OHIO
EMT-Paramedic
Refresher Curriculum

Instructor Course Guide

Approved by the State Board of EMS: 1/23/04

Table of Contents

Section/Area **Page**

Introduction ----------3

Course Overview ----------3

Course Planning Considerations ----------5

Course Conduct and Evaluation ----------6

Testing and Evaluating the Student ----------7

Program Evaluation ----------8

Resources ----------9

Unit I, Airway & Ventilation ----------10

Unit II, Cardiology ----------12

Unit III, Medical Emergencies ----------14

Unit IV, Trauma ----------16

Unit V, Pediatric Issues ----------20

Unit VI, Obstetrics and Gynecology ----------25

Unit VII, Geriatric Issues ----------27

Unit VIII, EMS Operations ----------31

INTRODUCTION

PHILOSOPHY

The EMT-Paramedic 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-Paramedic must regularly participate in educational programs which review the essential components of the Ohio curriculum 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 EMT-Paramedic refresher training program. It will provide information which will help program administrators and instructors plan and implement a course.

COURSE OVERVIEW

ORGANIZATION

The EMT-Paramedic Refresher curriculum is the minimum acceptable content that must be included in any Ohio EMT-Paramedic refresher educational program. This program consists of 48 classroom hours. The refresher training program is divided into the following subject areas and hours (including evaluations):

I. Airway & Ventilation – 4 hours
II. Cardiology – 6 hours
III. Medical Emergencies – 10 hours
IV. Trauma Issues – 8 hours (2 hours must pertain to triage and transportation protocols as approved by the State Board of EMS.)
V. Pediatrics Issues – 12 hours
VI. Obstetrics & Gynecology – 2 hours
VII. Geriatrics Issues– 4 hours
VIII. EMS Operations – 2 hours

Paramedics who successfully complete this course must demonstrate competency through written and practical testing over the knowledge and skills outlined in this refresher education program prior to receiving a certificate of completion.

OBJECTIVES

The objectives are divided into two categories: Cognitive and Psychomotor. Some objectives may be repeated in more than one unit. All objectives refer to all patient age groups (pediatric, adult and geriatric) unless otherwise specified or appropriate.

Patient assessment objectives are grouped together at the end of the curriculum for organization. It is expected that these objectives will be covered in each module as appropriate, not necessarily as a separate module.

PREPARATION

The instructor should be familiar with the subject area and the specific objectives of the subject area and be able to prepare the students or explain why this is important to them.

MATERIALS

The instructor should provide EMS equipment as an integral part of the instruction of the classroom presentation. The instructor should assure that the necessary types of equipment in appropriate amounts are accessible to the class.

Lesson plans are outlines of the goals, objectives, content, instructional materials and evaluation methods to be used in a class session. Each instructor will incorporate their own personality and style into their presentations, but the goal of all instructors is to design an organized lesson plan that maximizes the students' opportunity to achieve the stated objectives.

PERSONNEL

All instructional staff utilized during the course must fall into one of the following categories:

EMS Instructor -- This person holds a current and valid certificate to teach issued by the Division of EMS which permits the individual to teach in courses for initial certification and continuing education. This instructor may teach any topic included in the curriculum up to and including their level of EMT certification.

Special Topics Instructor -- This person holds a current and valid certificate to teach special topics areas. This instructor may only teach the topic area(s) denoted on their letter of certification issued by the Division of EMS.

Guest Lecturer -- A guest lecturer may be used to bring a specific area of expertise to the classroom. Whenever a guest lecturer is used, a certified instructor must be present in the classroom.

PRESENTATION

The lesson plan is used to develop the information the instructor provides. This may be accomplished by various methods, including lectures, small group discussion, the use of audio-visual materials, EMS equipment, etc. Lesson plans are time guidelines for the appropriate flow of information and should be developed by the instructor.

The paramedic should be able to demonstrate competency in all skills listed. The instructor should perform demonstrations prior to having the paramedic perform the skill.

The instructor should supervise the paramedic while they practice the psychomotor skills and should reinforce the progress of the student in all areas. The instructor: student ratio should be no more than 1:10 during these practice sessions. If there is difficulty understanding the content or performing the skills, the instructor should remediate as needed.

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 and state);
- System structure;
- Call characteristics (i.e., volume, type);
- Community demographics; and
- 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 and state 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 the course:

- course and sponsoring agency approval
- hours, content, faculty requirements or restrictions in compliance with state requirements
- Identify and orient program staff (medical director and program coordinator)

- Identify and provide equipment sufficient for needs
- Determine class size
- Appropriate physical facilities based on class size
- Presentation can be individual lessons/units, or lessons/units can be combined in a variety of formats

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.

Skills: Students rapidly lose interest in repetitive entry-level skills drills. Be creative and try new ideas.

Attitudes: A significant concern in EMS today is paramedic stress caused by a variety of factors including indifference to quality of education, 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. Be aware of this and be prepared to provide additional assistance as needed.

