Chapter 10
Medical Emergencies

Learning Objectives

- Identify the patient who presents with a general medical complaint
- Demonstrate the steps of emergency medical care for a patient with a general medical complaint
- Identify the patient who presents with a specific medical complaint of altered mental status

Learning Objectives

- Demonstrate the steps of emergency medical care for a patient with altered mental status
- List some different causes of altered mental status
- Differentiate between hypoglycemia and hyperglycemia
Learning Objectives

- Identify the patient who presents with a specific medical complaint of seizures
- Demonstrate the steps of emergency medical care for a patient with seizures
- Identify the patient who presents with a behavioral emergency

Learning Objectives

- Demonstrate the steps of emergency medical care for a patient with a behavioral change

Introduction

- As an EFR, you may be called to attend to patients with a variety of medical complaints
  - Complaints may result from long-term (chronic) disease processes that affect one or more body systems, or the complaint may be sudden (acute) in nature such as:
    - Chest pain
    - Difficulty breathing
    - Sudden change in mental status
    - Abdominal pain
As an EFR, you may be called to attend to patients with a variety of medical complaints:

- Complaints may result from long-term (chronic) disease processes that affect one or more body systems, or the complaint may be sudden (acute) in nature such as:
  - Poisoning
  - Insect stings
  - Animal bites
  - Exposure to extremes in heat or cold
  - Behavioral emergency

With any patient assessment, you must begin with a scene size-up:

- This includes:
  - Putting on appropriate personal protection equipment (PPE)
  - Ensuring the scene is safe
  - Assessing the mechanism of injury or nature of illness
  - Determining the need for additional resources

Form a general impression of the patient and then conduct a primary assessment:

- Identify and treat any life-threatening conditions within the primary assessment
- Communicate the patient's condition to other health care providers as required
General Medical Emergencies

- Begin the secondary assessment by gathering the patient’s SAMPLE history
  - Ask conscious patients about their primary complaint or the reason they called for help

General Medical Emergencies

- Take the patient’s vital signs, if you have been trained to do so, and perform a physical examination as indicated
  - Focus on the area of the primary complaint during your physical examination of conscious patients
  - For unconscious patients or those without a specific primary complaint, perform a systematic hands-on physical examination

General Medical Emergencies

- The care of a medical emergency is based on the patient’s signs and symptoms
  - Signs are abnormalities that can be seen, felt, or heard in your assessment of the patient’s body such as:
    - Bruises
    - Cuts
    - Bony deformities
    - Irregular pulse
General Medical Emergencies

- The care of a medical emergency is based on the patient's signs and symptoms
  - Symptoms are complaints or abnormal feelings that the patient describes to you such as:
    - Nausea
    - Difficulty breathing
    - Dizziness
    - Pain

After completing your primary and secondary assessments and treating any signs and symptoms:
- Perform ongoing assessments while you wait for additional healthcare providers to arrive

Specific Medical Emergency

- Difficulty breathing
  - A frequent and potentially life-threatening situation for which EFRs will be called to assist patients
  - Respiratory emergencies involve some disruption in the patient’s normally effortless act of breathing
Specific Medical Emergency

- Difficulty breathing
  - Chronic obstructive pulmonary disease (COPD)
    - Is a collection of diseases that causes obstruction of the airways and makes breathing difficult
    - These include chronic bronchitis and emphysema

Specific Medical Emergency

- Difficulty breathing
  - Asthma
    - Disease that causes reversible narrowing and spasm of the bronchi and excessive mucus production
    - Patients will have distress, particularly on exhalation, and they often have an audible expiratory wheeze

Specific Medical Emergency

- Difficulty breathing
  - Chest pain
    - Another common medical complaint for which an EFR will be called on to assist
    - Can be caused by a number of reasons
      - Assume that any patient with chest pain has a life-threatening condition unless proven otherwise
Specific Medical Emergency

- Chest pain
  - Heart
    - Acute coronary syndromes is a term used to describe a group of cardiac emergencies; these include:
      - Myocardial infarction
      - Angina
      - Abnormal heart rhythms (dysrhythmias)

- Myocardial infarction
  - A myocardial infarction (MI), or “heart attack”
  - Caused by the blocking of an artery that provides the heart muscle’s blood supply (coronary artery)

- Angina
  - Is also a condition caused by the narrowing of the coronary arteries
Specific Medical Emergency

- Chest pain
  - Heart
    - Dysrhythmias
      - Abnormal heart rhythms can cause less effective pumping of the heart and circulation of the blood

Specific Medical Emergency

- Chest pain
  - Lungs
    - Illness or injury in the lungs can also cause chest pain
      - Examples of conditions that occur in the lungs are pulmonary embolus (PE) and congestive heart failure (CHF)

