

# Seizure Disorders

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## THE FACTS

Normal brain functioning involves a very complex coordination of electrical impulses. The electrical impulses allow the brain to communicate with the spinal cord, all of the nerves and muscles in the body, and with other parts of the brain itself. Whenever the electrical impulses are not working normally, a seizure may result. The brain is the source of seizures, although the symptoms may affect any part of the body.

In some instances, a person may have a single seizure. Other people may have seizures over and over. People who have recurring seizures are said to have epilepsy, or seizure disorders. Epilepsy and seizure disorders affect 2.5 million Americans of all ages. Many people are afraid of this disorder because they don't understand it, and because there have been many myths about the disorder.

In ancient times, people thought evil spirits caused seizures and they considered people with seizure disorders to be "possessed." For centuries, people with seizure disorders were ashamed to discuss their problems with others. There are some people who even today mistakenly think that seizures occur only in mentally retarded or mentally ill patients. In the past, some states did not allow people with epilepsy to marry. In the early 1900s, children with epilepsy were often sent to mental institutions.

Today we know that a seizure disorder is not a mental illness; it does not mean a person is mentally retarded; and it is not a reason for embarrassment. Most cases of epilepsy can be successfully treated, eliminating the seizures. Even the few people who will continue to have occasional seizures can lead full and active lives.

By 75 years of age, about ten percent of the population will have experienced some type of seizure, but only three percent will have a seizure disorder. Thus, it is clear that most people who have had seizures do not develop seizure disorders. There is no certain number of seizures that must occur before a seizure disorder is diagnosed, and the term "seizure disorder" is not associated with any particular type of seizure. The terms "epilepsy" and "seizure disorder" are used to describe the same condition and both of the terms will be used throughout this in-service. Some patients prefer the term "seizure disorder" because of the past misunderstandings associated with the word "epilepsy."

## CAUSES

In about seventy percent of patients with a seizure disorder, no cause will be found. However, it is known that certain "triggers" can cause a seizure or increase the frequency of seizures. They include the following: head injury, brain infections or tumors, fevers, lack of food, metabolic disorders, reaction to certain medications, strokes, and extreme sleep deprivation. Intense sensory stimulation (such as flashing lights, particularly strobe lights) can provoke seizures in some people. Drug or alcohol withdrawal may be accompanied by seizures.

## TYPES OF SEIZURES

### » **Generalized Seizures**

Generalized seizures affect both sides of the brain from the very beginning of the seizure. They produce a loss of consciousness or awareness. The period of loss of awareness or consciousness may be so brief that it is hard to detect, or may last a few minutes. There are four types of generalized seizures.

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## 1. Absence Seizures

These seizures begin in childhood and do not produce dramatic changes. The person does not fall down or have jerky movements. The person has a sudden episode of staring blankly into space, sometimes with fluttering eyelids or slight twitching facial muscles. The person will not answer and is not aware of his or her surroundings. The episodes are usually very short, usually only a few seconds. The person abruptly stops activity and then resumes just as abruptly. He or she will not know anything has occurred.

## 2. Atonic Seizures

Atonic seizures cause a sudden loss of muscle tone that makes the person collapse and fall. Atonic seizures are sometimes responsible for “drop attacks” in the elderly. Atonic seizures can cause injuries because the person usually falls forcefully to the ground or floor.

## 3. Myoclonic Seizures

Myoclonic seizures are sudden and brief jerks, usually of the trunk or limbs, but may affect the entire body. Such seizures may cause a person to fall off a chair, or drop whatever he or she might have been holding.

## 4. Tonic-clonic Seizures

These seizures are the most easily recognized seizures. They are also known as grand mal seizures or convulsions. They begin with a stiffening of the arms and legs (the tonic phase) which is followed by jerking throughout the body (the clonic phase).

The person's breathing may decrease (or even stop briefly) causing cyanosis of the lips and face. The head may forcefully turn to one side, the teeth become clinched and breathing becomes noisy and appears to be labored. Some patients will have frothing at the mouth. Bladder control is often lost and the person will be incontinent. The seizures typically last one or two minutes.

