Seizure Recognition and First Aid

EPILEPSY FOUNDATION

Artwork titled, “My Light Still Shines”
Artwork by Studio E Participant Steve D. (details on inside cover)

About the Cover:
Cover artwork was created by Steve D., a Studio E participant.

Studio E is a multi-week art program open to people with epilepsy. Participants use art to creatively express themselves, build confidence, and make friends. Living with epilepsy can be challenging and art programs may be beneficial in working through how the condition impacts an individual's life.

This publication is supported by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling $3,000 with 100 percent funded by CDC/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement by, CDC/HHS, or the U.S. Government.

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Did you know nearly 3.4 million Americans live with epilepsy and seizures?

This pamphlet will help you learn:

- What seizures are and what they look like
- Seizure first aid
- How to help in special situations
- When to call 911 for someone having a seizure

What is a seizure?

A seizure is a sudden surge of electrical activity in the brain. Seizures are not a disease in themselves. Instead, they are symptoms of many different disorders that can affect the brain. Our brains use tiny electrical and chemical signals to control everything we think, feel, and do. A seizure happens when there is a sudden surge of electrical activity in the brain. Some people describe a seizure as a "storm in the brain."

There are three major groups of seizures:

- Focal Onset with or without impaired awareness
- Generalized Onset
- Unknown onset, motor or non-motor

Some seizures can hardly be noticed and disabling for some people, while others are very apparent. About half of the people who have one seizure without a clear cause will have another one. If there is a known cause for your seizures, you are twice as likely to have another. People can have more than one type of seizure.

What is epilepsy?

Epilepsy is a neurological disease that affects the brain and causes people to have recurrent seizures. Epilepsy is a medical condition, like asthma and diabetes. People are usually diagnosed with epilepsy when they have had one of the following situations:

- 2 or more unprovoked seizures at least 24 hours apart (unprovoked means it is not directly caused by another medical condition)
- At least one seizure and have a high risk of more
- Have been diagnosed with an epilepsy syndrome such as Lennox Gastaut syndrome, or Dravet syndrome

Anyone can have a seizure, but not everyone who has a seizure has epilepsy.

> “You can’t catch epilepsy or seizures from someone — so don’t be afraid to help.”

Why is it important to recognize seizures?

Recognizing a seizure is important because seizures can be confused with other conditions (like having an episode of fainting or being drunk). If you know how to respond to seizures, you can help prevent serious injuries, keep the person safe, and call 911 if needed.

There are many different types of seizures. What happens during a seizure depends on the type of seizure and where it starts in the brain. But to give seizure first aid for seizures, you only need to recognize that someone is having a seizure.

The terms have changed and one should consider these important areas when describing seizures.

- **The onset or beginning of a seizure:** Where seizures start in the brain tells a lot about what may occur during a seizure, what other conditions or symptoms may be seen, how they may affect someone and, most importantly, what treatment may be best for that seizure type. When we don't know the origin of a seizure, the wrong treatment may be used. Or a person may not be offered a treatment that has the best chance of helping.
- **A person's level of awareness during a seizure:** Whether a person is aware or not tells a lot about the type of seizure. It's also very important to know for a person's safety.
- **Whether movements happen during a seizure:** Seizures can also be described by whether motor symptoms occur. When no motor symptoms happen, it can be called a non-motor seizure. This level of description does not need to be used all the time, especially when generally describing or talking about seizures. Yet other times you may find the motor terms helpful.

Seizures are classified into 3 major groups.

Focal-Onset seizures:

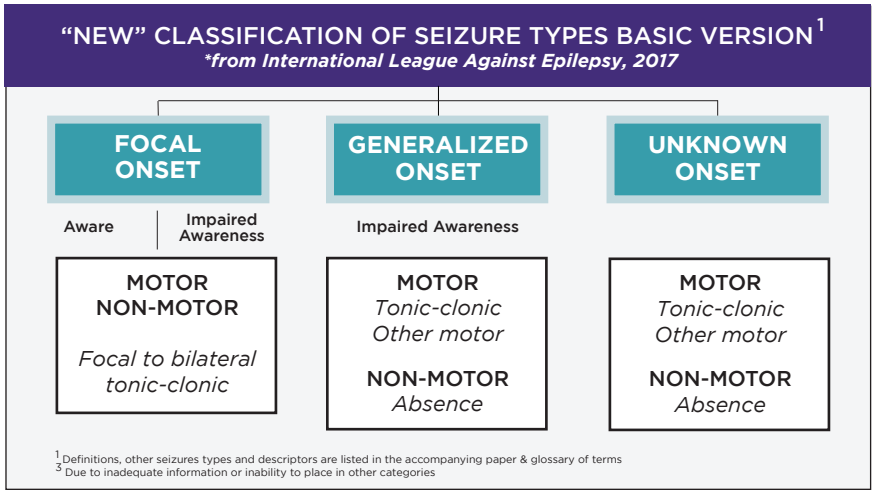
When a seizure starts in one area or group of cells in one side of the brain. These seizure types were previously referred to as partial seizures.

Generalized-onset seizures.

These seizures affect both sides of the brain or groups of cells on both sides of the brain at the same time. This term includes seizure types like tonic-clonic, absence, or atonic to name a few.

Unknown-onset seizures:

When the beginning of a seizure is not known, it's called an unknown onset seizure. A seizure could also be called an unknown onset if it's not witnessed or seen by anyone; for example, when seizures happen at night or in a person who lives alone. As more information is learned, an unknown seizure may later be diagnosed as a focal or generalized seizure.



Many different symptoms may occur during a seizure. This new classification separates them simply into groups that involve movement.

For focal onset seizures:

- Motor symptoms may also include jerking (clonic), muscles becoming limp or weak (atonic), tense or rigid muscles (tonic), brief muscle twitching (myoclonus), or epileptic spasms. There may also be automatisms or repeated automatic movements, like clapping or rubbing of hands, lip-smacking or chewing, or running.
- Non-motor symptoms: Examples of symptoms that don't affect movement could be changes in sensation, emotions, thinking or cognition, autonomic functions (such as gastrointestinal sensations, waves of heat or cold, goosebumps, heart racing, etc.) or lack of movement (called behavior arrest).

For generalized onset seizures:

- Motor symptoms may include sustained rhythmical jerking movements (clonic), muscles becoming weak or limp (atonic), muscles becoming tense or rigid (tonic), brief muscle twitching (myoclonic), or epileptic spasms (body flexes and extends repeatedly).

Generalized seizures without motor symptoms are usually called absence seizures. These can be typical (usual) or atypical (not normal) absence seizures (staring spells). Absence seizures can also have brief twitches (myoclonus) that can affect a specific part of the body or just the eyelids.

For unknown onset seizures:

- Motor seizures are described as either tonic-clonic or epileptic spasms.
- Non-motor seizures usually include a behavior arrest. This means that movement stops – the person may just stare and not make any other movements.

Seizure Types

Absence Seizures

An absence seizure, also called a generalized absence seizure, causes a short period of "blanking out" or staring into space. They are most common in children and were previously called petit mal.

What it looks like

The person may

- Stare blankly, not aware of what is going on
- Blink quickly
- The eyes may turn upwards and eyelids may flutter
- Make chewing movement
- Seizure can last up to 20 seconds

After the seizure, the person may be awake and aware right away, but doesn't know what happened.

Sometimes mistaken for

- Daydreaming
- Not paying attention
- Ignoring instructions

Atypical Absence Seizures

These seizures are a type of absence seizure that is atypical. This means it's different, unusual, or not typical compared to typical absence seizures, which were previously called petit mal seizures. They are a type of generalized onset seizure, which means they start in both sides of the brain at the same time.

- The person will stare (just like in absence seizure) but they may be able to respond a bit.
- Eye blinking, chewing movements, lip smacking, or slight jerking movements of the lips may occur.
- There may be rubbing of the fingers or hands or other small hand movements.
- Symptoms of absence seizures can be difficult to pick up in a person with other cognitive or behavioral problems. It may be hard to tell what is due to a seizure or from other behaviors.
- These seizures may begin and end gradually. This is different from the sudden start and stop of a typical absence seizure.
- Falling during the seizure is also more common than it is during typical absence seizures.
- Atypical absence seizures usually last 5 to 30 seconds, most often more than 10 seconds.

