoid in combination with alcohol would include tranquilizers, antihistamines, and antidepressants.

Severe Toxic Reaction: This occurs when two drugs are incompatible with each other when present in the body together. A notable example is alcohol and disulfiram. Disulfiram interferes with the metabolism of alcohol causing a build-up of acetaldehyde in the body with resultant toxic symptoms.



Combination effects are often characterized by a relatively low BAC of 50 mg% or less, and the presence of gross symptoms of impairment and intoxication. When an alcohol-drug interaction is suspected, medical assistance should be sought at once.

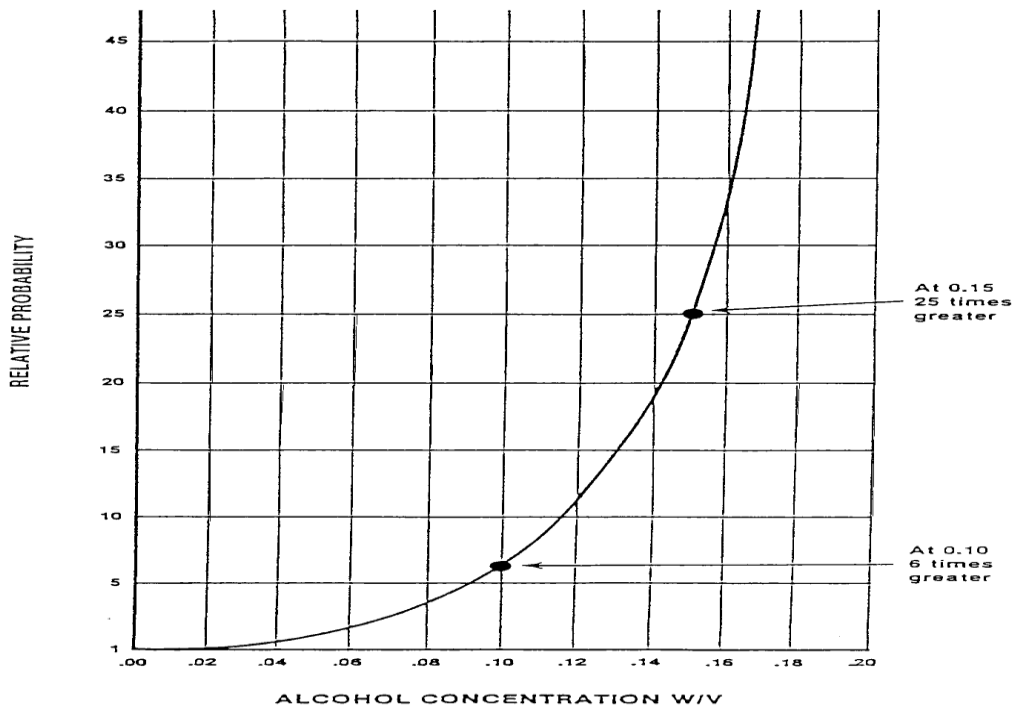


Figure I-1 Relative Probability of Causing an Accident from The Role of the Drinking Driver in Traffic Accidents Borkenstein et al (1964)



CHAPTER J

TECHNICIAN'S EVIDENCE



Introduction

Qualified Technicians (QTs) report breath test results via certificate and attend court to testify as to breath test results, breath testing procedures, and to observations relating to the subject's behaviour.

The purpose of this part of the session is to prepare the candidate to present oral testimony in court. The candidate will become familiar with the type of questioning to be expected and the extent of response recommended.

Typically a Certificate of a Qualified Technician will be filled out by the Qualified Technician at the time of the breath test, and will be entered as evidence on their behalf in court. However, sometimes this is not the case, and Qualified Technicians must attend court to give *viva voce* evidence.

Reasons why a Qualified Technician may have to attend court include:

1. Certificate may not be admissible
 - Not served at all
 - Not served properly on accused
 - Error on the certificate
2. No certificate was issued at all:
 - One test or refusal case
 - More than two numerical results
3. Defense has requested to call the Qualified Technician for cross-examination.
4. The accused is charged with an offense other than impaired driving.
5. The Qualified Technician is also the investigating member.

BEING QUALIFIED IN COURT

A Qualified Technician may be tendered as expert witness. Refer to your regional Crown practices and procedures. It is up to the Court to decide if the Qualified Technician meets the requirements to present expert evidence in the areas tendered by Crown Counsel. In some instances, defense will accept the qualifications without the need to go through them; however this is not always the case. Qualified Technicians should be prepared to go through all qualifications when dealing with the Intox EC/IR II.

As an Intox EC/IR II Qualified Technician, the areas of expertise may include the theory and operation of the Intox EC/IR II instrument, and the analysis of breath samples for alcohol content.



The QT should be prepared to describe the type of training and experience as follows:

1. Describe the course you have completed (for example):

“I attended a 3-day (or 5-day) course which covered the theory and operation of the Intox EC/IR II instrument. This course involved both class room lectures as well as practical testing. I successfully completed written, practical and oral examinations during this course; I met all requirements and successfully completed the training course on (Month) (Day), (Year), and was designated by the Attorney General of (Province / Canada) on (Month) (Day), (Year).”

2. Describe your involvement in impaired investigations as both an investigator and a QT.

“I have conducted approximately 50 impaired driving investigations and dealt with numerous impaired or intoxicated individuals over my 3 years as an officer. I have conducted 35 breath tests on the Intox EC/IR II, and have had the opportunity to present my evidence in court 5 times.”

Preparing a CV outlining the above information may help to facilitate your qualifications being accepted by defense counsel. Attach your designation from the Attorney General and course certificate to your CV. Crown may find this useful when leading you through your qualifications. Refer to your regional Crown practices and procedures.

PREPARATION BEFORE COURT

1. Review the breath test report thoroughly and be prepared to discuss all information contained on the report (ie. diagnostic tests, alcohol standard tests, any status messages, etc.).
2. Ensure the breath test report contains all the proper information. Alert Crown if you notice any problems or omissions.
3. Review all your notes and be prepared to discuss all information contained in your notes.
4. If necessary, briefly review training materials.



PRESENTING EVIDENCE

You should present your evidence in a concise and easy to understand manner. Use the correct scientific terms and proper legal words or phrases. To familiarize yourself with the proper legal words or phrases, review the pertinent sections of the Criminal Code. Plan to meet and discuss the case with Crown Counsel prior to attending court to determine evidence the Crown intends to lead from you and any questions or issues the defense may present to you.

To assist you with presenting your evidence, “10 Points for Testimony” were developed. Take particular note of all the bolded text and the terminology used when giving this evidence.



10 Points for Testimony

1. Name & Designation, Province I am _____, a **Qualified Technician** designated by the Attorney General of _____ as being qualified to operate an Intox EC/IR II, an approved instrument.
2. Location, Province of test Two samples of breath were analyzed by me at _____.
3. Identity of Accused The breath samples were received from _____.
4. Identity of Approved Instrument Each breath sample was received **directly** into an Intox EC/IR II, an approved instrument, that was operated by me.
5. Proper Working Condition This approved instrument was found to be working properly by means of an alcohol standard suitable for use with the instrument.
6. Identity of Alcohol Standard The alcohol standard was identified as (Manufacturer) (Lot number).
7. Date & Time of first test The first sample was taken at _____ hours on (Date).
8. Result of first test The result of the first test was _____ milligrams of alcohol in 100 millilitres of blood.
9. Date & Time of second test The second sample was taken at _____ hours on (Date).
10. Result of second test The result of the second test was _____ milligrams of alcohol in 100 millilitres of blood.



ANSWERING QUESTIONS

It is important that when answering questions posed by either crown counsel or defense counsel that answers are kept simple and short. If a general question is asked, then answer in general terms and provide more detail as required.

If you cannot recall an answer to a question, don't be afraid to say that you cannot recall at the moment. If you are allowed to refer to your notes then look up the information required.

You should be prepared to discuss a number of topics including:

1. The time the subject was presented to you.
2. Symptoms of accused.
3. Who conducted the proper pre-test observation period?
4. The diagnostic test: when this test is conducted in the breath test sequence, how the QT knows that it was successful.
5. The blank test: when this test is conducted in the breath test sequence, how the QT knows that it was successful.
6. The Alcohol Standard test: purpose of this test, when this test is conducted in the breath test sequence, how the QT knows that it was successful.
7. The Alcohol Standard: target result and range, manufacturer, lot number and expiry date, that it was suitable for use on the day of the tests and how this determination is made.
8. Meaning of any status messages that may have been displayed during the test procedure.
9. How did you confirm the instrument was in proper working order?
10. The criteria of a proper breath test.
11. Instructions that you provided to the subject with respect to how to provide a suitable sample for analysis.
12. Your observations of the subject regarding the manner of providing the breath sample. This is important in cases with more than two breath test results, multiple sample attempts, shallow blows or refusals.
13. The sample acceptance criteria and the consequences of not meeting the criteria.
14. The significance of instrument time and date, as well as Investigator time and date for each breath sample, as printed on the Breath Test Report.
15. Preparation and service of the Certificate of a Qualified Technician.
16. Any policy or procedures related to the instrument.



MOCK TRIAL QUESTIONS

1. What is a Intox EC/IR II?

The Intox EC/IR II is an approved instrument which analyzes a sample of deep lung air and report the results in milligrams of alcohol in 100 millilitres of blood.

2. What is an Alcohol Standard Test?

A calibration check of the Intox EC/IR II that demonstrates that the instrument is in proper working order.

3. How does the Alcohol Standard Test show you that the instrument was in proper working order?

The results that were obtained were within 10% of the target value for the alcohol standard on each occasion. The results were displayed on the instrument and printed on the breath test report.

4. How is the temperature of the simulator solution determined?

During a breath test sequence, I read the NIST thermometer (or digital display) on the simulator and confirmed that the temperature was between 33.8°C and 34.2°C.

5. How do you know that the alcohol standard in your simulator is suitable to use?

The information on the alcohol standard label must match the information on the Certificate of an Analyst to confirm that the Alcohol Standard is suitable for use. The simulator temperature must be between 33.8°C and 34.2°C.

6. How do you know that the breath tube was not blocked and prevented my client from providing a sample into the instrument? (unable to provide a suitable sample after several attempts)

I conducted a "Quick Test" after the subject test to prove that the instrument was capable of accepting a sample of breath, and instrument printed a Quick Test Report.

7. What is the cause of the status message INTERFERING SUBSTANCE?

The Intox EC/IR II has detected something other than ethyl alcohol present on the subject's breath and displays this message. No test result will be reported when this occurs.



CHAPTER K

ALCOHOL STANDARD CHANGE



The Alcohol Standard change is an important procedure, which ensures quality standards are maintained within the breath test program. This chapter deals with changing the Alcohol Standard (both Wet Bath and Dry Gas) and the associated documentation.

Intox EC/IR II will initially be configured with Wet Bath Alcohol Standard and will be converted to Dry Gas Alcohol Standard as the program evolves. Qualified Technicians must be prepared to change both standards and explain their purpose in court.

PURPOSE OF THE ALCOHOL STANDARD TEST

The purpose of the Alcohol Standard Test is to check the calibration of the instrument. Calibration of an instrument is the adjustment to a specific value using a solution of known alcohol concentration. Typically this is done by the service agent using a solution with a target value of 100 mg%. Once the initial calibration is performed, the requirement is to conduct regular calibration checks with an alcohol standard to confirm the instrument remains calibrated.

The margin of acceptability of the alcohol standard test is $\pm 10\%$ of the target value for alcohol standard.

No adjustments are made to the calibration of the instrument with the Alcohol Standard Test. The QT will only be conducting a calibration check – not a calibration.

ALCOHOL STANDARD CHANGE POLICY

If your police agency has a designated Breath Test Coordinator, contact him/her for direction on solution change procedures and documentation.

1. Alcohol Standard (Wet Bath)

The recommendation for the frequency of alcohol solution changes is:

“For a simulator with a recirculating system, use shall not exceed fifteen days or 50 calibration checks, whichever occurs first.”



It is recommended that the Alcohol Standard (Wet Bath) change be performed every two weeks. This means changing the solution on the same day of the week, every two weeks, and provides for a regular cycle. The solution can be changed any time before midnight on the last day (day 15).

For example: Alcohol Standard is changed on Thursday, July 1, 2010, at 01:30 hr.
Next change will be required prior to 23:59 hr on Thursday, July 15, 2010.

A lot of Alcohol Standard (Wet Bath) has a shelf life of 2 years from the date of manufacture. Both the date of manufacture and the date of expiry are indicated on each bottle of solution. A lot expires at the end of the month indicated on the bottle.

2. Alcohol Standard (Dry Gas)

Alcohol Standard (Dry Gas) has an expiry date of two years from the date of manufacture. In addition, the cylinder pressure must exceed 50 psi (pounds per square inch). Status messages in the software will warn QTs when the Alcohol Standard (Dry Gas) is within 30 days of the expiry date or if the cylinder pressure drops below 100 psi. The instrument will lock out when the Alcohol Standard (Dry Gas) actually expires or the pressure drops below 50 psi.

Do not ship the instrument with a dry gas cylinder installed. It is considered Dangerous Goods and must be packaged and shipped according to the guidelines for Transportation of Dangerous Goods.

When a new dry gas cylinder is installed, the expected pressure should be between 1100 – 1200 psi. The minimum acceptable pressure for a new cylinder is 1000 psi. When installing a new cylinder and you find the initial pressure is less than 1000 psi (Alt-P), you must contact the vendor to obtain a replacement cylinder.

Do not have both a dry gas and a wet bath simulator installed for use at the same time. The instrument shall only have one alcohol standard installed at any one time.



SUITABILITY OF THE ALCOHOL STANDARD

An alcohol standard is suitable for use if it has been analyzed and certified by an Analyst designated by the Attorney General of the appropriate jurisdiction. A Certificate of an Analyst is issued pursuant to subsection 258(1)(g) C.C.C..

For an **Alcohol Standard (Wet Bath)** the following 5 points ensure the standard is suitable for use with an approved instrument:

1. Certificate of an Analyst
2. Placed in a simulator and at a temperature of 33.8° to 34.2°C.
3. Use does not exceed 50 alcohol standard tests.
4. Use does not exceed 15 days in a simulator.
5. Used before the expiry date of the bottle.

For an **Alcohol Standard (Dry Gas)** the following 3 points ensure the standard is suitable for use with an approved instrument:

1. Certificate of an Analyst
2. Used at a cylinder pressure of 50 psi or more.
3. Used before the expiry date of the cylinder.

The Intox EC/IR II monitors the usage and the expiry dates of the Alcohol Standard (Wet Bath) and ensures that it will not be used for more than 50 tests, beyond 15 days or past the expiry date of the bottle. Status messages (instrument warnings) will inform the QT when these limits are approaching and will prevent the initiation of a breath test sequence when they are exceeded.

Similarly, with the Alcohol Standard (Dry Gas), instrument warnings will be displayed as the expiry date approaches or the cylinder pressure drops below 100 psi. The breath test sequence will not start once the expiry date has been exceeded or the cylinder pressure drops below 50 psi.



ALCOHOL STANDARD (Wet Bath) CHANGE PROCEDURE:**1. Materials Required:**

- a. Alcohol Standard (Wet Bath) Change Form and Wet Bath Label.
- b. Alcohol Standard Solution and associated documentation.
- c. Simulator with NIST-traceable thermometer or digital display.

2. Alcohol Standard:

- a. Analysed and certified by an Analyst pursuant to the *Criminal Code of Canada*.
- b. Must be accompanied with appropriate documentation.
- c. Not expired and contained within a sealed bottle.

3. When to Change Solutions:

- a. The change interval of the Alcohol Standard (Wet Bath) is monitored by the instrument, which verifies both date and number of tests. The simulator expiry date can be found on the Alcohol Standard Label attached to the front of the instrument.
- b. An instrument warning of an approaching expiry date will be displayed in the scrolling screen when the Alcohol Standard (Wet Bath) has 5 days or less before the expiry date: **Alcohol Std Expires in X Days**. An instrument warning will also be displayed when the number of Alcohol Standard (Wet Bath) tests reaches 45 tests: **# Sim Solution Samples Left**.
- c. Once the expiry date has been reached or after 50 Alcohol Standard (Wet Bath) tests have been completed the status message **'Instrument Not Ready....Solution Expired'** is displayed in the scrolling screen. The instrument will not allow a test to be performed until the solution is changed, and if a test is attempted, the following message will be displayed: **'Simulator Expired Please Call Technician...'**



4. Solution Change Procedure:

Follow the step by step procedure indicated below to change the Alcohol Standard (Wet Bath). Use the Alcohol Standard (Wet Bath) Change Form to record the completion of each step by checking the appropriate box.

Before commencing the procedure, ensure the Alcohol Standard (Wet Bath) identification and lot number indicated on the bottle label exactly match the corresponding information in the accompanying documentation. If they do not match, obtain a new bottle with corresponding documentation or obtain the proper documentation from the RCMP National Forensic Service.

Once the alcohol standard solution has been changed and after a 20 minute simulator warm-up period, the instrument will force a Supervisor Test and locks out any analytical testing until successful completion of the Supervisor Test. An automated sequence of five alcohol standard tests, separated by blank tests, is conducted with the new alcohol standard in the simulator.

The target value for an Alcohol Standard (Wet Bath) is 100 mg%. All five test results must be within 5% of the target value. The instrument will automatically abort the supervisor test if any result is not within 95 mg% to 105 mg%.

Step by Step Procedure:

1. Record the following five pieces of information into the table in the top left corner of the Alcohol Standard (Wet Bath) Change Form (this information is located on the alcohol standard bottle label):
 - Manufacturer name
 - Lot number
 - Alc Std expiry date
 - Sim Solution expiry date (two weeks from current date)
 - Changer (print your name)
2. Record the following five pieces of information on a new Alcohol Standard (Wet Bath) Label printed on an Avery label 5164 (this information is located on the alcohol standard bottle label):
 - Manufacturer name
 - Lot number
 - Alc Std expiry date
 - Sim Solution expiry date (two weeks from current date)
 - Changer (sign your name)



3. Turn the simulator power switch “OFF” and unplug the simulator. Disconnect the tubing from the simulator. Unscrew the top and discard the old solution.
4. Dry the simulator jar and elements. Ensure the simulator elements and submerged parts are cleaned to prevent algae growth. Check the jar for chips or cracks and replace if necessary.
5. Remove the NIST-traceable thermometer and inspect for breaks in the mercury column. If the break is in the upper portion of the mercury column, place the thermometer in luke warm (**not hot**) water and drive the air bubble into bulb at the top of the thermometer. With your finger, gently tap the top of the thermometer to remove the air bubble from the mercury. Allow the thermometer to cool down and ensure no further breaks are present. Replace in the simulator.

If the break is in the lower portion of the mercury column, place the thermometer in a freezer or run under cold water to allow all of the mercury to collect in the bulb at the bottom of the thermometer. With your finger, gently tap the bottom of the thermometer to remove the air bubble from the mercury. Allow the thermometer to warm up and ensure no further breaks are present. Replace in the simulator. If this fails to correct the break you must replace the thermometer.

6. Record the serial number of the NIST-traceable thermometer on the Alcohol Standard (Wet Bath) Change form.
7. Ensure the inner seal of the Alcohol Standard Solution bottle is intact and perform a leak test by inverting and squeezing the bottle. If the seal is not intact, obtain a new bottle and repeat leak test. If the seal is intact, pierce the seal and pour the entire contents of the alcohol standard solution into the jar.
8. Reassemble the simulator and perform a leak test on the simulator.

The leak test is done by attaching a short piece of tubing to the inlet on the top of the simulator and blocking the simulator outlet port with your finger. Attach a mouthpiece to the short piece of tubing and blow.

If the jar is properly sealed there should be very little bubbling (or no bubbling) in the solution. If there is a leak, excessive bubbling will be observed in the solution. Open the simulator, re-seal the jar and retest.

9. Once the leak test passes, plug in the simulator and turn the power switch “ON”. Ensure that the propeller is turning and the power and heater lights are illuminated. Reconnect the tubing to the simulator.



10. Check the time and date in the instrument and adjust if necessary (**F8**).
11. Remove the previous Alcohol Standard (Wet Bath) Label from the label holder on the instrument, remove the backing from the label and attach it to the upper right corner of the Alcohol Standard (Wet Bath) Change Form.
12. Insert the new Alcohol Standard (Wet Bath) Label into the label holder on the right hand side of the face of the instrument.
13. Post the documentation for the Alcohol Standard solution.
14. Update the Alcohol Standard (Wet Bath) information in the instrument by pressing **Ctrl-F10**. When prompted for the Password, type in Supervisor password:

Prompt Question	Response required
Simulator Solution Value:	100. The target value for the solution will always be 100. This is taken from the Alcohol Standard bottle label.
Alcohol Std Lot Number:	Enter lot number of solution. The lot number of the Alcohol Standard is identified on the bottle label.
Expiry Date of Alc Std: YYYY.MM.DD	Enter the manufacturer 2 year expiry date of the Alcohol Standard as indicated on the bottle label as YYYY.MM.DD. If no day is indicated, then it is the last day of the month.
Expiry Date of Sim Soln: YYYY.MM.DD	Enter the date 2 weeks from the change date identified in Step 1, above.
Alcohol Std Manufacturer:	Enter the name of the manufacturer. The name of the Alcohol Standard manufacturer is identified on the bottle label.
Simulator S/N:	Enter the simulator serial number obtained from the simulator.
NIST Thermometer S/N:	This is the number identified on the back of the NIST-traceable thermometer and entered on the Alcohol Standard (Wet Bath) Change Form.
Alcohol Std Certificate Posted?: Yes	Enter Y once Certificate has been posted



Prompt Question	Response required
Simulator prepared Heating up? [Y/N]	Pressing Y will store and print instrument date and time on the Alcohol Standard Change report. The instrument forces a Supervisor Test (F3) and locks out any analytical testing until successful completion of a Supervisor Test.
Commit Solution Changes?: SPACE = Commit ENTER = Verify	Always REVIEW DATA after data is entered or corrected. Press „Enter“ and the first question will reappear. Correct data by using the arrow keys and delete or overtype. Pressing the space bar will save the new information and reset the simulator counter to zero.
Please wait...	The instrument is committing these changes to memory before changing to a countdown screen.

15. The instrument will commence a 20 minute waiting period and the display will show the countdown screen.
16. After the 20 minutes, the display will change to the scrolling screen and an instrument warning will display, “Instrument Not ready... / Press F3 to Start Supervisor Test”.

NOTE: If you have a simulator with a digital display and once the 20 minute wait period is complete, ensure both the NIST-traceable thermometer and the digital display are between 33.8°C to 34.2°C.

Press F3 to start Supervisor Test.

You will be prompted to enter information or verify the information retrieved from memory. If corrections are necessary, press “**Esc**”, go back into Ctrl-F10 and make the necessary corrections. Once the information has been edited, the instrument will return to Step 15.

After F3 is pressed, the sequence of questions appears as follows:

Prompt Question	Response required
Qualified Tech Last Name:	Type last name.
Qualified Tech First Name:	Type first name.
Qualified Tech Middle Name	Type middle name (space if not applicable).
Number of samples (1-10): 5	Default is 5. Must always be set to 5.



Prompt Question	Response required
Simulator Solution Value: 100	Default is Ctrl-F10 info. This is taken from the alcohol standard bottle label.
Alcohol Std Manufacturer:	Default is Ctrl-F10 info. This is taken from the alcohol standard bottle label.
Alcohol Std Lot No.:	Default is Ctrl-F10 info. This is taken from the alcohol standard bottle label.
Expiry Date of Alc Std:	Default is Ctrl-F10 info. This is the manufacturer 2 year expiry date as indicated on the alcohol standard bottle label.
Expiry Date of Sim Soln:	Default is Ctrl-F10 info. This is the date 2 weeks from the change date in Step 1 above.
Simulator S/N:	Default is Ctrl-F10 info. The number identified on the simulator.
NIST Thermometer S/N:	Default is Ctrl-F10 info . This is the number identified on the back of the NIST-traceable thermometer.
Alcohol Std Certificate Posted?: Yes	Ensure that the Certificate of an Analyst is posted near the instrument. Spacebar to toggle between Yes and No.
Starting Test Sequence: SPACE=Begin ENTER=Verify	The enter key will recycle the prompts to allow the information to be verified. Pressing the space bar displays the next prompt.
Simulator Temp in Range? 33.8 – 34.2 C [Y/N]	Check the NIST-traceable thermometer or digital display. If temperature is within this range, enter “Y” and the Supervisor Test will commence. If the temperature is outside this range, enter “N” to abort to scrolling screen.

Note: Record the Test # for the Supervisor Test on the change form when it is displayed.

17. Review and sign the Supervisor Test Report.

The target value for an Alcohol Standard (Wet Bath) is 100 mg%. All five test results must be within 5% of the target value. The instrument will automatically abort the supervisor test if any result is not within 95 mg% to 105 mg%.

- a. If any individual test is not in the range of the target value printed on the Supervisor Test plus or minus 5%, repeat steps 1 through 17, using a new bottle of alcohol standard solution.



- b. After repeating the Alcohol Standard (Wet Bath) change, if any individual test is not in this range, the instrument should be taken out of service and the service agency contacted.

18. Sign and date the Alcohol Standard (Wet Bath) Change form, attach it to the Supervisor Test report and file both documents in the Alcohol Standard Change Log.

Alcohol Standard (Wet Bath) Change Form

Manufacturer	
Lot Number	
Alc Std Expiry Date	
Sim Soln Expiry Date	
Changer	

Attach Previous Alcohol Standard Label Here

- 1. Record the five pieces of information required in the table above.
- 2. Record the five pieces of information required on a new Alcohol Standard (Wet Bath) Label.
- 3. Turn simulator power switch “OFF” and unplug the simulator. Disconnect tubing from the simulator. Unscrew the top and discard the old solution.
- 4. Dry the simulator jar and elements. Check the jar for chips or cracks and replace if necessary.
- 5. Remove NIST-traceable thermometer and inspect for breaks in mercury column (fix / replace as necessary).
- 6. Record the serial number of the NIST-traceable thermometer: _____
- 7. Perform leak test on new bottle of alcohol standard soln and place new solution in the simulator jar.
- 8. Reassemble simulator and perform leak test on the simulator.
- 9. Plug in simulator, turn simulator power switch “ON” and reconnect tubing to the simulator.
- 10. Check the time and date in the instrument and adjust if necessary (F8).



- 11. Remove the previous Alcohol Standard (Wet Bath) Label from the label holder on the instrument, remove backing from the label and attach it to the upper right corner of this form.
- 12. Insert the new Alcohol Standard (Wet Bath) Label into the holder on the instrument.
- 13. Post the documentation for the alcohol standard solution.
- 14. Update the Alcohol Standard (Wet Bath) information in the instrument (Ctrl- F10).
- 15. Observe 20 minute countdown screen for simulator warm up period.
- 16. Press F3 to start Supervisor Test. Record Test # _____
- 17. Review and sign the Supervisor Test Report. Ensure all results fall between 95 mg% to 105 mg%.
- 18. Sign, date and attach this form to the Supervisor Test Report. File in Alcohol Standard Change Log.

Signature:	Date:
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Alcohol Standard (Wet Bath) Label	
Manufacturer	
Lot Number	
Alc Std Expiry Date	
Sim Soln Expiry Date	
Changer	



ALCOHOL STANDARD (Dry Gas) CHANGE PROCEDURE:**1. Materials Required:**

- a. Alcohol Standard (Dry Gas) Change Form and Dry Gas Label.
- b. Stabilized Alcohol Standard cylinder complete with new O-ring . Ensure the cylinder has been stored at room temperature for 24 hours.
- c. Associated documentation, including Material Safety Data Sheet (MSDS).

2. Alcohol Standard:

- a. Analysed and certified by an Analyst pursuant to the *Criminal Code of Canada*.
- b. Must be accompanied with associated documentation.
- c. Cylinder not expired and minimum pressure of 1000 psi.

3. When to Change Cylinders:

- a. The change interval of the Alcohol Standard (Dry Gas) is monitored by the instrument, which verifies both date and pressure. The expiry date can be observed on the Alcohol Standard (Dry Gas) Label attached to the front of the instrument. An instrument warning message will be displayed on the scrolling screen when the pressure drops below 100 psi.
- b. A status message warning of an approaching expiry date will be displayed in the scrolling screen when the Alcohol Standard (Dry Gas) has 30 days or less before the expiry date: **'Dry Gas Expires in X Days'**. Similarly, if the cylinder pressure drops to less than 100 psi a status message will warn of the low pressure in the scrolling screen: **'Dry Gas Standard Pressure Low'**.



- c. Failure to change the cylinder before it expires or before the pressure falls below 50 psi, will result in a status message **'Dry Gas Expired'** or **'Dry Gas Tank Empty'** (respectively) displayed in the scrolling screen. The instrument will not allow a test to be performed until the cylinder is changed, and if a test is attempted, the following message will be displayed: **'Dry Gas Tank Expired Please Call Technician...'** or **'Dry Gas Tank Empty Please Call Technician'** (respectively).

4. Dry Gas Cylinder Change Procedure:

Follow the step by step procedure indicated below to change the Alcohol Standard (Dry Gas). Use the Alcohol Standard (Dry Gas) Change Form to record the completion of each step by checking the appropriate box.

Before commencing the procedure, ensure the Alcohol Standard (Dry Gas) identification and lot number indicated on the cylinder label exactly match the corresponding information in the accompanying documentation. If they do not match, obtain a new cylinder with corresponding documentation or obtain the proper documentation from the RCMP National Forensic Service.

Once the alcohol standard cylinder has been changed, the instrument will force a Supervisor Test and locks out any analytical testing until successful completion of the Supervisor Test. An automated sequence of five alcohol standard tests, separated by blank tests, is conducted with the new alcohol standard cylinder.

The target value for an Alcohol Standard (Dry Gas) will be displayed by the instrument immediately prior to each alcohol standard test. All five test results must be within 5% of the target value. The instrument will automatically abort the supervisor test if any result is not within 5% of the target value.

Step by Step Procedure:

1. Record the following four pieces of information into the table in the top left corner of the Alcohol Standard (Dry Gas) Change Form (this information is located on the alcohol standard cylinder label):
 - Manufacturer name
 - Lot number
 - Alc Std expiry date
 - Changer (print your name)



2. Record the following four pieces of information on a new Alcohol Standard (Dry Gas) Label printed on an Avery label 5164 (this information is located on the alcohol standard cylinder label):
 - Manufacturer name
 - Lot number
 - Alc Std expiry date
 - Changer (sign your name)
3. Unlock and open the dry gas compartment on top of the instrument and remove the old cylinder.
4. Inspect the new dry gas cylinder for damage, especially around the top of the cylinder.
5. Remove the old O-ring from the dry gas regulator in the cylinder compartment and replace it with the new O-ring affixed to the side of the new cylinder.
6. Install new dry gas cylinder and ensure there are no leaks. If the cylinder leaks, contact the service agency immediately.
7. Replace the dry gas compartment cover and lock.
8. Check the cylinder pressure by pressing **Alt P** and record the cylinder pressure on the Alcohol Standard (Dry Gas) Change Form. Minimum acceptable pressure is 1000 psi.
9. Check the time and date in the instrument and adjust if necessary by pressing **F8**.
10. Remove the previous Alcohol Standard (Dry Gas) Label from the label holder on the instrument, remove the backing from the label and attach it to the upper right corner of the Alcohol Standard (Dry Gas) Change Form.
11. Insert the new Alcohol Standard (Dry Gas) Label into the label holder on the right hand side of the face of the instrument.
12. Post the documentation for the Alcohol Standard cylinder, including the Material Safety Data Sheet (MSDS).
13. Update the Alcohol Standard (Dry Gas) information in the instrument by pressing **F10**. When prompted for the Password, type in Supervisor password.



Prompt Question	Response required
Dry Gas Tank Stable?: Yes	Space bar toggles the data entry between Yes and No.
DG Stabilization Start Date: YYYY.MM.DD	Enter date that the dry gas cylinder was stored in the breath test room at room temperature.
DG Stabilization Start Time: HH:MM	Enter time that the dry gas cylinder was stored in the breath test room at room temperature.
Dry Gas Value (at sea level): 82	82. The target value for the dry gas will always be 82. This is identified on the cylinder label.
Alcohol Std Lot Number:	Enter lot number of solution identified at the bottom of the cylinder label.
Expiry Date of Cylinder: YYYY.MM.DD	Enter the manufacturer 2 year expiry date of the Alcohol Standard as indicated on the cylinder label as YYYY.MM.DD. If no day is indicated, then it is the last day of the month.
Alcohol Std Manufacturer:	Enter the name of the manufacturer as identified on the Certificate of an Analyst for that lot number.
Alcohol Std Certificate Posted?: Yes	Ensure that the Certificate of an Analyst is posted near the instrument. Spacebar to toggle between Yes and No.
Commit Dry Gas Changes?: SPACE = Commit ENTER = Verify	Always REVIEW DATA after data is entered or corrected. Press "Enter" and the first question will reappear. Correct data by using the arrow keys and delete or overtype. Pressing the space bar will save the new information. The instrument forces a Supervisor Test (F3) and locks out any analytical testing until successful completion of a Supervisor Test .
Please wait...	The instrument is committing these changes to memory and returns to the scrolling screen.

14. When the display changes to the scrolling screen, an instrument warning will display, "Instrument Not ready... / Press F3 to Start Supervisor Test".

Press F3 to start Supervisor Test.

You will be prompted to enter information or verify the information retrieved from memory. If corrections are necessary, press **Esc**, go back into **F10** and make the necessary corrections. Once the information has been edited, the instrument will return to Step 14.



The sequence of questions appears as follows:

Prompt Question	Response required
Qualified Tech Last Name:	Type last name.
Qualified Tech First Name:	Type first name.
Qualified Tech Middle Name:	Type middle name (space if not applicable).
Number of samples (1-10): 5	Default is 5 . Must always be set to 5.
Dry Gas Value (at sea level): 82	Default is F10 info. This is taken off the cylinder label.
Alcohol Std Manufacturer:	Default is F10 info. This is taken off the cylinder label.
Alcohol Std Lot No.:	Default is F10 info. This is taken off the cylinder label.
Expiry Date of Cylinder:	Default is F10 info. This is taken off the cylinder label.
Alcohol Std Certificate Posted?: Yes	Ensure that the Certificate of an Analyst is posted near the instrument. Spacebar to toggle between Yes and No.
Starting Test Sequence: SPACE=Begin ENTER=Verify	The enter key will recycle the prompts to allow the information to be verified. Pressing the space bar displays the next prompt.

Note: Record the Test # for the Supervisor Test on the change form when it is displayed.

15. Review and sign the Supervisor Test Report.

The target value for an Alcohol Standard (Dry Gas) will be displayed by the instrument immediately prior to each alcohol standard test. The instrument will automatically abort the Supervisor Test if any result is not within 5% of the target value.

- a. If any individual test is not in the 5% range of the target value printed on the Supervisor Test, press F3 and repeat the Supervisor Test using the same cylinder of Alcohol Standard (Dry Gas).
- b. After the second Supervisor Test, if any alcohol standard test is not in the 5% range of target value printed on the Supervisor Test, the instrument should be taken out of service and the service agency contacted.

16. Sign, date and attach the Alcohol Standard (Dry Gas) Change Form to the Supervisor Test Report and file both documents in the Alcohol Standard Change Log.



Alcohol Standard (Dry Gas)
Change Form

Attach Previous Alcohol Standard Label Here

Manufacturer	
Lot Number	
Alc Std Expiry Date	
Changer	

- 1. Record the four pieces of information required in the table above.
- 2. Record the four pieces of information required on a new Alcohol Standard (Dry Gas) Label.
- 3. Unlock and open the dry gas compartment and remove old cylinder.
- 4. Inspect the new cylinder for damage.
- 5. Remove the old O-ring from the regulator and replace with a new O-ring.
- 6. Install new dry gas cylinder and ensure there are no leaks.
- 7. Replace the dry gas compartment cover and lock.
- 8. Check the cylinder pressure (Alt-P) and record: _____ psi (min. 1000 psi)
- 9. Check the time and date and adjust if necessary (F8).
- 10. Remove the previous Alcohol Standard (Dry Gas) Label from the label holder on the instrument, remove backing from the label and attach it to the upper right corner of this form.
- 11. Insert the new Alcohol Standard (Dry Gas) Label into the holder on the instrument.
- 12. Post the documentation for the alcohol standard cylinder, including the MSDS.
- 13. Update the Alcohol Standard (Dry Gas) information in the instrument (F10).
- 14. Press F3 to start Supervisor Test. Record Test # _____
- 15. Review and sign the Supervisor Test Report. Ensure all results fall within 5% of the target value.
- 16. Sign, date and attach this form to the Supervisor Test Report. File in the Alcohol Standard Change Log.

Signature:	Date:
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Alcohol Standard (Dry Gas) Label	
Manufacturer	
Lot Number	
Alc Std Expiry Date	
Changer	



REVIEW QUESTIONS

1. State the policy regarding Alcohol Standard (Wet Bath) and Alcohol Standard (Dry Gas) change.
2. What materials are required for the Alcohol Standard (Wet Bath) change procedure?
3. How can a mercury break in a thermometer be repaired?
4. What is the purpose of the Alcohol Standard (Wet Bath) or Alcohol Standard (Dry Gas)?
5. How is a leak test performed on the simulator?
6. How long do you have to wait for the simulator to warm up and stabilize before performing a Supervisor Test?
7. What is the operating temperature of the simulator?
8. How can you edit the time and date in the instrument?
9. How many alcohol standard tests are conducted during the Supervisor Test?
10. State the acceptable range for all Supervisor Test results for the Alcohol Standard (Wet Bath)? ...and the Alcohol Standard (Dry Gas)?
11. What is done if these ranges are not met?
12. What is done with the documentation produced during the alcohol standard change procedure?



COMMAND LIST- OPERATOR

KEY	ACTION
F2	Quick Test
Shft- F1	Pass Code Information
'F'	Purge Cycle
'P'	Print Last Test
ENTER	Run Subject Test

COMMAND LIST- SUPERVISOR

KEY	ACTION
F1	Print Command List
F3	Supervisor Test
F5	Print Test
F8	Date / Time Set-up
F9	General Set-up
F10	Alcohol Standard Set-up (Dry Gas)
Shft-F1	Pass Code Information
Shft-F2	Print Software version
Shft-F5	Print Test Summaries
Ctrl-F1	View Software Version
Ctrl-F2	View Firmware Version
Ctrl-F5	Browse and Print Test
Ctrl-F9	Location
Ctrl-F10	Update Alcohol Standard (Wet Bath)
Ctrl-L	Alternate Language
Ctrl-Q	Shut Down EC/IR II
Ctrl-S	View Simulator Temperature
Alt-F9	Default Standard
Alt-F10	Standard 2 Counter
Alt-P	View Cylinder Pressure
'F'	Purge Cycle
'P'	Print Last Test



Intox EC/IR II Setup (Printer & Location)

- Press **F9** and enter Supervisor password. Display shows “**General Setup:**”
- Press left/right arrow keys to move between options:
Printer Setup ↔ Location ↔ COM Ports
- Press **ENTER** to confirm your selection

A. Printer Setup

- In the “**General Setup:**” screen, with **Printer Setup** on the display, press **ENTER**
- Press left/right arrow keys to move between options:
Print Device ↔ Condensed Print Mode ↔ Number of Print Copies
- Press **ENTER** to confirm your selection

A.1 In the **Printer Setup** screen, with “**Print Device**” on the display, press **ENTER**

- Press space bar to toggle between options:
None ↔ External
- Press **ENTER** to confirm your selection
- Press **ESC** three times to return to the scrolling screen

NOTE: The **Condensed Print Mode** should always be set to **None**.

A.2 In the **Printer Setup** screen, with “**Number of Print Copies**” on the display, press **ENTER**.

- the next display is “**Number of Print Copies:**
”
- enter the number of copies, followed by **ENTER**
- Press **ESC** three times to return to the scrolling screen

P - prints last test

F5 - print a single test by calling up test number

CTRL F5 - print a single test by browsing. Display shows Test Number, Date, Time, Test Type and for Subject Tests, the subject’s last name.

SHFT F5 - prints a batch of tests (see instructions for batch printing)



B. “Location” Setup

- In the “**General Setup:**” screen, with “**Location**” on the display, press **ENTER**
- Press left/right arrows to move between options:
Agency Name ↔ City ↔ Province
- Press **ENTER** to confirm your selection, then press down arrow to enter or change data

B.1 for “**Agency Name:**”, press down arrow, enter the agency name (max 25 characters), followed by **ENTER**

B.2 for “**City:**”, press down arrow, enter the city name (max 25 characters), followed by **ENTER**

B.3 for “**Province:**”, press down arrow, enter the province name (max 25 characters), followed by **ENTER**

- Press **ESC** three times to return to the scrolling screen



How to print a batch of Test Reports

NOTE: “↔” means toggle using space bar.

Press Shft-F5 (Print Test Summary) and enter Supervisor password.

Display shows “**Format of Printing:**” Press space bar to toggle between options
Complete Records ↔ Summaries

Press ENTER to confirm your selection

Display shows “**Test Types:**” Press space bar to toggle between options
Subject Tests ↔ Quick Tests ↔ Dry Gas Standard Updates ↔ Wet Simulator Updates ↔
Calibrations ↔ Supervisor Tests ↔ Scheduled Tests ↔ Remote Tests ↔ All

Press ENTER to confirm your selection

Next display is “**Select Tests by:**” Press space bar to toggle between options
Range of Test Numbers ↔ Range of Test Dates

Press ENTER to confirm your selection

For Range of Test Numbers the next display is “Starting Test:
###.....enter your first test number, followed by ENTER

Next display is “**Ending Test:**”
###....enter your last test number, followed by ENTER

Next display is “**Print Test Summaries:**
Press SPACE to print........so press SPACE !!!

For Range of Test Dates, next display is “**Start Date:**”
###.....enter your beginning date, followed by ENTER

Next display is “**Ending Date:**”
###....enter your end date, followed by ENTER

Next display is “**Print Test Summaries:**
Press SPACE to print........so press SPACE !!!



Royal Canadian Gendarmerie royale
Mounted Police du Canada

Canada

Robert J. Belloto Jr.

R.Ph., M.S. (stats), Ph.D., FASCP

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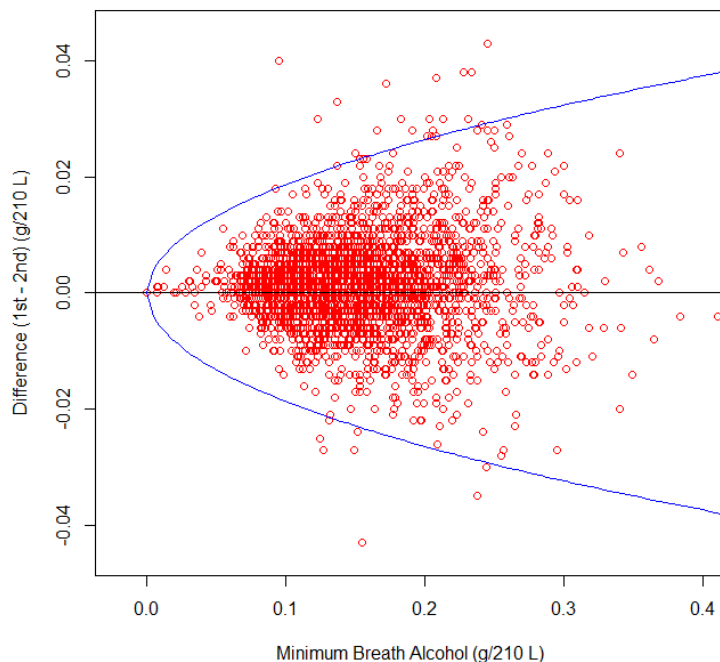
May 18, 2018

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Re: *State of Indiana vs. Ryan Gallagher*

Dear Mr. Johnson:

I have datamined the State of Indiana with the help of attorney's who have provided me with discovery on breath tests. I will start with the measurement uncertainty given to me on other cases in Indiana which is incorrect.^{1,2} To demonstrate, the plot below is discovery obtained by yourself and other attorneys in Indiana of duplicate breath measurements from various EC/IR II machines.



The data consists of 2,868 duplicate measurements to which I have added the 99% limits of agreement.³ The differences are not normally distributed but can be modeled using a LaPlace distribution. The appropriate margin of error on Mr. Gallagher's breath test is Minimum Breath Alcohol Reading $\pm 0.05905 \cdot (\sqrt{\text{Minimum Breath Alcohol Reading}})$ g/210 L. The larger the value of the breath test, the larger the margin of error will be.³ To check that my margin of error is correct, since there are 2,868 measurements, only 29 values should be outside the curves on the above graph. I think it is easy to verify that there are twenty-nine values outside the limits of agreement. Thus, to a reasonable degree of statistical and scientific certainty, the appropriate margin of error on Mr. Gallagher's breath test is (0.078, 0.115) g/210 L with 99% confidence. I also note that I have not put a confidence interval on the 0.05905 value so that this margin of error should be thought of as a minimum value.

To conclude, Mr. Gallagher's 99% prediction interval for his breath alcohol level is 0.078 to 0.115 g/210L and thus not statistically greater than 0.08 g/210 L. If you have any further questions or concerns, please let me know.

Sincerely,

Robert J. Belloto Jr.
R.Ph., M.S. (stats), Ph.D.

