

# Summary of Changes to:

Title 15 - Mississippi Department of Health

Part III – Office of Health Protection

Subpart 31 – Bureau of Emergency Medical Services

<b>CHAPTER/PAGE</b>	<b>SECTION</b>
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1.

**Chapter 08**      **EMERGENCY MEDICAL TECHNICIAN ADVANCED LEVEL SUPPORT****100**    **EMT-ADVANCED LEVEL SUPPORT****100.01**    §41-59-5. Establishment and administration of program.

1. The state board of health shall establish and maintain a program for the improvement and regulation of emergency medical services (hereinafter EMS) in the State of Mississippi. The responsibility for implementation and conduct of this program shall be vested in the State Health Officer of the State Board of Health along with such other officers and boards as may be specified by law or regulation.
2. The board shall provide for the regulation and licensing of public and private ambulance service, inspection, and issuance of permits for ambulance vehicles, training and certification of EMS personnel, including drivers and attendants, the development and maintenance of a statewide EMS records program, development and adoption of EMS regulations, the coordination of an EMS communications system, and other related EMS activities.
3. The board is authorized to promulgate and enforce such rules, regulations and minimum standards as needed to carry out the provisions of this chapter.
4. The board is authorized to receive any funds appropriated to the board from the Emergency Medical Services Operating Fund created in Section 41-59-61 and is further authorized, with the Emergency Medical Services Advisory Council acting in an advisory capacity, to administer the disbursement of such funds to the counties, municipalities and organized emergency medical service districts and the utilization of such funds by the same, as provided in Section 41-59-61.
5. The department acting as the lead agency, in consultation with and having solicited advice from the EMS advisory Council, shall develop a uniform nonfragmented inclusive statewide trauma care system that provides excellent patient care. It is the intent of the Legislature that the purpose of this system is to reduce death and disability resulting from traumatic injury, and in order to accomplish this goal it is necessary to assign additional responsibility to the department. The department is assigned the responsibility for creating implementing, and managing the statewide trauma care system. The department shall be designated as the lead agency for trauma care systems development. The department shall develop and administer trauma regulations that include, but are not limited to, The Mississippi Trauma Care System Plan, trauma system standards, trauma center designations, field triage, interfacility trauma transfer, EMS aero medical transportation, trauma data collection, trauma care system

evaluation and management of state trauma systems funding. The department shall take the necessary steps to develop, adopt and implement the Mississippi Trauma Care System Plan and all associated trauma care systems regulations necessary to implement the Mississippi trauma care system. The department shall cause the implementation of both professional and lay trauma educational programs. These trauma educational programs shall include both clinical trauma education and injury prevention. As it is recognized that rehabilitation services are essential for traumatized individuals to be returned to active, productive lives, the department shall coordinate the development of the inclusive trauma system with the Mississippi Department of Rehabilitation Services and all other appropriate rehabilitation services.

6. The State Board of Health is authorized to receive any funds appropriate to the board from the Mississippi Trauma Care System Fund created in Section 41-59-75. It is further authorized, with the Emergency Medical Services advisory Council and the Mississippi Trauma Advisory Committee acting in advisory capacities, to administer the disbursements of such funds according to adopted trauma care system regulations.

*SOURCES: Laws, 1974, ch. 507, § 3; 1982, ch. 344, § 2; 1989, ch. 545, § 1; 1991, ch. 597, § 1; 1992, ch. 491, § 27, Laws, 1998, ch. 429, § 2, eff from and after July 1, 1998.*

*Cross references -*

*General powers and duties of state board of health, see § 41-3-15.*

*Powers and duties of the state board of health and the EMS director to administer disbursements from the emergency medical services operating fund, see § 41-59-61.*

100.02 §41-59-33. Emergency medical technicians; certification.

Any person desiring certification as an emergency medical technician shall apply to the board using forms prescribed by the board. Each application for an emergency medical technician certificate shall be accompanied by a certificate fee to be fixed by the board, which shall be paid to the board. Upon the successful completion of the board's approved emergency medical technical training program, the board shall make a determination of the applicant's qualifications as an emergency medical technician as set forth in the regulations promulgated by the board, and shall issue an emergency medical technician certificate to the applicant.

*SOURCES: Laws, 1974, ch. 507, § 8(3); 1979, ch. 445, § 4; 1982, ch. 345, Section 4, 1991, ch. 606, § 6, eff from and after July 1, 1991.*

100.03 §41-59-35. Emergency medical technicians; period of certification; renewal, suspension or revocation of certificate; use of certain EMT titles without certification prohibited.

1. An emergency medical technician certificate so issued shall be valid for a period not exceeding two (2) years from the date of issuance and may be renewed upon payment of a renewal fee to be fixed by the board, which shall be paid to the board, provided that the holder meets the qualifications set forth in this Chapter 59 and Chapter 60 and rules and regulations promulgated by the board.
2. The board is authorized to suspend or revoke a certificate so issued at any time it is determined that the holder no longer meets the prescribed qualifications.
3. It shall be unlawful for any person, corporation or association to, In any manner, represent himself or itself as an Emergency Medical Technician-Basic, Emergency Medical Technician-Intermediate, Emergency Medical Technician-Paramedic, or Emergency Medical Technician-Driver, or use in connection with his or its name the words or letters of EMT, EMT, paramedic, or any other letters, words, abbreviations or insignia which would indicate or imply that he or it is a Emergency Medical Technician-Basic, Emergency Medical Technician-Intermediate, Emergency Medical Technician-Paramedic, or Emergency Medical Technician-Driver, unless certified in accordance with Chapters 59 and 60 of this title and is in accordance with the rules and regulations promulgated by the board. It is unlawful to employ any uncertified Emergency Medical Technician-Basic, Emergency Medical Technician-Intermediate, or Emergency Medical Technician-Paramedic to provide basic or advance life support services.
4. Any Emergency Medical Technician-Basic, Emergency Medical Technician-Intermediate, Emergency Medical Technician-Paramedic, or Emergency Medical Technician-Driver who violates or fails to comply with these statues or rules and regulations promulgated by the board hereunder shall be subject, after due notice and hearing, to an administrative fine not to exceed One Thousand Dollars (\$1,000.00).

*SOURCES: Laws, 1974, ch. 507, § 8 (4,5); 1979, ch. 445, § 5; 1982, ch. 345, § 5, 1991, ch. 606, § 7, 2001, ch. 542, § 1, eff from and after July 1, 2001.*

100.04 §41-59-37. Temporary ambulance attendant's permit.

The board may, in its discretion, issue a temporary ambulance attendant's permit which shall not be valid for more than one (1) year from the date of issuance, and which shall be renewable to an individual who may or may not meet qualifications established pursuant to this chapter upon determination that such will be in the public interest.

*SOURCES: Laws, 1974, ch. 507, § 8(6), eff from and after passage (approved April 13, 1974).*

100.05 §41-60-13. Promulgation of rules and regulations by state board of health.

1. The Mississippi State Board of Health is authorized to promulgate and enforce rules and regulations to provide for the best and most effective emergency medical care, and to comply with national standards for advanced life support. Notwithstanding any other provision of law, advanced life support personnel may be authorized to provide advanced life support services as defined by rules and regulations promulgated by the state board of health.
2. Rules and regulations promulgated pursuant to this authority shall, as a minimum:
  - a. Define and authorize appropriate functions and training programs for advanced life support trainees and personnel; provided, that all such training programs shall meet or exceed the performance requirements of the current training program for the emergency medical technician-paramedic, developed for the United States Department of Transportation.
  - b. Specify minimum operational requirements which will assure medical control over all advanced life support services.
  - c. Specify minimum testing and certification requirements and provide for continuing education and periodic recertification for all advanced life support personnel.

*SOURCES: Laws, 1979, ch. 488, § 2, eff from and after July 1, 2001.*

101 TRAINING AUTHORITY

101.01 Training Authority for EMT-Advanced Life Support

The Mississippi Vocational-Technical Education Division of the Department of Education, with the cooperation of the Governor's Highway Safety Program, the Mississippi State Department of Health, and the American College of Surgeons-Mississippi Committee on Trauma, and the Mississippi Chapter of the American College of Emergency Physicians, offered the advanced life support training course through the Mississippi Community College System. The guidelines and minimum standards are set forth in order to establish a minimum level of training for the Emergency Medical Technician at the Advanced level. These guidelines and minimum standards shall be met by all Advanced Emergency Medical Technician Courses in the state. The University of Mississippi Medical Center, Department of Emergency Medical Technology, is authorized by the

BEMS to conduct ALS training programs statewide. All advanced life support programs must have the BEMS approval.

#### 101.02 EMT Advanced Life Support Curriculum

EMT-Paramedic curriculum must conform, at minimum, to the National Standard Training Curriculum developed by the United States Department of Transportation and all current revisions as approved for use by the BEMS. Minimum hours required for EMT-Paramedic are: 800 didactic/lab, 200 clinical, 200 field. EMT-Intermediate curriculum shall consist of modules numbers I, II, and III as developed for the United States Department of Transportation under Contract No. DOT-HS-900-089, as well as, the BEMS, EMT-Intermediate defibrillation curriculum. BEMS, the State EMS Medical Director, and the Medical Direction, Training, and Quality Assurance Committee must approve all training curriculums. Minimum hours required for EMT-Intermediate are: 150 didactic, 40 clinical, 40 field. Written permission from the Director of the BEMS must be obtained prior to the start of an EMT-Intermediate course.

