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A Study to Assess the United States Navy's Explosive Ordinance Disposal Mobile Unit Two Emergency Medical Technician Program

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**A STUDY TO ASSESS
THE UNITED STATES NAVY'S
EXPLOSIVE ORDNANCE DISPOSAL MOBILE UNIT TWO
EMERGENCY MEDICAL TECHNICIAN PROGRAM**

**A Research Paper
Presented to the Graduate Faculty
Department of Occupational and Technical Studies
Old Dominion University**

**In Partial Fulfillment
of the Requirements for
Master of Science in Education Degree**

**By James P. Halstead
December 1998**

Approval Page

This research project was prepared by James P. Halstead under the direction of John Ritz, DTE, in OTED 636, Problems in Education. It was submitted to the Graduate Program Director as partial fulfillment of the requirements for the degree Master of Science in Education.

Approval By: John M. Ritz 12-11-98
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Advisor and Graduate Program Director

TABLE OF CONTENTS

Approval Page.....	ii
Table of Contents.....	iii
Table of Tables.....	vi
Table of Figures.....	vii
Chapter I. Introduction	
Statement of the Problem.....	2
Research Goals.....	3
Background and Significance.....	4
Limitations.....	7
Assumptions.....	8
Procedures.....	9
Definition of Terms.....	9
Overview.....	11
Chapter II. Review of Literature	
Pre-Hospital Life Support.....	13
EMS at the Crossroads of Care.....	15
Emergency Medical Technician - National Standard Curriculum....	17

Domain: National Association Of Emergency Medical	
Service Educators.....	19
Summary.....	20
Chapter III. Methods and Procedures	
Population.....	21
Instrument Design.....	22
Method of Data Collection.....	23
Statistical Analysis.....	24
Summary.....	25
Chapter IV. Findings	
The Scope: EOD/EMT Questionnaire.....	26
The Standard: Learning Objectives.....	34
Summary.....	37
Chapter V. Summary, Conclusions, and Recommendations	
Summary.....	39
Conclusions.....	42
Recommendations.....	45

References..... 47

Appendix List

Appendix A - Explosive Ordnance Disposal Mobile Unit
Two Emergency Medical Technician Survey..... 49

Appendix B - Letter to EODMUTWO Commanding Officer..... 50

Table of Tables

1.	Table 4-1	Survey Question Number 1 Results.....	27
2.	Table 4-2	Survey Question Number 2 Results.....	28
3.	Table 4-3	Survey Question Number 3 Results.....	28
4.	Table 4-4	Survey Question Number 4 Results.....	29
5.	Table 4-5	Survey Question Number 5 Results.....	29
6.	Table 4-6	Survey Question Number 6 Results.....	29
7.	Table 4-7	Survey Question Number 7 Results.....	30
8.	Table 4-8	Survey Question Number 8 Results.....	30
9.	Table 4-9	Survey Question Number 9 Results.....	30
10.	Table 4-10	DOT EMT Learning Objectives for 1987.....	35
11.	Table 4-11	DOT EMT Learning Objectives for 1994.....	36

Tables of Figures

1. Graph 4-1 Desired EOD/EMT Manning Level.....32
2. Graph 4-2 Current EOD/EMT Manning Level.....33

CHAPTER I

INTRODUCTION

The Explosive Ordnance Disposal community is tasked by the Chief of Naval Operations to conduct demolition missions throughout the world. In order to complete these missions, the Explosive Ordnance Disposal (EOD) community must conduct the following high-risk tasks: parachuting, rappelling, demolition, fast-roping, underwater sonar navigation, and diving operations. True to the special operations community, most missions are conducted in unforgiving weather conditions. Explosive Ordnance Disposal Mobile Unit Two conducts its dangerous operations throughout the Eastern United States, Atlantic Ocean, European Theater, and miscellaneous classified locations. Operational Explosive Ordnance Disposal units, called mobile detachments, often find themselves conducting missions in remote locations without traditional naval medical support.

It is the mobile detachment's operations which make its job inherently dangerous. The EOD community is the only special operations community in the entire United States Armed Forces which operates independent of medical personnel. EOD's inherently hazardous duty and remote isolation make this a vital exploratory research project. This is the initial research needed in evaluating a mobile detachment's ability to provide the most

effective and efficient emergency medical care for all operational personnel. The research will explore any ramifications of the latest Department of Transportation's Emergency Medical Technician (EMT) curriculum change. Specifically, the research will focus on the scope and standard of medical training provided by EOD technicians assigned to operational units at Explosive Ordnance Disposal Mobile Unit Two.

Statement of the Problem

The EOD community has not conducted a review of its emergency medical training program since the implementation of the 1994 National Standards for Emergency Medical Technicians. No formal evaluation process has been conducted to ensure its medical training programs reflect the changes in the scope and standard of emergency medical care. The problem is no one can determine if the EOD/EMT Training Program is effective. There is no administrative means in place to determine and track the efficiency of the EOD/EMT Training Program. Furthermore, there is no continuous evaluation tool in place to assess the desired standard of emergency care. There are no means available to determine if an adequate number of certified EOD/EMT personnel are serving in operational

detachments. This may have significant consequences should the need for emergency medical care arise in an operational environment.

Research Goals

It is the hope of this research project to determine any ramifications which may exist in the Department of Transportation's Emergency Medical Technician National Curriculum Standards 1994 revision. The research will determine if a change in the scope and standard of emergency medical training, whether positive or negative, has affected Explosive Ordnance Disposal Mobile Unit Two operational personnel. Should a negative result be found, recommendations will be provided to assist command personnel in the correction of their training program to ensure the operational personnel are at the lowest risk possible for illness and injury during "real world" operations.

