Chapter One: Preparatory

Lesson 1-1: Introduction

- Standing orders are accomplished per protocols and it is not necessary to contact medical direction for prior approval.
- When provided with online medical direction, the EMT should repeat the order verbatim for clarity. If the order involves the administration of medication, the EMT should be sure to state the drug, dosage, and route of administration.
- If medical direction provides instructions that are certain to harm the patient, be sure to ask for clarification after explaining the situation in greater detail.

Lesson 1-2: Well-Being of the EMT

- The Emergency Response Guidebook should be available in every ambulance for rapid identification of possible HAZMAT incidents.
- Infection is the most life threatening condition which results from AIDS.
- Standard precautions include the practice of protecting yourself from disease transmission from exposure to blood and body fluids.
- In the EMT stress reactions may occur as a result of traumatic calls. These events may manifest themselves through excessive irritability.

Lesson 1-3: Medical/Legal

- When treating a patient who is a victim of a crime scene, be careful not to cut through bullet holes or stab wounds in their clothing as this may be necessary for proper investigation.
- Assault is defined as the intentional act of placing a person in fear of immediate physical danger.
- Informed consent occurs when the patient agrees to treatment after being advised of the possible risks and benefits.
- Proximate cause is the most difficult to prove in most negligence cases involving EMTs.
- EMTs that work for public EMS agencies are often covered by sovereign immunity.
- You may encounter situations where hospital staff have requested that you transport patients who carry equipment or medication that you cannot. In these situations, advise them that you are not permitted to do so and work with them in a cooperative manner if they request you wait until medications are finished or equipment is disconnected, if permitted by protocol.
- When an alert and orient patient is refusing transportation to the hospital, you should always call medical control.

Lesson 1-4: The Human Body

- The primary function of the heart is to circulate blood.
- Sodium potassium pump failure may result in rupture of the cells and swelling.
- The kidney participates in whole-body homeostasis, regulating acid-base balance, electrolyte concentrations, extracellular fluid volume, and regulation of blood pressure.

Lesson 1-5: Basic Vital Signs
Vital signs and skin color are both items included in the USDOT minimum data set.

Pulse Oxymetry may be used as a vital sign tool in order to confirm adequate breathing along with other factors.

When caring for a patient who begins to experience dizziness related to positional changes, you should immediately lie the patient down.

The EMT will listen to over the brachial artery when assessing the patient for a blood pressure with a blood pressure cuff and stethoscope.

Orthostatic blood pressure is defined as a systolic blood pressure decrease of at least 20mmHg or diastolic blood pressure decrease of at least 10mmHG within 3 minutes of standing. It may also be associated with an increase in the patient’s pulse rate.

The popliteal pulse is located behind the knee.

Lesson 1-6: Lifting & Moving Patients

- When pushing an object, you should be sure to push from between your waist and shoulder.
- Always call for lift assistance when you do not feel that you can move the patient without injuring yourself, your partner or the patient.
- When lifting, you should always take care to use your legs.
- When standing, the proper position is upright, with your head, shoulders and hips vertically aligned.
- The scoop stretcher is designed for use in confined areas.

Chapter Two: Airway

Lesson 2-1: Airway

- In patients with snoring respirations, it is important to first ensure their airway is open.

- Positive Pressure Ventilation, but not airway insertion, is indicated in situations where a patient is able to maintain his/her airway, but is not breathing adequately.
- The EMT should take care NOT to insert a nasal or oral airway or provide positive pressure ventilation when the patient’s airway is open and breathing is adequate.
- Looking for chest rise and fall is a way of determining adequate breathing.
- Adequate chest rise and fall is a sign of effective ventilation of a patient in respiratory arrest.
- A patient with an SPO2 lower than 90% should be immediately treated for hypoxia.
- After effectively managing airway secretions, it is important for you to immediately assess/reassess breathing.