#### 101.03 Request for Approval of EMT Advanced Level Training Programs

*Note: A list of BEMS approved EMT Advanced Level training programs will be available at the BEMS office and BEMS web site. ([www.msems.org](http://www.msems.org))*

1. All BEMS approved advanced life support training programs must be accredited by the Committee on Accreditation of Education Programs for the EMS Professions (CoAEMSP). BEMS shall be present for any site visit conducted by the Committee on Accreditation of Education Programs for the EMS Professions (CoAEMSP).
2. Pre-requisites for beginning a new advanced life support program without the existence of an accredited paramedic program.
3. The following requirements are to be met and approved by the BEMS before the approval will be issued to begin the programs instructional component:
  - a. Full time program director who's position is delineated by the Standards and Guidelines for an Accredited Educational Program For the Emergency Medical Technician-Paramedic, B.1.a.1. This must be verified by a copy of a contractual agreement to the BEMS.
  - b. A Medical Director who's position is delineated by the Standards and Guidelines for an Accredited Educational Program For the Emergency Medical Technician-Paramedic, B.1.a.2. This must be verified by a copy of a contractual agreement to the BEMS.

- c. Instructional Faculty who's qualifications will be delineated by the Standards and Guidelines for an Accredited Educational Program For the Emergency Medical Technician-Paramedic, B.1.b. This must be verified by a copy of a contractual agreement to the BEMS.
  - d. Financial Resources will be adequate as described by the Standards and Guidelines for an Accredited Educational Program For the Emergency Medical Technician-Paramedic, B.2. This must be verified by a letter from administration.
  - e. Physical Resources as delineated by the Standards and Guidelines for an Accredited Educational Program For the Emergency Medical Technician-Paramedic, B.3.a. and b. This will be verified by a site visit by a staff member of BEMS.
  - f. Clinical Resources as delineated by the Standards and Guidelines for an Accredited Educational Program For the Emergency Medical Technician-Paramedic, B.4.and B.5. This must be verified by a copy of a contractual agreement from each site to the BEMS.
4. Before a consecutive class will be authorized to commence, the Self Study, as specified by Committee on Accreditation of Education Programs for the EMS Professions (CoAEMSP) formerly known as the Joint Review Committee on Educational Programs for the EMT Paramedic (JRCEMT-P), is to be completed and submitted to the CoAEMSP's administrative office with the appropriate fees. To maintain training authority, the programs must submit:
- a. reports of training activities as specified by BEMS; copies of any and all written communications to and from the school and the Committee on Accreditation of Education Programs for the EMS Professions (CoAEMSP) and/or CAAHEP, will be submitted within (10) ten working days from submitting or receiving to BEMS.
  - b. program updates and revisions as specified by BEMS. All reports and updates must be submitted to the BEMS no later than June 30 of each year.

*NOTE: The University of Mississippi Medical Center, Department of Emergency Medical Technology, is authorized by the BEMS to conduct ALS training programs statewide.*

#### 101.04 EMT Advanced Training Programs

- 1. The length of the EMT-Intermediate course shall not be less than 150 hours didactic, 40 hours of hospital clinical and 40 hours of pre-hospital field clinical. The length of the EMT-Paramedic course shall not be less

that 800 hours didactic/lab, 200 hours of hospital clinical and 200 hours of pre-hospital field clinical.

2. The complete EMT Advanced Level educational programs must be designed to provide the knowledge that will allow the student to arrive at decisions based on accepted medical knowledge and that will permit professional growth.
3. The program shall consist of, at minimum, three components: didactic instruction, hospital clinical lab and practical evaluation in pre-hospital field clinicals under a medical command authority. The time required to complete each component may vary, in part being dependent on the ability of students to demonstrate their mastery of the educational objectives by written, verbal, and practical examination.
4. The program shall maintain on file, for each component of the curriculum, a reasonable comprehensive list of the terminal performance objectives to be achieved by the student. These objectives must delineate mastery in all competencies identified, including curriculum documentation, measurement techniques used, and the records maintained on each student's work.
5. The student must be informed about the methods and data used in determining grades and about the mechanism for appeal. Conditions governing dismissal from the program should be clearly defined in writing and distributed to the student at the beginning of the training program.
6. Evidence of student competence in achieving the educational objectives of the program must be kept on file. Documentation must be in the form of both written and practical examinations.
7. Classroom, clinical and field faculty must also prepare written evaluations on each student. Documentation must be maintained identifying the counseling given to individual students regarding their performance and the recommendations maintained identifying the counseling given to individual students regarding their performance and the recommendations made to correct inadequate performance. Documentation on whether or not the student followed through on faculty recommendations should also be maintained. Instruction should be supported by performance assessments.
8. Faculty must be presented with the program's educational objectives for uses in preparation of lectures and field practicals. The course coordinator must ensure that stated educational objectives are covered and should answer any questions from students or clarify information presented by a lecturer.

a. Didactic instruction:

- i. Lectures, discussions, and demonstrations presented by physicians and others who are competent in the field.
  - b. Clinical and Other Settings:
    - i. Instruction and supervised practice of emergency medical skills. Practice should not be limited to the development of practical skills alone, but should include knowledge and techniques regarding patient evaluations, development of patient rapport, and care for and understanding of the patient's illness. Documentation must be maintained for each student's performance in all of the various areas. A frequent performance evaluation is recommended.
  - c. A Field Experience:
    - i. The field internship is a period of supervised experience in a structured overall EMS system. It provides the student with a progression of increasing patient care responsibilities which proceed from observation to working as a member of a team. There must be a provision for physician evaluation of student progress in acquiring the desired skills to be developed through this experience. The EMT Advanced Level student must have telecommunication with medical command authority. The initial position of the student on the EMS care team should be that of observer only utilizing limited learned skills. After progression through record keeping and participation in actual patient care, the student must eventually function as the patient care leader. However, the student must not be placed in the position of being a necessary part of the patient care team. The team must be able to function without the necessary use of a student who may be present.
9. General courses and topics of study must be achievement oriented and shall provide students with:
  - a. The ability to recognize the nature and seriousness of the patient's condition or extent of injuries to access requirements for emergency medical care;
  - b. The ability to administer appropriate emergency medical care based on assessment findings of the patient's condition;
  - c. Lift, move, position and otherwise handle the patient to minimize discomfort and prevent further injury; and,
  - d. Perform safely and effectively the expectations of the job description.

### Operational Policies

1. Student matriculation practices and student and faculty recruitment should be non-discriminatory with respect to race, color, creed, sex or national origin. Student matriculation and student and faculty recruitment practices are to be consistent with all laws regarding non-discrimination. It is recommended that records be kept for a reasonable period of time on the number of students who apply and the number who successfully complete training.
  - a. Announcements and advertising about the program shall reflect accurately the training being offered.
  - b. The program shall be educational and students shall use their schedule time for educational experiences.
  - c. Health and safety for students, faculty, and patients shall be adequately safeguarded.
  - d. Cost to the student shall be reasonable and accurately stated and published.
  - e. Policies and process for student withdrawal and refunds on tuition on fees shall be fair, and made known to all applicants.

#### 101.05 Curriculum Description - EMT-Intermediate

1. Instructional content of the educational program should include the successful completion of stated educational objectives that fulfill local and regional needs and that satisfy the requirements of this curriculum section. The curriculum should be organized to provide the student with knowledge required to understand fully the advanced skills that are taught in this program. It is important not to lose sight of the original purpose of the EMT Intermediate level. The curriculum includes only the portions of the NSTC for the EMT Paramedic which are relevant for this level of care. Students should have an opportunity to acquire clinical experience and practical skills related to the emergency medical care of these patients. Students should also understand the ethical and legal responsibilities they assume as students are being prepared to assume as graduates.
  - a. MS EMT-I training shall also include the instructor lesson plan for EMT-I National Standard Training Curriculum (NSTC), Defibrillation Section. Additionally, it should be noted that current AHA Standards and Guidelines for CPR and ECC will supersede NSTC.
  - b. The length of the EMT-I defibrillation course shall not be less than 16 hours (12 hours didactic and 4 hours practical).

- c. The educational program should be designed to provide the knowledge that will allow the student to arrive at decisions based on accepted medical knowledge and that will permit the professional growth of the EMT-Intermediate.
- d. The program should consist of three components: didactic instruction, clinical instruction, and supervised field experience in an advanced life support unit which functions under a medical command authority. The time required to complete each component may vary, in part being dependent upon the ability of students to demonstrate their mastery of the educational objectives by written, verbal, and practical examination.
- e. The program should maintain on file for each component of the curriculum a reasonable comprehensive list of the terminal performance objectives to be achieved by the student. These objectives should delineate mastery in all competencies identified, including curriculum documentation, measurement techniques used, and the records maintained on each student's work.
- f. The student should be informed about the methods and data used in determining grades and about the mechanism for appeal. Conditions governing dismissal from the program should be clearly defined in writing and distributed to the student at the beginning of the training program.
- g. Evidence of student competence in achieving the educational objectives of the program should be kept on file. Documentation should be in the form of both written and practical examinations.
- h. Classroom, clinical, and field faculty should also prepare written evaluations on each student. Documentation should be maintained identifying the counseling given to individual students regarding their performance and the recommendations made to correct inadequate performance. Documentation on whether or not the student followed through on faculty recommendations should also be maintained. Instruction should be supported by performance assessments.
- i. Faculty should be presented with the program's educational objectives for uses in preparation of lectures and clinical and field practice. The course coordinator should ensure that stated educational objectives are covered and should answer any questions from students or clarify information presented by a lecturer.
- j. Didactic instruction:
  - i. Lectures, discussions, and demonstrations presented by physicians and others who are competent in the field.