Contributing goals are:

1. Determine if a difference in national curriculum standards has changed the scope of emergency medical training approved by certified EOD personnel.

2. Determine if a difference in national curriculum standards has changed the standard of emergency medical training approved by certified EOD personnel.
3. Identify the training strengths/weaknesses in the current EOD/EMT Program.
4. If any weaknesses are found, recommend for consideration a course of action for medical command personnel.

Background and Significance

A historical review reveals Explosive Ordnance Disposal Mobile Unit Two has not conducted an evaluation of an emergency medical training program in over five years. Since the EOD/EMT program's inception in 1993, a major national curriculum revision occurred in 1994. This complete curriculum revision has transformed the role and responsibilities of the EMT into an even more vital component of the pre-hospital care management system.

This research was conducted at the U.S. Navy's Explosive Ordnance Disposal Mobile Unit Two, located on the Naval Amphibious Base in Norfolk, Virginia. The Navy has numerous mobile units throughout the world. It is important to note only operational units are evaluated in this research project. The reason is non-operational units use traditional medical support from nearby naval medical facilities. Explosive Ordnance Disposal Mobile Unit Two has sixteen mobile detachments. Each detachment is composed of four to six EOD technicians.

The desired EMT manning level, established in early 1993 by the Commanding Officer of Explosive Ordnance Disposal Mobile Unit Two, mandates that at least one of the six EOD Technicians be qualified as an EMT. The rationale for this particular scope of medical care is that EOD detachments conduct high-risk demolition operations independent of traditional medical support. Therefore, if a medical emergency should arise, the detachment would have a qualified EMT on-hand to provide life-saving medical skills. The medical standards by which EMTs function are established and regulated jointly by the Department of Transportation and the National Registry of Emergency Medical Technicians.

In late 1993, the Medical Department of Explosive Ordnance Disposal Mobile Unit Two, in an effort to provide operational detachments with qualified medically-trained personnel, implemented a program for Explosive Ordnance Disposal Technicians to certify as Emergency Medical Technicians in accordance with the Department of Transportation's Emergency Medical Service Standards. Upon completion of this 110-hour curriculum, the candidate was granted permission to take the National Registry Examination for Emergency Medical Technicians. This mandate was driven by a need to provide competent emergency medical coverage for airborne and demolition operations. During an actual deployment, traditional naval medical support would not be available to cover "real world" missions. Navy Hospital Corpsman only cover training operations. It was hoped that an EOD Technician, who qualified as an EMT, would suffice for most medical emergencies in "real world" operations.

Since the program's creation, there have been significant manning and mission changes made in the EOD community. Specifically, within the last six months, EOD forces worldwide have seen their responsibility significantly increase. EOD has traditionally conducted operations

independent of most “special operations” communities. U.S. Navy SEAL Teams now use EOD Detachments as Subject Matter Experts (SME) on most demolition operations. U.S. Army Special Forces use EOD Technicians as mine-clearing experts when training foreign militaries. There are several other military and non-military units and organizations which use Navy EOD assets, which, for security reasons, may not be discussed. The role and responsibilities of the 21st century U.S. Navy EOD Technician have dramatically changed, and the operational medical readiness must keep up with the changes.

Limitations

The major limitation of the study was the use of a convenience sample. Although there was a 100% response rate with the questionnaire from EOD Mobile Unit Two technicians, the study should be applied to all twenty-four mobile units throughout the world. There are possibly different educational resources at the units scattered throughout the world. Therefore, the results may vary. Additionally, this convenience sample may not be representative of the entire EOD community. Therefore, generalization of the findings is limited to Explosive Ordnance Disposal Mobile Unit Two.

Financial and time constraints also limited the research effort. The study was further limited by the unforeseen lack of personnel meeting the two criteria, that being the scope and standard of emergency medical training.

Assumptions

There were factors which were assumed to be correct. The assumptions are as follows:

1. The EOD/EMT Training program exists and is supervised by EODMUTWO Medical Department.
2. The EOD/EMT Training Program is supported by the Commanding Officer and Senior Medical Officer.
3. All EOD/EMTs are currently certified through the National Registry of EMTs.
4. Only EOD/EMT personnel assigned to operational positions are evaluated.
5. Only personnel assigned to operational positions were given and completed the questionnaire.

Procedures

To research a medical training program, one must identify the most significant measuring criteria: the **scope** of medical training and the **standard** of medical training. This research will focus on the following: primary data gathered from a survey and secondary data provided by the Department of Transportation's EMT curriculum. For this research project, the **scope** of medical training will represent the actual number of Explosive Ordnance Disposal Technicians qualified as Emergency Medical Technicians. This scope is directly related to the operational detachment's manning level. The **standard** of medical training will refer to the actual medical skill level of EOD/EMTs. It is the measurable medical skill level as set forth by the national curriculum. These two criteria are the foundation on which this research is based.

Definitions of Terms

As is the case in most military situations, a great deal of abbreviation and military specific terms are used. The following list will assist the reader in understanding terms used in the military and emergency medical community.

1. EOD Technician - Explosive Ordnance Disposal Technician. A qualified demolition, ordnance, parachuting, and diving person.
2. EMT - Emergency Medical Technician. A person certified by the National Registry of Emergency Medical Technician to perform emergency medical procedure in a pre-hospital setting. There are various levels of training. For this research project, the EMT may be at any one of the levels. Normally, the EOD personnel will be EMT-Basic.
3. EODMUTWO - Explosive Ordnance Disposal Mobile Unit Two. Located at Naval Amphibious Base Little Creek Norfolk, Virginia.
4. NREMT - National Registry of Emergency Medical Technicians. The governing body for EMT's throughout the United States. Serves as the main certifying agency for all EMT's.
5. ESP - Expanded Scope of Practice. An evolving issue in EMT training. This allows the EMT greater responsibility and flexibility in delivering emergency care in the field.