References:

1. Vardeman S, Hamada MS, Burr T, Morris M, Wendelberger J, Jobe JM, Moore L, Wu H. An introduction to statistical issues and methods in metrology for physical science and engineering. J Qual Tech 2014; 46(1):33-62.
2. Willink R. Measurement uncertainty and probability. Cambridge: Cambridge University Press; 2013.
3. Sevrakov AB, Bland JM, Kondos GT. Serial electron beam CT measurements of coronary artery calcium: has your patient's calcium score actually changed? AJR Am J Roentgenol 2005;185(6):1546-53.

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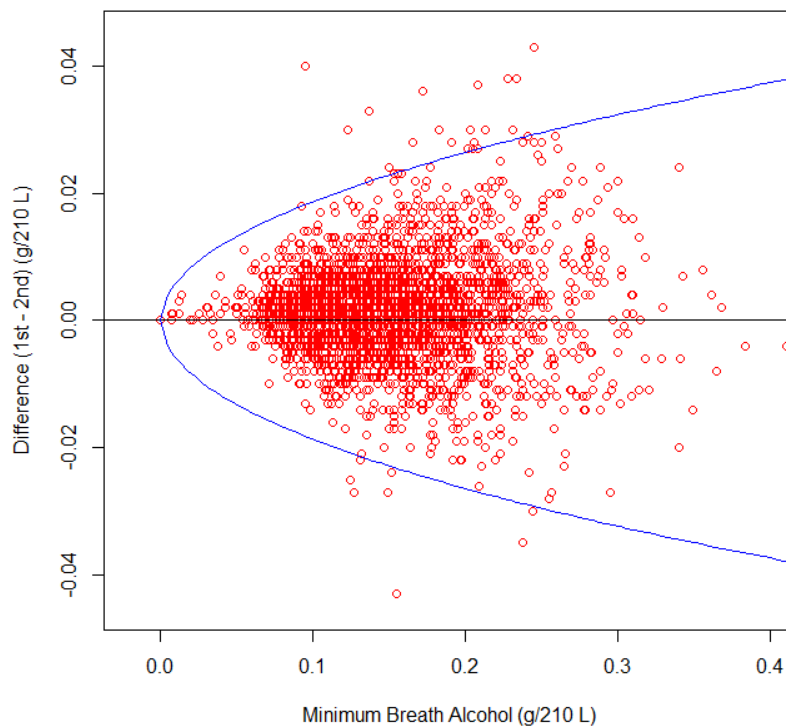
March 16, 2018

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Re: *State of Indiana vs. Cynthia E. Martin*

Dear Mr. Cook:

I have reviewed the discovery material that you provided. Though a measurement uncertainty is available it was not provided in this case and is incorrect.^{1,2} To demonstrate, the plot below is discovery obtained by yourself and other attorneys in Indiana of duplicate breath measurements from various EC/IR II machines.



The data consists of 2,974 duplicate measurements to which I have added the 99% limits of agreement.³ The differences are not normally distributed but can be modeled using a LaPlace distribution. The appropriate margin of error on Ms. Martin's breath test is Minimum Breath Alcohol Reading $\pm 0.05905 \cdot (\sqrt{\text{Minimum Breath Alcohol Reading}})$ g/210 L. The larger the value of the breath test, the larger the margin of error will be.³ To check that my margin of error is correct, since there are 2,974 measurements, approximately 1%, or 29 values should be outside the curves on the above graph. I think it is easy to verify that there are twenty-nine values outside the limits of agreement. Thus, to a reasonable degree of statistical and scientific certainty, the appropriate margin of error on Ms. Martin's breath test is (0.067, 0.101) g/210 L with 99% confidence. I also note that I have not put a confidence interval on the 0.05905 value so that this margin of error should be thought of as a minimum value.

To conclude, Ms. Martin's 99% prediction interval for her breath alcohol level is 0.067 to 0.101 g/210L and thus not statistically greater than 0.08 g/210 L. If you have any further questions or concerns, please let me know.

Sincerely,

Robert J. Belloto Jr.
R.Ph., M.S. (stats), Ph.D., FASCP

References:

1. Vardeman S, Hamada MS, Burr T, Morris M, Wendelberger J, Jobe JM, Moore L, Wu H. An introduction to statistical issues and methods in metrology for physical science and engineering. J Qual Tech 2014; 46(1):33-62.
2. Willink R. Measurement uncertainty and probability. Cambridge: Cambridge University Press; 2013.
3. Sevrukov AB, Bland JM, Kondos GT. Serial electron beam CT measurements of coronary artery calcium: has your patient's calcium score actually changed? AJR Am J Roentgenol 2005;185(6):1546-53.

Section Five

I Did the Best I Could: A Discussion About Insufficient Samples

Todd L. Sallee
Sallee Law, LLC
Indianapolis, Indiana

Section Five

I Did the Best I Could: A Discussion About Insufficient Samples..... Todd L. Sallee

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Intox EC/IR-II: Subject Test

PLAINFIELD POLICE DEPT 1075 WEST MAIN STREET PLAINFIELD, IN 46168

Serial Number: 010860 Test Number: 287
Test Date: 11/19/2019 Test Time: 01:51 EST

Operator Name: Taylor, Michael A
Operator Certification Number: A186735
Agency Name: Plainfield Police
Observation Began: 11/19/2019 at 01:39
Observer Name: Taylor, Michael, A
Driver License Number: 8972-39-7307
Subject Name: BALMER, CHRISTOPHER L
Subject D.O.B.: 03/27/1986

Dry Gas Target: 0.078
Lot Number: AG822701-I8P5LW Tank Number: 8 Exp Date: 08/15/2020


System Check: Passed

Test	g/210L	Time
BLK	0.000	01:54
CHK	0.078	01:55
BLK	0.000	01:56
SUBJ	0.113	01:59
BLK	0.000	02:02
SUBJ	0.121	02:03
BLK	0.000	02:04
CHK	0.078	02:05
BLK	0.000	02:06

Test Status Sample Complete

RESULT: 0.113 g/210L
02:03 EST,
11/19/2019

ALCOHOL READINGS ARE EXPRESSED AS
GRAMS OF ALCOHOL PER 210 LITERS OF BREATH



Operator Signature

STATE OF INDIANA)
)SS:
COUNTY OF HENDRICKS)

IN THE HENDRICKS SUPERIOR COURT NO. 2
CASE NO. 32D02-1909-F6-958

STATE OF INDIANA)
)
 vs.)
)
 JOSHUA PURCHASE)
)

ORDER ON MOTION TO SUPPRESS

This cause having come before the Court on the Defendant’s Motion to Suppress the results of a breath test, and the Court having held a hearing on said motion on June 3, 2020 and having considered the arguments of counsel, the testimony of the witnesses and the evidence submitted by the parties, the Court finds:

The reason offered by the Defense that the breath test results should be suppressed is that the officer who administered the breath test did not follow the approved method outlined in 260 IAC 2-4-2. The Defense argues, and the evidence supports, that the Defendant had to blow three times to produce two valid samples. Therefore, argues the Defense, because 260 IAC 2-4-2 only contemplates two efforts at blowing into the instrument, *See 260 IAC 2-4-2 (a), steps Ten and Eleven*, and the Defendant in this case blew into the instrument three times, that the approved method was not followed.

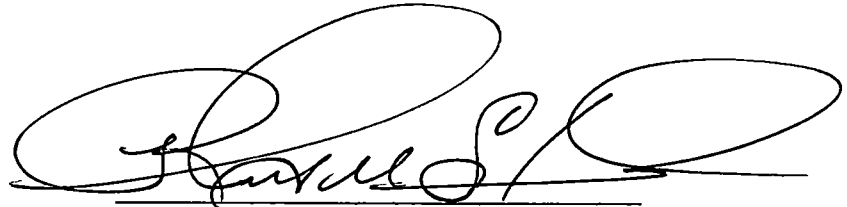
The State presented sufficient evidence, through two witnesses, that the operator and the instrument were properly certified and that a ticket was printed as a result of the test. The officer testified he followed the approved method and complied with the prompts from the instrument. Dr. Bors, the Alcohol Breath Test Program Supervisor from the Indiana State Department of Toxicology, testified that the instrument and officer performed as prompted. Dr. Bors further testified that the delivery of three breaths, and possibly up to six breaths, to produce 2 test samples, is something that can and does occur during the proper operation of the machine.

The Court is persuaded by reading *Hurley v. State*, 75 N.E.3d 1074, 1076-77 (*Ind.* 2017), that the Indiana Supreme Court is aware that at least three breaths may need to be given to obtain two valid samples. Although the issue addressed in this case is not the same as the issue addressed in *Hurley*, the recitation of facts and decision in *Hurley* make clear that evidence was presented to the Court that multiple breaths might be required to provide a valid sample. The Supreme Court, knowing this information and what the approved method requires, did not address the issue in any way in *Hurley*. This leads this Court to believe that The Supreme Court did not, at least under

the facts presented in *Hurley*, find that offering more than two breaths to obtain two valid samples was a deviation from the approved method or a violation of the defendant's rights.

In light of the above, and the evidence presented at the hearing in this case, the Court finds that Defendant's motion should be and hereby is DENIED.

ALL OF WHICH IS ORDERED, ADJUDGED and DECREED this 4th DAY OF June, 2020.

A handwritten signature in black ink, appearing to read "Rhett M. Stuard", written over a horizontal line. The signature is highly stylized with large loops and flourishes.

Rhett M. Stuard
Judge, Hendricks Superior Court 2

1 **SUPPRESSION HEARING HELD ON JUNE 3, 2020**

2 THE BAILIFF: All rise. Superior Court 2 is now in session. The
3 Honorable Rhett Stuard presiding.

4 THE COURT: Thanks everybody, please go ahead and have a seat. Uh,
5 wow, we are, uh – that’s not something you see every day. Uh, we are on the record again;
6 it’s 11:21 on the 3rd day of June, uh, two thousand and, uh, I’m flustered --- 2020. Uh, we’re
7 here on a case of State of Indiana versus Joshua Purchase, 32D02-1909-F6-958. I’m going
8 to need to know where you can get those so we can pass them out to all the court staff. Uh,
9 that will make an impression. I think next regular criminal day if we all wear those I think
10 it’ll make an impression. Uh, show Ms. Archer is here with the State of Indiana along with
11 Officer Harris. Mr. Johnson is here. I have a witness on zoom – I believe a witness on
12 zoom.

13 CHRISTINE ARCHER: Yes, Judge, Dr. Dana Bors.

14 THE COURT: Uh, Dr. Dana Bors. Uh, comes on today for a – well let me
15 address you, ma’am, first. Uh, I’m sure you’re fine with this but there’s no recording, no re-
16 broadcasting, anything like that allowed of the hearing today. Uh, if I sprinkle a little, uh,
17 can you – can you hear everyone that’s in the courtroom?

18 DR. DANA BORS: Yes.

19 THE COURT: Okay. I just want to make sure our technology is working; it
20 doesn’t always. Comes on for a Motion to Suppress today filed by you on behalf of your
21 client, Mr. Johnson. Uh, I assume we’ve not had any kind of, uh, agreements, anything like
22 that that we –

23 BRIAN JOHNSON: No, but I mean I think we’ll probably – I mean I’ll
24 have some objections but move through it pretty quickly I would think.

25 THE COURT: Okay, uh, Counsel, go ahead.

1 MS. ARCHER: Thank you, Judge. State would call Jeremy Harris to the
2 stand.

3 THE COURT: Can I get you to raise up your right hand?

4 (Witness sworn)

5 JEREMY HARRIS: I do, Your Honor.

6 THE COURT: Thank you, have a seat right there. Uh, sorry we got you in
7 the dark, uh, but, uh, we have to turn off a certain bank of lights or otherwise people on
8 zoom calls can't see me, not that they care to but this is the way it is. Go ahead, Counsel.

9 MS. ARCHER: Thank you, Judge.

10 STATE'S EVIDENCE

11 JEREMY HARRIS

12 having been duly sworn to testify to the truth, the whole truth and nothing but the truth was
13 examined and testified as follows:

14 DIRECT EXAMINATION

15 By Christine Archer, Deputy Prosecuting Attorney

16 Q Sir, can you introduce yourself and with your full name for the record?

17 A Yes, my name is, uh, Corporal Jeremy Harris with the Plainfield Police Department.
18 I've been employed there for seventeen years this October.

19 Q Thank you. And, uh, sir, did you undergo training to become a law enforcement
20 officer?

21 A Yes, ma'am.

22 Q And did that training include training regarding how to handle suspected operating
23 while intoxicated investigations?

24 A Yes, ma'am.

25 Q And did that training include, uh, how to use to different instruments that would be

1 used throughout an investigation to determine if someone was intoxicated?

2 A Yes.

3 Q Uh, and do you have to be re-certified on any of your instruments on a regular basis?

4 A Yes, ma'am. I have to be re-certified on a DataMaster every two years.

5 Q Okay. And, uh, does your – do the DataMaster instruments that are at the Plainfield
6 Police Department also have to be re-certified?

7 A Yes, they do.

8 Q And when, uh, were you most recently certified?

9 A I re-certify February of every two years.

10 Q Okay. And to the best of your knowledge are all of the machines that – or all of the
11 instruments that are at Plainfield Police Department, are those up to date on their
12 certifications as well?

13 A Yes.

14 Q Okay. So I want to talk about back on August 31st of 2019. Uh, were you working
15 that day; were you on duty?

16 A Yes, ma'am.

17 Q Okay, and what – were you working any special operations that day?

18 A I was specifically working, uh, seatbelt patrol for a DU, uh, Operation Pullover
19 Project, some grant that we get every year to specifically target individuals that are impaired
20 or not wearing their seatbelt.

21 Q Okay. Uh, and that day did you – were you working in the area of U.S. 40 and Dan
22 Jones?

23 A Yes, ma'am.

24 Q And did any vehicles catch your eye that day?

25 A Yes.

1 Q At some point did you stop a maroon Chevy S-10 pickup truck?
2 A Yes, ma'am, I did.
3 Q Okay. I'm going to move through the first part of this fairly quickly just because
4 that's not really the crux of the argument.
5 A No problem.
6 Q So you made contact with that driver?
7 A Yes. Once I initiated a traffic stop in the parking lot at a gas station Meijer.
8 Q Okay. And, uh, based on your observations did you have any suspicions that he was
9 intoxicated?
10 A Yes, ma'am.
11 Q And what was that based on?
12 A The odor of alcohol and the emittance of drinking alcohol.
13 Q Okay. Um, and were you able to, uh, conduct standardized field sobriety tests?
14 A Yes, ma'am.
15 Q And, uh, after you conducted those tests did you decide whether or not to proceed
16 with any other tests in your investigation?
17 A Yes, I performed, uh, horizontal gaze nystagmus test along with, uh, have to recall
18 which other tests I performed. But the walk – I believe it was the walk and turn test. And
19 he failed all – all clue – enough of the clues to indicate a failure for those tests, uh, --
20 Q Okay.
21 A -- which then I determined and administered a portable breath test, uh, which he also
22 did not pass that. At that point I advised him of his Implied Consent Rights and he agreed
23 to come back to the police department and submit to a certified breath test.
24 Q Okay. So you took him back to the Plainfield Police Department to administer the
25 test?

1 A Yes, ma'am.

2 Q Okay. And at any point during your procedure are you supposed to make sure that
3 there's nothing in their mouth –

4 A Yes.

5 Q -- that would interfere with the test?

6 A A mouth check, yes.

7 Q At point did you do that? Do you remember? As far as – sorry, I should – was it on
8 the scene when you're still at the truck or did you conduct that – did the time – excuse me,
9 start once you were back at the police department?

10 A I usually conduct a mouth check on the scene when I hand – when I place them in
11 cuffs and detain them and transport them cause they're not going to – they're in my front
12 seat of my car with me; they're in visual, uh, they're in my visual all the time and they're –
13 they're handcuffed. I do a weapons check, make sure they're not armed; it's not a search.
14 Uh, then I transport them to the police department and once we're inside the intake area I'll
15 removed the handcuffs and I maintain visual contact with them the entire time.

16 Q So you do that on the scene cause it starts that timer so you're not just sitting in the
17 police department?

18 A Correct.

19 Q Okay, with them. Okay. And so, uh, all of the steps that you have to take, uh, as far
20 as Implied Consent, mouth check, anything like that prior to conducting the certified breath
21 test, did you complete those steps in this case?

22 A Yes, ma'am.

23 Q Okay. So let's talk about the actual certified breath test itself. So, uh, take us
24 through what you did that day to conduct the certified breath test.

25 A Usually it was a pretty casual conversation with the individual. Uh, he was a very

1 nice young man. Uh, we sat there; we talked while I'm – when I go through the steps, I
2 make sure the instrument is working and it's on working properly. I enter my passcode; I
3 hit enter. Then I begin the test once and I – and I enter my certification card. Uh, it
4 promptly accepts it and enters all my information in there. I go through and do a – a check
5 to make sure my information is correct and then when it asks for it – it will ask for you to
6 enter your mouth check time and that's when I enter my mouth check time, uh, the entire
7 time while the subject is sitting right there with me. And then I – when I'm ready to begin
8 the test, I'll insert his driver's license card or manually type it in. I don't – I'm pretty sure I
9 inserted his driver's license card in this particular test without reviewing the video cause
10 that's not something we just document in our PC; that's not a typical thing, it's just kind of
11 a common practice whether you manually enter it or insert the driver's license. And then
12 it'll accept all the information and you just go through the prompt screen and verify the
13 information. And then once you're – the test will not allow you to take any test until your
14 mouth check time is validated and it's met that requirement of fifteen minutes.

15 Q Okay. So once you have all that initial information in and the mouth check time was
16 validated are you able to then conduct the test on the instrument?

17 A Yes.

18 Q Okay. Uh, and in the case of Mr. Purchase, can you kind of explain how many –
19 how many breath tests do you take as a stan -- how many standard breaths does the
20 machine – does the instrument need in order to do a test?

21 A It needs at least two valid samples in order to – within a .02 of one another in order
22 to give you a true reading.

23 Q Okay. Uh, and what is your understanding as far as do those need to be provided
24 within a certain amount of time?

25 A As long as the subject perform – provides a – a sufficient continuous breath, the

1 instrument will read that breath. If they stop at any point during that breath, it'll stop and
2 it'll go through its performance check cycle. It's kinda – I can't mess with the instrument. I
3 can't do anything. And if I don't get a valid sample from him of a continuous breath while
4 I'm talking to him and trying to coach him or her, the individual, to provide that sample,
5 the instrument will, uh, automatically go through it's calibration check which it about, I
6 don't know, anywhere from two minutes or so that you have to wait and it'll ask for the
7 subject to please blow again. And then that cycle can continue, uh, until you get those two
8 breaths that are within reading of each other.

9 Q Okay. So, uh, I usually would hand exhibits which I know we're not going to do
10 here but everyone should have and I'm going to refer to State's Exhibit "1" that were –
11 everyone should have.

12 THE COURT: Mr. Johnson – Mr. Johnson, you got a copy?

13 MR. JOHNSON: I do have it, yeah. Yes, Judge.

14 THE COURT: And, Officer Harris, you have a copy?

15 THE WITNESS: Yes, sir.

16 Q So can you --

17 THE COURT: And I have a copy now.

18 Q -- can you please tell me what this is?

19 A Uh, this is the evidentiary ticket that's printed from the instrument that gives you the
20 final reading once the test in complete.

21 Q And is a true and accurate copy of the breath test ticket for Mr. Purchase that day?

22 A Yes, ma'am.

23 MS. ARCHER: Your Honor, State would move to admit State's Exhibit
24 "1".

25 MR. JOHNSON: Judge, I'll object, uh, I guess my objection be conditional.

1 Obviously the purpose of this hearing is objecting to the admissibility of the breath test, uh,
2 against Mr. Purchase in this case. For purposes of this hearing as far as whether through a
3 proper foundation I would not object but for being used in the case-in-chief obviously I
4 would object.

5 THE COURT: So for purposes of the suppression hearing we're having, I'll
6 admit this subject to obviously being the ultimate determination of whether this is
7 admissible in any kind of trial against Mr. Purchase but for purposes of this hearing, I'll
8 admit this as Exhibit "1".

9 MS. ARCHER: Thank you, Judge.

10 THE COURT: Thank you.

11 Q Officer Harris, looking then at the breath test ticket, down actually we see a lot of the
12 information at the top including certification, name of operator, agency name, all of that.
13 Going past that down to system check, we see passed and then below that we actually see
14 the test results. So looking at the test results, we see several, uh, lines – it's actually every
15 other line, it says BLK. I believe those are blanks; is that correct?

16 A They are determined as a blank check making sure that the instrument is calibrated
17 and working properly.

18 Q Okay. And then what's the CHK as far as you know? So there's BLK, CHK, uh,
19 then Subject.

20 A That's the reading from the check from the self-instrument's check system of what it
21 does internally.

22 Q Okay. So the two – we have two lines then that are separated that say SUBJ. Those
23 – are those act – the actual breaths from Mr. Purchase that were being measured?

24 A Correct.

25 Q Okay. And in this case we see that there's results for two breaths from Mr.

1 Purchase?

2 A Yes.

3 Q Did Mr. Purchase provide more than two breaths to the instrument?

4 A Yes, he did.

5 Q And can you explain to the court why and kind of what that looked like?

6 A So the way the instrument works from my understanding of the way I've always
7 interpreted the instrument is that when you –

8 MR. JOHNSON: Judge, if I may ask a preliminary question?

9 THE COURT: Sure, go ahead.

10 MR. JOHNSON: Mr. Harris, you started to say how the instrument works
11 as to your understanding?

12 THE WITNESS: Yes.

13 MR. JOHNSON: Aside from training as a breath test operator, uh, do you
14 have insight to the expertise as far as how the instrument itself works?

15 THE WITNESS: No, sir, I don't.

16 MR. JOHNSON: Judge, I would object under 72 – 702 as to this officer
17 having any basis to offer an opinion as to how the instrument I guess provides samples or
18 prints out tickets.

19 THE COURT: Response?

20 MS. ARCHER: I'm just asking him why. He said there were three breaths
21 provided that day and we see two here. Just asking him to explain kind of the sequence of
22 events that let up to that.

23 THE COURT: So I think the objection is appropriate to the extent that
24 you're going to get into sort of the science behind this and those kind of things, uh, not that
25 you may not know it, I – you may, I don't know. But, uh, it's not appropriate for this

1 setting here. Uh, so if you want to ask him your question about, you know, why multiple
2 breath tests were taken or those kind of things, that's fine.

3 MS. ARCHER: All right.

4 THE COURT: Just as long as you don't get into the science, okay.

5 THE WITNESS: Understood.

6 THE COURT: So I'll sustain that objection. Go ahead, Counsel.

7 Q So, yeah, you said that there were three, uh, samples provided that day and we see
8 two that were part of the conclusion of this test, correct?

9 A Correct.

10 Q Okay. And can you explain kind of the sequence of events as far as why – why there
11 were three samples provided, uh, and what, you know, led to that?

12 A Cause on one of the samples when I was instructing Mr. Purchase to, uh, blow a
13 steady continuously, he stopped blowing during that sample which stopped that particular
14 evaluation of that sample.

15 Q Okay and when you do – when that happens and therefore the – the instrument can't
16 take that as a valid sample, uh, what does the instrument have you do?

17 A It'll go through its performance check which you see here on the – the self-check and
18 the blank check, it'll go through another cycle of that and it'll ask me to continue to get
19 another sample from the subject.

20 Q Okay. So then in this case, uh, the subject, Mr. Purchase, was able to complete the
21 chemical test after three breath samples were provided?

22 A Yes, ma'am.

23 Q Okay. And as we see at the bottom the ultimate result was positive test by .098; is
24 that correct?

25 A That's correct.

1 Q Okay. And I'm going to refer you – I'm only going to ask a couple questions about
2 this cause this will probably be more appropriate for Dr. Bors but there's also State's Exhibit
3 "2" which is the breath test operator's, uh, instrument's rules.

4 A Yes.

5 Q Uh, is this – these are rules and procedures that you're familiar with?

6 A Yes.

7 Q Okay. And do they have some sort of guide for you all to be able to follow --

8 A Yes, there's --

9 Q -- that's --

10 A Yes, there's a proper method of performance steps that you have to take on the
11 performance of the test.

12 Q Okay. Uh, looking at that exhibit, turning to Page 5, for the approved method from
13 Intox EC/IR-II Breath Analysis. Is that the instrument that was used --

14 A Yes, ma'am.

15 Q -- in this case?

16 A I believe so.

17 Q And, uh, we can see on there several different, you know, it kind of takes you
18 through Step 1, Step 2, Step 3, all that kind of stuff; is that correct?

19 A Yes.

20 Q Okay. I apologize. So in this case, uh, and I actually take you all the way back to
21 Page 6, we see under Subpoint 5, uh, that there -- there is a protocol here if there's an
22 insufficient sample or a time out is printed on the instrument report; is that correct?

23 A Correct.

24 Q Okay. Uh, looking back at State's Exhibit "1", is there anywhere on there printed
25 insufficient sample or time out?

1 A No, ma'am.

2 Q Okay. And it – have you seen reports where that is printed?

3 A Yes.

4 Q And where would that be on the report if that was the – a problem?

5 A So if you're looking at State Exhibit's "1", it would printed off right here along the
6 top line – the top.

7 Q Okay.

8 A It would say something along the lines of or if I detected or insufficient sample or
9 invalid sample and then you'd refer back to the – the method procedures of what next step
10 to go to whether it's find a new location or start back to Step 1 or Step 2, depending on
11 what's printed out on the evidentiary ticket.

12 Q Okay.

13 THE COURT: Can I ask you to show him again, just turn it this –

14 THE WITNESS: Oh, I'm sorry, Judge.

15 THE COURT: -- show me where it would be. It's okay.

16 THE WITNESS: It would be printed right along the cross of the top right
17 here.

18 THE COURT: Okay. Above –

19 THE WITNESS: Above where it says Intox –

20 THE COURT: Intox EC/IR?

21 THE WITNESS: Subject test, yes sir.

22 THE COURT: Thank you. Just from when you showed her, I couldn't see
23 it.

24 THE WITNESS: I'm sorry.

25 THE COURT: That's okay.

1 THE WITNESS: It's dark right here and I can't see.

2 Q And in this – in this case, uh, did any of those error messages print out on the ticket?

3 A No, ma'am.

4 Q Okay. And so Step 5 which says if those are – those error messages do print out
5 you're supposed to go back to a certain point in the test, that was not done in this case
6 because the machine did not print out that error, correct?

7 A That's correct.

8 Q And we'll have Dr. Bors testify more to why that is and how that works and all of
9 that kind of stuff but that was not an error message that you received that day?

10 A Correct.

11 Q Okay. Overall, uh, was there anything else that, you know, raised any red flags for
12 you that day as far as the validity of the – the test?

13 A Uh, no, not that I can recall.

14 MS. ARCHER: I don't have any other questions.

15 THE COURT: Cross examination.

16 CROSS EXAMINATION

17 By Brian Johnson, Defense Counsel

18 Q Officer Harris, uh –

19 A Yes, sir.

20 Q -- one of the things you did – well actually with regards to State's Exhibit "1", uh,
21 and that indicated and you've testified to this, that the machine or instrument that you used
22 in this case was, uh, Intoxilyzer NC/IR instrument; is that correct?

23 A Without actually looking at the instrument at the police department, what's printed
24 on here that's the instrument that I used.

25 Q Okay. But it's not a BAC DataMaster; is that correct?

1 A That's correct.

2 Q Uh, and this incident happened on August 31st; is that correct?

3 A Yes.

4 Q And with regards to the BAC DataMaster and the Intoximeter -- Intoxilyzer, there
5 are different steps that are required for each instrument; is that correct? They're different
6 instruments?

7 A They are different instruments.

8 Q They also require different steps; is that correct?

9 A Yes.

10 Q In fact the BAC DataMaster only requires one sample; isn't that correct? Or do you
11 know?

12 A It's been a long time since --

13 Q Been a long time --

14 A -- I've seen one of those.

15 Q So you're -- you're not familiar with what -- what the BAC DataMaster, uh, steps
16 would be?

17 A I don't remember when we switched to the new instrument to be honest with you but
18 it's been a while since I've seen the old system.

19 Q But with regards to this case, uh, one of the things that they have there at the police
20 station is a checklist; is that correct?

21 A Yes.

22 Q Uh, and in this case you filled out a checklist for Mr. Purchase; is that correct?

23 A Yes.

24 Q You signed it, you put his name on there, uh, you dated it; is that correct?

25 A Yes.

1 Q Or actually he may not have signed it but you put his name?

2 A Doesn't require a signature.

3 Q Correct. And I believe it's already been submitted to the court, I'll approach there
4 and ask you if you recognize what this is?

5 A I do.

6 Q And do you recognize that as the DataMaster checklist that you signed and filled out
7 for –

8 A Yes, this is required by the Prosecutor's Office.

9 MR. JOHNSON: Your Honor, at this time I'd offer into evidence what's
10 been marked for purposes of identification – or actually I'm going to back up, I got to make
11 a clear foundation.

12 Q This, uh, the checklist that you signed and filled out, uh, on August 31st, 2019 with
13 regards to Joshua Purchase and this breath test that was – that we're discussing here today;
14 is that correct?

15 A That's correct.

16 MR. JOHNSON: Your Honor, I'd offer into evidence which is marked for
17 identification as Defendant's "A" as Defendant's "A".

18 THE COURT: Objections to "A"?

19 MS. ARCHER: No objections.

20 THE COURT: Thank you. Show "A", uh, Defendant's "A" is admitted
21 without objection.

22 Q Now, Officer Harris, if the DataMaster and the EC/R – or the EC, uh, instrument
23 require different steps, how is it that you were able to sign a – or I guess fill out a checklist
24 that you followed the steps for the BAC DataMaster when you weren't –

25 A Well, if you read the steps on there, it's just steps of them insuring that their

1 instrument is operating properly and that it's turned on.

2 Q So with regards to the rest of the – the step, he didn't fill out anything with regards to
3 the –

4 A No, there's no initial to the rest of the steps.

5 Q With regards the test in this case, I believe you testified under direct that, uh, and
6 correct me if I'm wrong cause I – I heard part of it; I want to make sure I got it right. In
7 order for there to be a valid test, there needs to "be at least two valid samples"; is that
8 correct?

9 A On the current system, yes.

10 Q And can you tell me where, uh, in Title 260 with regards to – I believe we already
11 talked about it under Indiana Code 2-4-2, it says that there must be at least two samples.

12 A Where am I looking at, Brian?

13 Q With regards to the procedures for the, uh, under Indiana Code – excuse me, Indiana
14 Administrative Code 2-4-2, Title 260, approved method for the Intox EC/IR-II breath
15 analysis.

16 THE COURT: It would be on Page 5 of –

17 MR. JOHNSON: 5 and 6.

18 THE COURT: -- of 6.

19 Q Is there anywhere where it says at least two samples?

20 A In the approved method you're –

21 Q Yes.

22 A -- you're referring to?

23 Q Yes.

24 A So I – so if I'm understanding the question correctly, you're asking me where does it
25 say in the approved method steps they ask for two valid samples?

1 Q No, at least two.

2 A At least two. That's nowhere in the steps of performing the test that I can read here.

3 Q Under the approved method for this instrument, correct?

4 A You have to excuse me, I don't know this by heart. We have a big billboard in our
5 intake room that we refer to this. Unless I'm missing it, I don't see at least two tests on
6 here.

7 Q There was a video in the intake room where the breath test was given; is that correct?

8 A Yes.

9 Q And we actually we had a deposition back several months ago now before the
10 apocalypse, uh, where we went over that and went over that, correct?

11 A Correct.

12 MR. JOHNSON: And give me just a second here and pull this up. Oh,
13 Judge, I'm not sure how exactly we're going to do this here.

14 THE COURT: Yeah, normally we would put it up there but I can – I can
15 swing over here where I can see it, I think.

16 MR. JOHNSON: Let me see if I can do this in the – oh, crap.

17 THE COURT: I can see it from here.

18 MR. JOHNSON; Yeah, I'm trying to –

19 THE COURT: Can you see it, Officer?

20 MR. JOHNSON: Let me – let me – I'm going to start playing it before I –

21 THE WITNESS: Do you mind if I stand up, Judge, so I can actually --

22 THE COURT: No, no it's no problem. We're trying to keep you –

23 MS. ARCHER: Are you starting it from the beginning?

24 MR. JOHNSON: I'm starting at the beginning; I'm going to skip ahead but I
25 just –

1 MS. ARCHER: Okay.

2 MR. JOHNSON: -- make sure --

3 MS. ARCHER: Yep, I've got it here, Judge, so if he can just tell me where in
4 the video we are.

5 MR. JOHNSON: I'm just playing it from the beginning. I just want to make
6 sure before I introduce it. I'll go the time marks; I want to (indiscernible) to make sure
7 we're talking about the same video.

8 (Partial video being played)

9 Q And, Officer Harris, is that basically the breath test video for this incident here?

10 A That's our intake, yes.

11 Q But for this -- there's actually probably a timestamp on there --

12 A (Interposing) Yes.

13 (Video stopped)

14 MR. JOHNSON: Your Honor, at this time I'd -- I put it on a flash drive and
15 I believe (indiscernible) offered into evidence and marked as Defendant's "B" -- is it
16 Defendant's "B"?

17 THE COURT: Any obj -- any objection to "B"?

18 MS. ARCHER: No objection.

19 THE COURT: Thanks. Show "B" is admitted. All right.

20 Q Now rather than just play through twenty minutes of video here, I just kind of want
21 to cut to the chase and know what we're talking about.

22 THE COURT: Officer Harris, not that -- not that Mr. Johnson has the
23 cooties --

24 THE WITNESS: I'm immune to it, Your Honor.

25 THE COURT: Oh, you are? Okay.

1 THE WITNESS: I'm not concerned about it unless you are.

2 THE COURT: Well, no, I'm just. I have masks back here I could give you
3 if you want it on there.

4 THE WITNESS: I'm okay, Your Honor, I don't need one.

5 THE COURT: Okay.

6 MR. JOHNSON: I think it will start playing at I think probably at 4:05:20 –
7 well, I think it's 23 on the left.

8 THE WITNESS: Is this the beginning of the test where –

9 MR. JOHNSON: Yeah.

10 THE WITNESS: -- I take the first sample?

11 MR. JOHNSON: Yeah.

12 THE WITNESS: And I enter everything?

13 MR. JOHNSON: And I just want to –

14 THE COURT: Do you have that, Ms. Archer?

15 MS. ARCHER: Um um (affirmative response), thank you.

16 (Partial video being played)

17 THE WITNESS: Okay, so you're to the point where I'm taking the sample -

18 MR. JOHNSON: Correct.

19 THE WITNESS: -- from Mr. Purchase.

20 Q Now it looks like we're around 4:05:58; is that right? Basically we're watching him
21 backup. He sat back down. So he provided the sample at that point in time; is that correct?

22 A Without reading the evidentiary cause he could have provided a sample but it
23 wouldn't have been a sufficient sample. I – I can't see that on the monitor.

24 Q So is some –

25 A (Interposing) Because there's a bar right here on the screen that tells me whether he's

1 giving a – providing a good sample or not and there's tones on the instrument itself.

2 Q So if he doesn't provide a good sample then is there a message on the screen to let
3 you know that a good sample wasn't provided?

4 A No.

5 Q What does it do then at that point in time?

6 A It goes back to its calibration self-system check and it will – and once it's done with
7 that, which that usually takes another two minutes and then it asks for the subject to please
8 blow again.

9 Q So you don't know –

10 A And that will repeat the cycle until either one, I stop the test because he's messing
11 with it by not providing the steady sample or the instrument has some type of interferent.

12 Q And here again, it looks like you're getting up again, providing another sample but –
13 correct, we're now like on the second one; is that right?

14 A Uh, I don't know what was before the first breath but --

15 Q Right. But from what we're watching –

16 A (Interposing) From what we're watching, this would be the second sample of the
17 what's being shown.

18 Q And you're saying without looking at the scene you don't know what, if any, reading
19 was provided there on the –

20 A (Interposing) I don't know the reading of what it says until the ticket is printed out
21 from the printer. There is nothing that comes across that screen except for the calibration
22 check itself that what it's doing.

23 Q So you're saying until the ticket is printed?

24 A I don't know what it says.

25 Q So it could keep just having you take test –

1 A Yes.

2 Q -- after test --

3 A Absolutely.

4 Q -- after test?

5 A Absolutely.

6 Q And then eventually just print out a ticket?

7 A Yes, or I stop the test or let it time out.

8 Q Now watch here again here.

9 A Like I said in the depo, it's dummy proof. You just follow the prompts on the
10 screen.

11 Q Well we'll -- we'll decide whether or not it's dummy proof or not. Not saying you're
12 a dummy.

13 A So here we're just waiting; I'm not sure the instrument is probably going through its
14 self-calibration check and then I believe I'll get a third sample. And we're just killing time.
15 Just having a gradual conversation. I wish there was sound for these.

16 MS. ARCHER: Judge, just while we're waiting for another record, Dr. Bors
17 was sent this video and had an opportunity to review it as well.

18 THE COURT: Okay. Thank you.

19 THE WITNESS: Third breath. See you can see the barcode going across
20 right there. That one was a good sample.

21 Q And to your recollection, I mean there's three times where he went up there and
22 blew into the breath test machine. There were -- there weren't any more than three is this
23 incident; is that correct?

24 A Not that I recall.

25 Q Okay.

1 A We can continue watching it if you want.

2 Q No, we don't – and I know you need to get out of here.

3 (Video is stopped)

4 A But you can see on that video –

5 Q Hold on, there's no question, Officer.

6 THE COURT: Hold on. Hold on a second. She will be able to re-direct if

7 have some – some stuff.

8 THE WITNESS: Sorry.

9 THE COURT: That's all right.

10 Q Now with regard to the approved method, there are situations for example if there is

11 a infis – insufficient sample or time out caused by lack of cooperation, uh, then you record –

12 record that as refused; is that correct?

13 A If I choose to.

14 Q If you choose to.

15 A It depends on how immune that individual are speaking and counteracting, their

16 demeanor. Are they really trying to give a valid sample and they just aren't capable of

17 doing it, then at that point it becomes my determination whether to obtain a blood draw or

18 continue with the test.

19 Q So you're saying it's based upon your interpretation of the individual's behavior

20 whether –

21 A Of their cooperation.

22 Q -- whether it's cooperation or not cooperation?

23 A Yes.

24 Q But you're saying I guess somebody could pull away or not cooperate and what

25 you're testifying to today if I understand correctly is that could happen potentially multiple

1 times and a ticket not be printed out?

2 A It's going to always print out a ticket –

3 Q Okay, then –

4 A -- not matter what, whether you do a – whether you take the test or let it time out.

5 Q Okay, so the test could – the machine can – you could do three tests, four tests, five

6 tests, correct? Is that correct?

7 A Yes.

8 Q And what you're saying is, is that there are some situations where somebody may

9 pull away or not provide enough of a sample, correct?

10 A Yes.

11 Q And the machine won't necessarily print out a ticket that says in – insufficient

12 sample but it will just reset and go through the procedure again?

13 A It can reset or you can allow the instrument to time out which will cancel that test

14 and print out and at the top of your evidentiary ticket it will say instrument timed out.

15 Q So in terms of whether – okay, but what I'm getting at is for – in terms of an

16 insufficient sample. Well you testified under direct that are situations prevent – I believe

17 you testified in this situation where Mr. Purchase wouldn't have provided a sufficient

18 sample; is that correct?

19 A Well you're talking about two different things. You're saying insufficient or invalid

20 sample, which one are you referring to?

21 Q Well let's go into to that. So are you saying an individual can provide an insufficient

22 sample?

23 A Yes.

24 Q And that there won't be a ticket printed out that says insufficient sample?

25 A No, there will always be a ticket. If they say – if they provide an insufficient sample,

1 which means there's some type of interferent. Where an invalid sample meaning they're not
2 getting a proper breath.

3 Q So but there are sometimes where a ticket is printed and sometimes a ticket isn't
4 printed?

5 A There's always a ticket printed at the end of the test.

6 Q But how --

7 A There's always some type of evidentiary ticket that is printed.

8 Q But what I'm getting is how does that -- how does -- you're saying you can give two
9 tests, three tests, four tests and the machine keeps cycling through?

10 A Yes.

11 Q Then why is it -- why does it sometimes does two tests, sometimes it does four tests,
12 sometimes it does five tests, sometimes --

13 A That would be a question for the per --

14 MS. ARCHER: Judge, I'm going to object.

15 A -- for the --

16 MS. ARCHER: So I'm going to object at this point --

17 A -- doctor.

18 THE COURT: Hold on a second.

19 MS. ARCHER: -- based on the same foundation that Mr. Johnson said that
20 he doesn't have any expertise to answer that.

21 MR. JOHNSON: That's fine.

22 THE COURT: Sustain that objection.

23 Q So you don't know? You don't know why sometimes it would be two tests --

24 A I could give you my theory but it would be irrelevant.

25 Q Sure. So that's what I'm getting at. Sometimes an insufficient sample ticket is

1 printed, correct? If somebody doesn't provide a sufficient sample?

2 A If there is an interferent or insufficient sample on there, yes, that's what's in the – the
3 method – the approved methods for what's printed out on the evidentiary. And then there's
4 steps to follow if that's printed on the evidentiary ticket.

5 Q So have you had situations where an insufficient sample ticket has been printed out
6 after somebody has gone through those steps four or five times or six times?

7 A Yes.

8 Q And have you had it printout after they've done it one time?

9 A And I've had it print out where – where it timed out because the subject blatantly
10 refused after the second breath test and then I go get a blood draw.

11 Q So if it times out is that just what the machine says it prints out, something that says
12 times out?

13 A You just let it – you just stop touching the machine and it will time out.

14 Q And the – and the machine will print a ticket that says timed out?

15 A It takes probably fifteen minutes for that instrument to time out.

16 Q But that's what the ticket will print out as timed out?

17 A It'll say on the evidentiary ticket timed out.

18 Q But I guess what I'm getting to is in your experience sometimes you had a machine
19 print out that says insufficient sample after one test?

20 A Or RFI, yes.

21 Q And sometimes – and I'm just (indiscernible) I'm talking insufficient samples.

22 A Yes, I have.

23 Q You—you've had a print out of a ticket after one sample and it prints out insufficient
24 sample?

25 A Yes.

1 Q And then you've also had it print out a ticket that says insufficient sample after
2 multiple samples?

3 A Yes.

4 Q But based on your expertise, you don't know why that would be the case, why
5 sometimes it would be the first time?

6 A I'm not a professional to say why but I understand why it does it, yes.

7 Q And the same thing with invalid sample, sometimes you have an invalid sample
8 ticket printed after the first sample; is that correct?

9 A Yes.

10 Q And sometimes you have an invalid sample ticket after multiple tests?

11 A To better for you to understand how it go through the class and then you would
12 understand exactly what I'm talking about.

13 Q No, and I don't need the class, I just need to know if sometimes you could get a
14 ticket that prints out an invalid sample after one test and sometimes –

15 A It is possible, yes.

16 Q -- and sometimes after multiple tests, you get a ticket?

17 A It is possible, yes, absolutely. And that's what this --

18 MR. JOHNSON: Uh, there's no question. Thank you, you've answered the
19 question. Can I have a moment to collect my thoughts, Judge?

20 THE COURT: Sure.

21 MR. JOHNSON: It may be the lack of oxygen from wearing (indiscernible)
22 doctor mask.

23 THE COURT: Did the doctor get to see – did the doctor get to see the mask?

24 MS. ARCHER: No.

25 THE COURT: Oh, so she is unaware of what we were all laughing about?

1 Okay.

2 MR. JOHNSON: Judge, I don't have any other questions.

3 THE COURT: Re-direct.

4 MS. ARCHER: Just briefly, Judge.

5 RE-DIRECT EXAMINATION

6 By Christine Archer, Deputy Prosecuting Attorney

7 Q Uh, Officer, so we saw Defense Exhibit "A" which is the DataMaster checklist and
8 that's the one that is supplied by the Plainfield Police Department, correct?

9 A Yes.

10 Q Okay. And we're not disputing this is not a DataMaster instrument that you used
11 that day, correct?

12 A I'm sorry, I couldn't hear.

13 Q I'm sorry, it's not a DataMaster instrument that was used that day, correct?

14 A Correct.

15 Q Okay. I know that you said that was dummy proof so I think the real question here
16 is so let's say you got this DataMaster checklist, if it told you to do something that was
17 inconsistent with the next step that the machine was telling you to do or the instrument was
18 telling you to do –

19 A Yes.

20 Q -- -- could you say do anything to that instrument to – to say I'm not doing what the
21 instrument wants me to do next, I'm doing what's written on this checklist?

22 A So I don't think I'm understanding the question.

23 Q I apologize, that was –

24 A I think I understand what you're saying.

25 Q So the – the checklist that was provided is for a different instrument, correct?

1 A Yes.

2 Q But you said that the instrument literally takes you step by step and tells you what's
3 next?

4 A Yes.

5 Q Okay. You said the DataMaster checklist that was provided as Defense Exhibit "A",
6 it kinda just tells, you know, mouth check, green light, things like that, correct?

7 A Is it working?

8 Q Okay. But even if the checklist did tell you to do something that was different than
9 what the instrument was telling you was the next step, would you in any way be able to
10 override what that instrument is telling you to do?

11 A No.

12 Q Okay. So even though it is an outdated checklist that we're using right now, uh, that
13 day did that using that checklist just for documentation affect in any way the way that you
14 conducted the test on the instrument?

