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ABSTRACT

This instructor's lesson plan guide, one of fifteen modules designed for use in the training of emergency medical technicians (EMTs), focuses on the area of rescue techniques. Basic skills necessary for g ining access to, rescuing, and transporting a patient are listed along with suggestions for adapting training to the local situation. Fourteen references are listed as potential resources or training materials. (It is suggested that each module can be presented individually or combined with other modules to construct a course for a selected group of students. CE 017 514 is a course guide for use in planning and implementing the total EMT training program.)

National Training Course
EMERGENCY MEDICAL TECHNICIAN
PARAMEDIC
INSTRUCTOR'S LESSON PLANS

Module – XIV
Rescue Techniques

U.S. Department of Transportation / National Highway Traffic Safety Administration

National Training Course

EMERGENCY MEDICAL TECHNICIAN/EMT
PARAMEDIC

INSTRUCTOR'S LESSON PLANS

Module – **XIV**

Rescue Techniques

U.S. Department of Transportation / National Highway Traffic Safety Administration

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HOW TO USE THE INSTRUCTOR LESSON PLANS

NOTES

The *Instructor Lesson Plans* are guides for teaching an advanced-level training program for emergency medical technicians. The *Plans* cannot be used by the instructor to develop the competency to conduct the program; the instructor should have this as a prerequisite to teach the course.

The *Instructor Lesson Plans* are comprised of 15 modules, each containing the information and instructions needed to conduct a program on a particular subject. Each module can be used by itself or in concert with other modules.

Each module is subdivided into instructional units that deal with a particular segment of the module subject. Generally, the units contain the following components:

- *Performance Objectives.* These are classified as knowledge (K) objectives or skill (S) objectives. They are written in behavioral terms so they can be evaluated either through observation of student activities or through results obtained under specified conditions.
- *Unit Activities.* Reading assignments, reference materials, and outside activities are presented for both the students and the instructor. If the activities are identical, only the instructor's activities are presented.
- *Equipment and Materials.* Educational equipment includes chalkboard, overhead projector, slide projector, and screen. Medical equipment and materials required are drawn from those listed in Appendix F of the *Course Guide.*

- *Content Outline.* This presents the topics to be covered during the presentation of the unit. Where appropriate, it is divided into single skills or concepts. This approach gives the instructor the flexibility to add or delete specific skills and information. The content outline also provides directions to the instructor indicating when the use of demonstrations or group discussions would be most appropriate.

  Because the units are designed to be taught by technically competent instructors, the content outlines are not specific; they only enumerate topics and subtopics. It is expected that the instructor's skill and knowledge will supplement the depth of the course content outline. The instructor is encouraged to prepare additional notes.

- *Demonstration Outlines.* These are designed to present procedural steps that are important in performing the particular skill or calculation. Steps that are critical or that may lead to common errors are emphasized. Where critical steps exist, these outlines suggest what should be demonstrated.
- *Practice Sessions.* These sessions serve as guides to activities to be performed by students applying the skills. They may be performed in the classroom or assigned as homework. During classroom practice sessions, the instructor will be available to observe and correct student performance and to answer any questions.
- *Skill Evaluations.* The skill evaluation sheets provide checkpoints for the instructor to use to insure that students are following appropriate procedures or sequences. Skill evaluation sheets also provide a convenient method for feedback to students having particular problems with a given skill, and for monitoring a student's progress in attaining skill objectives.

  The skill evaluation should occur only after the students have had an opportunity to practice the skill under the supervision of the instructor. The skill evaluation sheets can be distributed during, or before, the demonstration or practice session. Thus, they can be used as a job aid during practice. They should not be used, however, as a job aid while the student is being evaluated. The sheets are designed to provide a learning and evaluation tool

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and are not intended to mandate performance in the field in a set manner, irrespective of the patient's condition or situation.

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Satisfactory performance of a given skill is defined as the correct performance of all steps in the proper sequence. The instructor's judgment is required to define correct performance and sequence of steps in a skill. Skill evaluations may be repeated at intervals throughout the course to assess skill decay and the need for remedial practice. Some instructors may wish to test skills immediately after they have been learned and again at the conclusion of the course.

The alphanumeric coding system is used to identify the various modules and units. When you see, for example, in Module II, 3.6.1.K, the 3 indicates the unit, the 6 indicates the main instructional topic, the 1 indicates the subsection of the major topic outlined in 3.6, and the K indicates the teaching objective (in this case, knowledge).