Specific Medical Emergency

- Chest pain
  - Lungs
    - Pulmonary embolus
      - A life-threatening cause of chest pain is a pulmonary embolus, or a blood clot, that has lodged in the lungs
Specific Medical Emergency

- Chest pain
  - Lungs
    - Congestive heart failure
      - Condition in which the heart is weakened by disease and is unable to pump efficiently

Specific Medical Emergency

- Altered mental status
  - A sudden or gradual decrease in a patient’s level of responsiveness or understanding
  - Also called altered level of consciousness
    - Condition can range from disorientation to a complete lack of responsiveness

Specific Medical Emergency

- Altered mental status
  - As an EFR, your focus should be on supporting the patient and maintaining scene safety
    - Depending on the cause of the incident, patient’s mental status may rapidly return to normal, may deteriorate, or may stay altered indefinitely
Specific Medical Emergency

- Altered mental status
  - Diabetes
    - One of the more common causes of an altered mental status without a history of injury

Specific Medical Emergency

- Altered mental status
  - Diabetes
    - Disease in which the pancreas does not produce an adequate amount of insulin based on the body’s demand
      - May also be the result of the body not using insulin effectively

Specific Medical Emergency

- Altered mental status
  - Diabetes
    - Hyperglycemia
      - Or high blood sugar
      - Has a gradual onset and results when there is glucose available but not enough insulin to accompany the glucose into the cells to be metabolized
Specific Medical Emergency

- Altered mental status
  - Diabetes
    - Hypoglycemia
      - Or low blood sugar
      - Occurs when the patient has too much insulin and too little glucose

Another name for hypoglycemia is insulin shock.
The emergency management for a diabetic emergency is the same as the general management for altered mental status.

Specific Medical Emergency

- Altered mental status
  - Seizures
    - Another frequent cause of altered mental status
    - Sudden attack that usually results from a nervous system malfunction
    - It is like a short circuit in the electrical activity of the brain
Specific Medical Emergency

- Altered mental status
  - Seizures
    - There are many causes of seizures including:
      - Chronic medical conditions
      - Fever
      - Infections
      - Poisoning (including drugs and alcohol)

Specific Medical Emergency

- Altered mental status
  - Seizures
    - There are many causes of seizures including:
      - Low blood sugar
      - Brain injury
      - Decreased levels of O2
      - Brain tumors
      - Complications from pregnancy
      - Unknown

Specific Medical Emergency

- Altered mental status
  - Seizures
    - Any patient having a seizure should be seen by a physician as soon as possible
    - Some seizures produce violent muscle contractions called convulsions
      - Body may stiffen and then jerk violently
      - May lose bowel and bladder control and may briefly stop breathing
      - May become unresponsive during a seizure
      - May vomit, which can compromise the airway
Specific Medical Emergency

- Altered mental status
  - Seizures
    - EFR’s role is to provide supportive care to a patient having seizures
    - Never restrain the patient
    - Do not put anything in the patient’s mouth
    - Continually ensure that the airway is open and provide rescue breathing if needed
    - If available, and if you are trained in its use, provide O₂ to the patient

Specific Medical Emergency

- Altered mental status
  - Seizures
    - If there is no indication of spinal injury, place the patient in the recovery position when the seizure has ended
    - Give a detailed account of your observations of the seizure to the responding healthcare providers

Specific Medical Emergency

- Altered mental status
  - Stroke
    - Another potentially life-threatening cause of altered mental status is stroke or cerebral vascular accident (CVA)
      - Patients have narrowed arteries similar to those that cause a heart attack
        - However, rather than disrupting circulation to the heart muscle, blood flow to the brain is disrupted, causing death of brain tissue
Specific Medical Emergency

- Altered mental status
  - Stroke
    - Early detection of the signs and symptoms of stroke is critical to the patient’s survival
    - During your assessment of a patient suspected of having a stroke, you may use a screening test
      - Such as the Cincinnati Prehospital Stroke Scale, which quickly assesses facial droop, arm drift, and speech pattern

Specific Medical Emergency

- Acute abdomen
  - Term used to describe a sudden onset of abdominal pain
    - Pain may be the result of a medical emergency or trauma
      - Patient with an acute abdomen may not experience pain just in the abdomen
        - Pain may be referred to different parts of the body such as the neck or back
        - Patient may also guard the abdomen
Specific Medical Emergency

• Acute abdomen
  ➢ Term used to describe a sudden onset of abdominal pain
    ▶ As an EFR, you should recognize that abdominal pain can have a life-threatening cause, and the patient should be seen by a physician as soon as possible
    ▶ Signs and symptoms of acute abdomen:
      ▶ Abdominal pain
      ▶ Nausea and vomiting
      ▶ Abdominal guarding
      ▶ Distended or rigid abdomen
      ▶ Shock

