



Standard Guide for Training the Emergency Medical Technician (Paramedic)¹

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1. Scope

1.1 This guide covers the training standard for the emergency medical technician (paramedic) to deal with emergencies. Primary care and wilderness/delayed/prolonged context training for the emergency medical technician (paramedic) is not within the scope of this guide, but may be dealt with in other ASTM standards.

1.2 This guide identifies the knowledge and skills that all programs that train the emergency medical technician (paramedic) should include in their training program.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

F 1149 Practice for Qualifications, Responsibilities, and Authority of Individuals and Institutions Providing Medical Direction of Emergency Medical Services²

F 1220 Guide for Emergency Medical Services Systems (EMSS) Telecommunications²

F 1254 Practice for Performance of Prehospital Manual Defibrillation²

F 1255 Practice for Performance of Prehospital Automated Defibrillation²

F 1258 Practice for Emergency Medical Dispatch²

F 1288 Guide for Planning for and Response to a Multiple Casualty Incident²

F 1489 Guide for Performance of Patient Assessment by the Emergency Medical Technician (Paramedic)²

F 1517 Guide for Scope of Performance of Emergency Medical Services Ambulance Operations²

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *auscultation*—examination by listening with a stethoscope.

3.1.2 *EMSS communications subsystem*—comprises those resource arrangements for notifying the EMS system of an emergency, for mobilizing and dispatching resources, for exchanging information, for remote monitoring of vital indicators, and for transmission of treatment procedures and directions (see Guide F 1220).

3.1.3 *human anatomy*—the branch of science dealing with the structure of the human organisms.

3.1.4 *human physiology*—the science dealing with the functions of the human living organism.

3.1.5 *incident command system*—the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure with responsibility for the management of assigned resources to effectively accomplish stated objectives pertaining to an incident.

3.1.6 *inspection*—examination by careful visualization of the body or a part of the body.

3.1.7 *management*—actions taken by the emergency medical technician (paramedic) for a patient in need of assistance due to a real or perceived traumatic or medical condition.

3.1.8 *palpation*—examination by touching with the hand(s).

3.1.9 *stress*—nonspecific response of the body to any demand made upon it.

3.1.10 *topographic anatomy*—a study of all the structures and their relationships in a given region.

3.1.11 *triage*—the process of sorting and making priorities for emergency medical care of the sick and injured on the basis of urgency and type of condition present, number of patients, and resources available.

4. Significance and Use

4.1 This guide establishes the national standard for training the emergency medical technician (paramedic).

4.2 This guide shall be used by those who develop the training curriculum to be used to train the emergency medical technician (paramedic).

4.3 Every person who is identified as an emergency medical technician (paramedic) shall have been trained to this guide.

4.4 It is understood that the scope of the medical practice is constantly evolving. Therefore, this guide does not contain recommendations for the management of illnesses and injuries. Furthermore, it is not intended to supersede the protocols and standing orders of the system medical director or the on-line medical physician (see Practice F 1149).

¹ This guide is under the jurisdiction of ASTM Committee F-30 on Emergency Medical Services and is the direct responsibility of Subcommittee F30.02 on Personnel, Training and Education.

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² *Annual Book of ASTM Standards*, Vol 13.01.

4.5 This guide does not standardize the scope of practice of the emergency medical technician (paramedic).

5. Anatomy and Physiology

5.1 The emergency medical technician (paramedic) shall describe the anatomy and physiology of the major body systems and the differences that exist because of age and gender to the extent needed to assess and manage patients with the illnesses and injuries in the following sections, using the techniques listed in this guide.

6. Communications and Medical Terminology

6.1 The emergency medical technician (paramedic) shall be able to communicate effectively, using standard medical terminology, about the illnesses and injuries, and the techniques, listed in this guide.

7. Pharmacology

7.1 The emergency medical technician (paramedic) shall be able to apply theory and principles of pharmacological intervention to manage patients with the illnesses and injuries in the following sections, using the techniques listed in this guide.