To illustrate further, 3.6.1.K would translate into:

3 = Unit number
6 = The main topic of the instructional section (The first two numbers—e.g., 3.6—refer to a major heading in the unit content outline.)
1 = A subsection of the major topic outlined in 3.6 (This number relates to the number of objectives listed under skill or knowledge objectives and not to the content outline.)
K = Knowledge objective
S = Skill objective

The three-digit reference numbers (e.g., 3.6.1) within each module refer to the topical section in that module only. For example, in Module II, any topical heading with 3.6 as the first two digits refers to the discussion of the components of patient assessment in Unit 3.

A visual presentation of Unit 3, by Module II, of the coding system is presented on the following pages.

SAMPLE PAGE

CODING SYSTEM EXAMPLES

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- Abdomen
- Extremities

3.6.1.K Given a situation describing a patient with a possible illness or injury who may or may not be able to communicate, the student should be able to describe the procedure for evaluating the patient described. Minimally, the student should include the appropriate primary assessment and specify the order of the four components of the secondary assessment and the areas of the assessment that would be emphasized.

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the demonstration, auscultation of the lung, heart, and abdominal sounds.

3.6.1.S Given a student posing as a communicative patient, the student should be able to demonstrate the procedure for conducting a patient assessment when the patient is suspected of having the following:

SAMPLE PAGE

CODING SYSTEM EXAMPLES

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8. Practice Session 3

3.6. Four components of assessment (order)

A. If the patient can communicate, determine if he has a medical or trauma-related problem.

1. If a medical problem, the general order should be:
   a. Evaluate the diagnostic and vital signs.
   b. Develop the patient's history.
   c. Examine for a medical problem.

Skill Evaluation 3.6.I.S: Assessment of a Communicative Patient With a Suspected Trauma-Related Problem

Place an "X" in the appropriate column to indicate steps that are incorrect, out of sequence, or omitted. The student should be given three attempts to perform the skill.

Equipment

Student posing as a victim
Stethoscope

Clinical Training

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To present this program, it will be necessary to have access to the clinical units listed below. If a unit is not available, adjustments should be made to insure that the activities proposed for that unit are included in others. Specific guidelines for the clinical units are included in the modules. The student's training should be supervised in each of the following clinical areas:

- Emergency department
- Intensive care unit/coronary care unit
- Operating/recovery room
- Intravenous (IV) team
- Pediatric unit
- Labor suite/delivery room/newborn nursery
- Psychiatric unit
- Morgue
- Mobile intensive care unit

Sample forms for maintaining student activity records are included in the *Instructor Lesson Plans*. The forms are designed so that the medical director can determine the number of times, and how successfully, a student has performed a skill. The medical director also will be able to determine how much time the student needed to become proficient in the skill. Further, the medical director will be able to evaluate student performance under a number of preceptors, because certain skills are repeated in various clinical units (e.g., initiating an IV is performed by the student with the IV team and in the emergency department and intensive care unit).

Although the clinical experience is listed with the module, it need not be presented each time, even if a number of modules are being presented.

Testing and Evaluating the Student

It is recommended that each student be evaluated on proficiency of skill and knowledge at the completion of each module. Skill evaluation sheets have been provided for each skill in each unit. These sheets can be used as guides for evaluating the student's skill proficiency. The evaluation of the knowledge objectives is left to the discretion of the instructor, according to predetermined objectives.

Testing of knowledge should stress areas of clinical relevance over basic science. No matter what type of evaluation system is used, students should be kept informed of their progress and should be given additional activities to supplement weak areas.

As previously stated, the emphasis is on student competency, rather than on the total number of hours the student is involved in the program. Thus, it is possible for the student to be tested and given credit for any module. The medical director should not assume the student's competency simply because of prior training, but should develop an evaluation method to determine the student's proficiency based on first-hand observation and experience. With this type of method, it is possible for students to receive credit for prior training experience. This would be especially applicable for those modules that are primarily a review of skills concerned with Emergency Medical Technician-Ambulance; for example, soft-tissue injuries and rescue.

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MODULE XIV EXTRICATION/RESCUE TECHNIQUES

INTRODUCTION

An Emergency Medical Technician (EMT) is an individual who is trained to assess and manage patients who are acutely ill or seriously injured. His emphasis is patient care, but his role as an EMT also requires him to have basic skills that are not necessarily medically oriented. More specifically, the EMT must be trained in basic rescue procedures. The emphasis of an EMT's rescue training should be on those areas that are directly related to patient care, that is, recognition and management of hazardous environments, gaining access to the patient, correcting immediate life threatening condition, disentangling the patient, prepa ation for removal, removal and continued care in transport to the appropriate medical facility.