Following a tonic-clonic seizure, the patient will often feel extremely tired and want to sleep. Confusion is not uncommon and many patients complain of headaches. Full recovery from this type of seizure takes minutes to hours, depending on the person. The patient rarely has any memory about what happened during the seizure.

### » Partial Seizures

Partial seizures are the most common types of seizures experienced by people with seizure disorders. They affect only one side of the brain. Not all partial seizures cause a loss of consciousness or awareness. The symptoms vary greatly, depending on the area of the brain affected. Almost any movement, sensory or emotional symptom can occur. Partial seizures may spread to the other half of the brain and cause a seizure that appears to be a generalized seizure. There are two categories of partial seizures.

#### 1. Simple Partial Seizures

Patients who have simple partial seizures do not lose consciousness or awareness and they can often talk normally to others. They usually remember exactly what happened to them during the seizure. Simple partial seizures can affect movement, emotions, and/or the senses in unusual ways.

# Seizure Disorders

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## a. Movement

Uncontrolled movement can occur in any part of the body. It could be the facial muscles, or the muscles in the extremities. Sometimes the movement begins in the hand or foot and “marches” up the arm or leg. The person is completely aware of what is happening.

## b. Emotions

Simple partial seizures can cause patients to suddenly feel very frightened or to sense that something terrible is going to happen to them. Other times, the person may suddenly begin to burst out laughing or crying. In some rare cases, patients feel sudden, unexplained anger and rage.

## c. Senses

Some patients hear very strange sounds or voices that are not really there. They may experience unpleasant tastes or smell offensive odors. Probably the most frightening sensations occur when the patients perceive distortions in the way things look. For example, a patient might feel as though his or her face is becoming distorted, or a chair is moving closer and becoming larger.

## 2. Complex Partial Seizures

Complex partial seizures affect a larger area of the brain than simple partial seizures. Most patients having a complex partial seizure will lose consciousness or awareness. While they may be able to talk, the speech is meaningless. They are not in control of movement or actions, and do not remember afterwards what happened during the seizure.

Some actions caused by complex partial seizures include lip smacking, picking at clothing or unseen objects, senseless and clumsy movements, wandering or disrobing. To the casual observer, the person may appear to be intoxicated.

Many times, patients with complex partial seizures have a warning sign (called an aura) before the seizure begins. The aura may be a sensation of light or warmth, or visualization of a certain color. Sometimes the aura is a certain smell that always precedes the seizure.

## TREATMENTS

Seizure disorders are primarily treated with medications. The medications do not cure the disorder, but they do control the seizures in most patients. There are several different types of medications that may be used either alone or in combination. For selected patients, surgery or electrical nerve stimulation may be done if medications do not control seizures. Patients whose seizures are provoked by certain foods need to avoid them.

## FIRST AID FOR PATIENTS WITH SEIZURE DISORDERS

In order to care for patients with seizure disorders, it is important for the home health aide to know what type(s) of seizures the patient has, as well as how well the seizures are being controlled. For all patients, the home health aide may need to know what first aid measures to undertake. The patient should not be left unattended during any type of seizure.

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# Seizure Disorders

## » Generalized Seizures

### ■ Absence, atonic, or myoclonic

There is usually no need for first aid, unless the person with an atonic seizure fell to the floor or the person with a myoclonic seizure fell from the chair. These seizures are very brief, and the only first aid needed would be to treat any injuries. Should a patient have an atonic or myoclonic seizure in the bath tub, it would be important for the home health aide to keep the patient's head out of the water.

### ■ Tonic-clonic seizures

There are some key things to remember when providing first aid to a patient having a tonic-clonic seizure.

