Emergency Medical Technician: Basic Refresher Curriculum

Instructor Course Guide

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INTRODUCTION

HISTORICAL PERSPECTIVE

In 1994 the U.S. Department of Transportation's, National Highway Traffic Safety Administration completed an extensive revision of the national standard EMT-Basic Curriculum. The curriculum received national EMS community and physician review and input during development and resulted in additional skills and knowledge being available to Emergency Medical Technicians. The curriculum was widely accepted and implementation was scheduled throughout the country.

In 1995 the National Registry of Emergency Medical Technicians funded a national project to develop a transition program for currently certified and licensed EMT-Basics that were educated based upon the 1984 USDOT EMT-Ambulance Curriculum. A committee comprised of the National Council of State EMS Training Coordinators, the National Association of State EMS Directors, the National Association of EMS Physicians, the American College of Emergency Physicians and the National Registry of Emergency Medical Technicians, approved and disseminated a transition program. The programs goal was to bring all EMT-Basics within the nation to the same level of competency over the new skills and knowledge presented in the 1994 USDOT EMT-Basic Curriculum.

In 1995 the National Registry of EMTs was asked by the National Council of State EMS Training Coordinators and the National Association of State EMS Directors to expand the role of the transition program, fund and develop a national standard EMT-Basic education program based upon the content of the 1994 EMT-Basic Curriculum. The independent transition committee accepted the responsibility to develop, review and seek input on a refresher curriculum. The US Department of Transportation, National Highway Traffic Safety Administration, in a true public/private partnership agreement, agreed to accept and publish this refresher curriculum after consensus was achieved by the committee and the states.

PHILOSOPHY

The EMT is responsible for a wide range of knowledge and skills which includes material originally learned, as well as new information resulting from the constant growth and evolution of the field of emergency medical care. In order to maintain up-to-date proficiency, an EMT must regularly participate in educational programs which review the essential components of the national standard curriculum (NSC) as well as those which provide exposure to new knowledge and skills resulting from advances in emergency medical care.

This document is a course guide for the basic EMT refresher training program. It will provide information which will help program administrators and instructors

plan and implement a course. The companion lesson plans contain the essential components of the NSC in a format which may be adapted to a variety of presentation schedules, formats and methods.

COURSE OVERVIEW

ORGANIZATION

The EMT-Basic Refresher curriculum is the minimum acceptable content that must be included in any EMT-Basic refresher educational program. This program should consist of a minimum of 24 classroom hours. The refresher training program is divided into six modules. This organizational plan was chosen to begin a process of standardization among National Standard Curricula.

The six modules are:

I. Preparatory
II. Airway
III. Patient Assessment
IV. Medical/Behavioral
V. Trauma
VI. Obstetrics, Infants and Children

This refresher course is competency based. Specific number of hours to complete each module have not been included. EMTs who successfully complete this course must demonstrate competency over the knowledge and skills outlined in this refresher education program.

The first part of each module lists the specific patient care task in a bold face font. Immediately below the listed task is the cognitive learning objectives which correspond to the specific task. The list of tasks indicates the minimum level of proficiency required of the EMT-Basic to assure safe and effective practice. The psychomotor and affective objectives relate to the overall content of the module.

LESSON PLANS

The Instructor Lesson Plans are designed to provide the technically competent instructor with the educational materials needed to conduct EMT refresher training programs. The 1994 USDOT EMT-Basic National Standard Curriculum should serve as the reference and minimal supplemental material for each lesson. Each lesson has the following components:

OBJECTIVES

The objectives are divided into three categories: Cognitive, Affective and Psychomotor. To assist with the design and development of a specific lesson, each objective has a numerical value. This numerical value follows the same

objective numbering system presented in the EMT-Basic National Standard Curriculum.

PREPARATION

Motivation -- Each lesson has a motivational statement that should be read by the instructor prior to teaching the lesson. It is not the intent for the instructor to necessarily read the motivational statement to the students, but more importantly to be familiar with its intent and to be able to prepare the students or explain why this is important to them.

MATERIALS

Audio Visual (AV) Equipment -- In recent years the design and development of high quality video has become available for the EMS community. They should be used as an integral part of the instruction in this program. The course administrator should assure that the necessary types of AV equipment are accessible to the class. If possible, the course administrator should have a video library available.

Emergency Medical Services (EMS) Equipment -- Each lesson plan contains a list of equipment that should be available.

PERSONNEL

Primary Instructor -- Each lesson plan clearly defines the necessary qualifications of the primary instructor.

Assistant Instructor -- Each lesson plan clearly defines the necessary qualifications of the assistant instructor.

PRESENTATION

Declarative (What) -- This is the cognitive lesson plan. This is the information that the instructor provides. This may be accomplished by various methods, including lectures, small group discussion, and the use of audio-visual materials. Demonstrations, if the instructor desires, may be used as part of the instruction. The instructor must be well versed with the entire content of the lesson plan. These lesson plans are not to be read word for word. Lesson plans should be considered dynamic documents that provide guidelines for the appropriate flow of information. The lesson plans are based upon the content of the EMT-Basic National Standard Curriculum. The instructor should feel free to write notes in the margins and make the lesson plan their own.

APPLICATION

Procedural (How) -- This is the skills portion of the program. EMT-Basics should be able to demonstrate competency in all skills listed in each section. If the declarative (what) content was presented as a lecture, the instructor must perform demonstrations prior to having the EMT-Basic perform the skills. If the instructor performed a demonstration as part of the declarative component, the EMT-Basic may begin by practicing skills in the practical setting.

When this component of the lesson is being conducted the instructor/EMT ratio should be no more than 1 to 6. EMT-Basics should be praised for their progress. For those EMT-Basics having difficulty performing a skill or skills, remediation is required. It is well known that a demonstration must be followed by practice, which must be drilled to a level that assures mastery of the skill. It has been proven that demonstration followed as soon as possible with organized, supervised practice enhances mastery and successful applications.

Contextual (When, Where and Why) -- This section is designed to help EMT-Basics understand the application of their knowledge and skills as they relate to their performance as an EMT-Basic. This section relates back to the motivational statement and represents the reasoning as to why, where and when the EMT-Basic would need to use the knowledge or perform the skills. It is of utmost importance that the instructor be familiar with the intent of this section and relay that intent to the EMT-Basics.

Program Participant Activities -- EMT-Basics learn by various methods. The three types are: auditory, visual and kinesthetic. The intent of this section is to assure that the content of the curriculum is presented to meet the needs of the three different types of learning styles. These three areas should not necessarily be used separately from the lesson plan, but as an adjunct to it. If lessons are presented in this format, EMT-Basics with separate or combined learning styles will learn.

> **Auditory (Hear)** -- This section allows the instructor to provide material in a verbal manner. Those EMT-Basics that learn best by hearing will benefit from this method of instruction.
>
> **Visual (See)** -- This section allows the instructor to provide material in a visual manner. Visual learners will benefit from this method of instruction.
>
> **Kinesthetic (Do)** -- This section allows the instructor to provide material in a performance manner. Those EMT-Basics who learn best by hands-on performance will benefit from this method of instruction.

Instructor Activities -- This section is to remind the instructors that they should supervise EMT-Basics while they practice psychomotor skills. They should reinforce EMT-Basics progress in the cognitive, affective and psychomotor

domains. If they are having difficulty understanding the content or performing the skills, the instructor should remediate as needed.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content.

ENRICHMENT

This section is designed to allow the instructor or training program to add information or augment the curriculum with approval of the State EMS Office .

COURSE PLANNING CONSIDERATIONS

NEEDS ASSESSMENT

The first step in course planning is the performance of a comprehensive analysis of the many factors which influence the pre-hospital emergency care delivery system in the area. Factors which should be included in this analysis are:

- Recertification requirements (local, state, national, professional).
- System structure.
- Call characteristics (i.e., volume, type).
- Community demographics.
- Community hazard assessment.

The second step of the needs assessment is an analysis of the education needs of the potential course participants.

Information obtained through the assessment process should be used as a guide to selection of specific material to be presented in the classroom, within the limitations imposed by local, state, and/or national standards. The assessment results should also be used in determining course format, schedule, and methods.

COURSE DESIGN

Once the needs assessment has been performed, the following steps should be accomplished to design and implement an education course which meets participant and community identified needs:

Determine regulatory requirements for course conduct:

- course and sponsoring agency approval through local or state agency.
- hours, content, faculty requirements or restrictions.

Develop schedule:

The refresher education course is divided into lessons which can be presented as individual lessons of one or more hours duration, or lessons can be combined into a variety of formats.

Identify and orient program staff:

medical director: Each program should have a medical director who is a licensed physician experienced in emergency medical care. The medical director should be familiar with all aspects of program design and is responsible for the medical content of the training program.

program director: The program director is responsible for the overall direction and coordination of the planning, administration, periodic review, continued development, funding and effectiveness of the program. The following are specific examples of the responsibilities listed above:

- processing student applications.
- scheduling classes.
- assigning faculty and providing them with appropriate lesson plans and resource materials.
- conducting a faculty orientation session which should cover such topics as:
    - ◊ This program in relation to the state's overall emergency medical service plan.
    - ◊ Objectives, scope and orientation of the EMT refresher education course.
    - ◊ Functions of the EMT.
    - ◊ Medicolegal aspects of the EMT-Basic's job.
    - ◊ Using the lesson plans.
    - ◊ Using the education aids and sources.
    - ◊ Importance of being on time and adhering to the course schedule.
    - ◊ Importance of keeping discussion oriented toward emergency care rather than definitive care.
    - ◊ Educational levels and previous emergency care experience of participants.
    - ◊ Managing fiscal aspects of the program.
    - ◊ Maintaining records.
    - ◊ Familiarization with the testing and evaluation process.
    - ◊ Coordinating examination and evaluation of students including the preparation of assessment materials.
    - ◊ Assuring the availability of necessary equipment and materials for each class, including audio-visual resources.
    - ◊ Assuring the availability of academic counseling and support.

- ◊ Establishing and maintaining effective positive relationships among students, program staff and the sponsoring agency.
- ◊ Teaching as necessary and appropriate.

Identify and provide for equipment needs:

Training equipment utilized in the course should be approved for use based upon local and state protocols.

Determine course cost:

Because of variations in factors such as the length of an education program, reimbursement rates for instructors, and costs in the purchase of education aids, an average cost per program or per student is variable. When calculating the fees for the program, however, the following should be considered:

- faculty reimbursement.
- sponsoring agency administrative costs.
- equipment costs (new purchase, depreciation, rental, parts replacement).
- printing and reproduction costs.
- expendable supplies and materials.
- advertising costs.
- liability and malpractice insurance.
- text cost (unless purchased directly by student).
- miscellaneous costs:
  - ◊ refreshments.
  - ◊ name tags.

Determine class size:

This course emphasizes evaluation of student skills and discussion of field experiences as teaching methods. In addition, for certain skills, individual student practice is provided. In order that maximum student participation can be achieved, the class size necessarily must be small.

The class size for lecture-demonstration-discussion lessons must be small enough to allow interaction between students and instructor and to permit demonstrations to be easily viewed by all students. It is preferable that the class size for these sessions be limited to 20 students. (Instructor/student ratio: 1 to 20 or less)

Alternative methods of course presentation may allow for a higher instructor to student ratio. Regardless of the method chosen, it must allow an avenue for each student to ask questions of an instructor and receive answers or assistance from an instructor. Changes in the presentation method should receive State EMS Office approval before implementation.

Since the instructor must be able to observe and evaluate student performance, it is essential that skills practice be accomplished in small groups. The group size for skill practice sessions should not exceed 6 students per instructor or assistant. (Instructor/student ratio: 1 to 6 or less)

Establish student selection process:

To be eligible for participation in the refresher education program, the students should:

- have completed the initial training program for EMT-Basic.
- meet local/state requirements for eligibility for licensure/certification at the EMT level.

Advertise program:

Order resource materials:

- films.
- books.

COURSE CONDUCT AND EVALUATION

INSTRUCTIONAL APPROACH

Given the repetitive nature of refresher education, it is easy for participants to become bored quickly and to lack enthusiasm about the program. In order to improve the quality of the educational experience for instructors and participants, creative and innovative instructional activities are strongly suggested. Some specific examples and discussion follow:

Knowledge: Participants in refresher programs have a wealth of experience to draw on and enjoy sharing it. Instructors can direct and ensure the helpfulness and medical accuracy of that sharing process by using student presented reports, case studies, small group problem solving exercises and peer tutoring.

Skills: Students rapidly lose interest in repetitive entry level skills drills. After a brief review of skills, students might be offered the opportunity to prepare a videotaped skill demonstration. Using checklists and video equipment, students can film, critique and re-film until they have a product with which they and the instructor are satisfied. A similar exercise can be used for preparing a live demonstration. Events such as skills rodeos, field days or competitions are becoming common.

Much thought and careful preparation must go into such events to make them safe, educationally sound and fun. Students can assist with the preparation and learn much in the process. Students can also design and implement patient care simulations including mass casualty or disaster drills as a class project. Not only is this a community service, but it

recognizes the capabilities of the students and increases their ability to contribute to their own learning.

Attitudes: A significant concern in EMS today is EMT stress caused by a variety of factors including indifferent education quality, poor community support, excessive demands on personal time and energy, too many or too few runs, or feelings of inadequacy when dealing with critical patients. The program staff in the refresher course can be instrumental in identifying problems and mobilizing resources for troubled individuals and systems.

Program staff are in a unique position to correct some of the above problems. Education practices which have failed to elicit student enthusiasm can be replaced by innovative and student centered learning activities. Problem solving exercises to identify and implement corrective action for community related problems can be undertaken as class projects. Course schedules can be adapted to the students' needs and course content can include time and stress management topics.

Records maintenance

The refresher education program must maintain program and student records which demonstrate compliance with pertinent program standards and local, state or national regulations.

Program records

- Syllabus.
- Course schedule.
- Advertising materials.
- Master attendance records.
- Copies of exams, lesson plans, handout materials.
- Equipment maintenance and cleaning.
- Program staff roster which includes resume and teaching assignments for each instructor.

Student records

- Application.
- Attendance record.
- Test scores.
- Skill competency evaluation checklists.

TESTING AND EVALUATING THE STUDENT

The primary purpose of refresher training is to assure that EMT-Basics maintain up-to-date proficiency in the knowledge and skill areas which are pertinent to their scope of practice. The program objectives identify these knowledge and skill areas. In order to

assure that each student has met the objectives, it is necessary for the education program to use a variety of methods for testing and evaluating participants.

Examples of evaluation methods include: written quizzes, case review presentations, videotaped skills demonstrations, practical skill exams, attitude rating scales, hospital or ambulance preceptorships, oral quizzes, and research papers. Written examinations and practical skills demonstrations are the most frequently used tools for assessing student progress.

Requirements for the examination process may be influenced by local, state or national regulations or standards. A certificate of course completion should not be issued to the student until the student demonstrates competency as measured by formal end of course written and practical examination administered by the training program or certifying agency with the approval of the State EMS Office and its requirements.

> **Written examinations:** Students should be tested periodically throughout the program since unit exams can provide more in-depth assessment regarding specific topics that can be obtained from a final exam. A final comprehensive exam provides an overview of the student's broad knowledge base and serves to prepare them for any required relicensure of certification examination. Written exams should be designed and weighted to measure critical components within the broad knowledge base. The student should demonstrate an acceptable level of knowledge (a passing grade) in each subject area before taking the final exam. If the devices used to measure student performance are faulty, then an accurate appraisal of student performance will be impossible.
>
> **Skills:** Skills proficiency should also be measured at several points in the refresher program. Videotaping of skills demonstrations and patient care scenarios for unit or final exams with review and grading according to a checklist can provide an unarguable record of student performance and a powerful learning experience. The final skills examination should assess both component skills and the student's ability to apply necessary and appropriate skills to simulated patient care situations.

Another factor in successful course completion may be:

> **Attendance:** Attendance policies, including minimum attendance requirements, should be established in advance and communicated to course participants. Minimum attendance requirements may, in fact, be stipulated by local, state, or national regulations or standards. Students should be encouraged to attend all refresher sessions.

The EMT refresher curriculum is considered the minimum acceptable content that must be covered in any education program. With certifying agency approval, the student may meet some of the program objectives by satisfactorily completing such activities as a Trauma Life Support - Basic Level; American Heart Association or American Red Cross

CPR course; and run reviews. Although some local and state certifying agencies permit options for completion of refresher or continuing education, it is strongly recommended that all providers participate in regularly scheduled group education sessions.

PROGRAM EVALUATION

PROCESS

Process evaluation will help identify specific causes of instructional failure (i.e., the reason why trainees fail to achieve satisfactory performance during the course). Some possible causes of such failure may include:

- instructional activities do not conform to the lesson plans.
- resources, facilities, or materials are inadequate.
- trainees do not meet student selection requirements.
- practice exercises are not sufficiently comprehensive or representative.
- student/instructor ratio is too high.
- instructor is not well qualified to teach a particular lesson.
- course objectives were too difficult to achieve in the time allotted.
- an inadequate testing instrument was used to evaluate students.

The purpose of process evaluation is to isolate the causes of instructional problems and to gather sufficient data to decide how to alleviate the problem(s). The internal evaluation process for gathering sufficient data and isolating the problem starts with an analysis of the course planning and control documents (course guide, schedule, lesson plans, etc.). Then each component and procedure authorized and/or required by this document is studied to see that it conforms with the control document specifications. Discrepancies between the planned course and what actually occurs in the training program might be found in any of the following:

Resources: This course guide and instructor lesson plans indicate the requirements for specific training facilities, equipment, tools, and supplies in order for the course to accomplish the stated objectives. The evaluation will determine whether such facilities and services are adequate. When deficiencies are found, corrective actions must be taken.

Classroom facilities and conditions: Classroom visits of sufficient length and frequency to assure a representative sampling provide useful information regarding course conduct. Specified training aids and media should be checked for condition, operation, and appropriateness. Also, the instructional supporting documents, including lesson plans and study guides, should be checked for availability and quality.

Instructors: It is important in refresher education programs that instructors be innovative in developing learning activities to help students meet course objectives. Instructors must show acceptable application of

sound instructional techniques and should be able to detect student problems and react to student needs.

DISCUSSION

It is possible for an education program to satisfy process evaluations while failing to achieve its primary objective of educating EMT-Basics to perform on the job safely and effectively. Reasons for this include:

- The customizing process was not handled adequately; education needs were incorrectly identified in the beginning.
- Graduates lack self-confidence in their ability to handle emergency medical care problems competently.
- The graduates know what to do, but are not sufficiently motivated by the job itself to perform satisfactorily.

Follow-up evaluation is absolutely essential even when process evaluations and final exam performance are satisfactory. It is still necessary to ascertain that the job requirements are being adequately accomplished by the EMT-Basics. Supervisors' and graduates' opinions of how well the training program met their needs should also be determined. Their suggestions for improvements are often invaluable. Some of the data gathering methods used in assessing training needs are also useful in conducting a follow-up evaluation.

Analysis of the follow-up evaluation data will point out strengths and weaknesses in refresher training programs. The decision-maker's attention should focus on those problems which directly compromise the goal of preparing EMT-Basics to perform their job. Good evaluation will assure a steady flow of timely, pertinent data for maintaining the quality and cost-effectiveness of the EMT refresher course.

Acknowledgment

Following publication of the 1994 EMT-Basic Curriculum revision, the National Highway Traffic Safety Administration (NHTSA) and the Board of Directors of the National Registry of Emergency Medical Technicians (NREMT) began a joint endeavor to revise the EMT-Basic Refresher Program. The National Association of State EMS Directors (NASEMSD) and the National Council of State EMS Training Coordinators (NCSEMSTC) are commended for their participation as members of the EMT-Basic Refresher Program Task Force and for their valuable input during the peer review process. The American College of Emergency Physicians (ACEP) and the National Association of EMS Physicians (NAEMSP) provided valuable medical oversight during the revision process by participating as members of the Task Force. Special thanks is extended to NHTSA for facilitating the outside review process and to the many outside reviewers who provided valuable content information for inclusion in the curriculum. Finally, the NREMT Board of Directors should be commended for its consistent dedication to this nation's EMS and funding this revision process.

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Emergency Medical Technician: Basic Refresher Curriculum

Module I: Preparatory

TASK LIST AND EDUCATIONAL OBJECTIVES

At the completion of this lesson, the student will be able to:

COGNITIVE OBJECTIVES

1. Provide for safety of self, patient and fellow workers
    - Discuss the importance of body substance isolation (BSI).
    - Describe the steps the EMT-Basic should take for personal protection from airborne and bloodborne pathogens.
2. Identify the presence of hazardous materials
    - Break down the steps to approaching a hazardous situation.
3. Participate in the quality improvement process
    - Define quality improvement and discuss the EMT-Basic's role in the process.
4. Use physician medical direction for authorization to provide care
    - Define medical direction and discuss the EMT-Basic's role in the process.
5. Use body mechanics when lifting and moving a patient
    - Relate body mechanics associated with patient care and it's impact on the EMT-Basic.
6. Use methods to reduce stress in self, a patient, bystanders and co-workers
    - Recognize the signs and symptoms of critical incident stress.
    - State possible steps that the EMT-Basic may take to help reduce/alleviate stress.
7. Obtain consent for providing care
    - Define consent and discuss the methods of obtaining consent.
    - Discuss the implications for the EMT-Basic in patient refusal of transport.
    - Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or state provisions regarding EMS application.
8. Assess and provide care to patients and families involved in suspected abuse or neglect
    - Discuss the special considerations for assessing and managing a patient with suspected abuse or neglect.

AFFECTIVE OBJECTIVES

1. Assess areas of personal attitude and conduct of the EMT-Basic.
2. Explain the rationale for serving as an advocate for the use of appropriate protection equipment.
3. Explain the role of EMS and the EMT-Basic regarding patients with DNR orders.
4. Explain the rationale for properly lifting and moving patients.

PSYCHOMOTOR OBJECTIVES

1. Working with a partner, move a simulated patient from the ground to a stretcher and properly position the patient on the stretcher.
2. Working with a partner, demonstrate the technique for moving a patient secured to a stretcher to the ambulance and loading the patient into the ambulance.

PREPARATION

Motivation: The field of prehospital emergency medical care is an evolving profession in which the reality of life and death is confronted at a moment's notice. EMT-Basics work side by side with other health care professionals to help deliver professional prehospital emergency medical care. This course will help the EMT-Basic refresh previously learned material while gaining new knowledge, skills and attitudes necessary to be a competent, productive, and valuable member of the emergency medical services team.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to emergency medical care. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure the objectives of the curriculum are met.

EMS Equipment: None required.

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in the EMT-Basic refresher course overview, administrative paper work, certification requirements, Americans with Disabilities Act issues, and roles and responsibilities of EMS.

Assistant Instructor: The instructor to Student ratio should be adequate to allow for supervision of psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in the techniques of lifting and moving patients.

PRESENTATION

Declarative (What)

I. Scene Safety

A. Body substance isolation (BSI) (Bio-Hazard)

1. EMT-B's and patient's safety
   - a) Handwashing
   - b) Eye protection
     - (1) If prescription eyeglasses are worn, then removable side shields can be applied to them.
     - (2) Goggles are NOT required.
   - c) Gloves (vinyl and latex)
     - (1) Needed for contact with blood or bloody body fluids.
     - (2) Should be changed between contact with different patients.
   - d) Gloves (utility) - needed for cleaning vehicles and equipment
   - e) Gowns
     - (1) Needed for large splash situations such as with field delivery and major trauma.
     - (2) Change of uniform is preferred.
   - f) Masks
     - (1) Surgical type for possible blood splatter (worn by care provider)
     - (2) High Efficiency Particulate Air (HEPA) or N-95 respirator if patient suspected for or diagnosed with tuberculosis (worn by care provider)
     - (3) Airborne disease- surgical type mask (worn by patient)
   - g) Requirements and availability of specialty training
2. OSHA/state regulations regarding BSI
3. Statutes/regulations reviewing notification and testing in an exposure incident.