6. EMS - Emergency Medical Service. The general term which encompasses an organized system of physicians, emergency medical technicians at all levels, and all logistical personnel.

Overview

Chapter I illustrates the unique situation the EOD technician faces in the world of emergency medicine. In order to meet the operational readiness level of all EOD personnel, the EOD/EMT program plays a vital role in preventing and minimizing illnesses and injuries to forward-deployed operational EOD forces. Since major EMT curriculum changes have occurred, the EOD/EMT program must reflect the current emergency medical practices.

Chapter II is a review of the literature which evaluates the major changes in the national EMT curriculum. Recognized subject matter experts present their views on curriculum changes and the state of emergency medicine. Selected readings from prominent authors and relevant organizations provide validity to consider the need to evaluate training programs which endure major changes.

Chapter III will provide methods and procedures used throughout the research process. Chapter IV will detail the findings of this research. Chapter V will provide a summary and conclusion as well recommendations for any modifications of the training program at EODMUTWO.

CHAPTER II

REVIEW OF LITERATURE

With so many recent technological advances in emergency medicine within the last several years, EMS educators strive to include the latest life-saving policies and procedures in their lessons. Chapter II will present several contemporary articles ranging from the traditional EMS curriculum to the cutting-edge expanded scope of proactice teachings.

Pre-Hospital Trauma Life Support

As new changes in emergency medical procedures and policies develop, medical curriculum strive to met those technological advances. The Emergency Medical Technician course is no exception to life-saving advancements. Emergency medical professionals are confronted by two types of medical conditions in the field: traumatic and non-traumatic. Traumatic injuries require medical personnel to demonstrate split-second decisions, self-confidence, teamwork, and proficient psychomotor skills. The majority of field scenarios an Emergency Medical Technician will encounter are traumatic in nature. In an effort to improve the standard of emergency medical care, the National Association of Emergency Medical Technicians and the Committee on Trauma of the American College of

Surgeons published the book, Pre-Hospital Trauma Life Support: Basic and Advanced. One of the major dilemmas faced by the National Association of Emergency Medical Technicians was the lack of cognitive medical guidance by emergency medical physicians in establishing an inclusive list, capable of defining emergency medical procedures for field use. The National Association of Emergency Medical Technicians wanted this list to assist them in developing a curriculum to diagnose and treat traumatic injuries. How was an Emergency Medical Technician, with only three weeks of clinical and practical instruction, going to diagnose medical conditions when it took four to five years for physicians to complete? The Committee on Trauma of the American College of Surgeons felt the role of the Emergency Medical Technician should be to identify, prioritize, and transport the patient to the hospital. At no time was the EMT to diagnose a patient. The committee states, "Definitive care cannot be provided for the critical trauma patient in the field" (McSwain, 14). Although presented in 1990, this fundamental concept was not adopted until the 1994 Emergency Medical Technician curriculum revision.

The concept of no diagnosis, just recognize and transport, has revolutionized the way Emergency Medical Technicians conduct their daily

life-saving business. In the beginning of the development of the proper role of the EMT, the physicians and Emergency Medical Technicians failed to see each other eye-to-eye on their respective contributions to emergency medicine. The physician felt helpless in the emergency room impatiently waiting for the EMTs to perform an advanced emergency medical procedure in the field prior to transport. Conversely, the EMTs felt the physicians did not have a personal interest in the patient because the physician was not willing to accompany the EMT in the ambulance for long, arduous hours. With their differences aside, both the emergency medical physician and Emergency Medical Technician have joined forces, and established the proper roles and responsibilities found in Pre-Hospital Trauma Life Support: Basic and Advanced. The final result, the standard of medical care **for the patient** has been significantly improved.

EMS at the Crossroads of Care

With emergency room physicians' confidence in the abilities of Emergency Medical Technicians on the rise, it only seems natural the role of an EMT would expand. With expansion comes a new found freedom in administering medical care. For decades, EMTs have demonstrated

technical competence with extraordinary professionalism. However, with change comes resistance. Denise M. Meade, Director of the EMS of Englewood, Colorado, writes about expanded-scope of practice (ESP) in an editorial article for EMS Magazine Online, “I think what we’re really talking about is a complete paradigm shift from everything we know and do--from initial education, on-going training, equipment used, and services rendered, to work schedules and work areas, attitude and overall mission.” (Meade, EMS Magazine On-line) A change in national curriculum has made this a reality for civilian and military emergency medical systems alike.

What has made this transition possible is the concept of expanded-scope of practice. Meade has concluded from extensive research regarding ESP the following observations:

1. “ESP is designed to address local needs.” (Harrawood, 34)
2. “ESP builds upon current knowledge and skills.” (Meade, EMS Magazine On-line)
3. “ESP taps into existing and emerging technologies.” (Garza, 32)
4. “ESP breaks traditional boundaries by establishing linkages with new partners.” (Garza, 32)

5. “ESP seeks cost-effective ways to provide patient care.” (Neely, 797)

For an effective ESP to be implemented into an existing EMS program, the leadership must consider the aforementioned observations to improve the quality of patient care. The education, training, and development aspects of emergency medicine play a key role in supporting ESP. Without a dynamic curriculum, EMTs across the nation will be forced to operate with their hands tied behind their backs.