Specific Medical Emergency

• Acute abdomen
  ➢ Term used to describe a sudden onset of abdominal pain
    ▶ The emergency management of an acute abdomen for an EFR is mainly supportive
      ▶ Maintain an open airway
      ▶ Provide rescue breathing if needed
      ▶ Treat signs and symptoms of shock
      ▶ Calmly reassure the patient until help arrives
      ▶ If there are no signs or symptoms of shock, a conscious patient should be allowed to assume a position of comfort

Specific Medical Emergency

• Behavioral emergencies
  ➢ Behavior—the way a person acts or performs or a person’s physical and mental activities
  ➢ Occurs when a patient exhibits behavior that is unacceptable or intolerable to the patient, family, or community
Specific Medical Emergency

### Behavioral Emergency

- Occurs when a patient exhibits behavior that is unacceptable or intolerable to the patient, family, or community
  - Such inappropriate behavior may be caused by extremes of emotion that lead to violence, or other causes
  - May also be caused by a psychological or physical condition

As an EFR, you may encounter patients with behavioral emergencies
- It is important to do a thorough scene size-up
- Do not enter a scene that is potentially unsafe unless you have undergone special training
- Do not leave patients having a behavioral emergency alone unless you are in danger

The following guidelines should be used while assessing patients with a behavioral emergency:
- Identify yourself, and let the person know you are there to help
- Explain to the patient what you are doing
- Do not make quick moves
- Ask questions in a calm, reassuring voice
- Ask the patient what happened, without being judgmental
Specific Medical Emergency

Behavioral emergency
- The following guidelines should be used while assessing patients with a behavioral emergency:
  - Prove that you listen and understand by rephrasing or repeating parts of what the patient says
  - Acknowledge the patient’s feelings
  - Respond with honest answers
  - Involve trusted family members or friends if needed
  - Assess the patient’s mental status

Specific Medical Emergency

Violent situations
- During scene size-up, assess for potential violent situations
- Ask family members and bystanders whether the patient has a known history of aggression or combativeness

Specific Medical Emergency

Violent situations
- Assess the patient’s physical activity
- Personal safety is your first responsibility
- Remember you cannot perform your skills as an EFR when you are injured or incapacitated
Specific Medical Emergency

- Violent situations
  - Possible situations/environment that may escalate into violence include the following:
    - Any incident in which guns or knives are involved
    - Situations in which hostages are involved
    - Situations in which physical assault has occurred
    - Large gatherings of people such as a demonstration
    - Situations in which your actions as an EFR will disrupt an ongoing event such as a sporting event
    - Environments in which drugs or alcohol are being consumed

Specific Medical Emergency

- Restraints
  - To this point, this book has avoided the controversial subject of restraints
    - In general, because no patient should be treated or transported against his or her will, restraints are not recommended

Specific Medical Emergency

- In working with patients who have medical emergencies, you will encounter numerous medications
  - As part of the healthcare team, it is important that you recognize some of these medications, understand what they are used for, and in some jurisdictions, know how to help administer them
Many patients with chronic respiratory conditions such as asthma or COPD use inhaler medications called bronchodilators to relieve acute episodes of breathing difficulty. Inhalers come in a variety of brands such as Proventil, Ventolin, or Alupent; however, all of them work in the same way:

- Relaxes the smooth muscle in the bronchi of the lungs
- Relaxation relieves the constricted airways and makes breathing easier

To assist a patient with an inhaler, you must ensure that the following conditions are met:

- Patient is in respiratory distress
- Patient has a currently prescribed inhaler
- There is a doctor’s order to assist the patient with the inhaler
- The patient has not already taken the maximum number of puffs prescribed
Specific Medical Emergency

- **Epi-Pen**
  - Patients with severe life-threatening allergies may be prescribed an Epi-Pen to carry with them
  - Epi-Pen Autoinjector is a device that contains the drug epinephrine

Specific Medical Emergency

As an EFR, you should ensure that the Epi-Pen is a currently prescribed medication for the patient
- Generally only EMTs and paramedics assist with a patient’s medications; check with your local protocols
Specific Medical Emergency

- Nitroglycerin
  - Medication prescribed for patients with angina
  - Comes as either a spray or as a tablet
  - Acts to relax and open up the blood vessels and decrease the work the heart has to do
  - Both spray and tablet forms of the medication are delivered to the patient under the tongue

Specific Medical Emergency

- O₂
  - It is important to realize that oxygen is a type of medication
  - It may be prescribed for patients with COPD
Questions?