Chapter Three: Patient Assessment

Lesson 3-1: Scene Size-Up
Scene safety is critical. In the event that you feel your life is threatened, you should remove yourself, your partner and anyone else from the scene possible, taking care in that order as feasible under the circumstances.

It is important to take charge of the scene as an EMT.

Inadequate breathing requires positive pressure ventilation and high flow Oxygen administration.

When encountering a Mass Casualty Incident, determining the number of patients should take place prior to assessing each patient specifically.

Calling for additional units to respond to the scene, if possibly necessary, should be done as soon as possible and sometimes prior to patient contact/upon visual inspection from your unit.

With regard to crowds, angry mobs are more dangerous, even more so than intoxicated individuals or larger groups.

For motor vehicle accidents, you should place a warning device, such as a flare 500 feet in each direction from the collision scene.

Lesson 3-2: Initial Assessment

After Airway and Breathing have been assessed and addressed, it is important to manage circulation through bleeding control.

If you are unable to assess a radial pulse, you should immediately check for a carotid pulse.

Speaking loudly and clearly is the best technique with regard to communication with elderly who might have hearing impairment.

Patients may provide reliable and unreliable information to providers. It is more likely that if you establish good rapport, the patient will provide you with reliable information.

In trauma situations where manual cervical stabilization has taken place prior to your arrival, always keep in mind that you have a responsibility to initiate Oxygen therapy as soon as possible.

School aged children (6-12 years) are usually trusting of EMS personnel.

You should begin forming your general impression of a patient as you are approaching him/her.

Lesson 3-3: Focused History and Physical Exam - Trauma

In motor vehicle accidents, a lateral type mechanism occurs when a vehicle is struck from the side.

If a patient is unconscious and you suspect that he/she has hit their head, the jaw-thrust maneuver is recommended to open the patient’s airway.

According to the CDC, Motor Vehicle Accidents are the top killer for age 5-34 in the US.

When considering using a rapid trauma assessment versus a focused assessment, you should first determine if there is the potential for multiple injuries and if so, conduct a rapid assessment.

Lesson 3-4: Focused History and Physical Exam - Medical

For an unconscious, unresponsive patient with snoring respirations and no suspicion of trauma, initial management of the patient requires opening the airway using the head-tilt, chin lift maneuver.

3-5: Detailed Physical Exam

The Markel (heel drop) test examines the patient for peritonitis and involves having the patient stand on their toes and then quickly dropping to their heels to see if it increases abdominal pain.

Cataracts make the eyes appear cloudy.
Liver disease may cause swelling to the abdomen (ascites) and extremities. 
During a detailed trauma assessment, it is important to assess every area to ensure that all injuries are assessed, managed and documented appropriately. 
Obtaining the patient’s past medical history and vital signs is a part of your secondary assessment. 
When dealing with a patient complaining of abdominal pain, they should be permitted to be in a position of comfort.

Lesson 3-7: Communication
- Making eye contact is the most effective way of improving communication.
- The FCC is responsible for establishing/enforcing regulations relating to radio operations.
- With regard to crowds, angry mobs are more dangerous, even more so than intoxicated individuals or larger groups.

Lesson 3-8: Documentation
- After providing medication to a patient, if they feel that they would like to refuse, you can advise the patient that it is possible that the medication may wear off. It is the EMTs responsibility to inform them of the risks and consequences of refusal.
- Addendums to your Patient Care Report should be made as soon as possible, but may be documented at another date as long as the EMT makes sure to date the addition with the current date and sign or initial.
- When dealing with an intoxicated patient, it is important to ensure that your patient care report includes factual and objective statements.
- Documentation of all events surrounding your care is your best defense in the event that a patient threatens to sue you.