Emergency Medical Technician - National Standard Curriculum

The U.S. Department of Transportation is the approving authority for all EMT curriculum changes. In cooperation with the National Highway Traffic Safety Administration and the U.S. Department of Health and Human Services, Public Health Service, the DOT approved a massive EMT-Paramedic national standard curriculum overhaul. Charged with the administrative duties, the Department of Emergency Medicine at the University of Pittsburgh, presented a comprehensive national standard to the Department of Transportation. The document established several revolutionary changes to the scope of emergency medical care. The project

director, Dr. Walt A. Story, states under the Program Objectives section of the document, “Goals and objectives must be consistent with the needs of the communities of interest, for example, the program sponsors, employers, students, medical community, and profession (Story, 22).”

Objectives of any education process are only valid if it is subject to a continuous evaluation process. This evaluation process provides validity and reliability to a program. Furthermore, the results of the evaluation process can assist in changes to curriculum, personnel, or equipment. At the national level, Dr. Story believes, “Only through a thorough assessment of the needs of the community, the establishment of goals to meet those needs, and program evaluation relative to those needs, will a program be able to demonstrate its quality and value (Story, 21).” Program success is best facilitated by the marriage of community needs and an established evaluated curriculum. Emergency medical programs, at all levels, must strive to define and be willing to redefine their mission. It is the responsibility of participating health care providers and educational administrators to lead their programs into accepting communities. Failure to do so may lead to unnecessary loss of life.

Domain: National Association Of Emergency Medical Service Educators

The Domain is the official newsletter of the National Association of EMS Educators in the United States. The newsletter serves as a national platform for a host of EMS educational topics. From instructional strategies to editor's articles, the newsletter allows the professions finest an opportunity to share the latest and greatest in the dynamic field of emergency medicine. Mr. Gregg S. Margolis serves as the principal investigator for the EMT-Paramedic and Intermediate National Standard Curricula. Already involved in the project for over two years, Mr. Margolis provides an analysis of increasing concern about the expanding role of the EMT. He states, "For anyone who has seen the drafts, it becomes immediately apparent that the proposed curricula represents a significant expansion of the knowledge base for advanced level EMS education (Margolis, 8)." He cites a change in the level of basic knowledge of incoming students along with curriculum authors' advanced EMT knowledge base. The author states, "There are 29 authors of these curricula and they were selected because they have extensive clinical and educational experience (Margolis 8)." When that many subject matter experts converge on a common task, many useful outcomes may present themselves. In

describing the authors motivation for the expanded scope of care, Margolis shares, “In speaking with authors , I found that they tended to “fill in the gaps” of their own education. Many of them told me that they decided what went in by asking themselves “...of what I know now, what do I wish I knew when I started?” (Margolis, 8).” Considering the EMS system has only been in existence since 1966, the national leadership has developed into an outstanding wealth of EMS knowledge.

Summary

Chapter II reviewed several imporant emergency medical concepts. These concepts form the foundations for organizational change at the national and local EMS levels. Fundamental for program success is a willingness to self-educated for self-improvement. The EMS community has a tremendous opportunity for professional growth.

CHAPTER III

METHODS AND PROCEDURES

The purpose of this study was to determine any ramifications which may or may not exist in the Department of Transportation's Emergency Medical Technician National Curriculum Standards 1994 revision as related to the scope and standard of emergency medical care provided by Explosive Ordnance Disposal Technicians. Information regarding this topic was gathered through the use of a survey, specifically a questionnaire, and the evaluation of the past and present learning objectives of the National Registry of Emergency Medical Technician course. Chapter III will discuss the methods and procedures used to gather responses and evaluate information concerning the study to improve program effectiveness and efficiency.

Population

The research began with the identification of the correct target group. As previously stated, only technicians assigned to Explosive Ordnance Disposal Mobile Unit Two operational detachments were evaluated in the research process. This step will reveal the actual number of qualified EOD/EMT personnel at each detachment, which was a total number of 94 people.

Instrument Design

Firstly, in order to ascertain the actual scope of medical care, an informal “question and answer period” was conducted with the target group one week prior to the distribution of the formal questionnaire. This informal meeting was performed in an effort to gather general information to assist with the construction of a valid questionnaire. The following week, a ten-item questionnaire was delivered to operational units assigned to Explosive Ordnance Disposal Mobile Unit Two, Appendix A. The questionnaire was utilized instead of a personal interview due to limited financial resources and time constraints. All questionnaires were received and analyzed within a two month time frame. This survey was conducted with a homogeneous group, and therefore, is not a random sample. However, the EOD unit as a whole was a random selection, and the results may be used in comparison and contrast with the other twenty-three mobile units.

The questionnaire was constructed to provide the researcher with primary data in order to: identify the correct target group, ascertain the total number of EOD technicians assigned to Explosive Ordnance Disposal Mobile Unit Two, determine the total number of EOD technicians qualified as EMTs, and verify basic certification data on these qualified EOD/EMT

personnel. The questionnaire also allowed an opportunity for the EOD technicians to provide additional comments and concerns on any pertinent EOD/EMT issues.

The second item crucial to this research was the evaluation of the EOD/EMTs' standard of medical care. A review of the training objectives of both curricula were reviewed, analyzed, and presented in a table format. The learning objectives of the 1987 and 1994 curricula were reviewed by a subject matter expert in an effort to identify any change in the standard of medical care.

