

Acute Alcohol Intoxication (AAI)

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Alcohol Use & Problems

- **90% Ever drink**
- **14% Drinkers have 1+ problem:**
 - Accidents**
 - Violence**
 - Mood swings**
 - Physical illness**

AAI: Lecture Focus

- 1) Alcohol's drug class**
- 2) Alcohol's brain effects**
- 3) AAI signs and symptoms**
- 4) Evaluation and treatment of AAI**
- 5) Unhealthy alcohol consumption**

Drug Classes Based on Effects

- **Depressants**
- **Stimulants**
- **Opioids**
- **Cannabinols**
- **Hallucinogens**
- **Inhalants**
- **Others**

Depressants Include

Class

Benzodiazepines

Bz-like meds

Barbiturates

Others

Example

Diazepam

Zolpidem

Secobarbital

Chloral hydrate

Alcohol

Effects & Dangers

Effects

↓ Anxiety

↑ Sleep

Muscle relaxation

Anesthesia

↓ Seizures

Dangers

Sedation

↓ Memory

↓ Coordination

Drug interact

Dependence

Intoxication

Intoxication

Medical problems

↓ Vital signs, coma, risk of death

Temporary psychiatric syndromes

Cognitive disorders

Psychosis

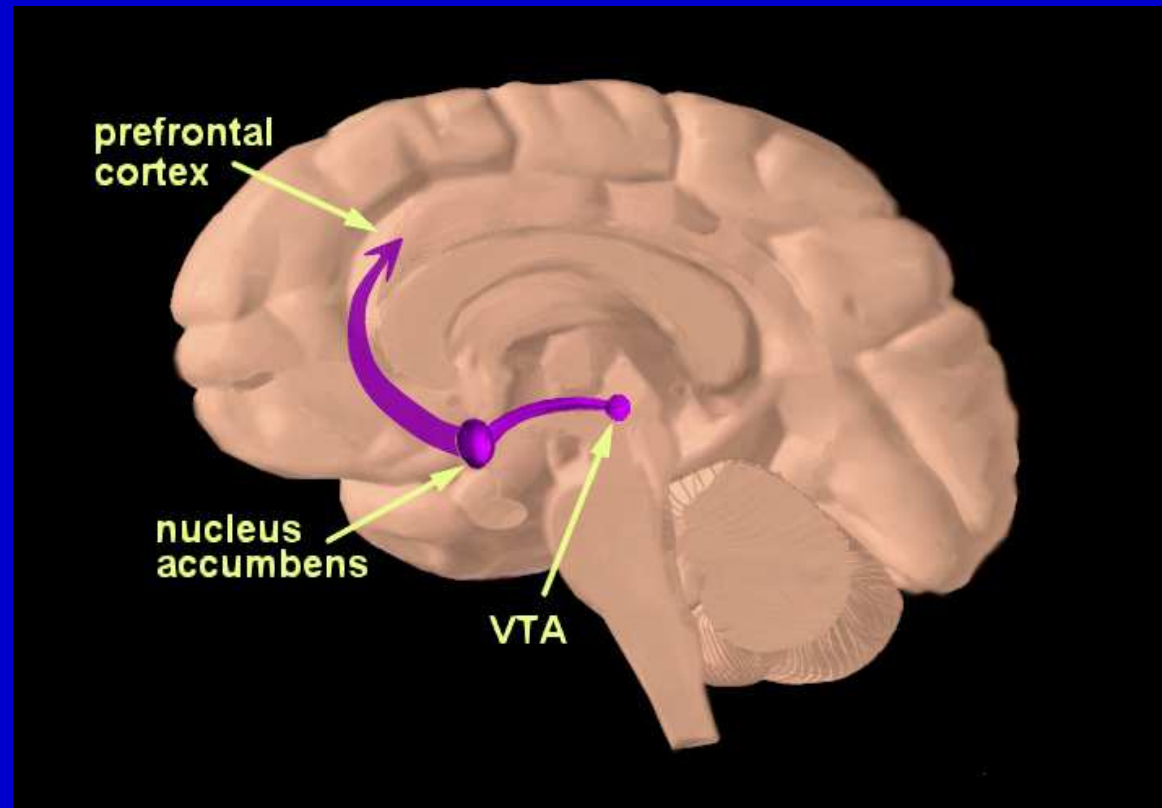
Depression

Anxiety

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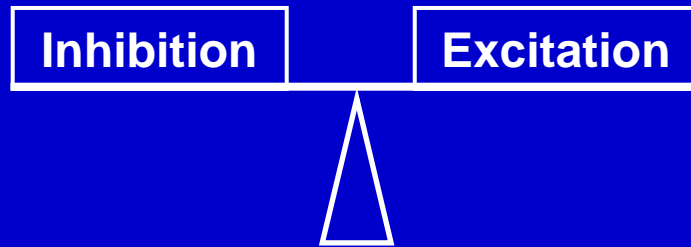
Reward Brain System



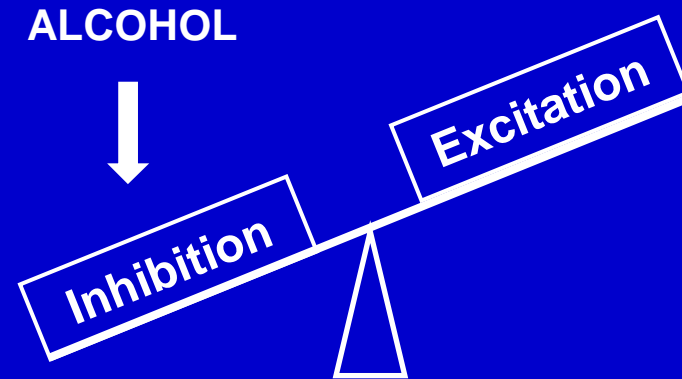
**Alcohol ↑ dopamine transmission
→ Pleasurable effects**

Alcohol's Brain Effects

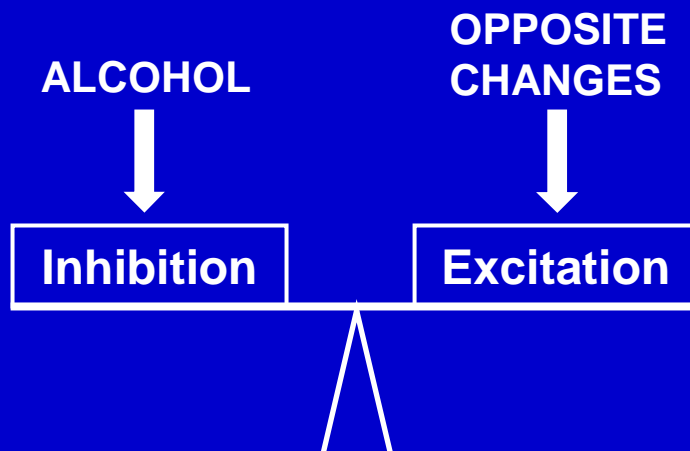
1. Homeostasis



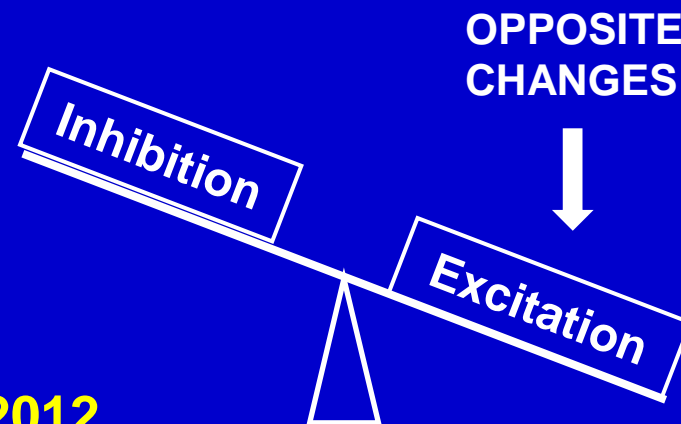
2. Acute use



3. Chronic use (tolerance)



4. Withdrawal



Blood Alcohol Concentration (BAC)