8. Universal Blood and Body Fluid Precautions

8.1 The emergency medical technician (paramedic) shall be taught the current local, state, Occupational Safety and Health Administration (OSHA), and Center for Disease Control (CDC) recommendations for preventing the transmission of communicable diseases. (See Refs (1, 2, and 3).)³

9. Examination Techniques

9.1 The emergency medical technician (paramedic) shall be trained to perform the following examination techniques and use appropriate modifications to accommodate the differences that exist because of age and sex:

9.1.1 Assess respirations for rate, rhythm, symmetry, and quality,

9.1.2 Auscultate for breath sounds,

9.1.3 Assess presence, rate, regularity, and quality of the following pulses: carotid, brachial, radial, femoral, temporal, dorsalis pedis, and posterior tibial,

9.1.4 Palpate blood pressure,

9.1.5 Auscultate blood pressure,

9.1.6 Assess capillary refill,

9.1.7 Assess mental status and level of consciousness,

9.1.8 Assess pupils,

9.1.9 Inspect the body,

9.1.10 Palpate the body,

9.1.11 Assess sensory perception,

9.1.12 Assess motor function,

9.1.13 Assess airway patency,

9.1.14 Assess electrical activity of the heart,

9.1.15 Assess blood glucose level,

9.1.16 Assess temperature,

9.1.17 Assess oxygen saturation level,

9.1.18 Assess the skin and mucous membranes for color, temperature, turgor, and dampness,

9.1.19 Assess the skin for basic primary skin rashes:

9.1.19.1 Macules and patches,

9.1.19.2 Papules and nodules,

9.1.19.3 Wheals (hives),

9.1.19.4 Bullae (blisters), vesicles, and pustules, and

9.1.19.5 Petechiae and purpura.

9.1.20 Assess the fontanelle in infants, and

9.1.21 Assess vision.

10. Examination Devices

10.1 The emergency medical technician (paramedic) shall be trained to use the following:

10.1.1 Blood glucose measurement devices,

10.1.2 Pulse oximeters,

10.1.3 Blood collection devices,

10.1.4 Sphygmomanometer,

10.1.5 Stethoscope,

10.1.6 Penlight,

10.1.7 Thermometer,

10.1.8 Cardiac rhythm monitor,

10.1.9 Twelve-lead ECG monitor,

10.1.10 Laryngoscope,

10.1.11 Amplified listening device, and

10.1.12 Exhaled CO₂ detection devices.

11. Patient Assessment

11.1 The emergency medical technician (paramedic) shall be educated to perform patient assessment in accordance with Guide F 1489.

12. Illnesses and Injuries

12.1 The emergency medical technician (paramedic) shall demonstrate understanding of both the pathophysiology necessary to recognize the clinical presentation and the management of the following in the prehospital context, including the differences that exist because of age and sex:

12.1.1 Airway obstruction or compromise,

12.1.2 Shock:

12.1.2.1 Hypovolemic,

12.1.2.2 Cardiogenic,

12.1.2.3 Distributive, and

12.1.2.4 Obstructive.

12.1.3 Wounds and impaled objects,

12.1.4 Contusions,

12.1.5 Orthopedic Injuries:

12.1.5.1 Extremity fractures, closed and open,

12.1.5.2 Extremity dislocations and subluxations, and

12.1.5.3 Extremity sprains and strains.

12.1.6 Head injuries,

12.1.7 Face fractures,

12.1.8 Eye injuries,

12.1.9 Spinal injuries:

12.1.9.1 Strains, sprains, and fractures, and

12.1.9.2 Back pain and herniated disks.

12.1.10 Chest injuries, including:

12.1.10.1 Pericardial tamponade,

12.1.10.2 Flail chest,

³ The boldface numbers given in parentheses refer to a list of references at the end of the text.