Method of Data Collection

Since this study involved the United States Armed Forces, specifically the Department of the Navy, permission to gather data was requested (See Appendix B- Letter sent to Commanding Officer in May 1998). Permission was immediately granted by the unit's Executive Officer. All respondents were verified to be in an operational status by the senior enlisted sailor of the unit. Due to operational security, a list of names is not included in this study. The surveys were completed and placed in a sealed envelope, then given to the Executive Officer. The surveys from the respondents were all

received by August 1998. With regards to the data collection of the training objectives, a copy of the past and current training objectives of the National Registry of Emergency Medical Technicians-Basic Course was found. Although all ninety-four respondents were evaluated, the information obtained in this study will hopefully be used in a comparison/contrast study against the other EOD mobile units located throughout the world. A proportional, stratified sample was utilized to gather this information. The Department of Transportation and National Registry of Emergency Medical Technicians use these objectives as the governing standards expected of each Emergency Medical Technician in the United States.

Statistical Analysis

Data was tabulated and analyzed in order to meet the goals of the study. Since the majority of the survey questions were close-ended, the data was collected and presented in graphic format. There was opportunity for respondents to comment in an open-ended question. However, no responses are recorded. The reason for no responses to the open-ended question is not known. It may be assumed the EOD Technician may not have had enough background information to feel comfortable to respond. At the outset of

this study it was believed a significant amount of statistical data could be gathered. The data gathered was tabulated to demonstrate the accurate number of EOD/EMTs qualified to serve as EMTs on operational units.

Summary

Chapter III discussed the methods and procedures for data collection in this research study on the Explosive Ordnance Disposal Emergency Medical Technician program. Surveys were used to collect data from operational EOD technicians in an attempt to determine the scope of emergency medical care provided by EOD graduates of the National Registry of Emergency Medical Technicians course. The standard of emergency medical care data collection was obtained by presenting the training objectives from the two most recent EMT curricula. Chapter IV will provide survey results and objective analysis.

CHAPTER IV

Findings

Chapter IV presents the two key components of the study. They are the results of the questionnaire of the EOD technicians and the comparison/contrast of the learning objectives of the EMT-Basic course. Each question is analyzed and presented in order to demonstrate the effects of the curriculum change on the scope of available emergency medical care. The learning objectives from the current and former EMT-Basic courses are presented in order to demonstrate the effects of the curricula changes on the standard of care.

The Scope: EOD/EMT Questionnaire

It is important to note this is the first research of any kind to have been conducted since the implementation of the EOD/EMT program in 1993. The results from the survey demonstrate that of the ninety-four respondents who answered the questionnaire, only two respondents qualified as candidates who met the desired criteria. The desired criteria required, firstly, that each respondent be an EOD technician serving in an operational detachment. Secondly, the EOD technician must be currently certified as an Emergency Medical Technician. The questionnaire revealed

all ninety-four respondents met the operational criteria. However, only two EOD technicians were currently qualified as Emergency Medical Technicians. This information was provided by question number three on the survey, which served as a filter question. However, as a result of the effective placement of a filter question, the majority of the respondents were eliminated from the survey. Of those two respondents, both had an expiration date on their EMT certification cards of January 1999. A specific question by question breakdown is provided for analysis.

Table 4-1

Question #1. Are you an EOD Technician assigned to EODMU-TWO?
Yes or No.

Total number of respondents	94
Answered YES	94
Answered NO	0
Failed to answer	0

Table 4-2

Question #2. Are you assigned to a Detachment? Yes or No. Do not list Detachment number.

Total number of respondents	94
Answered YES	94
Answered NO	0
Failed to answer	0

Table 4-3

Question #3. Have you completed the Emergency Medical Technician course? Yes or No. If your answer is no, thank you for your time and effort. Please return the questionnaire.

Total number of respondents	94
Answered YES	2
Answered NO	92

Table 4-4

Question #4. If yes to question 3, what was your completion date?

Month and Year _____ / _____.

Total number of respondents	2
Respondent number 1 completion date	January 1997
Respondent number 2 completion date	January 1997

Table 4-5

Question #5. If yes to question 3, where did you attend the course?

Location.

Total number of respondents	2
Location of respondent number 1	Naval Hospital San Diego, San Diego, CA
Location of respondent number 2	Tidewater Community College, Virginia Beach, VA

Table 4-6

Question #6. Is your EMT certification current? Yes or No.

Total number of respondents	2
Respondent number 1	YES
Respondent number 2	YES

Table 4-7

Question #7. When does your EMT certification expire?

Total number of respondents	2
Respondent number 1	January 1999
Respondent number 2	January 1999

Table 4-8

Question #8. If your EMT certification is current, where and when will you complete your Continuing Educational Units?

Total number of respondents	2
Respondent number 1	Tidewater Community College, Virginia Beach, VA. As soon as possible
Respondent number 2	Virginia Beach Fire Department, Virginia Beach, VA. When I get back from deployment

Table 4-9

Question #9. If your EMT certification has lapsed, why did it lapse?

Total number of respondents	2
Respondent number 1	Has not lapsed
Respondent number 2	Has not lapsed

Question #10

Please feel free to make any additional comments or concerns about the current EOD Technician / EMT situation.

There were no responses for Question #10.

The following statistical data is derived from the previous 10 questions.

<u>Current EOD/EMT Manning Level</u>	<u>Desired EOD/EMT Manning Level</u>
$\frac{2}{94} = 2.12\%$	$\frac{16}{94} = 18.08\%$

This mathematical computation represents the two different manning levels for the EOD/EMT program. A comparison pie chart graph is provided on the following two pages to demonstrate the significance in the desired and current EOD/EMT manning levels at EODMUTWO.