- Standard drink = ~12 g alcohol
- 1 drink → BAC = ~15 mg% (0.015 g/dl)
- ↑ BAC with:
 - Female
 - ↓ Weight
 - Drink without food

BAC's Effects

BAC (mg%)

Effects

> 300 → ↓ Vital signs, coma, death

≤ 300 → Difficulty to awaken

≤ 200 → Anger, moody, confusion

≤ 100 → Sleepiness, ↓ coordination

≤ 50 (1-3 drinks) → Well-being, ↓ inhib

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Definition of AAI (DSM-IV)

Recent ingestion

Behavior changes (e.g. aggression)

1+ Slurred speech

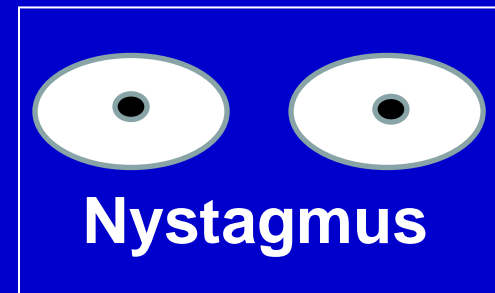
↓ Coordination

Unsteady gait

Nystagmus

↓ Attention or memory

Stupor or coma



AAI Medical Problems

↓ Vital signs

- Body temperature
- Respiratory rate
- Blood pressure

↑ Risk of death

- BAC > 300 mg%
- Opioids or other depressants

AAI Temporary Psychiatric Symptoms

Cognitive problems

Psychosis

Depression and/or anxiety

AAI Cognitive Problems

Confusion

↓ **Memory**

↕ **Alertness**

↓ **Judgment**

Disorientation

AAI Psychosis

Suspiciousness

Hallucinations

Paranoid thoughts

All without insight

AAI Depression

Sad all day

Every day for 2+ weeks

Can be suicidal

AAI Anxiety Syndromes

Meet criteria for anxiety disorders

(e.g., panic disorder)

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AAI Evaluation

- Other med/psych illness
- Other intox/withdrawal
- Smell of alcohol
- AAI signs & symptoms
- Laboratory tests
- Toxicological screen

Toxicological Screen

Check BAC & use of other drugs

- BAC $>$ 300 mg% \rightarrow potential death
- BAC \downarrow by \sim 15mg%/h
- Opioids or other depressants \uparrow risk

How to do

- Draw \sim 50 cc blood sample
- Collect \sim 50 ml urine sample

Rule Out Other Problems

Bleeding

Shock

Electrolyte disturbances

Cardiac disorders

Infections

Consequences of brain trauma

Test for blood sugar

Use a fingerstick

If ↓ administer

- 50 cc of 50% glucose IV
- &
- 100 mg vit. B1 (IV or IM) if needed

Medical Treatment

If ↓ vital signs

=

EMERGENCY PROBLEM

Support Vital Signs

Measure vital signs frequently

Address life-threatening problems =

ABCs Of Emergency Care

- Airway
- Breathing
- Circulation

NO MEDS until are sure they are needed

Airway & Breathing

Assure adequate ventilation

- **Straighten head (if no neck injury)**
- **Remove obstructions in mouth**
- **If needed intubate**
- **Use respirator (~12 breaths/min)**

Circulation

Maintain adequate blood pressure

- Start IV line
- Use large-gauge needle
- Use a slow drip until know if need fluids

Other Drugs: ↓ Absorption

Inducing vomiting (oral ipecac syrup)