- 12.1.10.3 Sucking chest wound,
- 12.1.10.4 Rib fractures,
- 12.1.10.5 Hemothorax, pneumothorax, and tension pneumothorax,
- 12.1.10.6 Lung and heart contusions, and
- 12.1.10.7 Great vessel injury.
- 12.1.11 Pelvic fractures,
- 12.1.12 Blunt or penetrating abdominal trauma,
- 12.1.13 Poisonings, drug overdoses, and substance abuse,
- 12.1.14 Environmental illness and injury:
 - 12.1.14.1 Hypothermia and frostbite,
 - 12.1.14.2 Heat-related illness,
 - 12.1.14.3 Burns:
 - (1) Thermal,
 - (2) Electrical,
 - (3) Chemical,
 - 12.1.14.4 Radiation exposure,
 - 12.1.14.5 Electrical and lightning injuries,
 - 12.1.14.6 Exposure to plant and animal toxins, both land and marine,
 - 12.1.14.7 Near-drowning and cold-water submersion,
 - 12.1.14.8 Altitude illness (acute mountain sickness, high-altitude pulmonary edema, high-altitude cerebral edema), and
 - 12.1.14.9 Barotrauma and decompression sickness.
- 12.1.15 Obstetric and gynecological illness and injury:
 - 12.1.15.1 Newborn infant,
 - 12.1.15.2 Active labor,
 - 12.1.15.3 Imminent delivery,
 - 12.1.15.4 Uterine atony,
 - 12.1.15.5 Vaginal bleeding,
 - 12.1.15.6 Spontaneous abortion (miscarriage),
 - 12.1.15.7 Pre-eclampsia and eclampsia,
 - 12.1.15.8 Trauma in pregnancy,
 - 12.1.15.9 Abnormal presentations,
 - 12.1.15.10 Ectopic pregnancy,
 - 12.1.15.11 Pelvic inflammatory disease (PID),
 - 12.1.15.12 Abruptio placenta,
 - 12.1.15.13 Placenta previa, and
 - 12.1.15.14 Rape and sexual assault.
- 12.1.16 Endocrine disorders:
 - 12.1.16.1 Diabetes mellitus,
 - 12.1.16.2 Hyperthyroidism and hypothyroidism,
 - 12.1.16.3 Adrenal insufficiency, and
 - 12.1.16.4 Hypocalcemic tetany.
- 12.1.17 Respiratory disorders:
 - 12.1.17.1 Respiratory failure and nonspecific respiratory distress,
 - 12.1.17.2 Asthma,
 - 12.1.17.3 Chronic obstructive pulmonary disease,
 - 12.1.17.4 Pulmonary embolism,
 - 12.1.17.5 Toxic inhalations,
 - 12.1.17.6 Pneumonia, bronchitis, and active pulmonary tuberculosis,
 - 12.1.17.7 Hyperventilation,
 - 12.1.17.8 Spontaneous pneumothorax,
 - 12.1.17.9 Bronchiolitis, and
 - 12.1.17.10 Apnea of infancy.
- 12.1.18 Abdominal pain,
- 12.1.19 Cardiovascular illness:
 - 12.1.19.1 Non-traumatic cardiac arrest,
 - 12.1.19.2 Hypertension,
 - 12.1.19.3 Angina and myocardial infarction,
 - 12.1.19.4 Abdominal aortic aneurysm,
 - 12.1.19.5 Aortic dissection,
 - 12.1.19.6 Congestive heart failure and pulmonary edema,
 - 12.1.19.7 Pre-excitation syndromes, for example, Wolff Parkinson White,
 - 12.1.19.8 Cardiac rhythms:
 - (1) Normal sinus rhythm,
 - (2) Sinus tachycardia,
 - (3) Sinus arrhythmia,
 - (4) Sinus bradycardia,
 - (5) Atrial fibrillation,
 - (6) Atrial flutter,
 - (7) Atrial tachycardia,
 - (8) Premature supraventricular complexes,
 - (9) Supraventricular escape complexes,
 - (10) Wandering pacemaker,
 - (11) Paroxysmal supraventricular tachycardia (PSVT),
 - (12) Ventricular escape complexes,
 - (13) Premature ventricular complexes,
 - (14) Ventricular tachycardia/toursades de pointes,
 - (15) Ventricular fibrillation,
 - (16) Asystole,
 - (17) Supraventricular tachycardia,
 - (18) First-degree AV block,
 - (19) Second-degree AV block (Wenkebach/Mobitz Type I),
 - (20) Second-degree AV block (classical Mobitz Type II),
 - (21) Third-degree AV block,
 - (22) Bundle branch block/aberrant ventricular conduction,
 - (23) Junctional rhythms,
 - (24) Pacemaker rhythms,
 - (25) Electromechanical dissociation, and
 - (26) Arterial occlusion and deep venous thrombosis.
- 12.1.20 Neurological:
 - 12.1.20.1 Headache, including subarachnoid hemorrhage,
 - 12.1.20.2 Transient ischemic attack and cerebro-vascular accident (stroke),
 - 12.1.20.3 Seizures,
 - 12.1.20.4 Syncope and near syncope,
 - 12.1.20.5 Coma,
 - 12.1.20.6 Meningitis,
 - 12.1.20.7 Vertigo, and
 - 12.1.20.8 Impaired level of consciousness.
- 12.1.21 Genitourinary illness:
 - 12.1.21.1 Kidney stones,
 - 12.1.21.2 Pyelonephritis,
 - 12.1.21.3 End-stage renal disease,
 - 12.1.21.4 Testicular torsion, and
 - 12.1.21.5 Urinary retention.
- 12.1.22 Ear/nose/throat emergencies:
 - 12.1.22.1 Epistaxis (nosebleed),
 - 12.1.22.2 Dental fractures,
 - 12.1.22.3 Epiglottitis and croup,
 - 12.1.22.4 Peritonsillar abscess,
 - 12.1.22.5 Jaw dislocation,