Figure 4-1 Desired EOD/EMT Manning Level

**EOD/EMT QUALIFIED MANNING LEVEL AT
EODMUTWO**

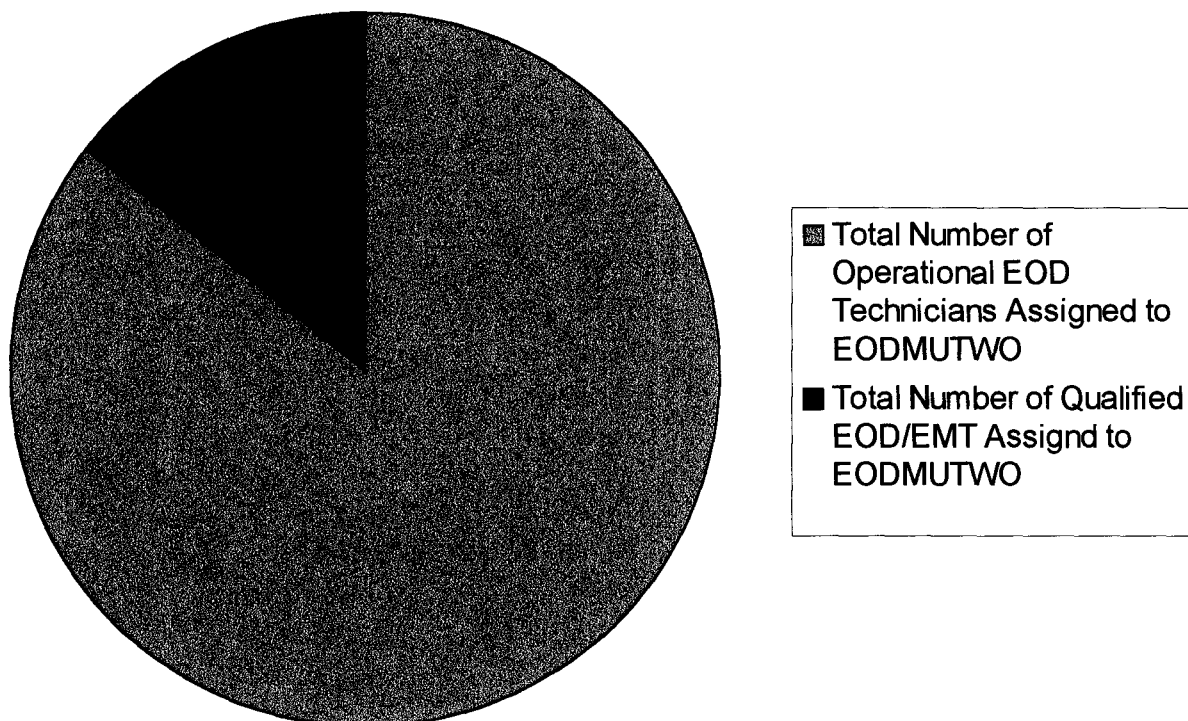
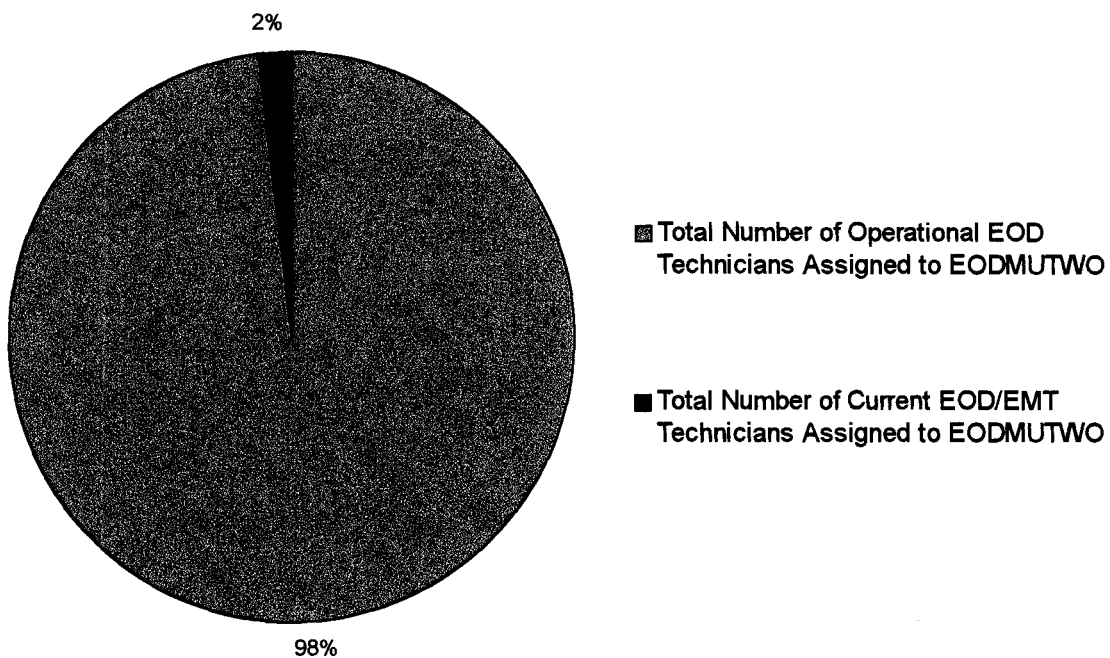