When the level of rescue training required by each EMT is determined, certain factors must be considered. First, the locale has a great deal to do with the type of training required. For example, the EMT's who function in an area with many lakes, rivers, or streams should be trained in basic skills of water rescue. Those EMT's active in a mountainous area would be more appropriately trained in skills such as rapelling. Conversely, those EMT's functioning in the plains of Iowa need not be trained in mountain rescue. Second, the role of an EMT must be determined with respect to the entire emergency-response system. If an EMT is responding to the scene and is accompanied by a fully trained rescue team and a fully equipped vehicle, it is not necessary for the EMT to be trained to a level beyond that of general understanding of the capabilities of the rescue team. If, however, an EMT is functioning in a rural area where he must also assume the role of rescue personnel as well as emergency medical technician, then his training will need to be more extensive.

The extensiveness of training can only be determined at a local level.

Because of the aforementioned reasons, the decision as to the level of expertise required by the emergency medical technician is left to local option. It is suggested, however, that an EMT be familiar with those aspects of rescue that directly relate to patient care. More specifically, it is suggested that an EMT be able to:

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- Recognize and manage situations that pose a threat to the patient, the EMT, or bystanders. This would include such hazardous conditions as:

  — Traffic at the scene of an accident
  — Downed electrical wires
  — Fire
  — Explosive materials
  — Dangerous (toxic) materials
  — Radioactive materials
  — Unstable vehicle or structure, for example, an automobile on a ledge

- Demonstrate techniques for gaining access to the patient. In most instances, these techniques would apply to rescuing patients trapped in a wrecked automobile, but an EMT should also have an understanding of the techniques for gaining access to a patient separated by:

  — Adverse terrain
  — Water
  — Mountains
  — Ravines
  — Structural damage, for example, collapsed wall

  NOTE: This does not imply an EMT must be able to perform all skills, but he should be able to summon the appropriate resources and assist when necessary.

- Demonstrate the proper procedure for disentangling the patient. Again, as with gaining access to the patient, this procedure would apply to dealing with vehicular accidents, but the EMT must be able to disentangle the patient from any type of

confining environment, being sure to avoid further aggravation of existing injuries.

- Demonstrate various patient carries and lifts that can be used in emergency and nonemergency situations. These carries and lifts should include:

  — Fireman's carry
  — Fireman's drag
  — Pack-strap carry
  — Extremities carry
  — Seat carry
  — Traction blanket lift
  — Two-man lift

  NOTE: All carries and lifts mentioned are presented as a segment of the EMT-ambulance training program.

- Demonstrate the procedure for preparing the patient for transport when all emergency care and immobilization procedures are completed. Devices used for transporting the patient should include:

  — Orthopedic scoop-type stretcher
  — Portable stretcher
  — Chair stretcher
  — Stokes basket

  Transfer techniques should include transport over rough terrain, ravines, etc.

It is suggested that the course coordinator meet with the personnel responsible for fire/rescue activities and determine the training needs for an EMT. To assist in planning and implementing an appropriate training program, local resources and training materials should be explored also, the following references are suggested:

American National Red Cross. *Lifesaving—Rescue and Water Safety*. Washington, D.C.: American National Red Cross, 1974.

Bahme, Charles W. *Fire Officer's Guide to Emergency Action*. Boston, Mass.: National Fire Protection Association.

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Erven, Lawrence W. *First Aid and Emergency Rescue*. Beverly Hills, Calif.: Glencoe Press, 1970.

Extrication and Casualty Handling Techniques. Farnham Folsom, Philadelphia, Pa.: J.B. Lippincott Co., 1975.

Grant, Harvey. *Vehicle Rescue*. Bowie, Md.: Robert J. Brady Co., 1975.

Headquarters, Department of the Army. *Transportation of the Sick and Wounded*. Washington, D.C.: U.S. Government Printing Office, 1970.

Meidl, James H. *Hazardous Materials Handbook*. Beverly Hills, Calif.: Glencoe Press, 1972.

National Fire Protection Association. *Fire Protection Guide on Hazardous Materials*. Boston, Mass.: National Fire Protection Association, 1973.

National Ski Patrol System, Inc. *Technical Manual of Lift Evacuation*. Denver, Colo.: National Ski Patrol System, Inc., No. 505.

Nethercutt, Dawson. *The International Manual of Basic Rescue Methods*. International Rescue and First Aid Association, 1975.

Ohio Trade and Industrial Education Service. *Emergency Victim Care, a Textbook for Emergency Medical Personnel*. 1st ed. Columbus, Ohio: Ohio Trade and Industrial Education Service, 1971.

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