- 12.1.22.6 Jaw fracture, and
- 12.1.22.7 Laryngeal injury.
- 12.1.23 Chest pain,
- 12.1.24 Gastrointestinal illness:
 - 12.1.24.1 GI bleeding, and
 - 12.1.24.2 Vomiting and diarrhea.
- 12.1.25 Allergic reactions:
 - 12.1.25.1 Localized,
 - 12.1.25.2 Generalized, and
 - 12.1.25.3 Anaphylaxis.
- 12.1.26 Infectious disease,
- 12.1.27 Oncological illness (cancer):
 - 12.1.27.1 Spinal cord compression, and
 - 12.1.27.2 Airway compromise.
- 12.1.28 Terminal illness,
- 12.1.29 Psychiatric and behavioral illness (situational, organic, and primary psychiatric),
- 12.1.30 Sickle cell disease and crisis, and
- 12.1.31 Physical and emotional abuse in all age groups.

13. Patient Management Techniques

13.1 The emergency medical technician (paramedic) shall be trained in the use of the following patient management techniques and devices to the extent needed to manage the illnesses and injuries listed in this section:

- 13.1.1 Respiratory management techniques:
 - 13.1.1.1 Techniques and devices to open and maintain the airway:
 - 13.1.1.1.2 Head-tilt-chin-lift,
 - 13.1.1.1.3 Finger sweeps,
 - 13.1.1.1.4 Modified jaw thrust,
 - 13.1.1.1.5 Jaw thrust,
 - 13.1.1.1.6 Abdominal thrust,
 - 13.1.1.1.7 Chest thrust,
 - 13.1.1.1.8 Tongue-jaw-lift,
 - 13.1.1.1.9 Sellick's maneuver (cricoid pressure),
 - 13.1.1.1.10 Cricothyroidotomy,
 - 13.1.1.1.11 Oropharyngeal/nasopharyngeal airways,
 - 13.1.1.1.12 Orotracheal/nasotracheal intubation, and
 - 13.1.1.1.13 Suction devices:
 - 13.1.1.1.14 Mechanical suction,
 - 13.1.1.1.15 Filtered small-bore trap suction (for example, modified DeLee),
 - 13.1.1.1.16 Bulb syringe,
 - 13.1.1.1.17 Suction catheters:
 - 13.1.1.1.18 Rigid tonsillar suction catheter, and
 - 13.1.1.1.19 Flexible suction catheter,
 - 13.1.1.1.20 Techniques and devices to provide ventilatory assistance:
 - 13.1.1.1.21 Mouth-to-mouth,⁴
 - 13.1.1.1.22 Mouth-to-nose,⁴
 - 13.1.1.1.23 Mouth-to-mouth and nose,⁴
 - 13.1.1.1.24 Mouth-to-stoma,⁴
 - 13.1.1.1.25 Mouth-to-mask⁴, and
 - 13.1.1.1.26 Positive pressure ventilatory devices,