Chapter Four: Medical

Lesson 4-2: Respiratory Emergencies
- For a metered-dose inhaler, the EMT should wait at least 2 minutes prior to administration of another dose.
- Patients with a history of COPD are more prone to spontaneous pneumothorax as a result of areas called blebs which are weaker areas of lung tissue. Decreased or absent sounds on the side of the affected area is a sign of spontaneous pneumothorax.
- Oxygen therapy with humidification is less drying than without humidification. This may help increase patient comfort.
- When caring for a patient with inadequate breathing who has a stoma, you can attach a BVM and provide positive pressure ventilation with high flow oxygen.
- Atrovent, a medication indicated for use in asthma, is indicated in a patient who is having difficulty breathing.
- Severe respiratory distress indicates that you should start positive pressure ventilation.
- When a patient complains of shortness of breath, you should immediately treat them with Oxygen administration.
Lesson 4-3: Cardiac Emergencies

- If a patient has a transdermal medication patch on his/her chest remove it and wipe the area prior to delivery of a shock. For a pacemaker, do not put the AED pads directly over the device. Place them at least 1 inch away. Moving hair away can be accomplished by removing the electrodes quickly from the chest or using a sterile razor.
- Difficulty breathing while supine, not associated with fever may be indicative of CHF.
- AEDs do not determine if the patient is in cardiac arrest or not; they only determine whether to shock based upon the patient’s heart rhythm. AEDs are also proven to be quicker at delivering the first shock than manual defibrillators.
- Treatment for patients in respiratory distress with associated crackles and other symptoms of CHF requires that you place the patient in an upright position, unless the patient is not comfortable in that position.
- The left ventricle, when weakened by a heart attack may cause fluid to back up into the lungs. This is a simplified pathophysiological explanation of CHF.
- Nitroglycerine dilates the blood vessels and this decreases the workload of the heart.
- Prior to shocking a patient using the AED ensure that no one is touching the patient or anything that might conduct the shock that is in contact with the patient, such as metal.
- Chest pain associated with blunt force trauma may result in failure of the chest cavity to fully expand.
- After delivering a shock with the AED, you will want to perform CPR for two minutes.
- Infants and children who are not breathing and have a pulse rate less than 60 require immediate CPR.

Lesson 4-4-0: ALOC

- Syncopal episodes are often very brief in duration.

Lesson 4-4-1: Diabetic Emergencies

- Often, definitive care (not prehospital care) of patients with extremely high blood sugar usually involves the administration of Insulin.
- The brain cannot use anything else but glucose for its energy.
- In order to effectively use a glucometer, the EMT should be sure to waste the first drop of blood obtained from the patient’s finger. This will serve to ensure a clean specimen for the glucometer.
- Determination of the patient’s blood sugar level is necessary in order to provide the patient with oral glucose.
- Fruity or sweet odors emanating from a patient’s breath may indicate hyperglycemia.
- Byetta is a drug taken for the treatment of Diabetes Type II.
- Diabetic retinopathy occurs as a result of blood vessel damage to the eye.

Lesson 4-4-2: Stroke

- Signs and symptoms of stroke include garbled speech and unilateral paralysis among other symptoms.
- Rapid transportation to a stroke center is key to improving patient outcome.
- Recognition of stroke signs is critical to determining appropriate care for the stroke victim.

Lesson 4-4-3: Seizures
Restraint of a patient experiencing a seizure is inappropriate. Rather, care should be supportive so as to minimize the damage from the floor and nearby objects.

Urinary incontinence is a sign of seizure.

A seizure associated with head trauma is a serious condition that needs rapid transportation to the hospital and immediate care.

**Lesson 4-5: Anaphylactic Reactions**

- Anaphylactic and anaphylactoid reactions are both hypersensitivity reactions where anaphylactic reactions require prior sensitization to a foreign substance and anaphylactoid reactions do not. They are both treated the same.
- Hypotension may occur in anaphylactic reactions.
- Anaphylaxis is the most severe type of allergic reaction.
- Medications are the most common cause of allergic reactions.
- Allergic reactions that occur rapidly tend to be more severe.