RECORDS MANAGEMENT

The refresher education program must maintain program and student records which demonstrate compliance with pertinent program standards and local and state regulations. All class records are to be given to the program coordinator of the sponsoring institution, which will include the following:

Program records

- Syllabus
- Course schedule
- Advertising materials
- Master attendance records
- Copies of exams, lesson plans, handout materials
- Any additional records required by the local training institution and program coordinator.

Student records

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

The Certificate of Completion should not be issued until all program hours are satisfactorily completed. The certificate must be signed by the program coordinator of the sponsoring institution.

TESTING AND EVALUATING THE STUDENT

The primary purpose of refresher training is to assure that EMT-Paramedics 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.

Training programs must provide for regular evaluation of student performance and achievement through written and practical testing prior to issuance of a Certificate of Completion. Examples of evaluation methods include: written quizzes, case review presentations, videotaped skills demonstrations, practical skill exams, 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 and state regulations or standards. A certificate of course completion should not be issued to the student until the student demonstrates competency as measured by formal and documented effective written and practical evaluations.

> **Written examinations:** Written exams should be designed 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. 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. 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 or state approved policy. Students should attend all refresher sessions for successful course completion.

PROGRAM EVALUATION

PROCESS

Process evaluation will help identify specific causes of instructional failure (i.e., the reason why students 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.
- instructor is not well qualified to teach a particular lesson.
- Lack of student attendance and/or participation.

Students must be provided the opportunity to evaluate the class. These evaluations should be reviewed by the instructor(s) and program coordinator and used to develop a quality program.

The on-going review of the course is part of the program coordinator's responsibilities. The review process will include the student evaluations, an evaluation by the instructional staff and an evaluation of the class by the program coordinator. If deficiencies are found, corrective measures must be taken.

All documentation for the class must be submitted to and maintained by the program coordinator of the sponsoring institution.

RESOURCES

Listed below are possible sources of information that may be helpful in teaching this and other courses. This listing is only a sampling and should not be considered all inclusive.

Ohio Division of EMS (www.ohiopublicsafety.org)
- Ohio Revised Code (EMS section)
- Ohio Administrative Code (EMS section)
- Scope of Practice
- Adult and Pediatric Protocols
- State Trauma Triage Protocols
- EMS-C information

National Highway Traffic Safety Administration (NHTSA) / U. S. Department of Transportation (USDOT) (www.nhtsa.dot.gov)
- National curriculum information
- Studies and statistics

Ohio Department of Health (www.odh.state.oh.us)
- Do Not Resuscitate Comfort Care program

National Registry of EMTs (www.nremt.org)
- Practical exam skill sheets

Department of Job & Family Services (www.state.oh.us/odjfs)
- Safe Haven for Newborns – abandoned baby laws

Ohio Board of Pharmacy (www.state.oh.us/pharmacy)
- Drug licenses

EMS-C National Resource Center (www.emsc.org)
- EMS-C related materials and studies

American Geriatric Society (www.americangeriatrics.org)
- Geriatric related materials

Unit 1: Airway and Ventilation

COGNITIVE OBJECTIVES

At the completion of this unit, the paramedic will be able to:

1.1 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.
- Describe how to assist special need airway patient (i.e. Stoma, Pediatric)
- Describe the steps in performing orotracheal intubation.
- Describe the process for insertion of a dual lumen airway.

1.2 Provide ventilatory support for a patient
- Describe the steps in performing the skill of artificially ventilating a patient with basic and advanced adjunctive devices.

1.3 Describe indications, contraindications, advantages, disadvantages, complications, and technique for ventilating a patient with an automatic transport ventilator (ATV).

1.4 Use oxygen delivery system components (nasal cannula, face mask, etc.)
- Identify a non-rebreather facemask and state the oxygen flow requirements needed for its use.
- Identify a nasal cannula and state the flow requirements needed for its use.

1.5 Describe the special considerations in airway management and ventilation for patients with facial injuries.

1.6 Describe the special considerations in airway management and ventilation for the pediatric patient.

PSYCHOMOTOR OBJECTIVES

At the completion of this unit, the paramedic will be able to:

1.7 Demonstrate the steps in performing the skill of artificially ventilating a patient with a bag-valve-mask for one and two rescuers.

1.8 Demonstrate how to insert an oropharyngeal and nasopharyngeal airway

1.9 Perform assessment to confirm correct placement of the endotracheal tube

1.10 Demonstrate the use of a non-rebreather facemask and a nasal cannula.

1.11 Demonstrate artificial ventilation of a patient with a flow restricted, oxygen powered ventilation device.

1.12 Demonstrate the techniques of suctioning

1.13 Intubate the trachea by the following methods:

- Orotracheal intubation
- Nasotracheal intubation
- Dual lumen airways

1.14 Perform transtracheal catheter ventilation (needle cricothyrotomy).

Unit 2: Cardiology

COGNITIVE OBJECTIVES

At the completion of this unit, the paramedic will be able to:

2.1 Identify the major therapeutic objectives in the treatment of patients with any arrhythmia.

2.2 Identify the major mechanical, pharmacological and electrical therapeutic interventions.

2.3 Based on field impressions, identify the need for rapid intervention for the patient in cardiovascular compromise.

2.4 Identify the clinical indications for transcutaneous and permanent artificial cardiac pacing.

2.5 Describe the components and the functions of a transcutaneous pacing system.

2.6 Explain what each setting and indicator on a transcutaneous pacing system represents and how the settings may be adjusted.