B. Personal protection

1. Hazardous materials
   - a) Identify possible hazards
     - (1) Binoculars
     - (2) Placards
     - (3) *Hazardous Materials, The Emergency Response Handbook*, published by the United States Department of Transportation
   - b) Hazardous materials scenes are control by specialized Haz-Mat teams.
   - c) EMT-Basics provide emergency care only after the scene is safe and patient contamination limited.

d) Requirements and availability of specialized training

2. Rescue
   a) Identify and reduce potential life threats.
      (1) Electricity
      (2) Fire
      (3) Explosion
      (4) Hazardous materials
   b) Dispatch rescue teams for extensive/heavy rescue.
3. Violence
   a) Scene should always be controlled by law enforcement before the EMT-Basic provides patient care.
      (1) Perpetrator of the crime
      (2) Bystanders
      (3) Family members

II. Quality improvement

A. Medical Direction
   1. Medical direction laws and regulations vary from state to state
   2. All states mandate medical direction for EMT-Paramedic level
   3. Some states mandate medical direction for EMT-Basics
   4. Goal of EMS medical direction
      a) Quality patient care - the cornerstone of medical direction
      b) Safety and well being of EMT
      c) Proper education, training, and certification of EMTs
      d) Specific medical direction responsibilities
         (1) Clinical oversight of training, and other activities including
            (a) On-line direction
               (i) May originate from the receiving facility or other site
               (ii) Should include radio communication to emergency department physicians
               (iii) May be delegated to other than medical director
            (b) Off-line direction
               (i) May be protocol driven
               (ii) Standing orders frequently used
            (c) Assist with patient refusal of treatment either on-line or off-line
            (d) Quality review
               (i) Collection, review and reporting of data that provides for discovery of infractions of protocols, procedures which may require re-testing or remedial training
               (ii) Data collection useful for research or need for continuing education

III. Health and Safety

A. Lifting techniques
   1. Safety precautions
      a) Use legs, not back, to lift
      b) Keep weight as close to body as possible
   2. Guidelines for lifting
      a) Consider weight of patient and need for additional help
      b) Know physical ability and limitations
      c) Lift without twisting
      d) Have feet positioned properly
      e) Communicate clearly and frequently with partner
      f) Safe lifting of cots and stretchers. When possible use a stair chair instead of a stretcher if medically feasible
         (1) Using power-lift or squat lift position, keep back locked into normal curvature. The <u>power-lift</u> position is useful for individuals with weak knees or thighs. The feet are a comfortable distance apart. The back is tight and the abdominal muscles lock the back in a slight inward curve. Straddle the object. Keep feet flat. Distribute weight to balls of feet or just behind them. Stand by making sure the back is locked in and the upper body comes up before the hips.
         (2) Use <u>power grip</u> to get maximum force from hands. The palm and fingers come into complete contact with the object and all fingers are bent at the same angles. The power-grip should always be used in lifting. This allows for maximum force to be developed. Hands should be at least 10 inches apart.
         (3) Lift while keeping back in locked-in position
         (4) When lowering cot or stretcher, reverse steps
         (5) Avoid bending at the waist

B. Carrying
   1. Precautions for carrying - whenever possible, transport patients on devices that can be rolled
   2. Guidelines for carrying
      a) Know or find out the weight to be lifted
      b) Know limitations of the crew's abilities
      c) Work in a coordinated manner and communicate with partners
      d) Keep the weight as close to the body as possible
      e) Keep back in a locked-in position and refrain from twisting
      f) Flex at the hips, not the waist; bend at the knees
      g) Do not hyperextend the back (do not lean back from the waist)

C. Reaching

1. Guidelines for reaching
   a) Keep back in locked-in position
   b) When reaching overhead, avoid hyperextended position
   c) Avoid twisting the back while reaching
2. Application of reaching techniques
   a) Avoid reaching more than 15 - 20 inches in front of the body
   b) Avoid situations where prolonged (more than a minute) strenuous effort is needed in order to avoid injury

D. Pushing and pulling guidelines
1. Push, rather than pull, whenever possible
2. Keep back locked-in
3. Keep line of pull through center of body by bending knees
4. Keep weight close to the body
5. Push from the area between the waist and shoulder
6. If weight is below waist level, use kneeling position
7. Avoid pushing or pulling from an overhead position if possible.
8. Keep elbows bent with arms close to the sides

E. Stressful situations
1. Examples of situations that may produce a stress response
   a) Mass casualty situations
   b) Infant and child trauma
   c) Amputations
   d) Infant/child/elder/spousal abuse
   e) Death/injury of co-worker or other public safety personnel
2. The EMT-Basic will experience personal stress as well as encounter patients and bystanders in severe stress.

F. Stress management
1. Recognize warning signs
   a) Irritability to co-workers, family, friends
   b) Inability to concentrate
   c) Difficulty sleeping/nightmares
   d) Anxiety
   e) Indecisiveness
   f) Guilt
   g) Loss of appetite
   h) Loss of interest in sexual activities
   i) Isolation
   j) Loss of interest in work
2. Life style changes
   a) Helpful for "job burnout"
   b) Change diet.
      (1) Reduce sugar, caffeine and alcohol intake.
      (2) Avoid fatty foods.
      (3) Increase carbohydrates.
   c) Exercise
   d) Practice relaxation techniques, meditation, visual imagery.

3. Balance work, recreation, family, health, etc.
4. EMS personnel and their family and friend's response
   a) Lack of understanding.
   b) Fear of separation and being ignored.
   c) On-call situations cause stress.
   d) Can't plan activities.
   e) Frustration caused by wanting to share.
5. Work environment changes
   a) Request work shifts allowing for more time to relax with family and friends.
   b) Request a rotation of duty assignment to a less busy area.
6. Seek/refer professional help.

G. Critical incident stress debriefing (CISD)
1. A team of peer counselors and mental health professionals who help EMTs deal with critical incident stress.
2. Meeting is held within 24 to 72 hours of a major incident.
   a) Open discussion of feeling, fears, and reactions
   b) Not an investigation or interrogation
   c) All information is confidential.
   d) CISD leaders and mental health personnel evaluate the information and offer suggestions on overcoming the stress.
3. Designed to accelerate the normal recovery process of experiencing a critical incident.
   a) Works well because feelings are ventilated quickly.
   b) Debriefing environment is non-threatening.
4. How to access local system.

H. Comprehensive Critical Incident Stress Management includes
1. Pre-incident stress education
2. On-scene peer support
3. One-on-one support
4. Disaster support services
5. Diffusing
6. CISD
7. Follow up services
8. Spouse/family support
9. Community outreach programs
10. Other health and welfare programs such as wellness programs

IV. Medical - Legal

A. Expressed Consent
1. Patient must be of legal age and able to make a rational decision.
2. Patient must be informed of the steps of the procedures and all related risks.
3. Must be obtained from every conscious, mentally competent adult before rendering treatment.

B. Implied Consent

1. Consent assumed from the unconscious patient requiring emergency intervention
2. Based on the assumption that the unconscious patient would consent to life saving interventions

C. Children and mentally incompetent adults
1. Consent for treatment must be obtained from the parent or legal guardian.
   a) Emancipation issues
   b) State regulations regarding age of minors
2. When life threatening situations exist and the parent or legal guardian is not available for consent, emergency treatment should be rendered based on implied consent.

D. Confidentiality
1. Confidential information
   a) Patient history gained through interview
   b) Assessment findings
   c) Treatment rendered
2. Releasing confidential information
   a) requires a written release form signed by the patient. Do not release on request, written or verbal, unless legal guardianship has been established.
   b) When a release is not required
      (1) Other health care providers need to know information to continue care.
      (2) State law requires reporting incidents such as rape, abuse or gunshot wounds.
      (3) Third party payment billing forms
      (4) Legal subpoena

E. Refusal of Care
1. The patient has the right to refuse treatment.
2. The patient may withdraw from treatment at any time. Example: an unconscious patient regains consciousness and refuses transport to the hospital.
3. Refusals must be made by mentally competent adults following the rules of expressed consent.
4. The patient must be informed of and fully understand all the risks and consequences associated with refusal of treatment/transport, as well as signing a "release from liability" form.
5. When in doubt, err in favor of providing care.
6. Documentation is a key factor to protect the EMT-Basic in refusal.
   a) Competent adult patients have the right to refuse treatment.
   b) Before the EMT-Basic leaves the scene, he should:
      (1) Try again to persuade the patient to go to a hospital.
      (2) Ensure the patient is able to make a rational, informed decision, e.g., not under the influence of alcohol or other drugs, or illness/injury effects.

(3) Inform the patient why he should go and what may happen to him if he does not.
(4) Consult medical direction as directed by local protocol.
(5) Consider assistance of law enforcement.
(6) Document any assessment findings and emergency medical care given, and if the patient still refuses, then have the patient sign a refusal form.
(7) The EMT-Basic should never make an independent decision to not transport.

F. Do Not Resuscitate (DNR) orders
1. Patient has the right to refuse resuscitative efforts.
2. In general, requires written order from the physician.
3. Review state and local legislation/protocols relative to DNR orders and advance directives.
4. When in doubt or when written orders are not present, the EMT-Basic should begin resuscitation efforts.

G. Abuse and neglect (child or elder)
1. Definition of abuse - improper or excessive action so as to injure or cause harm.
2. Definition of neglect - giving insufficient attention or respect to someone who has a claim to that attention.
3. The EMT-Basic must be aware of condition to be able to recognize the problem.
4. Physical abuse and neglect are the two forms of abuse that the EMT-Basic is likely to suspect.
5. Signs and symptoms of abuse
   a) Multiple bruises in various stages of healing.
   b) Injury inconsistent with mechanism described.
   c) Repeated calls to the same address.
   d) Fresh burns.
   e) Parent or guardian seem inappropriately unconcerned.
   f) Conflicting stories
   g) Fear on the part of the patient to discuss how the injury occurred.
6. Signs and symptoms of neglect
   a) Lack of adult supervision.
   b) Malnourished appearing child.
   c) Unsafe living environment
   d) Untreated chronic illness; e.g., asthmatic with no medications.
7. CNS injuries are the most lethal - shaken baby syndrome
8. Do not accuse in the field
   a) Accusation and confrontation delays transportation.
   b) Bring objective information to the receiving facility
9. Reporting required by state law.

a) Local regulations
b) Objective - what you see and what you hear - NOT what you think.

APPLICATION

Procedural (How)

1. Demonstrate proper lifting, carrying and reaching techniques.

Contextual (When, Where, Why)

EMT-Basics will use the concepts of scene safety, personal protection, body mechanics and stress management on a daily basis throughout their careers in EMS. Failure to do so may lead to a premature end to their careers through serious injury or even death. The well-being of the EMT depends on the his/her ability to practice these concepts at all times both on and off duty.

STUDENT ACTIVITY

Auditory (Hear)

1. Students should hear the specific expectations of the training program as well as what they can expect to receive from the training.
2. Students should hear actual case law and common law decisions relative to EMT-Basic care.

Visual (See)

1. Students should receive a copy of the cognitive, affective and psychomotor objectives for the entire curriculum.
2. Students should receive the final skill evaluation instruments.
3. Students should see various audio-visual aids or materials of scenes requiring personal protection
4. Students should see proper lifting, carrying and reaching techniques
5. Students should see audio-visual aids and materials of definitions of medical/legal terms such as consent, confidentiality, refusal of care.

Kinesthetic (Do)

1. Students should complete the necessary course paperwork.
2. Students should practice proper lifting, carrying and reaching techniques.
3. Students should practice making decisions while role playing the various medical/legal and ethical situations that occur in the EMTs environment. These scenarios should include, as a minimum, consent, confidentiality, refusal of care and DNR orders.

Instructor Activities

1. Supervise student practice.
2. Reinforce student progress in cognitive and affective domains.
3. Redirect students having difficulty with content.

EVALUATION

Written:	Develop evaluation instruments, e.g., quizzes, verbal reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.
Practical:	Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content.

ENRICHMENT

What is unique in the local area concerning this topic?

Emergency Medical Technician: Basic Refresher Curriculum

Module II: Airway

TASK LIST AND EDUCATIONAL OBJECTIVES

At the completion of this lesson, the student will be able

COGNITIVE OBJECTIVES

1. Perform techniques to assure a patent airway
    - Describe the steps in performing the head-tilt chin-lift.
    - Describe the steps in performing the jaw thrust.
    - Describe the techniques of suctioning.
    - Describe how to measure and insert an oropharyngeal (oral) airway.
    - Describe how to measure and insert a nasopharyngeal (nasal) airway.
2. Provide ventilatory support for a patient
    - Describe the steps in performing the skill of artificially ventilating a patient with a bag-valve-mask for one and two rescuers.
    - Describe the steps in artificially ventilating a patient with a flow restricted, oxygen-powered ventilation device.
3. Use oxygen delivery system components (nasal cannula, face mask, etc..)
    - Identify a non-rebreather face mask and state the oxygen flow requirements needed for its use.
    - Identify a nasal cannula and state the flow requirements needed for its use.

AFFECTIVE OBJECTIVES

1. Explain the rationale for basic life support artificial ventilation and airway protection skills taking priority over most other life support skills.
2. Explain the rationale for providing oxygenation through high inspired oxygen concentrations to patients who, in the past, may have received low concentrations.

PSYCHOMOTOR OBJECTIVES

1. Demonstrate the steps in performing the skill of artificially ventilating a patient with a bag-valve-mask for one and two rescuers.
2. Demonstrate how to insert an oropharyngeal and nasopharyngeal airway.
3. Demonstrate the use of a non-rebreather face mask and a nasal cannula.
4. Demonstrate artificial ventilation of a patient with a flow restricted, oxygen powered ventilation device.
5. Demonstrate the techniques of suctioning.

PREPARATION

Motivation: The most critical intervention an EMT can provide for a patient is airway management and ventilatory support. A patient without an airway is a dead patient.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to airway management. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure the objectives of the curriculum are met.

EMS Equipment: Pocket mask, bag-valve-mask, flow restricted, oxygen-powered ventilation device, oral airways, nasal airways, suction units, suction catheters, oxygen tank, regulator, non-rebreather mask and nasal cannula.

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in airway management.

Assistant Instructor: The instructor to student ratio should be adequate to allow for supervision of psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in airway techniques and management.

PRESENTATION

Declarative (What)

I. Opening the Airway

A. Head-tilt chin-lift when no neck injury suspected-review technique learned in BLS course.

B. Jaw thrust when the EMT-Basic suspects spinal injury - review technique learned in BLS course.

C. Assess need for suctioning.

II. Techniques of Suctioning

A. Suction device should be inspected on a regular basis before it is needed. A properly functioning unit with a gauge should generate 300 mmHg vacuum. A battery operated unit should have a charged battery.

B. Turn on the suction unit.

C. Attach a catheter.

1. Use rigid catheter when suctioning mouth of an infant or child.
2. Often will need to suction nasal passages; should use a bulb suction or French catheter with low to medium suction.

D. Insert the catheter into the oral cavity without suction, if possible. Insert only to the base of the tongue.

E. Apply suction.

1. Move the catheter tip side to side.

F. Suction for no more than 15 seconds at a time.

1. In infants and children, shorter suction time should be used.
2. If the patient has secretions or emesis that cannot be removed quickly and easily by suctioning, the patient should be log rolled and the oropharynx should be cleared.
3. If patient produces frothy secretions as rapidly as suctioning can remove, suction for 15 seconds, artificially ventilate for two minutes, then suction for 15 seconds, and continue in that manner. Consult medical direction for this situation.

G. If necessary, rinse the catheter and tubing with water to prevent obstruction of the tubing from dried material.

III. Techniques of Artificial Ventilation

A. In order of preference, the methods for ventilating a patient by the EMT-Basic are as follows:

1. Mouth-to-mask with supplemental oxygen
2. Two person bag-valve-mask
3. Flow restricted, oxygen powered ventilation device
4. One person bag-valve-mask

a) EMTs must be aware of the difficulty of a single rescuer's maintaining an adequate mask-to-face seal and delivering an adequate inspiratory volume.

B. Body substance isolation

C. Bag-valve-mask

1. The bag-valve-mask consists of a self-inflating bag, one way valve, face mask, oxygen reservoir. It needs to be connected to oxygen to perform most effectively.
2. Bag-valve-mask issues
   a) Volume of approximately 1600 milliliters
   b) Provides less volume than mouth-to-mask
   c) EMT-Basics working alone may have difficulty maintaining an airtight seal.
   d) Two EMT-Basics using the device will be more effective.
   e) Position self at top of patient's head for optimal performance.
   f) Adjunctive airways (oral or nasal) may be necessary in conjunction with bag-valve-mask.
3. Use when no trauma is suspected
   a) After opening airway, select correct mask size (adult, infant or child).
   b) Position thumbs over top half of mask, index and middle fingers over bottom half.
   c) Place apex of mask over bridge of nose, then lower mask over mouth and upper chin. If mask has large round cuff surrounding a ventilation port, center port over mouth.
   d) Use ring and little fingers to bring jaw up to mask.
   e) Connect bag to mask if not already done.
   f) Have assistant squeeze bag with two hands until chest rises.
   g) If alone, form a "C" around the ventilations port with thumb and index finger, use middle, ring and little fingers under jaw to maintain chin lift and complete the seal.
   h) Repeat a minimum of every 5 seconds for adults and every 3 seconds for children and infants.
   i) If chest does not rise and fall, re-evaluate
      (1) If chest does not rise, reposition head.
      (2) If air is escaping from under the mask, reposition fingers and mask.
      (3) Check for obstruction.
      (4) If chest still does not rise and fall, use alternative method of artificial ventilation, e.g., pocket mask, manually triggered device.
   j) If necessary, consider use of adjuncts.
      (1) Oral airway
      (2) Nasal airway
4. Use with suspected trauma

a) After opening airway, select correct mask size (adult, infant or child).
b) Immobilize head and neck, e.g., have an assistant hold head manually or use your knees to prevent movement.
c) Position thumbs over top half of mask, index and middle fingers over bottom half.
d) Place apex of mask over bridge of nose, then lower mask over mouth and upper chin. If mask has large round cuff surrounding a ventilation port, center port over mouth.
e) Use ring and little fingers to bring jaw up to mask without tilting head or neck.
f) Connect bag to mask if not already done.
g) Have assistant squeeze bag with two hands until chest rises.
h) Repeat every 5 seconds for adults and every 3 seconds for children and infants, continuing to hold jaw up without moving head or neck.
i) If chest does not rise, re-evaluate:
(1) If abdomen rises, reposition jaw.
(2) If air is escaping from under the mask, reposition fingers and mask.
(3) Check for obstruction.
(4) If chest still does not rise, use alternative method of artificial ventilation, e.g., pocket mask.
j) If necessary, consider use of adjuncts.
(1) Oral airway
(2) Nasal airway

D. Flow restricted, oxygen-powered ventilation devices (FROPVD)
1. Flow restricted, oxygen-powered ventilation devices (for use in adults only) should provide
a) A peak flow rate of 100% oxygen at up to 40 lpm.
b) An inspiratory pressure relief valve that opens at approximately 60 centimeters water and vents any remaining volume to the atmosphere or ceases gas flow.
c) An audible alarm that sounds whenever the relief valve pressure is exceeded.
d) Satisfactory operation under ordinary environmental conditions and extremes of temperature.
e) A trigger positioned so that both hands of the EMT-Basic can remain on the mask to hold it in position.
2. Use when no neck injury is suspected
a) After opening airway, insert correct size oral or nasal airway and attach adult mask.
b) Position thumbs over top half of mask, index and middle fingers over bottom half.
c) Place apex of mask over bridge of nose, then lower mask over mouth and upper chin.

d) Use ring and little fingers to bring jaw up to mask.
e) Connect flow restricted, oxygen-powered ventilation device to mask if not already done.
f) Trigger the flow restricted, oxygen powered ventilation device until chest rises.
g) Repeat every 5 seconds.
h) If necessary, consider use of adjuncts.
i) If chest does not rise, re-evaluate
(1) If abdomen rises, reposition head.
(2) If air is escaping from under the mask, reposition fingers and mask.
(3) Check for obstruction.
(4) If chest still does not rise, use alternative method of artificial ventilation, e.g., pocket mask.

3. Use when there is suspected neck injury.
a) After opening airway, attach adult mask.
b) Immobilize head and neck; e.g., have an assistant hold head manually or use your knees to prevent movement.
c) Position thumbs over top half of mask, index and middle fingers over bottom half.
d) Place apex of mask over bridge of nose, then lower mask over mouth and upper chin.
e) Use ring and little fingers to bring jaw up to mask without tilting head or neck.
f) Connect flow restricted, oxygen-powered ventilation device to mask, if not already done.
g) Trigger the flow restricted, oxygen-powered ventilation device until chest rises.
h) Repeat every 5 seconds.
i) If necessary, consider use of adjuncts.
j) If chest does not rise and fall, re-evaluate
(1) If chest does not rise and fall, reposition jaw.
(2) If air is escaping from under the mask, reposition fingers and mask.
(3) Check for obstruction.
(4) If chest still does not rise, use alternative method of artificial ventilation, e.g., pocket mask.

IV. Airway Adjuncts

A. Oropharyngeal (oral) airways
1. Oropharyngeal airways may be used to assist in maintaining an open airway on unresponsive patients without a gag reflex - patients with a gag reflex will vomit.
2. Select the proper size: measure from the corner of the patient's lips to the bottom of the earlobe or angle of jaw.
3. Open the patient's mouth.

4. In adults, to avoid obstructing the airway with the tongue, insert the airway upside down, with the tip facing toward the roof of the patient's mouth.
5. Advance the airway gently until resistance is encountered. Turn the airway 180 degrees so that it comes to rest with the flange on the patient's teeth.
6. Another method of inserting an oral airway is to insert it right side up, using a tongue depressor to press the tongue down and forward to avoid obstructing the airway. This is the preferred method for airway insertion in an infant or child.

B. Nasopharyngeal (nasal) airways
1. Nasopharyngeal airways are less likely to stimulate vomiting and may be used on patients who are responsive but need assistance keeping the tongue from obstructing the airway. Even though the tube is lubricated, this is a painful stimulus.
2. Select the proper size: measure from the tip of the nose to the tip of the patient's ear. Also consider diameter of airway in nare.
3. Lubricate the airway with a water soluble lubricant.
4. Insert it posteriorly. Bevel should be toward the base of the nare or toward the septum.
5. If the airway cannot be inserted into one nostril, try the other nostril.

V. Oxygen

A. Equipment for oxygen delivery
1. Non-rebreather
   a) Preferred method of giving oxygen to prehospital patients.
   b) Up to 90% oxygen can be delivered.
   c) Non-rebreather bag must be full before mask is placed on patient.
   d) Flow rate should be adjusted so that when patient inhales, bag does not collapse (15 lpm).
   e) Patients who are cyanotic, cool, clammy or short of breath need oxygen. Concerns about the dangers of giving too much oxygen to patients with history of chronic obstructive pulmonary disease and infants and children have not been shown to be valid in the prehospital setting. Patients with chronic obstructive pulmonary disease and infants and children who require oxygen should receive high concentration oxygen.
   f) Masks come in different sizes for adult, children and infants. Be sure to select the correct size mask.
2. Nasal cannula - rarely the best method of delivering adequate oxygen to the prehospital patient. Should be used only when patients will not tolerate a non-rebreather mask, despite coaching from the EMT-Basic.

APPLICATION

Procedural (How)

1. Demonstrate the steps in performing the skill of artificially ventilating a patient with a bag-valve-mask for one and two rescuers.
2. Demonstrate how to insert an oropharyngeal and nasopharyngeal airway.
3. Demonstrate the use of a non-rebreather face mask and a nasal cannula.
4. Demonstrate artificial ventilation of a patient with a flow restricted, oxygen powered ventilation device.
5. Demonstrate the techniques of suctioning.

Contextual (When, Where, Why)

Every patient must have a patent airway to survive. When the airway is obstructed, the EMT-Basic must clear it as soon as possible using the methods described in this lesson. The only exceptions to this would be situations where it is unsafe or the airway problem is such that it cannot be treated in the field and the patient must be transported immediately to a hospital.

Once the airway has been opened, the EMT-Basic must determine if breathing is adequate. Patients with inadequate breathing must be artificially ventilated using mouth-to-mouth, mouth-to-mask, bag-valve-mask or flow restricted, oxygen-powered ventilation device. If the patient has adequate breathing, the EMT-Basic must decide if supplemental oxygen is indicated. If oxygen is necessary, the EMT-Basic must select the appropriate device and follow the procedure for delivery.

STUDENT ACTIVITIES

Auditory (Hear)

1. Students should hear a bag-valve-mask device and a flow restricted, oxygen powered ventilation device used on a patient.
2. Students should hear a suction unit being operated.
3. Students should hear an oxygen tank and flowmeter in operation.

Visual (See)

1. Students should see different devices for ventilating a patient such as pocket masks, bag-valve masks and flow restricted, oxygen powered ventilation devices.
2. Students should see non-rebreather masks and nasal cannulas.

Kinesthetic (Do)

1. Students should practice opening a patient's airway using a head-tilt chin lift and a jaw thrust maneuver.
2. Students should practice using a bag-valve-mask device and a flow restricted, oxygen powered ventilation device.

3. Students should practice using a non-rebreather mask and a nasal cannula
4. Students should practice correct operation of oxygen tanks, regulators and flow meters.
5. Students should practice suctioning.

Instructor Activities

1. Supervise student practice.
2. Reinforce student progress in cognitive, affective, and psychomotor domains.
3. Redirect students having difficulty in content.

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content.

ENRICHMENT

What is unique in the local area concerning this topic?