- k. Clinical (in-hospital) and other settings:
  - i. Instruction and supervised practice of emergency medical skills in critical care units, emergency departments, operating rooms and other settings as appropriate. Supervision in the hospital can be provided either by hospital personnel, such as supervisory nurses, department supervisors, and physicians, or by the program instructor. The hospital practice should not be limited to the development of practical skills alone, but should include knowledge and techniques regarding patient evaluations, pathophysiology of medical and surgical conditions, development of patient rapport, and care for and understanding of the patient's illness. Documentation should be maintained for each student's performance in all of the various areas. A frequent performance evaluation is recommended.
- l. Field Experience:
  - i. The field internship is a period of supervised experience on an intensive care vehicle. It provides the student with a progression of increasing patient care responsibilities which proceed from observation to working as a member of a team. There should be a provision for physician evaluation of student progress in acquiring the desired skills to be developed through this experience. The intensive care vehicle should have telecommunication with medical command authority. The student must be under the direct supervision and observation of a physician, or nurse with experience in the pre-hospital ALS setting, or an EMT-Paramedic approved by the medical command authority. The experience should occur within an emergency medical care system that involves EMT-Paramedics in the provision of advanced emergency medical services and that maintains a defined program of continuing education for its personnel. The initial position of the student on the pre-hospital care team should be that of observer. After progressing through record keeping and participation in actual patient care, the student should eventually function as the patient care leader. However, the student should not be placed in the position of being a necessary part of the patient care team. The team should be able to function without the necessary use of a student who may be present. The ALS Provider being utilized should have established a continuing education program for its field personnel that adequately maintains an acceptable level of required skills and knowledge. The ALS Provider should function under communications with a medical control authority that provides pre-hospital direction of the patient care. The ALS Provider should also have a program to provide prompt review of pre-hospital care provided by the EMT-Intermediate.

- m. General courses and topics of study must be achievement oriented and shall provide students with:
- n. The necessary knowledge, skills, and attitudes to perform accurately and reliably the functions and tasks stated and implied in the "Description of the Occupation" found in the DOT, NSTC Course Guide.
- o. Comprehensive instruction which encompasses:
  - i. Orientation to the occupation
    - i. Responsibilities of the role
    - ii. Inter-professional responsibilities
    - iii. Career pathways in emergency medical services
    - iv. Development of interpersonal skills
  - ii. Awareness of one's abilities and limitations
    - i. Ability to accept direction
    - ii. Awareness of impact to others
    - iii. Willingness and ability to communicate with others
    - iv. Ability to build a working relationship with patients and peers
    - v. Ability to function as a team member and/or team leader
    - vi. Ability to accept patients as they present themselves, without passing judgments
    - vii. Ability to involve others significant to the patient
    - viii. Ability to respond to a patient's sense of crisis
  - iii. Development of knowledge and clinical skills appropriate for this level of care
    - i. Roles and responsibilities of the EMT-Intermediate
    - ii. Emergency medical services systems and medical control

- iii. Medical/legal consideration
- iv. Communication procedures
- v. Medical terminology
- vi. Patient assessment including both a primary and secondary survey
- vii. Airway management procedures
- viii. Assessment and management of shock

*NOTE: The following curriculum must be taught in addition to that listed above.*

#### 101.06 EMT-I - Curriculum For Defibrillation

Introduction: The student must have successfully completed the following sections prior to participating in this section:

- Section 1. Roles and Responsibilities
- Section 2. EMS Systems
- Section 3. Medical/Legal Considerations
- Section 4. Medical Terminology
- Section 5. EMS Communications
- Section 6. General Patient Assessment and Initial Management

Because of the high number of pre-hospital deaths attributed to coronary artery disease, this is a subject that continues to receive great emphasis in the training of the EMT-I. This is particularly true in light of recent data which suggests that early defibrillation makes a significant difference in the outcome of patients suffering from ventricular fibrillation.

#### Overview

- 1. Anatomy and Physiology of the Cardiovascular System
  - a. Anatomy of the Heart
  - b. Physiology of the Heart
  - c. Electrophysiology (Basics)

2. Assessment of the Cardiac Patient
  - a. Common Chief Complaints and History
  - b. Significant Past Medical History
  - c. Physical Examination Pertinent to the Cardiac Patient
3. Pathophysiology and Management
  - a. Pathophysiology of Atherosclerosis
  - b. Specific Conditions Resulting from Atherosclerosis Heart Disease
    - i. Angina Pectoris
    - ii. Acute Myocardial Infarction
    - iii. Cardiac Arrest/Sudden Death
4. Dysrhythmia Recognition
  - a. Introduction to ECG Monitoring
  - b. Rhythm Strip Analysis
  - c. Introduction to Dysrhythmias
  - d. Dysrhythmias Originating in the Ventricles
5. Techniques of Management
  - a. CPR
  - b. ECG Monitoring
  - c. Defibrillation

### Objectives

At the completion of this section the student will be able to:

1. Describe the size, shape, and location/orientation (in regard to other body structures) of the heart muscle.
2. Identify the location of the following structures on a diagram of the normal heart:
  - a. Pericardium

- b. Myocardium
  - c. Epicardium
  - d. Right and left atria
  - e. Interatrial Septum
  - f. Right and left ventricles
  - g. Interventricular septum
  - h. Superior and inferior vena cava
  - i. Aorta
  - j. Pulmonary vessels
  - k. Coronary arteries
  - l. Tricuspid valve
  - m. Mitral valve
  - n. Aortic valve
  - o. Pulmonic valve
  - p. Papillary muscles
  - q. Chordae Tendineae
3. Describe the function of each structure listed in Objective #2.
  4. Describe the distribution of the coronary arteries and the parts of the heart supplied by each artery.
  5. Differentiate the structural and functional aspects of arterial and venous blood vessels.
  6. Define the following terms that refer to cardiac physiology:
    - a. Stroke volume
    - b. Starling's Law
    - c. Preload
    - d. Afterload

- e. Cardiac output
  - f. Blood pressure
7. Describe the electrical properties of the heart.
8. Describe the normal sequence of electrical conduction through the heart and state the purpose of this conduction system.
9. Describe the location and function of the following structures of the electrical conduction system:
  - a. SA node
  - b. Internodal and Interatrial tracts
  - c. AV node
  - d. Bundle of His
  - e. Bundle branches
  - f. Purkinje fibers
10. Define cardiac depolarization and repolarization and describe the major electrolyte changes that occur in each process.
11. Describe an ECG
12. Define the following terms as they relate to the electrical activity of the heart:
  - a. Isoelectric line
  - b. QRS complex
  - c. P wave
13. Name the common chief complaints of cardiac patients.
14. Describe why the following occur in patients with cardiac problems:
  - a. Chest pain or discomfort
  - b. Shoulder, arm, neck, or jaw pain/discomfort
  - c. Dyspnea
  - d. Syncope

- e. Palpitations/abnormal heart beat
15. Describe those questions to be asked during history taking for each of the common cardiac chief complaints.
  16. Describe the four most pertinent aspects of the past medical history in a patient with a suspected cardiac problem.
  17. Describe those aspects of the physical examination that should be given special attention in the patient with suspected cardiac problems.
  18. Describe the significance of the following physical exam findings in a cardiac patient:
    - a. Altered level of consciousness
    - b. Peripheal edema
    - c. Cyanosis
    - d. Poor capillary refill
    - e. Cool, clammy skin
  19. State the numerical values assigned to each small and large box on the ECG graph paper for each axis.
  20. Define ECG artifact and name the causes.
  21. State the steps in the analysis format of ECG rhythm strips.
  22. Describe two common methods for calculating heart rate on an ECG rhythm strip and the indications for using each method.
  23. Name 8 causes of dysrhythmias.
  24. Describe proper use of the following devices used for defibrillation:
    - a. manual monitor/defibrillator
    - b. semi-automatic monitor/defibrillator
    - c. automatic monitor/defibrillator or Automatic defibrillator
  25. Demonstrate on an adult mannequin, the technique for single and two-person CPR according to American Heart Association standards.
  26. Demonstrate on an infant mannequin, the technique for infant CPR according to American Heart Association standards.

27. Demonstrate proper application of ECG chest electrodes and obtain a sample Lead II.
28. Demonstrate the proper use of the defibrillator paddles electrodes to obtain a sample Lead II rhythm strip.
29. Demonstrate how to properly assess the cause of poor ECG tracing.
30. Demonstrate correct operation of a monitor-defibrillator to perform manual defibrillation on an adult and infant.
31. Correctly identifies and treats within the scope of their practice the following dysrhythmias:
  - a. asystole
  - b. v-fib
  - c. pulseless v-tach
  - d. normal sinus rhythm
  - e. EMD
  - f. artifact
  - g. PVC recognition

101.07 Curriculum Description - EMT-Paramedic

1. Instructional content of the educational program shall include the successful completion of stated educational objectives that fulfill local and regional needs and that satisfy the requirements of this curriculum section. The curriculum shall be organized to provide the student with knowledge of the acute, critical changes in physiology, and in psychological, and clinical symptoms as they pertain to the pre-hospital emergency medical care of the infant, child, adolescent, adult, and geriatric patient. Students shall have an opportunity to acquire clinical experience and practice skills related to the emergency medical care of these patients. Students shall also understand the ethical and legal responsibilities which they assume as students and which they are being prepared to assume as graduates.
2. The educational program shall be designed to provide the knowledge that will allow the student to arrive at decisions based on accepted medical knowledge and that will permit the professional growth of the EMT-Paramedic.

3. The program shall consist of three components: didactic instruction, clinical instruction, and supervised field internship in an advanced life support unit that functions under a medical command authority. The time required to complete each component may vary, in part being dependent upon the ability of students to demonstrate their mastery of the educational objectives by written, verbal, and practical examination.
4. The program shall maintain on file for each component of the curriculum a reasonably comprehensive list of the terminal performance objectives to be achieved by the student. These objectives shall delineate mastery in all competencies identified, including curriculum documentation, measurement techniques used, and the records maintained on each student's work.
5. The student shall be informed about the methods and data used in determining grades, about pass/fail criteria, and about the mechanism for appeal. Conditions governing dismissal from the program shall be clearly defined in writing and distributed to the student at the beginning of the training program.
6. Evidence of student competence in achieving the educational objectives of the program shall be kept on file. Documentation shall be in the form of both written and practical examinations.
7. Classroom, clinical, and field faculty shall also prepare written evaluations on each student. Documentation shall be maintained identifying the counseling given to individual students regarding their performance and the recommendations made to correct inadequate performance. Documentation identifying whether or not the student followed through on faculty recommendations shall also be maintained.
8. Instruction shall be supported by performance assessments. Faculty shall be presented with the program's educational objectives for use in preparation of lectures and clinical and field practice. The course coordinator shall insure that stated educational objectives are covered and shall answer any questions from students or clarify information presented by a lecturer.
  - a. Didactic instruction -
    - i. Lectures, discussion, and demonstrations presented by physicians and others who are competent in the field.
  - b. Clinical (in-hospital) and other settings -
    - i. Instruction and supervised practice of emergency medical skills in critical care units, emergency departments, OB units, operating

rooms, psychological crisis intervention centers, and other settings as appropriate.