2.7 Describe the techniques of applying a transcutaneous pacing system.

2.8 Specify the measures that may be taken to prevent or minimize complications in the patient suspected of myocardial infarction.

2.9 Describe the most commonly used cardiac drugs in terms of therapeutic effect and dosages, routes of administration, side effects and toxic effects.

2.10 List the interventions prescribed for the patient in acute congestive heart failure.

2.11 Describe the most commonly used pharmacological agents in the management of congestive heart failure in terms of therapeutic effect, dosages, routes of administration, side effects and toxic effects.

2.12 Identify the paramedic responsibilities associated with management of a patient with cardiac tamponade.

2.13 Identify the paramedic responsibilities associated with the management responsibilities for the patient with hypertensive emergency.

2.14 Identify the drugs of choice for hypertensive emergencies, rationale for use, clinical precautions and disadvantages of selected antihypertensive agents.

2.15 Describe the most commonly used pharmacological agents in the management of cardiogenic shock in terms of therapeutic effects, dosages, routes of administration, side effects and toxic effects.

2.16 Identify the paramedic responsibilities associated with management of a patient in cardiogenic shock.

2.17 Identify the critical actions necessary in caring for the patient with cardiac arrest.

2.18 Describe the most commonly used pharmacological agents in the management of cardiac arrest in terms of therapeutic effects.

PSYCHOMOTOR OBJECTIVES

At the completion of this unit, the paramedic will be able to:

2.19 Develop, execute, and evaluate a treatment plan based on field impression for the patient in need of a pacemaker.

2.20 Develop, execute, and evaluate a treatment plan based on the field impression for the heart failure patient.

2.21 Develop, execute and evaluate a treatment plan based on the field impression for the patient with cardiac tamponade.

2.22 Develop, execute and evaluate a treatment plan based on the field impression for the patient with a hypertensive emergency.

2.23 Develop, execute, and evaluate a treatment plan based on the field impression for the patient with cardiogenic shock.

2.24 Identify pathophysiological principles as they relate to the assessment and field management of a patient with chest pain.

2.25 Set up and apply a transcutaneous pacing system.

2.26 Given the model of a patient with signs and symptoms of heart failure, position the patient to afford comfort and relief.

2.27 Demonstrate satisfactory performance of psychomotor skills of basic and advanced life support techniques including the following:

- Cardiopulmonary resuscitation
- Defibrillation
- Synchronized cardioversion
- Transcutaneous pacing

Unit 3: Medical Emergencies

COGNITIVE OBJECTIVES

At the completion of this unit, the paramedic will be able to:

3.1 Describe physical manifestations in anaphylaxis.

3.2 Differentiate manifestations of an allergic reaction from anaphylaxis.

3.3 Recognize the signs and symptoms related to anaphylaxis.

3.4 Differentiate among the various treatment and pharmacological interventions used in the management of anaphylaxis.

3.5 Correlate abnormal findings in assessment with the clinical significance in the patient with anaphylaxis.

3.6 Develop a treatment plan based on field impression in the patient with allergic reaction and anaphylaxis.

3.7 List signs and symptoms of near-drowning.

3.8 Describe the lack of significance of fresh versus saltwater immersion, as it relates to near-drowning.

3.9 Discuss the incidence of "wet" versus "dry" drownings and the differences in their management.

3.10 Discuss the complications and protective role of hypothermia in the context of near-drowning.

3.11 Correlate the abnormal findings in assessment with the clinical significance in the patient with near-drowning.

3.12 Differentiate among the various treatments and interventions in the management of near-drowning.

3.13 Integrate pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for the near-drowning patient.

3.14 Differentiate toxic substance emergencies based on assessment findings.

3.15 Correlate abnormal findings in the assessment with the clinical significance in the patient exposed to a toxic substance.

3.16 Correlate the abnormal findings in assessment with the clinical significance in patients with the most common poisonings by overdose.

3.17 Correlate the abnormal findings in assessment with the clinical significance in patients using the most commonly abused drugs.

3.18 List the clinical uses, street names, pharmacology, assessment finding and management for patient who have taken the following drugs or been exposed to the following substances:

- Cocaine
- Marijuana and cannabis compounds
- Amphetamines and amphetamine-like drugs
- Barbiturates
- Sedative-hypnotics
- Cyanide
- Narcotics/ opiates
- Cardiac medications
- Caustics
- Common household substances
- Drugs abused for sexual purposes/ sexual gratification
- Carbon monoxide
- Alcohols
- Hydrocarbons
- Psychiatric medications
- Newer anti-depressants and serotonin syndromes
- Lithium
- MAO inhibitors
- Non-prescription pain medications
- Nonsteroidal anti-inflammatory agents
- Salicylates
- Acetaminophen
- Metals
- Plants and mushrooms

3.19 Discuss common environmental emergencies, assessment findings, and management of a patient with an environmental emergency.