- Clear the area around the patient so that he or she doesn't bump into anything during the seizure.
- Don't try to hold the person down or limit his or her movements.
- Place a small flat towel (or even a piece of clothing) under the head to prevent the head from banging on the floor.
- Gently turn the patient onto one side.
- Do not ever try to force the mouth open or put anything between the patient's teeth.
- Do not attempt rescue breathing unless the patient fails to resume breathing after the seizure. If the patient does not resume breathing after the seizure, call for emergency services and follow your agency's policy on cardiopulmonary resuscitation.
- Do not give the patient anything to drink until he or she is fully awake.
- Allow the patient to lie comfortably on the floor until he or she feels ready to get up.
- Unless directed otherwise, call for emergency services if the seizure persists longer than five minutes.

## » Partial Seizures

### ■ Simple partial seizures do not require any first aid other than observation.

### ■ Complex partial seizures may require some measures, depending on the location and the actions of the patient.

- Do not restrain the patient.
- Remain calm, especially if the patient appears angry or combative during the seizure. Do not approach him or her.
- Remove any dangerous objects in the path of a patient who is wandering and do not allow him or her to go outside.
- If necessary, gently and calmly talk to the patient and guide him or her away from danger.
- Continue to talk calmly to the patient until it is evident that he or she is fully awake and in control once again.

# Seizure Disorders

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## CARING FOR THE PATIENT

The assignment sheet, or discussions with the supervisor, should provide information about the patient's seizure type and frequency. Although most patients will have few if any seizures, the home health aide should carefully follow any instructions on the assignment sheet. Some important components of care include:

**1. Assist with medications as assigned.**

Medication compliance is extremely important. Missing doses can lead to seizures and taking extra doses can cause serious side effects.

**2. Assist with diet as assigned**

It is important for seizure patients to eat well-balanced meals and not to skip any meals. Maintaining a normal blood sugar is important.

**3. Observe for seizures**

Some of the non-convulsive seizures may be a bit difficult to recognize unless you are looking for them. If the patient stares into space, or has jerking movements, speak his or her name gently. Check your watch and note the length of time the seizure lasts. Ask the patient afterwards what he or she recalls about the episode.

**4. Document any seizure activity; include:**

- a. How and when the seizure began and how long it lasted
- b. The patient's appearance before, during, and after the seizure
- c. Whether or not any first aid was given, and
- d. To whom you reported the seizure.

**5. Report any observed seizure activity to the supervisor.**

**6. Follow instructions for care following a seizure.**

For a patient who had a convulsive seizure this will likely include assisting the patient to bed, assisting with a partial bath and changing soiled clothing, and then allowing the patient to rest.

**7. Notify the supervisor if the patient reports having had a seizure since your last visit.**

# Seizure Disorders

## CASE STUDY

Mr. Kerr is an elderly patient with congestive heart failure. He has had a seizure disorder for many years. The various medications and treatments have kept his epilepsy under good control although he occasionally does have a seizure.

Steve is Mr. Kerr's regular home health aide. During a recent visit Steve was assisting Mr. Kerr to the shower. Mr. Kerr suddenly became stiff, lost consciousness and fell to the bathroom floor. His arms and legs began to jerk and his breathing became labored and irregular. His facial muscles tightened and he clenched his teeth. During the episode Mr. Kerr was incontinent of urine. After a few minutes, the jerking stopped and Mr. Kerr gradually awakened.

## THINK ABOUT IT

- » What kind of "episode" did Mr. Kerr have? Be specific.
- » What first aid measures would Steve likely have performed?
- » What should Steve record on his visit report?
- » Should Steve call the supervisor? Why or why not?

# Seizure Disorders

## OBJECTIVES

After completing this program, the home health aide will be able to:

- » Name two causes of seizures
- » List three types of seizures; and
- » Describe first aid measures for generalized seizures.

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## OVERVIEW

There is a general perception that seizures occur more often in infants and children, and are rare in older adults and the elderly. The truth is that seizure disorders increase in both incidence and prevalence after age 60. While seizure disorder is not a common primary diagnosis for homecare patients, it is not at all uncommon for homecare patients to have seizure disorders as additional diagnoses. Many homecare patients are diabetic and any of them could be subject to seizures with severe hypoglycemia. For those reasons it is very important for home health aides to have a basic understanding of seizures, why they occur and what should be done when a patient has a seizure.