- ii. Supervision in the hospital can be provided either by qualified hospital personnel, such as supervisory nurses, department supervisors and physicians, or by paramedic or nurse program instructors. The hospital practice shall not be limited to the development of practical skills alone, but shall include knowledge and techniques regarding patient evaluations, pathophysiology of medical and surgical conditions, development of patient rapport, and care for and understanding of the patient's illness.
- iii. Documentation shall be maintained for each student's performance in all of the various areas. A frequent performance evaluation is recommended.

9. Field Internship -

- a. "The field internship is a period of supervised experience on an intensive care vehicle which provides the student with a progression of increasing patient care responsibilities which proceeds from observation to working as a team member. There shall be a provision for physician evaluation of student progress in acquiring the desired skills to be developed through this experience."
- b. The intensive care vehicle shall have communication with medical command authority and equipment and drugs necessary for advanced life support. The student must be under the direct supervision and observation of a physician or nurse with experience in the pre-hospital ALS setting, or an EMT-Paramedic approved by the medical command authority.
- c. The experience shall occur within an emergency medical care system that involves EMT-Paramedics in the provision of advanced emergency medical services and that maintains a defined program of continuing education for its personnel.
- d. "The initial position of the student on the pre-hospital care team shall be that of observer. After progressing through record keeping and participation in actual patient care, the student shall ultimately function as the patient care leader. However, the student shall not be placed in the position of being a necessary part of the patient care team. The team should be able to function without the necessary use of a student who may be present."
- e. The ALS Provider being used shall have established a continuing education program for its field personnel that adequately maintains an acceptable level of required skills and knowledge.

- f. The ALS Provider shall function under direct communications with a medical control authority that provides pre-hospital direction of the patient care.
  - g. The ALS Provider shall also have a program to provide prompt review of pre-hospital care provided by the EMT-Paramedic.
10. General courses and topics of study must be achievement oriented and shall provide students with:
- a. The necessary knowledge, skills, and attitudes to perform accurately and reliably the functions and tasks stated and implied in the "Description of the Occupation" found in the DOT, NSTC Course Guide.
11. Comprehensive instruction which encompasses:
- a. Orientation to the occupation
    - i. Responsibilities of the occupation
    - ii. Professional responsibilities
    - iii. Career pathways in emergency medical services
    - iv. Legal responsibilities
  - b. Development of interpersonal skills
    - i. Awareness of one's abilities and limitations
    - ii. Ability to accept direction
    - iii. Awareness of impact on others
    - iv. Willingness and ability to communicate with others
    - v. Ability to build a working relationship with patients and peers
    - vi. Ability to function as a team member and/or team leader
    - vii. Ability to accept patients as they present themselves, without passing judgment
    - viii. Ability to involve others significant to the patient
    - ix. Ability to respond to a patient's sense of crisis
12. Development of clinical assessment skills

- a. Ability to obtain information rapidly by talking with the patient and by physical examination; by interviewing others; and from observation of the environment
  - b. Ability to organize and interpret data rapidly
  - c. Ability to communicate concisely and accurately
  - d. Ability to understand pertinent anatomy, physiology, pharmacology, microbiology, and psychology
13. Development of clinical management and technical skills (from American Medical Association Joint Review Committee Essential Guidelines for EMT-Paramedic Training Programs) relating to the assessment and emergency treatment of:
- a. Medical Emergencies including:
    - i. Respiratory System (as addressed in didactic objectives), Cardiovascular system (as addressed in didactic objectives), Endocrine system (as addressed in didactic objectives), Nervous system (as addressed in didactic objectives), Gastrointestinal system (as addressed in didactic objectives), Toxicology (as addressed in didactic objectives), Infectious diseases (as addressed in didactic objectives), Environmental problems (as addressed in didactic objectives), Problems by age extremes i.e., pediatrics, neonatal, geriatrics (as addressed in didactic objectives), Shock (as addressed in didactic objectives), Central nervous system (as addressed in didactic objectives).
  - b. Traumatic Emergencies including:
    - i. Central nervous system (as addressed in didactic objectives), Neck (as addressed in didactic objectives), Thorax (as addressed in didactic objectives), Abdomen (as addressed in didactic objectives), Extremities (as addressed in didactic objectives), Skin (as addressed in didactic objectives), Environmental (as addressed in didactic objectives), Shock (as addressed in didactic objectives)
  - c. Obstetrical/Gynecological Emergencies (as addressed in didactic objectives),
  - d. Behavioral Emergencies (as addressed in didactic objectives)
  - e. Stress (as addressed in didactic objectives)
  - f. Psychiatric disease (as addressed in didactic objectives)

- g. Emotional dysfunction (as addressed in didactic objectives)
  - h. Medical personnel communications (as addressed in didactic objectives)
  - i. Clinical/Medical equipment (as addressed in didactic objectives and by institution or service policy).
14. Development of technical skills:
- a. associated with biomedical communications, including telemetry, record keeping, use of equipment, emergency and defensive driving, and principles and techniques of extrication.
15. Optional skills shall be included in all EMT-Paramedic training programs.

101.08 EMT Advanced Level classes, class approved

EMT Advanced Level class approval forms can be requested from the BEMS or be completed on the BEMS website. ([www.msems.org](http://www.msems.org)) Credentialed EMT Advanced Level instructors should complete the class approval form and submit to the BEMS, at minimum, thirty (30) calendar days prior to the first day of class. The BEMS will assign a class number to all approved requests and return to the credentialed EMT Advanced Level instructor. Incomplete paperwork will be returned without action.

101.09 EMT Advanced Level classes, initial roster

Initial rosters shall be completed by the credentialed EMT Advanced Level instructor immediately following the second meeting of the class. Initial roster forms can be obtained from the BEMS or be completed on the BEMS website. ([www.msems.org](http://www.msems.org)) A final roster for full or refresher EMT Advanced Level class will not be accepted without an initial roster on file with the BEMS.

101.10 EMT Advanced Level classes, final roster

Final rosters shall be completed by the credentialed EMT Advanced Level instructor immediately following the end of a full EMT Advanced Level or EMT Intermediate or Paramedic Refresher class. The final roster shall be inclusive of all students on the initial roster. The final roster will note students who withdrew, failed, and completed the EMT Advanced Level class. The final roster form can be obtained from the BEMS or be completed on the BEMS website. ([www.msems.org](http://www.msems.org)) Students successfully completing the class will not be allowed to test National Registry until a final roster is on file with the BEMS.

101.11 EMT Advanced Level Training Programs, minimum admittance criteria

1. Must be a Mississippi certified EMT-Basic
2. Must successfully pass a re-test of EMT-Basic skills and knowledge.
3. Must provide past academic records for review by an admissions committee (may or may not be faculty members).
4. Completion of 8 semester hours of human anatomy and physiology (A&P I and II with labs) from an accredited post-secondary school. Minimum average of C or higher must be obtained. Human anatomy and physiology may be taken as prerequisite or co-requisite courses.

101.12 EMT Advanced Level Refresher Training

1. EMT Intermediate Refresher training shall consist of: Successful completion of the EMT-Basic refresher course as outlined previously and successful completion of a formal 14 hour DOT EMT Intermediate refresher training program (must include 2 hours of defibrillation refresher training). Successful completion of Division 1 and 2 of the EMT Paramedic Curriculum will satisfy this requirement.
2. EMT Paramedic Refresher Block training shall consist of: Successful completion of a formal MSDH, BEMS DOT EMT Paramedic Refresher Training Program. An ACLS course is applicable toward this section within the appropriate blocks and completion of the appropriate terminal competencies.
3. Written permission from BEMS must be obtained prior to the start of a EMT Advanced refresher course. Instructors should complete the class approval form and submit to BEMS, at minimum, thirty (30) calendar days prior to the first day of class.
4. EMT Advanced refresher training must be accomplished by all certified EMT Advanced during their National Registry certification period.

*Note: All EMT-Paramedics trained under the EMT-Paramedic curriculum prior to 1999 must complete a MSDH, BEMS approved 72 hour transitional course.*

101.13 Prerequisites to certification as an EMT Advanced Level (training obtained in Mississippi).

1. Age of at least 18 years.
2. Completion of the Board's approved Emergency Medical Technician Intermediate or Paramedic Training Program (Note: This includes passage of the National Registry EMT-I or EMT-P examination).

3. Competition of a BEMS approved EMT-I defibrillation course and passage of the state defibrillation exam (applicable to EMT-Intermediate only), or equivalent with MSDH, BEMS approved terminal competencies (ACLS may be substituted for the EMT-I defibrillation course, but applicant must still pass the state defibrillation exam.)
4. Must meet all Mississippi criteria for EMT Basic certification.
5. Verification of medical control (Jurisdictional Medical Control Agreement)

*Note: All EMT-Paramedics trained under the EMT-Paramedic curriculum prior to 1999 must complete a MSDH, BEMS approved 72 hour transitional course.*

#### 101.14 Prerequisites to certification (training obtained in another state)

1. Age of at least 18 years.
2. An applicant must demonstrate a need for reciprocity by submitting a Jurisdictional Medical Control Agreement from a licensed ambulance service or a facility providing Advanced life support service indicating the applicant is presently employed or will be employed upon moving to the state.
3. Completion of an EMT-Intermediate or EMT-Paramedic program (Advanced level), which meets the guidelines of the national standard curriculum for EMT-I or EMT-P. A copy of the program curriculum and educational objectives must be submitted to and approved by the BEMS.
4. Applicant must be registered as an EMT-Intermediate or EMT-Paramedic by the National Registry of EMTs. This is documented by submitting a copy of the National Registry wallet card to the BEMS. Must meet all Mississippi criteria for EMT-B certification.