3.20 Discuss common offending organisms, pharmacology, assessment findings and management for a patient with a bite or sting.

Unit 4: Trauma

COGNITIVE OBJECTIVES

At the completion of this unit, the paramedic will be able to:

4.1 Develop, execute and evaluate a treatment plan based on the field impression for the hemorrhage or shock patient in accordance with triage and transportation protocols approved by the State Board of EMS (or regional triage and transportation protocols approved by the State Board of EMS).

4.2 Mechanism of Injury

- List the motion and energy considerations of blunt and penetrating mechanisms of injury.
- Define the role of kinematics as an additional tool for patient assessment.
- Describe the pathophysiology of the head, spine, thorax, and abdomen that result from blunt and penetrating forces.

4.3 Patient Assessment – Reference to Patient Assessment unit

- Explain the importance of the patient assessment in the overall management of the trauma patient.
- Describe the primary survey/initial assessment using the A B C D method.
- Describe the rapid examination skills necessary to evaluate respiration, circulation, and level of consciousness/responsiveness.
- Identify life-threatening conditions that require immediate attention.
- Identify the steps in the secondary survey/focused history and physical examination.

4.4 Airway Management – Reference to Airway Unit

- Identify patients who require airway control.
- List methods of manual and mechanical airway management and how to implement them while maintaining in-line cervical spine immobilization.
- Describe the techniques for initial and subsequent assessment of the airway and ventilation interventions on trauma patients.

4.5 Thoracic Trauma

- Define the associated physiology and pathophysiology pertinent to the ventilation and circulation in the thorax.
- List the basic diagnostic signs and symptoms of the following:
  - Flail chest
  - Pneumothroax (open and closed)
  - Tension pneumothorax and hemothorax
  - Pericardial tamponade
  - Aortic, tracheal and bronchial rupture
- Identify the need for rapid stabilization and transportation to the hospital.

- Identify indicators for needle decompression of the chest.

4.6 Shock and Fluid Resuscitation

- List the signs and symptoms of each phase of shock.
- List the indications for intravenous fluid replacement.
- Identify the need for rapid transport when confronted with continuing hypoperfusion.

4.7 Abdominal Trauma

- Define the associated physiology and pathophysiology of blunt and penetrating injury to the abdomen.
- Identify the importance of maintaining a high index of suspicion for abdominal trauma.
- Identify the need for rapid intervention and rapid transportation when appropriate.
- Identify the anatomic and physiologic changes that occur in pregnancy.
- Identify the proper position for transport of the pregnant trauma patient.

4.8 Musculoskeletal Trauma

- Describe the initial and focused assessments as related to extremity trauma.
- List the five major pathophysiologic problems that require management in extremity injuries.
- Indicate an understanding of the relationship between hemorrhage and open and closed fractures.
- List the four primary signs and symptoms of extremity trauma; list other signs and symptoms that can indicate less obvious extremity injury.
- Explain the management of extremity trauma, especially in the presence of life-threatening injuries.
- Describe the management of amputations.

4.9 Head Trauma

- Define the physiology and pathophysiology of hypoperfusion, concussion, contusion, laceration, hematoma, and fractures pertinent to the head.
- Define increased intracranial pressure and list the progression events as pressure rises.
- Explain the indications for hyperventilation in the head injury patient.
- Identify the need for rapid transport of a patient with a decreased level of consciousness from a significant head injury.

4.10 Spine Trauma

- List in order of frequency, four major activities producing spinal trauma in adults and pediatric patients.
- List at least four specific mechanisms of injury that can cause spinal injury.

- Demonstrate a clear understanding that three indications of spinal trauma must be assessed: (1) mechanism of injury, (2) the presence of other trauma due to violent force, (3) specific signs of spinal trauma.
- Discuss the assessment findings associated with spinal injuries.

4.11 Thermal Trauma

- List the basic criteria for assessing burn severity.
- List two life-threatening injuries resulting from burns that require prehospital treatment.
- List five signs that indicate inhalation injury and possible respiratory sequelae after a burn injury.
- Define the rule of nines for adult and pediatric patients.
- Perform a rapid extrication of a Trauma Patient.

4.12 Pediatric Trauma- Reference to Pediatric unit

- Demonstrate an understanding of the special importance of managing the airway and restoring adequate tissue oxygenation in pediatric patients.
- Identify the quantitative vital signs for children.
- Demonstrate an understanding of management techniques for the variety of injuries found in pediatric patients.

4.13 Geriatric Trauma – Reference to Geriatric Trauma

- Demonstrate an understanding of difference in the mechanism of injury in the elderly
- Identify the variables in the pathophysiology of aging.
- Demonstrate an understanding of the special considerations in assessing the elderly.
- Understand the importance of identifying any preexisting medical conditions.
- Demonstrate an understanding of the effects of medications taken by the elderly.
- Communicate appropriately with the elderly.
- Define implied consent and explain the usually limited role of the third party powers in trauma scene decision-making.
- Identify the signs and symptoms of abuse and neglect in the elderly.