**Lesson 4-6: Overdose/Poisoning**

- Activated charcoal should be administered within 1 hour for the greatest effect and should not be used for ingestions of bleach ammonia, or ethyl alcohol.
- Delirium tremens is a life threatening emergency and requires rapid transportation to the hospital.
- When dealing with an intoxicated patient, it is important to ensure that your patient care report includes factual and objective statements.

**Lesson 4-7: Environmental Emergencies**

- For heat emergencies, the direst sign which requires rapid transportation is hot and dry skin.
- For patients experiencing heat stroke, passive cooling, through use of cold packs to the groin and armpits is recommended for the EMT.
- In hypothermia cases, death can occur within a few minutes when the temperature of water is 50 degrees Fahrenheit or less.
- For a diving emergency, it is your immediate responsibility as an EMT to administer oxygen and transport the patient to the hospital. Contact medical direction for consultation of transportation to a recompression chamber.
- Care of the hypothermic patient is most critical within the first 30 minutes.
- A personal flotation device is necessary when working a water rescue scene and the EMT is within 10 feet of the water.

**Lesson 4-8: Behavioral Emergencies**

- In order to determine the condition type, you should first rule physical trauma in behavioral emergencies.
- Behavioral emergencies as opposed to psychiatric emergencies, usually involve patients with no diagnosed psychiatric history.
- When caring for a patient in emotional distress, the EMT should be sure not to make conclusory or judgmental statements.
- Drug abusers take pain medication when they are not in pain.

**Lesson 4-9: OBGYN Emergencies**
Chapter Five: Trauma

Lesson 5-1: Bleeding & Shock
- The EMT should prepare for massive internal bleeding when the patient has a history of unstable abdominal aortic aneurysm.
- Internal bleeding should always be suspected with signs and symptoms of shock such as cool, pale and clammy skin.
- Definitive care for patients with severe iron deficiency anemia may include a blood transfusion.
- The body increases systemic vascular resistance when cardiac output is decreased.
- Because the spleen is a solid organ, the chances of sustaining a life-threatening condition after a gunshot wound to the spleen is greater than with other organs.
- When a seatbelt is improperly worn low and there is a head-on impact, it is possible that the patient may dislocate their hips.

Lesson 5-2: Soft Tissue Injuries
- The rule of nines for infants includes the head as 18% of the total body surface area.
- Dressings are used primarily to stop bleeding and bandages are placed over the dressings in order to secure them and prevent further bleeding.
- Patients with large areas of 2\textsuperscript{nd} and 3\textsuperscript{rd} degree burns are likely to subsequently suffer from hypothermia.

Lesson 5-3: Musculoskeletal Injuries
- With open fractures, the EMT must take care not to manipulate the bone directly as this may cause further damage and internal bleeding from jagged bone ends.
- Primary treatment for a possible flail chest includes manual stabilization with the EMTs hand.
- Effective splinting of a broken bone may result in pain reduction.

Lesson 5-4: Injuries to the Head & Spine
- In trauma assessment, Cerebral Spinal Fluid is the best indicator that the meningeal layers have been penetrated.
- When a child places something in their ear or nose, do not attempt to remove the object. Instead transport the patient to the hospital for removal.

Chapter Six: Infants & Children

Lesson 6-1: Pediatric Emergencies
- For children in respiratory distress (difficulty breathing with adequate breathing), allow the child to assume a position of comfort and sit on the lap of the parent, apply oxygen via non-rebreather mask, and
be prepared for PPV support at anytime. Make sure to have your equipment ready in the event the patient crashes.

- The EMT should be cognizant of the differences between children and adults as children require simple and direct communication.
- In situations involving suspected child abuse, it is important to ensure that your patient care report includes factual and objective statements.
- A normal infant’s body temperature may range from 98-100 degrees Fahrenheit.
- When providing care for infants with who are crying, you should ask the parents if the child’s cry seems different than normal.
- Mucus which occludes the airway is a valid concern in pediatric patients.
- If a child or infant will not allow you to place a pulse oxymetry sensor on their finger, you may try their toe.