

## Chapter 10

### Medical Emergencies

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## Introduction

- Medical Complaints
  - Long-term (chronic) disease processes and sudden (acute) complaints:
    - Chest pain
    - Difficulty breathing
    - Sudden change in mental status
    - Abdominal pain
    - Poisoning
    - Insect stings
    - Animal bites
    - Exposure to extremes in heat or cold
    - Behavioral emergency

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## General Medical Emergencies

- Scene size-up
  - This includes:
    - PPE
    - Scene Safety
    - MOI or NOI
    - Additional Resources

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## General Medical Emergencies

- Form a general assessment > treat life threatening conditions
  - Communicate the patient's condition to other health care providers as required

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## 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

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## General Medical Emergencies

- Take vitals and perform physical exam
  - 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

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## General Medical Emergencies

- The care of a medical emergency is based on the patient's signs and symptoms
  - Signs are what you can see or feel
    - Bruises
    - Cuts
    - Bony deformities
    - Irregular pulse

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## General Medical Emergencies

- The care of a medical emergency is based on the patient's signs and symptoms
  - Symptoms are what the patient "tells" you
    - Nausea
    - Difficulty breathing
    - Dizziness
    - Pain

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## General Medical Emergencies

- 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

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## 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

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## Specific Medical Emergency

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

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## 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

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## Specific Medical Emergency

- Difficulty breathing
  - Chest pain
    - Can be caused by a number of reasons
      - Assume that any patient with chest pain has a life-threatening condition unless proven otherwise

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## Specific Medical Emergency

- Chest pain
  - Heart
- 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)

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## Specific Medical Emergency

- Chest pain
  - Heart
    - Angina
      - Is also a condition caused by the narrowing of the coronary arteries

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## Specific Medical Emergency

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

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## Specific Medical Emergency

- Chest pain
  - Lungs
    - Illness or injury in the lungs can also cause chest pain

### Pulmonary embolus

- A life-threatening cause of chest pain is a pulmonary embolus, or a blood clot, that has lodged in the lungs

### Congestive heart failure

- Condition in which the heart is weakened by disease and is unable to pump efficiently

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## 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

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## 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

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## 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

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## 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

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## 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

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## Specific Medical Emergency

- Altered mental status
  - Seizures
    - There are many causes of seizures including:
      - Chronic medical conditions
      - Fever
      - Infections
      - Poisoning (including drugs and alcohol)
      - Low blood sugar
      - Brain injury
      - Decreased levels of O<sub>2</sub>
      - Brain tumors
      - Complications from pregnancy
      - Unknown

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## 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
        - Most patients become unresponsive during a seizure
        - May vomit, which can compromise the airway

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## 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 O<sub>2</sub> to the patient

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## 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

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## 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

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## 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





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## Specific Medical Emergency

### Remember You Can Help. Call 911.

Every minute counts when someone is having a stroke. The longer blood flow is cut off to the brain, the greater the damage.

	<b>FACE</b>	Ask the person to smile. Does one side of the face droop?
	<b>ARMS</b>	Ask the person to raise both arms. Does one arm drift downward? Is one arm weak or numb?
	<b>SPEECH</b>	Ask the person to repeat a simple sentence. Is the sentence repeated correctly? Is speech slurred?
	<b>TIME</b>	If the person shows any of these symptoms, <b>call 911</b> immediately.

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## 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

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## Specific Medical Emergency



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## Specific Medical Emergency

- Acute abdomen
  - 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

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## Specific Medical Emergency

- Acute abdomen
  - 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

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## 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

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## 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

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## Specific Medical Emergency

- Behavioral emergency
  - 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

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## Specific Medical Emergency

- Behavioral emergency
  - 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

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## 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

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## 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

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## 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

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## 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

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## Specific Medical Emergency

- Restraints
  - Restraints are not recommended for EMR use

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## 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

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## Specific Medical Emergency

- Inhalers
  - Used with Asthma or COPD and are commonly called bronchodilators to relieve respiratory distress
    - 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

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## Specific Medical Emergency



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## 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

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## Specific Medical Emergency



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## Specific Medical Emergency

- Epi-Pen
  - As an EFR, you should ensure that the Epi-Pen is a currently prescribed medication for the patient
  - You can assist a patient with use of an Epi-Pen in a severe respiratory distress situation.

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## 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

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## Specific Medical Emergency



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## Specific Medical Emergency

- O<sub>2</sub>
  - It is important to realize that oxygen is a type of medication
  - It may be prescribed for patients with COPD

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Questions?

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