PSYCHOMOTOR OBJECTIVES

At the completion of this unit, the paramedic will be able to:

4.14 Develop, execute and evaluate a treatment plan based on the field impression for the hemorrhage or shock patient.

4.15 Using the techniques of physical examination demonstrate the assessment of a trauma patient.

4.16 Demonstrate the rapid trauma assessment used to assess a patient based on mechanism of injury.

4.17 Demonstrate the management of a patient with signs and symptoms of hemorrhagic shock.

4.18 Demonstrate the management of a patient with signs and symptoms of compensated hemorrhagic shock

4.19 Demonstrate the management of a patient with signs and symptoms of decompensated hemorrhagic shock.

4.20 Demonstrate a clinical assessment to determine the proper management modality for a patient with a suspected traumatic spinal injury.

4.21 Demonstrate a clinical assessment to determine the proper management modality for a patient with a suspected non-traumatic spinal injury.

4.22 Demonstrate immobilization of the urgent and non-urgent patient with assessment findings of spinal injury from the following presentations:

- Supine
- Prone
- Semi-prone
- Sitting
- Standing

4.23 Demonstrate preferred methods for stabilization of a helmet from a potentially spine injured patient.

4.24 Demonstrate the following techniques of management for thoracic injuries:

- Needle decompression:
- Fracture stabilization
- Elective intubation
- ECG monitoring
- Oxygenation and ventilation

4.25 Demonstrate a clinical assessment to determine the proper treatment plan for a patient with suspected abdominal trauma.

Unit 5: Pediatrics

COGNITIVE OBJECTIVES

At the completion of this unit, the paramedic will be able to:

5.1 Describe techniques for successful assessment of infants and children.

5.2 Describe techniques for successful treatment of infants and children.

5.3 Discuss the appropriate equipment utilized to obtain pediatric vital signs.

5.4 Determine appropriate airway adjuncts for infants and children.

5.5 Discuss complications of improper utilization of airway adjuncts with infants and children.

5.6 Discuss appropriate ventilation devices for infants and children.

5.7 Discuss complications of improper utilization of ventilation devices with infants & children.

5.8 Discuss appropriate endotracheal intubation equipment for infants and children.

5.9 Identify complications of improper endotracheal intubation procedure in infants and children.

5.10 List the indications and methods for gastric decompression for infants and children.

5.11 Differentiate between upper airway obstruction and lower airway disease.

5.12 Describe the general approach to the treatment of children with respiratory distress, failure, or arrest from upper airway obstruction or lower airway disease.

5.13 Discuss the common causes of hypoperfusion in infants and children.

5.14 Evaluate the severity of hypoperfusion in infants and children.

5.15 Identify the major classifications of pediatric cardiac rhythms.

5.16 Discuss the primary etiologies of cardiopulmonary arrest in infants and children.

5.17 Discuss age appropriate vascular access sites for infants and children.

5.18 Discuss the appropriate equipment for vascular access in infants and children.

5.19 Identify complications of vascular access for infants and children.

5.20 Describe the primary etiologies of altered level of consciousness in infants and children.

5.21 Identify common lethal mechanisms of injury in infants and children.

5.22 Discuss anatomical features of children that predispose or protect them from certain injuries.

5.23 Describe aspects of infant and children airway management that are affected by potential cervical spine injury.

5.24 Identify infant and child trauma patients who require spinal immobilization.

5.25 Discuss fluid management and shock treatment for infant and child trauma patient.

5.26 Discuss the parent/ caregiver responses to the death of an infant or child.

5.27 Discuss basic cardiac life support (CPR) guidelines for infants and children.

5.28 Identify appropriate parameters for performing infant and child CPR.

5.29 Integrate advanced life support skills with basic cardiac life support for infants and children.

5.30 Discuss the indications, dosage, route of administration and special considerations for medication administration in infants and children.

5.31 Discuss appropriate transport guidelines for infants and children.

5.32 Discuss appropriate receiving facilities for low and high risk infants and children.

5.33 Describe the epidemiology, including the incidence, morbidity/ mortality, risk factors and prevention strategies for respiratory distress/ failure in infants and children.

5.34 Discuss the pathophysiology of respiratory distress/ failure in infants and children.

5.35 Discuss the assessment findings associated with respiratory distress/ failure in infants and children.

5.36 Discuss the management/ treatment plan for respiratory distress/ failure in infants and children.

5.37 Describe the epidemiology, including the incidence, morbidity/ mortality, risk factors and prevention strategies for hypoperfusion in infants and children.

5.38 Discuss the pathophysiology of hypoperfusion in infants and children.

5.39 Discuss the assessment findings associated with hypoperfusion in infants and children.

5.40 Discuss the management/ treatment plan for hypoperfusion in infants and children.

5.41 Discuss the assessment findings associated with cardiac dysrhythmias in infants and children.

5.42 Discuss the management/ treatment plan for cardiac dysrhythmias in infants and children.

5.43 Describe the epidemiology, including the incidence, morbidity/ mortality, risk factors and prevention strategies for trauma in infants and children.

