

What is a Seizure?

A seizure is the physical findings or changes in behavior that occur after an episode of abnormal electrical activity in the brain.

The term "seizure" is often used interchangeably with "convulsion." Convulsions are when a person's body shakes rapidly and uncontrollably. During convulsions, the person's muscles contract and relax repeatedly. There are many different types of seizures. Some have mild symptoms and no body shaking.

Considerations

It may be hard to tell if someone is having a seizure. Some seizures only cause a person to have staring spells. These may go unnoticed.

Symptoms

Specific symptoms depend on what part of the brain is involved. They occur suddenly and may include:

- Brief blackout followed by period of confusion (the person cannot remember a period of time)
- Changes in behavior such as picking at one's clothing
- Drooling or frothing at the mouth
- Eye movements
- Grunting and snorting
- Loss of bladder or bowel control
- Mood changes such as sudden anger, unexplainable fear, panic, joy, or laughter
- Shaking of the entire body
- Sudden falling
- Tasting a bitter or metallic flavor
- Teeth clenching
- Temporary halt in breathing
- Uncontrollable muscle spasms with twitching and jerking limbs

Symptoms may stop after a few seconds minutes, or continue for 15 minutes. They rarely continue longer.

The person may have warning symptoms before the attack, such as:

- Fear or anxiety
- Nausea
- Vertigo

- Visual symptoms (such as flashing bright lights, spots, or wavy lines before the eyes)

Causes

Seizures of all types are caused by disorganized and sudden electrical activity in the brain.

Causes of seizures can include:

- Abnormal levels of sodium or glucose in the blood
- Brain infection, including meningitis
- Brain injury that occurs to the baby during labor or childbirth
- Brain problems that occur before birth (congenital brain defects)
- Brain tumor (rare)
- Choking
- Drug abuse
- Electric shock
- Epilepsy
- Fever (particularly in young children)
- Head injury
- Heart disease
- Heat illness (see heat intolerance)
- High fever
- Illicit drugs, such as angel dust (PCP), cocaine, amphetamines
- Kidney or liver failure
- Low blood sugar
- Phenylketonuria (PKU), which can cause seizures in infants
- Poisoning
- Stroke
- Toxemia of pregnancy
- Uremia related to kidney failure
- Very high blood pressure (malignant hypertension)
- Venomous bites and stings (see snake bite)
- Withdrawal from alcohol after drinking a lot on most days

- Withdrawal from certain drugs, including some painkillers and sleeping pills
- Withdrawal from benzodiazepines (such as Valium)

Sometimes no cause can be identified. This is called idiopathic seizures. They usually are seen in children and young adults but can occur at any age. There may be a family history of epilepsy or seizures.

If seizures repeatedly continue after the underlying problem is treated, the condition is called epilepsy.

Home Care

Most seizures stop by themselves. However, the patient can be hurt or injured during a seizure.

When a seizure occurs, the main goal is to protect the person from injury. Try to prevent a fall. Lay the person on the ground in a safe area. Clear the area of furniture or other sharp objects.

Cushion the person's head.

Loosen tight clothing, especially around the person's neck.

Turn the person on his or her side. If vomiting occurs, this helps make sure that the vomit is not inhaled into the lungs.

Look for a medical I.D. bracelet with seizure instructions.

Stay with the person until he or she recovers, or until you have professional medical help.

If a baby or child has a seizure during a high fever, cool the child slowly with tepid water. Do not place the child in a cold bath. You can give the child acetaminophen (Tylenol) once he or she is awake, especially if the child has had fever convulsions before.

For information on how to help someone who is having a seizure, see: Seizure first aid

When to Contact a Medical Professional

Call 911 or your local emergency number if:

- This is the first time the person has had a seizure.
- A seizure lasts more than 2 to 5 minutes.
- The person does not awaken or have normal behavior after a seizure.
- Another seizure starts soon after a seizure ends.
- The person had a seizure in water.
- The person is pregnant, injured, or has diabetes.
- The person does not have a medical ID bracelet (instructions explaining what to do).
- There is anything different about this seizure compared to the person's usual seizures.

Report all seizures to the person's health care provider. The doctor may need to adjust or change the person's medications.

What to Expect at Your Office Visit

A person who has had a new or severe seizure is usually seen in a hospital emergency room. The health care provider will try to diagnose the type of seizure based on the symptoms.

Tests will be done to rule out other medical conditions that cause seizures or similar symptoms. This may include fainting, transient ischemic attack (TIA) or stroke, panic attacks, migraine headaches, sleep disturbances, and others.

Tests may include:

- Blood tests
- CT scan of the head or MRI of the head
- EEG (usually not in the emergency room)
- Lumbar puncture (spinal tap)

Further testing is needed if you have:

- A new seizure without an obvious cause
- Epilepsy (to make sure the person is taking the right amount of medicine)

A single seizure due to an obvious trigger (such as use of a certain drug) is treated by eliminating or avoiding that trigger.

Prevention

There is no specific way to prevent all seizures. However, the following tips may help control some of them:

- Always take your medications as your doctor instructed. Family members should observe and record any seizure information to make sure the person gets proper treatment.
- Get plenty of quality sleep, reduce stress, exercise, and eat a healthy diet. Poor health habits can make you more likely to have more seizures.

You might help lower your risk of seizures if you:

- Avoid illegal street drugs.

You should not drive if you have uncontrolled seizures. Every U.S. state has a different law detailing which people with a history of seizures are allowed to drive. If you have uncontrolled seizures, you should avoid activities where loss of awareness would cause great danger, such as climbing to high places, biking, and swimming alone.