Emergency Medical Technician: Basic Refresher Curriculum

Module III: Patient Assessment

TASK LIST AND EDUCATIONAL OBJECTIVES

At the completion of this lesson, the student will be able to:

COGNITIVE OBJECTIVES

1. Assess scene safety
    - Recognize hazards/potential hazards
    - Describe common hazards found at the scene of a trauma and a medical patient
    - Determine if the scene is safe to enter
2. Assess the need for additional resources at the scene
    - Explain the reason for identifying the need for additional help or assistance
3. Assess mechanism of injury
4. Assess nature of illness
    - Discuss common mechanisms of injury/nature of illness
5. Perform an initial patient assessment and provide care based on initial assessment findings
    - Summarize the reasons for forming a general impression of the patient.
    - Discuss methods of assessing altered mental status.
    - Discuss methods of assessing the airway in the adult, child and infant patient.
    - Describe methods used for assessing if a patient is breathing.
    - Differentiate between a patient with adequate and inadequate breathing.
    - Distinguish between methods of assessing breathing in the adult, child and infant patient.
    - Describe the methods used to obtain a pulse.
    - Describe normal and abnormal findings when assessing skin color, temperature and condition.
    - Explain the reason for prioritizing a patient for care and transport.
6. Obtain a ***SAMPLE*** history (Signs and Symptoms of the present illness/injury, Allergy, Medications, Past medical History, Last oral intake, Events leading to present illness/injury)
    - Identify the components of a ***SAMPLE*** history
7. Perform a rapid trauma assessment and provide care based on assessment findings
    - State the reasons for performing a rapid trauma assessment
    - Recite examples and explain why patients should receive a rapid trauma assessment
8. Perform a history and physical examination focusing on the specific injury and provide care based on assessment findings.

- Discuss the reason for performing a focused history and physical examination.

9. Perform a history and physical examination focusing on a specific medical condition and provide care based on assessment findings.
    - Differentiate between the history and physical examination that are performed for responsive patients with no known prior history and responsive patients with a known history.
    - Differentiate between the assessment that is performed for a patient who is unresponsive or has an altered mental status and other medical patients requiring assessment.
10. Perform a detailed physical examination and provide care based on assessment findings
    - State the areas of the body that are evaluated during the detailed physical examination.
    - Explain what additional care should be provided while performing the detailed physical examination.
11. Perform on-going assessments and provide care based on assessment findings.
    - Discuss the reasons for repeating the initial assessment as part of the on-going assessment.
    - Describe the components of the on-going assessment.
12. Complete a prehospital care report
    - Apply the components of the essential patient information in a written report.
13. Communicate with the patient, bystanders, other health care provider and patient family members while providing patient care
    - Discuss the communication skills that should be used to interact with the patient.
    - Discuss the communication skills that should be used to interact with the family, bystanders, individuals from other agencies while providing patient care and hospital personnel, and the difference between skills used to interact with the patient and those used to interact with others.
14. Provide a report to medical direction of assessment findings and emergency care given
    - Explain the importance of effective communication of patient information.

AFFECTIVE OBJECTIVES

1. Explain the value of performing an each component of the prehospital patient assessment.
2. Recognize and respect the feelings that patients might experience during assessment.
3. Explain the rationale for providing efficient and effective radio and written patient care reports.

PSYCHOMOTOR OBJECTIVES

1. Demonstrate the steps in performing a scene size-up.
2. Demonstrate the steps in performing an initial assessment.
3. Demonstrate the rapid trauma assessment that should be used to assess a patient based on mechanism of injury.
4. Demonstrate the steps in performing a focused history and physical on a medical and a trauma patient.
5. Demonstrate the skills involved in performing a detailed physical examination.
6. Demonstrate the skills involved in performing an on-going assessment.
7. Complete a prehospital care report.

PREPARATION

Motivation: The EMT-Basic will encounter patients who require emergency medical care. It is important to identify those patients who require rapid assessment, critical intervention and immediate transport. The components of the assessment will assist the EMT-Basic in making patient intervention decisions.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to emergency medical care. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure the objectives of the curriculum are met.

EMS Equipment: Exam gloves, airway management equipment, stethoscope, blood pressure cuff and a penlight.

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in scene management and patient assessment.

Assistant Instructor: The instructor-to-student ratio should be adequate to allow for supervision of psychomotor skills practice. Individuals used as assistant instructors should be knowledgeable in scene management and patient assessment.

PRESENTATION

Declarative (What)

I. Scene Size-up/Assessment

A. Definition - an assessment of the scene and surroundings that will provide valuable information to the EMT-Basic.

B. Body substance isolation (BSI) review

C. Scene safety

1. Definition - an assessment to assure the safety and well-being of the EMT-Basic.
2. Personal protection - Is it safe to approach the patient?
   a) Crash/rescue scenes
   b) Toxic substances - low oxygen areas
   c) Crime scenes - potential for violence
   d) Unstable surfaces: slope, ice, water
3. Protection of the patient - environmental considerations
4. Protection of bystanders - if appropriate, help the bystander avoid becoming a patient
5. If the scene is unsafe, make it safe. Otherwise, do not enter.Mechanism of injury/nature of illness

1. Medical
   a) Nature of illness (NOI) - determine from the patient, family or bystanders why EMS was activated.
   b) Determine the total number of patients
      (1) If there are more patients than the responding unit can effectively handle,
         (a) Obtain additional help prior to contact with patients: law enforcement, fire, rescue, ALS, utilities. The EMT-Basic is less likely to call for help if involved in patient care.
         (b) Begin triage
      (2) If adequate resources are available at the scene, proceed to the initial assessment
2. Trauma
   a) Mechanism of injury - determine from the patient, family or bystanders and inspection of the scene what is the mechanism of injury
   b) Determine the total number of patients
      (1) If there are more patients than the responding unit can effectively handle,
         (a) Obtain additional help prior to contact with patients. The EMT-Basic is less likely to call for help when involved in patient care.
         (b) Begin triage

(2) If the responding crew can manage the situation, consider spinal precautions and continue care.

II. Initial Assessment

A. General Impression of the Patient
1. Definition
   a) The general impression is formed to determine priority of care and is based on the EMT-Basic's immediate assessment of the environment and the patient's chief complaint.
   b) Determine if ill (medical) or injured (trauma). If injured, identify mechanism of injury
   c) Age
   d) Sex
   e) Race
2. Assess patient and determine if the patient has a life threatening condition
   a) If a life threatening condition is found, treat immediately
   b) Assess nature of illness or mechanism of injury

B. Assess patient's mental status. Maintain spinal immobilization if needed.
1. Begin by speaking to the patient. EMT-Basics should state their names, tell the patient that they are emergency medical technicians, and explain that they are here to help.
2. Levels of mental status - (**AVPU**)
   a) **A**lert
   b) Responds to **V**erbal stimuli
   c) Responds to **P**ainful stimuli
   d) **U**nresponsive - no gag or cough

C. Assess the patient's airway status
1. Responsive patient - Is the patient talking or crying?
   a) If yes, assess for adequacy of breathing
   b) If no, open airway
2. Unresponsive patient - Is the airway open?
   a) Open the airway. Positioning of the patient is age and size specific
      (1) For medical patients, perform the head-tilt chin-lift
         (a) Clear
         (b) Not clear
            (i) Noisy respirations
               (a) Crowing
               (b) Audible wheezing
               (c) Gurgling
               (d) Snoring
               (e) Stridor
            (ii) Clear the airway
               (a) Open the airway

(b) Suction the airway as needed
(c) Insert airway adjuncts

(2) For trauma patients or those with unknown nature of illness, the cervical spine should be stabilized/immobilized and the jaw thrust maneuver performed
(a) Clear
(b) Not clear
(i) Noisy respirations
(a) Crowing
(b) Audible wheezing
(c) Gurgling
(d) Snoring
(e) Stridor
(ii) Clear the airway
(a) Open the airway
(b) Suction the airway as needed
(c) Insert airway adjuncts

D. Assess the patient's breathing
1. If breathing is adequate and the patient is responsive, oxygen may be indicated.
2. All responsive patients breathing >24 or <8 should receive high flow oxygen (defined as a 15 LPM non-rebreather mask).
3. If the patient is unresponsive and the breathing is adequate, open and maintain the airway and provide high concentration oxygen.
4. If the breathing is inadequate, open and maintain the airway, assist the patients breathing and utilize ventilatory adjuncts. In all cases oxygen should be used.
5. If the patient is not breathing, open and maintain the airway and ventilate using ventilatory adjuncts. In all cases oxygen should be used.

E. Assess the patient's circulation
1. Assess the patient's pulse
a) The circulation is assessed by feeling for a radial pulse.
(1) In a patient one year old or less, palpate a brachial pulse
(2) If no radial pulse is felt, palpate carotid pulse
(a) If pulseless, medical patient > or = 12 years old, start CPR and apply automated external defibrillator (AED)
(b) Medical patient < 12 years old or < 90 lbs, start CPR.
(c) Trauma patient, start CPR if consistent with state or local protocol
2. Assess if major bleeding is present. If bleeding is present, control bleeding

3. Assess the patient's perfusion by evaluating skin color, temperature and condition.
   a) The patient's skin color is assessed by looking at the nailbeds, lips and eyes
      (1) Normal - pink
      (2) Abnormal conditions
         (a) Pale
         (b) Cyanotic or blue-gray
         (c) Flushed or red
         (d) Jaundice or yellow
   b) Assess the patient's skin temperature by feeling the skin
      (1) Normal - warm
      (2) Abnormal skin temperatures
         (a) Hot
         (b) Cool
         (c) Cold
         (d) Clammy - cool & moist
   c) Assess the patient's skin condition. This is an assessment of the amount of moisture on the skin.
      (1) Normal - dry
      (2) Abnormal - moist or wet
   d) Assess capillary refill in infant and child patients under six years old.
      (1) Normal capillary refill is less than two seconds
      (2) Abnormal capillary refill is greater than two seconds

F. Identify priority patients
   1. Poor general impression
   2. Unresponsive patients - no gag or cough
   3. Responsive, not following commands
   4. Difficulty breathing
   5. Shock (hypoperfusion)
   6. Complicated childbirth
   7. Chest pain with BP <100 systolic
   8. Uncontrolled bleeding
   9. Severe pain anywhere

G. Expedite transport of the patient. Consider ALS backup

H. Proceed to the appropriate focused history and physical examination (trauma or medical)

III. Focused History and Physical Examination

A. Trauma
   1. Perform rapid trauma assessment on patients with significant mechanism of injury to determine life threatening injuries. In the responsive patient, symptoms should be sought before and during the trauma assessment.
      a) Continue spinal stabilization

b) Consider ALS request
c) Assess mental status
d) Inspect and palpate, looking and feeling for the following examples of injuries or signs of injury - **DCAP-BTLS**
   (1) **D** eformities
   (2) **C** ontusions
   (3) **A** brasions
   (4) **P** unctures/penetrations
   (5) **B** urns
   (6) **T** enderness
   (7) **L** acerations
   (8) **S** welling
e) Assess the head, inspect and palpate for injuries, signs of injury, or crepitation
f) Assess the neck, inspect and palpate for injuries or signs of injury
   (1) Jugular vein distention (JVD)
   (2) Crepitation
g) Apply cervical spinal immobilization collar (CSIC)
h) Assess the chest, inspect and palpate for injuries or signs of injuries
   (1) Paradoxical motion
   (2) Crepitation
   (3) Breath sounds in the apices, mid-clavicular line, bilaterally and at the bases, mid-axillary line, bilaterally
      (a) Present
      (b) Absent
      (c) Equal
i) Assess the abdomen, inspect and palpate for injuries or signs of injury
   (1) Firm
   (2) Soft
   (3) Distended
j) Assess the pelvis, inspect and palpate for injuries or signs of injury. If no pain is noted, gently compress the pelvis to determine tenderness or motion.
k) Assess all four extremities, inspect and palpate injuries or signs of injury
   (1) Distal pulse
   (2) Sensation
   (3) Motor function
l) Roll patient with spinal precautions and assess posterior body, inspect and palpate, examining for injuries or signs of injury
m) Assess baseline vital signs

n) Assess ***SAMPLE*** history
(1) **S** igns and symptoms of present illness or injury
(2) **A** llergies
(3) **M** edications
(4) **P** ertinent past history
(5) **L** ast oral intake: solid or liquid
(6) **E** vents leading to the injury or illness

2. For patients with no significant mechanism of injury, e.g., cut finger
a) Perform focused history and physical exam of injuries based on the components of the rapid assessment. The focused assessment is performed on the specific injury site.
b) Assess baseline vital signs
c) Assess ***SAMPLE*** history

B. Responsive Medical Patients
1. Assess history of present illness
2. Assess complaints and signs or symptoms
a) **O-P-Q-R-S-T**
(1) **O** nset
(2) **P** rovocation
(3) **Q** uality
(4) **R** adiation
(5) **S** everity
(6) **T** ime
b) Assess ***SAMPLE*** history
c) Perform rapid assessment
(1) Assess the head if necessary
(2) Assess the neck if necessary
(3) Assess the chest if necessary
(4) Assess the abdomen if necessary
(5) Assess the pelvis if necessary
(6) Assess the extremities if necessary
(7) Assess the posterior body if necessary
d) Assess baseline vital signs
e) Provide emergency medical care based on signs and symptoms in consultation with medical direction

C. Unresponsive Medical Patients
1. Perform rapid assessment
a) Assess the head
b) Assess the neck
c) Assess the chest
d) Assess the abdomen
e) Assess the pelvis
f) Assess the extremities
g) Assess the posterior aspect of the body
2. Assess baseline vital signs
3. Position patient to protect airway

4. Obtain ***SAMPLE*** history from bystander, family, friends prior to leaving

IV. Detailed Physical Exam (contains components of the former "secondary survey")

A. Patient and injury specific; e.g., cut finger would not require the detailed physical exam

B. Perform a detailed physical examination on the patient to gather additional information

1. As you inspect and palpate, look and/or feel for the following examples of injuries or signs of injury - **DCAP-BTLS**
   a) **D** eformities
   b) **C** ontusions
   c) **A** brasions
   d) **P** unctures/penetrations
   e) **B** urns
   f) **T** enderness
   g) **L** acerations
   h) **S** welling
2. Assess the head, inspect and palpate for injuries or signs of injury
3. Assess the face, inspect and palpate for injuries or signs of injury.
4. Assess the ears, inspect and palpate for injuries and signs of injury, or drainage
5. Assess the eyes, inspect for injuries or signs of injury
   a) Discoloration
   b) Unequal pupils
   c) Foreign bodies
   d) Blood in anterior chamber
6. Assess the nose, inspect and palpate for injuries or signs of injury
   a) Drainage
   b) Bleeding
7. Assess the mouth, inspect for injuries or signs of injury
   a) Teeth
   b) Obstructions
   c) Swollen or lacerated tongue
   d) Odors
   e) Discoloration
8. Assess the neck, inspect and palpate for injuries or signs of injury
   a) Jugular vein distention
   b) Crepitation
9. Assess the chest, inspect and palpate for injuries or signs of injury
   a) Crepitation
   b) Paradoxical motion
   c) Breath sounds in the apices, mid-clavicular line, bilaterally and at the bases, mid-axillary line, bilaterally
      (1) Present

(2) Absent
(3) Equal

10. Assess the abdomen, inspect and palpate for injuries or signs of injury
    a) Firm
    b) Soft
    c) Distended
11. Assess the pelvis, inspect and palpate for injuries or signs of injury. If the patient does not complain of pain or is unresponsive, gently flex and compress the pelvis to determine stability.
12. Assess all four extremities, inspect and palpate for injuries or signs of injury
    a) Distal pulses
    b) Sensation
    c) Motor function
13. Roll with spinal precautions and assess posterior aspect of body, inspect and palpate for injuries and signs of injury
14. Reassess vital signs

V. Ongoing Assessment

A. Repeat initial assessment. For a stable patient, repeat and record every 15 minutes, for an unstable patient, repeat and record at a minimum every 5 minutes.
   1. Reassess mental status
   2. Maintain open airway
   3. Monitor breathing for rate and quality
   4. Reassess pulse for rate and quality
   5. Monitor skin color and temperature
B. Re-establish patient priorities
C. Reassess and record vital signs
D. Repeat focused assessment regarding patient complaint or injuries
E. Check interventions
   1. Assure adequacy of oxygen delivery/artificial ventilation
   2. Assure management of bleeding
   3. Assure adequacy of other interventions

VI. Verbal communication

A. After arrival at the hospital, give a verbal report to the staff
B. Introduce the patient by name (if known).
C. Summarize the information given over the radio:
   1. Chief complaint
   2. History that was not given previously
   3. Additional treatment given en route
   4. Additional vital signs taken en route
   5. Give additional information that was collected but not transmitted.

VII. Interpersonal communication

A. Make and keep eye contact with the patient.
B. When practical, position yourself at a level lower than the patient.
C. Be honest with the patient.
D. Use language the patient can understand.
E. Be aware of your own body language.
F. Speak clearly, slowly and distinctly.
G. Use the patient's proper name, either first or last, depending on the circumstances. Ask the patient what he wishes to be called.
H. If a patient has difficulty hearing, speak clearly with lips visible.
I. Allow the patient enough time to answer a question before asking the next one.
J. Act and speak in a calm, confident manner.

VIII. Prehospital care report

A. Functions
  1. Continuity of care - a form that is not read immediately in the emergency department may very well be referred to later for important information.
  2. Legal document
    a) A good report has documented what emergency medical care was provided and the status of the patient on arrival at the scene and any changes upon arrival at the receiving facility.
    b) The person who completed the form ordinarily must go to court with the form.
    c) Information should include objective and subjective information and be clear.
  3. Educational - used to demonstrate proper documentation and how to handle unusual or uncommon cases.
  4. Administrative
    a) Billing
    b) Service statistics
  5. Research
  6. Evaluation and continuous quality improvement
B. Use
  1. Types
    a) Traditional written form with check boxes and a section for narrative.
    b) Computerized version where information is filled in by means of an electronic clipboard or a similar device.
  2. Sections
    a) Run data - date, times, service, unit, names of crew
    b) Patient data - patient name, address, date of birth, insurance information, sex, age, nature of call, mechanism of injury, location of patient, treatment administered prior to arrival of

EMT-Basic, signs and symptoms, care administered, baseline vital signs, ***SAMPLE*** history and changes in condition.

c) Narrative section (if applicable)
   (1) Describe, don't conclude.
   (2) Include pertinent negatives.
   (3) Record important observations about the scene, e.g., suicide note, weapon, etc.
   (4) Avoid radio codes.
   (5) Use abbreviations only if they are standard.
   (6) When information of a sensitive nature is documented, note the source of that information, e.g., communicable diseases.
   (7) Be sure to spell words correctly, especially medical words. If you do not know how to spell it, find out or use another word.
   (8) For every reassessment, record time and findings.
d) Other state or local requirements

3. Confidentiality - the form and the information on the form are considered confidential in many states. Check state and local laws.
4. Distribution - local protocol and procedures will determine where the different copies of the form should be distributed.

C. Falsification issues
1. When an error of omission or commission occurs, the EMT-Basic should not try to cover it up. Instead, document what did or did not happen and what steps were taken (if any) to correct the situation.
2. Falsification of information on the prehospital care report may lead not only to suspension or revocation of the EMT-B's certification/license, but also to poor patient care because other health care providers have a false impression of which assessment findings were discovered or what treatment was given.
3. Specific areas of difficulty
   a) Vital signs - document only the vital signs that were actually taken.
   b) Treatment - for example, if a treatment like oxygen was overlooked, do not chart that the patient was given oxygen.

APPLICATION

Procedural (How)

1. Demonstrate all components of patient assessment.
2. Review methods of questioning to determine history of present illness - (***SAMPLE*** history).
3. Demonstrate proper methods for providing a verbal and a written patient care report.

Contextual (When, Where, Why)

Size-up represents the very beginning of patient assessment. It requires the EMT-Basic to evaluate several aspects concerning the situation in a very short period of time. It is the essence in assuring the safety of the crew and the patient. This information may be obtained as part of dispatch, but should always be reassessed upon arrival at the scene. For some situations, size-up is an on-going process. As additional information is obtained, modification is performed to the size-up of the patient and the situation overall.

Perform initial assessment on all patients after assuring scene and personal safety. If the scene is safe and the environment permits, perform the assessment prior to moving the patient. The initial assessment is a rapid means of assessing patient condition and priorities of care.

The focused history and physical exam is performed following the initial assessment and correction of immediate threats to life. The focused history and physical exam differs for medical and trauma patients. During this process, obtain additional information regarding the patient's condition. This assessment may be performed at the same location as the initial assessment, unless the scene or patient's condition requires movement. This assessment is the second hands-on approach to gain information to continue providing patient care.

The detailed physical exam is performed following the focused history and physical exam. It will be performed after all critical interventions have been completed. It is situation and time dependent. Depending upon the severity of the patient's injury or illness, this assessment may not be completed. During this process, additional information regarding the patient's condition is obtained. Typically this assessment will be performed while en route to the receiving facility.

The on-going assessment should be performed on all patients after assuring completion of critical interventions. Ideally, it is completed following the detailed physical exam. However, the patient condition may preclude performance of the detailed physical exam. In these cases, the on-going assessment is extremely valuable. The on-going assessment is a means of determining changes in the patient's condition.

STUDENT ACTIVITY

Auditory (Hear)

1. Student should hear simulations of various safe and unsafe scenes.
2. Students should hear recordings of various patient situations to listen for clues concerning the general impression.
3. Students should hear information input from a simulated patient or others regarding symptoms for patients with altered mental status.
4. Students should hear questions to assist in determining the history of the present illness.

Visual (See)

1. Students should see simulations of various safe and unsafe scenes.
2. Students should see visual aids or materials of various patient situations.
3. Students should see the inspection and palpation of programmed patients for various injuries and patterns of injury.
4. Students should see the entire assessment completed for each patient category.

Kinesthetic (Do)

1. Students should practice role playing the actions taken at various safe and unsafe scenes.
2. Students should practice all components of the assessment.
3. Students should practice examining interventions to assure that they continue to be effective.
4. Students should practice recording assessment findings.

Instructor Activities

1. Supervise student practice.
2. Reinforce student progress in cognitive, affective, and psychomotor domains.
3. Redirect students having difficulty with content.

EVALUATION

Written:	Develop evaluation instruments, e.g., quizzes, verbal reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.
Practical:	Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content.

ENRICHMENT

What is unique in the local area concerning this topic?

Emergency Medical Technician: Basic Refresher Curriculum

Module IV: Medical/Behavioral

TASK LIST AND EDUCATIONAL OBJECTIVES

At the completion of this lesson, the student will be able to:

COGNITIVE OBJECTIVE

1. Provide treatment for a patient in respiratory distress
    - List the signs and symptoms of difficulty breathing
    - Describe the emergency medical care of the patient with breathing difficulty.
    - Recognize the need for medical direction to assist in the emergency medical care of the patient with breathing difficulty.
    - State the generic name, medication forms, dose, administration, action, indications and contraindications for the prescribed inhaler.
2. Provide care to a patient experiencing chest pain/discomfort
    - Describe the emergency medical care of the patient experiencing chest pain/discomfort.
    - Discuss the position of comfort for patients with various cardiac emergencies.
    - Recognize the need for medical direction of protocols to assist in the emergency medical care of the patient with chest pain.
    - List the indications for the use of nitroglycerin.
3. Attempt to resuscitate a patient in cardiac arrest
    - Discuss the circumstances which may result in inappropriate shocks.
    - Explain the considerations for interruption of CPR, when using the automated external defibrillator.
    - List the steps in the operation of the automated external defibrillator.
    - Discuss the need to complete the Automated Defibrillator: Operator's Shift Checklist.
    - Explain the role medical direction plays in the use of automated external defibrillation.
4. Provide care to a patient with an altered mental status
    - State the steps in the emergency medical care of the patient taking diabetic medicine with an altered mental status and a history of diabetes.
    - Evaluate the need for medical direction in the emergency medical care of the diabetic patient.
5. Provide care of the patient experiencing an allergic reaction
    - Recognize the patient experiencing an allergic reaction.
    - Describe the emergency medical care of the patient with an allergic reaction.
    - State the generic and trade names, medication forms, dose, administration, action, and contraindications for the epinephrine auto-injector.

- Evaluate the need for medical direction in the emergency medical care of the patient with an allergic reaction.
- Differentiate between the general category of those patients having an allergic reaction and those patients having an allergic reaction and requiring immediate medical care, including immediate use of epinephrine auto-injector.

6. Provide care to a suspected poison/overdose patient
   - Describe the steps in the emergency medical care for the patient with suspected poisoning.
   - Discuss the emergency medical care for the patient with possible overdose.
7. Provide care to a patient experiencing a behavioral problem
   - Discuss the characteristics of an individual's behavior which suggests that the patient is at risk for suicide.
   - Discuss the special considerations for assessing a patient with behavioral problems.
   - Discuss the general principles of an individual's behavior which suggests that he is at risk for violence.
   - Discuss methods to calm behavioral emergency patients.