15 A No.

16 MS. ARCHER: I have no further questions, Judge.

17 THE COURT: Re-cross?

18 MR. JOHNSON: Uh, no other questions, Judge.

19 THE COURT: Thank you. Can the Dep – sorry the officer, uh, go? He's
20 got – he's got an appointment.

21 MS. ARCHER: Yep.

22 MR. JOHNSON: Yeah, he's released.

23 THE COURT: Thank you, free to go.

24 THE WITNESS: Thank you, Your Honor.

25 THE COURT: Are those his – those are his copies.

1 MS. ARCHER: They're – they're mine actually, Judge.

2 THE COURT: Okay, yours, okay.

3 MS. ARCHER: You can just leave them here, yeah, that's fine.

4 THE COURT: Okay. Thank you. Stay safe out there, Officer.

5 CORPORAL HARRIS: Thank you, Your Honor.

6 THE COURT: Call your next witness.

7 MS. ARCHER: Thank you. State would call Dr. Dana Bors.

8 THE COURT: Doctor, can I get you to raise up your right hand please?

9 (Witness sworn)

10 THE COURT: Thank you, hold on. I may have to turn up the volume on
11 this, I think cause I can barely hear you. Uh, could you just say something, Doctor, so we
12 can hear you again?

13 DR. DANA BORS: Hello.

14 THE COURT: That's better, right? The court reporter can hear you, cool.
15 Go ahead, Ms. Archer.

16 MS. ARCHER: Thank you.

17 DR. DANA BORS

18 having been duly sworn to testify to the truth, the whole truth and nothing but the truth was
19 examined and testified as follows:

20 DIRECT EXAMINATION

21 By Christine Archer, Deputy Prosecuting Attorney

22 Q Good morning, Dr. Bors.

23 A Good morning.

24 Q Uh, can you please state your full name just for the record?

25 A Dana Bors.

1 Q And – and can you please spell your name, first and last?

2 A First name is D-A-N-A. Last name is B-O-R-S.

3 THE COURT: You're getting – I'm sorry, you're getting really soft and I
4 don't know why. It almost sounds like your microphone is, uh, I'm not sure why. When
5 you – we could hear you but you're – but you're –

6 MS. ARCHER: Is the volume all the way up on the display.

7 THE COURT: Well it's coming through my computer.

8 MS. ARCHER: Oh, okay.

9 THE COURT: The volume, I think, is coming through my computer.

10 MS. ARCHER: Gotcha.

11 THE WITNESS: If I scoot a little bit closer –

12 THE COURT: (Interposing) That's a lot better. Whatever that is is a lot
13 better.

14 THE WITNESS: Okay, yeah I just scooted about six inches closer.

15 MS. ARCHER: Okay, we'll take it.

16 THE WITNESS: Does that work?

17 MS. ARCHER: Yeah.

18 THE COURT: Right now, we'll let – I'll let you know if we can't hear you.

19 Go –

20 THE WITNESS: Okay.

21 THE COURT: I'm sorry, go ahead. So I think you were spelling your
22 name.

23 Q Yes. So you said D-A-N-A?

24 A Yes. My last name is B-O-R-S.

25 Q Okay. And, uh, Dr. Bors, how are you employed?

1 A At the Indiana State Department of Toxicology.

2 Q What is your position with them?

3 A I am the Breath Test Program Supervisor.

4 Q Okay. And how long have you had that position?

5 A Three and a half years.

6 THE COURT: Hold on a second, Doctor. We're not getting her. Do you
7 happen to have a, uh, like a pair of like headphones or something with a microphone on it
8 at all anywhere?

9 THE WITNESS: Yeah, actually I do have a set of headphones.

10 THE COURT: Could you try plug it. Could we try plugging those in?
11 While you're looking for those, I just – this is new for me; this is new for everybody. The
12 few times we've had this problem, sometimes plugging in these phones -- these earphones
13 with the speaker on it helps. I don't know, I – I'm – I don't know why. Let's see what we
14 get here. All right, try --

15 THE WITNESS: Can you hear me at all any better?

16 MS. ARCHER: Way better.

17 THE COURT: Way better.

18 THE WITNESS: Way better, okay, all right.

19 THE COURT: Thank you. So you're – sorry, I'm just trying to speed things
20 along. Go ahead, Ms. Archer.

21 MS. ARCHER: No, thank you.

22 Q So you said you had that –

23 THE WITNESS: I'm sorry, if you could give me just a second and let me
24 switch over from my computer speakers into my headphones here. Okay, I think I've
25 switched them over.

1 THE COURT: Can you hear us?

2 THE WITNESS: Yes, I sure can. All right.

3 THE COURT: That's good, I'm glad you know how to do all this cause I
4 don't. Go ahead, Ms. Archer.

5 Q Thank you, Dr. Bors. And you said you've held that position for the Department of
6 Toxicology for three and a half years?

7 A Yes, that is correct.

8 Q And just briefly what is your educational background?

9 A I have a Bachelor's Degree in Forensic Chemistry and I also have a PhD in
10 Analytical Chemistry.

11 Q And, uh, where did complete your PhD and when?

12 A I got it from Purdue University in 2015.

13 Q Uh, and have you been employed with the Department of Toxicology ever since you
14 graduated or did you have another job in between?

15 A I was briefly employed with Covance Laboratories prior to my employment with the
16 State.

17 Q Okay, and what are the duties of that position that you have right now?

18 A I am a Breath Test Program Supervisor so I am responsible for the maintenance and
19 certification of the State's breath test instruments. Also I am responsible for the training and
20 certification of the State's breath test operators and I also supervise the breath test program
21 staff here in our department.

22 Q And have you had training on the instrument, I assume that is used, uh, in this case
23 that we're talking about here?

24 A I have. I attended the week long maintenance course on the instrument that was
25 posted by the instrument manufacturer, Intoximeters, and that was held in St. Louis,

1 Missouri and it covered the theory operation service and maintenance of the Intox EC/IR-
2 II.

3 Q Okay. I want to ask specifically, so you've had the opportunity to, uh, review this
4 case as well like the specific facts of this case, correct?

5 A Yes, I have.

6 Q And the video, uh, of the actual administration of the test as well?

7 A Yes.

8 Q Okay. So, uh, in this case there – the Plainfield Police Department was using the
9 Intox EC/IR instrument, correct?

10 A The EC/IR-II, yes.

11 Q EC/IR-II, thank you. Uh, and generally I mean are there rules, I mean we have the
12 260 Indiana Administrative Code 2-4-2, uh, does that lay out the protocol and what needs
13 to happen with this instrument?

14 A Yes, it does.

15 Q Okay. So specifically looking at kind of this case then, you heard testimony from the
16 officer who conducted the test, uh, that the -- as we saw from the breath test ticket and
17 you've also gotten to see State's Exhibit "1", the breath test ticket; is that correct?

18 A Yes, I have it here in front of me.

19 Q Thank you.

20 A So if you want to look at that, uh, so we have that exhibit, uh, and can you explain
21 just a little bit better what those different – under the tests, what those different checks are?
22 So there's the blank, the check and then subject.

23 Q Sure. Uh, so the blank is pretty self-explanatory but it is running a blank just to make
24 sure that the instrument is not detecting any sort of alcohol when it shouldn't be. So it's just
25 measuring a blank sample so that result should always be 0.000. That's just to make sure

1 it's not detecting any alcohol when it shouldn't and that there's also no carryover in between
2 samples that have been run. The check is an analytical accuracy check that uses the
3 internal residing dry gas standard. So inside each one of the instruments there is a gas tank
4 that is filled with an ethanol and nitrogen gas mix at a nominal value of .080. So when you
5 see the CHK on the breath test ticket, that's going to be the instrument measuring that
6 internal gas and making sure that the value that it is measuring is within the specified
7 tolerance. And in this case the tolerance is going to be plus or minus .005 of the dry gas
8 target that is listed there on the breath test ticket as well. So in this case the dry gas target is
9 .079 and so that means that both of the check values have to be within .005 plus or minus of
10 that that .079 in order for the instrument to continue. If it were further away or outside of
11 that range, the instrument would abort this test and give you a status message indicating
12 that. So in this case our checks are .080 and .079 so we are either exactly on our target or
13 above by .001. So we're well within that .005 tolerance here. And then finally the subject is
14 going to be where the individual themselves delivered a breath sample into the instrument
15 and met all of the criteria to be instrument required for that breath sample.

16 Q So in this, uh, the administration of this test, we see two lines that indicate, uh, a
17 subject sample, correct?

18 A Yes.

19 Q And yet we know from the video that there were three subject samples supplied
20 throughout the test; is that correct?

21 A Yes.

22 Q Okay. Uh, can you explain a little bit why and I think it's obvious as far as kind of
23 what the issue is here, right, so if he supplied three but there's no error at the top of this
24 ticket, correct?

25 A No, this was a, uh, completed test.

1 Q Okay. So why would there not be something saying that there was an insufficient
2 sample or something wrong with the sample at one of those samples that was not counted?

3 MR. JOHNSON: And, Judge, just for the record, I'm going to object as to
4 relevancy and the reason why basically the issue is Title 260, what were the procedures and
5 were the procedures followed. To me it's real simple. What explanation as to why there is
6 multiple samples to me is not relevant so for the record I would object on that basis.

7 THE COURT: Response.

8 MS. ARCHER: Judge, I think it's highly irrelevant especially because if the
9 entire point is that of Defense which (indiscernible) as it is is that there was an insufficient
10 sample, it's important to understand why that's not true, why that – why it's not printed on
11 here and therefore protocol was followed.

12 THE COURT: Uh, overrule the objection. She can testify; I think it's
13 relevant.

14 A Could you repeat the question for me please?

15 Q Yes, Dr. Bors. So why, um, in an instance like the test that we saw here would we
16 see three samples provided but no error message on the top, you know, and a – a completed
17 test?

18 A Each time you see SUBJ for Subject on the breath test ticket, the individual has three
19 attempts to deliver a valid breath sample. So in this particular case, the very first breath
20 sample that was delivered into the instrument was insufficient meaning the instrument is
21 monitoring the volume of the breath sample as well as the flow of the breath sample. If
22 there is any sort of, uh, break or decrease in the flow before that minimum volume is
23 reached, that's going to trigger an insufficient sample. So in this particular case, the very
24 first breath sample that was delivered into the instrument either did not meet the minimum
25 flow requirement or there was a decrease in the flow rate and that's why it triggered that

1 insufficient sample. But that was just Attempt No. 1 so he had two more attempts in order
2 to deliver an adequate sample on that first breath sample. So on the second time he
3 delivered a breath sample, it was adequate and that was the first reading there that you see
4 for the SUBJ. Then on the third time that he delivered a sample that one was also adequate
5 meaning – or that was the result for the second time, the SUBJ is listed there on the breath
6 test ticket. So essentially for each time you see Subject listed there at the end of the
7 (indiscernible) has three attempts to deliver an adequate sample. If the individual does not
8 deliver an adequate sample in any of those three attempts, then you will see insufficient
9 sample actually printed on the breath test ticket. But like in this case, if they do one or even
10 two insufficient sample, uh, breath samples and then on the third attempt they give an
11 adequate one you will not see insufficient sample printed on the ticket itself.

12 Q Okay. So in this case of Mr. Purchase, uh, if he had failed to supply that adequate
13 sample looking at the Indiana Administrative Code and I'm looking at Page 6 of State's
14 Exhibit "2" all the way down on Subsection 5, where it states if insufficient sample or time
15 out is printed on the instrument report, perform an additional breath test beginning with
16 Step 2 and proceeding through Step 12. Was that the case, uh, was that – did that occur in
17 this case?

18 A No, it did not.

19 Q Okay, and you know that how?

20 A Because the test status right above the result there on the breath test ticket, it says
21 sample complete and you also have two numerical values next to the subject lines. If you
22 were to have an insufficient sample status message that would be listed there instead of the
23 word complete. And you would also have asterisks, uh, where the subject numerical value
24 is on the – the ticket that we have here.

25 Q And for each of those subject tests for what you said there can be three samples

1 provided for each of those subject lines, must those, uh, samples be provided within a
2 certain amount of time per the instrument?

3 A Each time the instrument prompts for an individual to deliver a breath sample, they
4 have three minutes in order to deliver a breath sample before the instrument will consider
5 that a time out.

6 Q And if, uh, that time was not met is that what would be printed at the top of the
7 breath test ticket, time out?

8 A Yes, that would be printed under the test status. Where we have complete here it
9 would be, uh, that time out would be represented there.

10 Q Okay. Uh, and one other thing that was touched on was that DataMaster checklist
11 which we heard the officer say is obviously not the right machine; is that correct?

12 A Correct. We have not used the DataMaster in Indiana since prior to 2014.

13 Q Okay, uh, is there any – I mean as far as the operation of this instrument that was
14 used here, in –in this case, is there anything, uh, let me rephrase that. Is there any way that
15 the officer could override the mac – the instrument and what it's saying is the next step that
16 needs to be taken?

17 A No.

18 Q Okay. And by your, uh, examination of the video which showed the entirety of this
19 test; is that correct?

20 A Yes.

21 Q Were the breath samples supplied to the machine within the amount of time that the
22 machine requires?

23 A Yes.

24 Q Okay. And other than the, uh, using an outdated checklist which is not great
25 documentation, you know, saying that, uh, did you see anything else that was, uh, as far as

1 procedurally with your understanding of the Indiana Administrative Code, uh, where the
2 officer violated that procedure?

3 MR. JOHNSON: Judge, I'm going to object; that's a legal conclusion; that's
4 what we're here for. The – the Administrative Code speaks for itself; it's your
5 determination to make whether or not that was followed or not.

6 MS. ARCHER: Judge, I'm just asking based on her expertise that she clearly
7 has if she observed any breaches in protocol.

8 THE COURT: Uh, I'll -- Mr. Johnson is right, that's what we're here to
9 determine. Uh, I think it goes to weight, not admissibility. I'll – I don't care if saw
10 anything on the video that indicates so – so I'll allow the question.

11 Q Go ahead, uh, Dr. Bors, if you need me to restate the question let me know.

12 A Would you repeat it for me please?

13 Q Yes, just given your examination of the video and the test on the video, did you
14 observe any violations in the protocol laid out in the Indiana Administrative Code?

15 A No, I did not.

16 MS. ARCHER: I have no further questions for this witness, Judge.

17 THE COURT: Cross examination, Mr. Johnson?

18 MR. JOHNSON: Yes.

19 CROSS EXAMINATION

20 By Brian Johnson, Defense Counsel

21 Q Doctor, again your testimony is that an individual has three opportunities, I guess, to
22 make a – to provide a sufficient sample before an insufficient sample ticket is printed out; is
23 that correct?

24 A Yes, it is.

25 Q So an individual can provide an insufficient sample; there would be no message on

1 the instrument or a ticket indicating that and provide another insufficient sample again
2 provided it's within the time period required, again no message or, uh, ticket printed
3 indicating that and then provide a third sample where there would be a sufficient sample; is
4 that correct?

5 A If that were the case, you would not have an insufficient sample printed on the
6 breath test ticket in that scenario.

7 Q So at that point in time in this – in this scenario I've described, there would be two
8 insufficient samples, a sufficient sample, uh, and then presumably the individual would
9 have to submit another sample after that; is that correct?

10 A Yes.

11 Q So now Sample 4, uh, I guess samples; is that correct?

12 A Yes. If you had two insufficients, then a sufficient and then the fourth one was
13 sufficient, yes.

14 Q With regards to an individual having, I guess, three opportunities to provide a
15 sufficient sample, that's not listed anywhere in Indiana Administrative Code Title 262-4-2;
16 is that correct?

17 A No, it is not.

18 Q Uh, so and in fact looking at it, you have a Step 10 which indicates when please blow
19 appears on the instrument display, place a new mouthpiece in the breath tube and instruct
20 the subject to deliver a breath sample. Remove mouthpiece when prompted by the
21 instrument display and discard. Step 11, when please blow appears again on the instrument
22 display, place a new mouthpiece in the breath tube, instruct the subject to deliver a breath
23 sample. Remove mouthpiece when prompted by the instrument display and discard. And
24 then Step 12, print the instrument report and remove it from the printer. Check the
25 instrument report for the numerical value of the subject's breath ethanol concentration and

1 correct date and time and sign the instrument report where indicated. So in Steps 10, 11,
2 12, you're talking about two samples in be – after – before the first sample the machine – or,
3 excuse me, the instrument indicates please blow. Before the second sample it indicates
4 please blow and then Step 12 talks about print the instrument report. But your testimony
5 today is there could be a please blow, a please blow, and then another please blow without
6 any ticket being printed that indicates insufficient sample or a breath test result; is that
7 correct?

8 A Yes, uh, in Step 10 –

9 Q No, thank you. Thank you, you've answered –

10 A -- it is – it's referring to –

11 Q Ma'am, you've an --

12 A -- the –

13 Q -- Ma'am—

14 THE COURT: Doctor, hold on.

15 Q Doctor, it's a yes or no question.

16 A Oh, I'm sorry.

17 THE COURT: Yeah, hold on, Doc. She'll – yes or no question; she'll get
18 you on redirect –

19 THE WITNESS: Okay.

20 THE COURT: -- if there's something else you want to explain. Go ahead,
21 Mr. Johnson.

22 Q But if – but if a ticket does provide – or if there is a printed sample, insufficient
23 sample, then pursuant to Title 260, you would go back to Step 2, correct?

24 A Yes, if insufficient sample is printed on the report, you would go back to Step 2 and
25 begin a second sequence.

1 Q But not if it's not printed, correct?

2 A Correct.

3 Q I know, uh, Corporal Harris indicated that – I think he testified sometimes you can
4 get an invalid sample. Can you get an invalid sample printout on a EC/IR machine or --

5 A Not that I am aware of, no.

6 Q Now he indicated you could have five or six tests, I believe, I think he's testified to
7 that. Is that possible as well that he could have five or six tests, uh, samples provided by a
8 subject before a ticket is printed out?

9 A Yes, so you have three –

10 Q Okay.

11 A -- opportunities –

12 Q Thank you, ma'am –

13 A -- to –

14 Q -- ma'am, you've answered the question. And to follow up on that with regards to
15 five or six tests, there's nothing in Title 260 indicating that a subject can provide five or six
16 samples, it refers to please blow, please blow, ticket and then there's other indications that if
17 there's certain error messages that the indi – that there's steps to – to take. But nothing
18 indicating that a subject can provide five or six samples on this instrument, correct?

19 A Correct.

20 MR. JOHNSON: I don't have any other questions, Judge.

21 THE COURT: Re-direct.

22 MS. ARCHER: Thank you, Judge.

23 RE-DIRECT EXAMINATION

24 By Christine Archer, Deputy Prosecuting Attorney

25 Q Dr. Bors, uh, I think you were going to say something about Step 10 specifically, uh,

1 looking at -- when Defense counsel was examining you regarding it doesn't say that there
2 could be more, like it doesn't say Step 10, 11, 12, 13, 14, 15, please blow, please blow,
3 please blow, what were you going to say there?

4 A When it's referring to Step 10, it's referring to when an individual is able to provide
5 an adequate sample.

6 MR. JOHNSON: And again, I guess, I guess I just object.

7 A There are three --

8 THE COURT: Hold on a second -- hold on a second, Doctor. Hold on just
9 a second. There's going to be an objection here. Go ahead.

10 THE WITNESS: Sure.

11 MR. JOHNSON: I'm going to object for the record, the document speaks
12 for itself so it's a legal conclusion as to what the regulations say.

13 THE COURT: Uh, State?

14 MS. ARCHER: Judge, I mean I would just disagree with the Defense that if
15 you look at Step 10 and Step 11, uh, it -- it assumes a sufficient sample there. So I think
16 giving an explanation where there's not a sufficient sample, she's explaining how the
17 machine works.

18 THE COURT: I think, uh, well I think it will perhaps aid the Court in
19 understanding what's going on. I think it is relevant. The document kinda does speak for
20 itself but I'll allow her to give some explanation. Go ahead.

21 Q Go ahead, Dr. Bors.

22 A Like you mentioned just now, the Step 10 it is giving you instruments for how to
23 obtain an adequate sample. If that is adequate sample is obtained then it moves on to Step
24 11 and then that would be the second adequate sample that the breath test sequence
25 requires. In order to obtain the adequate sample in Step 10 and in Step 11, the individual

1 has three attempts to obtain an adequate sample in Step 10 and three additional attempts to
2 obtain that adequate sample in Step 11.

3 Q Okay. And, uh, Step – when you are looking, uh, at these steps does just for
4 honestly my education, so is there anywhere like for instance on the instrument’s screen
5 does it say Step 1, Step 2, Step 3, anything like that?

6 A The instrument prompts coincide with the approved method.

7 Q Okay.

8 A So the instrument as you would walk up to it is scrolling through; it’s going to have
9 the, uh, instrument’s location, it’s address and it’s going to say instrument ready to start,
10 press enter which, uh, is going to be Step 3. So press enter to start the subject test. Then the
11 next thing that’s going to come up on the instrument display is prompting the officer to
12 insert their identification card and then the – as the officer moves through those prompts on
13 the instrument, like I said those prompts are going to coincide with the steps of the approved
14 method.

15 Q Okay, and so, uh, if let’s say on Step 10, like we saw in this case where the first of
16 three possible samples for Step 10 is not sufficient will the machine allow the operator or the
17 instrument – I’m sorry, allow the operator to proceed to Step 11?

18 A No, because it is still trying to obtain the adequate sample in Step 10.

19 MS. ARCHER: Okay. I have no further questions, Judge.

20 THE COURT: Re-cross.

21 RE-CROSS EXAMINATION

22 By Brian Johnson, Defense Counsel

23 Q Doctor, I believe you indicated, uh, I guess your expertise with regards to the
24 EC/IR-II was attending a week long – was it a breath test, uh, I guess a week long
25 maintenance program put on by the manufacturer; is that correct?

1 A Yes.

2 Q In terms of the EC/IR-II's ability, I guess, it detects sufficient samples to detect
3 alcohol – mouth alcohol, all these things that you're testifying to as far as multiple tests,
4 have you independently, uh, conducted any peer-reviewed tests on the validity of that
5 whether the instrument is actually able to do that?

6 A I'm – I'm not exactly sure what you're asking.

7 Q Have you independently tested the machine to verify its ability to, uh, I guess, detect
8 mouth alcohol, to detect, uh, wheth – whether it's actually doing the things that the
9 manufact – manufacturer told you that it does?

10 A I have not set up any studies that have been peer-reviewed and published but I have
11 obtained insufficient sample status messages myself by delivering samples – breath samples
12 into the instrument.

13 Q Okay. Delivering them yourself but in terms of actually, I guess, conducting
14 anything like a scientific test, something that would stand up to scrutiny as far as the
15 instrument's ability to do what it says, you haven't independently conducted any tests on
16 that other and I guess you've seen whether you provided insufficient sample; is that fair to
17 say?

18 A Yes, I have not done any studies on it, no.

19 MR. JOHNSON: I don't have any other questions, Judge.

20 THE COURT: Any further witnesses?

21 MS. ARCHER: Nothing else from the State, Judge.

22 THE COURT; Could we, uh, Doctor be released to go back and --

23 MS. ARCHER: She can, yep.

24 THE COURT: -- and well probably have lunch at this point. Uh, thank you
25 for your testimony, Doctor, thank you very much.

1 DR. BORS: Thank you, Your Honor.

2 THE COURT: I'll, uh, I'll close this out here. There we go. Uh, no further
3 witnesses for you?

4 MS. ARCHER: No, Judge.

5 THE COURT: Any witnesses for you, Mr. Johnson.

6 MR. JOHNSON: No, Judge, thank you.

7 THE COURT: Uh, argument?

8 MS. ARCHER: Do want – I assumed it was his motion, he probably –

9 THE COURT: Mr. Johnson.

10 MR. JOHNSON: That's fine. Like I said it doesn't matter, Judge, I mean
11 either way.

12 THE COURT: Go ahead.

13 MR. JOHNSON: Judge, really just falls under Indiana Code 9-30-6-5, uh,
14 which is the breath test operator's equipment certification (indiscernible) prima facie
15 evidence. Uh, basically, uh, under Subsection (d), the results of the chemical test involving
16 analysis – analysis of a person's breath are not admissible in a proceeding under this chapter
17 if the – and again, the techniques used in the test have not been approved in accordance
18 with the rules adopted under Subsection (a) which talks about the Director of the
19 Department of Toxicology adopting rules. Uh, really, Judge, I think probably the starting
20 case – really probably the primary case to look at is Indiana – or excuse me, Bowen v. State,
21 that's 564 N.E.2d 309. Uh, in that case, uh, there was an issue with the breath test. One of
22 the issue was – and this is an older case, that after completing the breath alcohol test as
23 described the operator must record the testing and fuel control number and instrument serial
24 number in a form used by the breath alcohol test. Uh, in that case it wasn't done. The
25 officer didn't record it. Uh, the State argued well that – the recording should know the

1 (indiscernible) control number is not a technique used in the test within the meaning of
2 Indiana Code 9-11-4-5 which was the predecessor of 9-30-6-5 but is merely administrative
3 housekeeping – keeping duty. Uh, they went on to say that the failure to comply with
4 regulations has a consequence that’s set out in statute in admissibility of the breath test
5 results. Uh, moreover the recordation of requirement clearly has the purpose of facilitating
6 the verification of the accuracy of the test concerned with strictly is bearing about the weight
7 and admissibility of the test. Uh, and it goes on to say the statute and regulations clearly
8 contemplate strict compliance. There’s no indication that this requirement can be
9 circumvented by the introduction of other inherently less reliable evidence. Uh, there was
10 another case, Stranahan v. State, 651 N.E.2d 294, uh, 1995. Uh, again in that case, there
11 was an issue regarding the approval of the instrument. The Court rejected that argument
12 but again it affirmed the holdings of – of Bone and related authorities, uh, seeking – citing it
13 – concerned either a lack of approved operating methods or failure to follow those methods,
14 uh, clearly renders a breath test unreliable. And that’s really what we have here, Judge. I
15 mean basically, if you look at Title 260, uh, with regards to the EC/IR-II, uh, 260-2-4-2,
16 we’ve heard testimony here today, uh, from Dr. Bors that an individual can provide three
17 samples before, uh, an insufficient sample could be provided and presumably if there’s an
18 insufficient sample provided in the first two times they provided another one, they could
19 provide two more insufficient samples. So the possibility of up to six apparently samples; I
20 don’t know if there’s more. And that’s the thing, Judge, if you’re sitting there scratching
21 your head trying to figure out well I mean how does this work, what – what does this mean
22 then you’re getting to the root of why Title 260, uh, and why the Indiana Code requires
23 strict compliance because when you adopt those regulations it’s subject to public comment
24 and when you’re talking about the approved methods, you’re talking about reliability. So if
25 you’re sitting there scratching your head saying well why does it say – why – why are we

1 hearing testimony of three tests or six tests, when I look at the regulations, what I look at is
2 you go to Step 10, please blow. Step 11, please blow. And then 12, print the instrument
3 report. Then you have other things that indicate what you do if there's an insufficient
4 sample printed. But now we are told well hey, there could be kind of another option that's
5 not included in these rules. Well if it's not included in the rules, then the approved
6 procedure hasn't been followed. So to me, you – you look at this like if you're helping your
7 kids build Legos, if you don't sit there and say – you get to Step 7 and say, oh crap, you
8 know, something happened, you're going to go back to Step 5. You go back to Step 1. The
9 problem is the drafting of the rules. They're trying to say it doesn't matter, Judge, trying to
10 say well it's fine, uh, we can just read into this. The rules don't say that. There's – there's
11 nothing that – it says Step 10, please blow; Step 11, please blow; 12, print the instrument
12 report. And then it said if any of the following messages on the instrument display or report
13 – or report, proceed as follows. Now what we've heard is testimony as well, you can
14 provide three samples. Well, if that's the case, if you can do that, if that can reliably be
15 provided or provide six samples, it should be in there just like everything else. I mean why
16 do we have directions to say well if there's insufficient sample go back to Step 2. Well now
17 we're told whether it could be an insufficient sample after three samples. It's crapping
18 drafting. I mean at the end of the day and frankly, Judge, we're left here to speculate well
19 does it really make a difference if you provide two insufficient samples or two invalid
20 samples or mouth alcohol and then you get a third and then it's okay to provide three more
21 after that? We don't know, Judge, and – and that's the issue. If it's not in that code section
22 then the – then whatever explanation toxicology wants to provide is essentially parole
23 evidence. They're trying to say well, yeah, it's not in the rule, Judge, but we, you know,
24 really this is all – this is all it means, you could do this anyway. That's – statutes rules are
25 strictly construed against the State. The fact that they have crappy drafting that doesn't

1 contemplate this and it wasn't put out for public comment to explain this, I mean it's
2 probably floored the Court, I'm sure it did me. All this time that we've had the EC/IR-II, I
3 think we, you know, heard two samples and then we hear about invalids and insufficient
4 and I'm you were as shocked as I was to know, I mean as I'm sitting here, that somebody
5 could find – provide six samples when there's nothing that even discusses it anywhere in
6 Title 260. Clearly results are inadmissible. 9-30-6-5 contemplates strict compliance; test
7 results should go out.

8 THE COURT: Thanks. Ms. Archer.

9 MS. ARCHER: Thank you, Judge. Looking actually back at the
10 Defendant's original motion, it does - I do find it interesting, uh, Section 3 of his motion, he
11 said, of administrating the test, the officer did not follow the approved method as required
12 by 260, Indiana Code 2-4-2. And I – what I hear today now is Defense Counsel actually
13 just doesn't like the way the code is written so he's asking you to find that it's invalid
14 because, uh, he didn't actually argue that the officer didn't comply, uh, which was the
15 argument that he laid out in his original motion. Now, even with considering that, uh, the
16 other thing that's not here because he's saying well it should say that you can – in Step 10,
17 in Step 11 it should say that you can supply up to three samples per each subject line test. It
18 also does not say in there, Judge, subject may only supply one breath sample. He's asking
19 you to read something into it to – he's asking you to assume that, oh, well any one that
20 reads this would know that that just means only one sample and that is also asking you to
21 read into the administrative code language that is not there – language that is not there. Uh,
22 it – the Indiana Code specifically says, uh, what the protocol is. The question here as put
23 forward by the Defendant's Motion to Suppress was, was this code followed and you've
24 heard from both the officer today and Dr. Bors that the protocol was followed, the
25 instrument worked correctly and that the subject here, Mr. Purchase was able to provide

1 sufficient samples. Now I understand that if all the way down at Subsection 5, if the officer
2 had had a report, looking at State's Exhibit "1" that said insufficient sample at the top and
3 he said you know what, we're still going to call it good, we would have a problem. It's not
4 a good test ticket at that point. But the question here is I mean you – you heard it from the
5 Defense himself, well this is crappy drafting. Okay, but what his argument is at least in the
6 written motion, was that not that it was crappy drafting, his argument was that there's
7 drafted protocol and procedure and the officer didn't follow it. That's not true. The officer
8 followed it and you actually heard him say today, he doesn't even have the ability to
9 override it. But it takes him through it and then you heard Dr. Bors specifically say at Step
10 10, and Step 11 were the actual samples are provided it will not allow you to go on to the
11 next step. And if you provide three samples and you don't have a sufficient sample at that
12 point the ticket, the ticket will just say nope, we're done with this test; it prints out and says
13 insufficient sample at the top. And if you want to do another test, you have to start all the
14 way back at Step 2. So, Judge, um, I – sorry that Defense Counsel doesn't like the drafting
15 of the Indiana Code but for the protocol as listed, that it is what it is. Given what Dr. Bors
16 said, it's clear; it's the, uh, code follows the instrumentation and follows the training that
17 she received in the instrumentation and there was nothing about the way that this test was
18 conducted that violates protocol. That's what Defense is asking you to do is to say this
19 violated protocol, therefore it cannot come in. It did not violate protocol and he can't
20 actually point out to you where it did violate protocol; he can only point out to you that
21 man oh man, wouldn't it be better if it more specifically said in Step 10 and 11, this can be
22 up to three samples but can be as few as one. They must be conducted within three
23 minutes. All of those kind of things. This is not an instrument manual, Judge. This is a
24 protocol and the officer followed the protocol in this case and State would ask that the test
25 be allowed in.

1 MR. JOHNSON: Briefly, Judge. State's incorrect. Protocol wasn't
2 followed. But the protocol is written, it says please blow, uh, place a new mouthpiece,
3 instrument the subject sample to deliver a sample, remove the mouthpiece when prompted
4 by the instrument display and discard. Step 11, please blow, appears on the instrument
5 display – or appears again on the instrument display, place a new mouthpiece in the breath
6 tube, instruct the subject to deliver a sample. Please remove mouthpiece prompted by the
7 instrument display and discard. And then it goes on to Step 12. What happened is there
8 was a Step 11.5. Again apparently what we're told is if please blow appears again, do the
9 same thing. What the State is arguing is no, that doesn't matter because it's idiot-proof.
10 Basically the ticket is not going to print a ticket unless it's done properly. Then why have
11 please blow twice? Just say please blow. Because if they're saying, listen if – as long as the
12 instrument says, please blow, then it's fine, instruct the subject to do it and it might be three
13 times; it might be four times; it might be five times; might be six times, then that would
14 render Step 11 redundant. You would only need to put please blow once and basically say,
15 all right, it's either going to give you one of these messages or it's going to print out a ticket.
16 So the – what they drafted was not followed. It says please blow. And then when it says
17 please blow again, this is what you do. It doesn't say -- and then if it says please go – blow a
18 third time, do it again, if it says please blow a fourth time, do it again. It just says twice.
19 Again like I said if their argument is, well it doesn't matter, then there's no reason to say
20 please blow twice, you just put it once and then say wait for one of these things to happen
21 and follow those steps. That's why the procedure wasn't followed. It may be a result of
22 drafting in terms of how the State is trying to argue it now that – that drafting doesn't matter
23 but the way it's drafted says, this is what you do. The officer inserted another step.
24 Toxicology is saying you could insert four more steps and it doesn't matter but that's not
25 what the regulations say. And that's what strict compliance is all about, you draft the

1 regulations, you say what you have to do and you have to follow it, otherwise you don't
2 have strict compliance, you have close enough compliance.

3 THE COURT: Uh, leaving aside your – for a second the – the fact that it
4 doesn't say anything about perhaps providing three samples, uh, it just says Step 10, please
5 blow. Doesn't that effectively work to the benefit of the test subject to the fact that they're
6 giving him three opportunities to provide a good sample? Uh, I mean if he gives an
7 insufficient sample, uh, I don't want – he doesn't blow hard enough okay and he doesn't
8 give a sample, okay, they could have the machine – someone could – some computer person
9 (indiscernible) machine just to come up and pop up a ticket that says insufficient sample
10 provided. Right, they could do that? Do you agree?

11 MR. JOHNSON: I don't know.

12 THE COURT: Okay.

13 MR. JOHNSON: None of us know.

14 THE COURT: Okay. Well then maybe we don't know but – but I mean
15 they're giving him three chances to give a good sample here, doesn't that in a way benefit
16 the defendant? I mean isn't it work in his favor as opposed to –

17 MR. JOHNSON: I don't think it's impo – I think it's impossible to say
18 because you don't know –

19 THE COURT: Don't know.

20 MR. JOHNSON: -- about the validity of that and it's pure speculation at
21 that point in time.

22 THE COURT: And it may not have anything to do with your argument
23 anyway whether – whether it does or doesn't. It may not – I mean if your argument is
24 they're not following the protocol, they're not following the protocol, doesn't matter whose
25 favor it works in necessarily, I understand that; I'm just trying to get where we're coming

1 down here. Uh, sort of understand the – how this works, I guess. Uh, do either of you
2 know and I'm about to open a can of worms here I probably don't want to open. But as I
3 look at Step 10, when please blow appears on the instrument display, place a new
4 mouthpiece on the breath tube, instruct the subject to deliver a breath sample, remove
5 mouthpiece when prompted by the instrument display and discard. In our scenario here,
6 the – Mr. Purchase, uh, according to what we're talking about here didn't provide enough
7 breath to make the machine register, that's the gist of what I'm getting from the Doctor and
8 the – the officer. As I understand the testimony, the machine waits for, uh, a few minutes
9 and asked him to blow again, right?

10 MS. ARCHER: Um um (affirmative response).

11 THE COURT: Do we discard, does it instruct them to discard and put a
12 new mouthpiece in between those tests?

13 MR. JOHNSON: Yes.

14 MS. ARCHER: Yes.

15 THE COURT: It does?

16 MS. ARCHER: Yes.

17 THE COURT: Okay. So we don't have a worry about –

18 MS. ARCHER: No.

19 THE COURT: -- residual alcohol in a testing tube?

20 MS. ARCHER: No.

21 MR. JOHNSON: Well I mean with regards to the mouthpiece, I don't know
22 if you can say --

23 THE COURT: What I was concerned with and – and I think you've
24 answered my question. But I – but I want to make sure is not happening here is it says
25 blow. He didn't blow enough so we didn't finish Step 10 so we're still on Step 10. We wait

1 a second and it says, sorry, you didn't – blow again and he puts his mouth right back on the
2 same mouthpiece.

3 MS. ARCHER: No.

4 MR. JOHNSON: No, then I'd have a different argument.

5 MS. ARCHER: Yeah, yeah.

6 THE COURT: I understand –

7 MS. ARCHER: Right.

8 THE COURT: -- I just want to make sure that we –

9 MS. ARCHER: No.

10 THE COURT: -- that's not what's happening here.

11 MS. ARCHER: No.

12 THE COURT: Okay. That – that would concern me.

13 MS. ARCHER: Right.

14 THE COURT: That would concern me. And I – I think –

15 MS. ARCHER: We've had to dismiss cases for that, yeah.

16 THE COURT: I – what I wanted to say was surely that our –

17 MS. ARCHER: Yeah.

18 THE COURT: -- approved procedure, whether you agree with it or not,
19 doesn't allow for that to happen, I wouldn't think.

20 MS. ARCHER: Right.

21 MR. JOHNSON: Correct.

22 THE COURT: Okay, I just wanted to make sure that wasn't an issue that – I
23 didn't hear anyone address it and I thought well that's – that's a problem if that's what's
24 happening.

25 MS. ARCHER: Yeah.

1 MR. JOHNSON: Oh, no, no. Well, Judge, obviously I think it's a problem
2 either way.

3 THE COURT: I understand. I understand. Uh, I just wanted to make sure
4 that particular problem wasn't something that – that – that –

5 MR. JOHNSON: No.

6 THE COURT: I'm glad – I'm glad I didn't open that can of worms. Uh, I
7 didn't think I was the first person to wonder that but anyway. Okay, I'm going take this
8 matter under advisement. I'm going to go back and take a look at, uh, I'll read the code; I'll
9 read the cases; I'll see what we have here and I'll get a ruling out, uh, it might be a week or
10 two. I've got a nasty divorce I'm working on right now, uh, that I'm trying to get out. So I
11 might be a week or two. Uh, do we have a pre-trial conference or something set in this
12 case?

13 MR. JOHNSON: This was that one but I didn't have my client come cause
14 obviously I knew –

15 THE COURT: That's today technically?

16 MR. JOHNSON: Right.

17 THE COURT: So we'll reset this for another pre-trial conference in about
18 forty-five days, something like that; is that okay for everybody?

19 MS. ARCHER: Yes.

20 MR. JOHNSON: That will be fine, Judge.

21 MS. ARCHER: Yep.

22 THE COURT: Obviously depending on what my ruling is will may or may
23 not change the course of how we go here but I don't want to lose track of the case. Uh, set a
24 pre-trial conference in about, uh, forty-five days, somewhere in that range. That will give
25 me time to get a – a written order out on this. Do we have another hearing coming at one

1 o'clock here a second?

2 COURT REPORTER: Um um (affirmative response).

3 THE COURT: Oh good.

4 MS. ARCHER: And that one will be Kellie and then I'm calling in for the
5 2:30 -- tag team.

6 THE COURT: Mr. Johnson, where does one get a mask such as –

7 MS. ARCHER: Don't tell me Amazon.

8 MR. JOHNSON: No, I ordered it. Something popped up on Facebook and
9 I'm like well I'm going to get this. So I don't remember the name of the company.
10 Ironically enough –

11 MS. ARCHER: Money well spent really.

12 MR. JOHNSON: Yeah. Ironically enough it came from China so much like
13 our virus so. I mean don't – don't – I mean I know you can't say that but, uh –

14 THE COURT: Allegedly.

15 MR. JOHNSON: Allegedly, you know.

16 THE COURT: The mask came from China, the virus allegedly.

17 MR. JOHNSON: I'm not trying to (indiscernible) the ethnicity of anybody
18 but –

19 THE COURT: All right, our next pre-trial will be on –

20 THE BAILIFF: Pre-Trial will be on July 21st at 1:00.

21 THE COURT: July 21st at 1:00 o'clock. Jury will be August –

22 THE BAILIFF: 26th.

23 THE COURT: 26th at what 8:30 a.m. or 8:00 a.m. Eight – 8:00 a.m. All
24 right, thank you all.

25 MS. ARCHER: Thank you.

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THE COURT: I'll get a ruling out as soon as I can read and learn.

(ALL THAT IS ALL THE EVIDENCE HEARD IN THIS CASE ON JUNE 3, 2020)

WESTLAW

Affirmed in Part, Vacated in Part by *Bowman v. State*, | Ind., | August 30, 1991

Original Image of 564 N.E.2d 309 (PDF)

Bowman v. State
Court of Appeals of Indiana, Third District. | December 19, 1990 | 564 N.E.2d 309 (Approx. 6 pages)
Third District.

Kurt F. BOWMAN, Appellant (Defendant Below),

v.

STATE of Indiana, Appellee (Plaintiff Below).

No. 20A03-9006-CR-239.

Dec. 19, 1990.

Rehearing Denied Feb. 22, 1991.

Synopsis

Defendant was convicted by jury in the Elkhart Superior Court, Worth M. Yoder, J., of operating a vehicle while intoxicated, causing death, and operating a vehicle with blood alcohol level of .10% or more, resulting in death, and was sentenced to five years in prison. On appeal, the Court of Appeals, *Staton*, J., held that: (1) failure to record the test ampoule control number rendered breathalyzer test result inadmissible; (2) error from admission of that test was prejudicial and warranted reversal of conviction for BAC death, but did not affect conviction for DWI death in light of other evidence of defendant's intoxication; and (3) victim's failure to wear seat belt was not intervening and superseding cause of her death so as to absolve defendant of criminal liability.

Affirmed in part, reversed in part, and remanded.

West Headnotes (4)

[Change View](#)

- 1 **Automobiles** **Conduct and Proof of Test; Foundation or Predicate**
Failure to record and test ampoule control number on form used to record breath alcohol test result rendered breathalyzer test inadmissible. *West's A.I.C. 9-11-4-5(d)*.

[8 Cases that cite this headnote](#)

- 2 **Criminal Law** **Particular Offenses and Prosecutions**
Error from admission of breathalyzer test without recordation of ampoule control number was prejudicial and warranted reversal of conviction for operating a vehicle with blood alcohol level of .10% or more, resulting in death, but not of conviction for operating a vehicle while intoxicated, causing death, in light of other evidence of defendant's intoxication. *West's I.A.C. 9-11-4-5*.

[5 Cases that cite this headnote](#)

- 3 **Criminal Law** **Refusal of Requests**
Upon claim that refusal of tendered instruction was erroneous, court examines that instruction to determine whether it correctly states the law, where there was evidence in record to support its giving, and whether its substance is covered by other instructions given.

- 4 **Automobiles** **Homicide**

SELECTED TOPICS

Criminal Law

Trial

[Entire Instruction](#)
[Evidence of Defendant Urine Drug Tests and Results of Those Tests](#)

Secondary Sources

[Admissibility and weight of evidence based on scientific test for intoxication or presence of alcohol in system](#)

159 A.L.R. 209 (Originally published in 1946)

...The reported case for this annotation is *Green Lake County v. Domes*, 247 Wis. 90, 18 N.W.2d 348, 159 A.L.R. 204 (1945).

[Necessity and sufficiency of proof that tests of blood alcohol concentration were conducted in conformance with prescribed methods](#)

96 A.L.R.3d 745 (Originally published in 1979)

...This annotation collects and analyzes the state and federal cases in which the courts have discussed or decided the necessity and sufficiency of proof that chemical sobriety tests were conducted in con...

[Horizontal gaze nystagmus test: use in impaired driving prosecution](#)

60 A.L.R.4th 1129 (Originally published in 1988)

...This annotation collects and analyzes the state and federal cases dealing with the use in impaired driving prosecutions, either as constituting probable cause for arrest or further investigation, or as...

[See More Secondary Sources](#)

Briefs

Brief for Respondent

2011 WL 108378
Donald BULLCOMING, Petitioner, v. NEW MEXICO, Respondent.
Supreme Court of the United States
Jan. 10, 2011

...Petitioner Donald Bullcoming rear-ended Dennis Jackson's truck while it was stopped at an intersection in Farmington, New Mexico, on August 14, 2005. JA 2-4, 29; Tr. 48-50. Mr. Jackson asked his wife, ...

JOINT APPENDIX, VOL. I

2006 WL 3420140
Lathair Smith, Petitioner, v. State of Texas, Respondent.
Supreme Court of the United States
Nov. 20, 2006

...[Filed APR 11, 1991] COMES NOW the Defendant by and through his attorneys of record and respectfully moves that this Honorable Court declare TEX. CODE CRIM. PROC. ANN. art. 37.071 unconstitutional as a...