*Note: All EMT-Paramedics trained under the EMT-Paramedic curriculum prior to 1999 must complete a MSDH, BEMS approved 72 hour transitional course.*

*Note: The Mississippi BEMS maintains the right to refuse reciprocity to any EMT-Intermediate and EMT-Paramedic if the submitted curriculum does not meet the guidelines of the national standard curriculum and those required by the state of Mississippi.*

## 102 EMT ADVANCED CERTIFICATION

### 102.01 EMT-Advanced Certification

1. Any person desiring certification as an EMT-Advanced shall apply to BEMS using forms provided (Application for state certification)
2. All certification applications must be accompanied by a fee fixed by the Board, which shall be payable to the Board. Also include copy of current National Registry card and a Jurisdictional Medical Control Agreement.
3. The BEMS may withhold or deny an application for certification for a like period of time equal to the period of time under which a person failed to comply. Mississippi requires that all EMT-I/P maintain current registration with the National Registry of Emergency Medical Technicians.

#### 102.02 EMT-Advanced Level Re-certification

1. Any person desiring re-certification as an EMT- I/P shall apply to BEMS using forms provided (Application for state certification)
2. All re-certification applications must be accompanied by a fee fixed by the Board, which shall be payable to the Board. Also include copy of current National Registry card equivalent to the level of re-certification requested and a Jurisdictional Medical Control Agreement (JMCA). (Jurisdictional Medical Control Agreements are valid only for the certification period in which they are submitted. Therefore, all EMT-Intermediates and EMT-Paramedics recertifying must complete and resubmit a JMCA for each licensed provider for which they function.)
3. All EMT's failing to re-certify with BEMS on or before the expiration date of his/her certification period will be considered officially expired.
4. BEMS may withhold or deny an application for re-certification for a like period of time equal to the like period of time under which a person fails to comply.

*Note: All EMT-Paramedics trained under the EMT-Paramedic curriculum prior to 1999 must complete a MSDH, BEMS approved 72 hour transitional course.*

*Note: All EMT-Paramedics trained prior to 1991 or trained in another state must provide evidence of training in all optional skills identified by the BEMS. This training must be obtained through a state approved training program.*

#### 102.03 EMT Advanced Level, Grounds for Suspension or Revocation.

The BEMS may suspend or revoke a certificate so issued at any time it is determined that the holder no longer meets the prescribed qualifications.

1. Fraud or any mis-statement of fact in the procurement of any certifications or in any other statement of representation to the Board or its representatives.
2. Gross negligence.
3. Repeated negligent acts.
4. Incompetence.
5. Disturbing the peace while on duty
6. Disregarding the speed regulations prescribed by law while on duty.
7. Failure to carry the BEMS issued certification card while on duty or failure to wear appropriate identification as approved by the BEMS.
8. Failure to maintain current registration by the National Registry of EMTs.
9. Failure to maintain all current EMT-Advanced training standards as required by the BEMS.
10. The commission of any fraudulent dishonest, or corrupt act which is substantially related to the qualifications, functions, and duties of pre-hospital personnel.
11. Conviction of any crime which is substantially related to the qualification, functions, and duties of pre-hospital personnel. The record of conviction or certified copy thereof will be conclusive evidence of such conviction.
12. Violating or attempting to violate directly or indirectly, or assisting in or abetting the violation of, or conspiring to violate, any provision of this part of the regulations promulgated by the BEMS, pertaining to pre-hospital personnel.
13. Violating or attempting to violate any federal or state statute or regulation which regulates narcotics, dangerous drugs, or controlled substances.
14. Addiction to, excessive use of, or misuse of, alcoholic beverages, narcotics, dangerous drugs, or controlled substances.
15. Functioning outside the supervision of medical control in the field care system operating at the local level, except as authorized by certification and license issued to the ALS provider.
16. Permitting, aiding or abetting an unlicensed or uncertified person to perform activities requiring a license or certification.

17. Suspension or revocation of any BEMS issued certification may effect other BEMS issued certifications at all levels.
18. Failure to comply with the requirements of a Mississippi EMS scholarship program.
19. Failure to comply with an employer's request for drug and alcohol testing.

### 103 OCCUPATION AND COMPETENCY OF THE EMT ADVANCED

#### 103.01 Description of the Occupation and Competency of the EMT-Advanced

1. "The Emergency Medical Technician-Intermediate or Emergency Medical Technician-Paramedic (EMT-I/P) is qualified in advanced emergency care and services by a competency-based training program of clinical, didactic, and practice instruction and by a field internship. Competencies include but are not limited to the recognition, assessment, and management of medical emergencies under the direction of a physician."
2. "An EMT-I is a person who has successfully completed both a EMT-B and an EMT-I training program curriculum that shall consist of modules numbers I, II, III as developed for the United State Department of Transportation under Contract No. DOT-HS-900-089 as well as the MSDH, BEMS EMT-Intermediate defibrillation curriculum and is certified or licensed.
3. An EMT-P is a person who has successfully completed both a EMT-B and an EMT-P training program and is certified. The EMT-I or EMT-P training programs are programs of instruction which equal or exceed the educational goals and objectives of the National Standard Emergency Medical Technician - Intermediate or Paramedic Course."
4. "Competency, knowledge, awareness of one's abilities and limitations, the ability to relate with people, and a capacity for calm and reasoned judgment while under stress are essential attributes of the EMT-I and EMT-P. The EMT-I and EMT-P respects the individuality and privacy of patients and their family members."

#### 103.02 Competency of the EMT-Intermediate

1. Given the knowledge, skills, and field experience, the EMT-I is competent in:
  - a. Recognizing a medical emergency; assessing the situation managing emergency care and, if needed, extrication; coordinating his efforts with those of other agencies involved in the care and transportation of

the patient; and establishing rapport with the patient and significant others to decrease their state of crisis.

- b. Assigning priorities of the emergency treatment and recording and communicating data to the designated medical command authority.
- c. Initiating and continuing emergency medical care under medical control including the recognition of presenting conditions and initiation of appropriate invasive and non-invasive therapy.
- d. Exercising personal judgment in case of interruption in medical direction caused by communication failure or in case of immediate life-threatening conditions. (Under these circumstances, provides such emergency care as has been specifically authorized in advance.)

#### 103.03 Competency of the EMT-Paramedic

1. Given the knowledge, skills, and field experience, the EMT-P is competent in:
  - a. Recognizing a medical emergency; assessing the situation; managing emergency care and, if needed, extrication; coordinating his efforts with those of other agencies involved in the care and transportation of the patient; and establishing rapport with the patient and significant others to decrease their state of crisis.
  - b. Assigning priorities of emergency treatment and recording and communicating data to the designated medical command authority.
  - c. Initiating and continuing emergency medical care under medical control, including the recognition of presenting conditions and initiation of appropriate invasive and noninvasive therapies (e.g., surgical and medical emergencies, airway and respiratory problems, cardiac dysrhythmias, cardiac pulmonary arrest, and psychological crises), and assessing the response of the patient to that therapy.
  - d. Exercising personal judgment in case of interruption in medical direction caused by communications failure or in cases of immediate life-threatening conditions. (Under these circumstances, the EMT-P provides such emergency care as has been specifically authorized in advance.)

## 104 PERFORMANCE STANDARDS FOR EMT-ADVANCED LEVELS

#### 104.01 Performance Standards for Emergency Medical Technician-Advanced Levels.

The EMT-Intermediate and EMT-Paramedic who functions within the State of Mississippi, must be able to demonstrate the following skills to the satisfaction of the EMS medical director and the BEMS, State Department of Health, to meet criterion established for advanced life support personnel.

The skills listed herein are in addition to those performed by the EMT-Basic. Some of the skills are restricted to performance by EMT-Paramedics. Others may be performed by EMT-Intermediates as well.

Skills preceded by an asterisk (\*) indicate those restricted to EMT-P's. No markings indicate that the skill may be performed by both levels of ALS personnel.

It should be noted that utilization of some of the more specialized advanced skills require special approval by the medical director each time they are attempted.

1. Perform an appropriate patient assessment, including: history taking a chief complaint, pertinent history of the present illness and past medical history). Physical examination, including: assessment of vital signs, including pulse, blood pressure, and respirations. Trauma-oriented and medically oriented head-to-toe surveys, including, but not limited to:
  - a. inspection of the chest and auscultation of heart and lung sounds
  - b. inspection of the abdomen and auscultation of abdominal sounds;
  - c. inspection and palpation of extremities;
  - d. evaluation of neurological status and neuromuscular function.
2. Inspection and palpation of the head and neck;
  - a. inspection of the chest and auscultation of heart and lung sounds
  - b. inspection of the abdomen and auscultation of abdominal sounds;
  - c. inspection and palpation of extremities;
  - d. evaluation of neurological status and neuromuscular function.
3. Demonstrate aseptic technique of extremity peripheral venipuncture and drawing blood samples for hospital use only and Blood Glucose Determination by capillary sample (Limited to Unconscious Patients only for EMT-Intermediate).
4. \*Demonstrates aseptic technique of external jugular intravenous insertion in life threatening situations when alternate sites are impractical. Demonstrate techniques of maintenance of central intravenous therapy (internal jugular, subclavian, femoral) EMT-P's are limited to only monitoring central line IV's; they shall not initiate central lines. The central line IV's may be used for approved fluid and drug administration only. Hemodynamic monitoring shall not be performed by EMT-P's.