Figure 4-2 Current EOD/EMT Manning Level

CURRENT EOD/EMT MANNING LEVEL AT EODMUTWO



THE STANDARD: LEARNING OBJECTIVES

The findings on the standard of medical care provided by EOD technicians certified as Emergency Medical Technicians revealed there were no significant changes in the standards of care. There was only a change in the approach of delivering the same emergency medical care. The two sets of learning objectives from the 1987 and 1994 curricula were compared by Mrs. Denise Tiedeman in May 1998. In a personal interview conducted at Tidewater Community College, Virginia Beach Campus, Mrs. Tiedeman stated, "With the 1994 EMT curriculum revision, there was a significant improvement in EMTs' ability to recognize injuries and illnesses, but no change in their treatment level or standard of care is seen." (Tiedeman 1998)

Tables 4-10 and 4-11 are provided:

Table 4-10
Department of Transportation National Standard Curriculum for 1987
Learning Objectives

- I. Category One: Life-Threatening Situations
 1. Establish and maintain an open airway
 2. Provide adequate pulmonary ventilation and CPR
 3. Control accessible bleeding and treat shock
 4. Care for cases of poisoning

- II. Category Two: Not Life-Threatening Situations
 1. Dress and bandage wounds, and splint fractures and dislocations
 2. Deliver a baby, care for newborn and premature infants
 3. Cope with the psychological stresses on patients, families, colleagues, and the EMT

- III. Category Three: Non-Medical Situations
 1. Develop competence in the following areas:
 - a. Verbal and written communication skills
 - b. Defensive and emergency driving skills
 - c. Maintenance and use of supplies and equipment
 - d. Proper extrication techniques and equipment
 - e. Avoiding or coping with medical-legal problems

Table 4-11
Department of Transportation National Standard Curriculum for 1994
Learning Objectives

1. Recognize the nature and seriousness of the patient's condition or extent of injuries to assess requirements for emergency medical care.
2. Administer appropriate emergency medical care based on assessment findings of the patient's condition.
3. Lift, move, position, and otherwise handle the patient to minimize discomfort and prevent further injury.
4. Perform safely and effectively the expectations of the job description.

The 1994 curriculum has removed the single line-item responsibilities expected of the technician, and demands the complete and all-encompassing identification and treatment of all possible emergency medical situations which an EMT may encounter in the field. The new standards indicate an administrative change and demonstrate no significant change in the standard of care provided by Emergency Medical Technicians (Heckman, 10; Hafen, 14). However, when both criteria are evaluated together, as they are for this study, the standard of care is significantly altered. There is an insufficient number of personnel, only two of ninety-four, who are able to render proper emergency medical care.

SUMMARY

This chapter presented the data from the EOD/EMT program regarding the scope and standard of emergency medical care. EOD technicians were asked to complete a survey regarding their EMT qualifications. Responses were either closed-or open-ended. The results were tabulated and presented both in a table format and in a pie graph format. The learning objectives of the present and former EMT National Curriculum Standards were compared and contrasted. This exploratory

study began with the intent to establish a baseline of knowledge regarding an existing emergency medical training program. Through the effective use of a survey of a selected target group, a clear picture has developed regarding the scope of emergency medical care at EODMUTWO. The findings regarding the standard of emergency medical care are demonstrated through a comparison/contrast of learning objectives using a subject matter expert.

Chapter V will provide a summary of this research study, the conclusions and recommendation for future program changes based on the information gained from this study.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Chapter V summarizes the findings of this research study, reports the conclusions, and makes recommendations regarding the research problem and goals.

Summary

The problem which led to this research study was the inability of the EOD community to conduct an evaluation of its EOD/EMT program since the 1994 National EMT Curriculum change. This research is noteworthy since the lives of EOD Technicians may be affected. Additionally, the research is important as it attempts to ascertain if the scope and standard of emergency medical care provided by EOD Technicians in operational assignments at EODMUTWO was effected by the 1994 National EMT Curriculum Standards implementation. After gathering the data required to answer the four contributing goals, the researcher was able to make conclusions and recommendations regarding the research problem. To refresh the reader, the contributing research goals were:

1. Determine if a difference in national curriculum standards has changed the scope of emergency medical training approved by certified EOD personnel.
2. Determine if a difference in national curriculum standards has changed the standard of emergency medical training approved by certified EOD personnel.
3. Identify the training strengths/weaknesses in the current EOD/EMT program.
4. If any weaknesses are found, recommend for consideration a course of action for medical command personnel.

Information was gathered from an EODMUTWO command-wide survey. Operational EOD Technicians were asked to identify their EMT qualifications. This portion of the study provided information on the scope of emergency medical care. Then the learning objectives were compared and contrasted to ascertain any changes, if any, to the standard of emergency medical care of the EMT-Basic national curriculum.

There were several general trends to the responses of the surveys.

They were:

1. The majority of EOD Technicians assigned to EODMUTWO operational detachments are not qualified at any EMT capacity.
2. There is no EMT administration and management tracking program currently in use at EODMUTWO.
3. There is no EMT refresher program currently in use at EODMUTWO.
4. There is no EMT Continuing Education Units Program in use at EODMUTWO.
5. EOD Technicians at EODMUTWO do not make comments or have any concerns about the EOD/EMT program.

There were several general trends to the comparison and contrast of the learning objectives from the past and present National Curriculum Standards for EMTs. They were:

1. Both sets of learning objectives were created by the same two organizations. The National Registry of Emergency Medical Technicians and the Department of Transportation.

2. Both sets of learning objectives provide for an opportunity for trainees to demonstrate knowledge, attitude, and psychomotor skills at the conclusion of the EMT course.