Brief for Petitioner

2010 WL 4913553
Donald BULLCOMING, Petitioner, v. NEW MEXICO, Respondent.
Supreme Court of the United States
Nov. 30, 2010

...Petitioner Donald Bullcoming respectfully requests that this Court reverse the judgment of the New Mexico Supreme Court. The order

Victim's failure to wear her seat belt was not intervening and superseding cause of her death so as to absolve defendant of criminal liability for operating a motor vehicle while intoxicated, causing death.

[6 Cases that cite this headnote](#)

Attorneys and Law Firms

***310** P. Michael Parker, [C. Kenneth Wilber](#), Barnes & Thornburg, Elkhart, for appellant.

Linley E. Pearson, Atty. Gen., [Wendy Stone Messer](#), Deputy Atty. Gen., Indianapolis, for appellee.

Opinion

[STATON](#), Judge.

Kurt F. Bowman appeals his convictions for operating a vehicle while intoxicated, causing death and operating a vehicle with blood alcohol level of .10% or more, resulting in death, both Class C felonies, for which he was sentenced to five (5) years in prison. His appeal presents us with the following two issues:

- I. Whether the trial court erred in admitting the breathalyzer test results when the breathalyzer operator admitted he did not follow the procedures mandated by the Indiana Department of Toxicology.
- II. Whether the trial court erred by failing to give Bowman's tendered instruction on causation.

We affirm in part and reverse in part.

Kurt Bowman was the driver in a one car accident in Elkhart County, Indiana. His passenger, Brenda Davis Keyser, was not wearing a seat belt and sustained severe injuries which later proved to be fatal. Bowman told police that he had only six drinks in the previous five hours, but the investigating officers observed alcoholic beverage containers in the area and noted that Bowman's speech was thick-tongued, his eyes were bloodshot, his manual dexterity was poor, his balance was unstable, and he exhibited a strong odor of alcohol. Although he passed a field sobriety test requiring him to count backwards, he failed the finger-to-nose test and the heel-to-toe walking test.

Bowman was transported to the Bristol Police Department, where a breathalyzer test was administered. His blood alcohol content (BAC) registered .14% on the machine.

After a jury trial, Bowman was convicted of operating a vehicle while intoxicated, causing death (DWI death), and operating a vehicle with blood alcohol level of .10% or more, resulting in death (BAC death). He was sentenced to one term of five years for both Class C felonies. He appeals.

***311** I.

Admissibility of Breathalyzer Test

1 For his first assignment of error, Bowman contends that the trial court erred in admitting the breathalyzer test into evidence because improper procedures were used in its administration.

The admissibility of the results of a breathalyzer test is governed by [Indiana Code 9-11-4-5](#), which provides in relevant part:

Sec. 5. (a) The director of the department of toxicology of the Indiana University school of medicine shall adopt rules, under IC 4-22-2, concerning:

* * * * *

(3) the certification of the proper technique for administering a breath test.

* * * * *

(d) *Results of chemical tests that involve an analysis of a person's breath are not admissible in a proceeding under this article if:*

(1) the test operator;

of the New Mexico Supreme Court (JA 1-27) is reported at 147 N.M. 487,...

[See More Briefs](#)

Trial Court Documents

[State v. Ackerman](#)

2001 WL 36161719
State of Indiana, Plaintiff, v. Leslie J. ACKERMAN, Defendant.
Superior Court of Indiana.
June 17, 2001

...The Court, having taken the Defendant's Motion to Suppress and Motion In Limine under advisement, hereby orders as follows: In paragraph 8 of her motion, the Defendant alleges that the officer's confro...

[Mcwhorter v. State of Indiana](#)

2012 WL 4339223
Andrew MCWHORTER, v. STATE OF INDIANA.
Indiana Circuit Court.
Jan. 24, 2012

...This matter came on for hearing on Petitioner's Petition for Post-Conviction Relief. The Petitioner appeared by counsel. The State of Indiana appeared by Prosecuting Attorney Kit C. Dean Crane. A witne...

[State of Indiana, v. William HADDIX.](#)

2003 WL 25278759
State of Indiana, v. William HADDIX.
Superior Court of Indiana.
Feb. 06, 2003

...Comes now the Court and having reviewed the Defendant's Motion to Suppress and having conducted a hearing thereon, and each party having submitted Memoranda of Law in regard to the issues herein, now f...

[See More Trial Court Documents](#)

(2) the test equipment;

(3) the chemicals used in the test, if any; or

(4) *the techniques used in the test; have not been approved in accordance with the rules adopted under subsection (a).*

(Emphasis added).

Pursuant to this statutory mandate, the State Department of Toxicology promulgated several rules governing the administration of breathalyzer tests. [260 IAC 1.1–3–1\(a\) and \(b\)](#) provide:

Sec. 1(a) the director shall approve a method for the administration of a test to analyze breath for ethanol for each approved type of equipment in use. Such approved method shall be kept on file in the state department of toxicology of Indiana University School of Medicine.

(b) Such approved method *shall* be followed in making an analysis of breath for ethanol.

(Emphasis added). The approved breathalyzer test method, consisting of twelve steps, is set out in [260 IAC 1.1–4–1](#). Step twelve states:

(12) After completing the breath alcohol test as described, the operator must record the test ampoule control number and the instrument serial number on the form used to record the breath alcohol result.

It is undisputed that the test ampoule control number was not recorded on the form used to record the breath alcohol result in this case. The State contends, however, that the parties stipulated that the officer administered the test using the approved techniques. A cursory review of the record belies this contention. Bowman merely stipulated that the procedure contained on the form used by the officer constituted the approved method, not that the officer followed the procedure.

The State next contends that recordation of the ampoule control number is not a “technique used in the test” within the meaning of [Indiana Code 9–11–4–5\(d\)](#), but is merely an “administrative housekeeping duty” following the test. Regardless of the State’s characterization of the duty set forth in the regulation, a valid regulation has the force and effect of law. *Van Allen v. State* (1984), [Ind.App., 467 N.E.2d 1210, 1213](#). The failure to comply with the regulations has the consequence set out in the statute—inadmissibility of the results of the breath test. Moreover, the recordation requirement clearly has the purpose of facilitating the verification of the accuracy of the test, a concern which certainly has bearing on both the weight and admissibility of the test. Introduction of a breath test lends the aura of scientific certainty to a prosecution for driving while intoxicated, often sealing the fate of the offender in the mind of the trier of fact. Thus, the detailed procedures to be followed reflect a determination that the test should be as accurate and free from uncertainty as possible.

The State finally argues that it introduced other evidence from which the ampoule control number could reasonably be inferred, consisting of the fact that the same ampoule lot had been used in earlier [*312](#) and later tests. It is just this sort of speculation which the recordation requirement seeks to avoid. The statute and the regulations clearly contemplate strict compliance, and there is no indication that this requirement can be circumvented by the introduction of other inherently less reliable evidence.

2 We therefore hold that the trial court erred in admitting the breathalyzer test into evidence. This error was prejudicial, in that there was no other evidence introduced which established that Bowman’s B.A.C. exceeded .10% in support of the conviction for BAC death. Accordingly, we reverse Bowman’s conviction for BAC death.

Our determination, however, does not affect Bowman’s conviction for DWI death, as we find that there was substantial evidence of probative value to support the inference that Bowman was intoxicated. Police officers at the scene testified that Bowman’s eyes were bloodshot, his speech was thick-tongued, his manual dexterity was poor, his balance was unsteady, he exhibited a strong odor of alcohol, and he failed two field sobriety tests. Moreover, the investigating officer testified that in his opinion, Bowman appeared intoxicated. We find this evidence sufficient to establish intoxication, even absent the

breathalyzer test. *Accord*, [Boothe v. State \(1982\)](#), *Ind.App.*, 439 N.E.2d 708, 712, *transfer denied*.

II.

Instruction on Causation

3 Bowman next challenges the trial court's refusal to give his instruction on causation. Upon a claim that the refusal of a tendered instruction was erroneous, we examine the tendered instruction to determine 1) whether the instruction correctly states the law; 2) whether there was evidence in the record to support the giving of the instruction; and 3) whether the substance of the tendered instruction is covered by other instructions which are given. [Reinbold v. State \(1990\)](#), *Ind.*, 555 N.E.2d 463. Bowman's challenge runs afoul of the first prong of our analysis.

Bowman tendered the following instruction on causation:

The State of Indiana has charged that Kurt Bowman operated a vehicle with .10%, or more, by weight of alcohol in his blood and operated a vehicle while intoxicated, which offenses resulted in the death of Brenda Keyser. If you find that Mr. Bowman committed the offense of either operating a vehicle with .10%, or more, by weight of alcohol in his blood or operated a vehicle while intoxicated, you must further find that Mr. Bowman's operation of his vehicle was the immediate, nearest, or direct cause of Ms. Keyser's death before you may find him guilty of conduct resulting in her death.

In determining what was the immediate, nearest or direct cause of Ms. Keyser's death, you must consider whether or not the acts of Ms. Keyser interfered with Mr. Bowman's operation of his vehicle to the extent that such acts were a direct cause of the accident which resulted in her death.

You must also consider whether the immediate, nearest, or direct cause of Ms. Keyser's death was her failure to wear the safety belt available for passenger use in Bowman's vehicle.

If you find that one or more of the acts of Ms. Keyser were a direct cause of the accident which resulted in her death, or if you find that her failure to wear the available safety belt was the direct cause of her death, you must find Kurt Bowman not guilty of the offenses charged by the State.

Record, p. 47. Bowman specifically argues on appeal that he introduced evidence at trial which tended to show that Brenda Keyser's failure to wear a seatbelt was the cause of her death, and therefore he was entitled to the above instruction.¹ He points to the testimony of a physician who testified that Ms. Keyser would not have sustained any serious injury from the accident *313 if she had been wearing a seatbelt, as well as the fact that he himself sustained no injuries in the accident.

The concept of causation in criminal law is similar to that found in tort law. Like in tort law, the criminal act must be both 1) the actual cause (sometimes called the "cause-in-fact"); and 2) the legal cause (sometimes called the "proximate cause") of the result. 1 LeFave and Scott, *Substantive Criminal Law* § 3.12, p. 392. Cause-in-fact requires that "but for" the antecedent conduct, the result would not have occurred. *Id.* at 394. If there is more than one cause which precipitates the result, the defendant's action is the cause-in-fact if it is a "substantial factor" in bringing about that result. *Id.*

Legal or proximate cause is a distinct concept, speaking not to the physical relationship between the actor's conduct and the result, but instead embodying a value judgment as to the extent of the physical consequences of an action for which the actor should be held responsible. Thus, proximate cause questions are often couched in terms of "foreseeability"; an actor is not held responsible for consequences which are unforeseeable. In Indiana, a result is deemed foreseeable if it is a "natural and probable consequence" of the act of the defendant. [Outlaw v. State \(1985\)](#), *Ind.*, 484 N.E.2d 10, 13.

In cases where an action of the victim, a third party, or a non-human source affects the chain of causation, foreseeability is again a factor. LeFave, *supra*, § 3.12 at 406–407. Such an occurrence is called an "intervening cause", and it becomes a superseding cause breaking the chain of causation if it was not foreseeable. *Id.*; [Conder v. Hull Lift Truck, Inc. \(1982\)](#), *Ind.*, 435 N.E.2d 10, 14. If an intervening and superseding cause aided in bringing about the result, the defendant is not criminally liable.

4 Bowman's contention on appeal, and the basis of his tendered instruction, appears to be that Brenda Keyser's failure to wear her seatbelt was an intervening and superseding cause of her death which absolved him of criminal liability. However, it is clearly foreseeable that an automobile passenger might fail to wear a seatbelt. This is particularly true in the present case, where Bowman testified that he asked Keyser to wear her seatbelt and she declined. Thus, Bowman had actual knowledge that she was not wearing her seatbelt. Consequently, Bowman's instruction was an incorrect statement of the law because even if the jury found that Ms. Keyser would not have been injured had she worn her seatbelt, Bowman could still be held criminally liable for her death.

The instruction given by the court properly informed the jury that they were required to determine whether Bowman's conduct caused Brenda Keyser's death, and they could reasonably have concluded that, but for Bowman's intoxication, she would not have been killed, as well as that her death was a natural and probable consequence of Bowman's act of driving while he was intoxicated. We find no error in the failure of the trial court to give Bowman's tendered instruction on causation.

Accordingly, we affirm Bowman's conviction for DWI death, but reverse his conviction for BAC death and remand for a new trial on that count. The trial court's sentencing of Bowman for one term for both counts charged will require a resentencing on remand.

[RATLIFF](#), C.J., and [HOFFMAN](#), J., concur.

All Citations

564 N.E.2d 309

Footnotes

- 1 Evidence was also introduced that Ms. Keyser fell against Bowman as he was driving. In Bowman's effort to right her, the car left the road prior to the accident. Bowman does not argue on appeal that this series of events supports his instruction on causation.

**End of
Document**

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WESTLAW

 [Original Image of 114 N.E.3d 901 \(PDF\)](#)

114 N.E.3d 901
Court of Appeals of Indiana.

Connor v. State

Court of Appeals of Indiana. | November 29, 2018 | 114 N.E.3d 901 (Approx. 7 pages)

v.

STATE of Indiana, Appellee-Plaintiff.

Court of Appeals Case No. 18A-CR-442
FILED November 29, 2018

Synopsis






Background: After his motions to suppress were denied, defendant was convicted following bench trial in the Marion Superior Court, No. 49G19-1703-CM-10257, [Steven J. Rubick](#), Magistrate, of operating a vehicle with an alcohol concentration equivalent to at least 0.08 gram of alcohol but less than 0.15 gram of alcohol per 210 liters of breath, as a Class C misdemeanor, based on incident in which defendant was stopped by police at a sobriety checkpoint and breath test showed that he had alcohol concentration equivalent to 0.097 gram of alcohol per 210 liters of breath. Defendant appealed.

Holding: The Court of Appeals, [Najam, J.](#), held that technique used by police officer to administer chemical breath test had not been approved by Department of Toxicology as required by statute, and thus test results were not admissible.

Reversed.

West Headnotes (4)

[Change View](#)

- 1 **Automobiles**  **Conduct and Proof of Test; Foundation or Predicate**
Technique used by police officer to administer chemical breath test had not been approved by Department of Toxicology, as required by statute governing chemical breath testing, and thus test results were not admissible at trial for operating vehicle with alcohol concentration equivalent to at least 0.08 gram of alcohol but less than 0.15 gram of alcohol per 210 liters of breath, where after officer administered initial breath test, machine displayed certain error message, Department's rules did not identify that error message as possible result and did not provide additional procedures for officer to follow in order to re-administer breath test, and officer improvised by waiting three minutes before administering second test using same machine. [Ind. Code Ann. §§ 9-30-6-5\(a\), 9-30-6-5\(d\)\(4\); 260 Ind. Admin. Code 2-4-2\(a\), 2-4-2\(b\).](#)
- 2 **Automobiles**  **Evidence of Sobriety Tests**
Criminal Law  **Competency of evidence**
The admission of a motorist's chemical breath test results is left to the sound discretion of the trial court and will be reviewed for an abuse of discretion.
- 3 **Automobiles**  **Conduct and Proof of Test; Foundation or Predicate**
Because the State is the party offering the results of a driver's chemical breath test, it has the burden of establishing the foundation for admitting the results.
- 4 **Automobiles**  **Conduct and Proof of Test; Foundation or Predicate**

When the State offers the results of a driver's chemical breath test, it must set forth the proper procedure for administering a chemical breath test and show that the operator followed that procedure. [Ind. Code Ann. §§ 9-30-6-5\(a\), 9-30-6-5\(d\)\(4\)](#).

***902** Appeal from the Marion Superior Court, The Honorable Steven J. Rubick, Magistrate, Trial Court Cause No. 49G19-1703-CM-10257

Attorneys and Law Firms

Attorneys for Appellant: [Marc Lopez](#), [Matthew Kroes](#), The Marc Lopez Law Firm, Indianapolis, Indiana

Attorneys for Appellee: [Curtis T. Hill, Jr.](#), Attorney General of Indiana, [Tyler G. Banks](#), Deputy Attorney General, Indianapolis, Indiana

[Najam](#), Judge.

Statement of the Case

[1] Brian Harold Connor appeals his conviction for operating a vehicle with an alcohol concentration equivalent to at least 0.08 gram of alcohol but less than 0.15 gram of alcohol per 210 liters of breath, as a Class C misdemeanor, following a bench trial. Connor raises two issues for our review, one of which we find dispositive, namely, whether the trial court abused its discretion when it admitted into evidence the results of a chemical breath test.

[2] We reverse. ¹

Facts and Procedural History

[3] On March 17, 2017, the Indianapolis Metropolitan Police Department ("IMPD") ***903** conducted a sobriety checkpoint near the intersection of Delaware Street and Michigan Street. At approximately 7:25 p.m., Connor arrived at the sobriety checkpoint, and IMPD Captain Don Weilhamer stopped Connor. Captain Weilhamer noticed that there "was an odor of alcoholic beverage coming from" Connor. Tr. Vol. II at 43. He further noticed that Connor's eyes were "bloodshot and glassy. He was also reacting rather slowly when [Captain Weilhamer] was asking him for his driver's license and registration." *Id.* Captain Weilhamer then asked Connor how much he had had to drink, and Connor responded that he had had two beers.

[4] At that point, Captain Weilhamer asked Connor to step out of the car. Captain Weilhamer then administered a series of field sobriety tests to Connor. Connor passed the test that required him to stand on one leg, but he failed the horizontal gaze [nystagmus test](#) and the walk and turn test. Captain Weilhamer then read Connor the implied consent advisement, and Connor agreed to take a chemical breath test.

[5] Captain Weilhamer escorted Connor to a local police station and administered a breath test using the Intox EC/IR II machine. When Connor blew into the mouthpiece for the test, he blew so hard that the instrument registered a "maximum flow exceeded" message. *Id.* at 51. Captain Weilhamer then waited approximately three minutes, replaced the mouthpiece, and administered another test using the same machine. The results of the second breath test showed that Connor had an alcohol concentration equivalent to 0.097 gram of alcohol per 210 liters of breath. After Captain Weilhamer received the results of the test, he placed Connor under arrest and searched his pockets. During that search, Captain Weilhamer found a small flask inside Connor's pocket that "smelled of alcohol." *Id.* at 64.

[6] The State charged Connor with one count of operating a vehicle while intoxicated, as a Class C misdemeanor; one count of operating a vehicle with an alcohol concentration equivalent to at least 0.08 gram of alcohol but less than 0.15 gram of alcohol per 210 liters of breath, as a Class C misdemeanor; and one count of possessing an open alcoholic container during the operation of a motor vehicle, as a Class C infraction.

[7] The trial court held a bench trial on November 13, 2017. During the trial, the State presented as evidence the testimony of IMPD Lieutenant Richard Kivett, who was the sobriety checkpoint commander on March 17. Lieutenant Kivett testified about the details of the sobriety checkpoint. At the end of Lieutenant Kivett's testimony, Connor moved to suppress evidence that officers had obtained at the checkpoint on the ground that the checkpoint was unconstitutional. The trial court bifurcated the trial and allowed the parties

to submit briefs on the constitutionality of the checkpoint. Thereafter, the trial court denied Connor's motion to suppress.

[8] The trial court continued the trial on February 5, 2018. During the second phase of the trial, the State presented the testimony of Captain Weilhamer as evidence. Captain Weilhamer testified about his observations of Connor at the sobriety checkpoint and about the results of the field sobriety tests. He also testified that, based on his observations of Connor and the failed field sobriety tests, he had decided to administer a chemical breath test to Connor. Captain Weilhamer then testified about the procedure he had followed when he administered the breath test. Specifically, he testified that, when he had attempted to perform the test the first time, "Connor blew so hard that the instrument registered maximum flow exceeded." *Id.* at 51. Captain Weilhamer testified *904 that, after he had received the error message, he waited approximately three minutes and performed another test using the same machine.

[9] During the State's direct examination of Captain Weilhamer, Connor moved to suppress the results of the chemical breath test. In his motion, Connor asserted that the results of that test were inadmissible because the procedures Captain Weilhamer had followed when he administered the test had "not been approved in accordance with the rules" adopted by the Department of Toxicology. *Id.* at 54. The trial court denied Connor's motion. The State then moved to admit the results of the chemical breath test as evidence, which the trial court admitted over Connor's objection.

[10] At the conclusion of the bench trial, the court found Connor guilty of operating a motor vehicle with an alcohol concentration equivalent to at least 0.08 gram of alcohol but less than .15 gram of alcohol per 210 liters of breath, as a Class C misdemeanor, but not guilty of the remaining two counts. The trial court entered judgment of conviction and sentenced Connor accordingly. This appeal ensued.

Discussion and Decision

1 [11] Connor asserts that the trial court abused its discretion when it admitted into evidence the results of the chemical breath test. Connor initially challenged the admission of this evidence through a motion to suppress but now appeals following a completed trial. Thus, the issue is appropriately framed as whether the trial court abused its discretion by admitting the evidence at trial.² [Lanham v. State](#), 937 N.E.2d 419, 421-22 (Ind. Ct. App. 2010).

2 [12] "The admission of chemical breath test results is left to the sound discretion of the trial court and will be reviewed for an abuse of discretion." [Wolpert v. State](#), 47 N.E.3d 1246, 1247 (Ind. Ct. App. 2015) (quoting [Fields v. State](#), 807 N.E.2d 106, 109 (Ind. Ct. App. 2004)). "An abuse of discretion occurs when the trial court's decision is contrary to the logic and effects of the facts and circumstances before it, or when the trial court errs on a matter of law." [Wilson v. State](#), 973 N.E.2d 1211, 1213-14 (Ind. Ct. App. 2012). On appeal, Connor specifically contends that the trial court abused its discretion when it admitted the results of the chemical breath test as evidence because Captain Weilhamer did not administer the test "in accordance with the rules" set out by the Department of Toxicology. Appellant's Br. at 15.

3 4 [13] [Indiana Code Section 9-30-6-5\(a\)](#) (2018) provides that "[t]he director of the state department of toxicology shall adopt rules under IC 4-22-2 concerning ... [t]he certification of the proper technique for administering a breath test." The results of a chemical breath test "are not admissible" if the techniques used in the test "have not been approved in accordance with the rules adopted" by the Department of Toxicology. [Ind. Code § 9-30-6-5\(d\)\(4\)](#); see also [Short v. State](#), 962 N.E.2d 146, 149 (Ind. Ct. App. 2012). "Because the State is the party offering the results of the breath test, it has the burden of establishing the foundation for admitting the results." [Short](#), 962 N.E.2d at 149. "Therefore, the State must set forth the proper procedure for administering a chemical breath test and show that the operator followed that procedure." *Id.*

*905 [14] Pursuant to [Indiana Code Section 9-30-6-5](#), the Department of Toxicology has adopted rules concerning the proper technique a test operator must follow when administering a breath test using an Intox EC/IR II breath test instrument, which is the instrument Captain Weilhamer used to administer the breath test to Connor. In particular, those rules prescribe twelve steps a test operator is required to follow in order to properly administer a breath test. See [260 Ind. Admin. Code 2-4-2\(a\)](#) (2014), http://www.in.gov/legislative/iac/iac_title?iact=260. Those rules also anticipate that, following those initial twelve steps, a test operator may receive one of six specified error messages, namely: "Please blow"; "Interfering Substance"; "RFI Detected"; "Mouth

Alcohol”; “Insufficient Sample”; or “Time Out.”³ 260 I.A.C. 2-4-2(b). In the event a test operator receives one of those error messages, the rules provide for additional procedures the test operator must follow in order to re-administer the breath test. See *id.*

[15] Here, when Captain Weilhamer initially administered the breath test to Connor, the machine displayed an error message that read “maximum flow exceeded.” Tr. Vol. II at 51. There is no dispute that the Department of Toxicology’s rules neither identify that error message as a possible initial breath test result nor prescribe the technique that a test operator must follow when the instrument displays that message. As such, Connor contends that that error message was an “unanticipated problem” for which there is no direction in the administrative code and, therefore, Captain Weilhamer’s resolution “has neither been approved ... by the Department of Toxicology nor codified in the Indiana Administrative Code.” Appellant’s Br. at 16. In essence, Connor contends that the breath test results were inadmissible because the Department of Toxicology has not designated the proper procedure to be followed when administering a breath test after having received a “maximum flow exceeded” error message, a message that is not addressed in the administrative code. We must agree.

[16] The “[i]ntroduction of a breath test lends the aura of scientific certainty to a prosecution for driving while intoxicated, often sealing the fate of the offender in the mind of the trier of fact.” *Bowman v. State*, 564 N.E.2d 309, 311 (Ind. Ct. App. 1990), *summarily aff’d in relevant part*, 577 N.E.2d 569, 571 (Ind. 1991). “Thus, the detailed procedures to be followed,” as adopted by the Department of Toxicology, “reflect a determination that the test should be as accurate and free from uncertainty as possible.” *Id.*

[17] But neither our trial courts nor this court have the requisite knowledge to determine whether the technique that is to be followed after an error message is the correct technique when that error message has not been addressed in the administrative code. Rather, the Indiana General Assembly has tasked the Department of Toxicology with promulgating rules concerning the proper technique for administering a breath test because the Department possesses the specialized knowledge of how the breath test machines work. Because courts lack the necessary expertise that the Department of Toxicology possesses, our Supreme Court has made clear that “breath test results may be admitted only when the test was conducted in ‘strict compliance’ *906 with” the regulations adopted by the Department of Toxicology. *State v. Cioch*, 908 N.E.2d 1154, 1156 (Ind. 2009).

[18] The State acknowledges that “[t]he Administrative Code is silent as to what officers must do when an error resulting from too much breath being blown appears.” Appellee’s Br. at 17-18. Nonetheless, the State contends that Captain Weilhamer “correctly presumed that a second test was required and administered a second test” because, “[f]or every one of the listed error messages that are outlined in the regulation, the next step is to ‘perform an additional breath test[.]’ ” *Id.* (quoting 260 I.A.C. 2-4-2).⁴

[19] While the State is correct that a test operator must perform an additional breath test if the operator receives any of the listed six error messages, the actual steps that a test operator must take when administering the second test vary based on the specific message received. For instance, if “Please blow” appears, the test operator is to perform an additional breath test, beginning with step eleven. 260 I.A.C. 2-4-2(b)(1). If after the second test, “No. 0.020 Agreement” is displayed, the operator must perform an additional breath test beginning with step two and proceeding through step twelve. *Id.* Similarly, if “RFI Detected”; “Insufficient Sample”; or “Time Out” is displayed, the operator should administer an additional breath test beginning at step two and proceeding through step twelve. See 260 I.A.C. 2-4-2(b)(3) and (5).

[20] However, for both the “Interfering Substance” and “Mouth Alcohol” messages, the operator is to administer a second breath test beginning at step one. See 260 I.A.C. 2-4-2(b)(2) and (4). For those errors that require the test operator to begin at step one, the test operator must wait fifteen minutes before administering the second test. See 260 I.A.C. 2-4-2(a). But for those errors that require the test operator to begin at step two, there is no set amount of time that a test operator must wait before administering the second test. See *id.*

[21] In other words, contrary to the State’s assertion, there is no single protocol for a test operator to follow when administering an additional breath test after having received an error message. Rather, there is a significant difference in the procedure to be followed depending on the error message. Without direction from the Department of Toxicology on how to properly proceed following the “maximum flow exceeded” error message, we cannot say that Captain Weilhamer’s decision to simply wait three minutes before administering a

second test using the same machine was correct. We cannot determine whether Captain Weilhamer should have re-administered the test beginning at step one, which requires a fifteen-minute wait before the second test, or whether he should have re-administered the test beginning *907 at step two, which does not require the test operator to wait before administering the second test, or whether the Department of Toxicology would prescribe an entirely different protocol for the second test.⁵

[22] In sum, the evidence does not show that the technique Captain Weilhamer used to administer the second breath test to Connor was an authorized technique that produced an accurate test result. When Captain Weilhamer received an error message for which there was no corresponding protocol in the administrative code, he improvised. Because the technique he used had not been approved in accordance with a rule promulgated by the Department of Toxicology, as a matter of law the results of the breath test were not admissible. I.C. § 9-30-6-5(d)(4). The trial court therefore abused its discretion when it admitted that evidence. And we cannot say that the error in the admission of the breath test results was harmless, as the State did not present any other evidence to establish that Connor had operated a motor vehicle with an alcohol concentration equivalent to more than 0.08 gram per 210 liters of breath.⁶

[23] Thus, we hold that the trial court erred when it admitted the results of the breath test as evidence because Captain Weilhamer had administered the test using a procedure that had not been approved by the Department of Toxicology. And we hold that the admission of the breath test was not harmless error, as it was the only evidence that the State presented to support his conviction. We therefore reverse Connor's conviction for operating a motor vehicle with an alcohol concentration equivalent to at least 0.08 gram of alcohol but less than 0.15 gram of alcohol per 210 liters of the person's breath.⁷

[24] Reversed.

Bailey, J., and May, J., concur.

All Citations

114 N.E.3d 901

Footnotes

- 1 We held oral argument in this case on October 26, 2018, at Washington High School in Washington, Indiana. We thank counsel for their excellent advocacy and extend our appreciation to the administration, faculty, staff, and students of Washington High School for their hospitality.
- 2 Connor asserts that the trial court erred when it denied his motion to suppress. However, because Connor appeals after a completed trial, "the question of whether the trial court erred in denying his motion to suppress is no longer viable." *Reinhart v. State*, 930 N.E.2d 42, 45 (Ind. Ct. App. 2010).
- 3 In his brief on appeal, Connor states that the administrative rules address the following error messages: please blow, subject sample interferent, subject sample invalid, radio interference, and subject sample incomplete. But those are the potential error messages that can appear on the report when the test operator uses the BAC DataMaster breath test instrument. See 260 I.A.C. 2-4-1.
- 4 The State relies on *Hurley v. State*, 75 N.E.3d 1074, 1080 (Ind. 2017), to support its assertion that "[o]ur Supreme Court has interpreted [260 Indiana Administrative Code 2-4-2] to 'presumptively require[]' a second test to be administered if the first attempt at administration should fail, provided that the suspect is not refusing the test." Appellee's Br. at 17. But the State's reliance on *Hurley* is misplaced. *Hurley* specifically states that 260 Indiana Administrative Code 2-4-2 "requires an officer to administer a second test after the first test returns an *insufficient sample* unless the subject clearly manifests an unwillingness to take the test." *Hurley*, 75 N.E.3d at 1077 (emphasis added). Thus, our Supreme Court in that case did not interpret the entire regulation as requiring an officer to administer a second test if the first test should fail for any reason. Rather, that court's holding was limited to the

procedure an officer should follow if the instrument displays one particular error message, which is not at issue here.

- 5 Until the Department of Toxicology provides a technique for a test operator to follow when the “maximum flow exceeded” error appears on the machine, the test operator can either obtain an alternate chemical test, such as a blood test, or perform a breath test on another breath test machine. Indeed, for each of the listed error messages, a test operator has the option of obtaining an alternate chemical test for ethanol or performing an additional breath test on another instrument instead of performing a second test on the machine in question. See, e.g., [260 I.A.C. 2-4-2\(b\)\(1\)\(B\) and \(C\)](#).
- 6 The State did present as evidence Captain Weilhamer’s testimony that Connor smelled of alcohol, that he had bloodshot and glassy eyes, and that he had failed two field sobriety tests. However, that evidence does not support his conviction for operating a motor vehicle with a specific alcohol concentration between 0.08 and 0.15 gram of alcohol per 210 liters of breath.
- 7 Connor also contends that the trial court erred under [Article 1, Section 11 of the Indiana Constitution](#) when it admitted evidence that officers had obtained pursuant to a sobriety checkpoint that he alleges was unconstitutional as conducted. But, as discussed above, the only evidence the State presented to support Connor’s conviction was the result of the breath test. Because we hold that the only evidence to support his conviction was inadmissible, we need not address Connor’s contention that the sobriety checkpoint was unconstitutional.

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Distinguished by [Connor v. State](#), | Ind.App., | November 29, 2018

Original Image of 75 N.E.3d 1074 (PDF)

Hurley v. State
Supreme Court of Indiana. | May 31, 2017 | 75 N.E.3d 1074 (Approx. 11 pages)

Keyaunna HURLEY, Appellant (Defendant below),

v.

STATE of Indiana, Appellee (Plaintiff below).

No. 49S05-1705-CR-346

May 31, 2017

Synopsis

Background: Motorist petitioned for judicial review of administrative suspension of her driver's license, which was based on her alleged refusal to submit breath sample. The Marion Superior Court, [David J. Certo](#), J., affirmed. Motorist appealed.

Holdings: on transfer from the Court of Appeals, the Supreme Court, [Slaughter](#), J., held that:

- 1 whether state trooper offered motorist opportunity to perform second breath test after initial test yielded "insufficient sample," in accordance with breath-test administrative rule, was relevant to whether motorist "refused" to submit sample, as basis for administrative suspension of her driver's license;
- 2 breath-test rule presumptively required that trooper offer motorist opportunity to perform second breath test after initial test yielded report of "insufficient sample"; and
- 3 trooper was required to offer motorist opportunity to perform second breath test after initial test yielded "insufficient sample," before recording that she refused to submit sample, absent any indication she manifested unwillingness to perform test.

Reversed and remanded with instructions.

Opinion, [56 N.E.3d 127](#), vacated.

West Headnotes (13)

[Change View](#)

- 1 **Automobiles** [Judicial Remedies and Review in General](#)
A trial-court order disposing of a petition for review challenging a motorist's suspension of driving privileges is a final judgment. [Ind. Code Ann. § 9-30-6-10\(g\)](#).

- 2 **Appeal and Error** [Inferences and Conclusions Drawn from Evidence](#)
When the trial court enters a judgment against the petitioner, the petitioner is appealing from a negative judgment, which will be reversed only if it is "contrary to law"—meaning the evidence leads to but one conclusion and the trial court reached an opposite conclusion.

2 Cases that cite this headnote

- 3 **Appeal and Error** [Credibility and Number of Witnesses](#)
Appeal and Error [Province of, and deference to, lower court in general](#)
Appeal and Error [Verdict, Findings, and Sufficiency of Evidence](#)

SELECTED TOPICS

- Automobiles
- Evidence of Sobriety Tests
 - [Chemical Test of Driver Blood Alcohol Content](#)
- Suspension or Revocation of License
 - [Nunc Pro Tunc Appeal Challenging Suspension of Driver License Outside Day Appeal Period](#)

- Appeal and Error
 - [Purposes of Court of Appeals Review of Negative Judgment](#)

Secondary Sources

[Suspension or revocation of driver's license for refusal to take sobriety test](#)

88 A.L.R.2d 1064 (Originally published in 1963)

...This annotation discusses suspension or revocation of a motor vehicle operator's license because of the holder's refusal to take a test to determine whether he was intoxicated at a particular time. Wha...

[§ 11:36. Hearing](#)

1 Drinking/Driving Litigation: Criminal and Civil § 11:36

...Generally, states have adopted a variation of the two most common statutory schemes for revoking the driver's licenses of motorists found to have violated the implied consent statute. In some states a ...

[§ 11:38. Standard and burden of proof](#)

1 Drinking/Driving Litigation: Criminal and Civil § 11:38

...In order to revoke the driver's license of a motorist accused of violating the implied consent statute, the prosecution is usually required to prove by a preponderance of the evidence that the violatio...

[See More Secondary Sources](#)

Briefs

[Brief of the California District Attorneys Association as Amicus Curiae in Support of Respondents](#)

2016 WL 1085518
William Robert BERNARD, Jr., Petitioner, v. STATE OF MINNESOTA, Danny Birchfield, Petitioner, v. State of North Dakota. Steve Michael Beylund, Petitioner, v. Grant Levi, Director, North Dakota Department of Transportation. Supreme Court of the United States Mar. 16, 2016

...FN* Counsel of Record. FN1. Pursuant to Rule 37.2(a), amicus gave counsel of record for each party written notice of the intention of amicus to file this brief at least 10 days in advance, and all part...

[Brief of the Council of State Governments, National Association of Counties, National League of Cities, U.S. Conference of Mayors, International City/County Management Association, and International Municipal Lawyers Association as Amici Curiae in Support of Respondents](#)

2016 WL 1128624
Danny BIRCHFIELD, Petitioner, v. NORTH DAKOTA, Respondent. William Robert

On appeal, the appellate court considers the evidence in the light most favorable to the prevailing party and does not reweigh the evidence or judge witness credibility.

[1 Case that cites this headnote](#)

4 Appeal and Error  **Judgment in General**

A party appealing from a negative judgment has a heavy burden to establish that there was no basis in fact for the judgment rendered.

[2 Cases that cite this headnote](#)

5 Administrative Law and Procedure  **Trial or review de novo**

On appeal from the trial court's ruling on a petition for review of an administrative agency ruling, the appellate court interprets administrative rules de novo, affording the trial court's conclusion no deference.

[1 Case that cites this headnote](#)

6 Automobiles  **Refusal to take test**

Whether state trooper offered motorist opportunity to perform second breath test after initial test following three blows into machine yielded "insufficient sample," in accordance with requirement under breath-test administrative rule that trooper offer motorist such opportunity to undergo second test, was relevant to whether motorist had "refused" to submit sample, as basis for administrative suspension of her driver's license. *Ind. Code Ann. § 9-30-6-7(a), (b); 260 Ind. Admin. Code 2-4-2.*

[1 Case that cites this headnote](#)

7 Automobiles  **Refusal to take test**


A person does not "refuse" a chemical test, as the basis for the administrative suspension of the person's driver's license, if the administering officer failed to comply with the rules for conducting it. *Ind. Code Ann. § 9-30-6-7(a), (b).*

[1 Case that cites this headnote](#)

8 Automobiles  **Refusal to take test**

A chemical test cannot be "refused," as the basis for the administrative suspension of a person's driver's license, unless it is offered; thus, the propriety of the offer of a chemical test is relevant to the issue of whether it is refused. *Ind. Code Ann. § 9-30-6-7(a), (b); 260 Ind. Admin. Code 2-4-2.*

9 Automobiles  **Refusal to take test**

Automobiles  **Conduct and Proof of Test; Foundation or Predicate**
A police officer conducting a chemical breath test must comply strictly with the department of toxicology's protocol for administering it; without the officer's strict compliance, the defendant cannot "refuse" the test—and any suspension of driving privileges premised on refusing the test cannot stand. *Ind. Code Ann. § 9-30-6-7(a), (b); 260 Ind. Admin. Code 2-4-2.*

[1 Case that cites this headnote](#)

10 Automobiles  **Refusal to take test**

Breath-test rule presumptively required that law enforcement officer, before recording that motorist refused to submit breath sample, as grounds for administrative suspension of driver's license, offer motorist opportunity to perform second breath test if initial test yielded report of "insufficient sample." *Ind. Code Ann. § 9-30-6-7(a), (b); 260 Ind. Admin. Code 2-4-2.*

11 Automobiles  **Refusal to take test**

The presumptive requirement under the breath test rule that a law enforcement officer, before recording a motorist's refusal to submit a breath sample, as grounds for the administrative suspension of the motorist's driver's license, offer the motorist the opportunity to perform a second breath test if the initial test

Bernard, Jr., Petitioner, v. Minnesota, Respondent. Steve Michael Beylund, Petitioner, v. Grant Levi, Director, North Dakota Department of Transportation, Respondent. Supreme Court of the United States Mar. 22, 2016

...FN1. No counsel for a party authored this brief in whole or in part; and no such counsel or any party made a monetary contribution intended to fund the preparation or submission of this brief. No perso...

Brief of the DUI Defense Lawyers Association as Amicus Curiae in Support of Petitioners

2016 WL 552462
William Robert BERNARD, Jr., Petitioner, v. STATE OF MINNESOTA, Respondent. Danny Birchfield, Petitioner, v. State Of North Dakota, Respondent. Steve Michael Beylund, Petitioner, v. Grant Levi, Director, North Dakota Department of Transportation, Respondent. Supreme Court of the United States Feb. 09, 2016

...FN1. All parties have consented to the filing of this brief. Letters evidencing such consent have been filed with the Clerk of Court. No counsel for a party authored this brief in whole or in part, and...

[See More Briefs](#)

Trial Court Documents

In re Global Aviation Holdings Inc.

2012 WL 1141596
In re: GLOBAL AVIATION HOLDINGS INC., et al., Debtors. United States Bankruptcy Court, E.D. New York. Mar. 01, 2012

...Chapter 11 Global Aviation Holdings Inc. (the "Borrower") and certain of its affiliates, each as a debtor and debtor-in-possession (collectively, with the Borrower, the "Debtors") in the above captioned...

In re: Global Aviation Holdings Inc.

2012 WL 1141606
In re: GLOBAL AVIATION HOLDINGS INC., et al., Debtors. United States Bankruptcy Court, E.D. New York. Feb. 06, 2012

...FN1. The Debtors in these chapter 11 cases, along with the last four digits of each Debtor's federal taxpayer identification number, include: Global Aviation Holdings Inc. (2196); Global Aviation Ventu...

In re Charter Communications

2009 WL 8189485
In re CHARTER COMMUNICATIONS, et. al., Debtors. Jpmorgan Chase Bank, N.A. as Administrative Agent, Plaintiff, v. Charter Communications Operating, LLC and Coo Holdings, LLC, Defendants. United States Bankruptcy Court, S.D. New York. Mar. 27, 2009

...Chapter 11 Adversary Proceeding JAMES M. PECK UNITED STATES BANKRUPTCY JUDGE Since these cases were filed on March 27, 2009, Charter Communications, Inc. ("CCI" and, together with its affiliated debtor...

[See More Trial Court Documents](#)

yields an insufficient sample, does not require the officer to administer a second test to a motorist who obviously is not cooperating in providing one or more measurable, recordable breath samples; rather, officers must—and do—have discretion under the rule to make the judgment call that the person is being uncooperative, and thus, has refused the test, and the officer need not go through the motions to administer a test to an obviously uncooperative motorist. [Ind. Code Ann. § 9-30-6-7\(a\), \(b\)](#); [260 Ind. Admin. Code 2-4-2](#).

[2 Cases that cite this headnote](#)

12 Automobiles  [Refusal to take test](#)

A motorist who puffs out his cheeks pretending to blow into the breath test machine but releases no breath into the device is an easy call in determining whether the motorist has “refused” to submit a breath sample, as the basis for administrative suspension of his driver’s license, without the need for the officer to offer the motorist a second chance to perform the test, under the breath-test rule requiring the officer to make such an offer to a willing motorist before recording a refusal; so too, is the motorist who makes no bones about his unwillingness to cooperate. [Ind. Code Ann. § 9-30-6-7\(a\), \(b\)](#); [260 Ind. Admin. Code 2-4-2](#).

[1 Case that cites this headnote](#)

13 Automobiles  [Refusal to take test](#)

State trooper was required to offer motorist opportunity to perform second breath test after initial test yielded “insufficient sample,” before recording that she refused to submit sample, as basis for administrative suspension of her driver’s license, absent any evidence that motorist manifested unwillingness to perform test, and in view of trooper’s acknowledgment that motorist had fully cooperated with trooper’s requests. [Ind. Code Ann. § 9-30-6-1\(7\)\(a\), \(b\)](#); [260 Ind. Admin. Code 2-4-2](#).

***1076** Appeal from the Marion Superior Court, No. 49G12-1510-CM-37573, The Honorable David J. Certo, Judge

Attorneys and Law Firms

Attorneys for Appellant: [Robert D. King, Jr.](#), [David R. Thompson](#), The Law Office of Robert D. King, Jr., P.C., Indianapolis, IN

Attorneys for Appellee: [Curtis T. Hill, Jr.](#), Attorney General of Indiana, [Jesse R. Drum](#), Deputy Attorney General, Indianapolis, IN

On Petition to Transfer from the Indiana Court of Appeals, No. 49A05-1601-CR-108

[Slaughter](#), Justice.

A state-police trooper stopped Defendant for a traffic violation. During the stop, the trooper suspected Defendant was intoxicated, so he conducted several field sobriety tests, which Defendant failed. At the trooper’s request, Defendant agreed to take a chemical breath test at a nearby police station. During the first test, Defendant did not blow hard enough, prompting the machine to print an “insufficient sample” warning. The trooper concluded Defendant had refused to take the test, resulting in the suspension of her driving privileges. On judicial review, Defendant challenged the conclusion that she refused the test, claiming the trooper did not follow the required procedures when administering it. She alleges these procedures, promulgated by the Indiana State Department of Toxicology, required the trooper to offer her a second test. Concluding the procedures required a second test on this record, we grant transfer and reverse.

Factual and Procedural History

In October 2015, Indiana State Police Trooper Joshua Graves stopped Keyaunna Hurley in Indianapolis for a traffic violation. Suspecting Hurley was intoxicated, Trooper Graves conducted several field sobriety tests, which she failed. The trooper then asked Hurley to submit to a chemical breath test at a nearby police station, and she agreed.

A chemical breath test requires the subject to blow one to three times into the Intox EC/IR[®] II. This device, which contains an “electrochemical sensor (EC)” and employs

“infrared sensor (IR) technology”, measures a person’s blood-alcohol content. Before he administers a test, the trooper generally explains to his subjects they must blow as hard as they can, for as long as they can, to ensure an accurate test result; otherwise, they will be charged with a refusal. The trooper also generally demonstrates the volume of air a subject needs to expel to register a successful reading on the machine, although the record is unclear whether he did so with Hurley. Hurley blew three times but, in the trooper’s words, she “did not blow a substantial [enough] amount to get a sufficient sample.”