*NOTE: EMT-Intermediates and EMT-Paramedics are permitted to monitor and administer only those IV fluids and/or medications which are approved by the BEMS and the Committee on Medical Direction, Training, and Quality Assurance (MDTQA). A current "Required and Approved EMS Fluids and Drugs List" is available from the BEMS office and on the BEMS website ([www.mscems.org](http://www.mscems.org); [www.ems.doh.ms.gov](http://www.ems.doh.ms.gov)). Requests for additions or deletions from the list should be made in writing by the System Medical Director to the BEMS. Requests should detail the rationale for the additions, modifications, or deletions.*

*In addition, EMT - Paramedics are allowed to administer any pharmaceutical that is approved in these Rules and Regulations, through any route consistent with the manufacturer's recommendations; that fall within the skillset taught consistent with the National Standard Curriculum; and approved by the Medical Direction, Training and Quality Assurance Committee and signed off by local medical direction.*

5. Demonstrates the techniques for aseptic assembly of intravenous equipment and for calculation of flow rates.
6. Demonstrate the techniques of establishing an IV infusion using a catheter-over-the-needle device.
7. Recall and demonstrate use of the type of IV fluid appropriate in:
  - a. a "keep open" lifeline in cardiac patients
  - b. hypovolemic shock
  - c. specific medical emergencies

*Note: (EMT-Intermediates do not routinely start IV's on patients in categories 1 and 3. Their training concentrates on trauma and hypovolemic patients. They may, however, be requested to establish IV's in other situations such as when they are awaiting the arrival of higher qualified ALS personnel).*

*The BEMS and the Committee on Medical Direction, Training, and Quality Assurance (MDTQA) will compile a list of intravenous fluids and medications that may be initiated and transported by EMS providers in the State. The current list of fluids and medications approved for initiation and transport by Mississippi EMS providers is available from the BEMS office or the BEMS website([www.mscems.org](http://www.mscems.org); [www.ems.doh.ms.gov](http://www.ems.doh.ms.gov)).*

*Requests for additions or deletions from the list should be made in writing by the System Medical Director to the BEMS. Requests should detail the rationale for the additions, modifications, or deletions.*

8. Demonstrate the application, inflation, and correct sequence of deflation of the pneumatic anti-shock garment (PASG).
9. \*Demonstrate the technique for calculating dosage and drawing up a designated volume of medication in a syringe from an ampule or vial.
10. \*Demonstrate the technique for administering drugs using a prepackaged disposable syringe.
11. \*Demonstrate technique of subcutaneous, intradermal, intramuscular, intravenous, and intra tracheal administration of drugs.

*Note: In addition, EMT-Paramedics are allowed to administer any pharmaceutical that is approved in these Rules and Regulations through any route consistent with the manufacturer's recommendations; that fall within the skillset taught consistent with the National Standard Curriculum; and approved by the Medical Director, Training and Quality Assurance Committee and signed off by local medical direction.*

12. \*EMT-Paramedics should be familiar with all of the 41 classifications of medications as defined by the 1998 EMT-Paramedic National Standard Curriculum. Paramedics must be able to list indications, contraindications, actions, dosage, and route of administration of each of the fluids and medications on the "Approved and Required EMS Fluids and Drugs List" as compiled by the BEMS and the Committee on Medical Direction, Training, and Quality Assurance (MDTQA).
13. Demonstrate the technique of aseptic and atraumatic endotracheal and tracheotomy suctioning.
14. Recall the indications for and demonstrate the insertion of an esophageal obturator and esophageal gastric tube airway.
15. Demonstrate the technique for direct laryngoscopy and insertion of an endotracheal tube and end-tidal CO<sub>2</sub> detection in an adult and infant.
16. Demonstrate the technique for insertion of a nasotracheal tube using the blind technique and by direct laryngoscopy with use of Magill forceps.
17. Demonstrate the application of electrodes and monitoring of a patient's electrocardiographic activity.
18. Identify on Lead II or modified chest lead - 1 (MCL1) and provide appropriate therapy (according to American Heart Association) for the following cardiac rhythms:
  - a. normal sinus rhythm

- i. \*sinus arrhythmia
  - ii. \*sinus arrest
  - iii. \*sinus bradycardia
  - iv. \*premature atrial contractions
  - v. \*premature junctional contractions
  - vi. \*supraventricular tachycardia
  - vii. \*atrial fibrillation
  - viii. \*atrial flutter
  - ix. \*first degree heart block
  - x. \*second degree heart block
  - xi. \*third degree heart block
  - xii. \*premature ventricular contractions
  - xiii. \*ventricular tachycardia
  - xiv. \*ventricular fibrillation
  - xv. electromechanical dissociation
  - xvi. asystole
  - xvii. \*pacemaker rhythms
  - xviii. PVC recognition
  - xix. artifact
19. Demonstrate the proper use of the defibrillator paddle electrodes to obtain a sample Lead II rhythm strip
  20. Demonstrate how to properly assess the cause of poor ECG tracing.
  21. Demonstrate correct operation of a monitor-defibrillator to perform defibrillation on an adult and infant.
  22. \*Demonstrate correct operation and indications for an external non-invasive pacemaker (optional).

23. \*Apply rotating tourniquets in cases of acute heart failure.
24. Demonstrate proficiency in:
  - a. biomedical communications, VHF and UHF (RTSS)
  - b. ECG telemetry
  - c. medicolegal responsibilities
  - d. record keeping
  - e. emergency and defensive driving
  - f. principles and techniques of light extrication
  - g. management of mass casualties and triage
25. In addition to the above skills, the EMT-Paramedic and the EMT-Intermediate should be well versed in pertinent anatomy, pathophysiology, history taking, physical examination, assessment and emergency treatment relating to:
  - a. the cardiovascular system including recognition of selected dysrhythmias associated with potential acute cardiac compromises;
  - b. the respiratory system, including pneumothorax, chronic obstructive pulmonary disease, acute asthma, trauma to the chest and airways, respiratory distress syndrome, and acute airway obstruction;
  - c. chest and abdominal trauma;
  - d. soft tissue injuries including: burns, avulsions, impaled objects, eviscerations, amputations, and bleeding control;
  - e. the central nervous system (medical) in regard to cerebrovascular accidents, seizures, drug overdose, drug incompatibilities, and alterations in levels of consciousness;
  - f. musculoskeletal trauma including management of fractures, strains, sprains and dislocations;
  - g. medical emergencies, including: endocrine disorders, anaphylactic reactions, environmental emergencies, poisonings, overdose and acute abdomen;
  - h. obstetrical and gynecological emergencies including: breech birth, premature birth, abortion, multiple-infant birth, arm or leg presentation, prolonged delivery, prolapsed umbilical cord, pre- and

postpartum hemorrhage, ruptured uterus, birth of an aspenic infant, preeclampsia or eclampsia, rape, and supine hypotensive syndrome;

- i. pediatric emergencies, including: asthma, bronchiolitis, croup, epiglottitis, sudden infant death syndrome, seizures, child abuse;
- j. behavioral emergencies, including: negotiations, recognition and intervention techniques with suicidal assaultive, destructive, resistant, anxious, bizarre, confused, alcoholic, drug-addicted, toxic, amnesic, paranoid, drugged, raped and assaulted patients.

26. \*Optional skills

Performance of these skills are optional however, they must be taught in all training programs.

- a. Administration of transfusions of blood and its components.
- b. Automatic Transport Ventilators (as specified in UJAMA, Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiac CareU).
- c. CPap and BiPap Initiation and Management
- d. Chest decompression
- e. External cardiac pacing
- f. INT Placement
- g. Intraosseous infusions

*Note: EMT - Paramedics are allowed to administer any pharmacological that is approved in these Rules and Regulations, through any route consistent with the manufacturer's recommendations; that fall within the skillset taught consistent with the National Standard Curriculum; and approved by the Medical Director, Training and Quality Assurance Committee and signed off by local medical direction.*

- h. MSDH approved Nitroglycerin and Thrombolytic Transport Course
- i. Nasogastric Tube Insertion
- j. Orogastric Tube Insertion
- k. Percutaneous transtracheal catheter ventilation
- l. Twelve Lead Electrocardiography

- m. Umbilical Vein Cannulation
  - n. Vascular Access Devices
27. Optional skills for EMT-Intermediates
- a. These optional skills and optional medications must be included in the BEMS approved medical control plan of each ALS provider utilizing them.
    - i. Currently there are no optional skills or optional medications approved by the BEMS.
28. Other skills
- a. Other skills and medications not listed in these regulations may not be performed by any ALS provider through ALS trained employees until each skill and/or medication has been approved by BEMS in writing.
  - b. EMTs of all levels (Basic, Intermediate, Paramedic), may attend and transport by ambulance, patients who have pre-existing procedures or devices that are beyond the EMT's scope of practice if:
    - i. there is no need, or reasonably perceived need, for the device or procedure during transport; or
    - ii. an individual (including the patient himself) that has received training and management of the procedure or device accompanies the patient to the destination.
29. **Any EMT-Advanced who functions within the State of Mississippi in close proximity to any right-of-way on any highway, shall wear high-visibility (reflective) safety apparel.**

*\*Compliance with the Federal Highway Administration, DOT, Part 634, effective November 24, 2008*

*Note: Should doubt exist in regards to the transport of any device or procedure, medical control should be contacted for medical direction.*

*The EMT-Advanced who functions within the State of Mississippi must be able to demonstrate the following skills and understand the elements of total emergency care to the satisfaction of the local training coordinator and the BEMS. Training programs must be approved by the BEMS and the Department of Education. The skills listed herein will enable the EMT-Advanced to carry out all EMT-Advanced level patient assessment and emergency care procedures.*

The EMT's -Advanced's primary responsibility is to the patient and should include both an oral exam and an appropriate physical exam. Scene size-up including: scene safety, mechanism of injury, number of patients, additional help and consideration of cervical stabilization.