AFFECTIVE OBJECTIVES

1. Defend the rationale for the EMT-Basic to carry and assist with medications.
2. Recognize and respond to the feelings of the patient who may require interventions to be performed.

PSYCHOMOTOR OBJECTIVES

1. Given medical scenarios, demonstrate the ability to properly assess the patient and demonstrate the ability to properly utilize the intervention to include inhaler, nitroglycerin, oral glucose and activated charcoal.
2. Demonstrate the use of an epinephrine auto-injector.
3. Given a cardiac arrest scenario, demonstrate the use of the AED.

PREPARATION

Motivation: Many of the emergencies that an EMT-Basic responds to will be of a medical nature. The ability to recognize a medical emergency through proper assessment and questioning techniques and then providing the appropriate intervention is critical to the well-being of the patient.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to general pharmacology medical emergencies. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meets

the needs of the program. Materials should be edited to assure meeting the objectives of the curriculum.

EMS Equipment: Exam gloves, stethoscope, blood pressure cuff, penlight, suction equipment, tube of oral glucose, epinephrine auto-injector trainer, handheld inhaler suitable for training purposes, defibrillator manikins, automated external defibrillator, nitroglycerin training bottle, activated charcoal.

PERSONNEL

Primary Instructor: An EMT-Basic instructor who is knowledgeable in the assessment and intervention of common medical conditions.

Assistant Instructor: The instructor to student ratio should be adequate to allow for supervision of psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in general pharmacology as well as assessment and management of the medical patient .

PRESENTATION

Declarative (What)

I. General Pharmacology

A. Overview - the importance of medications and the dangers associated with their administration

B. Medications (carried on the EMS unit)
   1. Activated Charcoal
   2. Oral Glucose
   3. Oxygen

C. Medications (prescribed by a physician and the patient has them in his possession; they are not carried on the EMS unit). May assist patients in taking, with approval by medical direction).
   1. Prescribed Inhaler
   2. Nitroglycerin
   3. Epinephrine auto-injectorMedication names
   1. Generic
      a) The name listed in the U.S. Pharmacopeia, a governmental publication listing all drugs in the U.S.
      b) Name assigned to drug before it becomes officially listed. Usually a simple form of the chemical name
      c) Give examples
   2. Trade
      a) Brand name is the name a manufacturer uses in marketing the drug
      b) Give examples

E. Indications - the indication for a drug's use includes the most common uses of the drug in treating a specific illness

F. Contraindications - situations in which a drug should not be used because it may cause harm to the patient or offer no effect in improving the patient's condition or illness

G. Medication Form
   1. Medications the EMT-Basic carries or helps administer
      a) Compressed powders or tablets - nitroglycerin
      b) Liquids for injection - epinephrine
      c) Gels - glucose
      d) Suspensions - activated charcoal
      e) Fine powder for inhalation - prescribed inhaler
      f) Gasses - oxygen
      g) Sublingual spray - nitroglycerin
      h) Liquid/vaporized fixed dose nebulizers
   2. Each drug is in a specific medication form to allow properly controlled concentrations of the drug to enter into the blood stream where it has an effect on the target body system.

H. Dose - state how much of the medication should be given
I. Administration - state route by which the medication is administered such as oral, sublingual (below the tongue), injectable, or intramuscular
J. Actions - state desired effects of a medication
K. Side Effects - state any actions of a medication other than those desired. Some side effects may be predictable
L. Re-assessment strategies
    1. Repeat vital signs
    2. Must be done as part of the on-going patient assessment
    3. Documentation of response to intervention

II. Breathing Difficulty

A. Signs and symptoms
    1. Shortness of breath
    2. Restlessness
    3. Increased pulse rate
    4. Increased breathing rate
    5. Decreased breathing rate
    6. Skin color changes
        a) Cyanotic (blue-gray)
        b) Pale
        c) Flushed (red)
    7. Noisy breathing
        a) Crowing
        b) Audible wheezing
        c) Gurgling
        d) Snoring
        e) Stridor
            (1) A harsh sound heard during breathing
            (2) Upper airway obstruction
    8. Inability to speak due to breathing efforts.
    9. Retractions (the visible sinking-in of the soft tissues of the chest between the ribs and above and below the sternum)
    10. Shallow or slow breathing may lead to altered mental status (with fatigue or obstruction).
    11. Abdominal breathing (diaphragm only)
    12. Coughing
    13. Irregular breathing rhythm
    14. Patient position
        a) Tripod position
        b) Sitting with feet dangling, leaning forward
    15. Unusual anatomy (barrel chest)

B. Emergency Medical Care - Focused History and Physical Exam
    1. Important questions to ask
        a) Onset
        b) Provocation

c) Quality
d) Radiation
e) Severity
f) Time
g) Interventions

2. Breathing
   a) Complains of trouble breathing.
      (1) Apply oxygen if not already done.
      (2) Assess baseline vital signs.
   b) Has a prescribed inhaler available.
      (1) Consult medical direction.
      (2) Facilitate administration of inhaler
      (3) Repeat as indicated.
      (4) Continue focused assessment.
   c) Does not have prescribed inhaler - continue with focused assessment.
   d) Should be prepared to intervene with appropriate oxygen administration and artificial ventilation support.

C. Medications
   1. Prescribed inhaler
      a) Medication name
         (1) Generic - albuterol, isoetharine, metaproterenol, etc.
         (2) Trade - Proventil, Ventolin, Bronkosol, Bronkometer, Alupent, Metaprel, etc.
      b) Indications - meets all of the following criteria:
         (1) Exhibits signs and symptoms of respiratory emergency,
         (2) Has physician prescribed handheld inhaler, and
         (3) Specific authorization by medical direction.
      c) Contraindications
         (1) Inability of patient to use device.
         (2) Inhaler is not prescribed for the patient.
         (3) No permission from medical direction.
         (4) Patient has already met maximum prescribed dose prior to EMT-Basic arrival.
      d) Medication form - handheld metered dose inhaler
      e) Dosage - number of inhalations based upon medical direction's order or physician's order based upon consultation with the patient.
      f) Administration
         (1) Obtain order from medical direction either on-line or off-line.
         (2) Assure right medication, right patient, right route, patient alert enough to use inhaler.
         (3) Check the expiration date of the inhaler.

(4) Check to see if the patient has already taken any doses.
(5) Assure the inhaler is at room temperature or warmer.
(6) Shake the inhaler vigorously several times.
(7) Remove oxygen adjunct from patient.
(8) Have the patient exhale deeply.
(9) Have the patient put his lips around the opening of the inhaler.
(10) Have the patient depress the handheld inhaler as he begins to inhale deeply.
(11) Instruct the patient to hold his breath for as long as he comfortably can (so medication can be absorbed).
(12) Replace oxygen on patient.
(13) Allow patient to breath a few times and repeat second dose per medical direction.
(14) If patient has a spacer device for use with his inhaler, it should be used. A spacer device is an attachment between inhaler and patient that allows for more effective use of medication.

g) Actions - Beta agonist bronchodilators
(1) dilates bronchioles reducing airway resistance.

h) Side effects
(1) Increased pulse rate
(2) Tremors
(3) Nervousness

i) Re-assessment strategies
(1) Gather baseline vital signs and focused reassessment.
(2) Patient may deteriorate and need positive pressure artificial ventilation.

j) Infant and child considerations
(1) Use of handheld inhalers is very common in children.
(2) Retractions are more commonly seen in children than adults.
(3) Cyanosis (blue-gray) is a late finding in children.
(4) Very frequent coughing may be present rather than wheezing in some children.
(5) Emergency care with usage of handheld inhalers is the same if the indications for usage of inhalers is met by the ill child.

III. Cardiac Emergencies

A. Emergency Medical Care - Initial Patient Assessment Review

1. Circulation - pulse absent

a) Medical patient > or = 12 years old - CPR with AED
b) Medical patient < 12 years old or < 90 lbs. - CPR

2. Responsive patient with a known history - cardiac
   a) Perform initial assessment
   b) Perform focused history and physical exam
   c) Place patient in the position of comfort

B. Cardiac
1. Complains of chest pain/discomfort
   a) Apply oxygen if not already done
   b) Assess baseline vital signs
   c) Important questions to ask
      (1) Onset
      (2) Provocation
      (3) Quality
      (4) Radiation
      (5) Severity
      (6) Time
   d) Patient has been prescribed nitroglycerin (NTG) and nitro is with the patient
      (1) Blood pressure greater than 100 systolic
         (a) One dose, repeat in 3-5 minutes if no relief and authorized by medical direction up to a maximum of three doses
         (b) Reassess vital signs and chest pain after each dose
      (2) Blood pressure less than 100 systolic - continue with focused assessment
   e) Does not have prescribed nitroglycerin (NTG) - continue with focused assessment

C. Relationship to Basic Life Support
1. Not all chest pain patients become cardiac arrest patients
2. One Rescuer CPR - rarely done by EMT-Basics while on duty, may be done while partner is preparing equipment, or en route to facility
3. Two Rescuer CPR - learning outcomes of a Professional Rescuer CPR Course must be enhanced during an EMT-Basic course

D. Automated External Defibrillation
1. Importance of automated external defibrillation to the EMT-Basic.
   a) Fundamentals of early defibrillation - successful resuscitation of out-of-hospital arrest depends on a series of critical interventions known as the chain of survival
      (1) Early access
      (2) Early CPR
      (3) Early defibrillation
      (4) Early ACLS
   b) Rationale for early defibrillation
      (1) Many EMS systems have demonstrated increased survival outcomes of cardiac arrest patients in ventricular fibrillation

(2) This increased survival was after early defibrillation programs were implemented and when all of the links in the chain of survival were present

2. Overview of automated external defibrillators
   a) Types of automated external defibrillators
      (1) Fully automated - defibrillator operates without action by the EMT-Basic, except to turn on power and attach electrodes
      (2) Semi-automated - defibrillator uses a computer voice synthesizer to advise the EMT-Basic as to the steps to take based upon its analysis of the patient's cardiac rhythm
   b) Analysis of cardiac rhythms
      (1) Defibrillator computer microprocessor evaluates the patient's rhythm and confirms the presence or absence of a rhythm for which a shock is indicated
      (2) Accuracy of devices in rhythm analysis has been high both in detecting rhythms needing shocks and rhythms that do not need shocks
      (3) Analysis is dependent on properly charged defibrillator batteries
   c) Inappropriate delivery of shocks or failure to deliver appropriate shocks
      (1) Operator error examples
         (a) CPR-induced artifact simulating ventricular fibrillation (inappropriate shock)
         (b) Improper electrode application causing high impedance (failure to analyze and deliver shocks)
      (2) Device error examples
         (a) Artifact free rhythms resembling ventricular fibrillation (inappropriate shock)
         (b) Pacemaker spikes simulating regular rhythm during ventricular fibrillation (device failure to charge and deliver appropriate shock)
   d) Ventricular fibrillation
      (1) Attach defibrillator to only unresponsive, pulseless, apneic patients
      (2) Defibrillator advises shocks for ventricular fibrillation based on predefined ECG criteria such as rate and amplitude of ventricular fibrillation ECG signal
   e) Ventricular tachycardia
      (1) Attach defibrillator to only unresponsive, pulseless, apneic patients

(2) Defibrillator advises shocks for ventricular tachycardia when the rate exceeds a certain value, for example, above 180 beats per minute

f) Interruption of CPR

(1) Defibrillation is of highest priority, justifying stopping CPR during defibrillator rhythm analysis and shock delivery

(2) CPR should not be performed during the time interval when up to three (3) successive shocks are delivered

(3) Resume CPR only after up to three (3) successive stacked shocks have been delivered

(4) Patient should not be touched while rhythm is being analyzed or shocks are being delivered.

3. Use of automated external defibrillators during resuscitation attempts

a) Follow local or state protocol

b) Operational steps

(1) Take body substance isolation (BSI) - should be done en route to scene

(2) Arrive on scene and perform initial assessment

(3) Stop CPR if in progress

(4) Verify pulselessness and apnea

(5) Have partner resume CPR

(6) Attach electrodes to patient

(7) Turn on defibrillator power; this may be done as soon as arrival in order to document exact time of arrival at the patient's side

(8) Begin narrative if machine has voice recorder

(9) Stop CPR

(10) Clear patient

(11) Initiate analysis of rhythm

(a) Machine advises shock

(i) Deliver shock

(ii) Re-analyze rhythm (may be automatic in many AEDs)

(iii) If machine advises shock, deliver second shock

(iv) Re-analyze rhythm (may be automatic in many AEDs)

(v) If machine advises shock, deliver third shock

(vi) Check pulse

(b) If pulse, check breathing

(i) If breathing adequately, give high concentration oxygen by non-rebreather mask and transport

(ii) If not breathing adequately, artificially ventilate with high concentration oxygen and transport

(c) If no pulse, resume CPR for one minute

(i) Repeat one cycle of up to three stacked shocks

(ii) Transport

(d) If, after any rhythm analysis, the machine advises no shock, check pulse

(i) If pulse is present, check breathing.

(a) If breathing adequately, give high concentration oxygen by non-rebreather mask and transport

(b) If not breathing adequately, artificially ventilate with high concentration oxygen and transport

(c) If no pulse is present, resume CPR for one minute

(i) Repeat rhythm analysis

(a) If shock advised, deliver if necessary up to two sets of three stacked shocks separated by one minute of CPR

(b) If no shock advised and no pulse, resume CPR for one minute

(c) Analyze rhythm third time

(I) If shock advised, deliver, if needed, up to two sets of three stacked shocks separated by one minute of CPR

(ii) If no shock advised, resume CPR and transport

4. Standard operational procedures
   a) Assuming no on-scene ALS, the patient should be transported when one of the following occurs
      (1) The patient regains a pulse
      (2) Six shocks are delivered
      (3) The machine gives three consecutive messages (separated by one minute of CPR) that no shock is advised
   b) One EMT-Basic operates defibrillator, one does CPR
   c) Defibrillation comes first. Don't hook up oxygen or do anything that delays analysis of rhythm or defibrillation
   d) The EMT-Basic must be familiar with device used in operational EMS setting
   e) All contact with patient must be avoided during analysis of rhythm
   f) State "Clear the patient" before delivering shocks
   g) Check batteries at scheduled and documented intervals.
   h) Be certain batteries are fully charged and/or carry back-up charged battery
5. Age and weight guidelines -automated external defibrillation is not recommended at this time for cardiac arrest in children under 12 years of age or less than 90 lbs
6. Persistent ventricular fibrillation and no available ALS backup
   a) After six shocks on scene, (three initial, three after one minute of CPR), prepare for transport
   b) Additional shocks may be delivered at the scene or en route by approval of local medical direction
   c) Automated external defibrillators cannot analyze rhythm accurately when emergency vehicle is in motion because vehicle motion can distort the ECG signal. Must completely stop vehicle in order to analyze rhythm if more shocks are ordered
   d) It is not safe to defibrillate in a moving ambulance
7. Recurrent ventricular fibrillation following successful resuscitation
   a) If en route with unresponsive patient check pulse frequently (every 30 seconds). If pulse is no longer present then
      (1) Stop vehicle
      (2) Start CPR if defibrillator is not immediately ready
      (3) Analyze rhythm
      (4) Deliver shock if indicated
      (5) Continue resuscitation as per protocol
   b) If en route with a conscious patient having chest pain who becomes unresponsive, pulseless and apneic then
      (1) Stop vehicle
      (2) Start CPR if defibrillator is not immediately ready
      (3) Analyze rhythm

(4) Deliver up to 3 shocks, if indicated
(5) Continue resuscitation as per protocol

c) If no shock is indicated and no pulse is present
(1) Start or resume CPR for one minute
(2) Analyze rhythm until three consecutive "no shock indicated" messages are given, each followed by one minute of CPR; six shocks delivered; or patient regains pulse
(3) Continue transport

8. Single rescuer with an automated external defibrillator
a) Follow sequence
(1) Perform initial assessment
(2) Assure pulselessness and apnea
(3) Turn on AED power
(4) Attach device
(5) Initiate analysis of rhythm
(6) Deliver shock if necessary
(7) Follow protocol
b) Defibrillation is initial step; CPR should not be performed prior to rhythm analysis

9. Pulse checks should not occur during rhythm analysis. Pulse checks should occur between each set of three stacked shocks.

10. Coordination of ALS personnel or EMT-Paramedics when EMT-Basics are using automated external defibrillators
a) EMS system design establishes protocols
b) ALS should be notified of arrest events as soon as possible
c) Considerations for the EMT-Basic transporting the patient or waiting for ALS to arrive on the scene to transport should be in local protocols established by medical direction

11. Precautions for the use of the automated external defibrillator
a) Moving ambulances
b) Nitroglycerin patches on the chest
(1) If in an area where defibrillator electrodes are applied, remove nitroglycerin patches and wipe any residual from the skin
(2) Nitroglycerin in close proximity to electrodes can short-circuit defibrillator current and cause skin burns
c) Patients with implanted pacemakers or implanted defibrillators (PCDs, AICDs)
(1) Implanted pacemaker or defibrillator malfunction may result from external defibrillator electrodes applied close to implanted devices when shocks are delivered.
(2) Apply electrode pads 4-5 inches away from implanted devices

12. Post resuscitation care

a) After automated external defibrillation protocol is completed, patient may
   (1) Have pulses
   (2) Have no pulse with machine indicating "no shock indicated"
   (3) Have no pulse with machine indicating shock
b) If pulses return
   (1) Manage airway as appropriate
   (2) Consider awaiting ALS backup if appropriate
   (3) Transport to appropriate facility
      (a) Continue to keep defibrillator device on patient en route
      (b) Perform focused assessment and reassessment en route

13. Defibrillator maintenance
   a) Regular maintenance for defibrillators is necessary
   b) Defibrillator clocks must be synchronized with dispatcher clocks at specified intervals
   c) Operators Shift Checklist for Automated Defibrillators must be at scheduled and documented intervals
   d) Defibrillator failure is most frequently related to improper device maintenance, commonly battery failure. EMT-Basics must assure proper battery maintenance and battery replacement schedules.
14. Training and sources of information - the American Heart Association (AHA) publishes a variety of guidelines and additional information on automated external defibrillation
15. Maintenance of skills - AHA recommends 90 days between practice drills to reassess competency in use of AEDs
16. Medical direction
   a) Successful completion of AED training in an EMT-Basic course does not permit usage of the device without approval by state laws/rules and local medical direction authority
   b) Every event in which an AED is used must be reviewed by the medical director or his designated representative
   c) Reviews of events using AEDs may be accomplished by
      (1) Written report
      (2) Review of voice-ECG recorders attached to AEDs.
      (3) Solid-state memory modules and other forms of data retrieval stored in the device
17. Quality improvement - involves both individuals using AEDs and the EMS system in which the AEDs are used

E. Medications
1. Nitroglycerin
   a) Medication name
      (1) Generic - nitroglycerin

(2) Trade - Nitro-bid, Nitro-stat

b) Indications - must have all of the following criteria
   (1) Exhibits signs and symptoms of chest pain
   (2) Has physician prescribed sublingual tablets
   (3) Has specific authorization by medical direction

c) Contraindications
   (1) Hypotension/blood pressure below 100 mmHg systolic
   (2) Patient has already met his/her maximum prescribed dose prior to EMT-Basic arrival

d) Medication form - tablet, sublingual spray

e) Dosage - one dose, repeat in 3-5 minutes if no relief, BP > 100, and authorized by medical direction up to a maximum of three doses.

f) Administration
   (1) Obtain order from medical director either on-line or off-line
   (2) Perform focused assessment for cardiac patient
   (3) Take blood pressure - above 100 mmHg systolic
   (4) Contact medical control if no standing orders
   (5) Assure right medication, right patient, right route, patient alert
   (6) Check expiration date of nitroglycerin
   (7) Question patient on last dose administration, effects, and assures understanding of route of administration
   (8) Ask patient to lift tongue and place tablet or spray dose under tongue (while wearing gloves) or have patient place tablet or spray under tongue
   (9) Have patient keep mouth closed with tablet under tongue (without swallowing) until dissolved and absorbed
   (10) Recheck blood pressure within 2 minutes
   (11) Record activity and time
   (12) Perform reassessment

g) Actions
   (1) Relaxes blood vessels
   (2) Decreases workload of heart

h) Side effects
   (1) Hypotension
   (2) Headache
   (3) Pulse rate changes

i) Reassessment strategies
   (1) Monitor blood pressure
   (2) Ask patient about effect on pain relief
   (3) Seek medical direction before re-administering
   (4) Record reassessments

IV. Emergency Medical Care of a patient with an Altered Mental Status

A. Caused by a variety of conditions
   1. Hypoglycemia
   2. Hyperglycemia
   3. Poisoning
   4. Post seizure
   5. Infection
   6. Head trauma
   7. Decreased oxygen levels

B. Emergency medical care
   1. Assure patency of airway.
   2. Be prepared to artificially ventilate/suction.
   3. Transport.
   4. Consider trauma, trauma can cause altered mental status

V. Emergency medical care of altered mental status with a history of diabetes

A. Perform initial assessment

B. Perform history and physical exam
   1. Facts surrounding the episode
   2. Onset
   3. Duration
   4. Associated symptoms
   5. Evidence of trauma
   6. Interventions
   7. Seizures
   8. Fever

C. Performs baseline vital signs and ***SAMPLE*** history

D. Assure known history of diabetes (medical identification tags), etc.

E. Determine last meal, last medication dose, any related illness

F. Determine if patient can swallow

G. Administer oral glucose in accordance with local medical direction or protocol

H. Medication
   1. Oral Glucose
      a) Medication Name
         (1) Generic - Glucose, Oral
         (2) Trade - Glutose, Insta-glucose
      b) Indications - patients with altered mental status with a known history of diabetes controlled by medication
      c) Contraindications
         (1) Unresponsive
         (2) Unable to swallow
      d) Medication form - Gel, in toothpaste type tubes
      e) Dosage - one tube
      f) Administration

(1) Obtain order from medical direction either on-line or off-line
(2) Assure signs and symptoms of altered mental status with a known history of diabetes
(3) Assure patient is conscious and can swallow and protect their airway
(4) Administer glucose
(a) Between cheek and gum
(b) Place on tongue depressor between cheek and gum
(5) Perform ongoing assessment

g) Actions - increases blood sugar
h) Side effects - none when given properly. May be aspirated by the patient without a gag reflex
i) Re-assessment strategies - if patient loses consciousness or seizes, remove tongue depressor from mouth

VI. Emergency medical care of allergic reactions

A. Patient has come in contact with substance that caused past allergic reaction and complains of respiratory distress or exhibits signs and symptoms of shock (hypoperfusion)
1. Perform initial assessment
2. Perform a focused history and physical exam
a) History of allergies
b) What was the patient exposed to
c) How were they exposed
d) What effects
e) Progression
f) Interventions
3. Assess baseline vital signs and ***SAMPLE*** history
4. Administer oxygen if not already done in the initial assessment
5. Contact medical direction
6. Determine if patient has prescribed preloaded epinephrine available. Facilitate administration of preloaded epinephrine
7. Record and reassess in two minutes
8. Record reassessment findings
9. If patient does not have epinephrine auto-injector available - transport immediately

B. Patient has contact with substance that causes allergic reaction without signs of respiratory distress or shock (hypoperfusion)
1. Continue with focused assessment
2. Patient not wheezing or without signs of respiratory compromise or hypotension should not receive epinephrine

C. Medications
1. Epinephrine auto-injector
a) Medication name

(1) Generic - Epinephrine
(2) Trade - Adrenalin

b) Indications - must meet <u>all</u> of the following three criteria
(1) Emergency medical care for the treatment of the patient exhibiting the assessment findings of an allergic reaction
(2) Medication is prescribed for this patient by a physician
(3) Medical direction authorizes use for this patient

c) Contraindications - no contraindications when used in a life-threatening situation

d) Medication form - liquid administered via an automatically injectable needle and syringe system

e) Dosage
(1) Adult - one adult auto-injector (0.3 mg)
(2) Infant and child - one infant/child auto-injector (0.15 mg)

f) Administration
(1) Obtain order from medical direction either on-line or off-line
(2) Obtain patient's prescribed auto injector. Ensure
(a) Prescription is written for the patient experiencing allergic reactions
(b) Medication is not discolored
(3) Remove safety cap from the auto-injector
(4) Place tip of auto-injector against the patient's thigh
(a) Lateral portion of the thigh
(b) Midway between the waist and the knee
(5) Push the injector firmly against the thigh to activate the injector
(6) Hold the injector in place until the medication is injected
(7) Record activity and time
(8) Dispose of injector in biohazard container

g) Actions
(1) Dilates the bronchiole
(2) Constricts blood vessels

h) Side effects
(1) Increases heart rate
(2) Pallor
(3) Dizziness
(4) Chest pain
(5) Headache
(6) Nausea
(7) Vomiting
(8) Excitability, anxiousness

i) Transport

j) Re-assessment strategies
(1) Continue focused assessment of airway, breathing and circulatory status
(a) Patient condition continues to worsen
(i) Decreasing mental status
(ii) Increasing breathing difficulty
(iii) Decreasing blood pressure
(iv) Obtain medical direction
(a) Additional dose of epinephrine
(b) Treat for shock (hypoperfusion)
(c) Prepare to initiate Basic Cardiac Life Support measures
(i) CPR
(ii) AED
(b) Patient condition improves. Provide supportive care
(i) Oxygen
(ii) Treat for shock (hypoperfusion)

2. Document all responses to medications

VII. Emergency Medical Care of Poisoning/Overdose

A. Ingested
1. Signs and symptoms
a) History of ingestion
b) Nausea
c) Vomiting
d) Diarrhea
e) Altered mental status
f) Abdominal pain
g) Chemical burns around the mouth
h) Different breath odors

B. Emergency medical care
1. Remove pills, tablets or fragments with gloves from patient's mouth, as needed, without injuring oneself.
2. Consult medical direction for administration of activated charcoal
3. Bring all containers, bottles, labels, etc. of poison agents to receiving facility.