The trooper agreed Hurley was “completely cooperative throughout this process”, but he chose not to allow her a second chemical breath test, which would have allowed her up to three more blows. Instead, he signed the machine’s printed *1077 ticket, which recorded Hurley’s insufficient sample, and advised he would charge her with a refusal to submit to the test. The trooper believed this action was justified because when considering whether to administer a second test, “[i]t’s officer discretion on whether you believe that the subject is unable to produce a sufficient sample, or if the subject is refusing to produce a sufficient sample.” The bureau of motor vehicles suspended Hurley’s driver’s license for one year because of her refusal to submit to a breath test.

Hurley objected to the refusal, arguing, first, she could not have refused the breath test because the trooper failed to follow the regulations for administering the test and, second, there was insufficient evidence to support the trooper’s conclusion she had refused it. After a hearing, the trial court upheld the trooper’s decision, and a unanimous Court of Appeals affirmed, [Hurley v. State](#), 56 N.E.3d 127 (Ind. Ct. App. 2016). We grant transfer, thus vacating the Court of Appeals decision, and reverse.

Standard of Review

1 2 3 4 5 A trial-court order disposing of a petition challenging a motorist’s suspension of driving privileges is a final judgment. [Burnell v. State](#), 56 N.E.3d 1146, 1149 (Ind. 2016) (citing [Ind. Code § 9-30-6-10\(g\)](#)). Hurley, as the party seeking judicial review, bore the burden of proof by a preponderance of the evidence. [I.C. § 9-30-6-10\(f\)](#) (2010 Repl.). Because the trial court entered judgment against Hurley, she appeals from a negative judgment. [Burnell](#), 56 N.E.3d at 1149-50. We will reverse a negative judgment only if it is contrary to law—meaning “the evidence leads to but one conclusion and the trial court reached an opposite conclusion.” [Id.](#) at 1150. We consider the evidence in the light most favorable to the prevailing party and do not reweigh the evidence or judge witness credibility. [Id.](#) A party appealing from a negative judgment “has a heavy burden to establish ... there was no basis in fact for the judgment rendered.” [Id.](#) (citation omitted). At issue here is the meaning of a regulatory provision, [Title 260, Section 2-4-2 of the Indiana Administrative Code](#). As with statutes, we interpret administrative rules de novo, affording the trial court’s conclusion no deference. [Indiana Family and Soc. Services Admin. v. Culley](#), 769 N.E.2d 680, 682 (Ind. Ct. App. 2002).

Discussion

When the results of an initial chemical breath test yield an “insufficient sample”, the police officer administering the test must offer the subject a second test unless the subject clearly demonstrates a manifest unwillingness to submit to it.

At issue is whether [Title 260, Section 2-4-2 of the Indiana Administrative Code](#)—the “Breath-Test Rule”—required the trooper to allow Hurley a second breath test before recording a refusal. We hold the Rule requires an officer to administer a second test after the first returns an insufficient sample unless the subject clearly manifests an unwillingness to take the test. On this record, there was no factual basis for the officer’s determination that Hurley refused the test.

A. Hurley challenges the determination that she refused to submit to a chemical test.

“A person who operates a vehicle impliedly consents to submit to the chemical test provisions of this chapter as a condition of operating a vehicle in Indiana.” [Ind. Code § 9-30-6-1](#) (2010 Repl.). When a law-enforcement officer has probable cause to believe a driver is intoxicated, the officer must give the driver an opportunity to *1078 submit to a chemical test. [Id.](#) § 9-30-6-2(a) (2010 Repl.). “If a person refuses to submit to a chemical test, the arresting officer shall inform the person that refusal will result in the suspension of the person’s driving privileges.” [Id.](#) § 9-30-6-7(a) (2015 Supp.). If, despite notice of the consequences, the person still refuses the test, the officer must obtain the person’s driver’s license and submit a probable-cause affidavit to the prosecutor in the county where the alleged offense took place. [Id.](#) § 9-30-6-7(b) (2015 Supp.). If the officer’s affidavit recites that a person refused to submit to a chemical test, the bureau of motor vehicles must

suspend the person's driving privileges for one year for a first offense. *Id.* § 9-30-6-9(b)(1) (2015 Supp.). A person whose driving privileges were suspended is entitled to prompt judicial review, *id.* § 9-30-6-9(d) (2015 Supp.), but review is limited to two issues: (i) whether the officer had probable cause to believe the person was operating a vehicle while intoxicated and (ii) whether the person refused to submit to a chemical test, *id.* § 9-30-6-10(c) (2010 Repl.). Hurley bases her challenge on the second issue—that she refused the test—and she bears the burden of proof by a preponderance of the evidence. *Id.* § 9-30-6-10(f) (2010 Repl.).

B. Whether the officer complied with the breath-test rule is relevant to whether the subject refused the test.

6 7 8 The State argues that an officer's compliance (or not) with a chemical-test protocol is relevant to whether the test results are admissible, but not to whether the test was refused. We disagree. Instead, we approve of decisions from our Court of Appeals holding that a person does not refuse a chemical test if the officer failed to comply with the rules for conducting it. See, e.g., *Vetor v. State*, 688 N.E.2d 1327, 1329 (Ind. Ct. App. 1997) (vacating Vetor's license suspension and reinstating driving privileges when he was not properly "offered" breath test because officer did not comply with applicable statute by advising Vetor of consequence of refusing test). As explained in *Steward v. State*, 638 N.E.2d 1292 (Ind. Ct. App. 1994), a chemical test "cannot be 'refused' unless it is 'offered'; thus the propriety of the offer of a chemical test is relevant to the issue of whether it is refused." *Id.* at 1294 (holding Steward did not refuse urine test for marijuana: offer of test was illusory because not administered properly; no sample was obtained during required three-hour statutory window).

9 An important corollary to this principle applies here: an officer conducting a chemical breath test must comply strictly with the department of toxicology's protocol for administering it. See, e.g., *Upchurch v. State*, 839 N.E.2d 1218, 1221-22 (Ind. Ct. App. 2005) (concluding Upchurch did not refuse test for alcoholic intoxication because officer did not follow approved method for administering test). Without the officer's strict compliance, the defendant cannot refuse the test—and any suspension of driving privileges premised on refusing the test cannot stand.

C. The breath-test rule presumptively requires a second test.

10 The department of toxicology's Breath-Test Rule outlines the proper procedure for a law-enforcement officer to administer the test. The department's regulations appear in Title 260 of Indiana's administrative code. Article 2 applies to breath-test operators and instruments. Rule 4 recites approved methods for administering breath tests. Section 2 outlines the approved method for conducting a breath test with the device at issue here—the Intox EC/IR II—and contains two *1079 subsections. Section 2(a) recites the twelve-step "method that shall be followed in making an analysis of breath for ethanol using the Intox EC/IR II breath test instrument". 260 Ind. Admin. Code 2-4-2(a) (West 2015 Supp.). The first nine steps are not at issue here. Steps Ten through Twelve provide as follows:

STEP TEN: When "Please blow" appears on the instrument display, place a new mouthpiece in the breath tube. Instruct the subject to deliver a breath sample. Remove mouthpiece when prompted by the instrument display and discard.

STEP ELEVEN: When "Please blow" appears again on the instrument display, place a new mouthpiece in the breath tube. Instruct the subject to deliver a breath sample. Remove mouthpiece when prompted by the instrument display and discard.

STEP TWELVE: Print the instrument report and remove it from the printer; check the instrument report for the numerical value of the subject's breath ethanol concentration and the correct date and time and sign the instrument report where indicated.

Id.

Section 2(b) addresses how to proceed "[i]f any of the following messages appear on the instrument display or report":

(1) If "Please blow" appears on the instrument display after completion of STEPS ONE through ELEVEN, perform an additional breath test, beginning with STEP ELEVEN.

* * *

(5) If "Insufficient Sample" ... is printed on the *1080 instrument report, perform an additional breath test, beginning with STEP TWO and proceeding through STEP

TWELVE. If “Insufficient Sample” ... is printed on the instrument report after this additional breath test:

- (A) obtain an alternate chemical test for ethanol;
- (B) perform a breath test on another breath test instrument; or
- (C) if a numerical value for the subject’s breath ethanol concentration is printed on any instrument report, check the instrument report for the correct date and time and sign the instrument report where indicated.

If an “Insufficient Sample” ... message is caused by the lack of cooperation of the subject, the breath test operator should record that the test was refused[.]

260 I.A.C. 2-4-2(b) (West 2015 Supp.).

The trooper initially had Hurley blow twice into the tube, as provided in Section 2(a). After the second blow, “Please blow” appeared on the instrument display, so the trooper had Hurley blow for a third time. After the third blow, the instrument report printed “Insufficient Sample”. None of the three blows Hurley provided during this first test yielded a numerical value for her breath-ethanol concentration. At that point, the trooper believed Hurley was not cooperating and concluded she had refused the test.

The State defends the trooper’s three-blows-and-you’re-out determination as consistent with the Breath-Test Rule, pointing to this provision at the tail end of [Section 2-4-2](#): “If an ‘Insufficient Sample’ ... message is caused by the lack of cooperation of the subject, the breath test operator should record that the test was refused[.]” *Id.* § 2-4-2(b)(5) (West 2015 Supp.). Hurley, in contrast, objects that the State tries to justify the trooper’s refusal determination by jumping to the end of the Rule, thus skipping over an intervening provision within Section 2(b)(5) that required him to offer Hurley a second test. “If ‘Insufficient Sample’ ... is printed on the instrument report, *perform an additional breath test*, beginning with STEP TWO and proceeding through STEP TWELVE.” *Id.* (emphasis added). We hold the Rule *presumptively* required the trooper to offer Hurley a second test.

D. A second test is not required if the subject clearly manifests an unwillingness to take the test.

11 But this presumptive obligation to offer a second test is not absolute. The Rule does not require an officer to administer a second test to a subject who obviously is not cooperating in providing one or more measurable, recordable breath samples. Officers must—and do—have discretion under the Rule to make the judgment call that the subject is being uncooperative and thus has refused the test. An officer needn’t go through the motions to administer a test to an obviously uncooperative subject. Common sense doesn’t require it, and neither does the Rule.

12 A subject who puffs out his cheeks pretending to blow but releases no breath into the device is an easy call. [Jaremczuk v. State](#), 177 Ind. App. 628, 632, 380 N.E.2d 615, 618 (1978). So, too, is the subject who makes no bones about his unwillingness to cooperate. [Hatch v. State](#), 177 Ind. App. 231, 232, 378 N.E.2d 949, 950 (1978) (telling officer “that was all [you’re] going to get”). When a subject is clearly and manifestly uncooperative, an officer may exercise discretion to record a refusal and forego a second test.

This interpretation of the Rule is consistent with our recent holding in [Burnell](#), 56 N.E.3d 1146. There, we held “a refusal to submit to a chemical test occurs when the conduct of the motorist is such that a reasonable person in the officer’s position would be justified in believing the motorist was capable of refusal and manifested an unwillingness to submit to the test.” *Id.* at 1151. If the subject clearly manifests an unwillingness to submit to the test, he is refusing to cooperate and triggers the exception in the last sentence of the rule, allowing an officer to record a refusal in lieu of offering a second test. But an officer cannot lightly conclude the subject is not cooperating. As discussed next, we believe the trooper jumped the gun in concluding Hurley was uncooperative.

E. The trooper was required to administer a second test on this record because Hurley did not clearly manifest an unwillingness to take it.

13 The record does not support the State’s argument that “Hurley caused the insufficient sample by refusing to cooperate.” If Hurley had verbally refused to submit to any further testing after the first breath test, as in [Morrissey v. Department of Motor Vehicles](#), 264 Neb. 456, 647 N.W.2d 644, 648 (2002), disapproved on other grounds by [Hahn v. Neth](#), 270 Neb. 164, 699 N.W.2d 32, 39 (2005); or had pretended to blow into the machine without doing so, as in [State v. McIntyre](#), 290 Neb. 1021, 863 N.W.2d 471, 475 (2015); or had

repeatedly blocked the machine's mouthpiece with her upper lip despite warnings that doing so would result in a deficient sample, as in [Rader v. Director of Revenue](#), 490 S.W.3d 778, 779 (Mo. Ct. App. 2016), she could fairly be described as uncooperative—thus obviating the Rule's presumptive requirement of a second test. See also [People v. Schubert](#), 115 Ill.App.3d 302, 71 Ill.Dec. 24, 450 N.E.2d 459 (1983) (defendant sucked on machine mouthpiece instead of blowing into it); [People v. Doherty](#), 144 Ill.App.3d 400, 98 Ill.Dec. 811, 494 N.E.2d 933 (1986) (defendant did not seal his lips around mouthpiece and thus air around mouthpiece escaped when he blew into it).

***1081** But Hurley did none of these things—or anything else clearly constituting a “manifest[] ... unwillingness to submit the test.” [Burnell](#), 56 N.E.3d at 1151. As Hurley points out correctly, she voluntarily took a portable breath test at the scene; she agreed to the chemical breath test given at the police station; she submitted to the test; she was never told she wasn't blowing hard enough or that she needed to blow harder; and the trooper acknowledged “[Hurley] was completely cooperative throughout this process,” and at no point did she “not cooperate with any of [his] instructions.” We conclude there is no factual basis in this record to support the judgment that Hurley refused the test. She thus sustained her burden on judicial review of showing the evidence points to one conclusion—one opposite that reached by the trial court.

Conclusion

Unless a subject clearly manifests an unwillingness to submit to a chemical breath test, [Title 260, Section 2-4-2 of the Indiana Administrative Code](#) requires a law-enforcement officer to administer a second test if the first returns an “insufficient sample” message. There is no factual basis for the trooper's determination that Hurley refused the chemical test. Because the trooper did not offer Hurley a second test, we reverse the judgment below and remand with instructions to direct the bureau of motor vehicles to vacate its suspension of Hurley's license and reinstate her driving privileges.

All Justices concur.

All Citations

75 N.E.3d 1074

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WESTLAW

 Original Image of 651 N.E.2d 294 (PDF)

651 N.E.2d 294
Court of Appeals of Indiana.

Storrjohann v. State

Court of Appeals of Indiana. | May 31, 1995 | 651 N.E.2d 294 (Approx. 8 pages)

Kathy Frye, Floyd Wethington, Appellants–Defendants,
v.
STATE of Indiana, Appellee–Plaintiff.

No. 17A03–9412–CR–443.
May 31, 1995.

Synopsis






Six defendants were separately charged with driving while intoxicated. The DeKalb Superior Court, [Kevin P. Wallace, J.](#), denied their motions to suppress breath test results, and defendants brought interlocutory appeal. The Court of Appeals, [Staton, J.](#), held that breath test results were admissible.


Affirmed.

[Sharpnack, C.J.](#), and [Garrard, J.](#), concurred in result.

West Headnotes (10)

[Change View](#)

- 1 **Criminal Law**  **Necessity and scope of proof**
Criminal Law  **Reception and Admissibility of Evidence**
Admissibility of evidence is within sound discretion of trial court and can be reviewed only for abuse of that discretion.
- 2 **Criminal Law**  **Discretion of Lower Court**
An abuse of discretion may occur if trial court's decision is clearly against logic and effect of facts and circumstances before the court, or if court has misinterpreted the law.
- 3 **Automobiles**  **Evidence of Sobriety Tests**
Criminal Law  **Others' opinions or test results**
Machine breath test results are hearsay and are inadmissible unless they fall within statutorily or judicially defined exception, such as exception for blood alcohol content (BAC) analysis. [West's A.I.C. 9–30–6–15\(a\)](#); [Rules of Evid., Rule 801\(c\)](#).

2 Cases that cite this headnote
- 4 **Automobiles**  **Reliability of particular testing devices**
Administrative code sections requiring that breath-test machines be capable of using ethanol-water or ethanol-gas solution to simulate ethanol-breath solution, prohibiting deviation of more than minus eight percent from known alcohol content of ethanol-based test solution, and requiring results to the third decimal, although not specifically designated as selection criteria, plainly met specific machine type and accuracy requirements for approval of toxicology department of Indiana University School of Medicine as required by statute; more elaborate selection criteria than that were not required for testing to be valid. [West's A.I.C. 9–30–6–5\(a\)\(2\)\(A\)](#); [Ind. Admin. Code title 260, r. 1.1–2–1, 1.1–2–1\(e\)\(1–3\)](#).

SELECTED TOPICS

Criminal Law

Review

[Absent Abuse of Discretion](#)

Construction and Operation

[Purpose of Rule of Strict Construction of Penal Statute](#)

Automobiles

Evidence of Sobriety Tests

[Operator of Blood Alcohol Content Breath Test Machine](#)

Secondary Sources**§ 702.203. Reliability—Breathalyzers**

13 Ind. Prac., Indiana Evidence § 702.203 (4th ed.)

...It cannot easily be argued that the Evidence Rules are silent as to the admissibility of breathalyzer test results; Rule 702(b) expressly encompasses "expert scientific testimony". As is discussed in §...

§ 112. Penal statutes

26 Ind. Law Encyc. Statutes § 112

...Strictly and properly speaking, penal statutes are those imposing punishment for an offense committed against the state, which the executive has the power to pardon. In common use, however, the term "p..."

Trial Rule 43. Evidence

3 Ind. Prac., Rules Of Procedure Annotated R 43 (3d ed.)

...(G) How trial proceeds. How evidence is presented. Rule 43(a). Heretofore, Indiana has been governed as to admissibility by the standard rules of relevancy, materiality, and competency. While this will...

[See More Secondary Sources](#)

Briefs

[Motion of Indiana Tech Law School Amicus Project for Leave to File an Amicus Brief and Amicus Curiae Brief in Support of Neither Party](#)

2016 WL 552457
Danny BIRCHFIELD, Petitioner, v. NORTH DAKOTA, Respondent.
Supreme Court of the United States
Feb. 08, 2016


...Pursuant to Supreme Court Rule 37.3(b), Indiana Tech Law School Amicus Project respectfully moves to file the attached brief in support of neither party. Counsel for Petitioner has not responded to the...

[Brief of the National Association of Criminal Defense Lawyers, The National Association of Federal Defenders, The Federal Public and Community Defenders in the United States, Families Against Mandatory Minimums, Prison Fellowship Ministries and Dean Erwin Chemerinsky as Amici Curiae in Support of Petitioner](#)


2009 WL 2248356
Ismael TABLADA, Petitioner, v. J.E. THOMAS, Warden, Respondent.
Supreme Court of the United States
July 23, 2009


...FN* Counsel of Record FN1. Pursuant to Supreme Court Rule 37.6, amici curiae state


1 Case that cites this headnote


- 5 **Statutes**  **Liberal or strict construction; rule of lenity**
Statute must impose a penalty in order to be considered a penal statute requiring strict construction against the state.


1 Case that cites this headnote

- 6 **Automobiles**  **Conduct and Proof of Test; Foundation or Predicate**
Breath test results are only inadmissible when some aspect of the test is not approved by the department of toxicology of the Indiana University School of Medicine. *West's A.I.C. 9-30-6-5(d)*.

- 7 **Automobiles**  **Reliability of particular testing devices**
Any equipment used to test blood alcohol content for which the department of toxicology of the Indiana University School of Medicine has adopted an approved method of use, such as DataMaster equipment, meets the department's selection criteria for reliability. *West's A.I.C. 9-30-6-5(c)*; *Ind. Admin. Code title 260, r. 1.1-4-7, 1.1-4-8*.

- 8 **Automobiles**  **Evidence of Sobriety Tests**
Failure to follow approved methods, as defined by the legislature, renders breath test results unreliable. *West's A.I.C. 9-30-6-5*.

- 9 **Automobiles**  **Reliability of particular testing devices**
Lack of definite selection criteria did not affect the reliability of results of breath testing for alcohol derived from undeniably approved, certified, and properly operated equipment. *West's A.I.C. 9-30-6-5*.

- 10 **Automobiles**  **Evidence of Sobriety Tests**
Strict compliance with statute governing standards and regulations of breath testing for alcohol, as required for results to be admissible, applies only to matters affecting reliability. *West's A.I.C. 9-30-6-5*.

Attorneys and Law Firms

*295 [Hugh N. Taylor](#), Auburn, for appellants.

[Pamela Carter](#), Atty. Gen., Preston W. Black, Deputy Atty. Gen., Indianapolis, for appellee.

OPINION

[STATON](#), Judge.

John Storjohann, Kevin Nofzinger, Deborah Smith, Daniel Kulesza, Kathy Frye, and Floyd Wethington (collectively "defendants") appeal the trial court's denial of their motions to suppress breath test results.¹ All are charged with driving while intoxicated, a class A misdemeanor,² and operating a vehicle with at least ten-hundredths percent (.10%) by weight of alcohol in the blood, a Class C misdemeanor.³ While some are charged with additional crimes, only the above charges relate to this appeal. The defendants raise one issue on appeal which we restate as follows: whether the trial court erred in failing to suppress the results of the test as no selection criteria was established for breath-test equipment.

We affirm.

The facts most favorable to the judgment are as follows. The defendants were charged with drunk driving and operating a vehicle with blood alcohol content ("BAC") over .10%. The charges were based in part upon results obtained from a BAC DataMaster breath-test machine. The defendants moved to suppress this evidence on the grounds that no selection criteria for breath-test equipment was promulgated as required by statute. The trial court denied the motion and the defendants appeal.

that no counsel for any party authored this brief in whole or in part and that no entity or person, aside from amici c...

Brief for Respondent

2006 WL 139214
Bobby Lee HOLMES, Petitioner, v. STATE OF SOUTH CAROLINA, Respondent.
Supreme Court of the United States
Jan. 11, 2006

...After fleeing from the police, between 6:00-6:30 a.m., Holmes went to 224 California Street, the home of Ms. Mary Stewart, an 86-year-old retired school teacher. Holmes opened the unlocked screen door ...

[See More Briefs](#)

Trial Court Documents**State v. Ackerman**

2001 WL 36161719
State of Indiana, Plaintiff, v. Leslie J. ACKERMAN, Defendant.
Superior Court of Indiana.
June 17, 2001

...The Court, having taken the Defendant's Motion to Suppress and Motion In Limine under advisement, hereby orders as follows: In paragraph 8 of her motion, the Defendant alleges that the officer's confro...

Black Diamond Pest & Termite Control, Inc. v. Indiana Pesticide Review Bd.

2008 WL 6783755
BLACK DIAMOND PEST & TERMITES CONTROL, INC., et al., Petitioners, v. INDIANA PESTICIDE REVIEW BOARD, Respondent.
Superior Court of Indiana.
Apr. 01, 2008

...1. On December 20, 2006, the Petitioners, Black Diamond, Keith Duncan, Sr., Keith Duncan, Jr. and Brian Thomas filed with this Court their Verified Petition for Judicial Review. That action was assigne...

State v. Turner

2011 WL 9523125
State of Indiana, v. Duane TURNER.
Superior Court of Indiana.
Dec. 02, 2011

...This matter is before the Court upon an Amended Petition for Post-Conviction Relief filed by the Defendant. The Court, having read said Petition together with the State of Indiana's Answer, having rece...

[See More Trial Court Documents](#)

1 2 The admissibility of evidence is within the sound discretion of the trial court and we review only for abuse of that discretion. *Brenneman Mechanical & Elec., Inc. v. First Nat. Bank of Logansport* (1986), Ind.App., 495 N.E.2d 233, 240, *trans. denied*. An abuse of discretion may occur if the trial court's decision is clearly against the logic and effect of the facts and circumstances before the court, or if the court has misinterpreted the law. *McCullough v. Archbold Ladder Co.* (1993), Ind., 605 N.E.2d 175, 180.

3 Machine breath-test results are hearsay. *Mullins v. State* (1995), Ind., 646 N.E.2d 40, 48; *Indiana Rule of Evidence 801(c)*. Hearsay is inadmissible absent a judicially or statutorily created exception, *Mullins, supra*, but an exception exists for BAC analysis. I.C. § 9-30-6-15(a).

The standards and regulations for breath testing are set forth in I.C. § 9-30-6-5. The statute states, in part:

(a) The director of the department of toxicology of the Indiana University school of medicine *shall adopt rules* under IC 4-22-2 *concerning the following*:

(1) Standards and regulations for the:

(A) Selection;

(B) Training; and

(C) Certification;

of breath test operators.

(2) *Standards and regulations for the*:

(A) *Selection*; and

(B) Certification;

***296** *of breath test equipment* and chemicals.

(3) The certification of the proper technique for administering a breath test.

* * * * *

(c) Certified copies of certificates issued in accordance with rules adopted under subsection (a)...

* * * * *

(2) Constitute prima facie evidence that the equipment or chemical ... [was] inspected and approved by the department of toxicology on the date specified on the certificate copy...

* * * * *

(d) Results of chemical tests that involve an analysis of a person's breath are *not admissible* in a proceeding under ... IC 9-30-5 ... *if*:

(1) The test operator;

(2) The *test equipment*;

(3) The chemicals used in the test, if any; or

(4) The techniques used in the test;

have not been approved in accordance with the rules adopted under subsection (a).

I.C. § 9-30-6-5 (emphases added).

4 The defendants argue that the DataMaster results were inadmissible because the department did not adopt standards for the selection of breath-test equipment as subsection (a) requires. I.C. § 9-30-6-5(a)(2)(A). The Indiana Administrative Code, the defendants' argue, contains no selection standards for breath-test equipment. 260 IAC 1, *et seq.* Therefore, the defendants' conclude, the breath-test results must be suppressed under subsection (d) as the BAC DataMaster has not been properly approved.

The defendants' argument fails for several reasons. First, the Indiana Administrative Code reveals some standards for the selection of breath-test equipment. [260 IAC 1.1-2-1](#). Specifically, breath-test machines must be capable of using a known ethanol-water or ethanol-gas solution to simulate an ethanol-breath solution. [260 IAC 1.1-2-1\(e\)\(1\)](#). Further, the machine's results cannot deviate more than minus eight percent from the known alcohol content of the ethanol-based test solution. [260 IAC 1.1-2-1\(e\)\(2\)](#). Finally, for purposes of inspection, the machine must yield results to the third decimal. [260 IAC 1.1-2-1\(e\)\(3\)](#). Though these standards are not specifically designated as selection criteria, they plainly set specific machine type and accuracy requirements for departmental approval. We see no requirement that selection standards be listed under an independent heading or address any particular parameters. We conclude that more elaborate selection criteria than that listed above are not required.

5 6 Next, we see no basis in the statute for suppression based upon a lack of selection criteria.⁴ Breath-test results are only inadmissible when some aspect of the test is not approved by the department. *Mullins, supra*, at 49⁵; [I.C. § 9-30-6-5\(d\)](#).

In this case, the same BAC DataMaster was used to test each defendant. The defendants present only the narrow issue about the alleged lack of selection criteria, raising no issue as to certification. Thus, there is no dispute that the DataMaster was approved. [I.C. § 9-30-6-5\(c\)](#). So long as the operator, equipment, chemicals, and techniques used in the test are approved, the results are admissible. *Id.* Even assuming a lack of selection criteria, we see no basis to suppress.

7 Finally, the defendants' argument fails because any equipment for which the department has adopted an approved method of use implicitly meets the department's selection criteria. The department has promulgated approved methods for using the DataMaster, [*297 260 IAC 1.1-4-7, -8](#),⁶ so the machine meets whatever selection criteria for reliability the department has set.

8 9 10 The defendants argue that strict, literal compliance with [I.C. § 9-30-6-5](#) is required for admissibility as scientific results are clothed with the aura of certainty. See *Bowman v. State* (1990), [Ind.App., 564 N.E.2d 309, 312](#), *relevant part aff'd on trans.* (1991), [Ind., 577 N.E.2d 569](#). While we agree with the holding of *Bowman* and related authority, those cases concerned either a lack of approved operating methods, See *Crouch v. State* (1994), [Ind.App., 638 N.E.2d 861](#), or a failure to follow those methods, See *Bowman, supra*. Failure to follow approved methods clearly renders breath-test results unreliable. Lack of definite selection criteria, on the other hand, does not affect the reliability of results derived from undeniably approved, certified, and properly-operated equipment. We believe that strict compliance, as required by *Bowman*, applies only to those matters which affect reliability.

For these reasons, the trial court did not abuse its discretion in failing to suppress the results of the DataMaster breath test.

Affirmed.

SHARPBACK, C.J., and GARRARD, J., concur in result.

All Citations

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Footnotes

- 1 All six cases come from the DeKalb Superior Court and were consolidated for interlocutory appeal.
- 2 [Ind.Code § 9-30-5-2](#).
- 3 [I.C. § 9-30-5-1](#).
- 4 The defendants urge that [I.C. § 9-30-6-5](#) is a penal statute and, as such, must be strictly construed in their favor. To the contrary, a statute must itself impose a penalty to be considered "penal" and therefore require strict construction against the State. See *Carson v. State* (1979), [271 Ind. 203, 205, 391 N.E.2d 600, 602](#) (only statutory definitions of crimes given strict construction). This statute is not penal.

- 5 In *Mullins*, the BAC DataMaster used had not been certified within 180 days before use as the code requires. 260 IAC 1.1-2-2(a). Despite this, the Indiana Supreme Court concluded that since the machine was certified six days after the test, it was an approved machine. See I.C. § 9-30-6-5(c). Accordingly, the results could not be suppressed under subsection (d). *Mullins, infra*.
- 6 It is unclear whether or not the DataMaster breath test machine used in this case had a keyboard, it is irrelevant as the department has approved both machine types.

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ARTICLE 2.5. BREATH TEST OPERATORS AND INSTRUMENTS

Rule 1. Definitions

260 IAC 2.5-1-1 Applicability

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 1. The definitions in this rule apply throughout this article. *(State Department of Toxicology; 260 IAC 2.5-1-1; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)*

260 IAC 2.5-1-2 "Breath test instrument" defined

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 2. "Breath test instrument" means equipment selected by the department for performing evidentiary breath tests for alcohol. *(State Department of Toxicology; 260 IAC 2.5-1-2; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)*

260 IAC 2.5-1-3 "Department" defined

Authority: IC 9-30-6-5

Affected: IC 10-20-2-1

Sec. 3. "Department" means the state department of toxicology established by IC 10-20-2-1. *(State Department of Toxicology; 260 IAC 2.5-1-3; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)*

260 IAC 2.5-1-4 "Director" defined

Authority: IC 9-30-6-5

Affected: IC 10-20-2-2

Sec. 4. "Director" means the director of the department. *(State Department of Toxicology; 260 IAC 2.5-1-4; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)*

260 IAC 2.5-1-5 "Law enforcement agency" defined

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 5. "Law enforcement agency" means an agency or department with authority to apprehend criminal offenders. *(State Department of Toxicology; 260 IAC 2.5-1-5; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)*

260 IAC 2.5-1-6 "Reference material" defined

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 6. "Reference material" means a traceable material or substance having known properties. *(State Department of Toxicology; 260 IAC 2.5-1-6; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)*

Rule 2. Selection, Training, and Certification of Breath Test Operators

260 IAC 2.5-2-1 Selection

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

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Sec. 1. Only a person employed by a law enforcement agency may be certified as a breath test operator. *(State Department of Toxicology; 260 IAC 2.5-2-1; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)*

260 IAC 2.5-2-2 Training

Authority: IC 9-30-6-5
Affected: IC 10-20-2-5

Sec. 2. (a) The breath test operator training course for certification shall consist of training in the following:

- (1) The pharmacology and toxicology of alcohol.
- (2) The legal aspects of breath testing for alcohol.
- (3) The theory, operation, and care of breath test equipment.
- (4) The use of a breath test instrument using reference materials.

(b) To successfully complete the training course, a person must pass all examinations and demonstrate competence in the administration of breath tests on a breath test instrument. *(State Department of Toxicology; 260 IAC 2.5-2-2; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)*

260 IAC 2.5-2-3 Certification and recertification of breath test operators

Authority: IC 9-30-6-5
Affected: IC 9-30-6-5

Sec. 3. (a) A person who:

- (1) is employed by a law enforcement agency; and
- (2) successfully completes the breath test operator training course;

will be certified as a breath test operator.

(b) Any person certified as a breath test operator must be recertified by examination at least every two (2) years from the month of certification or recertification. Reasonable deviations from this schedule may be approved by the director.

(c) Any person seeking recertification as a breath test operator must demonstrate competence in the performance of evidentiary breath tests by passing an examination approved by the department.

(d) Any person who fails the recertification examination may be given a second recertification examination, provided that the previous certification has not been expired for more than thirty (30) days. During the time period between the first and second recertification examinations, the person is not certified as a breath test operator.

(e) The department shall issue identification cards to certified and recertified breath test operators.

(f) The director may suspend or revoke the certification of any breath test operator at any time the director determines such suspension or revocation to be in the best interest of the breath test program. *(State Department of Toxicology; 260 IAC 2.5-2-3; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)*

260 IAC 2.5-2-4 Authorization of certified breath test operators

Authority: IC 9-30-6-5
Affected: IC 9-30-6-5

Sec. 4. Certified and recertified breath test operators are authorized to:

- (1) administer breath tests; and
- (2) make replacements and adjustments to breath test instruments excluding instrument calibration adjustments.

(State Department of Toxicology; 260 IAC 2.5-2-4; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)

260 IAC 2.5-2-5 Breath test operators certified or recertified under repealed rule

Authority: IC 9-30-6-5
Affected: IC 9-30-6-5

Sec. 5. The certifications of breath test operators who were certified or recertified under 260 IAC 2-2 before its repeal shall

be valid until the date they would have expired under 260 IAC 2-2 before its repeal. (*State Department of Toxicology; 260 IAC 2.5-2-5; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA*)

Rule 3. Selection, Inspection, and Certification of Breath Test Instruments and Chemicals

260 IAC 2.5-3-1 Selection of breath test equipment

Authority: IC 9-30-6-5
Affected: IC 9-30-6-5

Sec. 1. (a) The department shall select breath test equipment for use for evidentiary breath testing to ensure the accurate analysis of breath specimens for the determination of breath alcohol concentrations. The department shall select breath test equipment that meets the following criteria:

- (1) The equipment shall analyze breath samples and report a numerical value expressed as grams of alcohol per two hundred ten (210) liters of breath.
- (2) The equipment shall be:
 - (A) capable of calibration for the purpose of certification with a reference material in accord with section 2 of this rule;
 - (B) able to analyze a reference material within the limits specified by section 2 of this rule separate from calibration for certification; and
 - (C) equipped with sufficient features to prevent unauthorized alteration, tampering, or manipulation to safeguard the breath sampling process and alcohol concentration analysis.

(b) The breath test instruments for which approved methods are provided in 260 IAC 2.5-4 shall constitute the list of breath test equipment selected by the department. (*State Department of Toxicology; 260 IAC 2.5-3-1; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA*)

260 IAC 2.5-3-2 Inspection of breath test instruments

Authority: IC 9-30-6-5
Affected: IC 9-30-6-5

Sec. 2. (a) A person authorized by the department shall inspect each breath test instrument deployed for evidentiary use at the instrument's established location at least once every one hundred eighty (180) days. If the location of a breath test instrument is changed, the instrument must be inspected and certified under this rule prior to use for evidentiary testing.

- (b) The inspection shall include at least one (1) test demonstrating that the breath test instrument:
- (1) is in good operating condition; and
 - (2) satisfies the accuracy requirements in subsection (e).

(c) The inspection shall include tests using reference materials certified to contain a specific concentration of ethanol with a measurement uncertainty at a stated level of confidence.

(d) The numerical analytical results of inspection tests shall be expressed to the third decimal place.

(e) The numerical analytical results of Intox EC/IR II breath test instruments shall not deviate more than five percent (5%) or five-thousandths (0.005) grams per two hundred ten (210) liters, whichever is greater, from the value of the reference material or the value of the reference material as adjusted for the ambient barometric pressure. (*State Department of Toxicology; 260 IAC 2.5-3-2; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA*)

260 IAC 2.5-3-3 Certification of breath test instruments

Authority: IC 9-30-6-5
Affected: IC 9-30-6-5

Sec. 3. (a) The department shall certify each breath test instrument deployed for evidentiary use as to compliance with the standards in section 2 of this rule at least once every one hundred eighty (180) days.

(b) The certification of breath test instruments shall be in writing by the department.

(c) The certification shall be based on information provided by persons authorized by the department to inspect breath test

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instruments. *(State Department of Toxicology; 260 IAC 2.5-3-3; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)*

260 IAC 2.5-3-4 Breath test instruments certified under repealed rule

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 4. The certifications of breath test instruments inspected and certified under 260 IAC 2-3 before its repeal shall be valid until the date they would have expired under 260 IAC 2-3 before its repeal. *(State Department of Toxicology; 260 IAC 2.5-3-4; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)*

260 IAC 2.5-3-5 Selection and certification of chemicals

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 5. Chemicals used as reference materials in the performance of evidentiary breath tests shall be certified to contain a specific concentration of ethanol with a measurement uncertainty at a stated level of confidence. *(State Department of Toxicology; 260 IAC 2.5-3-5; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA)*

Rule 4. Approved Method for Administering Breath Tests

260 IAC 2.5-4-1 Approved method for Intox EC/IR II breath analysis

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 1. (a) The approved method that shall be followed in making an analysis of breath for alcohol using the Intox EC/IR II breath test instrument is as follows:

(1) The person to be tested must:

(A) have had nothing to eat or drink;

(B) not have put any foreign substance into his or her mouth or respiratory tract; and

(C) not smoke;

within fifteen (15) minutes before the time the first breath sample is taken or at any time from the taking of the first breath sample until after the taking of the final breath sample.

(2) Use the following STEPS:

STEP ONE: Verify that the instrument is in ready mode, as indicated by the instrument display.

STEP TWO: Press "Enter" key to start subject test.

STEP THREE: Insert identification card into the barcode reader, or press the "Enter" key and use the keyboard to enter the breath test operator information requested by the instrument display.

STEP FOUR: When requested by the instrument display, enter the beginning date and time of the fifteen (15) minute deprivation period described in subdivision (1).

STEP FIVE: When requested by the instrument display, select "Y" or "N" to indicate whether the breath test operator had control of the subject during the fifteen (15) minute deprivation period described in subdivision (1).

STEP SIX: If "N" is selected in STEP FIVE, when requested by the instrument display, enter the information of the officer with control of the subject during the fifteen (15) minute deprivation period described in subdivision (1).

STEP SEVEN: Enter incident information requested by the instrument display.

STEP EIGHT: Enter subject information by:

(A) inserting the subject's driver/operator license or identification card into the barcode reader; or

(B) pressing the "Enter" key and using the keyboard to enter the available subject information requested by the instrument display.

STEP NINE: When "Please blow" appears on the instrument display, place a mouthpiece on the breath tube. Instruct the subject to deliver a breath sample. Remove mouthpiece after delivery of a breath sample or when prompted by the instrument

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display. Repeat as prompted by the instrument display.

STEP TEN: Print the instrument report and remove it from the printer; verify that there is a numerical value for the subject's breath alcohol concentration reported as the "RESULT" on the instrument report and sign the instrument report where indicated.

(b) If any of the following status messages is printed on the instrument report, proceed as follows:

(1) If "Interfering Substance" or "Mouth Alcohol" is printed on the instrument report:

(A) obtain a blood sample for a chemical test; or

(B) repeat the fifteen (15) minute deprivation period described in subsection (a)(1) and perform an additional breath test, beginning with STEP ONE in subsection (a)(2). If "Interfering Substance" or "Mouth Alcohol" is printed on the instrument report after this additional breath test:

(i) obtain a blood sample for a chemical test; or

(ii) sign all instrument reports where indicated if a numerical value for the subject's breath alcohol concentration is reported as the "RESULT" on any instrument report.

(2) If a status message not listed in this rule, excluding "Test Complete", is printed on the instrument report:

(A) obtain a blood sample for a chemical test; or

(B) perform an additional breath test, beginning with STEP ONE in subsection (a)(2). If a status message not listed in this rule, with the exception of "Test Complete", is printed on the instrument report after this additional breath test:

(i) obtain a blood sample for a chemical test; or

(ii) sign all instrument reports where indicated if a numerical value for the subject's breath alcohol concentration is reported as the "RESULT" on any instrument report.

(c) If a subject refuses a test, the breath test operator should record that the test was refused and sign all reports where indicated. (*State Department of Toxicology; 260 IAC 2.5-4-1; filed Sep 17, 2020, 10:35 a.m.: 20201014-IR-260200017FRA*)

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ARTICLE 2. BREATH TEST OPERATORS AND INSTRUMENTS

Rule 1. Definitions

260 IAC 2-1-1 Applicability

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 1. The definitions in this rule apply throughout this article. (*State Department of Toxicology; 260 IAC 2-1-1; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

260 IAC 2-1-2 "Breath test instrument" defined

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 2. "Breath test instrument" means equipment selected by the department for performing evidentiary breath tests for ethanol. (*State Department of Toxicology; 260 IAC 2-1-2; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

260 IAC 2-1-3 "Department" defined

Authority: IC 9-30-6-5

Affected: IC 10-20-2-1

Sec. 3. "Department" means the state department of toxicology established by IC 10-20-2-1. (*State Department of Toxicology; 260 IAC 2-1-3; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

260 IAC 2-1-4 "Director" defined

Authority: IC 9-30-6-5

Affected: IC 10-20-2-2

Sec. 4. "Director" means the director of the department. (*State Department of Toxicology; 260 IAC 2-1-4; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

Rule 2. Selection, Training, and Certification of Breath Test Operators

260 IAC 2-2-1 Selection

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 1. Only those persons who are employed by a law enforcement agency may be certified as breath test operators. As used in this rule, "law enforcement agency" means an agency or department with authority to apprehend criminal offenders. (*State Department of Toxicology; 260 IAC 2-2-1; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

260 IAC 2-2-2 Training

Authority: IC 9-30-6-5

Affected: IC 10-20-2-5

Sec. 2. (a) The breath test operator training course for certification shall consist of training in the following:

- (1) The pharmacology and toxicology of ethanol.
- (2) The legal aspects of breath testing for ethanol.
- (3) The theory, operation, and care of breath test equipment.
- (4) The use of a breath test instrument using known ethanol-water or ethanol-gas standards.

(b) To successfully complete the training course, a person must pass all examinations and demonstrate competence in the administration of breath tests on a breath test instrument. (*State Department of Toxicology; 260 IAC 2-2-2; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

260 IAC 2-2-3 Certification and recertification of breath test operators

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 3. (a) Those persons who:

- (1) are employed by a law enforcement agency; and
- (2) successfully complete the breath test operator training course;

will be certified as breath test operators.

(b) Any person certified as a breath test operator must be recertified by examination at least every two (2) years from the month of certification or recertification. Reasonable deviations from this schedule may be approved by the director.

(c) The recertification procedure shall be established by the department.

(d) Any person seeking recertification as a breath test operator must demonstrate competence in the performance of evidentiary breath tests by passing an examination approved by the department.

(e) Any person who fails the recertification examination may be given a second recertification examination, provided that the previous certification has not been expired for more than thirty (30) days. During the time period between the first and second recertification examinations, the person is not certified as a breath test operator.

(f) The department shall issue identification cards to all certified and recertified breath test operators, which shall be valid for a period of two (2) years from the month of certification or recertification.

(g) Nothing in this rule shall prevent the director from suspending or revoking the certification of any breath test operator at any time the director determines such suspension or revocation to be in the best interest of the breath test for ethanol program. (*State Department of Toxicology; 260 IAC 2-2-3; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

260 IAC 2-2-4 Authorization of certified breath test operators

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 4. Certified and recertified breath test operators are authorized to:

- (1) administer breath tests; and
- (2) make replacements and adjustments to breath test instruments not related to calibration.

(*State Department of Toxicology; 260 IAC 2-2-4; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

260 IAC 2-2-5 Breath test operators certified or recertified under repealed rule

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 5. The certifications of breath test operators who were certified or recertified under 260 IAC 1.1-1 before its repeal shall be valid until the date they would have expired under 260 IAC 1.1-1 before its repeal. (*State Department of Toxicology; 260 IAC 2-2-5; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

Rule 3. Selection, Inspection, and Certification of Breath Test Instruments and Chemicals

260 IAC 2-3-1 Selection of breath test equipment

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

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Sec. 1. (a) The department shall select breath test equipment for use for evidentiary breath testing to ensure the accurate analysis of breath specimens for the determination of breath ethanol concentrations. The department shall select only breath test equipment that meets the following criteria:

- (1) The equipment must analyze breath samples and report a numerical value expressed as grams of ethanol per two hundred ten (210) liters of breath.
- (2) The equipment must be:
 - (A) capable of calibration for the purpose of certification with a known ethanol standard in accord with section 2 of this rule;
 - (B) able to analyze a known ethanol reference sample within the limits specified by section 2 of this rule separate from calibration for certification; and
 - (C) equipped with sufficient features to prevent unauthorized alteration, tampering, or manipulation to safeguard the breath sampling process and ethanol concentration analysis.

(b) The breath test instruments for which approved methods are provided in 260 IAC 2-4 shall constitute the list of breath test equipment selected by the department. (*State Department of Toxicology; 260 IAC 2-3-1; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

260 IAC 2-3-2 Inspection of breath test instruments

Authority: IC 9-30-6-5
Affected: IC 9-30-6-5

Sec. 2. (a) A person authorized by the department shall inspect each breath test instrument at the instrument's established location at least once every one hundred eighty (180) days. If the location of a breath test instrument is changed, the instrument must be inspected and certified under this rule prior to use.

- (b) The inspection shall include at least one (1) test demonstrating that the breath test instrument:
 - (1) is in good operating condition; and
 - (2) satisfies the accuracy requirements in subsection (e) or (f).

(c) The inspection shall include tests using ethanol-water or ethanol-gas standards selected and certified under section 5 of this rule to simulate breath samples.