The purpose of this in-service program is to provide information home health aides need in order to care for patients with seizure disorders, and to provide basic first aid information to clarify some confusing information they may have thought to be true.

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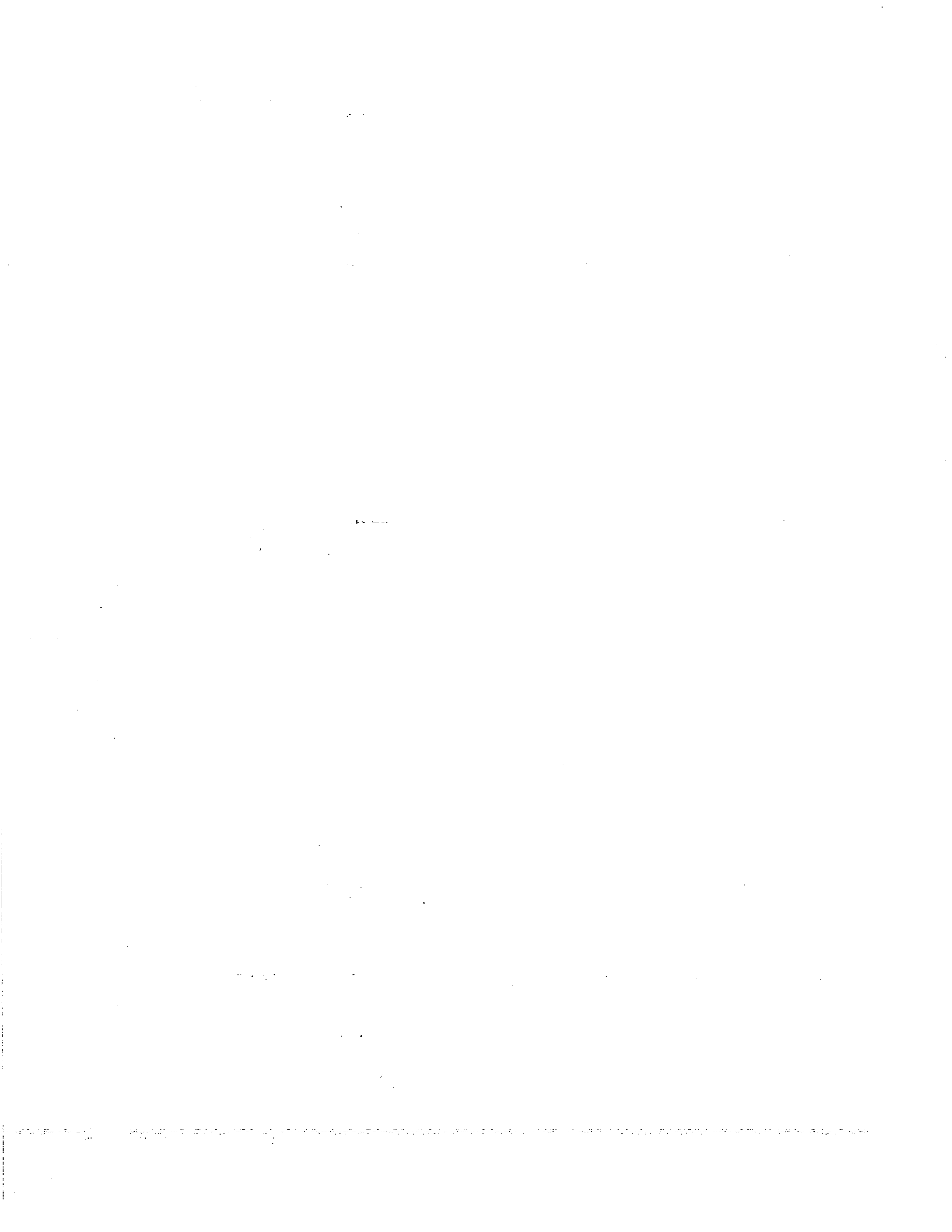
## CONTENT