C. Inhaled
1. Signs and symptoms
a) History of inhalation of toxic substance
b) Difficulty breathing
c) Chest pain
d) Cough
e) Hoarseness
f) Dizziness
g) Headache

h) Confusion
i) Seizures
j) Altered mental status

2. Emergency medical care
   a) Have trained rescuers remove patient from poisonous environment.
   b) Give oxygen, if not already done in the initial assessment.
   c) Bring all containers, bottles, labels, etc. of poison agents to receiving facility.

D. Toxic injection
1. Signs and symptoms
   a) Weakness
   b) Dizziness
   c) Chills
   d) Fever
   e) Nausea
   f) Vomiting
2. Emergency medical care
   a) Airway and oxygen.
   b) Be alert for vomiting.
   c) Bring all containers, bottles, labels, etc. of toxic agents to receiving facility.

E. Absorbed
1. Signs and symptoms
   a) History of exposure
   b) Liquid or powder on patient's skin
   c) Burns
   d) Itching
   e) Irritation
   f) Redness
2. Emergency medical care
   a) Skin - remove contaminated clothing while protecting oneself from contamination.
   b) Powder - brush powder off patient, then continue as for other absorbed poisons.
   c) Liquid - irrigate with clean water for at least 20 minutes (and continue en route to facility if possible).
   d) Eye - irrigate with clean water away from affected eye for at least 20 minutes and continue en route to facility if possible.

VIII. Behavioral Emergencies

A. Assessment for Suicide Risk
1. Depression
   a) Sad, tearful
   b) Thoughts of death or taking one's life

2. Suicidal gestures - the EMT-Basic must recognize and intervene in self-destructive behavior before the patient commits the act of suicide. Risk factors may include:
   a) Male, over 40, single, widowed or divorced, alcoholic, depressed.
   b) A defined lethal plan of action which has been verbalized.
   c) Unusual gathering of articles which can cause death such as purchase of a gun, large volumes of pills, etc.
   d) Previous history of self-destructive behavior.
   e) Recent diagnosis of serious illness.
   f) Recent loss of significant loved one.
   g) Arrest, imprisonment, loss of job
3. Assessment findings
   a) Patient in an unsafe environment or with unsafe objects in hands.
   b) Displaying of self-destructive behavior during initial assessment or prior to emergency response.

B. Emergency medical care
1. Scene size-up, personal safety
2. Patient assessment
3. Calm the patient - do not leave patient alone
4. Restrain if necessary
5. Transport
6. If overdose, bring medications or drugs found to medical facility.

C. Medical/Legal Considerations - Emotionally disturbed patient who consents to care - legal problems greatly reduced.
1. How to handle the patient who resists treatment
   a) Emotionally disturbed patient will often resist treatment.
   b) May threaten EMT-Basics and others
   c) To provide care against patient's will, you must show a reasonable belief the patient would harm himself or others.
   d) If a threat to self or others, patient may be transported without consent.
   e) Usually law enforcement is required.

D. Avoiding unreasonable force
1. Reasonable force depends on what force was necessary to keep patient from injuring himself or others.
2. Reasonableness is determined by looking at all circumstances involved.
   a) Patients size and strength
   b) Type of abnormal behavior
   c) Sex of patient
   d) Mental state of patient
   e) Method of restraint

3. Be aware after a period of combativeness and aggression some calm patients may cause unexpected and sudden injury to self and others.
4. Avoid acts or physical force that may cause injury to the patient.
5. EMS personnel may use reasonable force to defend against an attack by emotionally disturbed patients.

E. Police and medical direction involvement
1. Seek medical direction when considering restraining a patient.
2. Ask for police assistance if during scene size-up the patient appears or acts aggressive or combative.

F. Protection against false accusations
1. Documentation of abnormal behavior exhibited by the patient is very important.
2. Have witnesses in attendance especially during transport, if possible.
3. Accusing EMT-Basics of sexual misconduct is common by emotionally disturbed patients - have help, same sex attendants, and third party witnesses.

G. Principles for Assessing Behavioral Emergency Patients
1. Identify yourself and let the person know you are there to help.
2. Inform him of what you are doing.
3. Ask questions in a calm, reassuring voice.
4. Allow the patient to tell what happened.
5. Show you are listening by rephrasing or repeating part of what is said.
6. Acknowledge the patient's feelings.
7. Assess the patient's mental status.
   a) Appearance
   b) Activity
   c) Speech
   d) Orientation for time, person, and place

H. Assessment of Potential Violence
1. Scene size-up
2. History - the EMT-Basic should check with family and bystanders to determine if the patient has a known history of aggression or combativeness.
3. Posture - stands or sits in a position which threatens self or others. May have fists clinched or lethal objects in hands.
4. Vocal activity - is yelling or verbally threatens harm to self or others.
5. Physical activity - moves toward caregiver, carries heavy or threatening objects, has quick irregular movements, muscles tense.

I. Methods to Calm Behavioral Emergency Patients
1. Acknowledge that the person seems upset and restate that you are there to help.
2. Inform him of what you are doing.
3. Ask questions in a calm, reassuring voice.

4. Maintain a comfortable distance.
5. Encourage the patient to state what is troubling him.
6. Do not make quick moves.
7. Respond honestly to patient's questions.
8. Do not threaten, challenge or argue with disturbed patients.
9. Tell the truth, do not lie to the patient.
10. Do not "play along" with visual or auditory disturbances of the patient.
11. Involve trusted family members or friends.
12. Be prepared to stay at scene for a long time. Always remain with the patient.
13. Avoid unnecessary physical contact.
14. Use good eye contact.

APPLICATION

Procedural (How)

1. Demonstrate reading labels and inspecting each medication that will be carried on the unit or will be assisting the patient in self administering.
2. Perform the steps in facilitating the use of nitroglycerin for chest pain using a substitute candy tablet and breath spray.
3. Demonstrate application and operation of the automated external defibrillator including completion of the daily checklist
4. Demonstrate the steps in the administration of oral glucose.
5. Demonstrate the steps in the administration activated charcoal.
6. Demonstrate the steps in the use of the epi-autoinjector.
7. Demonstrate the steps in the use of a handheld inhaler.
8. Demonstrate the steps in caring for a behavioral emergency.

Contextual (When, Where, Why)

For years, the primary care provide by the EMT-Basic to the patient experiencing a medical emergency was administration of oxygen and rapid transportation to a treatment facility. While these interventions continue to be critical to patient outcome, the EMT now has other specific interventions that will assist in stabilizing the patient prior to the patients arrival in the emergency department. The EMT-Basic may now have activated charcoal, oral glucose, epinephrine, handheld inhalers, nitroglycerin and automated defibrillators on the unit to administer with medical direction approval.

STUDENT ACTIVITIES

Auditory (Hear)

1. Students should hear information on medications they will use on the EMS unit.
2. Students should hear computer voice simulations made by automated external defibrillators giving instructions on protocols or shocks.
3. Students should hear of actual cases where cardiac arrest resuscitation efforts were successful and unsuccessful and the reasons for the outcomes.
4. Students should hear the steps required to appropriately administer epinephrine auto-injector, activated charcoal, oral glucose, handheld inhaler and nitroglycerin.
5. Students should hear the various methods used to calm the behavioral emergency patient.

Visual (See)

1. Students should see a demonstration of the proper steps in assisting in the usage of handheld inhalers.
2. Students should see an instructor team appropriately resuscitate a simulated cardiac arrest patient using an automated external defibrillator.

3. Students should see re-enactments of cardiac arrest resuscitation efforts by EMT-Basics using automated external defibrillators.
4. Students should see an instructor team appropriately administer a small candy or breath spray sublingually to a simulated patient presenting with chest pain.
5. Students should see various methods to calm the behavioral emergency patient.
6. Students should see the administration of oral glucose (as a simulated paste) to a simulated patient.

Visual (See)

1. Students should see the instructor demonstrate the appropriate steps in using an auto-injector.
2. Students should see a demonstration of how to administer activated charcoal.

Kinesthetic (Do)

1. The student will practice inspecting and reading the labels of each type of medication they will use on the EMS unit.
2. The student should practice assessment and management of adult, child and infant patients having a respiratory illness who have been prescribed a handheld inhaler by his physician.
3. The student should practice the steps in facilitating the use of a handheld inhaler.
4. The student should practice role play situations where use of handheld inhalers is appropriate and inappropriate.
5. The student should practice the application and operation of the automated external defibrillator.
6. The student should practice maintenance checks of the automated external defibrillator.
7. The student should practice performing the steps in facilitating the use of nitroglycerin for chest pain using a suitable candy tablet and breath spray.
8. The student should practice the assessment and documentation of patient response to the automated external defibrillator.
9. The student should practice the assessment and documentation of patient response to nitroglycerin.
10. The student should practice assessment, defibrillation, airway management, lifting and moving a patient, and transportation out of the training laboratory of a manikin in a simulated cardiac arrest situation in which a patient does not respond to defibrillation.
11. The student will practice the steps in the administration of oral glucose.
12. The student should practice the correct way to use an epinephrine auto-injector.

Instructor Activities

1. Supervise student practice.
2. Reinforce student progress in cognitive, affective, and psychomotor domains.

3. Redirect students having difficulty in content.

EVALUATION

Written:	Develop evaluation instruments, e.g., quizzes, verbal reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.
Practical:	Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content.

ENRICHMENT

What is unique in the local area concerning this topic?

Emergency Medical Technician: Basic Refresher Curriculum

Module V: Trauma

TASK LIST AND EDUCATIONAL OBJECTIVES

At the completion of this lesson, the student will be able to:

COGNITIVE OBJECTIVES

1. Provide care to a patient with shock (hypoperfusion)
    - State methods of emergency medical care of external bleeding.
    - List signs and symptoms of shock (hypoperfusion).
    - State the steps in the emergency medical care of the patient with signs and symptoms of shock (hypoperfusion).
2. Provide care to a patient with suspected spinal injury
    - State the signs and symptoms of a potential spine injury.
    - Describe how to stabilize the spine.
3. Provide care to a patient with a suspected head injury
    - Relate mechanism of injury to potential injuries of the head and spine.
4. Provide care to a patient with a soft tissue injury
    - Describe the emergency medical care of the patient with a closed soft tissue injury.
    - Describe the emergency medical care of the patient with an open soft tissue injury.
5. Perform a rapid extrication of a trauma patient
    - Describe the indications for the use of rapid extrication.
    - List steps in performing rapid extrication.

AFFECTIVE OBJECTIVES

1. Explain the sense of urgency to transport patients that are bleeding and show signs of hypoperfusion.
2. Explain the rationale for splinting at the scene versus load and go.
3. Explain the rationale for using rapid extrication approaches only when they will make the difference between life and death.

PSYCHOMOTOR OBJECTIVES

1. Demonstrate care of the patient experiencing external bleeding.
2. Demonstrate care of the patient exhibiting signs and symptoms of shock (hypoperfusion.
3. Demonstrate the steps in the care of open and closed soft tissue injuries. (chest injuries, abdominal injuries, burns and amputations).
4. Demonstrate the steps in the care of a patient with a head or spine injury.
5. Demonstrate the procedure for rapid extrication.

PREPARATION

Motivation: Trauma is the leading cause of death in the United States for persons between the ages of 1 and 44. Understanding the mechanism of injury, relevant signs and symptoms and appropriate intervention techniques is of paramount importance when dealing with the traumatized patient.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to bleeding and shock (hypoperfusion). The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure meeting the objectives of the curriculum.

EMS Equipment: Sterile dressings, bandages, splints, pneumatic anti-shock garment, triangular bandage, stick or rod, air splints, gloves, eye protection, blanket, universal dressing, occlusive dressing, roller bandages, 4 x 4 gauze pads, burn sheets, sterile water or saline.

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in assessment and management of the trauma patient.

Assistant Instructor: The instructor to student ratio should be adequate to allow for supervision of psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in assessment and management of the trauma patient.

PRESENTATION

Declarative (What)

I. **Shock** (hypoperfusion syndrome)
   A. Severity
      1. Shock (hypoperfusion) results in inadequate perfusion of cells with oxygen and nutrients and inadequate removal of metabolic waste products.
      2. Cell and organ malfunction and death can result from shock (hypoperfusion); therefore, prompt recognition and treatment is vital to patient survival.
      3. Peripheral perfusion is drastically reduced due to the reduction in circulating blood volume.
      4. Trauma patients develop shock (hypoperfusion) from the loss of blood from both internal and external sites. This type of shock (hypoperfusion) is referred to as hypovolemic or hemorrhagic shock.
   B. Signs and symptoms of shock (hypoperfusion)
      1. Mental states
         a) Restlessness
         b) Anxiety
         c) Altered mental status
      2. Peripheral perfusion
         a) Delayed capillary refill greater than 2 seconds in normal ambient air temperature - infant and child patients only
         b) Weak, thready or absent peripheral pulses
         c) Pale, cool, clammy skin
      3. Vital signs
         a) Decreased blood pressure (late sign)
         b) Increased pulse rate (early sign) - weak and thready
         c) Increased breathing rate
            (1) Shallow
            (2) Labored
            (3) IrregularOther signs and symptoms
         a) Dilated pupils
         b) Thirst
         c) Nausea and vomiting
         d) Pallor with cyanosis to the lips
      5. Infant and child patients can maintain their blood pressure until their blood volume is more than half gone, so by the time their blood pressure drops they are close to death. The infant or child in shock has less reserve.
   C. Emergency medical care
      1. Body substance isolation.
      2. Maintain airway/artificial ventilation. Administer oxygen if indicated.
      3. Control any external bleeding.
         a) Apply finger tip pressure directly on the point of bleeding.

b) Elevation of a bleeding extremity may be used secondary to and in conjunction with direct pressure.
c) Large gaping wounds may require packing with sterile gauze and direct hand pressure if direct finger tip pressure fails to control bleeding.
d) If bleeding does not stop or soaks through the dressing, apply additional pressure to site.
e) Pressure points may be used in upper and lower extremities.

4. If signs of shock (hypoperfusion) are present and the lower abdomen is tender and pelvic injury is suspected, with no evidence of chest injury, apply and inflate the pneumatic anti-shock garment if approved by medical direction.
5. Elevate the lower extremities approximately 8 to 12 inches. If the patient has serious injuries to the pelvis, lower extremities, head, chest, abdomen, neck, or spine, keep the patient supine.
6. Splint any suspected bone or joint injuries.
7. Prevent loss of body heat by covering the patient with a blanket when appropriate.
8. Immediate transport.

II. Emergency medical care of an open chest wound

A. Occlusive dressing to open wound
B. Administer oxygen if not already done
C. Position of comfort if no spinal injury suspected

III. Emergency medical care for an open abdominal injury

A. Do not touch or try to replace the exposed organ.
B. Cover exposed organs and wound with a sterile dressing, moistened with sterile water or saline, and secure in place.
C. Flex the patient's hips and knees, if uninjured.

IV. Emergency medical care of amputations

A. Wrap the amputated part in a sterile dressing.
B. Wrap or bag the amputated part in plastic and keep cool.
C. Transport the amputated part with the patient.
D. Do not complete partial amputations, immobilize to prevent further injury.

V. Emergency medical care of burns

A. Stop the burning process, initially with water or saline.
B. Remove smoldering clothing and jewelry.
C. Body substance isolation
D. Continually monitor the airway for evidence of closure.
E. Prevent further contamination.
F. Cover the burned area with a dry sterile dressing.
G. Do not use any type of ointment, lotion or antiseptic.
H. Do not break blisters.

I. Transport.
J. Know local protocols for transport to appropriate local facility.

VI. Injuries to bones and joints

A. Signs and symptoms
   1. Deformity or angulated
   2. Pain and tenderness
   3. Grating
   4. Swelling
   5. Bruising (discoloration)
   6. Exposed bone ends
   7. Joint locked into position

B. Emergency medical care of bone or joint injuries
   1. Body substance isolation
   2. Administer oxygen if indicated.
   3. After life threats have been controlled, splint injuries in preparation for transport.
   4. Application of cold pack to area of painful, swollen, deformed extremity to reduce swelling.
   5. Elevate the extremity.

C. General rules of splinting
   1. Assess pulse, movement, and sensation distal to the injury prior to and following splint application and record.
   2. Immobilize the joint above and below the injury.
   3. Remove or cut away clothing.
   4. Cover open wounds with a sterile dressing.
   5. Align with gentle traction before splinting if there is a severe deformity or the distal extremity is cyanotic or lacks pulses.
   6. Do not intentionally replace the protruding bones.
   7. Pad each splint to prevent pressure and discomfort to the patient.
   8. Splint the patient before moving.
   9. When in doubt, splint the injury.
   10. If patient has signs of shock (hypoperfusion), align in normal anatomical position and transport.

VII. Head and Spine Injuries

A. Mechanism of injury with a high index of suspicion

B. Signs and symptoms of Head and Spine injuries
   1. Tenderness in the area of injury
   2. Pain associated with moving
      a) Do not ask the patient to move to try to elicit a pain response.
      b) Do not move the patient to test for a pain response.
   3. Pain independent of movement or palpation
      a) Along spinal column
      b) Lower legs
      c) May be intermittent

4. Obvious deformity of the spine upon palpation
5. Soft tissue injuries associated with trauma
   a) Head and neck to cervical spine
   b) Shoulders, back or abdomen - thoracic, lumbar
   c) Lower extremities - lumbar, sacral
6. Numbness, weakness or tingling in the extremities
7. Loss of sensation or paralysis below the suspected level of injury
8. Loss of sensation or paralysis in the upper or lower extremities
9. Incontinence

C. Assessing the potential spine injured patient
1. Responsive patient
   a) Mechanism of injury
   b) Questions to ask (ensure patient does not move while answering the questions)
      (1) Does your neck or back hurt?
      (2) What happened?
      (3) Where does it hurt?
      (4) Can you move your hands and feet?
      (5) Can you feel me touching your fingers?
      (6) Can you feel me touching your toes?
   c) Inspect for contusions, deformities, lacerations, punctures, penetrations, swelling.
   d) Palpate for areas of tenderness or deformity.
   e) Assess equality of strength of extremities
      (1) Hand grip
      (2) Gently push feet against hands
2. Unresponsive patient
   a) Mechanism of injury
   b) Initial assessment
   c) Inspect for:
      (1) Contusions
      (2) Deformities
      (3) Lacerations
      (4) Punctures/penetrations
      (5) Swelling
   d) Palpate for areas of tenderness or deformity.
   e) Obtain information from others at the scene to determine information relevant to mechanism of injury or patient mental status prior to the EMT-B's arrival.
3. Emergency Medical Care
   a) Immobilization
   b) Oxygenation
   c) Transportation

D. Skull injury - signs and symptoms
1. Mechanism of trauma
2. Contusions, lacerations, hematomas to the scalp

3. Deformity to the skull
4. Blood or fluid (cerebrospinal fluid) leakage from the ears or nose
5. Bruising (discoloration) around the eyes
6. Bruising (discoloration) behind the ears (mastoid process)
7. Closed head injury
    a) Traumatic
    b) Signs and symptoms
        (1) Altered or decreasing mental status is the best indicator of a brain injury.
            (a) Confusion, disorientation, or repetitive questioning
            (b) Conscious - deteriorating mental status
            (c) Unresponsive
        (2) Irregular breathing pattern
        (3) Consideration of mechanism of injury
            (a) Deformity of windshield
            (b) Deformity of helmet
        (4) Contusions, lacerations, hematomas to the scalp
        (5) Deformity to the skull
        (6) Blood or fluid (cerebrospinal fluid) leakage from the ears and nose
        (7) Bruising (discoloration) around the eyes
        (8) Bruising (discoloration) behind the ears (mastoid process)
        (9) Neurologic disability
        (10) Nausea and/or vomiting
        (11) Unequal pupil size with altered mental status
        (12) Seizure activity may be seen.
8. Open head injury
    a) Signs and symptoms
        (1) Consideration of mechanism of injury
            (a) Deformity of windshield
            (b) Deformity of helmet
        (2) Contusions, lacerations, hematomas to the scalp
        (3) Deformity to the skull
        (4) Penetrating injury - do not remove impaled objects in the skull
        (5) Soft area or depression upon palpation
        (6) Exposed brain tissue
        (7) Bleeding from the open bone injury
        (8) Blood or fluid (cerebrospinal fluid) leakage from the ears and nose
        (9) Bruising (discoloration) around the eyes
        (10) Bruising (discoloration) behind the ears (mastoid process)
        (11) Nausea and/or vomiting
        (12) Possible signs and symptoms of a closed head injury may exist if brain injury has occurred.
9. Emergency medical care
    a) Body substance isolation

b) Maintain airway/artificial ventilation/oxygenation.
c) Initial assessment with spinal immobilization should be done on scene with a complete detailed physical exam en route.
d) With any head injury, the EMT-Basic must suspect spinal injury. Immobilize the spine.
e) Closely monitor the airway, breathing, pulse, and mental status for deterioration.
f) Control bleeding.
   (1) Do not apply pressure to an open or depressed skull injury.
   (2) Dress and bandage open wound as indicated in the treatment of soft tissue injuries.
g) If a medical injury or non-traumatic injury exist, place patient on the left side.
h) Be prepared for changes in patient condition.
i) Immediately transport the patient.

VIII. Rapid Extrication

A. Indications
   1. Unsafe scene
   2. Unstable patient condition warrants immediate movement and transport.
   3. Patient blocks the EMT-B's access to another, more seriously injured, patient.
   4. Rapid extrication is based on time and the patient, and not the EMT-B's preference.

B. Procedure
   1. One EMT-Basic gets behind patient and brings cervical spine into neutral in-line position and provides manual immobilization.
   2. A second EMT-Basic applies cervical immobilization device as the third EMT-Basic first places long backboard near the door and then moves to the passenger seat.
   3. The second EMT-Basic supports the thorax as the third EMT-Basic frees the patient's legs from the pedals.
   4. At the direction of the second EMT-Basic, he and the third EMT-Basic rotate the patient in several short, coordinated moves until the patient's back is in the open doorway and his feet are on the passenger seat.
   5. Since the first EMT-Basic usually cannot support the patient's head any longer, another available EMT-Basic or a bystander supports the patient's head as the first EMT-Basic gets out of the vehicle and takes support of the head outside of the vehicle.
   6. The end of the long backboard is placed on the seat next to the patient's buttocks. Assistants support the other end of the board as the first EMT-Basic and the second EMT-Basic lower the patient onto it.
   7. The second EMT-Basic and the third EMT-Basic slide the patient into the proper position on the board in short, coordinated moves.
   8. Several variations of the technique are possible, including assistance from bystanders. Must be accomplished without compromise to the spine.

APPLICATION

Procedural (How)

1. Review methods to control external bleeding.
2. Review methods used to treat the patient in shock (hypoperfusion).
3. Demonstrate the steps in the care of open and closed soft tissue injuries. (chest injuries, abdominal injuries, burns and amputations).
4. Demonstrate the steps in the care of a patient with a head or spine injury.
5. Demonstrate the procedure for rapid extrication.

Contextual (When, Where, Why)

The EMT-Basics will respond to various traumatic emergencies during a career in EMS. Their ability to quickly control bleeding and recognize and treat shock are critical to the life of the patient. Failure to proper immobilize a bone or joint injury can result in damage to soft tissue, organs, nerves and blood vessels. Failure to recognize the possibility of a head or spine injury will lead to an increased patient morbidity and mortality.

STUDENT ACTIVITIES

Auditory (Hear)

1. Students should hear simulated situations to identify signs and symptoms of external bleeding, internal bleeding and shock (hypoperfusion).
2. Students should hear simulations of various situations involving musculoskeletal injuries and the proper assessment and intervention.