- 13.1.1.27 Oxygen delivery devices:
 - 13.1.1.28 Low-concentration oxygen delivery devices, and
 - 13.1.1.29 High-concentration oxygen delivery devices,
 - 13.1.1.30 Needle thoracostomy,
- 13.1.2 Techniques for management of the compromised circulatory system:
 - 13.1.2.1 Direct pressure to the source of bleeding,
 - 13.1.2.2 Pressure dressings,
 - 13.1.2.3 Patient positioning,
 - 13.1.2.4 The pneumatic antishock garment, and
 - 13.1.2.5 Intravenous (IV) fluid replacement therapy.
- 13.1.3 Use of spinal immobilization techniques and devices:
 - 13.1.3.1 Manual immobilization,
 - 13.1.3.2 Cervical spine immobilization devices,
 - 13.1.3.3 Short-spine immobilization devices,
 - 13.1.3.4 Long-spine immobilization devices, and
 - 13.1.3.5 Helmet removal,
- 13.1.4 Techniques and devices for the management of musculoskeletal injuries (non-spine):
 - 13.1.4.1 Manual stabilization,
 - 13.1.4.2 External immobilization fixation techniques and devices:
 - 13.1.4.3 Traction devices,
 - 13.1.4.4 Rigid devices,
 - 13.1.4.5 Pneumatic devices, and
 - 13.1.4.6 Management of pulseless extremities,
- 13.1.5 Techniques for the management of soft tissue injuries:
 - 13.1.5.1 Aseptic technique,
 - 13.1.5.2 Management of amputations, and
 - 13.1.5.3 Bandaging techniques.
- 13.1.6 Assisting with spontaneous newborn delivery:
 - 13.1.6.1 Normal spontaneous vertex delivery,
 - 13.1.6.2 Uterine massage, and
 - 13.1.6.3 Abnormal presentations.
- 13.1.7 Techniques for restraining patients,
- 13.1.8 Patient positioning techniques for medical emergencies,
- 13.1.9 Techniques and routes for medication administration including:
 - 13.1.9.1 Subcutaneous and intramuscular injections,
 - 13.1.9.2 Intravenous bolus,
 - 13.1.9.3 Intravenous drip,
 - 13.1.9.4 Endotracheal route,
 - 13.1.9.5 Intraosseous route,
 - 13.1.9.6 Rectal route,
 - 13.1.9.7 Sublingual route,
 - 13.1.9.8 Transcutaneous route,
 - 13.1.9.9 Medication nebulizer, and
 - 13.1.9.10 Metered-dose inhaler, with and without spacer, and metered-dose sublingual spray,
- 13.1.10 Cardiac management techniques:
 - 13.1.10.1 Electrical,
 - 13.1.10.2 Defibrillation (automated/manual in accordance with Practice F 1254 and Practice F 1255),
 - 13.1.10.3 Cardioversion,
 - 13.1.10.4 Transcutaneous pacing,
 - 13.1.10.5 External cardiac compression,

⁴ The requirements of Refs 4, 5, and 6 should be taught with regard to the use of this procedure in the field.

- 13.1.10.6 Manual,
- 13.1.10.7 Mechanical, and
- 13.1.10.8 Vagal maneuvers.
- 13.1.11 Techniques to establish intravenous access:
 - 13.1.11.1 Peripheral,
 - 13.1.11.2 Central, and
 - 13.1.11.3 Intraosseous.
- 13.1.12 Urinary catheterization devices,
- 13.1.13 Naso-gastric tubes,
- 13.1.14 Attached or emplaced medical devices—The emergency medical technician (paramedic) shall be able to recognize the following devices and describe the implications that their presence may have on the care of the patient:
 - 13.1.14.1 Enteral tubes,
 - 13.1.14.2 AV shunt/fistula/graft,
 - 13.1.14.3 Chest drainage devices,
 - 13.1.14.4 Ostomies:
 - 13.1.14.5 Gastrointestinal,
 - 13.1.14.6 Urologic, and
 - 13.1.14.7 Airway,
 - 13.1.14.8 Cervical traction fixation devices,
 - 13.1.14.9 Urinary catheters,
 - 13.1.14.10 Indwelling central lines,
 - 13.1.14.11 Indwelling arterial lines,
 - 13.1.14.12 Neonatal transport systems,
 - 13.1.14.13 Peritoneal dialysis catheters,
 - 13.1.14.14 Infusion pumps,
 - 13.1.14.15 Intracranial pressure monitors,
 - 13.1.14.16 Intra-aortic balloon pumps,
 - 13.1.14.17 Fetal monitors,
 - 13.1.14.18 External fixation devices,
 - 13.1.14.19 Ventilators,
 - 13.1.14.20 Pacemakers, and
 - 13.1.15 Pain management.

