

Learning Objectives

- Explain the basic disease process associated with seizures.
- List the various causes of seizures.
- List the types of seizures.
- List the signs and symptoms of generalized tonic-clonic (grand mal seizures).

Learning Objectives

- Define status epilepticus.
- Describe assessment priorities for a seizure victim.
- Describe and demonstrate first aid care for a seizure victim.
- Explain the types of dizziness.
- Describe and demonstrate first aid care for a fainting victim.

Introduction

- Neurological emergencies such as seizures or fainting are often more graphic than fatal.
- The First Aider should rapidly identify and assess these victims for life threats.
- Often early activation of EMS and aggressive airway management can prevent additional medical complications.

Seizure

- Involuntary, sudden change in sensation, behavior, muscle activity, or mental status
- Occurs due to electrical discharge occurring in the brain
- Is an emergency occurring in the brain, with manifestations evident in the victim's behavior, convulsions, or changes in mental status

Causes of Seizures

- Can result from any type of electrical or chemical disturbance in the brain
 - Epilepsy
 - Head injury
 - Hypoxia or other chemical disturbances
 - Alcohol or other poisons
 - Inflammation from bacterial, viral, or parasitic infections
 - Fever
 - Degenerative diseases
 - Tumor
 - Allergic reactions to drugs or other chemicals
 - Scar tissue from prior injuries

Types of Seizures

- Generalized tonic-clonic (grand mal)
- Absence (petit mal)
- Simple partial (Jacksonian)
- Complex partial (psychomotor)
- Myoclonic
- Atonic

Status Epilepticus

- Condition where single seizure lasts more than 5 minutes, or series of seizures occur without intervening period of responsiveness
- Can cause irreversible brain damage, and/or cardiac, respiratory, and renal complications
- Indicates a dire medical emergency
- Often results when an epilepsy victim has not taken medication.

Seizures Assessment

- Generalized tonic-clonic symptoms
 - Aura
 - Tonic phase
 - Hypertonic phase
 - Tonic-clonic phase
 - Autonomic discharge
 - Post-seizure phase
 - Postictal phase

Assessment Considerations for Seizures

- Obtain medical history from reliable sources
 - History of seizures?
 - Medications for seizures?
 - How did the seizure progress?
 - Has there been any head injury?
 - Does the patient have other medical problems?
- Physical assessment
 - Signs of injury
 - Signs of drug or alcohol abuse
 - Presence of Medic Alert tag

First Aid Care for Seizures

- Seek medical help if:
 - Multiple seizures or a long seizure (more than 5 minutes)
 - Uncertain of cause for seizure
 - Victim has significant medical illnesses
 - Victim has significant traumatic injuries
 - Victim is an infant, child, or pregnant female
 - Significant assessments indicate deterioration from seizure

First Aid Care for Seizures

- Take standard precautions, activate EMS.
- Move objects away from victim.
- Establish and maintain an airway.
- Do not give anything by mouth.
- Remove or loosen any tight clothing.



First Aid Care for Seizures

- Turn victim on left side.
- Do not restrain victim.
- Reassure and reorient the victim after the seizure ceases.



First Aid Care for Status Epilepticus

- Take standard precautions, activate EMS.
- Place the victim safely on the floor.
- Open and maintain the airway.
- Position the victim to facilitate airway drainage.
- Provide artificial ventilation if needed, even if during seizure activity.
- Carefully monitor vital signs until EMS arrives.

Dizziness

- Dizziness (or vertigo)
 - Commonly described as woozy, light-headed, or dream-like states
 - True vertigo involves a hallucination of motion (sensation of spinning or whirling)

Dizziness

- Signs and symptoms
 - Central vertigo is less common but most serious
 - Caused by central nervous system dysfunction
 - Eye muscle changes, pupillary changes, facial droop
 - No evidence of nausea, vomiting, or hearing loss
 - Labyrinthine vertigo
 - More common, inner ear disturbance
 - Nausea, vomiting, eye twitching, pale and moist skin, rapid heart beat

Dizziness

- First aid care
 - Take standard precautions.
 - Reassure the victim, help them to position of comfort.
 - Conduct an assessment to rule out immediate life threats or serious conditions.
 - Encourage the victim to seek medical care.

Fainting

- Also known as *syncope*
- Brief loss of consciousness
- Triggered by inadequate brain oxygenation
- Victim collapses, and when in horizontal position perfusion to brain improves and they rapidly “wake up”
- Is not itself a disease but can be a symptom of a range of underlying conditions

Fainting

- Signs and symptoms
 - Nausea, abdominal pain
 - Light-headedness, weakness
 - Possible shaking
 - Pounding pain in the head

Fainting

- First aid care
 - If they have not fainted yet, have victim sit down or lie down with feet elevated.



Fainting

- First aid care
 - If victim has already fainted, keep them supine.
 - Monitor for vomiting, loosen tight clothing.
 - Assess victim for any concurrent life threats.
 - Treat any injuries caused by fall.
 - Do not allow recovering victim to stand up suddenly.
 - Move victim to fresh air, place cool and damp cloth on the face.

Summary

- A seizure is an emergency that occurs in the brain, with body-wide manifestations.
- Simple seizures, fainting, and dizziness are not fatal in most situations.
- Each victim with these type of emergencies should still be assessed thoroughly, and transported by EMS if any significant findings or irregularities are noted.