## 105 AREA AND SCOPE OF PRACTICE

### 105.01 Area and Scope of Practice of the EMT-Advanced Level

1. ALS personnel are restricted to functioning within the geographic boundaries of their licensed ALS service employer. They primarily provide out-of-hospital emergency care to acutely ill or injured patients while on duty for a licensed ALS provider under medical command authority approved by the BEMS. This does not apply to extended transports which may require EMS personnel to function outside of said boundaries.
2. EMT-I/Ps may routinely or periodically participate in patient care in the emergency department of a licensed hospital. Their presence may be in the form of:
  - a. student clinical rotations
  - b. graduates participating in a clinical rotation for skill retention.
  - c. field units stationed out of the emergency department under direct physician supervision (i.e., hospital based ALS services)
    - i. BEMS Certified EMT-I/Ps will be able to function in the emergency service area of the hospital. They would also be permitted to function in life-threatening emergency situations in other areas of the hospital if directed to do so by the medical command authority.
  - d. providing assistance to the emergency department staff after delivering a patient.

*\*NOTE: In accordance with letter B, EMT-I/Ps must, when functioning in the hospital, only do so under the direct supervision of a physician. This is necessary because the scope of practice of an EMT-I/P does not coincide with that of any other licensed personnel. Paramedics of a hospital owned and based ambulance service may function in the Emergency Department under the direct supervision of a Mississippi licensed physician, physically located in Mississippi, via telemedicine. Paramedics may not function in other areas of hospitals which do not have on-site 24 hour physician availability.*

3. EMT-I/P students may function in all areas of a hospital, under direct supervision of licensed or certified personnel, in a continuing education program or in a training program approved by the licensed ALS service.
4. An EMT-I/P may perform only those skills authorized by the BEMS regulations relating to their certification.
5. Because the EMT-I/P's primary responsibility is to respond to emergency situations outside the hospital, they cannot be utilized to replace any members of the hospital emergency service area staff, but may be utilized to support and assist the staff in the care of patients in accordance with their performance standards. Since their scope of practice is limited to a number of specific procedures, which can only be performed under the direction of a physician, all emergency patients clearly require nursing intervention in order to insure that all the patients' needs are met.
6. It is appropriate to transport patients whose urgent needs or reasonably perceived needs for care exceed the scope of practice for the ambulance attendant, if the following conditions are present:
  - a. The patient has existing advanced therapeutics or treatment modalities for a preexisting condition and
  - b. The patient is located in a non-hospital setting, and
  - c. The patient's condition is considered to be so urgent that the benefits of prompt transport by available personnel to an appropriate hospital outweigh the increased risk to the patient from effecting a delay waiting for qualified medical personnel to arrive.
7. The person possessing the highest level of certification/license must attend the patient unless otherwise authorized by medical control.
8. EMTs of all levels (Basic, Intermediate, Paramedic), may attend and transport by ambulance, patients who have pre-existing procedures or devices that are beyond the EMT's scope of practice if:
  - a. there is no need, or reasonably perceived need, for the device or procedure during transport; or
  - b. an individual (including the patient himself) that has received training and management of the procedure or device accompanies the patient to the destination.

*Note: Should doubt exist in regards to the transport of any device or procedure, medical control should be contacted for medical direction.*

## APPENDIX I – MEDICAL DIRECTION

## 101 STANDARD PRACTICE FOR QUALIFICATIONS, RESPONSIBILITIES, AND AUTHORITY

101.01 Medical Direction (pre-hospital Emergency Medical Services)

All aspects of the organization and provision of emergency medical services (EMS), including both basic and advanced life support, require the active involvement and participation of physicians. These aspects should incorporate design of the EMS system prior to its implementation; continual revisions of the system; and operation of the system from initial access, to pre-hospital contact with the patient, through stabilization in the emergency department. All pre-hospital medical care may be considered to have been provided by one or more agents of the physician who controls the pre-hospital system, for this physician has assumed responsibility for such care.

Implementation of this standard practice will insure that the EMS system has the authority, commensurate with the responsibility, to insure adequate medical direction of all pre-hospital providers, as well as personnel and facilities that meet minimum criteria to implement medical direction of pre-hospital services.

## 102 OFF-LINE MEDICAL DIRECTION

102.01 Medical Direction (Off-Line A.K.A. System Medical Director)

Each EMS agency providing pre-hospital care shall be licensed by the Mississippi State Department of Health, BEMS, and shall have an identifiable Medical Director who after consultation with others involved and interested in the agency is responsible for the development, implementation and evaluation of standards for provision for medical care within the agency.

All pre-hospital providers (including EMT-Bs) shall be medically accountable for their actions and are responsible to the Medical Director of the licensed EMS agency that approves their continued participation. All pre-hospital providers, with levels of certification EMT-B or above, shall be responsible to an identifiable physician who directs their medical care activity. The Medical Director shall be appointed by, and accountable to, the appropriate licensed EMS agency.

*The licensee's off-line medical director shall ensure that there is a capability and method to provide on-line medical control to EMS personnel on board any permitted unit at all times. If patient specific orders are written, there shall be a formal procedure to use them. In addition to on-line medical control capabilities, the licensee shall have a written plan, procedure and*

*resources in place for off-line medical control. This may be accomplished by use of comprehensive written, guidelines, procedures or protocols.*

#### 102.02 Requirements of a Medical Director

The medical aspects of an emergency medical service system shall be managed by physicians who meet the following requirements:

1. Mississippi licensed physician, M.D. or D.O.
2. Experience in, and current knowledge of, emergency care of patients who are acutely ill or traumatized.
3. Knowledge of, and access to, local mass casualty plans.
4. Familiarity with base station operations where applicable, including communication with, and direction of, pre-hospital emergency units.
5. Active involvement in the training of pre-hospital personnel.
6. Active involvement in the medical audit, review and critique of medical care provided by pre-hospital personnel.
7. Knowledgeable of the administrative and legislative process affecting the local, regional and/or state pre-hospital EMS system.
8. Knowledgeable of laws and regulations affecting local, regional and state EMS.
9. Approved by the State EMS Medical Director

#### 102.03 Authority of a Medical Director includes, but is not limited to:

1. Establishing system-wide medical protocols in consultation with appropriate specialists.
2. Establishment of system-wide trauma protocols as delineated by the State Trauma Care Plan.
3. Recommending certification or decertification of non-physician pre-hospital personnel to the appropriate certifying agencies. Every licensed agency shall have an appropriate review and appeals mechanism, when decertification is recommended, to assure due process in accordance with law and established local policies. The Director shall promptly refer the case to the appeals mechanism for review, if requested.
4. Requiring education to the level of approved proficiency for personnel within the EMS system. This includes all pre-hospital personnel, EMTs at

all levels, pre-hospital emergency care nurses, dispatchers, educational coordinators, and physician providers of on-line direction.

5. Suspending a provider from medical care duties for due cause pending review and evaluation. Because the pre-hospital provider operates under the license (delegated practice) or direction of the Medical Director, the Director shall have ultimate authority to allow the pre-hospital provider to provide medical care within the pre-hospital phase of the EMS system.
6. Establishing medical standards for dispatch procedures to assure that the appropriate EMS response unit(s) are dispatched to the medical emergency scene when requested, and the duty to evaluate the patient is fulfilled.
7. Establishing under which circumstances a patient may be transported against his will; in accordance with, state law including, procedures, appropriate forms and review process.
8. Establishing criteria for level of care and type of transportation to be used in pre-hospital emergency care (i.e., advanced life support vs. basic life support, ground air, or specialty unit transportation).
9. Establishing criteria for selection of patient destination.
10. Establishing educational and performance standards for communication resource personnel.
11. Establishing operational standards for communication resource.
12. Conducting effective system audit and quality assurance. The Medical Director shall have access to all relevant EMS records needed to accomplish this task. These documents shall be considered quality assurance documents and shall be privileged and confidential information.
13. Insuring the availability of educational programs within the system and that they are consistent with accepted local medical practice.
14. May delegate portions of his/her duties to other qualified individuals.
15. The owner, manager or medical director of each publicly or privately owned ambulance service shall inform the State Department of Health, Bureau of EMS of the termination of service in a licensed county or defined service area no less than 30 days prior to ceasing operations. This communication should also be sent by the owner, manager or medical director of each publicly or privately owned ambulance service to related parties and local governmental entities such as, but not limited to, emergencies management agency, local healthcare facilities, and the public via mass media.

16. *Medical direction with concurrent and retrospective oversight supervision;*
17. *Standardized protocols;*
18. *Actively engaged in a continuous quality assurance, quality council performance review, and when necessary, supplemental training.*

## 103 ON-LINE MEDICAL DIRECTION (DIRECT MEDICAL CONTROL)

### 103.01 Medical Direction (Online, Direct Medical Control)

The practice of on-line medical direction shall exist and be available within the EMS system, unless impossible due to distance or geographic considerations. All pre-hospital providers, above the certification level of EMT-B, shall be assigned to a specific on-line communication resource by a predetermined policy and this shall be included in the application for ALS licensure.

When EMS personnel are transporting patients to locations outside of their geographic medical control area, they may utilize recognized communication resources outside of their own area.

Specific local protocols shall exist which define those circumstances under which on-line medical direction is required.

On-line medical direction is the practice of medicine and all orders to which the pre-hospital provider shall originate from/or be under the direct supervision and responsibility of a physician.

The receiving hospital shall be notified prior to the arrival of each patient transported by the EMS system unless directed otherwise by local protocol.

- I. Requirements of a Medical Director
  - a. This physician shall be approved to serve in this capacity by system (Off-Line) Medical Director.
  - b. This physician shall have received education to the level of proficiency approved by the off-line Medical Director for proper provision of on-line medical direction, including communications equipment, operation and techniques.
  - c. This physician shall be appropriately trained in pre-hospital protocols, familiar with the capabilities of the pre-hospital providers, as well as local EMS operational policies and regional critical care referral protocols.