(d) The analytical results of inspection tests shall be expressed to the third decimal place.

(e) The analytical results of BAC DataMaster breath test instruments shall not deviate more than minus eight percent (-8%) from the certified value of the ethanol-water standard.

(f) The analytical results of Intox EC/IR II breath test instruments shall not deviate more than five percent (5%) or 0.005, whichever is greater, from the certified value of the ethanol-water standard or the value adjusted for the ambient barometric pressure of the certified ethanol-gas standard. (*State Department of Toxicology; 260 IAC 2-3-2; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

260 IAC 2-3-3 Certification of breath test instruments

Authority: IC 9-30-6-5
Affected: IC 9-30-6-5

Sec. 3. (a) The department shall certify each breath test instrument as to compliance with the standards in section 2 of this rule at least once every one hundred eighty (180) days.

(b) The certification of breath test instruments shall be in writing by the department.

(c) The certification shall be based on information provided by persons authorized by the department to inspect breath test instruments. (*State Department of Toxicology; 260 IAC 2-3-3; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

260 IAC 2-3-4 Breath test instruments certified under repealed rule

Authority: IC 9-30-6-5
Affected: IC 9-30-6-5

Sec. 4. The certifications of breath test instruments inspected and certified under 260 IAC 1.1-2 before its repeal shall be valid until the date they would have expired under 260 IAC 1.1-2 before its repeal. (*State Department of Toxicology; 260 IAC 2-3-4; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

260 IAC 2-3-5 Selection and certification of chemicals

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 5. The property values of chemicals used in the inspections described in section 2 of this rule and used as controls in the performance of evidentiary breath tests shall be certified by a procedure that establishes traceability to an accurate realization of the unit in which the property values are expressed, and for which each certified value is accompanied by an uncertainty at a stated level of confidence. (*State Department of Toxicology; 260 IAC 2-3-5; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA*)

Rule 4. Approved Methods for Administering Breath Tests

260 IAC 2-4-1 Approved method for BAC DataMaster breath analysis

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 1. (a) The approved method that shall be followed in making an analysis of breath for ethanol using the BAC DataMaster breath test instrument is as follows:

STEP ONE: The person to be tested must:

- (A) have had nothing to eat or drink;
- (B) not have put any foreign substance into his or her mouth or respiratory tract; and
- (C) not smoke;

within fifteen (15) minutes before the time a breath sample is taken.

STEP TWO: The green LED on the instrument display must be glowing.

STEP THREE: Depress the run button, enter the password, and insert the evidence ticket.

STEP FOUR: Follow the displayed request for information, and enter the information by the keyboard.

STEP FIVE: When "please blow" appears on the display, place a new mouthpiece in the breath tube. Instruct the subject to deliver a breath sample.

STEP SIX: When the printer stops, remove the instrument report from the printer, and check it for the numerical value for the subject's breath ethanol concentration and correct date and time.

(b) If any of the following messages are printed on the instrument report, proceed as follows:

(1) If "subject sample interferent" is printed on the instrument report, perform an additional breath test beginning with STEP ONE and proceeding through STEP SIX. If "subject sample interferent" is printed on the instrument report of this additional breath test:

- (A) obtain an alternate chemical test for ethanol; or
- (B) perform a breath test on another breath test instrument.

(2) If "subject sample invalid" is printed on the instrument report, perform an additional breath test beginning with STEP ONE and proceeding through STEP SIX. If "subject sample invalid" is printed on the instrument report of this additional breath test:

- (A) obtain an alternate chemical test for ethanol; or
- (B) perform a breath test on another breath test instrument.

(3) If "radio interference" is printed on the instrument report, locate and remove the source of the radio interference and perform an additional breath test beginning with STEP TWO and proceeding through STEP SIX. If "radio interference" is printed on the instrument report of this additional breath test:

- (A) obtain an alternate chemical test for ethanol; or

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(B) perform a breath test on another breath test instrument.

(4) If "subject sample incomplete" is printed on the instrument report, perform an additional breath test beginning with STEP TWO and proceeding through STEP SIX. If "subject sample incomplete" is printed on the instrument report of this additional breath test:

(A) obtain an alternate chemical test for ethanol; or

(B) perform a breath test on another breath test instrument.

If the "subject sample incomplete" was caused by the lack of cooperation of the subject, the breath test operator should record that the test was refused.

(State Department of Toxicology; 260 IAC 2-4-1; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA)

260 IAC 2-4-2 Approved method for Intox EC/IR II breath analysis

Authority: IC 9-30-6-5

Affected: IC 9-30-6-5

Sec. 2. (a) The approved method that shall be followed in making an analysis of breath for ethanol using the Intox EC/IR II breath test instrument is as follows:

STEP ONE: The person to be tested must:

(A) have had nothing to eat or drink;

(B) not have put any foreign substance into his or her mouth or respiratory tract; and

(C) not smoke;

within fifteen (15) minutes before the time the first breath sample is taken or at any time from the taking of the first breath sample until after the taking of the final breath sample.

STEP TWO: Verify that the instrument is in ready mode, as indicated by the instrument display.

STEP THREE: Press "Enter" key to start subject test.

STEP FOUR: Insert identification card into the barcode reader, or press the "Enter" key and use the keyboard to enter the breath test operator information requested by the instrument display.

STEP FIVE: When requested by the instrument display, enter the beginning date and time of the fifteen (15) minute period described in STEP ONE.

STEP SIX: When requested by the instrument display, select "Y" or "N" to indicate whether the breath test operator is the officer with control of the subject during the fifteen (15) minute period described in STEP ONE.

STEP SEVEN: If "N" is selected in STEP SIX, when requested by the instrument display, enter the information of the officer with control of the subject during the fifteen (15) minute period described in STEP ONE.

STEP EIGHT: Enter incident information requested by the instrument display.

STEP NINE: Enter subject information by:

(A) inserting the subject's driver/operator license or identification card into the barcode reader; or

(B) pressing the "Enter" key and using the keyboard to enter the available subject information requested by the instrument display.

STEP TEN: When "Please blow" appears on the instrument display, place a new mouthpiece in the breath tube. Instruct the subject to deliver a breath sample. Remove mouthpiece when prompted by the instrument display and discard.

STEP ELEVEN: When "Please blow" appears again on the instrument display, place a new mouthpiece in the breath tube. Instruct the subject to deliver a breath sample. Remove mouthpiece when prompted by the instrument display and discard.

STEP TWELVE: Print the instrument report and remove it from the printer; check the instrument report for the numerical value of the subject's breath ethanol concentration and the correct date and time and sign the instrument report where indicated.

(b) If any of the following messages appear on the instrument display or report, proceed as follows:

(1) If "Please blow" appears on the instrument display after completion of STEPS ONE through ELEVEN, perform an additional breath test, beginning with STEP ELEVEN. If "No 0.020 Agreement" is printed on the instrument report after this additional breath test:

(A) perform an additional breath test, beginning with STEP TWO and proceeding through STEP TWELVE;

BREATH TEST OPERATORS AND INSTRUMENTS

- (B) obtain an alternate chemical test for ethanol; or
 - (C) perform a breath test on another breath test instrument.
- (2) If "Interfering Substance" is printed on the instrument report, perform an additional breath test, beginning with STEP ONE and proceeding through STEP TWELVE. If "Interfering Substance" is printed on the instrument report after this additional breath test:
- (A) obtain an alternate chemical test for ethanol;
 - (B) perform a breath test on another breath test instrument; or
 - (C) if a numerical value for the subject's breath ethanol concentration is printed on any instrument report, check the instrument report for the correct date and time and sign the instrument report where indicated.
- (3) If "RFI Detected" is printed on the instrument report, locate and remove the source of the interference and perform an additional breath test, beginning with STEP TWO and proceeding through STEP TWELVE. If "RFI Detected" is printed on the instrument report after this additional breath test:
- (A) obtain an alternate chemical test for ethanol;
 - (B) perform a breath test on another breath test instrument; or
 - (C) if a numerical value for the subject's breath ethanol concentration is printed on any instrument report, check the instrument report for the correct date and time and sign the instrument report where indicated.
- (4) If "Mouth Alcohol" is printed on the instrument report, perform an additional breath test, beginning with STEP ONE and proceeding through STEP TWELVE. If "Mouth Alcohol" is printed on the instrument report after this additional breath test:
- (A) obtain an alternate chemical test for ethanol;
 - (B) perform a breath test on another breath test instrument; or
 - (C) if a numerical value for the subject's breath ethanol concentration is printed on any instrument report, check the instrument report for the correct date and time and sign the instrument report where indicated.
- (5) If "Insufficient Sample" or "Time Out" is printed on the instrument report, perform an additional breath test, beginning with STEP TWO and proceeding through STEP TWELVE. If "Insufficient Sample" or "Time Out" is printed on the instrument report after this additional breath test:
- (A) obtain an alternate chemical test for ethanol;
 - (B) perform a breath test on another breath test instrument; or
 - (C) if a numerical value for the subject's breath ethanol concentration is printed on any instrument report, check the instrument report for the correct date and time and sign the instrument report where indicated.
- If an "Insufficient Sample" or "Time Out" message is caused by the lack of cooperation of the subject, the breath test operator should record that the test was refused and, if a numerical value for the subject's breath ethanol concentration is printed on any instrument report, check the instrument report for the correct date and time and sign the instrument report where indicated.

(State Department of Toxicology; 260 IAC 2-4-2; filed Jan 9, 2014, 9:29 a.m.: 20140205-IR-260130344FRA)

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STATE OF INDIANA)
) SS:
 COUNTY OF HENDRICKS)
 IN THE SUPERIOR COURT OF HENDRICKS COUNTY
 CAUSE NO. 32D02-2003-CM-000330
 STATE OF INDIANA,)
)
 Plaintiff,)
)
 -vs-)
)
 AMANDA WHITE,)
)
 Defendant.)

DEPOSITION OF DR. DANA BORS

The deposition upon oral examination of
 DR. DANA BORS, a witness produced and sworn before me,
 Megan M. Bowman, Notary Public in and for the County of
 Marion, State of Indiana, taken on behalf of the
 Defendant, at the Indiana State Department of
 Toxicology, 550 West 16th Street, Indianapolis,
 Marion County, Indiana, on Friday, August 28, 2020,
 scheduled to commence at 12:00 p.m., pursuant to the
 Indiana Rules of Trial Procedure with written notice as
 to time and place thereof.

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1 you. This is a video in this case. This is
 2 Ms. White, for the record, on video and there is an
 3 officer who is a certified breath test operator.
 4 And I want to play this and just go through -- this
 5 is the first attempt and just go through a couple
 6 of things that sort of happened here.
 7 (The video plays.)
 8 MR. SALLEE: We can go off record so that she
 9 can watch this. And, Andy -- before you do that --
 10 Andy, for the record, I'm showing her a video of
 11 Amanda's attempts to give a breath test at the
 12 Hendricks County Jail.
 13 MR. THOMAS: Okay. I cannot see or hear that
 14 video but just do the best you can. I cannot see
 15 the video. I cannot hear the video.
 16 MR. SALLEE: Okay.
 17 (A brief recess was taken.)
 18 BY MR. SALLEE:
 19 Q So what we saw on there were multiple attempts to
 20 take a test; is that correct?
 21 A Yes.
 22 Q Okay. In fact, I think I counted at least three,
 23 if not more. Is that fairly accurate to what you
 24 saw?
 25 A Yes.

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1 Q Okay. Now, my understanding from recent testimony
 2 that you've given as well as hearing from other
 3 officers on what is required is that after three --
 4 you get three test sequences per sample. And then
 5 if after three you don't get a result, you should
 6 either go back to step two or you should seek an
 7 alternative test; is that correct?
 8 A Can you repeat the question?
 9 Q Yeah. Sorry that was a compound question.
 10 Okay. I recently learned that is -- the
 11 training is telling officers that they have three
 12 test sequences in order to obtain each particular
 13 sample; is that right?
 14 A Yes.
 15 Q Okay. So they can have three attempts to get a
 16 sample for sample one, three attempts to get a
 17 sample for sample two; correct?
 18 A Yes.
 19 Q Okay. Here we see at least three attempts without
 20 garnering or getting a sample; is that right?
 21 A No.
 22 Q Okay. What do we see?
 23 A We're seeing where the officer the first two -- I'm
 24 assuming which are calling "attempts" here. The
 25 first two times that the individual attempted to

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1 deliver a sample into the instrument, the
 2 mouthpiece was placed in the breath tube
 3 improperly, which was not allowing any of that
 4 breath in order to actually make it into the
 5 instrument. And so that would not count for an
 6 attempt.
 7 Q Okay. If -- is there a regulation that if the
 8 officer -- I don't know why it's doing that now.
 9 If the officer messes that particular sequence
 10 up, is he supposed to abort the test and start over
 11 or what is the training, if any, in particular that
 12 relates to that?
 13 A The officers are never taught to abort a test in
 14 any scenario.
 15 Q Okay.
 16 A So what he did -- what the officer did in this
 17 particular scenario or just reattempting to put a
 18 mouthpiece in the breath tube appropriately is what
 19 would have been the proper procedure.
 20 Q Okay. What about the fact that he has her attempt
 21 on multiple occasions to take a sample when she's
 22 on, off, on, off? Does that have any impact on
 23 your experience with or counting that as an
 24 attempted test?
 25 A For the first sample, she had an insufficient

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1 sample on her first attempt. Then she had an
 2 adequate or a valid sample on her second. Then
 3 there was the two-minute waiting period in between.
 4 Then for her second sample, she had an insufficient
 5 sample on the first attempt and then an adequate
 6 one once again on the second. So overall there
 7 would have been four attempts --
 8 Q Four attempts.
 9 A -- in this particular case.
 10 Q So everything that happened at the start of the
 11 first sample, you are only counting as one attempt,
 12 you know, concluding that all of those are sort of
 13 added together to accumulate one attempt; is that
 14 correct?
 15 A Yes. Because the mouthpiece itself has a one-way
 16 valve in it. So if it is placed improperly, it's
 17 going to allow that breath in order to travel
 18 through the mouthpiece and enter the instrument.
 19 If it is placed in upsidedown, which is what
 20 occurred the first two times here, then the air
 21 flow will be blocked by that one-way valve and it
 22 won't even make it into the instrument, which is
 23 why you don't hear any tone or anything on the
 24 instrument those first breath samples that she is
 25 attempting to give. Excuse me.

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1 Q Okay. Let me ask you an alternative question. If
 2 someone like her was to go to the mouthpiece and
 3 it's on properly, get on the mouthpiece, give a
 4 breath or, you know, exude some sort of airflow
 5 into the instrument or into the tube and then come
 6 off and then take a deep breath and then blow again
 7 and then you get the tone, would that have an
 8 impact on the test result?
 9 A An impact in -- what do you mean?
 10 Q Well, would there be the -- would there be the
 11 opportunity to capture any air within the
 12 mouthpiece or the tube that would not start the
 13 tone because no air went into the actual sample
 14 chamber?
 15 A If the mouthpiece is put on properly, that one-way
 16 valve is going to be facing the correct direction.
 17 So as soon as the individual starts introducing air
 18 or a breath sample into that, then you're going to
 19 start having that tone because the instrument will
 20 be measuring that flow coming from the breath
 21 sample.
 22 Q That's of course if the tone's working properly;
 23 right?
 24 A Yes.
 25 Q Have you ever participated in studies or attempted

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1 to do something like that where you blow a slight
 2 blow then come off the mouthpiece and then go back
 3 onto the mouthpiece to give a sample and you get a
 4 full tone with the second attempt but you don't
 5 with the first one?
 6 A I have never encountered that particular scenario,
 7 no.
 8 Q Okay. Is -- when the tone starts, is that when the
 9 breath goes through the mouthpiece into the tube or
 10 from the tube into the actual instrument?
 11 A I am not sure on that.
 12 Q Okay. So you don't know whether or not if someone
 13 was to start, the tone doesn't pick it up but there
 14 is air -- ambient air or some sort of air trapped
 15 inside the mouthpiece itself if someone comes off
 16 the mouthpiece between their two -- their two
 17 attempts. You don't know whether that is possible
 18 or not without registering or storing it in the
 19 tube or the mouthpiece?
 20 A The tone is also tied with the chart that is shown
 21 there on the instrument display as it is measuring
 22 the flow and the volume of that breath sample. And
 23 in this particular case, the "please blow" prompt
 24 was constantly flashing on the instrument display.
 25 So by that is an indicator that the instrument was

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1 not registering any sort of flow.
 2 Q If you get an individual who -- so in her
 3 situation, she blew a couple of times between test
 4 one and test two where they were not sufficient
 5 samples.
 6 How does that display for the officer's
 7 purposes?
 8 A It will flash "insufficient sample" on the
 9 instrument display.
 10 Q Okay. When is it technically supposed to flash
 11 insufficient -- or strike that.
 12 When will a report of insufficient sample be
 13 generated?
 14 A If the individual delivers an insufficient sample
 15 all three attempts for either the first subject
 16 sample or the second subject sample, then that
 17 would be printed on the report of an insufficient
 18 sample overall. So it would be three insufficients
 19 in a row for either sample attempt number one or
 20 sample number two.
 21 Q Right. And have you participated in any hands-on
 22 training in an attempt to actually get an
 23 instrument to produce that particular result?
 24 A I have, yes.
 25 Q Okay. And where was that training conducted?

Page 13

1 A I attended the week-long training from the
 2 instrument manufacturer and tox meters. Their
 3 headquarters is located in St. Louis, Missouri.
 4 And I attended their week-long course that covered
 5 the theory, operation, service, and maintenance of
 6 the Intox EC/IR II.
 7 Q When did you do that?
 8 A That was in 2017.
 9 Q And is that how long you've been employed by the
 10 Department of Toxicology?
 11 A I started here in 2016.
 12 Q Now, as a follow up to that, since that training,
 13 have you conducted any independent analysis of the
 14 EC/IR instruments that are used in Indiana on
 15 attempting to produce insufficient results to see
 16 whether the instrument as a whole are able to
 17 register consistently those reports that are
 18 insufficient?
 19 A I have conducted that on my own, yes.
 20 Q Okay. And did you produce data as a result of
 21 that?
 22 A No.
 23 Q What in the form of what kind of testing or
 24 attempts did you perform those types of, I guess,
 25 tests?

<p style="text-align: right;">Page 14</p> <p>1 A Just in the laboratory here.</p> <p>2 Q Okay. And are those on instruments that are now in</p> <p>3 use in Indiana or are those just ones used</p> <p>4 internally by the lab?</p> <p>5 A They are used throughout the field in Indiana.</p> <p>6 Q You did not record any data or publish any results</p> <p>7 as it related to those particular findings; is that</p> <p>8 correct?</p> <p>9 A No. It was not an official study of any sort.</p> <p>10 Q Okay. Do you have any statistics in terms of how</p> <p>11 many of those you performed on the instruments and</p> <p>12 in what particular cases the instruments did or did</p> <p>13 not produce the insufficient result?</p> <p>14 A I did not do any statistical analysis.</p> <p>15 Q Okay. Would you agree that in some circumstances</p> <p>16 those tests that you conducted did not produce</p> <p>17 insufficient results?</p> <p>18 A When I was attempting to generate an insufficient?</p> <p>19 Q Yes.</p> <p>20 A It did show an insufficient each time.</p> <p>21 Q Do you know how many times?</p> <p>22 A I don't recall how many times that I did this.</p> <p>23 Q You don't know how many instruments you used</p> <p>24 either; is that correct?</p> <p>25 A I don't recall, no.</p>	<p style="text-align: right;">Page 16</p> <p>1 A Can you repeat the question, please?</p> <p>2 Q Does this instrument have the ability to determine</p> <p>3 and factor mouth alcohol or when it detects mouth</p> <p>4 alcohol?</p> <p>5 A Yes, it does.</p> <p>6 Q And up to what percentage is it able to do that?</p> <p>7 Is there a buffer between what -- the number of</p> <p>8 when it can detect that?</p> <p>9 A The level of alcohol has to be at least a .05 in</p> <p>10 order for those mouth alcohol algorithms to kick</p> <p>11 on.</p> <p>12 Q So the instrument will not produce a mouth alcohol</p> <p>13 detection invalid or whatever the error code might</p> <p>14 be unless it detects up to .05 of mouth alcohol; is</p> <p>15 that correct?</p> <p>16 A Unless the alcohol level is above an 05. It will</p> <p>17 not give you a status message of mouth alcohol if</p> <p>18 that is present.</p> <p>19 Q And that's of the mouth alcohol, not of the</p> <p>20 person's actual -- actual breath alcohol content;</p> <p>21 correct?</p> <p>22 A Yes.</p> <p>23 Q Those are independent of one another?</p> <p>24 A Yes.</p> <p>25 Q All right. And that number comes from the</p>
<p style="text-align: right;">Page 15</p> <p>1 Q Was a similar testing process done at their</p> <p>2 headquarters in St. Louis?</p> <p>3 A In --</p> <p>4 Q An attempt to get a certain result?</p> <p>5 A Yes.</p> <p>6 Q Okay. And in this case an insufficient result.</p> <p>7 Was that a test or a -- I shouldn't say study, but</p> <p>8 was that a part of the seminar that they actually</p> <p>9 did?</p> <p>10 A Yes.</p> <p>11 Q Okay. Was there a time during that period that the</p> <p>12 instrument did not register an insufficient result</p> <p>13 report when it was directed to do so?</p> <p>14 A Not that I recall, no.</p> <p>15 Q Okay. Do you recall reading any literature or</p> <p>16 statistics on that particular subject through the</p> <p>17 manufacturer?</p> <p>18 A I do not recall.</p> <p>19 Q Have they produced any data that shows that three</p> <p>20 samples has produced 100 percent insufficient when</p> <p>21 three samples are attempted?</p> <p>22 A I don't if there is any such literature.</p> <p>23 Q Okay. What about mouth alcohol? Is this</p> <p>24 instrument capable of producing results that do not</p> <p>25 register mouth alcohol?</p>	<p style="text-align: right;">Page 17</p> <p>1 manufacturer; is that correct?</p> <p>2 A Yes.</p> <p>3 Q Have you done any independent analysis on mouth</p> <p>4 alcohol and the ability of the instrument to detect</p> <p>5 it?</p> <p>6 A Once again, when I was at the manufacturer's</p> <p>7 training, the mouth alcohol was included in that.</p> <p>8 Q Okay. And, again, do you recall the number of</p> <p>9 times you witnessed that and how many times it</p> <p>10 produced results or not?</p> <p>11 A I don't recall.</p> <p>12 Q Okay. How about here at your current job? Have</p> <p>13 you done any independent studying or testing of</p> <p>14 instruments to determine mouth alcohol?</p> <p>15 A I have not.</p> <p>16 Q So that's one thing you've relied on your training</p> <p>17 and experience and the manufacturer's indication of</p> <p>18 what that number is in order to derive at that</p> <p>19 opinion on .05; is that correct?</p> <p>20 A Yes.</p> <p>21 Q Do you know -- it seems like the regs should abort</p> <p>22 -- or not produce a result that is -- or it should</p> <p>23 indicate a non- -- and this is a little bit</p> <p>24 independent of this case but a question I have.</p> <p>25 The .02 variance between tests, what should the</p>

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1 instrument be expected to do if it gets a point --
 2 a greater than .02 variance?
 3 A Between the two subject samples --
 4 Q That's correct.
 5 A -- if it's -- if the difference between them is
 6 greater than .02 --
 7 Q Yes.
 8 A -- what is the instrument going to do? Is that the
 9 question?
 10 Q Yes.
 11 A The instrument will have it printed on the
 12 instrument ticket "no 02 agreement." I'm sorry.
 13 That's not true.
 14 If the instrument detects no 02 agreement
 15 between the first two subject samples, the
 16 instrument will prompt for a third subject sample
 17 in order to obtain an 02 agreement between two of
 18 the three subject samples. If there is no 02
 19 agreement between any of the three samples, then
 20 the instrument will print out on the breath test
 21 ticket "no 02 agreement."
 22 Q Okay. And is that in accordance with the
 23 regulations?
 24 A With the approved method for administering a breath
 25 test, yes.

Page 19

1 Q Okay. But it will -- so if there is a "no 02
 2 agreement" between test one and two, it will still
 3 produce a result on the ticket on the middle
 4 sample?
 5 A It will show numerical results for the first and
 6 second subject samples, but it will prompt for a
 7 third as well. So all three of them will be shown
 8 on the breath test ticket.
 9 Q And is that how the officers are trained then?
 10 A Yes.
 11 Q Okay. Is there a reason why the methodology,
 12 specifically 260 IAC and the approved method, does
 13 not address the three attempt, two insufficient
 14 sample printout? Is there a reason it's not
 15 addressed in there but it's addressed in the
 16 training?
 17 MR. THOMAS: I'm going to object to that
 18 question. It sounds to me like that's a question
 19 about manufacturing of the instrument and I'm not
 20 sure she's trained to explain why the instrument
 21 works a certain way. I'm objecting to that
 22 question.
 23 MR. SALLEE: Okay. You can answer the question
 24 and we'll certify it if you'd like.
 25 A Actually I don't know the answer to that question.

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1 Q You are an individual who's responsible for
 2 drafting changes to 260; is that correct?
 3 A Not me personally, no.
 4 Q Somebody at the department -- somebody --
 5 A Yes.
 6 Q -- at the state department of toxicology?
 7 A Yes.
 8 Q Okay. And so the manufacturer has -- is it your
 9 training and experience that the manufacturer has
 10 set it up for the three attempts and then the
 11 insufficient, or is that an internal department of
 12 toxicology philosophy?
 13 MR. THOMAS: I'm going to object again for the
 14 same reason. She is not involved in the
 15 manufacturing of this instrument and she's already
 16 asked -- been asked and answered that she's not
 17 familiar with what's the question you're asking.
 18 MR. SALLEE: Well, this was phrased differently
 19 and I've asked a two-part question. For the record
 20 it's either A --
 21 MR. THOMAS: And it's a multiple question. Can
 22 you please restate each question you're asking?
 23 MR. SALLEE: Sure.
 24 BY MR. SALLEE:
 25 Q Is it your training and experience that the

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1 three-attempt-per-sample policy came from the
 2 manufacturer or from the department of toxicology?
 3 A I do not know.
 4 MR. THOMAS: If you know.
 5 A I do not know.
 6 Q Okay.
 7 A I know that it would be from the manufacturer in
 8 some point because it is built into our firmware
 9 for the instrument of if they don't get an adequate
 10 first sample then it will prompt them for a second
 11 one. But I don't know if that is something that
 12 comes from the manufacturer or if that's something
 13 that our department states that we want to have.
 14 Q That is -- that is located though somewhere in your
 15 breath test operator's manuals in the training that
 16 they get; correct?
 17 A We do teach them that, yes.
 18 Q Okay. So somewhere that has got -- that gets to
 19 the officers in terms of how to approach each
 20 particular two samples? They get three tests per
 21 sample; correct?
 22 A Yes.
 23 Q Okay. Or attempts I should say.
 24 A Yes.
 25 Q Okay. But you have not personally worked with

Page 22

1 anybody at the department of toxicology on an
 2 effort to have that language or similar language of
 3 three attempts per test worked into the
 4 administrative code; is that correct?
 5 A I have not.
 6 Q Okay. Have you had any discussions with anybody at
 7 the department of toxicology about doing that?
 8 A Essentially what the instrument is prompting for is
 9 in the approved method of when "please blow"
 10 appears on the instrument display, you follow these
 11 steps. So essentially every time the individual is
 12 -- if you get an insufficient sample and there is a
 13 second attempt that is prompted for by the
 14 instrument, they're still following the approved
 15 method because "please blow" is still appearing on
 16 the instrument display and how to handle that is
 17 written in the approved method.
 18 Q Sure. But therein lies that maybe the problem with
 19 the way that it's written is that it states, "If
 20 any of the following messages appear on the display
 21 or report, proceed as follows." So while section
 22 one talks about "please blow" appearing on the
 23 instrument display, section five talks about
 24 timeout or insufficient being printed on the
 25 report; correct? So it differentiates between

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1 printing on the report and printing on the display?
 2 A Right.
 3 Q But in the first part it says, "If any of these are
 4 to appear on the instrument display or report";
 5 correct?
 6 A Right.
 7 Q Which means insufficient sample can be and is
 8 delineated as a code on the instrument display?
 9 A Right. What I was meaning was when I believe it's
 10 step -- if I can see that real quick here. It is
 11 -- when it's talking about step 10 and step 11,
 12 when "please blow" appears, that is accounting for
 13 the two subject samples that are needed in order to
 14 have a completed test.
 15 So in order to get a valid breath sample for
 16 the first attempt -- or I'm sorry -- for the first
 17 subject sample, which would be essentially step 10
 18 in the approved method, you would repeat that step
 19 essentially until you are able to get a valid
 20 sample for step 10. Then once you're able to get a
 21 valid sample, you would move on to then step 11,
 22 which would be the second subject sample.
 23 Q Is there ever a time when the instrument produces
 24 an insufficient sample report after one or two
 25 insufficient sample tests?

Page 24

1 A No. It would not be printed on the report unless
 2 there were three in a row.
 3 Q Okay. Is there a reason why it wouldn't print on
 4 the report other than that's the way the firmware
 5 is set up?
 6 A That is the reason why that's the way the firmware
 7 is set up.
 8 Q Okay. I just wanted to go back and just confirm
 9 for my note purposes that on a test where a person
 10 engages the mouthpiece, comes off the mouthpiece,
 11 and goes back on the mouthpiece, the tone -- you
 12 don't know for the record whether the tone is
 13 engaged at the time that it enters through the tube
 14 into the instrument or at the time it enters the
 15 mouthpiece into the tube; is that correct?
 16 A Correct.
 17 Q Okay. But your belief is that when a sample is
 18 being delivered into the instrument, the minute the
 19 instrument detects the sample being delivered is
 20 the point in time when the tone should start; is
 21 that correct?
 22 A Yes. The instrument would have to recognize that
 23 breath sample in order for it to start the tone and
 24 change the instrument display.
 25 Q Okay. Explain to me the concern or concept of

Page 25

1 ambient air and what concern that might have in
 2 impacting a test.
 3 A Ambient air is going to just be the air in the room
 4 surrounding the individuals and the instrument
 5 itself. And so you would want to make sure that
 6 that is free of any alcohol related items or
 7 alcohol containing items in order to prevent any
 8 sort of ambient condition issue with the instrument
 9 itself.
 10 Q Would that also be important for the person who's
 11 taking the subject, who's taking the breath, who
 12 might be breathing alcohol vapors into the air?
 13 A Yes, correct.
 14 Q So if you put the mouthpiece on, are they directed
 15 to -- when the "please blow" indicator comes up,
 16 tone comes up, or the flashing beep, they put the
 17 mouthpiece on and they're instructed to blow pretty
 18 quickly; is that correct?
 19 A They have three minutes in order to deliver a
 20 breath sample each time before the instrument will
 21 timeout.
 22 Q But in terms -- okay. But in terms of your
 23 training of the officers, are you training them to
 24 fairly immediately engage the subject in the tube
 25 and mouthpiece?

Page 26

1 A Yes.

2 Q You're not just telling them, "When 'please blow'
3 comes on, put the mouthpiece on and just set the
4 thing down and wait two minutes and then do it"?

5 A No. That is not our training.

6 Q All right. And what's the purpose of why you would
7 want someone to immediately engage the mouthpiece
8 after putting it on when the "please blow" comes
9 on?

10 A That is just the training that we do in order to
11 keep the process moving along when "please blow"
12 comes up. We have the officers place the
13 mouthpiece on, deliver the instructions, and then
14 have them -- have the individual give a breath
15 sample. And like I mentioned, there's three
16 minutes that the officer has to do this before the
17 instrument will timeout. And then that would be
18 printed on the breath test ticket.

19 Q Would that -- would that be the case because of the
20 potential ambient air contaminant that you would
21 want the officer trained to engage quicker instead
22 of just leaving the mouthpiece and the tube out
23 hanging in midair?

24 A It depends on how close the individual delivering
25 the breath sample is to the breath test instrument

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1 at that point in time. So we wouldn't want them
2 right near the instrument breathing out, which
3 could be introducing alcohol vapors into the air
4 near the instrument.

5 Q Which is one of the reasons why most of the
6 officers will have somebody sit back down while
7 they're waiting on the testing between samples?

8 MR. THOMAS: I'm going to object to why the
9 officers -- involvement the officers had. That's a
10 hypothetical question about something that doesn't
11 have anything to do with this case. I'm objecting
12 on relevance.

13 MR. SALLEE: Okay. Well, my response is that I
14 think she trains the officers on how to deliver --
15 how to conduct a test, so you can answer the
16 question if you know it, or do you want me to
17 rephrase it?

18 MR. THOMAS: And my response to that and she
19 can answer the question is, you asked her that
20 would be why the officers sit somewhere and I don't
21 think she has --

22 MR. SALLEE: Well, that's not what I said. I
23 said would that be why the officers would have
24 someone sit away from the instrument while it's
25 running its -- let me just rephrase the question,

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1 Andy. Then you can object again if you want.

2 BY MR. SALLEE:

3 Q Officers typically will remove a subject between
4 sample one and sample two or between tests.
5 They'll sit them down. They'll put them in a
6 different location. Are they trained to do that?

7 MR. THOMAS: She's -- you're asking if the
8 officers train to do that?

9 MR. SALLEE: No. Are the officers trained by
10 the breath test school to remove a subject after
11 they delivered a sample or before they delivered a
12 sample so that they're not right next to the
13 machine?

14 MR. THOMAS: Okay. Well, I think you can go
15 ahead and answer that. I think your original
16 question was that's why the officers do something
17 and so that's my objection. She can answer.

18 THE WITNESS: We teach them what the meaning of
19 "check ambient condition" status message is and
20 what that can be caused by. For instance, if the
21 individual delivering the breath sample is too
22 close to the instrument and is just breathing in
23 and out. But as far as teaching them where to
24 situate or where to have the individual delivering
25 the breath sample sit or stand during the breath

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1 test sequence, that is not something that we train
2 them on.

3 BY MR. SALLEE:

4 Q Okay. There is not a specific ambient air error
5 code that the officer might get pursuant to the
6 approved method; correct?

7 A Correct.

8 Q Okay. Is the instrument set up to deliver such an
9 error code at any time?

10 A Yes, it is.

11 Q Okay. Have you ever tested that particular aspect
12 of the EC/IR?

13 A I have not specifically tested it, but I have had a
14 scenario where it occurred in the laboratory
15 unknowingly or not as a part of a study. I had a
16 breath test going just as a training on my part and
17 in the meantime while I was waiting decided to
18 clean the area on the desk where the instrument was
19 located. And not realizing how close that the
20 alcohol wipes I was using were to the instrument
21 and that did generate a "check ambient condition."

22 Q Again, the instrument would have to make that
23 detection and deliver that code to notify the
24 officer; right?

25 A Yes.

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1 Q Okay.

2 MR. SALLEE: I don't have any further

3 questions, Andy.

4 MR. THOMAS: Thank you, Mr. Sallee.

5 CROSS-EXAMINATION

6 QUESTIONS BY ANDREW THOMAS:

7 Q Yes, Doctor. I'm Andrew Thomas, the deputy

8 prosecutor, and I wish I was there in a room but

9 this is kind of a way the legal process is going

10 now at least temporarily.

11 You are here at the request of attorney Todd

12 Sallee; right?

13 A Yes.

14 Q And you understand he represents Amanda White;

15 right?

16 A Yes.

17 Q Have you -- has anyone ever provided you a probable

18 cause for this case?

19 A Yes.

20 Q Any type of probable cause that would explain the

21 facts in this case?

22 A Yes. I have received that.

23 Q And was that derived by Mr. Sallee?

24 A No, it was not.

25 Q Okay. Is it fair to say that you're basing your

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1 opinions here today on many hypothetical questions?

2 A I'm not exactly sure what you're asking there.

3 Q You weren't there at the scene; correct?

4 A I was not.

5 Q And you were not there at the -- wherever it was --

6 the Sheriff's Office when the breathalyzer was

7 administered; correct?

8 A I was not there, no.

9 Q You were not there?

10 A No, I was not.

11 Q And so some of the questions that Mr. Sallee is

12 asking are based upon a hypothetical. Do you

13 understand now what I'm asking?

14 A I have reviewed the video in which he has based a

15 lot of his questions on so, yes/no.

16 Q I appreciate that but even a video might not show

17 the detail -- all the details; is that correct?

18 A Based on the documents that I have reviewed and the

19 video that I have reviewed according -- or that are

20 associated with this particular case, I'm able to

21 give my answers and my expert opinion based on what

22 I have received and what I have reviewed.

23 Q Okay. And have you reviewed the BAC tickets in

24 this case?

25 A Yes, I have.

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1 Q And so the result was -- if I remember right -- .18

2 on the BAC tickets; is that right?

3 A Yes, it was.

4 Q Do you have any reason to believe that that is not

5 accurate?

6 A Once again, based on all the documents that I have

7 reviewed including the breath test ticket in this

8 case, there is nothing that indicates to me that

9 the test was administered -- that it was not

10 administered following the approved method or that

11 there was anything out of the ordinary as far as

12 the breath test ticket is concerned.

13 Q Very nice. And most of the questions I heard today

14 are whether the instrument was accurate, whether

15 the procedure was accurate, or whether the breath

16 test operator followed the correct procedure.

17 Is it possible that the -- Amanda White didn't

18 follow the instructions of the breath test operator

19 in any way?

20 A In reviewing the video, it did not appear that she

21 was not following directions.

22 Q Is it possible that a person could not blow enough

23 air into the instrument to get a sufficient sample?

24 A It is possible but cases where that would be the

25 case would be extremely rare.

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1 Q Okay. Is there anything else that the -- that

2 Amanda White could have done that would have

3 frustrated the -- any of the results in this breath

4 test -- in these breath tests?

5 A I'm not exactly sure what you're asking there.

6 Q Well, I believe the procedure under the Indiana

7 Administrative Code is that there's, what, a

8 12-step process that the operator is supposed to go

9 through? How many steps are in that process?

10 A Yes, it is a 12-step process.

11 Q So let's say if Amanda White had not provided

12 sufficient identification or if she had had

13 something to eat or drink prior to the test or

14 tests whereas she didn't blow a sufficient sample

15 -- breath sample, could that also affect the

16 results of the test?

17 I'm sorry that was an awful question.

18 A Can you rephrase?

19 Q Yeah. Let me -- let me ask it -- simplify these

20 questions.

21 Is there anything that Amanda White could have

22 done involving sufficient breath results -- is

23 there anything she could have done that would have

24 affected those sufficient breath tests?

25 A According to what I have reviewed in the video, it

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1 doesn't appear that she was intentionally trying to
2 not deliver an adequate breath sample or that she
3 was not following the officer's instructions in any
4 way. So it did not appear that she was trying to
5 purposely not deliver an adequate sample.
6 Q Okay. So in your professional opinion from what
7 you've seen, you haven't seen all the evidence, but
8 from what you've seen, is the result of .18 an
9 accurate breath test result on this case?
10 A Yes.
11 Q For Amanda White?
12 A Yes.
13 MR. THOMAS: No further questions.
14 MR. SALLEE: Just a couple of quick follow-ups.
15 REDIRECT EXAMINATION
16 QUESTIONS BY TODD L. SALLEE:
17 Q You mentioned that not blowing enough air into the
18 instrument would be a rare occasion where you
19 wouldn't get a result. Can you explain that?
20 A Meaning that the individual is physically unable to
21 generate enough breath in order to obtain an
22 inadequate result.
23 Q But there are certainly scenarios where someone
24 wouldn't deliver enough breath into the instrument
25 to get a result?

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1 A Correct.
2 Q Not that they're incapable, that they just don't
3 blow long enough or hard enough or whatever?
4 A Correct, yes.
5 Q The last thing I have is going back on one small
6 issue that we talked about with the 02 variance.
7 If -- what are some types of examples that
8 would -- if this instrument is accurate producing
9 results inside of that 02 variance in a short
10 period of time, what would be an example of what
11 would cause something to go outside of that 02
12 variance?
13 A Sometimes at really elevated breath alcohol
14 concentrations there can be a little bit more
15 inherent variance in those breath samples. So
16 that's one of the reasons why we have two subject
17 samples because we want to be measuring something
18 more than once. We want to be measuring it twice.
19 It would be similar to if you were to take your
20 temperature and get a particular number and then
21 you were to take that -- your temperature again.
22 You may get a slightly different number. Just that
23 inherent variability in those two measurements.
24 So that is why we do the duplicate subject
25 tests and that's also why at more elevated breath

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1 alcohol concentrations you might have a little bit
2 more variance in those two values.
3 Q And when you say "more elevated," what kinds of
4 numbers are we talking about?
5 A It can depend. It's not -- it doesn't have to be a
6 set level. If you're above this, you might get an
7 02 agreement. It can be any breath alcohol
8 concentration where this can occur, but there is
9 just more inherent variability with the higher
10 alcohol concentrations.
11 Q Okay. Have you heard the term "random error rate"
12 or "error rate" of this instrument used?
13 A I have not.
14 Q Is there an error rate associated with this
15 particular instrument? A variability rate?
16 A Not that I'm aware of, no.
17 Q Has any statistical studies to your knowledge been
18 done to ascertain what a potential error rate of
19 this instrument might be?
20 A Of an error rate? No.
21 Q What about a confidence interval?
22 A I'm not sure exactly on that. We do calculate
23 measurement uncertainty, if that is what you're
24 referring to.
25 MR. THOMAS: Mr. Sallee, did you say

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1 "conferencing"?
2 MR. SALLEE: Confidence interval.
3 MR. THOMAS: Okay. Could you spell that? Are
4 you saying confidence?
5 MR. SALLEE: Confidence, yes. Sorry. I have
6 my mask on.
7 MR. THOMAS: Well, can you please spell that?
8 Are you saying competence or confidence?
9 MR. SALLEE: Confidence, like I'm a confident
10 person. C-O-N-F-I-D-E-N-C-E.
11 MR. THOMAS: Okay. Confidence. Okay. And
12 I've had dental work lately and so it's hard for me
13 to talk so I apologize for that.
14 MR. SALLEE: I'm almost done.
15 BY MR. SALLEE:
16 Q The measurement uncertainty. What -- when you're
17 evaluating that or studying that, what are you
18 looking for?
19 A We -- how we calculate that is if we look at the --
20 every time we do an inspection on an instrument,
21 our inspectors will run ten measurements of three
22 different concentrations. And we will look at the
23 -- we'll calculate the measurement uncertainty
24 based on those ten replicates at each of those
25 three concentrations. And then we will report that

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1 on the certification -- or the certificate for that
 2 particular inspection on a particular instrument on
 3 a particular date.
 4 Q And so that is data that you actually keep
 5 internally; is that correct?
 6 A Yes.
 7 Q And discoverable to the State or defense in any
 8 particular case?
 9 A Yes.
 10 Q Okay. And that's done, what, every 180 days?
 11 A It's required to be every 180 days. Our inspectors
 12 do it well within that requirement.
 13 Q Usually 90 to 120?
 14 A Roughly.
 15 Q Okay. Which inspector? Is Tom Peer still here?
 16 A Yes, he is.
 17 Q Is he the person responsible for inspecting the
 18 instruments that are located at the sheriff's
 19 department in Hendricks County?
 20 A Yes.
 21 Q Do you have those results for this particular
 22 instrument in this case with you today, or is that
 23 something that you would need to produce upon being
 24 requested?
 25 A I would need to produce that.

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1 MR. SALLEE: All right. I don't have anything
 2 further.
 3 MR. THOMAS: Just a few questions.
 4 RECROSS-EXAMINATION.
 5 QUESTIONS BY ANDREW THOMAS:
 6 Q Mr. Sallee was asking you about a variance,
 7 V-A-R-I-A-N-C-E. Was there a variance in the
 8 accuracy of these BAC tests in this case? Do you
 9 understand my question?
 10 A Can you rephrase?
 11 Q Yes. Let me ask it again.
 12 On the Amanda White case, there were how many
 13 BAC tests that were done?
 14 A There were two numerical results listed on one
 15 breath test ticket with one final result.
 16 Q Okay. And so is there a variance between those BAC
 17 test results?
 18 A Between the two different numbers on the ticket?
 19 Is that what you're asking?
 20 Q Yes.
 21 A I believe that they were not the exact same number,
 22 no.
 23 Q Okay. And so do you know what the variance is
 24 between those two numbers?
 25 A I don't have the breath test ticket in front of me,

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1 so I'm not exactly sure what the two numbers
 2 themselves were. But I do know that they were
 3 within .02 of one another.
 4 Q And so explain -- in your training and experience,
 5 is -- are those results still accurate even though
 6 there's a variance between the two different BAC
 7 results?
 8 A Yes, they are.
 9 Q Why?
 10 A The same explanation that I gave regarding the
 11 scenario for someone taking their temperature
 12 multiple times. It's just the inherent analytical
 13 variability on a particular measurement.
 14 Q And so -- so does the -- is the instrument -- in
 15 your training and experience, does that take that
 16 into account that there is a variance between the
 17 two BAC test results?
 18 A The instrument takes it into account by the 02
 19 agreement. The instrument is looking for an 02
 20 agreement between those two numerical results. If
 21 there's not, it'll prompt for a third sample in
 22 order to try to obtain it. So that would be how
 23 the instrument would take that into account.
 24 Q So in this case of Amanda White, you could testify
 25 that the .180 result is accurate?