5.44 Discuss the pathophysiology of trauma in infants and children.

5.45 Discuss the assessment findings associated with trauma in infants and children.

5.46 Discuss the management/ treatment plan for trauma in infants and children.

PSYCHOMOTOR OBJECTIVES

At the completion of this unit, the paramedic will be able to:

5.47 Demonstrate the appropriate approach for treating infants and children.

5.48 Demonstrate appropriate intervention techniques with families of acutely ill or injured infants and children

5.48 Demonstrate an appropriate assessment for different developmental age groups.

5.50 Demonstrate an appropriate technique for measuring pediatric vital signs.

5.51 Demonstrate the use of a length-based resuscitation device for determining equipment sizes, drug doses and other pertinent information for a pediatric patient.

5.52 Demonstrate the appropriate approach for treating infants and children with respiratory distress, failure, and arrest.

5.53 Demonstrate proper technique for administering blow-by oxygen to infants and children.

5.54 Demonstrate the proper utilization of a pediatric non-rebreather oxygen mask.

5.55 Demonstrate proper technique for suctioning of infants and children.

5.56 Demonstrate appropriate use of airway adjuncts with infants and children

5.57 Demonstrate appropriate use of ventilation devices for infants and children.

5.58 Demonstrate endotracheal intubation procedures in infants and children.

5.59 Demonstrate appropriate treatment/ management of intubation complications for infants and children.

5.60 Demonstrate appropriate needle cricothyroidotomy in infants and children.

5.61 Demonstrate proper placement of a gastric tube in infants and children.

5.62 Demonstrate an appropriate technique for insertion of peripheral intravenous catheters for infants and children.

5.63 Demonstrate an appropriate technique for administration of intramuscular, inhalation, subcutaneous, rectal, endotracheal and oral medication for infants and children.

5.64 Demonstrate an appropriate technique for insertion of an intraosseous line for infants and children.

5.65 Demonstrate appropriate interventions for infants and children with a partially obstructed airway.

5.66 Demonstrate age appropriate basic airway clearing maneuvers for infants and children with a completely obstructed airway.

5.67 Demonstrate proper technique for direct laryngoscopy and foreign body retrieval in infants and children with a completely obstructed airway.

5.68 Demonstrate appropriate airway and breathing control maneuvers for infant and child trauma patients.

5.69 Demonstrate appropriate treatment of infants and children requiring advanced airway and breathing control.

5.70 Demonstrate appropriate immobilization techniques for infant and child trauma patients.

5.71 Demonstrate treatment of infants and children with head injuries.

5.72 Demonstrate appropriate treatment of infants and children with chest injuries.

5.73 Demonstrate appropriate treatment of infants and children with abdominal injuries.

5.74 Demonstrate appropriate treatment of infants and children with extremity injuries.

5.75 Demonstrate appropriate treatment of infants and children with burns.

5.76 Demonstrate appropriate parent/ caregiver interviewing techniques for infant and child death situations

5.77 Demonstrate proper infant CPR.

5.78 Demonstrate proper child CPR

5.79 Demonstrate proper techniques for performing infant and child defibrillation and synchronized cardioversion

Unit 6: Obstetrics & Gynecology

COGNITIVE OBJECTIVES

At the completion of this unit, the student shall be able to:

6.1 Review the anatomic structures and physiology of the reproductive system.

6.2 Identify the normal events of pregnancy.

6.3 Describe how to assess an obstetrical patient.

6.4 Identify the stages of labor and the paramedic's role in each stage.

6.5 Differentiate between normal and abnormal delivery.

6.6 Identify and describe complications associated with pregnancy and delivery.

6.7 Identify predelivery emergencies.

6.8 State indications of an imminent delivery.

6.9 Explain the use of the contents of an obstetrics kit.

6.10 Differentiate the management of a patient with predelivery emergencies from a normal delivery.

6.11 State the steps in the predelivery preparation of the mother.

6.12 Establish the relationship between body substance isolation and childbirth.

6.13 State the steps to assist in the delivery of a newborn.

6.14 Describe how to care for the newborn.

6.15 Describe how and when to cut the umbilical cord.

6.16 Discuss the steps in the delivery of the placenta.

6.17 Describe the management of the mother post-delivery.

6.18 Summarize neonatal resuscitation procedures.

6.19 Describe the procedures for handling abnormal deliveries.

6.20 Describe the procedures for handling complications of pregnancy.

6.21 Describe the procedures for handling maternal complications of labor.

6.22 Describe special considerations when meconium is present in amniotic fluid or during delivery.

6.23 Describe special considerations of a premature baby.

6.24 Discuss the need for treating two patients (mother and baby).

6.25 Discuss the importance of maintaining a patient's modesty and privacy during assessment and management.

6.26 Describe how to assess a patient with a gynecological complaint.

6.27 Explain how to recognize a gynecological emergency.

6.28 Describe the general care for any patient experiencing a gynecological emergency.

6.29 Describe the pathophysiology, assessment, and management of specific gynecological emergencies.

6.30 Discuss the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information.

PSYCHOMOTOR OBJECTIVES

At the completion of this unit, the student shall be able to:

6.31 Demonstrate how to assess an obstetric patient.

6.32 Demonstrate how to provide care for a patient with:

- Excessive vaginal bleeding
- Abdominal pain
- Hypertensive crisis
- Sexual assault

6.33 Demonstrate how to prepare the obstetric patient for delivery.

6.34 Demonstrate how to assist in the normal cephalic delivery of the baby.

6.35 Demonstrate how to deliver the placenta.

6.36 Demonstrate how to provide post-delivery care of the mother and newborn.

6.37 Demonstrate how to assist with abnormal deliveries.

6.38 Demonstrate how to care for the mother with delivery complications.

6.39 Demonstrate how to assess a patient with a gynecological complaint.

Unit 7: Geriatrics

COGNITIVE OBJECTIVES

At the completion of this unit, the student shall be able to:

7.1 Discuss aging in society today, including demographic trends.

7.2 Discuss the effects of longevity on the future role of EMS.

7.3 Describe cultural differences in older people (ethnogeriatrics), particularly as they relate to the provision of medical care.

7.4 Discuss the factors that cause an older person to be at risk for increased medical care.

7.5 Identify and discuss the major diseases and disorders common to older people.

7.6 Identify the special needs of the older person and the changes that the aging process brings about in physical structure, body composition, and organ function.

7.7 Define normal psychological changes affecting older people.

7.8 Demonstrate assessment of skin turgor in the elderly patient.

7.9 Discuss and recognize the challenges in communicating with the older person, including visual, hearing, and speech.

7.10 Describe principles that should be used when assessing and communicating with an older patient.

7.11 Discuss and recognize the emotional need for independence in older people.

7.12 Recognize and appreciate the physical and emotional difficulties associated with being a caregiver of an impaired older person.

7.13 Discuss the leading causes of death in the older population (distinguishing between medical and trauma causes).

7.14 Define palliative and hospice programs.

7.15 Discuss the actions to be taken when signs of impending death are present.

7.16 Discuss do not resuscitate (DNR) orders, living wills, durable power of attorney, and other legal considerations as they relate to the care of the older patient.

7.17 Discuss considerations when treating the older patient with a terminal disease.

7.18 Discuss grief and loss as they relate to the older patient, the caregiver, the patient's family members, and the EMS provider.

7.19 Compare the assessment of the older patient with that of a younger adult patient.

7.20 Describe normal and abnormal findings in assessment of older patients.

7.21 Identify and discuss common emotional and psychological reactions to aging.

7.22 Recognize normal and disease states in older patients.

7.23 Describe common complaints of the older patient, including shortness of breath; chest pain; altered mental status; abdominal pain; dizziness or weakness; trauma; generalized pain; falls; and nausea, vomiting, and diarrhea.

7.24 Explain how the elderly patient's fear of the loss of independence can effect patient assessment and treatment.

7.25 Discuss the epidemiology of trauma in the older population, including the risk factors for motor vehicle crashes, pedestrian accidents, falls, burns, penetrating trauma, and elder abuse.

7.26 Discuss the assessment findings common in older patients with traumatic injuries, including orthopaedic injuries.

7.27 Discuss assessment of the older patient with complaints related to the musculoskeletal system.

7.28 Discuss intervention, management, and transport considerations in the older patient with traumatic injuries.

7.29 Describe management, intervention, and transport of the older patient with complaints related to the musculoskeletal system.

7.30 Review splinting, immobilization, and packaging considerations in treating older patients, including those with physical deformities.

7.31 Discuss problems with mobility in older people.

7.32 Discuss medical risk factors, medications as risk factors, and environmental risk factors that make older people prone to falls.

7.33 Discuss the relationship between medical conditions in the older patient and trauma in the older patient.

7.34 Describe the epidemiology of pulmonary diseases in the older population, including chronic obstructive pulmonary disease (COPD), pneumonia, pulmonary embolism, acute respiratory distress, and pulmonary edema.

7.35 Discuss assessment of the older patient with pulmonary complaints.

7.36 Differentiate the lung sounds associated with various respiratory problems and conditions.

7.37 Identify the need for intervention and transport, and develop a treatment and management plan for the older patient with pulmonary complaints.

7.38 Discuss the epidemiology of cardiovascular diseases in the older population.

7.39 Discuss the signs and symptoms, precipitating factors, and management of cardiac arrest in the older patient.

7.40 Discuss the assessment of the older patient with complaints related to the cardiovascular system, including acute myocardial infarction, congestive heart failure, arrhythmias, hypertension, and syncope.

7.41 Given a list of signs and symptoms, identify the need for intervention and transport, and formulate a treatment plan for the older patient with cardiovascular complaints, including acute myocardial infarction, congestive heart failure, arrhythmias, hypertension, and syncope.

7.42 Discuss abnormal changes with age of the nervous system.

7.43 Discuss the epidemiology of nervous system diseases in the older population, including stroke, dementia, delirium, Alzheimer's disease, Parkinson's disease, seizures, and aggressive or assaultive behavior.