- d. This physician shall have demonstrated knowledge and expertise in the pre-hospital care of critically ill and injured patients.
- e. This physician assumes responsibility for appropriate actions of the pre-hospital provider to the extent that the on-line physician is involved in patient care direction.
- f. The on-line physician is responsible to the system Medical Director (off-line) regarding proper implementation of medical and system protocols.

*The licensee's off-line medical director shall ensure that there is a capability and method to provide on-line medical control to all medical personnel on board any of its air ambulance aircraft at all times. If patient specific orders are written, there shall be a formal procedure to use them. In addition to on-line medical control capabilities, the licensee shall have a written plan, procedure and resources in place for off-line medical control. This may be accomplished by use of comprehensive written, guidelines, procedures or protocols.*

- h. *There must be – at all times - Medical direction with concurrent and retrospective oversight supervision; Standard Protocols; Continuing quality assurance, quality control, performance review, and when necessary, supplemental training.*

## 104 AUTHORITY / CONTROL OF MEDICAL SERVICES

### 104.01 Authority for Control of Medical Services at the Scene of Medical Emergency.

- 1. Authority for patient management in a medical emergency shall be the responsibility of the individual in attendance who is most appropriately trained and knowledgeable in providing pre-hospital emergency stabilization and transport.
  - a. When an advanced life support (ALS) squad, under medical direction, is requested and dispatched to the scene of an emergency, a doctor/patient relationship has been established between the patient and the physician providing medical direction.
  - b. The pre-hospital provider is responsible for the management of the patient and acts as the agent of medical direction.

#### 104.02 Authority for Scene Management.

Authority for the management of the scene of a medical emergency shall be vested in appropriate public safety agencies. The scene of a medical emergency shall be managed in a manner designed to minimize the risk of death or health impairment to the patient and to other persons who may be exposed to the risks as a result of the emergency condition, and priority shall be placed upon the interests of those persons exposed to the more serious risks to life and health. Public safety personnel shall ordinarily consult emergency medical services personnel or other authoritative medical professionals at the scene in the determination of relevant risks.

#### 104.03 Patient's Private Physician Present

The EMT should defer to the orders of the private physician. The base station should be contacted for record keeping purposes if on-line medical direction exists. The ALS squad's responsibility reverts back to medical direction or on-line medical direction at any time when the physician is no longer in attendance.

#### 104.04 Intervener Physician Present and Non-Existent On-Line Medical Direction

1. When the intervener physician has satisfactorily identified himself as a licensed physician and has expressed his willingness to assume responsibility and document his intervention in a manner acceptable to the local emergency medical services system (EMSS); the pre-hospital provider should defer to the orders of the physician on the scene if they do not conflict with system protocol.
2. If treatment by the intervener physicians at the emergency scene differs from that outlined in a local protocol, the physician shall agree in advance to assume responsibility for care, including accompanying the patient to the hospital. In the event of a mass casualty incident or disaster, patient needs may require the intervener physician to remain at the scene.

#### 104.05 Intervener Physician Present and Existent On-Line Medical Direction

1. If an intervener physician is present and on-line medical direction does exist the on-line physician should be contacted and the on-line physician is ultimately responsible.
2. The on-line physician has the option of managing the case entirely, working with the intervener physician, or allowing him to assume responsibility.
3. If there is any disagreement between the intervener physician and the on-line physician, the pre-hospital provider should take orders from the on-line physician and place the intervener physician in contact with on-line physician.

4. In the event the intervener physician assumes responsibility, all orders to the pre-hospital provider shall be repeated to the communication resource for purposes of record-keeping.
5. The intervener physician should document his intervention in a manner acceptable to the local EMS system.
6. The decision of the intervener physician to accompany the patient to the hospital should be made in consultation with the on-line physician. Nothing in this section implies that the pre-hospital provider CAN be required to deviate from system protocols.

## 105 COMMUNICATIONS

### 105.01 Communication Resource

1. A communication resource is an entity responsible for implementation of direct (on-line) medical control. This entity/facility shall be designated to participate in the EMS system according to a plan developed by the licensed ALS provider and approved by the system (off-line) medical director and the State Department of Health, BEMS.
  - a. The communication resource shall assure adequate staffing for the communication equipment at all times by health care personnel who have achieved a minimal level of competence and skill and are approved by the system medical director.
  - b. The communication resource shall assure that all requests for medical guidance assistance or advice by pre-hospital personnel will be promptly accommodated with an attitude of utmost participation, responsibility and cooperation.
  - c. The communication resource shall provide assurance that they will cooperate with the EMS system in collecting and analyzing data necessary to evaluate the pre-hospital care program as long as patient confidentiality is not violated.
  - d. The communication resource will consider the pre-hospital provider to be the agent of the on-line physician when they are in communication, regardless of any other employee/employer relationship.
  - e. The communication resource shall assure that the on-line physicians will issue transportation instructions and hospital assignments based on system protocols and objective analysis of patient's needs and facility capability and proximity.

- f. No effort will be made to obtain institutional or commercial advantages through use of such transportation instructions and hospital assignments.
- g. When the communication resource is acting as an agent for another hospital, the information regarding patient treatment and expected time of arrival will be relayed to the receiving hospital in an accurate and timely fashion.
- h. Communication resource shall participate in regular case conferences involving the on-line physicians and pre-hospital personnel for purposes of problem identification and provide continuing education to correct any identified problems.
- i. If the communication resource is located within a hospital facility, the hospital shall meet the requirements listed herein and the equipment used for on-line medical direction shall be located within the emergency department.

## 106 EDUCATION AND TRAINING

### 106.01 Educational Responsibilities

1. Because the on-line and off-line medical directors allow the use of their medical licenses, specific educational requirements should be established. This is not only to insure the best available care, but also to minimize liability. All personnel brought into the system must meet minimum criteria established by state law for each level; however, the law should in no way preclude a medical director from enforcing standards beyond this minimum.
2. Personnel may come to the system untrained (in which case the medical director will design and implement the educational program directly or through the use of ancillary instructors), or they may have previous training and/or experience. Although the Department of Transportation has defined curricula for training, the curricula are not standardized nationally, and often are not standardized within a state or county. Certification or licensure in one locale does not automatically empower an individual to function as an EMT within another system. The medical director must evaluate applicants trained outside the system in order to determine their level of competence. Such evaluation may be made in the form of written examinations, but should also include practical skills and a field internship with competent peers and time spent with the medical director.

3. The educational responsibilities of the medical director do not end with initial training; skills maintenance must be considered. To insure the knowledge does not stagnate, programs should cover all aspects of the initial training curriculum on a cyclical basis. Continuing education should comprise multiple formats, including lectures, discussions and case presentations, as well as practical situations that allow the EMT to be evaluated in action. The continuing education curriculum should also include topics suggested by audits, and should be utilized to introduce new equipment or skills.
4. *EMT - Paramedics are allowed to administer any pharmaceuticals approved in these Rules and Regulations; through any route consistent with the manufacturer's recommendations; that fall within the skills taught consistent with the National Standard Curriculum; and approved by the Medical Director, Training and Quality Assurance Committee and signed off by local medical direction.*

## 107 REVIEW AND AUDIT

### 107.01 Review and Audit

Personnel may be trained to the highest standards and many protocols may be written, but if critical review is not performed, the level of patient care will deteriorate. Review is intended to determine inadequacies of the training program and inconsistencies in the protocols. The data base required includes pre-hospital care data, emergency department and inpatient (summary) data, and autopsy findings as appropriate. The cooperation of system administrators, hospital administrators, and local or state medical societies must be elicited. On occasion, the state legislature may be required to provide access to vital information.

The medical director or a designated person should audit pre-hospital run records, either randomly or inclusively. The data must be specifically evaluated for accuracy of charting and assessment; appropriateness of treatment; patterns of error, morbidity, and mortality; and need for protocol revision.

It cannot be assumed that all pre-hospital care will be supervised by on-line physicians. When proper or improper care is revealed by the audit process, prompt and appropriate praise or censorship should be provided by the medical director after consultation with the system administrator.

- I. Individual Case Review.
  - a. Compliance with system rules and regulations is most commonly addressed by state and regional EMS offices. Audit by individual case review requires a more detailed plan. Each of the components defined

in detail by the individual EMS system must be agreed on prior to the institution of any case review procedures. Case review may involve medical audit, including reviews of morbidity and mortality data (outcome-oriented review), and system audit, including compliance with rules and regulations as well as adherence to protocols and standing orders (process-oriented review). The personnel to be involved in a given case review process should include the off-line medical director; emergency department and critical care nurses; and EMS, technical and other support personnel who were involved in the specific cases.

- b. The following must be written and agreed to in advance:
  - i. Procedural guidelines of how the individuals will interact during meetings.
  - ii. Because considerations of medical malpractice may be present when issues concerning appropriateness of care and compliance with guidelines are raised, legal advice for procedural guidelines must be obtained prior to the institution of any medical audit program in order that medical malpractice litigation will neither result from nor become the subject of the meeting.
  - iii. Confidentiality of case review in terms of local open meeting laws and public access to medical records and their distribution.
  - iv. Format for recording the meeting and its outcome.
  - v. Access to overall system performance records, both current and historical, to allow comparison.
2. Overall outcome data (morbidity and mortality) and individual, unit-specific, and system-wide performance can be measured by the following means:
  - a. The severity of presentation of patients must be known, and a scale for that measurement must be agreed on, included in all EMT education, and periodically checked for reliability.
  - b. Appropriate treatment on scene and in transit should be recorded and subsequently evaluated for its effect on overall patient outcome.
  - c. At the emergency department, the severity of cases presenting (according to a severity scoring technique) and treatment needed should be recorded in detail.
  - d. An emergency department diagnosis and outcome in terms of admission to a general medical bed, critical care unit, or morgue must

be known. The length of stay in the hospital, cost of stay, discharge status, and pathologic diagnosis should be made available.