14. Patient Lifting and Moving

- 14.1 Utilizing proper body mechanics, safely lift and move patients with the following methods:
 - 14.1.1 Log rolls,
 - 14.1.2 Straddle lifts,
 - 14.1.3 Single and multiple rescuer lifts and carries, and
 - 14.1.4 Patient drags.
- 14.2 Move patients utilizing the following mechanical devices:
 - 14.2.1 Stair chair,
 - 14.2.2 Scoop stretcher,
 - 14.2.3 Short/long spinal immobilization devices,
 - 14.2.4 Simple stretcher,
 - 14.2.5 Standard ambulance cot,
 - 14.2.6 Improvised devices, and
 - 14.2.7 Basket litter.

15. Roles and Responsibilities

- 15.1 The emergency medical technician (paramedic) shall be trained to:
 - 15.1.1 Provide scene evaluation and control,
 - 15.1.2 Examine the patient for signs of illness or injury,
 - 15.1.3 Obtain pertinent patient information,
 - 15.1.4 Communicate with and provide emergency manage-

ment for victims of sudden illnesses or injuries,

15.1.5 Ensure that the patient receives the available resources appropriate to his condition, for example, advanced life support, heavy rescue, specialized rescue situations, and so forth, in accordance with local protocol,

15.1.6 Communicate with the family of the patient and other involved individuals at the scene regarding the patient's status, needs, and recommended disposition,

15.1.6 Appropriately package and move the patient to an appropriate medical facility,

15.1.7 Communicate with medical facility for medical direction or to notify of patient's condition, or both,

15.1.8 Maintain accurate records,

15.1.9 Operate and maintain the emergency medical ground vehicle and its equipment and supplies.

15.1.10 Observe all safety precautions to protect self, patient, and others in all hazardous situations, and

15.1.11 Recognize the need for additional training when working with special vehicles such as aircraft, watercraft, and so forth.

15.2 The emergency medical technician (paramedic) shall be trained to act in a professional manner, to maintain an appropriate appearance and to consider the ethical implications of his roles and responsibilities.

15.3 The emergency medical technician (paramedic) shall perform the following functions in the event other emergency services are not available at the accident scene:

15.3.1 Use basic tools and procedures to gain access to and extricate the patient when safe, and

15.3.2 Control of the accident scene.

15.4 The emergency medical technician (paramedic) shall receive instruction in the organization of the emergency medical services system and the role of the emergency medical technician (paramedic) within the emergency medical services system.

15.5 The emergency medical technician (paramedic) shall be familiar with state and local EMS laws, codes, regulations, and policies.

15.6 The emergency medical technician (paramedic) shall be familiar with the role of medical direction in the delivery of pre-hospital emergency medical care including on-line and off-line medical control.

16. Legal Issues

16.1 The emergency medical technician (paramedic) shall receive instruction in the following legal concepts:

16.1.1 Standard of care,

16.1.2 Duty to act,

16.1.3 The emergency medical technician (paramedic) shall be trained to describe and report the following as required by law:

16.1.3.1 Child, adult, or elderly abuse,

16.1.3.2 Injury due to criminal act,

16.1.3.3 Drug-related injuries,

16.1.3.4 Childbirth,

16.1.3.5 Animal bites,

16.1.3.6 Attempted suicides,

16.1.3.7 Assaults and rape,

16.1.3.8 Scene of a crime,

- 16.1.3.9 The deceased, and
- 16.1.3.10 Communicable disease.
- 16.1.4 Patient Consent:
 - 16.1.4.1 Implied consent,
 - 16.1.4.2 Informed consent,
 - 16.1.4.3 Actual/expressed consent,
 - 16.1.4.4 Minor's consent,
 - 16.1.4.5 Consent of the mentally ill/diminished mental capacity,
 - 16.1.4.6 Patient's right to refuse treatment,
 - 16.1.4.7 Use of restraint,
 - 16.1.4.8 Do not resuscitate orders and living wills,
 - 16.1.4.9 Medical power of attorney, and
 - 16.1.4.10 Voluntary/involuntary commitment and hold.
- 16.1.5 Legal liability:
 - 16.1.5.1 Liability insurance,
 - 16.1.5.2 Torts,
 - 16.1.5.3 Abandonment,
 - 16.1.5.4 Negligence,
 - 16.1.5.5 Immunity from liability laws,
 - 16.1.5.6 Libel,
 - 16.1.5.7 Assault and battery, and
 - 16.1.5.8 False imprisonment.