Visual (See)

1. Students should see audio-visual aids or materials of the proper methods to control external bleeding and treat for shock (hypoperfusion).
2. Students should see demonstrations for the proper method of managing an open chest wound.
3. Students should see demonstrations for the proper method of managing an open abdominal injury.
4. Students should see audio-visual aids or materials which illustrate superficial, partial thickness and full thickness burns.
5. Students should see demonstrations for the proper management of burns.
6. Students should see demonstrations for the proper immobilization of a painful, swollen, deformed extremity.
7. Students should see the demonstrations of proper assessment and management of patients who have experienced head and spine injuries.
8. Students should see audio-visual aids or materials illustrating situations that would require the use of rapid extrication.

Kinesthetic (Do)

1. Students should practice the management of patients with external bleeding, internal bleeding and shock.
2. Students should practice the care of patients with open and closed soft tissue injuries (chest injuries, abdominal injuries, burns and amputations).
3. Students should practice the management of an injured extremity.
4. Students should practice the assessment and management of a patient who has experienced a head or spine injury.
5. Students should practice performing a rapid extrication.

Instructor Activities

1. Supervise student practice.
2. Reinforce student progress in cognitive, affective, and psychomotor domains.
3. Redirect students having difficulty in content.

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content.

ENRICHMENT

What is unique in the local area concerning this topic?

Emergency Medical Technician: Basic Refresher Curriculum

Module VI: Obstetrics, Infants, and Children

TASK LIST AND EDUCATIONAL OBJECTIVES

At the completion of this lesson, the student will be able to:

COGNITIVE OBJECTIVE

1. Assess and provide care to the obstetric patient
2. Assist with the delivery of an infant
3. Assess and provide care to the newborn
4. Assess and provide care to the mother immediately following delivery of a newborn
    - Identify pre-delivery emergencies.
    - State the steps to assist in the delivery.
    - Discuss the steps in the delivery of the placenta.
    - List the steps in the emergency medical care of the mother post-delivery.
    - Summarize neonatal resuscitation procedures.
    - Describe the procedures for the following abnormal deliveries
5. Assess and provide care to an ill or injured infant or child with:
    - Respiratory distress
    - Shock (hypoperfusion)
    - Cardiac Arrest
    - Seizures
    - Trauma

AFFECTIVE OBJECTIVES

1. Explain the rationale for having knowledge and skills appropriate for managing infant and child patients.
2. Understand the provider's own response (emotional) to caring for infants and children.

PSYCHOMOTOR OBJECTIVE

1. Demonstrate steps to assist in the normal cephalic delivery.
2. Demonstrate post delivery care of the infant.
3. Demonstrate post delivery care of the mother.

PREPARATION

Motivation: Infant and child patients, as well as expectant mothers, often cause anxiety for the prehospital care provider. This is caused by a lack of dealing with this special population as well as a fear of failure. Understanding the special factors involved, such as body size, developmental considerations and normal ranged vital signs of infant and child patients is important in their emergency medical care.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to infants and children.

The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure meeting the objectives of the curriculum.

EMS Equipment: Exam gloves, stethoscope, blood pressure cuff, penlight.

PERSONNEL

Primary Instructor: One EMT-Basic instructor, knowledgeable with childbirth, infants and children.

Assistant Instructor: The instructor to student ratio should be adequate to allow for supervision of psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in infant and child emergencies.

PREPARATION

Declarative (What)

I. Normal Delivery

A. Pre-delivery considerations

1. It is best to transport an expecting mother, unless delivery is expected within a few minutes.
2. Questions to ask
   a) Are you pregnant?
   b) How long have you been pregnant?
   c) Are there any contractions or pain?
   d) Any bleeding or discharge?
   e) Is crowning occurring with contractions?
   f) What is the frequency and duration of contractions?
   g) Does she feel as if she is having a bowel movement with increasing pressure in the vaginal area?
   h) Does she feel the need to push?
   i) Rock hard abdomen?

B. Precautions

1. Use body substance isolation.
2. Do not touch vaginal areas except during delivery and when your partner is present.
3. Do not let the mother go to bathroom.
4. Do not hold mother's legs together.
5. Recognize your own limitations and transport even if delivery must occur during transport.
6. If you have committed to deliver a newborn and then delivery does not occur within 10 minutes - transport.Delivery procedures

1. Apply gloves, mask, gown, eye protection for infection control precautions.
2. Have mother lie with knees drawn up and spread apart.
3. Elevate buttocks - with blankets or pillow.
4. Create sterile field around vaginal opening with sterile towels or paper barriers.
5. When the infant's head appears during crowning, place fingers on bony part of skull (not fontanelle or face) and exert very gentle pressure to prevent explosive delivery. Use caution to avoid fontanelle.
6. If the amniotic sac does not break, or has not broken, use a clamp to puncture the sac and push it away from the infant's head and mouth as they appear.
7. As the infant's head is being born, determine if the umbilical cord is around the infant's neck; slip over the shoulder or clamp, cut and unwrap.
8. After the infant's head is born, support the head, suction the mouth two or three times and the nostrils. Use caution to avoid contact with the back of

the mouth.

9. As the torso and full body are born, support the infant with both hands.
10. As the feet are born, grasp the feet.
11. Wipe blood and mucus from mouth and nose with sterile gauze, suction mouth and nose again.
12. Wrap infant in a warm blanket and place on its side, head slightly lower than trunk.
13. Keep infant level with vagina until the cord is cut.
14. Assign partner to monitor infant and complete initial care of the newborn.
15. Clamp, tie and cut umbilical cord (between the clamps) as pulsations cease approximately 4 fingers width from infant.
16. Observe for delivery of placenta while preparing mother and infant for transport.
17. When delivered, wrap placenta in towel and put in plastic bag; transport placenta to hospital with mother.
18. Place sterile pad over vaginal opening, lower mother's legs, help her hold them together.
19. Record time of delivery and transport mother, infant and placenta to hospital.

D. Vaginal bleeding following delivery - up to 500 cc of blood loss is normal following delivery.

1. A 500 cc blood loss is well tolerated by the mother following delivery. The EMT-Basic must be aware of this loss so as not to cause undue psychological stress on himself or the new mother.
2. With excessive blood loss, massage the uterus.
   a) Hand with fingers fully extended.
   b) Place on lower abdomen above pubis.
   c) Massage (knead) over area.
   d) Bleeding continues - check massage technique and transport immediately, providing oxygen and ongoing assessment.
3. Regardless of estimated blood loss, if mother appears in shock (hypoperfusion), treat as such and transport prior to uterine massage. Massage en route.

E. Initial care of the newborn

1. Position, dry, wipe, and wrap newborn in blanket and cover the head.
2. Repeat suctioning.
3. Assessment of infant
   a) Appearance - color: no central (trunk) cyanosis
   b) Pulse - greater than 100/min
   c) Grimace
   d) Activity
   e) Breathing effort
4. Stimulate newborn if not breathing.
   a) Flick soles of feet.
   b) Rub infant's back.

F. Resuscitation of the newborn follows the inverted pyramid - after assessment, if signs and symptoms require either cardiac or pulmonary resuscitation, do the

following when appropriate:

1. Breathing effort - if shallow, slow or absent provide artificial ventilations:
   a) 60/min
   b) Reassess after 30 seconds.
   c) If no improvement, continue artificial ventilations and reassessments.
2. Heart rate
   a) If less than 100 beats per minute provide artificial ventilations:
      (1) 60/min
      (2) Reassess after 30 seconds.
      (3) If no improvement continue artificial ventilations and reassessments.
   b) If less than 80 beats per minute and not responding to bag-valve-mask, start chest compressions.
   c) If less than 60 beats per minute, start compressions and artificial ventilations.
3. Color - if central cyanosis is present with spontaneous breathing and an adequate heart rate administer free flow oxygen - administer oxygen (10-15 lpm) using oxygen tubing held as close as possible to the newborns face.

II. Abnormal Deliveries

A. Prolapsed Cord - condition where the cord presents through the birth canal before delivery of the head; presents a serious emergency which endangers the life of the unborn fetus.
   1. Size up
   2. Initial assessment
   3. Mother should have high flow oxygen.
   4. History and physical exam
   5. Assess baseline vitals.
   6. Treatment based on signs and symptoms.
   7. Position mother with head down or buttocks raised using gravity to lessen pressure in birth canal.
   8. Insert sterile gloved hand into vagina pushing the presenting part of the fetus away from the pulsating cord.
   9. Rapidly transport, keeping pressure on presenting part and monitoring pulsations in the cord.

B. Breech birth presentation - breech presentation occurs when the buttocks or lower extremities are low in the uterus and will be the first part of the fetus delivered.
   1. Newborn at great risk for delivery trauma, prolapsed cord more common, transport immediately upon recognition of breech presentation.
   2. Delivery does not occur within 10 minutes.
   3. Emergency medical care
      a) Immediate rapid transportation upon recognition.
      b) Place mother on oxygen.
      c) Place mother in head down position with pelvis elevated.

C. Limb presentation - occurs when a limb of the infant protrudes from the birth canal. Is more commonly a foot when infant is in breech presentation.

1. Immediate rapid transportation upon recognition.
2. Place mother on oxygen.
3. Place mother in head down position with pelvis elevated.

D. Multiple births
1. Be prepared for more than one resuscitation.
2. Call for assistance.

E. Meconium - amniotic fluid that is greenish or brownish-yellow rather than clear; an indication of possible fetal distress during labor.
1. Do not stimulate before suctioning oropharynx.
2. Suction.
3. Maintain airway.
4. Transport as soon as possible.

F. Premature
1. Always at risk for hypothermia.
2. Usually requires resuscitation.

III. Medical Problems in Infants and Children

A. Airway obstructions
1. Partial airway obstruction - infant or child who is alert and sitting.
   a) Stridor, crowing, or noisy
   b) Retractions on inspiration
   c) Pink
   d) Good peripheral perfusion
   e) Still alert, not unconscious.
2. Emergency medical care
   a) Allow position of comfort, assist younger child to sit up, do not lay down. May sit on parents lap.
   b) Offer oxygen
   c) Transport
   d) Do not agitate child
   e) Limited exam. Do not assess blood pressure.

B. Complete obstruction and altered mental status or cyanosis and partial obstruction.
1. No crying or speaking and cyanosis.
   a) Child's cough becomes ineffective
   b) Increased respiratory difficulty accompanied by stridor
   c) Victim loses consciousness
   d) Altered mental status
2. Clear airway.
   a) Infant foreign body procedures.
   b) Child foreign body procedures.
3. Attempt artificial ventilations with a bag-valve-mask and good seal.

C. Respiratory emergencies
1. Recognize difference between upper airway obstruction and lower airway disease
   a) Upper airway obstruction - stridor on inspiration
   b) Lower airway disease

(1) Wheezing and breathing effort on exhalation
(2) Rapid breathing (tachypnea) without stridor

2. Complete airway obstruction
   a) No crying.
   b) No speaking.
   c) Cyanosis is present.
   d) No coughing
3. Recognize signs of increased effort of breathing
   a) Early respiratory distress
      (1) Nasal Flaring
      (2) Intercostal retraction (neck muscles), supraclavicular, subcostal retractions
      (3) Stridor
      (4) Abdominal muscles
      (5) Audible wheezing
      (6) Grunting
   b) The presence of signs and symptoms of early respiratory distress and any of the following:
      (1) rate > 60
      (2) Cyanosis
      (3) Decreased muscle tone
      (4) Severe use of accessory muscles
      (5) Poor peripheral perfusion
      (6) Altered mental status
      (7) Grunting
   c) Respiratory arrest
      (1) Breathing rate less than 10 per minute
      (2) Limp muscle tone
      (3) Unconsciousness
      (4) Slower, absent heart rate
      (5) Weak or absent distal pulse.
4. Emergency medical care
   a) Provide oxygen to all children with respiratory distress.
   b) Provide oxygen and assist with artificial ventilations for severe respiratory distress.
      (1) Respiratory distress and altered mental status
      (2) Presence of cyanosis with oxygen
      (3) Respiratory distress with poor muscle tone
      (4) Respiratory failure
   c) Provide oxygen and ventilate with bag-valve-mask for respiratory arrest.

D. Cardiac arrest
1. Steps of child CPR
   a) **Refer to current American Heart Association Guidelines for CPR**
2. Steps of infant CPR
   a) **Refer to current American Heart Association Guidelines for CPR**

E. Seizures
   1. May be brief or prolonged.
   2. Assess for presence of injuries which may have occurred during seizures.
   3. Caused by fever, infections, poisoning, hypoglycemia, trauma, decreased levels of oxygen, head injury or could be idiopathic in children.
   4. History of seizures. Ask the following:
      a) Has the child had prior seizure(s)?
      b) If yes, is this the child's normal seizure pattern?
      c) Has the child taken his anti-seizure medications?
   5. Emergency medical care
      a) Assure patency of airway
      b) Position patient on side if no possibility of cervical spine trauma.
      c) Have suction ready.
      d) Provide oxygen and if in respiratory arrest or severe respiratory distress, assure airway position and patency and ventilate with bag-valve-mask.
      e) Transport. Although brief seizures are not harmful, there may be a more dangerous underlying condition.
   6. Inadequate breathing and/or altered mental status may occur following a seizure.

F. Shock (hypoperfusion)
   1. Rarely a primary cardiac event.
   2. Common causes
      a) Diarrhea and dehydration
      b) Trauma
      c) Vomiting
      d) Blood loss
      e) Infection
      f) Abdominal injuries
   3. Signs and symptoms
      a) Mental status changes
      b) Rapid respiratory rate
      c) Pale, cool, clammy skin
      d) Weak or absent peripheral pulses
      e) Delayed capillary refill
      f) Decreased urine output. Measured by asking parents about diaper wetting and looking at diaper.
      g) Absence of tears, even when crying
   4. Emergency medical care
      a) Assure airway/oxygen.
      b) Be prepared to artificially ventilate.
      c) Manage bleeding if present.
      d) Elevate legs.
      e) Keep warm.
      f) Transport. Note need for rapid transport of infant and child patients with further physical exam completed en route, if time permits.

IV. Trauma in children

A. Injuries are the number one cause of death in infants and children.

B. Blunt injury is most common.

1. The pattern of injury will be different from adults.
   - a) Motor vehicle crashes
     - (1) Motor vehicle passengers
       - (a) Unrestrained passengers have head and neck injuries.
       - (b) Restrained passengers have abdominal and lower spine injuries.
   - b) Struck while riding bicycle - head injury, spinal injury, abdominal injury
   - c) Pedestrian struck by vehicle - abdominal injury with internal bleeding, possible painful, swollen, deformed thigh, head injury.
2. Falls from height, diving into shallow water - head and neck injuries
3. Burns
4. Sports injuries - head and neck
5. Child abuse

C. Specific body systems

1. Head
   - a) The single most important maneuver is to assure an open airway by means of a modified jaw thrust.
   - b) Children are likely to sustain head injury along with internal injuries. Signs and symptoms of shock (hypoperfusion) with a head injury should cause you to be suspicious of other possible injuries.
   - c) Respiratory arrest is common secondary to head injuries and may occur during transport.
   - d) Common signs and symptoms are nausea and vomiting.
   - e) Most common cause of hypoxia in the unconscious head injury patient is the tongue obstructing the airway. Jaw-thrust is critically important.
   - f) Do not use sandbags to stabilize the head because the weight on child's head may cause injury if the board needs to be turned for emesis.
2. Chest
   - a) Children have very soft pliable ribs.
   - b) There may be significant injuries without external signs.
3. Abdomen
   - a) More common site of injury in children than adults.
   - b) Often a source of hidden injury.
   - c) Always consider abdominal injury in the multiple trauma patient who is deteriorating without external signs.
   - d) Air in stomach can distend abdomen, interfere with artificial ventilation efforts.
4. Extremities - extremity injuries are managed in the same manner as adults.

APPLICATION

Procedural (How)

1. Review the steps to assist in the normal delivery of an infant.
2. Review the steps in the post delivery care of the infant and the mother.
3. Review the proper assessment of the infant and child.

Contextual (When, Where, Why)

Care of expectant mothers, infants and children often causes fear and anxiety to the prehospital care provider. Due to this fear and anxiety and the relative infrequency in which these individuals request help from prehospital care providers, it is essential that the EMT-Basic become familiar with the needs of these special populations.

STUDENT ACTIVITIES

Auditory (Hear)

1. Students should hear audio tape of a mother in final stages of labor.

Visual (See)

1. Students should see visual aids or materials of infant and child patients with common medical or traumatic complaints.
2. Students should see various infant or child equipment.
3. Students should see audio-visual aids or materials illustrating normal and abnormal delivery of an infant.

Kinesthetic (Do)

1. Students should practice post delivery care of the infant and the mother
2. Students should practice using various infant and child devices that are available in the area.

Instructor Activities

1. Supervise student practice.
2. Reinforce student progress in cognitive, affective, and psychomotor domains.
3. Redirect students having difficulty in content

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the

cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content.

ENRICHMENT

What is unique in the local area concerning this topic?

Emergency Medical Technician: Basic Refresher Curriculum

Appendix A: USDOT Curriculum Objectives: EMT-Basic

APPENDIX A

The following are the objectives from the entire EMT-Basic National Standard Curriculum. These were obtained by compiling the cognitive, affective and psychomotor objectives from each lesson and reflect the minimum scope of practice for the EMT-Basic.

OBJECTIVES LEGEND

C = Cognitive	P = Psychomotor	A = Affective
1 = Knowledge Level	2 = Application Level	3 = Problem-solving Level

MODULE 1: PREPARATORY

LESSON 1-1: INTRODUCTION TO EMERGENCY MEDICAL CARE

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-1.1 Define Emergency Medical Services (EMS) systems. (C-1)
1-1.2 Differentiate the roles and responsibilities of the EMT-Basic from other prehospital care providers. (C-3)
1-1.3 Describe the roles and responsibilities related to personal safety. (C-1)
1-1.4 Discuss the roles and responsibilities of the EMT-Basic towards the safety of the crew, the patient and bystanders. (C-1)
1-1.5 Define quality improvement and discuss the EMT-Basic's role in the process. (C-1)
1-1.6 Define medical direction and discuss the EMT-Basic's role in the process. (C-1)
1-1.7 State the specific statutes and regulations in your state regarding the EMS system. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-1.8 Assess areas of personal attitude and conduct of the EMT-Basic. (A-3)
1-1.9 Characterize the various methods used to access the EMS system in your community. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:
No psychomotor objectives identified.

LESSON 1-2: WELL-BEING OF THE EMT-BASIC

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-2.1 List possible emotional reactions that the EMT-Basic may experience when faced with trauma, illness, death and dying. (C-1)
1-2.2 Discuss the possible reactions that a family member may exhibit when confronted with death and dying. (C-1)
1-2.3 State the steps in the EMT-Basic's approach to the family confronted with death and dying. (C-1)
1-2.4 State the possible reactions that the family of the EMT-Basic may exhibit due to their outside involvement in EMS. (C-1)
1-2.5 Recognize the signs and symptoms of critical incident stress. (C-1)
1-2.6 State possible steps that the EMT-Basic may take to help reduce/alleviate stress. (C-1)
1-2.7 Explain the need to determine scene safety. (C-2)
1-2.8 Discuss the importance of body substance isolation (BSI). (C-1)
1-2.9 Describe the steps the EMT-Basic should take for personal protection from airborne and bloodborne pathogens. (C-1)
1-2.10 List the personal protective equipment necessary for each of the following situations: (C-1)
- Hazardous materials
- Rescue operations
- Violent scenes
- Crime scenes
- Exposure to bloodborne pathogens
- Exposure to airborne pathogens

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-2.11 Explain the rationale for serving as an advocate for the use of appropriate protective equipment. (A-3)

PSYCHOMOTOR OBJECTIVES

1-2.12 Given a scenario with potential infectious exposure, the EMT-Basic will use appropriate personal protective equipment. At the completion of the scenario, the EMT-Basic will properly remove

and discard the protective garments. (P-1,2)

1-2.13 Given the above scenario, the EMT-Basic will complete disinfection/cleaning and all reporting documentation. (P-1,2)

LESSON 1-3: MEDICAL/LEGAL AND ETHICAL ISSUES

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-3.1 Define the EMT-Basic scope of practice. (C-1)

1-3.2 Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or state provisions regarding EMS application. (C-1)

1-3.3 Define consent and discuss the methods of obtaining consent. (C-1)

1-3.4 Differentiate between expressed and implied consent. (C-3)

1-3.5 Explain the role of consent of minors in providing care. (C-1)

1-3.6 Discuss the implications for the EMT-Basic in patient refusal of transport. (C-1)

1-3.7 Discuss the issues of abandonment, negligence, and battery and their implications to the EMT-Basic. (C-1)

1-3.8 State the conditions necessary for the EMT-Basic to have a duty to act. (C-1)

1-3.9 Explain the importance, necessity and legality of patient confidentiality. (C-1)

1-3.10 Discuss the considerations of the EMT-Basic in issues of organ retrieval. (C-1)

1-3.11 Differentiate the actions that an EMT-Basic should take to assist in the preservation of a crime scene. (C-3)

1-3.12 State the conditions that require an EMT-Basic to notify local law enforcement officials. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-3.13 Explain the role of EMS and the EMT-Basic regarding patients with DNR orders. (A-3)

1-3.14 Explain the rationale for the needs, benefits and usage of advance directives. (A-3)

1-3.15 Explain the rationale for the concept of varying degrees of DNR. (A-3)

PSYCHOMOTOR OBJECTIVES

No psychomotor objectives identified.

LESSON 1-4: THE HUMAN BODY

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-4.1 Identify the following topographic terms: medial, lateral, proximal, distal, superior, inferior, anterior, posterior, midline, right and left, mid-clavicular, bilateral, mid-axillary. (C-1)

1-4.2 Describe the anatomy and function of the following major body systems: Respiratory, circulatory, musculoskeletal, nervous and endocrine. (C-1)

AFFECTIVE OBJECTIVES

No affective objectives identified.

PSYCHOMOTOR OBJECTIVES

No psychomotor objectives identified.