7.44 Discuss assessment of the older patient with complaints related to the nervous system.

7.45 Identify the need for intervention and transport, and develop a treatment and management plan for the older patient with complaints related to the nervous system.

7.46 Describe the epidemiology of depression, suicide, and substance abuse in older people, including incidence, morbidity/mortality, and risk factors.

7.47 Identify the need for intervention and transport and develop a treatment and management plan for the older patient experiencing a psychological emergency.

7.48 Discuss assessment findings and management considerations for older patients who have abused drugs or alcohol.

7.49 Discuss abnormal changes of the gastrointestinal system with age, as well as epidemiology, pathophysiology, assessment, intervention, and transport of gastrointestinal emergencies in the older patient, including GI bleeding, peptic ulcer disease, bowel obstruction, diarrhea, diverticulitis, gallbladder disease, and problems with elimination.

7.50 Discuss abnormal changes of the endocrine system with age, as well as epidemiology, pathophysiology, assessment, intervention, and transport of

endocrine emergencies in the older patient, including diabetes and thyroid disorders.

7.51 Discuss abnormal changes of the integumentary system with age, as well as epidemiology, pathophysiology, assessment, intervention, and transport of older patients with integumentary emergencies, including pressure ulcers.

7.52 Discuss the epidemiology, pathophysiology, assessment, intervention, and transport of older patients with nutritional emergencies, including malnutrition and dehydration.

7.53 Discuss the epidemiology, pathophysiology, assessment, intervention, and transport of older patients with environmental emergencies, including hypothermia, hyperthermia, and their predisposing factors.

7.54 Discuss the epidemiology, pathophysiology, assessment, intervention, and transport of older patients with sepsis and infectious diseases.

7.55 Discuss the factors that put the older adult at a high risk for burn injury.

7.56 Discuss the physiological changes in older people with regard to the effects of medication on the body in terms of drug distribution, metabolism, and excretion.

7.57 Describe the epidemiology in the older population of polypharmacy, drug toxicity, medication noncompliance, dosing errors, and drug sensitivity.

7.58 Discuss the use and effects of commonly prescribed medications for older people.

7.59 Discuss the use of vitamins, herbal medications, and over-the-counter medications and their effects on the older patient, including drug interactions.

7.60 Discuss the assessment, intervention, treatment, and transport of the older patient with complaints related to medication toxicity or medication non-adherence.

7.61 Define elder abuse and neglect and discuss their incidence.

7.62 Discuss the profiles of an at-risk elder and an abuser.

7.63 Describe the techniques used to assess elder abuse and neglect.

7.64 Discuss the proper documentation and reporting of elder abuse and neglect cases.

Unit 8: EMS Operations

COGNITIVE OBJECTIVES

At the completion of this unit, the paramedic will be able to:

8.1 Provide for safety of self, patient and fellow workers.
- Discuss the importance of body substance isolation (BSI).
- Describe the steps the EMT-Paramedic should take for personal protection from airborne and blood borne pathogens.
- Discuss the assessment of scene safety and ways to make the scene safer

8.2 Identify the presence of hazardous materials
- Break down the steps to approaching a hazardous situation.

8.3 Participate in the quality improvement process.
- Define quality improvement and discuss the EMT-Paramedic's role in the process.

8.4 Use physician medical direction for authorization to provide care
- Define medical direction and discuss the EMT-Paramedic's role in the process.
- Discuss online vs. offline medical direction.

8.5 Use body mechanics when lifting and moving a patient
- Relate body mechanics associated with patient care and its impact on the EMT-Paramedic.
- Explain the rationale for properly lifting and moving patients.

8.6 Use methods to reduce stress in self, patient, bystanders and co-workers.
- Recognize signs and symptoms of critical incident stress.
- State possible steps that the EMT-Paramedic may take to help reduce/alleviate stress.

8.7 Obtain consent for providing care
- Define consent and discuss the methods of obtaining consent.
- Discuss the implications for the EMT-Paramedic in patient refusal of transport.
- Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or state provisions regarding EMS application.
- Explain the role of EMS and the EMT-Paramedic regarding patients with DNR orders.
- Explain Ohio's Do Not Resuscitate Comfort Care [DNRCC] laws and rules and their impact on EMS care.

8.8 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.

8.9 Discuss the role of the EMT-paramedic in multiple agency incidents [rescue, weapons of mass destruction (WMD), crime scene]

8.10 Describe warning signs of potentially violent situations.

8.11 Explain emergency evasive techniques for potentially violent situations, including:
- Threats of physical violence.
- Firearms and other weapon encounters.

8.12 Explain EMS considerations for the following types of violent or potentially violent situations:
- Gangs and gang violence.
- Hostage/sniper situations.
- Clandestine drug labs.
- Domestic violence.
- Emotionally disturbed people.

8.13 Given a scenario, in which equipment and supplies have been exposed to body substances, discuss the proper cleaning, disinfection, and disposal of the items.

PSYCHOMOTOR OBJECTIVES

8.14 Working with a partner, move a simulated patient from the ground to a stretcher and properly position the patient on the stretcher.

8.15 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.