Patient awake & stable pulse

Gastric lavage

Patient not awake

Took drugs within 12 h

Not corrosive, kerosene, strychnine, oils

If comatose, only after intubation

Gastric Lavage: How to do

- Nasogastric tube
- Patient on his/her left side
- Head slightly over the edge of the table
- Evacuate stomach
- Isotonic saline lavage until fluid clear
- Repeat up to 10-12 times
- Sample of washings for drug analysis

Specific Drugs: Antidotes

Opioids → naloxone

Monitor possible opioid abstinence syndrome

BDZ → flumazenil

Monitor possible seizures & ↑ intracran press

Atropine-like drugs → physostigmine

Barbiturates → No antidote

Forced diuresis & alkalization of urine

AAI Psychiatric Symptoms Medical Treatment

Protect & reassure

Should improve < 1 month

Consider inpatient

Observe & provide general support

Meds should be avoided

BDZ or antipsyc meds for sedation

No antidepressants

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Unhealthy Drinking

- 1) Alcohol Abuse and Dependence
- 2) At-risk Drinking

Consider this in all patients

Abuse

1+

- Role failure
- Risk of harm
- Run-ins with law
- Relationship trouble

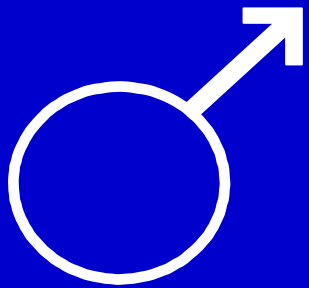
In same
12 months

Dependence

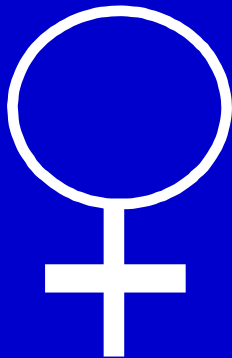
3+

- Tolerance
- Withdrawal
- Unable to limit
- Unable to cut down
- ↑ Time with alcohol
- ↓ Time elsewhere
- Use in spite of problems

At-Risk Drinking



> 14 drinks per week
≥ 5 drinks per occasion



> 7 drinks per week
≥ 4 drinks per occasion

ID Unhealthy Drinking

1) Ask

- *How many drinks per occasion?*
- *How many drinks per week?*

2) Blood markers*

MCV > 90 μ^3

GGT > 35 U/I

CDT > 2.0 U/I

ALT > 35 U/I

AST > 33 U/I

Questionnaires

- **CAGE** *Cut down*
Annoyed
Guilty
Eye-opener

- **AUDIT**
(Alcohol Use Disorders Identification Test)

10 items about Alcohol consumption

Drinking behavior

Alcohol-related problems

Rx Abuse/Dependence

1st step: Intervention

2nd step: Detoxification

3rd step: Rehabilitation

Rx At-Risk Drinkers

Help patients ↓ drinking

Brief Intervention

1st Step: Intervention

Help patients to

- Recognize problems
- ↑ Motivation to change
- ↓ Future difficulties

Motivational interview

Brief intervention

Motivational Interview

- **F**eedback
- **R**esponsibility
- **A**dvice
- **M**enu
- **E**mpathy
- **S**elf-efficacy

Brief Intervention

- Education
- Dangers
- Suggest ↓ alcohol use
- Avoid risky situations

2nd Step: Detoxification

~ 1/2 Patients need it

Reassurance temporary nature

Meds

- Oral multivitamins
- Benzodiazepines for ~1 week

3rd Step: Rehabilitation

Help patients to

- Keep motivation high
- A lifestyle free of alcohol
- ↓ Risk of relapse

Counseling

Self-help groups (AA)

Meds

Rehabilitation Meds

1. Disulfiram
2. Oral naltrexone
3. Slow release naltrexone
4. Acamprosate

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Conclusions on AAI

- 1) May be a life-threatening
- 2) Other depressants ↑ risk of death
- 3) May → temporary psych symptoms
- 4) Rx: support vital signs until
 - Alcohol has been metabolized
 - Psych symptoms disappear
- 5) Evaluate unhealthy alcohol use