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1 A Yes.
 2 MR. THOMAS: No further questions.
 3 MR. SALLEE: I don't have anything further. Do
 4 you want to sign?
 5 THE WITNESS: Sure.
 6 MR. SALLEE: Okay.
 7 (Time noted: 12:51 p.m.)
 8 AND FURTHER THE DEPONENT SAITH NOT.
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DR. DANA BORS

1 DEPOSITION REVIEW
2 CERTIFICATION OF WITNESS

3 ASSIGNMENT REFERENCE NO: 4224240
4 CASE NAME: State Of Indiana v. White, Amanda
5 DATE OF DEPOSITION: 8/28/2020

6 WITNESS' NAME: Dr. Dana Bors
7 In accordance with the Rules of Civil
8 Procedure, I have read the entire transcript of
9 my testimony or it has been read to me.

10 I have listed my changes on the attached
11 Errata Sheet, listing page and line numbers as
12 well as the reason(s) for the change(s).

13 I request that these changes be entered
14 as part of the record of my testimony.

15 I have executed the Errata Sheet, as well
16 as this Certificate, and request and authorize
17 that both be appended to the transcript of my
18 testimony and be incorporated therein.

19 _____
20 Date Dr. Dana Bors

21 Sworn to and subscribed before me, a
22 Notary Public in and for the State and County,
23 the referenced witness did personally appear
24 and acknowledge that:

25 They have read the transcript;
They have listed all of their corrections
in the appended Errata Sheet;
They signed the foregoing Sworn
Statement; and
Their execution of this Statement is of
their free act and deed.

26 I have affixed my name and official seal
27 this _____ day of _____, 20____.

28 _____
29 Notary Public

30 _____
31 Commission Expiration Date

1 ERRATA SHEET
2 VERITEXT LEGAL SOLUTIONS MIDWEST

3 ASSIGNMENT NO: 4224240
4 PAGE/LINE(S) / CHANGE /REASON

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20 _____
21 Date Dr. Dana Bors

22 SUBSCRIBED AND SWORN TO BEFORE ME THIS _____
23 DAY OF _____, 20____.

24 _____
25 Notary Public

26 _____
27 Commission Expiration Date

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Indiana Rules of Trial Procedure
Depositions Upon Oral Examination

Rule 30

(e) Submission to witness--Changes--Signing.

(1) When the testimony is fully transcribed, the deposition shall be submitted to the witness for reading and signing and shall be read to or by him, unless such reading and signing have been waived by the witness and by each party. "Submitted to the witness" as used in this subsection shall mean (a) mailing of written notification by registered or certified mail to the witness and each attorney attending the deposition that the deposition can be read and examined in the office of the officer before whom the deposition was taken, or (b), mailing the original deposition, by registered or certified mail, to the witness at an address designated by the witness or his attorney, if requested to do so by the witness, his attorney, or the party taking the deposition.

(2) If the witness desires to change any answer in the deposition submitted to him, each change, with a statement of the reason therefor, shall be made

by the witness on a separate form provided by the officer, shall be signed by the witness and affixed to the original deposition by the officer. A copy of such changes shall be furnished by the officer to each party.

(3) If the reading and signing have not been waived by the witness and by each party the deposition shall be signed by the witness and returned by him to the officer within thirty (30) days after it is submitted to the witness. If the deposition has been returned to the officer and has not been signed by the witness, the officer shall execute a certificate of that fact, attach it to the original deposition and deliver it to the party taking it. In such event, the deposition may be used by any party with the same force and effect as though it had been signed by the witness.

(4) In the event the deposition is not returned to the officer within thirty (30) days after it has been submitted to the witness, the reporter shall execute a certificate of that fact and cause the certificate to be delivered to the party taking it. In such event, any party may use a copy of the

deposition with the same force and effect as though
the original had been signed by the witness.

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ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.
THE ABOVE RULES ARE CURRENT AS OF APRIL 1,
2019. PLEASE REFER TO THE APPLICABLE STATE RULES
OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

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Section Six

Sentencing Alternatives & Treatment Courts / Mental Health Courts / Veterans Courts & Forensic Diversion / Drug Courts

Panel

Mark A. Foster, Moderator

Foster, O'Daniel, Hambidge & Lynch LLP
Evansville, Indiana

Honorable David D. Kiely

Vanderburgh County Circuit Court
Evansville, Indiana

Magistrate Jill R. Marcrum

Vanderburgh Superior Court
Evansville, Indiana

William Wells

Executive Director
Vanderburgh County Drug and Alcohol Deferral Service
Evansville, Indiana

Section Six

Sentencing Alternatives & Treatment

Courts / Mental Health Courts / Veterans

Courts & Forensic Diversion / Drug Courts...

Mark A. Foster, Moderator

Honorable David D. Kiely

Magistrate Jill R. Marcum

William Wells

Vanderburgh County Mental Health Court Policy and Procedures Manual

Participation Agreement and Conditions

Vanderburgh County Mental Health Court



Policy and Procedures Manual

October 25, 2017

Vanderburgh County Mental Health Court

Annual Review

This manual is to be updated annually by the coordinator. The date of the update shall be included on each page. The coordinator shall annually review this Policy and Procedures Manual. They shall document that the manual has been reviewed by signing and dating below:

Printed Name

Signature

Date

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

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11. _____

12. _____

Vanderburgh County Mental Health Court

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Section 1. Court Management

1.1 Introduction

- (a) The Vanderburgh County Mental Health Court (VCMHC) was established in the Vanderburgh Superior Court to more effectively address the increasing number of mentally ill defendants cycling through the courts and jail. VCMHC is a collaboration of the Mental Health Court Judges, Office of the Public Defender (PD), Office of the Prosecuting Attorney (PA), Adult Probation, and the VCMHC treatment team.
- (b) Only individuals charged with or convicted of crimes will be considered for the VCMHC.
- (c) In accordance with Indiana Office of Court Services guidelines, the VCMHC this manual shall be maintained and observed as a policy and procedure manual that contains written policies and procedures for conducting day-to-day VCMHC activities.
- (d) Authority for the VCMHC is derived from I.C. 33-23-16. It is operated in accordance with these statutes and the Judicial Conference of Indiana Rules for Problem Solving Courts. This Court provides services to offenders who are eligible under I.C. 33-23-16 and the criteria established by the team. The Court will submit to certification procedures and requirements established by the Judicial Conference of Indiana and the Indiana Office of Court Services.

1.2 Mental Health Court Goals and Objectives

- (a) The primary goals of the VCMHC are to:
 - (1) Increase public safety for the community by reducing the number of future criminal justice contacts and actual charges among participants;
 - (2) Increase treatment engagement by participants;
 - (3) Promote effective use of resources for Vanderburgh County resulting in overall governmental savings.
- (b) The measurable objectives of the VCMHC are to:
 - (1) Increase the number of offenders that access mental health treatment within the community;
 - (2) Reduce the high recidivism rates for people with mental illnesses who become involved in the criminal justice system by addressing certain participants who are at moderate to high risk to reoffend and who also have moderate to high need;
 - (3) Ensure that program participants are connected to needed community-based treatments, and other services that encourage treatment;
- (c) Specific goals of the VCMHC

- (1) Enroll up to 25 eligible offenders during the first year after certification;
- (2) Move cases from referral date to formal enrollment within forty-five (45) days;
- (3) Achieve a 60% retention rate after one year;
- (4) Achieve a 50% graduation rate

1.3 The Principles of the Mental Health Court

- (a) The common Mental Health Court principles as published by the Center for Court Innovation are:
- (1) **Enhanced Information:** Better staff training combined with better information can help improve the decision making of judges, attorneys, and other justice officials.
 - (2) **Community Engagement:** Citizens and neighborhood groups have an important role to play in helping the justice system identify, prioritize, and solve local problems. Actively engaging citizens helps improve public trust in justice. Greater trust, in turn, helps people feel safer, fosters law-abiding behavior, and makes member of the public more willing to cooperate in the pursuit of justice.
 - (3) **Collaboration:** Justice System leaders are uniquely positioned to engage a diverse range of people, government agencies, and community organizations in collaboration efforts to improve public safety. By bringing together those involved in the criminal justice system and potential stakeholders beyond the criminal justice system, the VCMHC can improve inter-agency communication, encourage greater trust between citizens and government, and foster new responses—including new diversion and sentencing options, when appropriate—to problems.
 - (4) **Individualized Justice:** Using valid evidence-based risk and needs assessment instruments, the justice system can link participants to individually tailored community based services. In doing so, the VCMHC can help reduce recidivism, improve community safety, and enhance confidence in the justice system. Links to services to services can also aid victims, improving their safety and helping restore their lives.
 - (5) **Accountability:** The justice system can send the message that all criminal behavior, even low-level quality-of-life crime, has an impact on community safety. By insisting on regular and rigorous compliance monitoring, and clear consequences for non-compliance, the justice system can improve the accountability of service providers by requiring regular reports on their work with participants.
 - (6) **Outcomes:** The active and ongoing collection and analysis of data, measuring outcomes and process, costs and benefits, are crucial tools for evaluating the

effectiveness of operations and encouraging continuous improvement. Public dissemination of this information can be a valuable symbol of public accountability.

- 1.4 The ten key components of Mental Health Court as published by the Bureau of Justice Assistance & the Council of State Governments.
- (a) **Planning and Administration:** A broad-based group of stakeholders representing the criminal justice, mental health, substance abuse treatment, and related systems and the community guides the planning and administration of the court.
 - (b) **Target Population:** Eligibility criteria address public safety and consider a community's treatment capacity, in addition to the availability of alternatives to pretrial detention for defendants with mental illnesses. Eligibility criteria also take into account the relationship between mental illness and a defendant's offenses, while allowing the individual circumstances of each case to be considered.
 - (c) **Timely participant identification and linkage to services:** Participants are identified, referred, and accepted into mental health courts, and then linked to community-based service providers as quickly as possible.
 - (d) **Terms of participation:** Terms of participation are clear, promote public safety, facilitate the defendant's engagement in treatment, are individualized to correspond to the level of risk that the defendant presents to the community, and provide for positive legal outcomes for those individuals who successfully complete the program.
 - (e) **Informed choice:** Defendants fully understand the program requirements before agreeing to participate in a mental health court. They are provided legal counsel to inform this decision and subsequent decisions about program involvement. Procedures exist in the mental health court to address, in a timely fashion, concerns about a defendant's competency whenever they arise.
 - (f) **Treatment supports and services:** Mental health courts connect participants to comprehensive and individualized treatment supports and services in the community. They strive to use—and increase the availability of— treatment and services that are evidence-based.
 - (g) **Confidentiality:** Health and legal information should be shared in a way that protects potential participants' confidentiality rights as mental health consumers and their constitutional rights as defendants. Information gathered as part of the participants' court-ordered treatment program or services should be safeguarded in the event that participants are returned to traditional court processing.
 - (h) **Court team:** A team of criminal justice staff, mental health staff, and service and treatment providers receive special, ongoing training which helps mental health court participants achieve treatment and criminal justice goals by regularly

reviewing and revising the court process.

- (i) **Monitoring adherence to court requirements:** Criminal justice and mental health staff collaboratively monitor participants' adherence to court conditions, offer individualized graduated incentives and sanctions, and modify treatment as necessary to promote public safety and participants' recovery.
- (j) **Sustainability:** Data are collected and analyzed to demonstrate the impact of the mental health court, its performance is assessed periodically (and procedures are modified accordingly), court processes are institutionalized, and support for the court in the community is cultivated and expanded.

1.4 The eight (8) principles of effective interventions as published by the National Institute of Corrections are:

- (a) Assess actuarial risk/needs
- (b) Enhance intrinsic motivation
- (c) Target interventions
- (d) Skill train with directed practice
- (e) Increase positive reinforcement
- (f) Engage ongoing support in natural communities
- (g) Measure relevant processes/practices
- (h) Provide measurement feedback

Section 2. Court Services

2.1 **Provided Services:** The mental health court provides the following services and supervision to the participants in compliance with the principles of effective interventions and evidence-based practices.

- (a) Provide access to services by linking participants to appropriate community services to assist participant in recovery including but not limited to:
 - (1) **Housing:** working with Aurora and other homeless outreach groups we connect those participants in need of housing with those agencies who are able to provide the services
 - (2) **Mental Health services:** those participants who are not currently in treatment are provided with a list of treatment providers by a case manager and required to obtain services. The case manager will assist the participant in contacting the service provider which are covered by their insurance, making appointments, and any other assistance needed.
 - (3) **Psychiatric Medication assistance:** participants are provided with resources within the community to assist them in either obtaining their medication and/or obtaining assistance in paying for the medication
 - (4) **Chemical Testing:** participants are given breathalyzer tests and urine screens to

- determine whether the participant is using alcohol or a non-prescribed drug identified as a controlled substance by the State of Indiana
- (5) Substance abuse treatment as needed
 - (6) Medical health treatment as needed
 - (7) Food and clothing
 - (8) Insurance/Medicare/Medicaid assistance including connecting with an insurance navigator
 - (9) Employment and other access as needed
- (b) Provide case management with evidence based treatment plans based upon the IRAS, other assessment tools, the goals of the participant, and needs identified by the VCMHC team. The treatment case manager shall obtain treatment updates from participant's treatment providers on a monthly basis.
 - (c) Personalized court hearings to assist participants in making progress: by keeping notes on each court appearance, the Court is able to inquire as to each participant's needs
 - (d) Individual assessment: each participant being considered consults with the General Case Manager for an IRAS assessment and the treatment coordinator for an initial assessment.
 - (e) Individual treatment plan: for participant who is accepted, an individual treatment plan shall be created based upon the IRAS, additional assessments, participant goals, and needs identified by the VCMHC team. The treatment plan shall be modified as the participant progresses through the phases based on how he/she complies with the treatment plan.
 - (f) Final IRAS: for each participant who completes the VCMHC, an exit IRAS shall be completed. Additionally, an exit IRAS shall be completed whenever possible if a participant is terminated from the program.
 - (g) The VCMHC shall have a written referral agreement for any substance abuse or mental health treatment provider if the Court has referred or plans to refer ten (10) or more participants to the provider for treatment in any calendar year. The written referral agreement shall include the procedures for:
 - (1) Initiation and acceptance of referrals
 - (2) Exchange of participant-related information; and
 - (3) Post referral reporting by the treatment services provider that enables the Problem-Solving Court to perform its monitoring responsibilities.
 - (h) The VCMHC may contract with a person, firm, corporation, association, or governmental agency to provide one (1) or more services for the participants of the Court except participant legal eligibility determination and a participant discharge. A contractor must possess and demonstrated the capability to provide contractual services for the Court in the manner intended to meet all requirements of I.C. 33-23-16 and the Problem-Solving Court Rules.

2.2 Participant Eligibility and Referral to VCMHC

(a) Participant Eligibility

- (1) To be considered for VCMHC, the participant must meet the eligibility requirements of I.C. 33-23-16, Problem-Solving Court Rule 18, and be charged with, convicted of, or on probation for a misdemeanor or felony offense where the behavior that led to the offense was connected to mental illness. The participant's prior criminal and treatment history will be considered when determining appropriateness for the court.
- (2) The participant must meet the criteria for a mental disorder as defined by the current Diagnostic and Statistical Manual of Mental Disorders (DSM-V). The range of disorders accepted by the VCMHC includes, but is not limited to:
 - (a) Schizophrenic Spectrum and other Psychotic disorders
 - (b) Bipolar disorder and other related disorders
 - (c) Anxiety disorders
 - (d) Trauma and stress related disorders
 - (e) Personality disordersThose with a primary diagnosis related to substance abuse will not be considered, but may be referred to Drug Court. Individuals with co-occurring substance abuse disorders may be accepted where the mental health diagnosis is primary. Potential participants will be staffed on an individual basis where the VCMHC team will determine whether their diagnoses meet eligibility criteria.
- (3) If the offense for which the potential participant seeks to be admitted to the VCMHC is a violent offense as defined by IC 11-12-3.7-6, then the person is not eligible for participation in the VCMHC. Additionally, a person is not eligible for participation in a problem-solving court that admits individuals under a criminal case number pursuant to IC 33-23-16-13(3)(A) or (B) if the offense for which the person will be admitted into the problem-solving court is a forcible felony as defined in IC 35-31.5-2-138 which defines forcible felony as "a felony that involves the use or threat of force against a human being, or in which there is imminent danger of bodily injury to a human being."
- (4) Any offense not specifically excluded from participation may be considered. Common charges which may be accepted are:
 - (a) criminal mischief
 - (b) criminal trespass
 - (c) operating a motor vehicle while intoxicated
 - (d) resisting law enforcement
 - (e) theft
 - (f) conversion

- (g) domestic battery
 - (h) stalking
 - (i) intimidation
 - (j) battery
 - (k) disorderly conduct
 - (l) possession of marijuana
- (5) Any individual admitted into the VCMHC on a new offense shall sign a Guilty Plea Agreement as well as a Participation Terms and Conditions agreement. The VCMHC shall maintain the original of both documents in the Court's file. Additionally, the defendant, defendant's counsel, the prosecutor, and the Case Manager shall all maintain file-marked copies for their files.
- (6) Any individual who is admitted to the VCMHC who is on probation when admitted shall sign the Participation Terms and Conditions agreement.
- 7) In order for the case to be considered for dismissal, the following must apply:
- (a) The pending charge must be a misdemeanor charge or a level 5 or 6 felony charge
 - (b) If the charge is a felony, the participant may not have:
 - (i) Any prior felony convictions
 - (ii) The participant cannot be charged with any felony OMVWI
 - (iii) The participant cannot be charged with felony obstruction of traffic resulting in serious bodily injury
 - (iv) The participant cannot be charged with felony resisting law enforcement
 - (v) The participant cannot be charged with felony battery on a public safety official involving a law enforcement officer when the officer was officially engaged in their duties as a law enforcement officer
 - (vi) The participant cannot be charged with felony criminal mischief where the alleged offense involved the use of a motor vehicle and the participant was operating the motor vehicle:
 - (1) without insurance or
 - (2) was under eighteen and held a probationary license
 - (vii) The participant cannot be charged with or have a previous conviction for battery with a deadly weapon or battery resulting in serious bodily injury
 - (viii) The participant cannot be charged with battery on a pregnant woman or previously convicted of battery on a pregnant woman
- (8) All levels of risk shall be considered with a priority placed on moderate to high risk and moderate to high need. A person referred to the VCMHC shall be assessed using the Indiana Risk Assessment System (IRAS) prior to admission to the problem-solving court. The results of the risk assessment shall be considered

when determining an individual's eligibility for problem-solving court participation. Reassessments shall be conducted every 12 months. Whenever possible, a final IRAS shall be conducted when each participant leaves the VCMHC program

- (9) The VCMHC may utilize any additional empirically validated assessment instrument it deems appropriate to assist the Court in determining an individual's eligibility for problem-solving court participation.
- (10) Participation in VCMHC is voluntary and the participant must be willing to participate in community treatment.
- (11) The participant must also be willing to sign a release of information for details pertaining to his or her mental health treatment, medical treatment, substance use, legal status, and criminal history to the VCMHC. The participant shall receive a copy of all releases which he/she has signed.
- (12) Acceptance to the VCMHC will be considered on a case to case basis and the above listed information will be considered in addition to any other relevant information pertaining the participant's history, mental illness, and criminal background to determine participant's appropriateness for the court
- (13) A VCMHC judge must authorize all participant admissions to the problem-solving court

(b) Termination: If an individual fulfills the conditions established by the VCMHC, the Court shall do one of the following:

- (1) dismiss the charges against the individual;
- (2) refer the case back to the referring court to allow the referring court to dismiss the charges; or
- (3) Sentence the participant in accordance with the plea agreement.

2.3 Transfers to VCMHC

- (a) The VCMHC may initiate and/or accept transfers of participants from another court.
- (b) Any potential participant must meet all the requirements as set forth in this manual
- (c) Potential transfers into the VCMHC do not have a right to a mental health court transfer. The sending and receiving courts have the discretion to approve or deny a transfer application. A transfer is deemed approved only if both the sending and receiving courts approve the transfer request in writing.
- (d) A VCMHC transfer received from another county shall be for the purposes of supervision and problem-solving court participation only, including intermittent sanctioning authority. The VCMHC shall send the individual back to the sending

court when the participant has completed all of the mental health court's participation requirements or has been terminated from the problem-solving court. The sending court shall retain jurisdiction over case disposition following successful completion of or termination from a problem-solving court.

- (e) A twenty-five-dollar transfer fee will be charged as permitted by IOCS problem solving court rules section 26(d) 2 for participants transferred from another county.
- (f) The problem-solving court fees authorized under this section shall be collected and utilized in accordance with IC 33-23-16-23.

2.4 Risk and Needs Assessment

- (a) An Indiana Risk Assessment System (IRAS) evaluation shall be conducted on each individual who wants to be considered for the VCMHC.
- (b) The IRAS policy, procedure and practice shall meet each of the following criteria:
 - (1) Risk and needs assessments shall be conducted by the General Case Manager who is certified by the Indiana Office of Court Services in accordance with the IRAS user certification policy adopted by the Judicial Conference of Indiana Board of Directors. The initial IRAS assessment will be scheduled during the participant's first court hearing.
 - (2) If the General Case Manager determines that the individual is not able to provide sufficient information at the time of the initial IRAS assessment, the General Case Manager may utilize the Static Tool to assess an offender's risk to reoffend based solely on static factors when one of the following three conditions are met:
 - i. The offender is unavailable due to severe mental illness;
 - ii. the offender has absconded from the jurisdiction or is incarcerated in another state; or
 - iii. the offender refuses to participate in the assessment process.
 - (3) If the risk and needs assessment results suggest that the participant requires a more detailed evaluation in a particular area such as substance abuse, mental health, or other area, the participant shall be referred to an appropriate provider for further evaluation.
 - (4) Reassessments shall be conducted *every 12 months*.
 - (5) Participants shall be advised in the Participation Agreement and in the Participant Handbook that they will be subject to assessment utilizing the Indiana Risk Assessment System throughout their participation in the problem-solving court and that the results of any such assessments will be entered into the risk assessment system database.
 - (6) Each participant shall be reassessed upon discharge from the mental health court. The final IRAS assessment will be scheduled prior to the participant's final court hearing.

- (7) A copy of the summary page of the initial assessment and any reassessments conducted during VCMHC participation shall be maintained in participant's case management file.
- (8) The confidentiality of participant risk assessment information shall be maintained in accordance with the policy adopted by the Judicial Conference of Indiana Board of Directors. (ACE not utilized)

2.5 Confidentiality of records

- (a) The VCMHC will comply with all federal and state laws and court rules concerning patient records, including federal rules pertaining to confidentiality of alcohol and drug abuse treatment records (42 CFR Part 2)
- (b) It shall be the policy of the VCMHC that no records of any kind from service providers shall be released without a consent from the participant.
- (c) It is noted that adult abuse and neglect cases will require a consent before any information shall be released. In the event a participant shall be the subject of an adult abuse and neglect case, the Court may report the abuse. However, any medical records including substance abuse records will not be released without a consent from the participant.
- (d) The confidentiality of all mental health, alcohol and drug abuse patient (regardless of whether section 42 CFR part 2 applies or not) received by the VCMHC shall be maintained in the office of Magistrate Marcum either in the participant's file or in a file cabinet designated for the VCMHC. No one shall have access to the files or records without authority from Magistrate Marcum and/or Judge Shively. In the event that there is a conflict between state and federal law, the more restrictive law will apply.
- (e) Minor participants who are adjudicated in adult court will be treated as adults with the rights and responsibilities of an adult. Those minor participants found to be incompetent will utilize an adult who has been given authority by the court to give consent in cases regarding confidentiality. Deceased participant's rights transfer to the executor of the estate or the next of kin in cases where there is not an executor named. Proof of each of these cases must be provided in writing before the appropriate protocol will be followed.
- (f) In general, information regarding participants will not be disclosed without a properly completed consent for release of information. With a properly completed release, only information pertinent to that particular entity will be disclosed. This includes, but is not limited to:
 - 1. Client's family or other contact person designated by the participant;
 - 2. Third party payers;
 - 3. Legal counsel, including attorney of record;

4. Employers;
 5. Judicial officers;
 6. Probation department
 7. Prosecutor;
 8. Addiction Service Providers.
- (g) In the case of medical emergencies, demographic information and other information pertinent to the current medical emergency may be disclosed without consent if a staff member determines the situation is that of life or death. In the case of research, audit, or evaluation, information may be disclosed without participant consent as long as information that is client identifying information is only released back to the program that released the information. Legal orders and subpoenas are not sufficient by themselves to request information. Both must be utilized in conjunction with a causal hearing during the process. VCMHC will follow all state guidelines with regard to investigation and prosecution of alleged violations including adult and child abuse and neglect. In all cases, the supervising judge makes the final determination regarding disclosure of client information.
- (h) All medical, mental health, and/or drug/alcohol treatment records shall be obtained with a release signed by the individual. The individual shall receive a copy of each release signed. The originals of the releases shall be maintained in the general case manager's file. Any records obtained may be reviewed by the treatment team, but all such records shall be kept in the Court's file which shall be maintained in Magistrate Marcum's office. All such records shall be shredded in accordance with the Administrative Rule 6 and 7 regarding storage, retention, and disposal of judicial records which is currently six years. All participant records will be stored either on hard copy or on computer files following federal law. Records are kept in Magistrate Marcum's office in a separate filing cabinet with only appropriate staff having access to the records. Any medical records maintained on a computer shall be secure and password protected. Any disclosure of participant information will be noted in the progress notes in the participant's record. An appropriate form will be used for consent to release participant information which will indicate the specific entities to give and receive information, the purpose and the type of disclosure, signature of the participant indicating an understanding and the receipt of a copy of the release, signature of a staff witness, and the form will contain no blank lines at signing. The original will be placed in the participant's record.
- (i) Chronological case summary entries shall be brief and contain only non-confidential information to the extent possible.
- (j) In order to protect participant confidentiality, the mental health court's facilities, including waiting rooms, offices, chemical testing facilities, and group areas other than the court room shall be arranged in a way that minimizes disclosure of confidential information to the general public.

- (k) When an individual is referred to the VCMHC, a file shall be created and maintained by the Court with all such files being stored in Magistrate Marcum's office. This file shall contain the progress notes of what has occurred in court, copies of court pleadings, and medical/mental health records. The presiding judicial officer shall review the notes during each team meeting and shall make note of any relevant information provided by the participant and/or the staff. This file shall be in addition to the file created by the Clerk. The VCMHC file shall be maintained with the file created by the Clerk. These files shall be maintained in Magistrate Marcum's office. The General Case Manager shall also maintain a file which shall include file-marked copies of the Guilty Plea Advisement and Participation Agreement. If that file is maintained electronically, said file will be password protected. If maintained in physical form, said file shall be secured and there shall be no public access to the file. The General Case Manager's file for the participant shall document the IRAS, treatment plan, medical releases, case notes, results of drug screens, Guilty Plea Agreement, Participation Agreement and any other document created or utilized by the General Case Manager.
- (l) In the event the individual does not participate in the VCMHC, the Clerk's file shall be returned to the referring court/Clerk; however, the notes shall be retained pursuant to retention requirements along with the General Case Manager's file. The VCMHC file shall be maintained in Magistrate Marcum's office until properly stored for retention purposes and/or destroyed in accordance with the applicable laws.
- (m) The storage of all participant case management files, medical records and mental health records shall be properly secured at all times as required under federal regulations and state rules. All participant records created or maintained in electronic format shall be properly secured at all times with designed to ensure access is restricted to authorized staff only.
- (n) The VCMHC shall comply with Ind. Administrative Rule 6 and Ind. Administrative Rule 7 governing the storage, retention and disposal of judicial records.
- (o) Each participant has a right to inspect and copy the participant's own case record. A participant's review of the participant's case record shall be recorded in the case record. Any denial of the participant's right to review the participant's record shall be recorded in the in the participant's record together with the reasons for denial. By policy, the court may permit the withholding from the participant all or part of the participant's record if?
- a. withholding is necessary to protect the confidentiality of other sources of information;
 - b. it is determined that the information requested may result in harm to the physical or mental health of the participant or another person;
 - c. the consent was not given freely, voluntarily, and without coercion; or
 - d. granting the request will cause substantial harm to the relationship between the participant and the court or to the court's capacity to provide services in general.

2.6 Non-Discriminatory services policies

- (a) The VCMHC shall in no way discriminate services based upon
- (b) The court shall provide fair and equal treatment to all participants.
- (c) The court shall be impartial and provide services to any eligible person of the community pursuant to the admissions process.

2.7 Participants Rights

The VCMHC shall in no way compel or prohibit a participant to waive their constitutional rights as a condition to participate in the mental health court.

Section 3 **Administrative Procedures**

3.1 Mental Health Court Team

- (a) The VCMHC has two mental health court judges. Magistrate Marcrum shall preside over all Cases originally assigned to Superior Court. Judge Shively shall preside over all cases transferred from Circuit Court. In the event that one of the judicial officers is unable to be present for a court session on any given day, the other judicial officer shall preside.
- (b) A team approved by the mental health court judicial officers shall assist both judicial officers and shall include each of the following roles, but an individual may represent more than one (1) role:
 - (1) Coordinator: Magistrate Jill Marcrum
 - (2) Case managers: Kaitlin Schneider shall be the Treatment Case Manager. The Treatment Case Manager shall have primary contact with the treatment provider and assist the participant in connecting with services. Marcia Coomes shall be the General Case Manager. The General Case Manager shall be responsible for conducting all IRAS assessments, monitoring drug and alcohol screens, and having day to day contact with the participant
 - (3) Probation officer: Marcia Coomes
 - (4) Prosecuting attorney: James Doyle, Deputy Prosecutor.
 - (5) Attorney Advocate: Mark Foster has been volunteering on a regular basis as Attorney Advocate. When Mr. Foster is not available, other members of the criminal defense bar have volunteered to assist the participants as an Attorney Advocate.
 - (6) Mental Health Providers: Kaitlin Schneider and Taylor Nellis are both employed by Southwestern Behavioral Health Services.

- (7) Addiction treatment services providers: Taylor Nellis
- (c) The mental health court coordinator shall maintain a file for each of the members of the mental health court team. The file shall contain a copy of the team member's qualifications, a copy of the signed memorandum of understanding and any other relevant documents. The memorandum of understanding shall describe the team member's:
- (1) agreement to uphold confidentiality requirements;
 - (2) commitment to the on-going exchange of participant information with the problem-solving court team members; and
 - (3) mental health court responsibilities.
- (d) The mental health providers and addiction treatment providers provide general information regarding treatment as well as specific information regarding participants who are receiving treatment from the entity with which they are employed.
- (e) The VCMHC holds regular team meetings beginning at 12:30 p.m. every Thursday to discuss the eligibility, progress, sanctions and discharge of participants prior to the participants' scheduled court appearances.
- (f) Court shall begin at 1:30 p.m. every Thursday.

3.2. Staff Requirements

- (a) The VCMHC staff complies with the requirements of I.C. 33-23-16
The VCMHC staff includes a probation officer who also serves as the General Case Manager as defined by Section 3 of the Rules for Problem Solving Courts. A Treatment Case Manager is provided by a grant obtained by Southwestern Behavioral Health, Inc.
- (b) The VCMHC shall maintain, in accordance with I.C. 33-23-16 and the Problem-Solving Court Rules a personnel file for each Case Manager and/or Coordinator which shall provide:
- (1) Documentation that the coordinator complies with at least one (1) of the following:
A baccalaureate degree from an accredited university or college, and the equivalent of three (3) years of full-time paid experience in criminal justice or human services; or has an advanced degree from an accredited university or college in criminal justice or human services; or was employed by a mental health court as a coordinator before July 1, 2010.
 - (2) A mental health court shall maintain documentation that each case manager complies with at least one (1) of the following:
 - (a) has a baccalaureate degree from an accredited university or college; or
 - (b) was employed by a mental health court as a case manager before July 1, 2010.
 - (3) A volunteer that performs one or more job functions of the coordinator or a case manager as defined in section 3 of Problem-Solving Court shall meet the qualifications in subsection (1) or (2) of this section, as applicable.

- (4) The mental health court shall maintain personnel files for the coordinator, each case manager, and any volunteer who performs one or more job functions of the coordinator or a case manager. The personnel files shall contain, at a minimum, the following information:
- (a) Date of hire by the mental health court for each position held or the date that a volunteer began providing services to the mental health court.
 - (b) Job description, including:
 - (i) Job title
 - (ii) Qualifications
 - (iii) Credentials, if applicable
 - (iv) Duties and responsibilities
 - (v) Reporting and supervisory responsibilities
 - (5) Documentation of the minimum job qualifications required by this section.
 - (6) Documentation of the accrued continuing education hours required by Section 12 of the Problem-Solving Court Rules.
- (c) The coordinator and each case manager shall attend and complete a staff orientation program approved by the Problem-Solving Courts Committee within the staff member's first year of employment with the mental health court.
- (d) A coordinator or case manager who fails to attend the staff orientation program within the first year of employment is prohibited from performing his or her job functions as defined in section 3 of the Problem-Solving Court Rules except as authorized by the Indiana Office of Court Services pursuant to this subsection.
- (1) The Indiana Office of Court Services shall send written notice to the supervising judge and the mental health court judge of a staff member's failure to attend and complete staff orientation as required by this subsection.
 - (2) The Indiana Office of Court Services shall notify the supervising judge and the mental health court judge in writing of the Indiana Office of Court Services' decision to impose a suspension on a coordinator's or case manager's ability to perform his/her job functions as defined by Problem Solving Court Rules (3) The Indiana Office of Court Services' decision becomes final on the thirtieth (30th) day following the date of the written notification to the supervising judge unless the supervising judge submits specific written objections to the Indiana Office of Court Services before the expiration of the thirty (30)-day period.
 - (4) If the Indiana Office of Court Services and the supervising judge are unable to resolve all points of contention, the supervising judge may request a hearing in accordance with section 8(b) of the Problem-Solving Court Rules.
- (e) The coordinator and each case manager shall document twenty (20) hours annually of job specific continuing education approved by the mental health court judge.
- (1) The coordinator shall maintain documentation of the continuing education hours earned by staff as required under this subsection in the staff member's personnel

file.

- (2) The coordinator shall submit a report of earned continuing education for each staff member as required by this subsection on an annual basis to the Indiana Office of Court Services.
- (3) A coordinator or case manager who fails to earn the required continuing education hours under this subsection is prohibited from performing his or her job functions as defined in section 3 of Problem-Solving Court except as authorized by the Indiana Office of Court Services.
 - (a) The Indiana Office of Court Services shall send written notice to the supervising judge and the problem-solving court judge of a staff member's failure to attain the annual continuing education hours required by this subsection.
 - (b) The Indiana Office of Court Services shall notify the supervising judge and mental health court judge in writing of the Indiana Office of Court Services' decision to impose a suspension on a coordinator's or case manager's ability to perform his/her job functions.
 - (c) The Indiana Office of Court Services' decision becomes final on the thirtieth (30th) day following the date of the written notification to the supervising judge unless the supervising judge submits specific written objections to the Indiana Office of Court Services before the expiration of the thirty (30)-day period.
 - (d) If the Indiana Office of Court Services and the supervising judge are unable to resolve all points of contention, the supervising judge may request a hearing in accordance with section 8(b) of Problem Solving Court Rules.

3.3 Case Management

- (a) Case management staff shall make contact with participants on a regular basis once a participant is admitted to the VCMHC. The frequency of the contact shall be determined by the phase the participant is currently in and shall be as follows:
 - (1) Participants in Phase II shall make contact with case management two times per month
 - (2) Participants in Phase III and IV shall make contact with case management one time per month
- (b) Pursuant to Section 3.1b of this PPM, the General Case Manager and the Treatment Case Manager shall maintain a file on each participant and shall comply with the following:
 - (1) Progress notes shall be filed or maintained in chronological order, either integrated or by type of record.
 - (2) Progress notes shall contain the date and the signature, name, or initials of the staff member making the entry if more than one case manager has access to the file.
 - (3) Progress notes shall document of the following:
 - (a) All contact with the participant.
 - (b) All contact with an individual or an agency directly regarding the participant.

- (4) All records shall be kept secure **pursuant to Section 2.5 of the VCMHC policy**
- (c) The case managers shall monitor the participant's compliance with the participation agreement and the case management plan. The case management plan shall be updated as needed by the case management team as the participant completes each phase. In the event that the participant digresses and is moved back a phase; the case management plan shall be amended accordingly. All updates shall be updated in writing.

3.4 Case Management Plans

- (a) The case manager team shall coordinate and facilitate each participant's access to services and monitor their compliance with the MHC. The case manager shall with the assistance of the participant develop and update a case management plan for each participant based on the results of the risk and needs assessment conducted pursuant to this manual and the Problem-Solving Court Rules and any other assessments completed by problem-solving court staff or a treatment or services provider.
- (b) The case management plan may address the following components:
- (1) Supervision, including work release, home detention, day reporting, electronic monitoring, and chemical testing
 - (2) Mental health treatment services
 - (3) Substance abuse treatment services
 - (4) Anger management
 - (5) Community and victim services
 - (6) Faith-based services
 - (7) Employment services
 - (8) Restitution
 - (9) Housing services
 - (10) Domestic violence services
 - (11) Education services
 - (12) Life skills
 - (13) Medical services
 - (14) Dental services
 - (15) Family counseling
 - (16) Parenting counseling
 - (17) Child visitation
- (c) The VCMHC shall provide a copy of the case management plan to the participant and document the participant's receipt of the plan in the participant's case management file. The case management plan shall be maintained in the participant's case management file.
- (d) The Treatment Case Manager shall obtain from service providers for each participant:

- (1) a treatment plan from each provider and
 - (2) periodic updates reporting the participant's progress
- (e) The case managers shall assist in providing access to services by linking participants to appropriate community services to assist participant in recovery including but not limited to:
- (1) Housing: working with Aurora and other homeless outreach groups we connect those participants in need of housing with those agencies who are able to provide the services
 - (2) Mental Health services: those participants who are not currently in treatment are provided with a list of local treatment providers and required to obtain services. In order to assist the participant either or both the General Case Manager and the Treatment Case Manager assist the participant in determining which treatment providers are covered by the participant's insurance and assist, as needed, in scheduling appointments.
 - (3) Psychiatric Medication assistance: participants are provided with resources within the community to assist them in either obtaining their medication and/or obtaining assistance in paying for the medication
 - (4) Chemical Testing: participants are given breathalyzer tests and urine screens to determine whether the participant is using alcohol or a non-prescribed drug identified as a controlled substance by the State of Indiana
 - (5) Substance abuse treatment as needed
 - (6) Medical health treatment as needed
 - (7) Food and clothing
 - (8) Insurance/Medicare/Medicaid assistance including connecting with an insurance navigator
 - (9) Employment and other access as needed
 - (10) If the case management plan includes a referral to a service provider, the service provider must give the case manager a copy of the treatment plan, any revisions to the treatment plan, and periodic updates reporting the participant's progress. The case manager shall maintain the treatment plan, revisions, and updates in the case management file.

3.5 Ex Parte Communications

A VCMHC judge may initiate, permit and consider ex parte communications with participants, attorneys, VCMHC staff, VCMHC team members and others in conjunction with VCMHC proceedings and the supervision of participants.

3.6 Records & Court Proceedings

- (a) All mental health court hearings shall be recorded in accordance with the requirements of Ind. Crim. Rule 5.
- (b) A chronological case summary shall be created and maintained for each problem-solving court case in accordance with Ind. Trial Rule 77(B).
- (c) The VCMHC shall have regular court hearings to conduct case compliance monitoring.
- (d) The mental health court shall have judicial interaction with participants during case compliance hearings.

3.7 Orientation

An orientation shall be conducted by the General Case Manager and shall be as follows:

- (a) Specific eligibility requirements for VCMHC participation, including the fact that a person does not have a right to participate in the VCMHC.
- (b) The services offered by the VCMHC either directly, by contract or by referral.
- (c) The requirements for successful completion of the VCMHC, including a description of the scheduling and attendance requirements for court dates, chemical testing, day reporting, appointments with case managers and treatment providers, self-help and other group meetings, and other regularly scheduled requirements.
- (d) Conduct and behavior that could result in sanctions or termination from the VCMHC.
- (e) The range of sanctions for non-compliance with mental health court requirements.
- (f) Information about the treatment providers used by the VCMHC, including name, address, telephone number, and services provided.
- (g) Information regarding the cost to participants for the VCMHC services, chemical testing, treatment services and any other programs and services and the procedure and schedule for paying these fees.
- (h) Information about the VCMHC's policy and procedures for scheduling and conducting chemical tests.

3.9 Participation Agreement

Each participant in the VCMHC shall sign a Participation Agreement and Conditions. The participation agreement contains the specific requirements of the mental health court. The documents contain of the following:

- (a) The county or jurisdiction of the mental court.
- (b) The signature of each party to the participation agreement.
- (c) The source of the court's jurisdiction under IC 33-23-16-13.
- (d) The case number accepted into the mental health court.
- (e) The length of the mental health court program.
- (f) A list of rights the participant must waive in order to participate in the mental health

court.

(g) A list of mental health court requirements.

(h) An advisement that the participant will be subject to assessment utilizing the Indiana Risk Assessment System throughout participation in the mental health court if the participant is admitted into the mental health court under a criminal case number or delinquency petition. The results of any such assessments will be entered into the risk assessment system database.

(i) The impact of successfully completing the VCMHC on the case number under which the participant was admitted into mental health court.

(j) The consequences to the participant as a result of termination from the VCMHC.

(k) Information related to mental health court fees.

(l) An advisement that the participant's case and compliance, including information that might otherwise be confidential, will be discussed in open court.

3.10 Operational & Administrative Structure

(a) The mental health court operational structure consists of four main components;

(1) Referral

- (i) A participant may be referred to the VCMHC by a judicial officer in any of the Vanderburgh Superior Courts or the Vanderburgh Circuit Court
- (ii) Any defense attorney, deputy prosecutor, probation officer, or other court staff may initiate the request
- (iii) Once a potential participant has been referred, the matter shall be scheduled on the VCMHC calendar for a Thursday at 1:30
- (iv) Potential participants from the Vanderburgh Circuit Court will not have their case transferred unless the individual is accepted into the VCMHC
- (v) The participant may be tested for drug/alcohol use on the first court appearance

(2) Assessment:

- (i) Upon initial contact/referral from the criminal court the deputy prosecutor handling the VCMHC for the State of Indiana will assess the defendant in order to determine legal eligibility.
- (ii) Once the potential participant appears in the VCMHC, the procedure of the court shall be explained. The potential participant shall be advised that in order to be considered for the Court, he/she will be required to:
 - (i) meet with the General Case Manager and the Treatment Case Manager; and
 - (ii) sign releases so that any prior treatment records may be obtained
- (iii) The General Case Manager shall provide the participant with an orientation of the program, obtain releases, and conduct the initial IRAS assessment

- (iv) The Treatment Case Manager may also obtain releases and shall obtain all relevant mental health records and conduct an initial assessment as to the mental health issues.
- (v) In order for a participant to be determined eligible they must meet all criteria of eligibility described in I.C. 33-23-16, the Problem-Solving Court Rules, and the VCMHC Policy and Procedure Manual and must receive final approval from the mental health court judge.
- (vi) Once a participant has been deemed eligible for the VCMHC, one of the following shall take place:
 - (i) a plea agreement and Participation Agreement shall be entered into in open court with either counsel present or the Attorney Advocate present. No participant shall be admitted to the VCMHC unless they have consulted with either their own attorney or the Attorney Advocate. The participant's pleas will be taken by the presiding judge only after the participant has had an opportunity to review the plea agreement and Participation Agreement with counsel/attorney advocate. Once the plea agreement and Participation Agreement have been filed with the court, the original shall be placed in the Court's file. A copy of the plea agreement and the Participation Agreement shall be provided to the participant, counsel/attorney advocate, the General Case Manager, and the prosecuting attorney.
 - (ii) If the participant is entering the program as a result of a program modification, the original order referring the participant to a program such as the Drug and Alcohol Deferral Program shall be modified to reflect the referral to the VCMHC and a Participation Agreement and Conditions shall be signed.
 - (iii) If the participant is referred to the VCMHC and accepted after a petition to revoke a suspended sentence has been filed in the referring court, the referring court shall modify its sentence and the Participation Agreement and Conditions shall be executed with either counsel or the Attorney Advocate present.
- (vii) General Criteria which may be considered in determining whether the individual is eligible for the VCMHC include:
 - (i) the nature and extent of the participant's mental illness
 - (ii) the nature and extent of any substance abuse issues
 - (iii) the nature of the criminal charge
 - (iv) the participant's criminal history
 - (v) the participant's desire to participateFor specific criteria see section 2.2
- (viii) A participant may become ineligible for VCMHC at any time during treatment process due to violation of VCMHC rules and regulations,

commitment additional crimes, or non-compliance. Issues of ineligibility shall be considered on an individual basis and require a majority vote of dismissal from the VCMHC team in addition to the final determination from the mental health court judge. Any individual believed to be inappropriate shall receive an advisement as to the reasons in writing and shall be entitled to legal counsel and a hearing prior to being discharged from the VCMHC.

(3) Treatment:

- (a) The participant will be required to be compliant with all treatment activities determined by the court.
- (b) The participant's treatment will be monitored by the case management team
- (c) Participant will have an individualized treatment plan designed to help the participant progress through a series of phases which must be completed successfully
in sequence in order to graduate
- (d) In the event the participant is not involved in treatment when admitted to VCMHC, they will be required to obtain services from a community mental health service provider. The VCMHC shall verify that any treatment provider is an addictions or mental health treatment provider currently certified by the Division of Mental Health and Addiction or currently licensed or accredited by an equivalent certifying agency. The VCMHC shall maintain a copy of the provider's current certification or license.