Read the Fact Sheet	15 minutes
Read the Case Study	10 minutes
Complete "Think About It"	10 minutes
Complete the Post-test	15 minutes
Feedback Session	10 minutes

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## SUPPLEMENTAL LEARNING ACTIVITIES

- » Obtain Fact Sheets from the Epilepsy Foundation and distribute to participants.  
<http://www.epilepsyfoundation.org>
- » Arrange for a registered nurse to speak to participants. Have the RN present some common misunderstandings about epilepsy and seizure disorders. Encourage the participants to discuss their feelings about seizure disorders.
- » Complete an aide assignment sheet that includes instructions about a patient with active seizures. Distribute the assignment sheet and discuss with participants.
- » Provide several patient scenarios describing different types of seizures. Have the participants discuss the important actions they would take in the various scenarios as well as what they would record and report.
- » Obtain the agency's patient information sheets about seizures. Distribute to participants and review the information with them.





# Seizure Disorders

DIRECTIONS: READ EACH QUESTION CAREFULLY. THEN, DETERMINE THE BEST ANSWER. CHECK THE CORRESPONDING BOX ON YOUR ANSWER SHEET. DO NOT WRITE ON THIS POST-TEST.

1. Which of the following statements is true about seizure disorders?
  - a. Once a person has a seizure, he or she will eventually develop a seizure disorder.
  - b. A seizure disorder is a type of mental illness.
  - c. The cause of most seizure disorders is not known.
  - d. Most people with seizures are mentally retarded.
  
2. The terms "seizure disorder" and "epilepsy" are used to describe the same condition.
  - a. True
  - b. False
  
3. Which of the following have been known to cause seizures?
  - a. Head injury
  - b. High fevers
  - c. Brain tumors
  - d. All of the above
  
4. What is the primary difference between generalized seizures and partial seizures?
  - a. Generalized seizures affect both sides of the brain at the very beginning of the seizure and partial seizures affect only one side of the brain at the beginning.
  - b. Generalized seizures cause jerking of all parts of the body and partial seizures cause jerking of only one part of the body.
  - c. Generalized seizures do not cause a loss of consciousness/awareness and partial seizures always cause unconsciousness.
  - d. Generalized seizures are impossible to control with medications and partial seizures are always well controlled with medications.
  
5. Which of the following is not a type of seizure?
  - a. Absence seizure
  - b. Tonic-clonic seizure
  - c. Delusional seizure
  - d. Simple partial seizure
  
6. All seizures are easy to recognize because they all cause jerking of the arms and legs.
  - a. True
  - b. False

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# Seizure Disorders

POST-TEST, PAGE 2

7. Which of the following is an important first aid measure for a patient having a tonic-clonic (grand mal) seizure?
  - a. Put something between the patient's teeth.
  - b. Gently turn the patient on his or her side.
  - c. Hold the patient down to prevent excessive jerking.
  - d. Begin cardiopulmonary resuscitation.
  
8. Which of the following observations is not likely important to record if a patient has a seizure?
  - a. What color clothing the patient was wearing at the time
  - b. How long the seizure lasted
  - c. The patient's appearance during the seizure
  - d. How the seizure began
  
9. Which of the following statements is true about generalized seizures?
  - a. They never cause a loss of consciousness.
  - b. People who have a generalized seizure always remember everything that happened during the seizure.
  - c. There are several different types of generalized seizures.
  - d. There is always a warning sign before a person has a generalized seizure.
  
10. What are the two types of partial seizures?
  - a. Big partial seizures and little partial seizures
  - b. Convulsive partial seizures and non-convulsive partial seizures
  - c. Shaking partial seizures and jerking partial seizures
  - d. Simple partial seizures and complex partial seizures

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