LESSON 1-5: BASELINE VITAL SIGNS AND SAMPLE HISTORY

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-5.1 Identify the components of the extended vital signs. (C-1)
1-5.2 Describe the methods to obtain a breathing rate. (C-1)
1-5.3 Identify the attributes that should be obtained when assessing breathing. (C-1)
1-5.4 Differentiate between shallow, labored and noisy breathing. (C-3)
1-5.5 Describe the methods to obtain a pulse rate. (C-1)
1-5.6 Identify the information obtained when assessing a patient's pulse. (C-1)
1-5.7 Differentiate between a strong, weak, regular and irregular pulse. (C-3)
1-5.8 Describe the methods to assess the skin color, temperature, condition (capillary refill in infants and children). (C-1)
1-5.9 Identify the normal and abnormal skin colors. (C-1)
1-5.10 Differentiate between pale, blue, red and yellow skin color. (C-3)
1-5.11 Identify the normal and abnormal skin temperature. (C-1)
1-5.12 Differentiate between hot, cool and cold skin temperature. (C-3)
1-5.13 Identify normal and abnormal skin conditions. (C-1)
1-5.14 Identify normal and abnormal capillary refill in infants and children. (C-1)
1-5.15 Describe the methods to assess the pupils. (C-1)
1-5.16 Identify normal and abnormal pupil size. (C-1)
1-5.17 Differentiate between dilated (big) and constricted (small) pupil size. (C-3)
1-5.18 Differentiate between reactive and non-reactive pupils and equal and unequal pupils. (C-3)

1-5.19 Describe the methods to assess blood pressure. (C-1)
1-5.20 Define systolic pressure. (C-1)
1-5.21 Define diastolic pressure. (C-1)
1-5.22 Explain the difference between auscultation and palpation for obtaining a blood pressure. (C-1)
1-5.23 Identify the components of the ***SAMPLE*** history. (C-1)
1-5.24 Differentiate between a sign and a symptom. (C-3)
1-5.25 State the importance of accurately reporting and recording the baseline vital signs. (C-1)
1-5.26 Discuss the need to search for additional medical identification. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-5.27 Explain the value of performing the baseline vital signs. (A-2)
1-5.28 Recognize and respond to the feelings patients experience during assessment. (A-1)
1-5.29 Defend the need for obtaining and recording an accurate set of vital signs. (A-3)
1-5.30 Explain the rationale of recording additional sets of vital signs. (A-1)
1-5.31 Explain the importance of obtaining a ***SAMPLE*** history. (A-1)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-5.32 Demonstrate the skills involved in assessment of breathing. (P-1,2)
1-5.33 Demonstrate the skills associated with obtaining a pulse. (P-1,2)
1-5.34 Demonstrate the skills associated with assessing the skin color, temperature, condition, and capillary refill in infants and children. (P-1,2)
1-5.35 Demonstrate the skills associated with assessing the pupils. (P-1,2)
1-5.36 Demonstrate the skills associated with obtaining blood pressure. (P-1,2)
1-5.37 Demonstrate the skills that should be used to obtain information from the patient, family, or bystanders at the scene. (P-1,2)

LESSON 1-6: LIFTING AND MOVING PATIENTS

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-6.1 Define body mechanics. (C-1)
1-6.2 Discuss the guidelines and safety precautions that need to be followed when lifting a patient. (C-1)

1-6.3 Describe the safe lifting of cots and stretchers. (C-1)
1-6.4 Describe the guidelines and safety precautions for carrying patients and/or equipment. (C-1)
1-6.5 Discuss one-handed carrying techniques. (C-1)
1-6.6 Describe correct and safe carrying procedures on stairs. (C-1)
1-6.7 State the guidelines for reaching and their application. (C-1)
1-6.8 Describe correct reaching for log rolls. (C-1)
1-6.9 State the guidelines for pushing and pulling. (C-1)
1-6.10 Discuss the general considerations of moving patients. (C-1)
1-6.11 State three situations that may require the use of an emergency move. (C-1)
1-6.12 Identify the following patient carrying devices: (C-1)

- Wheeled ambulance stretcher
- Portable ambulance stretcher
- Stair chair
- Scoop stretcher
- Long spine board
- Basket stretcher
- Flexible stretcher

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-6.13 Explain the rationale for properly lifting and moving patients. (A-3)

PSYCHOMOTOR OBJECTIVES

1-6.14 Working with a partner, prepare each of the following devices for use, transfer a patient to the device, properly position the patient on the device, move the device to the ambulance and load the patient into the ambulance: (P-1,2)

- Wheeled ambulance stretcher
- Portable ambulance stretcher
- Stair chair
- Scoop stretcher
- Long spine board
- Basket stretcher
- Flexible stretcher

1-6.15 Working with a partner, the EMT-Basic will demonstrate techniques for the transfer of a patient from an ambulance stretcher to a hospital stretcher. (P-1,2)

MODULE 2: AIRWAY

LESSON 2-1: AIRWAY

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 2-1.1 Name and label the major structures of the respiratory system on a diagram. (C-1)
- 2-1.2 List the signs of adequate breathing. (C-1)
- 2-1.3 List the signs of inadequate breathing. (C-1)
- 2-1.4 Describe the steps in performing the head-tilt chin-lift. (C-1)
- 2-1.5 Relate mechanism of injury to opening the airway. (C-3)
- 2-1.6 Describe the steps in performing the jaw thrust. (C-1)
- 2-1.7 State the importance of having a suction unit ready for immediate use when providing emergency care. (C-1)
- 2-1.8 Describe the techniques of suctioning. (C-1)
- 2-1.9 Describe how to artificially ventilate a patient with a pocket mask. (C-1)
- 2-1.10 Describe the steps in performing the skill of artificially ventilating a patient with a bag-valve-mask while using the jaw thrust. (C-1)
- 2-1.11 List the parts of a bag-valve-mask system. (C-1)
- 2-1.12 Describe the steps in performing the skill of artificially ventilating a patient with a bag-valve-mask for one and two rescuers. (C-1)
- 2-1.13 Describe the signs of adequate artificial ventilation using the bag-valve-mask. (C-1)
- 2-1.14 Describe the signs of inadequate artificial ventilation using the bag-valve-mask. (C-1)
- 2-1.15 Describe the steps in artificially ventilating a patient with a flow restricted, oxygen-powered ventilation device. (C-1)
- 2-1.16 List the steps in performing the actions taken when providing mouth-to-mouth and mouth-to-stoma artificial ventilation. (C-1)
- 2-1.17 Describe how to measure and insert an oropharyngeal (oral) airway. (C-1)
- 2-1.18 Describe how to measure and insert a nasopharyngeal (nasal) airway. (C-1)
- 2-1.19 Define the components of an oxygen delivery system.(C-1)
- 2-1.20 Identify a nonrebreather face mask and state the oxygen flow requirements needed for its use. (C-1)
- 2-1.21 Describe the indications for using a nasal cannula versus a nonrebreather face mask. (C-1)
- 2-1.22 Identify a nasal cannula and state the flow requirements needed for its use. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 2-1.23 Explain the rationale for basic life support artificial ventilation and

airway protective skills taking priority over most other basic life support skills. (A-3)

2-1.24 Explain the rationale for providing adequate oxygenation through high inspired oxygen concentrations to patients who, in the past, may have received low concentrations. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

2-1.25 Demonstrate the steps in performing the head-tilt chin-lift. (P-1,2)
2-1.26 Demonstrate the steps in performing the jaw thrust. (P-1,2)
2-1.27 Demonstrate the techniques of suctioning. (P-1,2)
2-1.28 Demonstrate the steps in providing mouth-to-mouth artificial ventilation with body substance isolation (barrier shields). (P-1,2)
2-1.29 Demonstrate how to use a pocket mask to artificially ventilate a patient. (P-1,2)
2-1.30 Demonstrate the assembly of a bag-valve-mask unit. (P-1,2)
2-1.31 Demonstrate the steps in performing the skill of artificially ventilating a patient with a bag-valve-mask for one and two rescuers. (P-1,2)
2-1.32 Demonstrate the steps in performing the skill of artificially ventilating a patient with a bag-valve-mask while using the jaw thrust. (P-1,2)
2-1.33 Demonstrate artificial ventilation of a patient with a flow restricted, oxygen-powered ventilation device. (P-1,2)
2-1.34 Demonstrate how to artificially ventilate a patient with a stoma. (P-1,2)
2-1.35 Demonstrate how to insert an oropharyngeal (oral) airway. (P-1,2)
2-1.36 Demonstrate how to insert a nasopharyngeal (nasal) airway. (P-1,2)
2-1.37 Demonstrate the correct operation of oxygen tanks and regulators. (P-1,2)
2-1.38 Demonstrate the use of a nonrebreather face mask and state the oxygen flow requirements needed for its use. (P-1,2)
2-1.39 Demonstrate the use of a nasal cannula and state the flow requirements needed for its use. (P-1,2)
2-1.40 Demonstrate how to artificially ventilate the infant and child patient. (P-1,2)
2-1.41 Demonstrate oxygen administration for the infant and child patient. (P-1,2)

MODULE 3: PATIENT ASSESSMENT

Lesson 3-1: SCENE SIZE-UP

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 3-1.1 Recognize hazards/potential hazards. (C-1)
- 3-1.2 Describe common hazards found at the scene of a trauma and a medical patient. (C-1)
- 3-1.3 Determine if the scene is safe to enter. (C-2)
- 3-1.4 Discuss common mechanisms of injury/nature of illness. (C-1)
- 3-1.5 Discuss the reason for identifying the total number of patients at the scene. (C-1)
- 3-1.6 Explain the reason for identifying the need for additional help or assistance. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 3-1.7 Explain the rationale for crew members to evaluate scene safety prior to entering. (A-2)
- 3-1.8 Serve as a model for others explaining how patient situations affect your evaluation of mechanism of injury or illness. (A-2)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 3-1.9 Observe various scenarios and identify potential hazards. (P-1)

Lesson 3-2: INITIAL ASSESSMENT

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 3-2.1 Summarize the reasons for forming a general impression of the patient. (C-1)
- 3-2.2 Discuss methods of assessing altered mental status. (C-1)
- 3-2.3 Differentiate between assessing the altered mental status in the adult, child and infant patient. (C-3)
- 3-2.4 Discuss methods of assessing the airway in the adult, child and infant patient. (C-1)
- 3-2.5 State reasons for management of the cervical spine once the patient has been determined to be a trauma patient. (C-1)
- 3-2.6 Describe methods used for assessing if a patient is breathing. (C-1)
- 3-2.7 State what care should be provided to the adult, child and infant patient with adequate breathing. (C-1)

3-2.8 State what care should be provided to the adult, child and infant patient without adequate breathing. (C-1)
3-2.9 Differentiate between a patient with adequate and inadequate breathing. (C-3)
3-2.10 Distinguish between methods of assessing breathing in the adult, child and infant patient. (C-3)
3-2.11 Compare the methods of providing airway care to the adult, child and infant patient. (C-3)
3-2.12 Describe the methods used to obtain a pulse. (C-1)
3-2.13 Differentiate between obtaining a pulse in an adult, child and infant patient. (C-3)
3-2.14 Discuss the need for assessing the patient for external bleeding. (C-1)
3-2.15 Describe normal and abnormal findings when assessing skin color. (C-1)
3-2.16 Describe normal and abnormal findings when assessing skin temperature. (C-1)
3-2.17 Describe normal and abnormal findings when assessing skin condition. (C-1)
3-2.18 Describe normal and abnormal findings when assessing skin capillary refill in the infant and child patient. (C-1)
3-2.19 Explain the reason for prioritizing a patient for care and transport. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-2.20 Explain the importance of forming a general impression of the patient. (A-1)
3-2.21 Explain the value of performing an initial assessment. (A-2)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-2.22 Demonstrate the techniques for assessing mental status. (P-1,2)
3-2.23 Demonstrate the techniques for assessing the airway. (P-1,2)
3-2.24 Demonstrate the techniques for assessing if the patient is breathing. (P-1,2)
3-2.25 Demonstrate the techniques for assessing if the patient has a pulse. (P-1,2)
3-2.26 Demonstrate the techniques for assessing the patient for external bleeding. (P-1,2)
3-2.27 Demonstrate the techniques for assessing the patient's skin color, temperature, condition and capillary refill (infants and children only). (P-1,2)
3-2.28 Demonstrate the ability to prioritize patients. (P-1,2)

LESSON 3-3: FOCUSED HISTORY AND PHYSICAL EXAM - TRAUMA PATIENTS

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 3-3.1 Discuss the reasons for reconsideration concerning the mechanism of injury. (C-1)
- 3-3.2 State the reasons for performing a rapid trauma assessment. (C-1)
- 3-3.3 Recite examples and explain why patients should receive a rapid trauma assessment. (C-1)
- 3-3.4 Describe the areas included in the rapid trauma assessment and discuss what should be evaluated. (C-1)
- 3-3.5 Differentiate when the rapid assessment may be altered in order to provide patient care. (C-3)
- 3-3.6 Discuss the reason for performing a focused history and physical exam. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 3-3.7 Recognize and respect the feelings that patients might experience during assessment. (A-1)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 3-3.8 Demonstrate the rapid trauma assessment that should be used to assess a patient based on mechanism of injury. (P-1,2)

LESSON 3-4: FOCUSED HISTORY AND PHYSICAL EXAM - MEDICAL PATIENTS

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 3-4.1 Describe the unique needs for assessing an individual with a specific chief complaint with no known prior history. (C-1)
- 3-4.2 Differentiate between the history and physical exam that is performed for responsive patients with no known prior history and patients responsive with a known prior history. (C-3)
- 3-4.3 Describe the unique needs for assessing an individual who is unresponsive or has an altered mental status. (C-1)
- 3-4.4 Differentiate between the assessment that is performed for a patient who is unresponsive or has an altered mental status and other medical patients requiring assessment. (C-3)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-4.5 Attend to the feelings that these patients might be experiencing. (A-1)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-4.6 Demonstrate the patient care skills that should be used to assist with a patient who is responsive with no known history. (P-1,2)

3-4.7 Demonstrate the patient care skills that should be used to assist with a patient who is unresponsive or has an altered metal status. (P-1,2)

Lesson 3-5: DETAILED PHYSICAL EXAM

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-5.1 Discuss the components of the detailed physical exam. (C-1)

3-5.2 State the areas of the body that are evaluated during the detailed physical exam. (C-1)

3-5.3 Explain what additional care should be provided while performing the detailed physical exam. (C-1)

3-5.4 Distinguish between the detailed physical exam that is performed on a trauma patient and that of the medical patient. (C-3)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-5.5 Explain the rationale for the feelings that these patients might be experiencing. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-5.6 Demonstrate the skills involved in performing the detailed physical exam. (P-1,2)

Lesson 3-6: ON-GOING ASSESSMENT

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-6.1 Discuss the reasons for repeating the initial assessment as part of the on-going assessment. (C-1)

3-6.2 Describe the components of the on-going assessment. (C-1)

3-6.3 Describe trending of assessment components. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-6.4 Explain the value of performing an on-going assessment. (A-2)
3-6.5 Recognize and respect the feelings that patients might experience during assessment. (A-1)
3-6.6 Explain the value of trending assessment components to other health professionals who assume care of the patient. (A-2)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-6.7 Demonstrate the skills involved in performing the on-going assessment. (P-1,2)

Lesson 3-7: COMMUNICATIONS

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-7.1 List the proper methods of initiating and terminating a radio call. (C-1)
3-7.2 State the proper sequence for delivery of patient information. (C-1)
3-7.3 Explain the importance of effective communication of patient information in the verbal report. (C-1)
3-7.4 Identify the essential components of the verbal report. (C-1)
3-7.5 Describe the attributes for increasing effectiveness and efficiency of verbal communications. (C-1)
3-7.6 State legal aspects to consider in verbal communication. (C-1)
3-7.7 Discuss the communication skills that should be used to interact with the patient. (C-1)
3-7.8 Discuss the communication skills that should be used to interact with the family, bystanders, individuals from other agencies while providing patient care and the difference between skills used to interact with the patient and those used to interact with others. (C-1)
3-7.9 List the correct radio procedures in the following phases of a typical call: (C-1)
- To the scene.
- At the scene.
- To the facility.
- At the facility.
- To the station.
- At the station.

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-7.10 Explain the rationale for providing efficient and effective radio communications and patient reports. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-7.11 Perform a simulated, organized, concise radio transmission. (P-2)
3-7.12 Perform an organized, concise patient report that would be given to the staff at a receiving facility. (P-2)
3-7.13 Perform a brief, organized report that would be given to an ALS provider arriving at an incident scene at which the EMT-Basic was already providing care. (P-2)

Lesson 3-8: DOCUMENTATION

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-8.1 Explain the components of the written report and list the information that should be included on the written report. (C-1)
3-8.2 Identify the various sections of the written report. (C-1)
3-8.3 Describe what information is required in each section of the prehospital care report and how it should be entered. (C-1)
3-8.4 Define the special considerations concerning patient refusal. (C-1)
3-8.5 Describe the legal implications associated with the written report. (C-1)
3-8.6 Discuss all state and/or local record and reporting requirements. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-8.7 Explain the rationale for patient care documentation. (A-3)
3-8.8 Explain the rationale for the EMS system gathering data. (A-3)
3-8.9 Explain the rationale for using medical terminology correctly. (A-3)
3-8.10 Explain the rationale for using an accurate and synchronous clock so that information can be used in trending. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-8.11 Complete a prehospital care report. (P-2)

MODULE 4: MEDICAL

Lesson 4-1: GENERAL PHARMACOLOGY

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-B student will be able to:

- 4-1.1 Identify which medications will be carried on the unit. (C-1)
- 4-1.2 State the medications carried on the unit by the generic name. (C-1)
- 4-1.3 Identify the medications with which the EMT-B may assist the patient with administering. (C-1)
- 4-1.4 State the medications the EMT-B can assist the patient with by the generic name. (C-1)
- 4-1.5 Discuss the forms in which the medications may be found. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 4-1.6 Explain the rationale for the administration of medications. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 4-1.7 Demonstrate general steps for assisting patient with self administration of medications. (P-2)
- 4-1.8 Read the labels and inspect each type of medication. (P-2)

Lesson 4-2: RESPIRATORY EMERGENCIES

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 4-2.1 List the structure and function of the respiratory system. (C-1)
- 4-2.2 State the signs and symptoms of a patient with breathing difficulty. (C-1)
- 4-2.3 Describe the emergency medical care of the patient with breathing difficulty. (C-1)
- 4-2.4 Recognize the need for medical direction to assist in the emergency medical care of the patient with breathing difficulty. (C-3)
- 4-2.5 Describe the emergency medical care of the patient with breathing distress. (C-1)
- 4-2.6 Establish the relationship between airway management and the patient with breathing difficulty. (C-3)
- 4-2.7 List signs of adequate air exchange. (C-1)

4-2.8 State the generic name, medication forms, dose, administration, action, indications and contraindications for the prescribed inhaler. (C-1)
4-2.9 Distinguish between the emergency medical care of the infant, child and adult patient with breathing difficulty. (C-3)
4-2.10 Differentiate between upper airway obstruction and lower airway disease in the infant and child patient. (C-3)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-2.11 Defend EMT-Basic treatment regimens for various respiratory emergencies. (A-1)
4-2.12 Explain the rationale for administering an inhaler. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-2.13 Demonstrate the emergency medical care for breathing difficulty. (P-1,2)
4-2.14 Perform the steps in facilitating the use of an inhaler. (P-2)

Lesson 4-3: CARDIOVASCULAR EMERGENCIES

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-3.1 Describe the structure and function of the cardiovascular system. (C-1)
4-3.2 Describe the emergency medical care of the patient experiencing chest pain/discomfort. (C-1)
4-3.3 List the indications for automated external defibrillation (AED). (C-1)
4-3.4 List the contraindications for automated external defibrillation. (C-1)
4-3.5 Define the role of EMT-B in the emergency cardiac care system. (C-1)
4-3.6 Explain the impact of age and weight on defibrillation. (C-1)
4-3.7 Discuss the position of comfort for patients with various cardiac emergencies. (C-1)
4-3.8 Establish the relationship between airway management and the patient with cardiovascular compromise. (C-3)
4-3.9 Predict the relationship between the patient experiencing cardiovascular compromise and basic life support. (C-2)
4-3.10 Discuss the fundamentals of early defibrillation. (C-1)
4-3.11 Explain the rationale for early defibrillation. (C-1)
4-3.12 Explain that not all chest pain patients result in cardiac arrest and do not need to be attached to an automated external

defibrillator. (C-1)

4-3.13 Explain the importance of prehospital ACLS intervention if it is available. (C-1)

4-3.14 Explain the importance of urgent transport to a facility with Advanced Cardiac Life Support if it is not available in the prehospital setting. (C-1)

4-3.15 Discuss the various types of automated external defibrillators. (C-1)

4-3.16 Differentiate between the fully automated and the semi-automatic defibrillator. (C-3)

4-3.17 Discuss the procedures that must be taken into consideration for standard operations of the various types of automated external defibrillators. (C-1)

4-3.18 State the reasons for assuring that the patient is pulseless and apneic when using the automated external defibrillator. (C-1)

4-3.19 Discuss the circumstances which may result in inappropriate shocks. (C-1)

4-3.20 Explain the considerations for interruption of CPR, when using the automated external defibrillator. (C-1)

4-3.21 Discuss the advantages and disadvantages of automated external defibrillators. (C-1)

4-3.22 Summarize the speed of operation of automated external defibrillation. (C-1)

4-3.23 Discuss the use of remote defibrillation through adhesive pads. (C-1)

4-3.24 Discuss the special considerations for rhythm monitoring. (C-1)

4-3.25 List the steps in the operation of the automated external defibrillator. (C-1)

4-3.26 Discuss the standard of care that should be used to provide care to a patient with persistent ventricular fibrillation and no available ACLS. (C-1)

4-3.27 Discuss the standard of care that should be used to provide care to a patient with recurrent ventricular fibrillation and no available ACLS. (C-1)

4-3.28 Differentiate between the single rescuer and multi-rescuer care with an automated external defibrillator. (C-3)

4-3.29 Explain the reason for pulses not being checked between shocks with an automated external defibrillator. (C-1)

4-3.30 Discuss the importance of coordinating ACLS trained providers with personnel using automated external defibrillators. (C-1)

4-3.31 Discuss the importance of post-resuscitation care. (C-1)

4-3.32 List the components of post-resuscitation care. (C-1)

4-3.33 Explain the importance of frequent practice with the automated external defibrillator. (C-1)

4-3.34 Discuss the need to complete the Automated Defibrillator: Operator's Shift Checklist. (C-1)

4-3.35 Discuss the role of the American Heart Association (AHA) in the use of automated external defibrillation. (C-1)
4-3.36 Explain the role medical direction plays in the use of automated external defibrillation. (C-1)
4-3.37 State the reasons why a case review should be completed following the use of the automated external defibrillator. (C-1)
4-3.38 Discuss the components that should be included in a case review. (C-1)
4-3.39 Discuss the goal of quality improvement in automated external defibrillation. (C-1)
4-3.40 Recognize the need for medical direction of protocols to assist in the emergency medical care of the patient with chest pain. (C-3)
4-3.41 List the indications for the use of nitroglycerin. (C-1)
4-3.42 State the contraindications and side effects for the use of nitroglycerin. (C-1)
4-3.43 Define the function of all controls on an automated external defibrillator, and describe event documentation and battery defibrillator maintenance. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-3.44 Defend the reasons for obtaining initial training in automated external defibrillation and the importance of continuing education. (A-3)
4-3.45 Defend the reason for maintenance of automated external defibrillators. (A-3)
4-3.46 Explain the rationale for administering nitroglycerin to a patient with chest pain or discomfort. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-3.47 Demonstrate the assessment and emergency medical care of a patient experiencing chest pain/discomfort. (P-1,2)
4-3.48 Demonstrate the application and operation of the automated external defibrillator. (P-1,2)
4-3.49 Demonstrate the maintenance of an automated external defibrillator. (P-1,2)
4-3.50 Demonstrate the assessment and documentation of patient response to the automated external defibrillator. (P-1,2)
4-3.51 Demonstrate the skills necessary to complete the Automated Defibrillator: Operator's Shift Checklist. (P-1,2)
4-3.52 Perform the steps in facilitating the use of nitroglycerin for chest pain or discomfort. (P-2)
4-3.53 Demonstrate the assessment and documentation of patient response to nitroglycerin. (P-1,2)
4-3.54 Practice completing a prehospital care report for patients with

cardiac emergencies. (P-2)

Lesson 4-4: DIABETES/ALTERED MENTAL STATUS

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 4-4.1 Identify the patient taking diabetic medications with altered mental status and the implications of a diabetes history. (C-1)
- 4-4.2 State the steps in the emergency medical care of the patient taking diabetic medicine with an altered mental status and a history of diabetes. (C-1)
- 4-4.3 Establish the relationship between airway management and the patient with altered mental status. (C-3)
- 4-4.4 State the generic and trade names, medication forms, dose, administration, action, and contraindications for oral glucose. (C-1)
- 4-4.5 Evaluate the need for medical direction in the emergency medical care of the diabetic patient. (C-3)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 4-4.6 Explain the rationale for administering oral glucose. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 4-4.7 Demonstrate the steps in the emergency medical care for the patient taking diabetic medicine with an altered mental status and a history of diabetes. (P-1,2)
- 4-4.8 Demonstrate the steps in the administration of oral glucose. (P-1,2)
- 4-4.9 Demonstrate the assessment and documentation of patient response to oral glucose. (P-1,2)
- 4-4.10 Demonstrate how to complete a prehospital care report for patients with diabetic emergencies. (P-2)

Lesson 4-5: ALLERGIES

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

- 4-5.1 Recognize the patient experiencing an allergic reaction. (C-1)
- 4-5.2 Describe the emergency medical care of the patient with an allergic reaction. (C-1)
- 4-5.3 Establish the relationship between the patient with an allergic

reaction and airway management. (C-3)

4-5.4 Describe the mechanisms of allergic response and the implications for airway management. (C-1)

4-5.5 State the generic and trade names, medication forms, dose, administration, action, and contraindications for the epinephrine auto-injector. (C-1)

4-5.6 Evaluate the need for medical direction in the emergency medical care of the patient with an allergic reaction. (C-3)

4-5.7 Differentiate between the general category of those patients having an allergic reaction and those patients having an allergic reaction and requiring immediate medical care, including immediate use of epinephrine auto-injector. (C-3)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-5.8 Explain the rationale for administering epinephrine using an auto-injector. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-5.9 Demonstrate the emergency medical care of the patient experiencing an allergic reaction. (P-1,2)

4-5.10 Demonstrate the use of epinephrine auto-injector. (P-1,2)

4-5.11 Demonstrate the assessment and documentation of patient response to an epinephrine injection. (P-1,2)

4-5.12 Demonstrate proper disposal of equipment. (P-1,2)

4-5.13 Demonstrate completing a prehospital care report for patients with allergic emergencies. (P-2)

Lesson 4-6: POISONING/OVERDOSE

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-6.1 List various ways that poisons enter the body. (C-1)

4-6.2 List signs/symptoms associated with poisoning. (C-1)

4-6.3 Discuss the emergency medical care for the patient with possible overdose. (C-1)

4-6.4 Describe the steps in the emergency medical care for the patient with suspected poisoning. (C-1)

4-6.5 Establish the relationship between the patient suffering from poisoning or overdose and airway management. (C-3)

4-6.6 State the generic and trade names, indications, contraindications, medication form, dose, administration, actions, side effects and re-assessment strategies for activated charcoal. (C-1)

4-6.7 Recognize the need for medical direction in caring for the patient with poisoning or overdose. (C-3)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-6.8 Explain the rationale for administering activated charcoal. (A-3)
4-6.9 Explain the rationale for contacting medical direction early in the prehospital management of the poisoning or overdose patient. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-6.10 Demonstrate the steps in the emergency medical care for the patient with possible overdose. (P-1,2)
4-6.11 Demonstrate the steps in the emergency medical care for the patient with suspected poisoning. (P-1,2)
4-6.12 Perform the necessary steps required to provide a patient with activated charcoal. (P-2)
4-6.13 Demonstrate the assessment and documentation of patient response. (P-1,2)
4-6.14 Demonstrate proper disposal of administration of activated charcoal equipment. (P-1,2)
4-6.15 Demonstrate completing a prehospital care report for patients with a poisoning/overdose emergency. (P-1,2)

Lesson 4-7: ENVIRONMENTAL EMERGENCIES

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-7.1 Describe the various ways that the body loses heat. (C-1)
4-7.2 List the signs and symptoms of exposure to cold. (C-1)
4-7.3 Explain the steps in providing emergency medical care to a patient exposed to cold. (C-1)
4-7.4 List the signs and symptoms of exposure to heat. (C-1)
4-7.5 Explain the steps in providing emergency care to a patient exposed to heat. (C-1)
4-7.6 Recognize the signs and symptoms of water-related emergencies. (C-1)
4-7.7 Describe the complications of near drowning. (C-1)
4-7.8 Discuss the emergency medical care of bites and stings. (C-1)

AFFECTIVE OBJECTIVES

No affective objectives identified.