Conclusions

Several conclusions can be drawn from the responses returned from the EOD technician surveys. Starting with the goals as defined directly in this research project. These were:

1. Determine if a difference in national curriculum standards has changed the scope of emergency medical training approved by certified EOD personnel. The exploratory research has identified a significant lack in the scope of medical care provided by EOD/EMTs. The problem being only two of a desired sixteen EOD technician are qualified as Emergency Medical Technicians. Both EOD technicians have a January 1999 expiration date on their EMT qualification card.
2. Determine if a difference in national curriculum standards has changed the standard of emergency medical training approved by certified EOD personnel. The exploratory research has

identified no direct change in the standard of medical care provided by EOD/EMTs. However, when the scope and standard are evaluated together, because of a lack of EOD technicians who cannot provide the scope of care, the overall standard of care in a EOD detachment is also effected in a negative way.

3. Identify the training strengths/weaknesses in the current EOD/EMT program. The study reveals no strengths exist in the EOD/EMT program at EODMUTWO. There are several weaknesses noted as follows:
 - a. Lack of command leadership. The executive level of leadership has no knowledge of the effectiveness of their EOD/EMT program.
 - b. Lack of medical leadership. The senior medical officer who is directly responsible for medical readiness has failed to supervise the EOD/EMT program.

- c. Lack of formal training pipeline. Failure to procure appropriate training sites to conduct initial, continuing education units, and refresher/requalification training.
 - d. Lack of medical standard. Failure to identify an EOD/EMT training standard. EOD has made no decision on what qualification to pursue, national or state level EMT certification.
4. If any weaknesses are found, recommend for consideration a course of action for medical command personnel. All program weaknesses for medical personnel are found in the recommendations section of Chapter V.

The research clearly shows a lacking or completely nonexistent training program. This dismal diagnosis illustrates that this incompetent training program is inherently dangerous to the men and women serving in operational detachments at Explosive Ordnance Disposal Mobile Unit Two. This chapter presented the data from surveys and learning objective findings. Although the survey data initially appeared to be insufficient to support the

study, the findings of both the survey and learning objectives present usable information.

Recommendations

The findings and conclusions of this study support the following recommendations to improve the EOD/EMT program.

1. This study, or one similar, be conducted on an annual basis to ensure compliance with the ever-changing EMT curriculum.
2. The senior medical officer, or appointed representative, serve as the EOD/EMT program coordinator. A monthly EOD/EMT qualification status report be submitted to the EODMUTWO Commanding Officer.
3. Although all ninety-four respondents were evaluated, recommend the study be used immediately in a comparison/contrast study against the other EOD mobile units located throughout the world. If such a large-scale training deficiency exists at one EOD command, there is a significant chance it will exist at the other twenty-three units.

4. This study or a similar one should be used annually for the other twenty-three EOD Mobile Units throughout the world.
5. Create a cooperative learning partnership with Tidewater Community College's Emergency Medical Technician Program. This will provide a consistent place to train all EOD technicians on the initial three week training course.
6. Form an educational linkage with Lafayette Naval Annex to ensure the qualified EMTs will not let their certification lapse. The Lafayette Naval Annex has a one-week EMT refresher course offered four times per year and is free of charge to all active duty military personnel.
7. Form continuing medical education classes, free of charge, at Admiral Boone Medical Clinic. This will ensure the certified EOD/EMT personnel kept up to date on any new emergency medical techniques, procedure, or policies. Require each technician attend once a month.

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APPENDIX A
EXPLOSIVE ORDNANCE DISPOSAL MOBILE UNIT TWO
EMERGENCY MEDICAL TECHNICIAN SURVEY

In an effort to improve the quality of medical training at this command, please complete this questionnaire. Please return to the Executive Officer's mailbox.

1. Are you an EOD Technician assigned to EODMU-TWO? Yes/No.
2. Are you assigned to a DET? Yes/No. Do not list DET number.
3. Have you completed the Emergency Medical Technician course? Yes/No. If your answer is no, thank you for your time and effort. Please return.
4. If yes to question 3, what was your completion date? Month/Year
____/____.
5. If yes to question 3, where did you attend the course? Location
_____.
6. Is your EMT certification current? Yes/No.
7. When does your EMT certification expire? _____.
8. If your EMT certification is current, where and when will you complete your Continuing Educational Units?
_____.
9. If your EMT certification has lapsed, why did it lapse?
_____.
10. Please feel free to make any additional comments or concerns about the current EOD Technician/EMT situation.

Thank you for your time and energy in completing this questionnaire. The information gained will be used to determine future medical training needs for our command.

APPENDIX B

May 28, 1998

James P. Halstead
7440-C Hampton Blvd.
Norfolk, VA 23505

Commanding Officer
Explosive Ordnance Disposal Mobile Unit Two
2520 Midway Road Suite 200
Norfolk, VA 23521-3324

Dear Commander,

As previously discussed with your Executive Officer, LCDR Gary McClelland, I respectfully request permission to distribute and collect a one page questionnaire at your command in an effort to ascertain the efficiency and effectiveness of your Explosive Ordnance Disposal Emergency Medical Technician Program. The results of the questionnaire will be evaluated by myself and reported as a graduate study to John M. Ritz, DTE, Director of Graduate Studies for Old Dominion University, Department of Occupational and Technical Studies. At the conclusion of the study, a copy will be forwarded to you and your medical department in hopes of improving this important lifesaving training program.

Should any questions concerning the questionnaire or study itself, I may be reached by telephone at (757) 423-3905 or e-mail at <jphkdh@erols.com>. Please be assured the results of the study will only be seen by myself, Dr. Ritz, and your command. Thank you in advance for your cooperation in improving this very important training program.

Respectfully,

James P. Halstead
Old Dominion University
Graduate Student