17. Certification and Licensure

17.1 Licensure, certification, and recertification shall be reviewed according to national, state, regional, and local requirements and shall include the following:

- 17.1.1 EMS statutes and regulations,
- 17.1.2 Medical practices act, and
- 17.1.3 EMS professional associations (for example, National Association of EMTs; National Registry of EMTs; National Association of State EMS Directors; National Association of EMS Physicians; and local, state, and regional organizations).

18. Stress Management/Critical Incident Stress

18.1 The occupation of an emergency medical technician (paramedic) is highly stressful and the training shall include the recognition and management of stress and stress reactions in self and family.

18.2 The emergency medical technician (paramedic) shall be taught the concept of critical incident stress, its long-term consequences, and how critical incident stress debriefing is used to mitigate its effects.

18.3 The emergency medical technician (paramedic) shall be taught techniques to assist the patient's family in recognizing and dealing with anxiety and stress related to acute incidents.

19. Patient Communication Problems

19.1 The emergency medical technician (paramedic) shall be trained to communicate effectively with the following types of patients and families, and in the following situations:

- 19.1.1 Geriatric,
- 19.1.2 Speech/hearing-impaired,
- 19.1.3 Blind,
- 19.1.4 Non-English speaking,
- 19.1.5 Confused,

- 19.1.6 Mentally disabled,
- 19.1.7 Sudden death crisis,
- 19.1.8 Terminal disease,
- 19.1.9 Abuse/assault,
- 19.1.10 Suicidal, and
- 19.1.11 Pediatric.

20. Records and Reports

20.1 The emergency medical technician (paramedic) shall be taught to prepare and maintain run reports and records on each patient, and the relation of such records to:

- 20.1.1 Continuity of care,
- 20.1.2 Patient's permanent medical record,
- 20.1.3 Evaluating the quality of care,
- 20.1.4 Legal evidence,
- 20.1.5 Administrative information, and
- 20.1.6 Research purposes.

20.2 The emergency medical technician (paramedic) shall be taught that essential patient care information for the record includes:

- 20.2.1 Patient's name, sex, age, and address,
- 20.2.2 Chief complaint and nature of illness or type and mechanism of injury,
- 20.2.3 Location of patient upon arrival at the scene,
- 20.2.4 Rescue and treatment measures provided by bystanders and first responders,
- 20.2.5 Findings of the primary and secondary surveys,
- 20.2.6 Care given at the site and during transport,
- 20.2.7 Vital signs, patient condition, and any changes of either during transport,
- 20.2.8 Source of on-line medical direction and disposition (receiving hospital or other),
- 20.2.9 Disposition of patient's valuables,
- 20.2.10 Signature of patient or legal guardian if patient care is refused, or notation and witnessed if patient refused to sign,
- 20.2.11 Circumstances involved in special situations identified in 16.1.3,
- 20.2.12 Unusual circumstances that affected patient care, and
- 20.2.13 Times of treatment interventions.

20.3 The emergency medical technician (paramedic) shall consider all patient information confidential and shall release it only to the proper authorities.

20.4 The emergency medical technician shall be taught the rationale and importance for recording other pertinent information about each run including such things as the various response time intervals, other responder organizations, location information, and so forth.

21. Multiple-Casualty Incidents

21.1 The emergency medical technician (paramedic) shall be able to perform triage in a multiple-casualty incident in accordance with 9.3 of Guide F 1288.

21.2 The emergency medical technician (paramedic) shall be trained in the concept and application of the incident management system as described in Ref (7).

22. Hazardous Materials

22.1 The emergency medical technician (paramedic) shall

be familiar with national and state standards or regulations regarding hazardous materials incidents.

22.2 The emergency medical technician (paramedic) shall be taught how to provide emergency care to patients who have been exposed to and decontaminated of hazardous materials including radiation.

23. Quality Improvement

23.1 The emergency medical technician (paramedic) shall be trained about the purpose and importance of quality improvement programs.

23.2 The emergency medical technician (paramedic) shall be taught how to participate in quality improvement activities.

24. Vehicle and Equipment Maintenance

24.1 The emergency medical technician (paramedic) will ensure routine vehicle and equipment preventive maintenance, regular inspections, and inspections after each run.

25. Ground Emergency Vehicle Driving

25.1 The emergency medical technician (paramedic) shall be trained to identify the risks associated with emergency medical ground vehicle operations.