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-7.9 Demonstrate the assessment and emergency medical care of a patient with exposure to cold. (P-1,2)
4-7.10 Demonstrate the assessment and emergency medical care of a patient with exposure to heat. (P-1,2)
4-7.11 Demonstrate the assessment and emergency medical care of a near drowning patient. (P-1,2)
4-7.12 Demonstrate completing a prehospital care report for patients with environmental emergencies. (P-2)

Lesson 4-8: BEHAVIORAL EMERGENCIES

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-8.1 Define behavioral emergencies. (C-1)
4-8.2 Discuss the general factors that may cause an alteration in a patient's behavior. (C-1)
4-8.3 State the various reasons for psychological crises. (C-1)
4-8.4 Discuss the characteristics of an individual's behavior which suggests that the patient is at risk for suicide. (C-1)
4-8.5 Discuss special medical/legal considerations for managing behavioral emergencies. (C-1)
4-8.6 Discuss the special considerations for assessing a patient with behavioral problems. (C-1)
4-8.7 Discuss the general principles of an individual's behavior which suggests that he is at risk for violence. (C-1)
4-8.8 Discuss methods to calm behavioral emergency patients. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-8.9 Explain the rationale for learning how to modify your behavior toward the patient with a behavioral emergency. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-8.10 Demonstrate the assessment and emergency medical care of the patient experiencing a behavioral emergency. (P-1,2)
4-8.11 Demonstrate various techniques to safely restrain a patient with a behavioral problem. (P-1,2)

Lesson 4-9: OBSTETRICS/GYNECOLOGY

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-9.1 Identify the following structures: Uterus, vagina, fetus, placenta, umbilical cord, amniotic sac, perineum. (C-1)
4-9.2 Identify and explain the use of the contents of an obstetrics kit. (C-1)
4-9.3 Identify pre-delivery emergencies. (C-1)
4-9.4 State indications of an imminent delivery. (C-1)
4-9.5 Differentiate the emergency medical care provided to a patient with pre-delivery emergencies from a normal delivery. (C-3)
4-9.6 State the steps in the pre-delivery preparation of the mother. (C-1)
4-9.7 Establish the relationship between body substance isolation and childbirth. (C-3)
4-9.8 State the steps to assist in the delivery. (C-1)
4-9.9 Describe care of the baby as the head appears. (C-1)
4-9.10 Describe how and when to cut the umbilical cord. (C-1)
4-9.11 Discuss the steps in the delivery of the placenta. (C-1)
4-9.12 List the steps in the emergency medical care of the mother post-delivery. (C-3)
4-9.13 Summarize neonatal resuscitation procedures. (C-1)
4-9.14 Describe the procedures for the following abnormal deliveries: breech birth, prolapsed cord, limb presentation. (C-1)
4-9.15 Differentiate the special considerations for multiple births. (C-3)
4-9.16 Describe special considerations of meconium. (C-1)
4-9.17 Describe special considerations of a premature baby. (C-1)
4-9.18 Discuss the emergency medical care of a patient with a gynecological emergency. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-9.19 Explain the rationale for understanding the implications of treating two patients (mother and baby). (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-9.20 Demonstrate the steps to assist in the normal cephalic delivery. (P-1,2)
4-9.21 Demonstrate necessary care procedures of the fetus as the head appears. (P-1,2)
4-9.22 Demonstrate infant neonatal procedures. (P-1,2)
4-9.23 Demonstrate post delivery care of infant. (P-1,2)
4-9.24 Demonstrate how and when to cut the umbilical cord. (P-1,2)
4-9.25 Attend to the steps in the delivery of the placenta. (P-1,2)
4-9.26 Demonstrate the post-delivery care of the mother. (P-1,2)
4-9.27 Demonstrate the procedures for the following abnormal deliveries: vaginal bleeding, breech birth, prolapsed cord, limb

presentation. (P-1,2)

4-9.28 Demonstrate the steps in the emergency medical care of the mother with excessive bleeding. (P-1,2)

4-9.29 Demonstrate completing a prehospital care report for patients with obstetrical/gynecological emergencies. (P-2)

MODULE 5 TRAUMA

Lesson 5-1: BLEEDING AND SHOCK

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-1.1 List the structure and function of the circulatory system. (C-1)

5-1.2 Differentiate between arterial, venous and capillary bleeding. (C-3)

5-1.3 State methods of emergency medical care of external bleeding. (C-1)

5-1.4 Establish the relationship between body substance isolation and bleeding. (C-3)

5-1.5 Establish the relationship between airway management and the trauma patient. (C-3)

5-1.6 Establish the relationship between mechanism of injury and internal bleeding. (C-3)

5-1.7 List the signs of internal bleeding. (C-1)

5-1.8 List the steps in the emergency medical care of the patient with signs and symptoms of internal bleeding. (C-1)

5-1.9 List signs and symptoms of shock (hypoperfusion). (C-1)

5-1.10 State the steps in the emergency medical care of the patient with signs and symptoms of shock (hypoperfusion). (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-1.11 Explain the sense of urgency to transport patients that are bleeding and show signs of shock (hypoperfusion). (A-1)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-1.12 Demonstrate direct pressure as a method of emergency medical care of external bleeding. (P-1,2)

5-1.13 Demonstrate the use of diffuse pressure as a method of emergency medical care of external bleeding. (P-1,2)

5-1.14 Demonstrate the use of pressure points and tourniquets as a method of emergency medical care of external bleeding. (P-1,2)
5-1.15 Demonstrate the care of the patient exhibiting signs and symptoms of internal bleeding. (P-1,2)
5-1.16 Demonstrate the care of the patient exhibiting signs and symptoms of shock (hypoperfusion). (P-1,2)
5-1.17 Demonstrate completing a prehospital care report for patient with bleeding and/or shock (hypoperfusion). (P-2)

Lesson 5-2: SOFT TISSUE INJURIES

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-2.1 State the major functions of the skin. (C-1)
5-2.2 List the layers of the skin. (C-1)
5-2.3 Establish the relationship between body substance isolation (BSI) and soft tissue injuries. (C-3)
5-2.4 List the types of closed soft tissue injuries. (C-1)
5-2.5 Describe the emergency medical care of the patient with a closed soft tissue injury. (C-1)
5-2.6 State the types of open soft tissue injuries. (C-1)
5-2.7 Describe the emergency medical care of the patient with an open soft tissue injury. (C-1)
5-2.8 Discuss the emergency medical care considerations for a patient with a penetrating chest injury. (C-1)
5-2.9 State the emergency medical care considerations for a patient with an open wound to the abdomen. (C-1)
5-2.10 Differentiate the care of an open wound to the chest from an open wound to the abdomen. (C-3)
5-2.11 List the classifications of burns. (C-1)
5-2.12 Define superficial burn. (C-1)
5-2.13 List the characteristics of a superficial burn. (C-1)
5-2.14 Define partial thickness burn. (C-1)
5-2.15 List the characteristics of a partial thickness burn. (C-1)
5-2.16 Define full thickness burn. (C-1)
5-2.17 List the characteristics of a full thickness burn. (C-1)
5-2.18 Describe the emergency medical care of the patient with a superficial burn. (C-1)
5-2.19 Describe the emergency medical care of the patient with a partial thickness burn. (C-1)
5-2.20 Describe the emergency medical care of the patient with a full thickness burn. (C-1)
5-2.21 List the functions of dressing and bandaging. (C-1)
5-2.22 Describe the purpose of a bandage. (C-1)
5-2.23 Describe the steps in applying a pressure dressing. (C-1)

5-2.24 Establish the relationship between airway management and the patient with chest injury, burns, blunt and penetrating injuries. (C-1)
5-2.25 Describe the effects of improperly applied dressings, splints and tourniquets. (C-1)
5-2.26 Describe the emergency medical care of a patient with an impaled object. (C-1)
5-2.27 Describe the emergency medical care of a patient with an amputation. (C-1)
5-2.28 Describe the emergency care for a chemical burn.(C-1)
5-2.29 Describe the emergency care for an electrical burn.(C-1)

AFFECTIVE OBJECTIVES

No affective objectives identified.

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-2.29 Demonstrate the steps in the emergency medical care of closed soft tissue injuries. (P-1,2)
5-2.30 Demonstrate the steps in the emergency medical care of open soft tissue injuries. (P-1,2)
5-2.31 Demonstrate the steps in the emergency medical care of a patient with an open chest wound. (P-1,2)
5-2.32 Demonstrate the steps in the emergency medical care of a patient with open abdominal wounds. (P-1,2)
5-2.33 Demonstrate the steps in the emergency medical care of a patient with an impaled object. (P-1,2)
5-2.34 Demonstrate the steps in the emergency medical care of a patient with an amputation. (P-1,2)
5-2.35 Demonstrate the steps in the emergency medical care of an amputated part. (P-1,2)
5-2.36 Demonstrate the steps in the emergency medical care of a patient with superficial burns. (P-1,2)
5-2.37 Demonstrate the steps in the emergency medical care of a patient with partial thickness burns. (P-1,2)
5-2.38 Demonstrate the steps in the emergency medical care of a patient with full thickness burns. (P-1,2)
5-2.39 Demonstrate the steps in the emergency medical care of a patient with a chemical burn. (P-1,2)
5-2.40 Demonstrate completing a prehospital care report for patients with soft tissue injuries. (P-2)

Lesson 5-3: MUSCULOSKELETAL CARE

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-3.1 Describe the function of the muscular system. (C-1)
5-3.2 Describe the function of the skeletal system. (C-1)
5-3.3 List the major bones or bone groupings of the spinal column; the thorax; the upper extremities; the lower extremities. (C-1)
5-3.4 Differentiate between an open and a closed painful, swollen, deformed extremity. (C-1)
5-3.5 State the reasons for splinting. (C-1)
5-3.6 List the general rules of splinting. (C-1)
5-3.7 List the complications of splinting. (C-1)
5-3.8 List the emergency medical care for a patient with a painful, swollen, deformed extremity. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-3.9 Explain the rationale for splinting at the scene versus load and go. (A-3)
5-3.10 Explain the rationale for immobilization of the painful, swollen, deformed extremity. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-3.11 Demonstrate the emergency medical care of a patient with a painful, swollen, deformed extremity. (P-1,2)
5-3.12 Demonstrate completing a prehospital care report for patients with musculoskeletal injuries. (P-2)

Lesson 5-4: INJURIES TO THE HEAD AND SPINE

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-4.1 State the components of the nervous system. (C-1)
5-4.2 List the functions of the central nervous system. (C-1)
5-4.3 Define the structure of the skeletal system as it relates to the nervous system. (C-1)
5-4.4 Relate mechanism of injury to potential injuries of the head and spine. (C-3)
5-4.5 Describe the implications of not properly caring for potential spine injuries. (C-1)
5-4.6 State the signs and symptoms of a potential spine injury. (C-1)
5-4.7 Describe the method of determining if a responsive patient may have a spine injury. (C-1)
5-4.8 Relate the airway emergency medical care techniques to the patient with a suspected spine injury. (C-3)

5-4.9 Describe how to stabilize the cervical spine. (C-1)
5-4.10 Discuss indications for sizing and using a cervical spine immobilization device. (C-1)
5-4.11 Establish the relationship between airway management and the patient with head and spine injuries. (C-1)
5-4.12 Describe a method for sizing a cervical spine immobilization device. (C-1)
5-4.13 Describe how to log roll a patient with a suspected spine injury. (C-1)
5-4.14 Describe how to secure a patient to a long spine board. (C-1)
5-4.15 List instances when a short spine board should be used. (C-1)
5-4.16 Describe how to immobilize a patient using a short spine board. (C-1)
5-4.17 Describe the indications for the use of rapid extrication. (C-1)
5-4.18 List steps in performing rapid extrication. (C-1)
5-4.19 State the circumstances when a helmet should be left on the patient. (C-1)
5-4.20 Discuss the circumstances when a helmet should be removed. (C-1)
5-4.21 Identify different types of helmets. (C-1)
5-4.22 Describe the unique characteristics of sports helmets. (C-1)
5-4.23 Explain the preferred methods to remove a helmet. (C-1)
5-4.24 Discuss alternative methods for removal of a helmet. (C-1)
5-4.25 Describe how the patient's head is stabilized to remove the helmet. (C-1)
5-4.26 Differentiate how the head is stabilized with a helmet compared to without a helmet. (C-3)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-4.27 Explain the rationale for immobilization of the entire spine when a cervical spine injury is suspected. (A-3)
5-4.28 Explain the rationale for utilizing immobilization methods apart from the straps on the cots. (A-3)
5-4.29 Explain the rationale for utilizing a short spine immobilization device when moving a patient from the sitting to the supine position. (A-3)
5-4.30 Explain the rationale for utilizing rapid extrication approaches only when they indeed will make the difference between life and death. (A-3)
5-4.31 Defend the reasons for leaving a helmet in place for transport of a patient. (A-3)
5-4.32 Defend the reasons for removal of a helmet prior to transport of a patient. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-4.33 Demonstrate opening the airway in a patient with suspected spinal cord injury. (P-1,2)
5-4.34 Demonstrate evaluating a responsive patient with a suspected spinal cord injury. (P-1,2)
5-4.35 Demonstrate stabilization of the cervical spine. (P-1,2)
5-4.36 Demonstrate the four person log roll for a patient with a suspected spinal cord injury. (P-1,2)
5-4.37 Demonstrate how to log roll a patient with a suspected spinal cord injury using two people. (P-1,2)
5-4.38 Demonstrate securing a patient to a long spine board. (P-1,2)
5-4.39 Demonstrate using the short board immobilization technique. (P-1,2)
5-4.40 Demonstrate procedure for rapid extrication. (P-1,2)
5-4.41 Demonstrate preferred methods for stabilization of a helmet. (P-1,2)
5-4.42 Demonstrate helmet removal techniques. (P-1,2)
5-4.43 Demonstrate alternative methods for stabilization of a helmet. (P-1,2)
5-4.44 Demonstrate completing a prehospital care report for patients with head and spinal injuries. (P-2)

MODULE 6: INFANTS AND CHILDREN

Lesson 6-1: INFANTS AND CHILDREN

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

6-1.1 Identify the developmental considerations for the following age groups: (C-1)
- infants
- toddlers
- pre-school
- school age
- adolescent

6-1.2 Describe differences in anatomy and physiology of the infant, child and adult patient. (C-1)
6-1.3 Differentiate the response of the ill or injured infant or child (age specific) from that of an adult. (C-3)
6-1.4 Indicate various causes of respiratory emergencies. (C-1)
6-1.5 Differentiate between respiratory distress and respiratory failure.

(C-3)

6-1.6 List the steps in the management of foreign body airway obstruction. (C-1)

6-1.7 Summarize emergency medical care strategies for respiratory distress and respiratory failure. (C-1)

6-1.8 Identify the signs and symptoms of shock (hypoperfusion) in the infant and child patient. (C-1)

6-1.9 Describe the methods of determining end organ perfusion in the infant and child patient. (C-1)

6-1.10 State the usual cause of cardiac arrest in infants and children versus adults. (C-1)

6-1.11 List the common causes of seizures in the infant and child patient. (C-1)

6-1.12 Describe the management of seizures in the infant and child patient. (C-1)

6-1.13 Differentiate between the injury patterns in adults, infants, and children. (C-3)

6-1.14 Discuss the field management of the infant and child trauma patient. (C-1)

6-1.15 Summarize the indicators of possible child abuse and neglect. (C-1)

6-1.16 Describe the medical legal responsibilities in suspected child abuse. (C-1)

6-1.17 Recognize need for EMT-Basic debriefing following a difficult infant or child transport. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

6-1.18 Explain the rationale for having knowledge and skills appropriate for dealing with the infant and child patient. (A-3)

6-1.19 Attend to the feelings of the family when dealing with an ill or injured infant or child. (A-1)

6-1.20 Understand the provider's own response (emotional) to caring for infants or children. (A-1)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

6-1.21 Demonstrate the techniques of foreign body airway obstruction removal in the infant. (P-1,2)

6-1.22 Demonstrate the techniques of foreign body airway obstruction removal in the child. (P-1,2)

6-1.23 Demonstrate the assessment of the infant and child. (P-1,2)

6-1.24 Demonstrate bag-valve-mask artificial ventilations for the infant. (P-1,2)

6-1.25 Demonstrate bag-valve-mask artificial ventilations for the child. (P-1,2)

6-1.26 Demonstrate oxygen delivery for the infant and child. (P-1,2)

MODULE 7: OPERATIONS

Lesson 7-1: AMBULANCE OPERATIONS

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

7-1.1 Discuss the medical and non-medical equipment needed to respond to a call. (C-1)

7-1.2 List the phases of an ambulance call. (C-1)

7-1.3 Describe the general provisions of state laws relating to the operation of the ambulance and privileges in any or all of the following categories: (C-1)

- Speed
- Warning lights
- Sirens
- Right-of-way
- Parking
- Turning

7-1.4 List contributing factors to unsafe driving conditions.(C-1)

7-1.5 Describe the considerations that should by given to: (C-1)

- Request for escorts.
- Following an escort vehicle.
- Intersections.

7-1.6 Discuss "Due Regard For Safety of All Others" while operating an emergency vehicle. (C-1)

7-1.7 State what information is essential in order to respond to a call. (C-1)

7-1.8 Discuss various situations that may affect response to a call. (C-1)

7-1.9 Differentiate between the various methods of moving a patient to the unit based upon injury or illness. (C-3)

7-1.10 Apply the components of the essential patient information in a written report. (C-2)

7-1.11 Summarize the importance of preparing the unit for the next response. (C-1)

7-1.12 Identify what is essential for completion of a call. (C-1)

7-1.13 Distinguish among the terms cleaning, disinfection, high-level disinfection, and sterilization. (C-3)

7-1.14 Describe how to clean or disinfect items following patient care. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

7-1.15 Explain the rationale for appropriate report of patient information. (A-3)

7-1.16 Explain the rationale for having the unit prepared to respond. (A-3)

PSYCHOMOTOR OBJECTIVES

No psychomotor objectives identified.

Lesson 7-2: GAINING ACCESS

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

7-2.1 Describe the purpose of extrication. (C-1)

7-2.2 Discuss the role of the EMT-Basic in extrication. (C-1)

7-2.3 Identify what equipment for personal safety is required for the EMT-Basic. (C-1)

7-2.4 Define the fundamental components of extrication. (C-1)

7-2.5 State the steps that should be taken to protect the patient during extrication. (C-1)

7-2.6 Evaluate various methods of gaining access to the patient. (C-3)

7-2.7 Distinguish between simple and complex access. (C-3)

AFFECTIVE OBJECTIVES

No affective objectives identified.

PSYCHOMOTOR OBJECTIVES

No psychomotor objectives identified.

Lesson 7-3 OVERVIEWS

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

7-3.1 Explain the EMT-Basic's role during a call involving hazardous materials. (C-1)

7-3.2 Describe what the EMT-Basic should do if there is reason to believe that there is a hazard at the scene. (C-1)

7-3.3 Describe the actions that an EMT-Basic should take to ensure bystander safety. (C-1)

7-3.4 State the role the EMT-Basic should perform until appropriately trained personnel arrive at the scene of a hazardous materials situation. (C-1)
7-3.5 Break down the steps to approaching a hazardous situation. (C-1)
7-3.6 Discuss the various environmental hazards that affect EMS. (C-1)
7-3.7 Describe the criteria for a multiple-casualty situation. (C-1)
7-3.8 Evaluate the role of the EMT-Basic in the multiple-casualty situation. (C-3)
7-3.9 Summarize the components of basic triage. (C-1)
7-3.10 Define the role of the EMT-Basic in a disaster operation. (C-1)
7-3.11 Describe basic concepts of incident management. (C-1)
7-3.12 Explain the methods for preventing contamination of self, equipment and facilities. (C-1)
7-3.13 Review the local mass casualty incident plan. (C-1)

AFFECTIVE OBJECTIVES

No affective objectives identified.

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

7-3.16 Given a scenario of a mass casualty incident, perform triage. (P-2)

MODULE 8: ADVANCED AIRWAY (Elective)

Lesson 8-1 ADVANCED AIRWAY

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

8-1.1 Identify and describe the airway anatomy in the infant, child and the adult. (C-1)
8-1.2 Differentiate between the airway anatomy in the infant, child, and the adult. (C-1)
8-1.3 Explain the pathophysiology of airway compromise. (C-1)
8-1.4 Describe the proper use of airway adjuncts. (C-1)
8-1.5 Review the use of oxygen therapy in airway management. (C-1)
8-1.6 Describe the indications, contraindications, and technique for insertion of nasal gastric tubes. (C-1)

8-1.7 Describe how to perform the Sellick maneuver (cricoid pressure). (C-1)
8-1.8 Describe the indications for advanced airway management. (C-1)
8-1.9 List the equipment required for orotracheal intubation. (C-1)
8-1.10 Describe the proper use of the curved blade for orotracheal intubation. (C-1)
8-1.11 Describe the proper use of the straight blade for orotracheal intubation. (C-1)
8-1.12 State the reasons for and proper use of the stylet in orotracheal intubation. (C-1)
8-1.13 Describe the methods of choosing the appropriate size endotracheal tube in an adult patient. (C-1)
8-1.14 State the formula for sizing an infant or child endotracheal tube. (C-1)
8-1.15 List complications associated with advanced airway management. (C-1)
8-1.16 Define the various alternative methods for sizing the infant and child endotracheal tube. (C-1)
8-1.17 Describe the skill of orotracheal intubation in the adult patient. (C-1)
8-1.18 Describe the skill of orotracheal intubation in the infant and child patient. (C-1)
8-1.19 Describe the skill of confirming endotracheal tube placement in the adult, infant and child patient. (C-1)
8-1.20 State the consequence of and the need to recognize unintentional esophageal intubation. (C-1)
8-1.21 Describe the skill of securing the endotracheal tube in the adult, infant and child patient. (C-1)

AFFECTIVE OBJECTIVES

At the end of this lesson the EMT-Basic student will be able to:

8-1.22 Recognize and respect the feelings of the patient and family during advanced airway procedures. (A-1)
8-1.23 Explain the value of performing advanced airway procedures. (A-2)
8-1.24 Defend the need for the EMT-Basic to perform advanced airway procedures. (A-3)
8-1.25 Explain the rationale for the use of a stylet. (A-2)
8-1.26 Explain the rationale for having a suction unit immediately available during intubation attempts. (A-2)
8-1.27 Explain the rationale for confirming breath sounds. (A-2)
8-1.28 Explain the rationale for securing the endotracheal tube. (A-3)

PSYCHOMOTOR OBJECTIVES

At the end of this lesson the EMT-Basic student will be able to:

8-1.29 Demonstrate how to perform the Sellick maneuver (cricoid pressure). (P-1,2)
8-1.30 Demonstrate the skill of orotracheal intubation in the adult patient. (P-1,2)
8-1.31 Demonstrate the skill of orotracheal intubation in the infant and child patient. (P-1,2)
8-1.32 Demonstrate the skill of confirming endotracheal tube placement in the adult patient. (P-1,2)
8-1.33 Demonstrate the skill of confirming endotracheal tube placement in the infant and child patient. (P-1,2)
8-1.34 Demonstrate the skill of securing the endotracheal tube in the adult patient. (P-1,2)
8-1.35 Demonstrate the skill of securing the endotracheal tube in the infant and child patient. (P-1,2)