(4) Termination:

- (a) Participant may voluntarily choose to leave the program at any time. Voluntary termination will not impact the plea agreement signed by the participant at the time he/she entered into the program.
 - (b) Participant may be terminated by the judge at any point for any violation of the VCMHC rules and policies, but only after a Petition to Revoke is filed by the prosecuting attorney, the participant has had an opportunity to meet with counsel to review the Petition to Revoke, and a hearing is held.
 - (c) Please reference section 5 in the appendix for a detailed flow chart.
- (c) The VCMHC administrative structure is comprised of these key elements:**
- (1) Judge: The supervising judge is responsible for overseeing and granting final approval of all mental health court activities.
 - (2) Program Coordinator: The program coordinator is responsible for all day to day activities, allocating, and coordinating appropriate resources and referrals for the courts disposal.
 - (3) Legal team: The legal team is comprised of the Prosecutor or designee and the Attorney Advocate whom are responsible for public safety and protecting the participant's civil rights.
 - (4) Case Managers: General Case Managers and Treatment Case Managers are

responsible to provide weekly updates to the coordinator, creation of appropriate treatment plans and interfacing with the participants on a regular basis.

For more information, see section 3.1

3.11 Phases of Intervention

- (a) A description of the mental health court's incorporation and implementation of the principles of effective interventions and evidence-based practices.
- (b) The VCMHC operates in an individualized structure where a participant works through a series of phases designed to increase participant's quality of life, ability to exhibit autonomous behavior, and decrease arrest or criminal encounters with the local law enforcement.
- (c) In accordance to the needs of the population, the individualized treatment plans could potentially have a great deal of variance pertaining to the intensity of case management, duration of treatment, measures of accountability, and use of best practice interventions.
- (d) In order to proceed into the next phase the participant will require a clinical and legal review ensuring the participant has indeed exceeded the requirements of their current phase.
- (e) Each participant must pass through the five phases before graduating the VCMHC. The phases of the VCMHC will take into consideration the unique aspects of the mentally ill population by assessing the participant's overall progress and goal progression. Phases II-IV will include varying degrees of judicial and clinical monitoring. Judicial monitoring is defined as participant/judge interactions during mandatory court appearances. Clinical monitoring is defined as treatment verification with service providers via the treatment case manager.
 - (1) Phase I: Candidacy
 - (a) Client begins to establish contact with the court.
 - (b) VCMHC will identify preliminary needs and barriers to treatment.
 - (c) VCMHC will determine clinical eligibility.
 - (d) VCMHC will determine legal eligibility.
 - (e) VCMHC team will consider each case individually and the presiding judge will determine final eligibility.
 - (f) Any individual being considered for participation in the VCMHC shall be subject to random alcohol and drug screens a minimum of one time per week unless the criminal charge relates to alcohol or drugs or the individual's history or medical records indicate a history of using alcohol or drugs in which case the individual shall be tested randomly two times per week. Testing may take place at the Misdemeanor Probation office or by Verification Officer utilized by the Misdemeanor Probation Office.
 - (g) Judicial monitoring shall occur at the discretion of the presiding judicial

officer taking into account the charges the participant is facing, the nature of the illness, the participant's support in the community, and whether the participant is in custody. Every effort shall be made to obtain the participant's medical records as quickly as possible to assist in the evaluation process.

- (2) Phase II: Adjustment in treatment
 - (a) Participant is allotted a minimum of three months from plea date to become adjusted to the VCMHC program and demonstrate compliance.
 - (b) Judicial monitoring is required once every two weeks.
 - (c) Clinical monitoring is required once every four weeks.
 - (d) Develop case management and treatment plans.
 - (e) Weekly progress updates
 - (f) Regular case management meetings
 - (g) Participants shall be subject to a random drug screens a minimum of every two weeks unless prior criminal charges or medical records reveal illegal drug use in which case the participant shall be tested randomly every week. Testing may take place at the Misdemeanor Probation office or by Verification Officer utilized by the Misdemeanor Probation Office.

- (3) Phase III: Engagement in treatment
 - (a) Participant will demonstrate progress towards treatment plans goals.
 - (b) Participant will demonstrate progress with mental health referrals, and correct consumption of prescribed medication.
 - (c) Judicial monitoring is required on a monthly basis if determined appropriate by supervising judge.
 - (d) Clinical monitoring is required on a monthly basis if determined appropriate by supervising judge.
 - (e) Weekly progress updates
 - (f) Regular case management meetings
 - (g) Participants shall be subject to a random drug screen a minimum of once per month. However, if the charge is a drug or alcohol related charge or if the participant has tested positive for any non-prescribed substance, testing shall be on a more frequent basis. Testing may take place at the Misdemeanor Probation office or by Verification Officer utilized by the Misdemeanor Probation Office.

- (4) Phase IV: Progress in treatment
 - (a) Participant continues to show signs of improvement, autonomous behavior, and compliance towards treatment goals.
 - (b) Participant receives positive reports from clinical and legal teams which

indicate progress toward treatment goals.

- (c) Weekly progress updates.
- (d) Regular case management meetings.
- (e) Judicial and clinical monitoring on monthly basis or as determined by supervising judge.
- (f) Participants shall be subject to a random drug screen a minimum of once per month. However, if the charge is a drug or alcohol related charge or if the participant has tested positive for any non-prescribed substance, testing shall be on a more frequent basis. Testing may take place at the Misdemeanor Probation office or by Verification Officer utilized by the Misdemeanor Probation Office.

(5) Phase V: Graduation

- (a) Participant demonstrates abilities, knowledge, understanding, and appropriate skills to permit successful graduation.
- (b) Participant demonstrates significant progress towards treatment plan goals indicating successful obtainment of those goals.
- (c) Participant demonstrates improved quality of life, autonomous behaviors, abilities, knowledge, and skills indicating participant will not have future criminal encounters with law enforcement.
- (d) Participant demonstrates clinical and legal graduation appropriateness.
- (e) Have completed an Indiana Risk Assessment System

3.12 Incentives & Sanctions

The ranges of incentives and sanctions that may be imposed by the mental health court include the following:

(a) Incentives are used to assist the participant in achieving treatment goals. Incentives include objective evidence that participants are engaged in productive activities such as engaging in treatment, verification of medication compliance, employment, education, or attendance in peer support groups. Additionally, incentives may be used to reward the participant for staying away from inappropriate or sanctionable behavior. The judge determines incentives based upon recommendations from the VCMHC team, appropriateness, and feasibility. Examples of incentives include:

- (1) Verbal Reinforcement from the Court
- (2) During each court session, each participant shall be advised as to their current phase. Each movement to a higher phase shall be acknowledge by the court.
- (3) As a participant demonstrates reliability in treatment, medication compliance, and other aspects required by the program, the frequency of court appearances

- may be reduced and the participant shall be so advised.
- (4) As a participant demonstrates reliability in treatment, medication compliance, and other aspects required by the program, the frequency of required contact with the case manager may be reduced and the participant shall be so advised.
 - (5) Each participant who has complied with all requirements of the program shall be so advised and considered a member of the 100% club. Each participant who makes the 100% club shall have their name entered into a monthly drawing.
 - (6) Graduation
- (b) Sanctions are used to assist the participant in achieving treatment goals. Participants receive consequences that are equivalent to those received by other participants in the same phase of the program who are engaged in comparable conduct. The judge may impose sanctions for:
- (1) violations of the treatment plan
 - (2) violation of the VCMHC rules
 - (3) consuming alcohol or a non-prescribed drug identified as a controlled substance by the state of Indiana
 - (4) violation of the plea agreement
 - (5) other violations of the Participation Agreement or
 - (6) being convicted of new criminal acts

Examples of sanctions include:

- (1) Admonishment or Reprimand from the Court
- (2) Volunteer Community Service Work
- (3) Assignments/Written Essays
- (4) Increased contact with case manager
- (5) Increased Frequency of Court Appearances
- (6) Bench Warrant for failing to appear in court
- (7) Additional Drug Testing
- (8) Extension of the participant's program
- (9) Termination from the VCMHC program resulting in return to Criminal Court

3.13 Chemical Testing

- (a) The VCMHC will require participants to submit to chemical testing to determine the participant's use of alcohol and drugs. The frequency of testing is determined by the phase the participant is in at the time, the extent of the participant's drug/alcohol dependency, and the discretion of the court.
- (b) Testing shall be performed from 8:00 a.m. to 4:00 p.m. Monday through Friday in the Misdemeanor Probation Office. Additionally, testing may be performed after regular business hours by a Verification Officer.

- (c) Participants may be asked to submit to an Alco-monitor test and/or a urinalysis at any time and shall be consistent with the Phases of the VCMHC.
- (d) Upon request by staff, participants have two (2) hours to submit to an Alco-sensor test or urine screen. If they fail to submit to the test during that time period, then it is considered to be a positive. Participants are telephoned when to report. Those without phones are instructed to contact the Case Manager daily to determine whether to report.
- (e) At this point in time, participants are not required to pay for the urine drug screen. In the event this policy changes, the participants shall be advised in advance that they will be required to pay for the urine drug screen.
- (f) Collection of the samples is performed by probation officers from the Vanderburgh Superior Court Misdemeanor Probation Department.
- (g) A participant is accompanied to the bathroom by a probation officer of the same gender.
- (h) If a sample is diluted, it is considered to be a positive.
- (i) An inadequate sample will be considered to be a positive.
- (j) The procedure for a participant submitting to a drug/urine screen shall be as follows:
 - (1) All drug/urine screen tests shall be conducted in the Vanderburgh Superior Court Misdemeanor Probation Department
 - (2) The participant shall be asked whether any substances will be detected on the urinalysis and any positive responses shall be noted
 - (3) The participant shall wash his/her hands
 - (4) The offender is observed submitting the sample into the collection cup.
 - (5) The probation officer shall take the screening tool and place it into the urine until the urine wicks up to the test.
 - (6) The temperature strip on the cup is observed for proper temperature.
 - (7) The multi-panel test strip is inserted into the urine without the strip touching anything else.
 - (8) Once the urine is wicked to the testing window, it is removed from the sample.
 - (9) Once the screening tool is removed from the urine, the cap shall be placed on the screening tool and the test shall be observed for five (5) minutes by the individual conducting the test.
 - (10) After five minutes, the test results are observed.
 - (11) The results shall be shown to the participant
 - (12) The probation officer shall interpret the results for the participant
 - (13) The probation officer shall ask the participant if he/she agrees with the results and that shall be noted on the drug/urine screen report
 - (14) The participant signs the drug/urine screen report and either acknowledges the test results or denies the results.
 - (15) If a participant fails an on-site drug/urine screen the sample may be sent to a lab at the participant's request. For the lab confirmation test, the participant will be charged \$25.

(16) The on-site drug screen identifies: amphetamine, barbiturates, benzodiazepine, cocaine, methamphetamine, opiates, THC, and.

(17) There will be sanctions for positive urinalyses, such as treatment, more frequent court

appearances, more frequent urinalysis and Alco-sensor tests, and/or jail time.

(18) Each participant must submit to urine drug screens in accordance with the Phases set out

in section 3.10

(20) The Judge in the VCMHC may order an Alco-sensor test or urine screen at any time.

(21) The following substances will be included in the panel:

Class	Screen Cutoff Level	Confirmation Cutoff Level
Amphetamines/Methamphetamine	1000 ng/ml	500 ng/ml
Barbiturates	300 ng/ml	150 ng/ml
Benzodiazepines	300 ng/ml	150 ng/ml
Cocaine	300 ng/ml	150 ng/ml
Ethanol (alcohol)	0.02%	0.02%
Opiates	300 ng/ml	150 ng/ml
THC/Cannabinoids	50 ng/ml	15 ng/ml
Methadone	300 ng/ml	150 ng/ml

(1) Creatinine levels are tested to detect possible adulteration due to excessive water intake. Sample testing at a creatinine level of 20 ng/ml or below will be considered a positive result and is subject to sanctions.

(2) In the event a participant tests positive and disputes the test results, the participant may request that the test be sent off to a lab for confirmation. The test is an Alere Urine Specimen Collection Kit. Once the participant requests that the positive results be verified, the sample shall be secured. In front of the participant, two sealed vials shall be opened and the contents of the sample placed in each. The vials shall then be sealed in the presence of the participant and the participant shall initial and date the seal. The two vials with the accompanying paperwork shall then be placed in the appropriate packaging and mailed to the facility for testing. Both the testing representative and the participant shall retain copies of the paperwork sent to the lab. Participants are required to pay for all confirmation tests.

(k) The protocol for alco-monitoring tests shall be as follows:

1. The participant appears in the Vanderburgh Superior Court Misdemeanor Probation office
2. The participant fills out a form indicating a alco-monitor test is needed
3. The participant is advised not to eat or drink anything at least fifteen (15) minutes prior to the test
4. The participant's mouth is cleared of any foreign substance
5. The participant is asked if there is any alcohol in his/her system
6. The participant is advised not to touch the machine in any way
7. The participant is advised to take the straw provided by probation and place it in the alco-monitor machine
8. The participant is advised when to start blowing into the machine and when to stop
9. If a positive result is indicated, the straw is left in the machine and the following occurs:
 - a. The probation representative places paper in the printer on the top of the alco-monitor
 - b. The participant's social security number is entered
 - c. The participant reviews the social security number for accuracy
 - d. The participant will be advised to blow
 - e. The machine will reset and the participant will blow a third time
 - f. Only the second and third attempts will be printed
 - g. The machine will self-calibrate
10. The alco-monitor used is certified and the certification records are maintained pursuant to the protocol established by the Vanderburgh Superior Court

3.14 Graduation & Discharge

- (a) The VCMHC shall discharge participants from the VCMHC pursuant to IC 33-23-16-13(3). Written notice shall be provided to the referring court or agency after the participant has successfully complied with the participant's participation agreement and case management plan or been terminated from the mental health court.
- (b) A ceremony is held to commemorate participants who have met the minimum requirements as detailed by their individualized treatment plan, maintained satisfactory progress, and remained engaged in treatment and services. During the ceremony the participant will be congratulated for their success and encouraged to continue their efforts towards recovery by using the skills, knowledge, and resources they gained during their treatment process through the VCMHC.
- (c) Termination proceedings shall include the following participant rights:
 - (1) Written notice of the alleged violation(s)
 - (2) A hearing in open court before the mental health court judge or another judicial officer

- (3) Representation by counsel
- (4) Disclosure of the evidence against the participant
- (5) An opportunity to be heard and present evidence
- (6) Confrontation and cross-examination of witnesses; and
- (7) A determination that the participant violated one or more conditions of the participant's participation agreement or case management plan by a preponderance of the evidence.

3.15 Reports & Evaluations

- (a) The VCMHC maintains participant records in participant files.
- (b) The VCMHC shall collect statistical data as required by the Indiana Office of Court Services.
- (c) The VCMHC intends to contract with the University of Southern Indiana to complete a process evaluation for the first year. Subsequent process evaluations will occur at least once during each three-year certification period and outcome evaluations will occur as appropriate.
- (d) The VCMHC shall provide each participant with an opportunity to complete a survey intended to provide the mental health court with the participant's written comments about the services provided. The survey must include an opportunity to comment on each of the following:
 - (1) Services or programs provided directly by the mental health court.
 - (2) Services or programs provided by the mental health court through a contractor.
 - (3) Services or programs provided by referral agencies.
- (e) The coordinator shall:
 - (1) Prepare a written mental health court annual report for the preceding year that includes, at a minimum, each of the following:
 - (a) A summary of the mental health court's activities and accomplishments
 - (b) A summary of the mental health court's income and expenditures, including all user fee account activity
 - (c) Documentation of any certification reviews or visits, if applicable
 - (d) Problem-solving court measures data approved by the Problem-Solving Courts Committee shall be maintained.
 - (e) The results of any process and outcome evaluations of the mental health court
 - (f) A list of current problem solving staff and team members
 - (g) The earned continuing education hours required for staff pursuant to the Problem-Solving Court Rules
 - (2) Submit a copy of the annual report to the Indiana Office of Court Services no later than March 31st of each year.
- (f) The Coordinator shall:

- (1) The Coordinator will perform twice yearly clinical random chart reviews of all client files;
- (2) The Coordinator will review, at least annually, access to services, intake screening, assessments, continuity of supervision or services, adverse client occurrences including deaths; and all other areas determined;
- (3) The Coordinator will complete an annual review of the effectiveness of the program by reviewing exit interviews and determine areas for improvement;
- (4) Ensure that an outcome study is conducted every two years by the University of Southern Indiana (subject to available resources).

3.16 Daily Administration

The coordinator shall be responsible for the daily operation and administration of the mental health court, including maintaining the policy and procedure manual, including, but not limited to:

- (a) The coordinator shall update the manual at least once annually
- (b) Ensure the manual is available to the VCMHC team and staff
- (c) Ensure the manual reflects all current practices
- (d) Ensure that the VCMHC staff is current on their continuing education hours

3.17. Approval & Compliance Requirements

- (a) A person, firm, corporation, partnership, association, foundation, governmental unit, or agency, whether public or private, that provides or intends to provide services to persons who participate in a certified mental health court and whose services are within the scope of IC 33-23-16, may not offer, advertise, deliver, or provide services without first obtaining a provisional certificate from the Indiana Office of Court Services in accordance with the Problem-Solving Court Rules.
- (b) The court shall demonstrate compliance with IC 33-23-16, related laws, rules and regulations, and the standards imposed by the Problem-Solving Court Rules.
- (c) The Indiana Office of Court Services may take any administrative action at any time necessary to ensure compliance with Problem Solving Court Rules

but not limited to:

- (1) Reviews
- (2) Site visits
- (3) Suspension of court operations
- (4) Suspension of staff member job functions, and
- (5) Surveys.

These actions may be scheduled or unscheduled, announced or unannounced.

- (d) In the event that the Problem-Solving Court Rules are amended, a mental health court may continue operations pursuant to the amended rules and the court's current mental health court certificate until the court's scheduled recertification review is complete unless otherwise directed by the Indiana Office of Court Services.
- (e) Unless otherwise indicated, the Problem-Solving Court Rules and any amendments to Problem-Solving Court take effect on the date that they are adopted by the Judicial Conference of Indiana Board of Directors.

3.18 Certification Procedures

The VCMHC shall apply for certification as required for Court-administered problem solving courts. Once certified, the Court shall follow the Problem-Solving Court Rules. The program shall, at a minimum:

- (a) Once certified, contact the Indiana Office of Court Services no later than 120 days prior to the expiration of the current certification to indicate the intent to apply for re-certification and obtain the application.
- (b) When applying for re-certification, the VCMHC shall submit the application for re-certification to the Indiana Office of Court Services no later than 30 days prior to the on-site review date established by the Center
- (c) Compliance shall include:
 - (1) Compliance with I.C. 33-23-16 and related federal and state laws, rules and regulations
 - (2) Compliance with all Indiana Supreme Court Rules and the Problem Solving-Court Rules
 - (3) Compliance with the Problem-Solving Court principles
 - (4) Implementation of the principles of effective interventions
 - (5) Compliance with current research on evidence-based practices and programs
 - (6) Judicial involvement with participants
 - (7) Holding of case compliance hearings and other related court proceedings
 - (8) The number, qualifications, and abilities of Problem-Solving Court staff
 - (9) The participation by and interaction between the Problem-Solving Court team members
 - (10) The qualifications and abilities of any contractor that provides services to the Problem-Solving Court or its participants, and the contractor's compliance with the terms of the contract with the Problem-Solving Court
 - (11) The qualifications and services of any treatment provider that provides treatment services to the participants, and the treatment provider's compliance with the terms of the provider referral agreement with the Problem-Solving Court
 - (12) Investigations of complaints pertaining to the Problem-Solving Court's

compliance with I.C. 33-23-16, the Problem-Solving Court Rules, related federal and state laws, rules and regulations

3.19 Denial of Application for Certification & Revocation Procedures

- (a) The VCMHC acknowledges that the Indiana Office of Court Services may deny an application for certification or revoke a problem-solving court certificate for any reason listed in the Problem-Solving Court Rules including one (1) or more of the following reasons:
- (1) Failure of the VCMHC to comply with IC 33-23-16 and related federal and state laws, rules and regulations.
 - (2) Failure of the VCMHC to comply with the application requirements in section 6 of Problem Solving Court Rules.
 - (3) Permitting, aiding, or abetting the commission of an unlawful act by the applicant or mental health court.
 - (4) VCMHC or mental health court conduct or practices found by the Indiana Office of Court Services to:
 - (i) threaten public health or safety; or
 - (ii) be harmful to the health or safety of any participant in the mental health court.
 - (5) Deviation from the plan of operation submitted with the application or VCMHC that, in the judgment of the Indiana Office of Court Services, adversely affects the character, quality, or scope of services provided to participants.
 - (6) Failure of the VCMHC to cooperate with the Indiana Office of Court Services in connection with the certification process or an investigation of a complaint pertaining to the court's compliance with IC 33-23-16, Problem-Solving Court and related federal and states laws, rules and regulations.
 - (7) Failure of the VCMHC to provide accurate or reliable information on the application or regarding the mental health court's operations or practices.
- (b) The VCMHC supervising judge and the mental health court judge will receive notification from the Indiana Office of Court Services by certified mail, return receipt requested that the Indiana Office of Court Services intends to deny the application or revoke the court's mental health court certificate. The notice must contain all of the following information:
- (1) A brief statement explaining the reasons for the proposed denial or revocation.
 - (2) If the mental health court is currently operational, notice that the Indiana Office of Court Services Is imposing a suspension on the mental health court's operations, if applicable. The suspension continues in effect until the conclusion of all proceedings pursuant to Problem-Solving Court and any judicial review, unless withdrawn earlier by the Indiana Office of Court Services.
 - (3) A statement that the decision to deny the application or revoke the mental health court certificate is final unless the supervising judge submits written objections to

the Indiana Office of Court Services, within thirty (30) days from the date of the notice, stating why the application should not be denied or the mental health court certificate should not be revoked.

- (c) If objections to a proposed denial or revocation have been timely submitted, settlement of all the points of contention are not made and the Indiana Office of Court Services issues a second written notice of denial or revocation, the supervising judge may submit a request for a hearing on the matter in accordance with section 8(b) of the Problem-Solving Court Rules.
- (d) Upon the conclusion of the proceedings under this section for the denial of an application for certification or revocation of a mental health court certificate pursuant to section 7 of the Problem-Solving Court Rules:
 - (1) If the court is permitted to attain or retain mental health court certification, the mental health court shall comply with the findings and recommendations adopted pursuant to this section as well as IC 33-23-16 and Problem-Solving Court in order to maintain mental health court certification.
 - (2) If the court's application for certification is denied or the mental health court certificate is revoked, the court is not authorized to provide mental health services pursuant to IC 33-23-16, effective on the date of the Board of Directors meeting held pursuant to subsection (f) of this section.
- (e) The VCMHC acknowledges that it is bound by the Problem-Solving Court Rules and I.C. 33-23-16 and must comply with all of the requirements contained in each in order to continue operating as a certified Problem-Solving Court and that the Court's rights and remedies are contained in those documents.

Section 4 Fiscal Management

4.1 Mental Health Court Fees

- (a) The VCMHC has a written policy with respect to the assessment of fees authorized by Problem-Solving Court as well as a written policy regarding the collection of said fees.
- (b) The VCMHC may require eligible individuals to pay a mental health court administrative fee of one hundred dollars (\$100) per admission to the VCMHC for initial mental health court services regardless of the length of participation in the VCMHC.
- (c) In the event the participant is admitted to the VCMHC, participants are required to pay a mental health court services fee of twenty-five dollars (\$25) per month beginning with the second month of participation and for each month thereafter for the duration of participation in the mental health court.
- (d) The VCMHC shall adopt by local court rule a schedule of fees assessed for mental health court services
- (e) The mental health court fees authorized under this section shall be collected and utilized in accordance with IC 33-23-16-23.

4.2 Collection of Fees

(a) The VCMHC utilizes the offices of the Vanderburgh County Clerk and Auditor to collect, maintains, and disburses funds collected. The Coordinator is responsible for reconciliation of the funds and development of the annual budget. The budget is approved by the Supervising Judge. Currently, no funds are provided by the County Council. Should the County Council include the VCMHC in their budget, then the County Council will also approve the budget. The fee schedule is ordered by the Supervising judicial officers. The current fees are as follows:

1. Program fee	\$100
2. Monthly user fee	\$ 25
3. Urine sample testing	no charge
4. Confirmation urine sample testing	\$ 25
5. Transfer	\$ 25
6. Public Defender Fee (when assessed)	\$ 50
7. Inpatient/Outpatient treatment	determined by treatment provider

(b) Procedures to ensure payment for services. Many of the participants are unable to work due to their mental illness while others have limited income. Each participant is considered individually. For those who are not able to pay the fees for the program and public defender, those costs are waived. All participants are required to pay for any confirmation tests. Ms. Coomes, as case manager/probation officer will review the participant's fees with them. The presiding judicial officer shall make the determination as to whether the participant is indigent and whether the fees should be waived.

Section 5 Appendix

5.1 Definition of Terms

The following terms, when used in Problem Solving Court Rules, shall have the meaning as defined below unless the context clearly indicates a different meaning:

"Case management" means goal oriented case management plan activities that facilitate, coordinate, or monitor the full range of basic human needs, treatment, and service resources and delivery for individual problem-solving court participants in accordance with the policies and procedures of the problem-solving court or other services provider.

"Case management file" means all records regarding a participant contained in the file maintained by the case manager, including printed and electronic information regardless of the source of the information.

"Case management plan" means a plan that documents case management activities that

the participant must complete as a condition of problem-solving court participation. These activities shall be based upon the results of risk and needs assessment, if required, in conjunction

with any other assessments, the problem-solving court participation agreement and other court orders.

"Case manager" means a problem-solving court team member responsible for the case management of problem-solving court participants and case management files, which may include administering a risk and needs assessment, substance abuse and mental health screening,

referral to treatment and ancillary services; monitoring participant compliance with the participation agreement, case management plan and other applicable agreements; and providing

participant progress and compliance information to the problem-solving court team.

"Certification review" means the process of reviewing a court's compliance with the state and federal statutes, regulations and rules for certified problem-solving courts, to include the application for certification, review of applicable documentation, site visit and follow-up activities.

"Chemical test" means an analysis of an individual's blood, breath, hair, sweat, saliva, urine, or other bodily substances to determine the presence of alcohol, drugs, or controlled substances as defined in IC 35-48-1-9.

"Coordinator" means the problem-solving court team member responsible for the administration, management and coordination of problem-solving court services and operations,

including overseeing problem-solving court staff activities, ensuring the court's compliance with

the problem-solving court statutes and rules, developing problem-solving court policies and procedures, managing service provider contracts and team member memoranda of understanding, managing program grants, facilitating team meetings, and serving as a liaison to

local service providers and community groups.

"Documentation" means a written record acceptable as evidence to demonstrate compliance with Problem Solving Court Rules.

"Eligible individual" means an individual who meets the eligibility criteria as defined in IC 33-23-16-13.

"Eligibility screening" means a procedure for determining a potential participant's legal eligibility for admission to problem-solving court pursuant to IC 33-23-16-13.

"Evidence-based practices" means the use of research and science to enhance decision making in the criminal justice system resulting in the use of effective interventions to produce

the most favorable results.

"Indiana Risk Assessment System" (IRAS) means the risk assessment system as adopted by the Judicial Conference of Indiana comprised of several instruments to be used at specific points in the criminal justice process to identify a participant's risk to reoffend and criminogenic needs, and assist with developing an individualized case management plan.

"Indiana Youth Assessment System" (IYAS) means the risk assessment system as adopted by the Judicial Conference of Indiana comprised of several instruments to be used at specific points in the juvenile justice process to identify a juvenile participant's risk to reoffend and criminogenic needs, and assist with developing an individualized case management plan.

"Judicial involvement" means regular and frequent interaction between the problem-solving court judge and participants during case compliance hearings.

"Orientation" means the administrative process in compliance with the requirements of section 21 of the Problem-Solving Court Rules

"Outcome evaluation" means an evaluation of program results or outcomes, as measured by collected data, which determines if the program achieved its stated goals.

"Participant" means any person who meets the eligibility criteria under IC 33-23-16-13, has signed a problem-solving court participant agreement and has been admitted to the problemsolving court by the problem-solving court judge.

"Participation agreement" means the legal document signed by a participant and filed with the problem-solving court evidencing the participant's agreement to follow the conditions of problem-solving court participation as required by section 19 of Problem Solving Court Rules.

"Policy" means a statement of the principles that guide and govern the activities, procedures and operations of a problem-solving court.

"Problem-solving court" means a court as defined in IC 33-23-16-8 that is operating under a problem-solving court certificate issued by the Indiana Office of Court Services pursuant to IC 33-

23-16, including (as defined in IC 33-23-16):

- (1) Community courts;
- (2) Domestic violence courts;
- (3) Drug courts;
- (4) Family dependency drug courts;
- (5) Mental health courts;
- (6) Reentry courts;
- (7) Veterans' courts; and
- (8) Any other courts certified as a problem-solving court by the Indiana Judicial Center.

"Problem-solving court judge" means the judicial officer who presides over a problem-solving court and an individual authorized to perform judicial services within the courts of Indiana, including but not limited to, a judge, magistrate, commissioner and referee. If the

problem-solving court is a city court, the person serving as problem-solving court judge is required to be an attorney under IC 33-35-5-7.

"Problem-solving court services" means a broad range of services provided under a case management plan, including screening, assessment, education, referral, service coordination and case management, rehabilitative services, supervision, judicial involvement, and program evaluation that may be extended to a problem-solving court participant and that influence the behavior of the participant toward identified goals and objectives. The services and the manner in which they are provided are guided by IC 33-23-16.

"Problem-solving courts committee" means the Judicial Conference of Indiana committee established to integrate problem-solving principles into the administration of justice

in order to improve court processes and outcomes while preserving the rule of law.

"Procedure" means a series of activities designed to implement problem-solving court goals or policy.

"Process evaluation" means a procedure to document and analyze the development and implementation of a program, to assess whether strategies were implemented as planned and to determine whether expected outputs were produced.

"Risk and needs assessment" means the procedure used to determine the participant's criminogenic risk and needs using appropriately empirically validated instruments, including the Indiana Risk Assessment System or the Indiana Youth Assessment System, for the purpose of determining eligibility and developing a case management plan.

"Supervising judge" means the judge who has ultimate responsibility for a problem solving court. The supervising judge may or may not be the problem-solving court judge.

"Supervision" means a method of monitoring a participant's compliance with the participation agreement and case management plan.

"Suspension" means the imposition of limitations on or a full cessation of problem-solving court activities and operations, or a staff member's ability to perform his/her job functions as determined by the Indiana Office of Court Services.

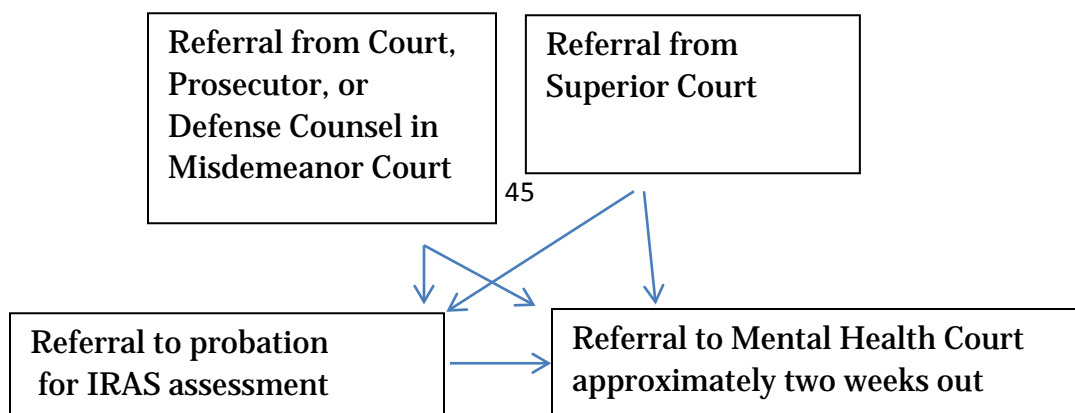
"Treatment plan" means a plan that addresses substance abuse or addiction and/or mental health issues by: (a) identifying the individual participant's strengths and needs through assessment; (b) defining goals and objectives based on identified need, and (c) establishing the services to be provided to assist with achieving the stated goals and objectives.

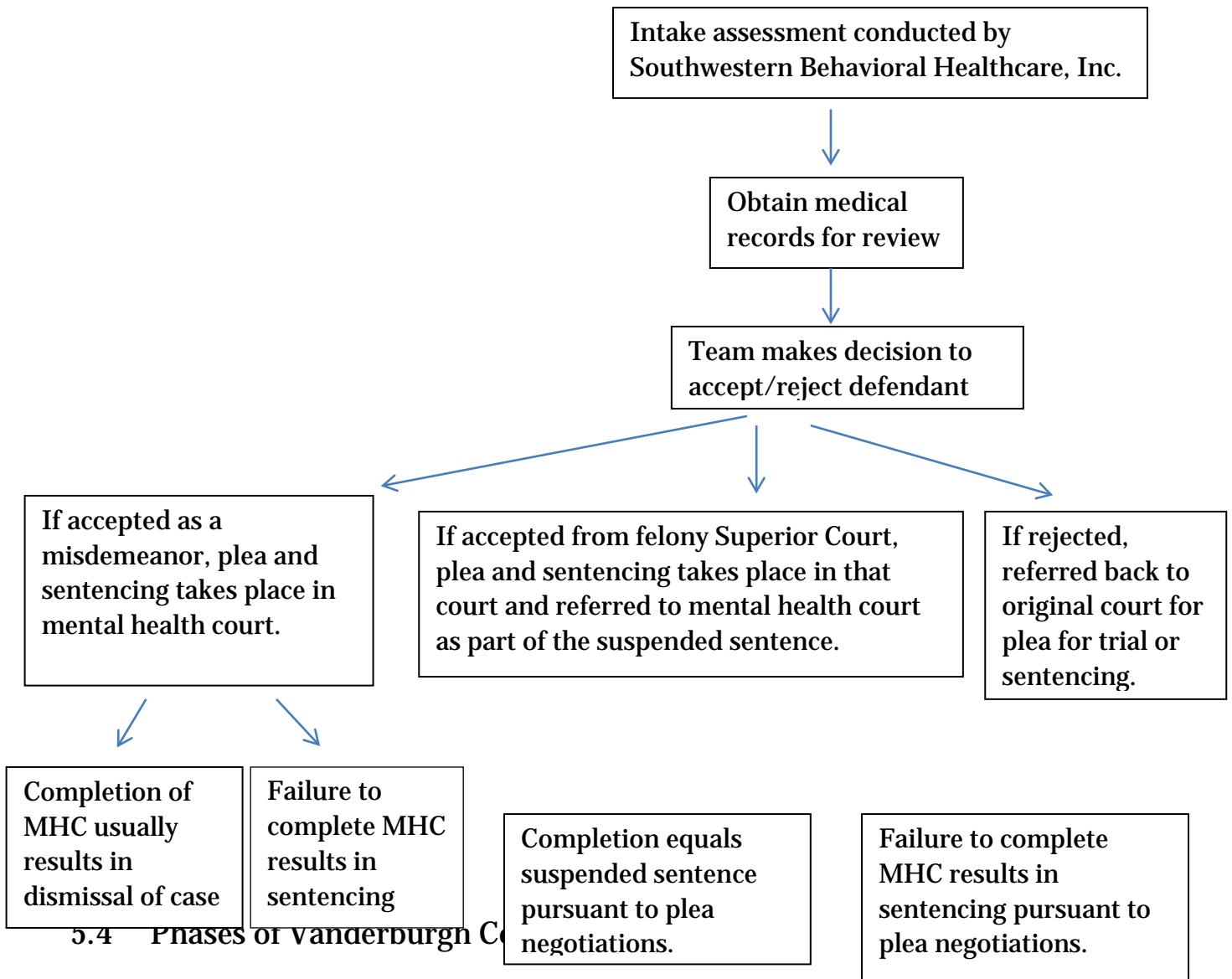
"Volunteer" means a person who, without direct financial remuneration, provides ongoing services to a problem-solving court.

5.2 Vanderburgh County Mental Health Court Organizational Chart

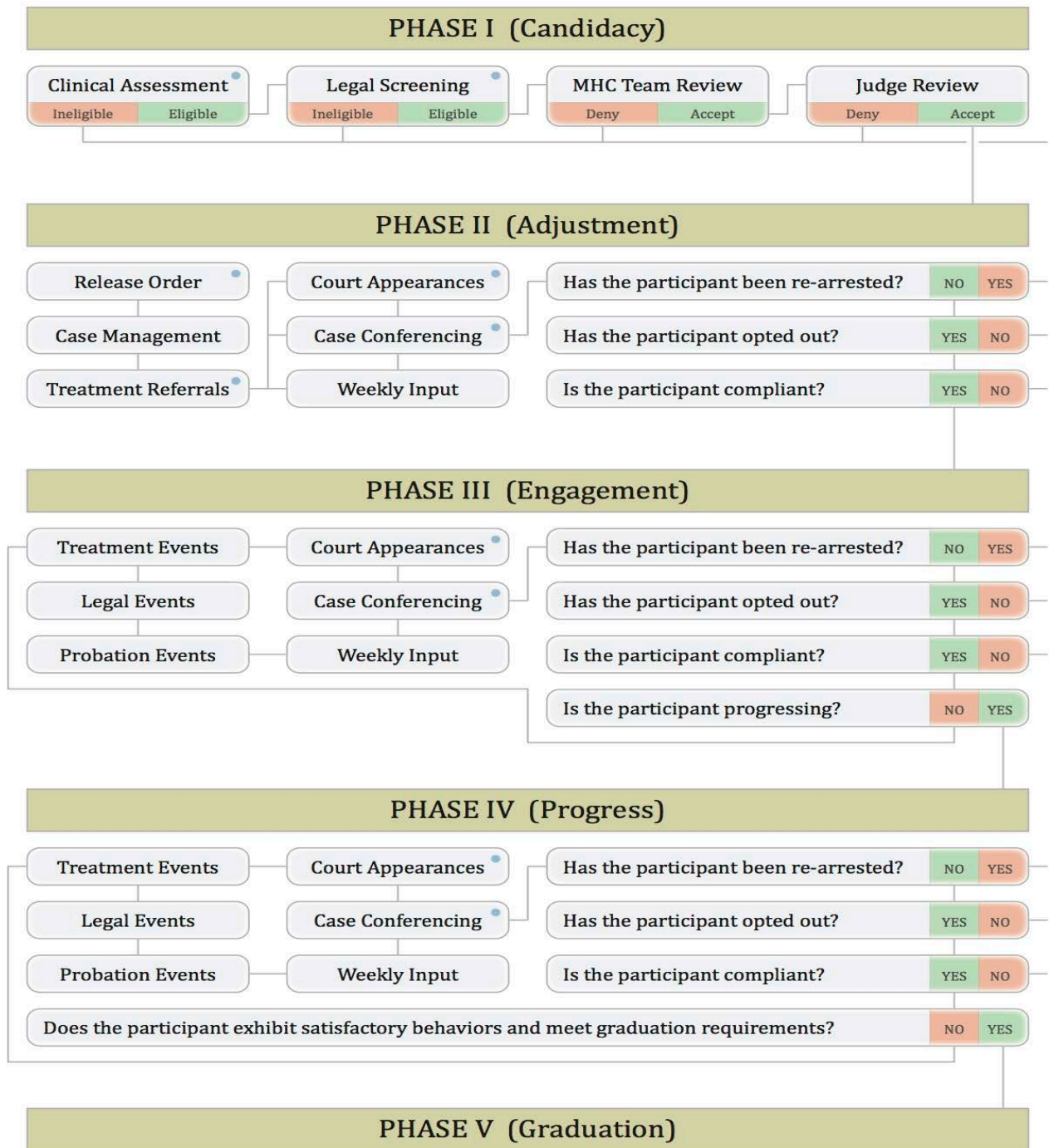


5.3 Vanderburgh County Mental Health Court Flow Chart





5.4 Phases of Vanderburgh County Mental Health Court



5.5 Staff Compliance

Coordinator: Jill R. Marcrum will serve as the Coordinator. Ms. Marcrum will also serve as a presiding judge. She earned her Doctor of Jurisprudence from Indiana University in Bloomington, Indiana in 1986. She has been a magistrate with the Vanderburgh Superior Court since 1997.

Case Managers:

- (a) Marcia Coomes is employed by the Vanderburgh Superior Court as a probation officer since 2012. She graduated from the University of Southern Indiana in 1974 with a Bachelor of Science degree in Social Services, Psychology, and English. She is licensed social worker and her license number is 33001012A.
- (b) Kaitlyn Schneider is employed by Southwestern Indiana Behavioral Healthcare, Inc. He obtained his Bachelors of Science in Psychology in 2014 from the University of Southern Indiana. He has worked as a case manager for the Evansville Housing Authority and Ireland Homebased Service.

Presiding Judicial Officers:

- (a) **Judge Leslie Shively shall preside over all cases transferred from Circuit Court;**
- (b) **Magistrate Jill Marcrum shall preside over all cases originating in Superior court**

5.6 Forms

- (a) Case Notes
- (b) Consent and Authorization to Release Information-general
- (c) Consent and Authorization to Release Information-Southwestern
- (d) Consent and Authorization to Release Information-ECHO Clinic
- (e) Consent and Authorization to Release Information-St. Mary's
- (f) Release of Confidential Information for Probation
- (g) Intake Assessment
- (h) Monthly Data
- (i) Action Plan
- (j) Case Management Progress Note
- (k) Monthly Data Report from Treatment Provider
- (l) Self Report Survey-Community Supervision Assessment Tool
- (m) Emergency Contact Information

- (n) **Assessment Information**
- (p) **Vanderburgh County Pocket Resource Guide**
- (q) **Memorandum of Understanding**
- (r) **Plea Agreement**
- (s) **Participation Agreement**

STATE OF INDIANA)	
)	SS: IN THE VANDERBURGH SUPERIOR COURT
VANDERBURGH COUNTY)	
)	MISDEMEANOR DIVISION
STATE OF INDIANA)	
VS)	CAUSE NO. 82D0__-_____-_____-_____
)	
_____)	

PARTICIPATION AGREEMENT AND CONDITIONS

Comes now the Defendant and agrees to the following conditions imposed for participation into Mental Health Court (MHC) pursuant to I.C. 33-23-16-13(3)(B):

- _____ a. That the defendant admits full responsibility for his/her crime and hereby admits the wrongfulness of his/her illegal action and further admits that defendant’s mental illness was a contributing factor.
- _____ b. The defendant will continue in the Mental Health Court Program (“Program”) for a period of _____ months.
- _____ c. The defendant will not commit or attempt to commit a criminal offense during this time period.
- _____ d. The defendant will pay an administrative fee of \$100 and a monthly user fee of \$25 during this time.
- _____ e. The defendant will not consume or possess alcohol, non-prescribed controlled substances, synthetic drugs, “bath salts”, cannabinoids, designer drugs, any other substance which contains MDPV and any mind altering substance not prescribed by a doctor.
- _____ f. The defendant agrees to take all prescribed medication at the time and manner in which it is prescribed.
- _____ g. The defendant agrees to participate in remote medication monitoring if ordered.
- _____ h. The defendant will agree to random chemical testing, including testing to determine appropriate medication levels as prescribed.
- _____ i. The defendant will cooperate with mental health treatment and/or counseling as recommended, including keeping all appointments.
- _____ j. The defendant agrees to attend all court hearings and meet with the case manager as often as court orders such attendance.
- _____ k. The defendant shall keep the case manager informed within the next court hearing of any changes in address or phone numbers.
- _____ l. The defendant agrees to sign any and all releases of health and mental health information as permitted under Indiana law.
- _____ m. The defendant acknowledges that his/her case will be discussed in open court including, but not limited to the defendant’s compliance. The defendant acknowledges that information that might otherwise be confidential may be discussed in open court.
- _____ n. Defendant understands that he will be subject to assessment utilizing the Indiana Risk Assessment System throughout his participation in the problem-solving court. The results of any such assessments will be entered into the risk assessment system database.
- _____ o. The Defendant shall work faithfully at a suitable employment if appropriate or faithfully pursue a course of study or vocational training that will equip the defendant for suitable

employment as recommended by the case manager.

- _____ p. The Defendant hereby acknowledges and agrees that the defendant may be removed from the program at the discretion of the judge if, in the judgment of the Team, there has been a violation of the rules contained in this agreement or any information given to the Program was falsified.
- _____ q. That upon successful completion of the Program and pursuant to the Plea Agreement,
 - _____ The cause shall be dismissed
 - _____ The Defendant's sentence shall be suspended
- _____ r. That upon unsuccessful termination of the Program and pursuant to the Plea Agreement, the Defendant shall be sentenced in accordance with the Plea Agreement.
- _____ s. In the event that the Defendant fails to comply with the terms of this Participation Agreement and Conditions, the defendant shall be given notice of any allegations in writing and shall be entitled to be represented by the Attorney Advocate and have a hearing on those issues before he/she may be terminated from the program for non-compliance.
- _____ t. The Defendant acknowledges that he/she has consulted either with private counsel or the Attorney Advocate prior to entering into this Participation Agreement and Conditions.
- _____ u. The Defendant understands and agrees to comply with all of the above participation requirements.

Agreed to this _____ day of _____, 20_____.

Participant

Deputy Prosecuting Attorney

Attorney Advocate

Presiding Judicial Officer