25.2 The minimum training standard for ground emergency vehicle driving shall include a review of state, regional, and local laws, regulations, or ordinances or protocols that specifically addresses the following:

25.2.1 Vehicle parking or standing regulations.

25.2.2 When applicable, the emergency medical technician (paramedic) shall receive instruction in ambulance operations.

25.2.3 The emergency medical technician (paramedic) shall receive didactic instruction in defensive driving, accident avoidance, and principles of vehicle control.

25.3 The emergency medical technician (paramedic) shall receive instruction regarding the effects of vehicle operation on patient care, comfort, and safety.

26. EMSS Communications Subsystem Use

26.1 The emergency medical technician (paramedic) shall receive instruction about the EMSS communications subsystem. Such training shall include:

26.1.1 Relevant subparts of Part 90 of the FCC regulations,

26.1.2 The functions procedures and equipment used in the emergency medical dispatch process in accordance with Practice F 1258,

26.1.3 Notifying hospital emergency departments of incoming patients,

26.1.4 Typical communications equipment and protocol used for state, regional, or local areas,

26.1.5 Communicating pertinent patient information,

26.1.6 Receiving medical direction in accordance with local protocol,

26.1.7 Detection and reporting of accidents to dispatcher,

26.1.8 Alerting other emergency resources,

26.1.9 Maintaining contact between the vehicle, dispatcher, and hospital, and

26.1.10 Communicating with other emergency services, as needed.

27. Helicopter Operations

27.1 The emergency medical technician (paramedic) shall be educated about the basic concepts needed to work with aeromedical helicopters, including:

27.1.1 Landing zone selection and preparation,

27.1.2 Effect of barometric changes on patients and medical equipment (for example, air splints),

27.1.3 Safety around helicopters, and

27.1.4 Appropriate role of helicopter transportation in the EMS system.

28. Keywords

28.1 accidental poisoning; absorbed through the skin; accidental poisoning; exposure to radiation and other hazardous materials; accidental poisoning; inhaled poisons; accidental poisoning; substance ingestion; acute abdomen; acute mountain sickness; air embolism; airway management; airway management devices; burns; cardiac arrest—non traumatic; cardiac arrest—secondary to severe hypothermia; cardiac emergency; cerebrovascular accident; certification; chest injuries; closed soft tissue injuries; communication problems; decompression sickness; diabetic emergencies; dislocations; emergency ground vehicle operation; emergency medical technician (paramedic); EMT; EMT—P; examination techniques; fractures; frostbite; frostnip; hazardous materials; heat-related illness; head injuries; hypothermia; injuries; injuries to the eye; insect bites and stings; legal issues; licensure; management techniques; medical emergencies; multiple casualty incidents; non-traumatic chest pain; open soft tissue injuries; paramedic; pertinent patient information and scene evaluation; primary assessment; primary survey; preparation for medical transportation; quality assurance; radio communications; records; reports; respiratory medical emergencies; respiratory medical emergency in children; role; roles and responsibilities; secondary assessment; secondary shock; seizure; shock; skills; spinal column injuries; stress; training; unconscious patient; universal blood and body fluid precautions; venomous snake bites

REFERENCES

- (1) Centers for Disease Control: *Recommendations for Prevention of HIV Transmission in Health-Care Settings*, MMWR 1987;36 (Suppl No 2S):3S–18S.
- (2) Centers for Disease Control: Update: *Universal Precautions for Prevention of Transmission of Human Immunodeficiency Virus, Hepatitis B Virus, and Other Bloodborne Pathogens in Health-Care Settings*, MMWR 1988;37 No. 24:377–382.
- (3) “Occupational Exposure to Bloodborne Pathogens: Final Rule,” *Federal Register*, Vol 56, No. 235, Dec. 6, 1991, pp. 64175–64182.
- (4) “Guidelines and Recommendations for Cardiopulmonary Resuscitation and Emergency Cardiac Care,” *Journal of the American Medical Association*, Vol 268, No. 16, Oct. 28, 1992, pp. 2171–2302.
- (5) Chameides, et al, *Textbook of Pediatric Advanced Life Support*, American Heart Association. Dallas, TX, 1988.
- (6) Hackett, P., et al, *State of Alaska Cold Injury Guidelines*, Alaska Department of Health and Social Services. 1989.
- (7) National Wildfire Coordinating Group, NFES-2426, *Incident Command System Curriculum Syllabus*, National Interagency Fire Center, Supply, 3833 South Development Ave., Boise, ID 83705, 1995.

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