Atonic Seizure

In an atonic seizure, muscles suddenly become limp. These types of seizures are also referred to as drop attacks or drop seizures.

The person may

- Fall or parts or all of the body may become limp
- Lose consciousness (seem to "pass out")
- Seizure usually lasts 10 to 60 seconds

After the seizure, the person

- Becomes fully conscious (awake)
- May feel weak or need help at first

Some people may get injured when they fall. Head protection, such as a helmet or other protective gear, may be needed.

Clonic Seizures

Clonic seizures are rare and most commonly occur in babies. Most often, clonic movements are seen as a part of a tonic-clonic seizure.

- Jerking movements alone, as with a clonic seizure, may last a few seconds to a minute.
- Jerking or clonic movements that follow stiffening of muscles, as in a tonic-clonic seizure, can last seconds to 1-2 minutes.
- A clonic seizure may sometimes be hard to distinguish from a myoclonic seizure. The jerking is more regular and sustained during a clonic seizure.

The jerking movements may only affect one side or part of the body or face if the seizure starts in one area of the brain. If the seizures starts on both sides of the brain, then the jerking movements would affect both sides of the body or the whole body at once.

Epileptic or Infantile Spasms

Happens in babies, typically between 3 months and 24 months old.

- An epileptic spasm consists of brief (1-3 second) events of arm, leg and head flexion (arms and legs pull into the body) or extension. Spasms typically occur in clusters with events every 5-10 seconds over a 5-10 minute period.
- Spasms often are seen shortly after waking, and clusters typically are seen several times per day.
- Infants often become irritable and may cry during the cluster – sometimes this leads to a misdiagnosis of colic.

Sometimes mistaken for

- Asking to be picked up
- Colic
- Normal baby movements

Who is at risk for epileptic spasms?

- Spasms most commonly occur in infancy
- The most common epilepsy type is West syndrome (also known as infantile spasms syndrome).
- They can also be seen in other early-onset epilepsies such as Ohtahara syndrome. Less frequently they are seen in persons with Lennox-Gastaut syndrome.
- In most cases, spasms ultimately will go away by the early preschool years, but often other seizure types can emerge.
- Persons with epileptic spasms have higher rates of developing drug-resistant epilepsy and many also will have significant developmental concerns long-term.
- The earlier spasms are recognized and appropriately treated, the better the developmental outcome.

Febrile Seizures

Children aged 3 months to 5 or 6 years may have seizures when they have a high fever. Sometimes the seizure comes "out of the blue" before it is recognized that the child is ill. A seizure can be the first sign that alerts the family that the child is ill. Febrile seizures have been divided into two groups, simple or complex.

Febrile seizures are considered "simple" if they meet all of the following criteria:

- Generalized full body convulsions
- Last less than 15 minutes
- No more than one in a 24-hour period

Febrile seizures are considered "complex or complicated" if any of the following features are present:

- Start focally with one body part moving independently of others
- Last more than 15 minutes
- Occur more than once in a 24-hour period

During a seizure:

- Place the child on his or her side on a protected surface and watch carefully.
- Keep track of the time. If the seizure lasts longer than 5 minutes, call 911 or take the child to an emergency room.

Focal to Bilateral Tonic Clonic Seizures.
(Secondary Generalized Seizures)

These seizures are called focal to bilateral tonic-clonic, because they start in a limited area on one side of the brain and spread to involve both sides. This is different from a generalized onset tonic-clonic seizure, which starts on both sides of the brain.

Focal-onset seizures have an abnormal region of brain leading to the electrical storm of a seizure. The place and cause of focal onset may not be detectable by testing. Generalized onset seizures are believed to result from neurochemical and genetic abnormalities widespread throughout brain.

- Bilateral tonic-clonic seizures happen in more than 3 out of 10 people with focal epilepsy.
- Sometimes the person does not recall the beginning of the seizure or the seizure spreads quickly, so the first part is hard to see. This part usually lasts seconds to less than a minute.
- The bilateral tonic-clonic part of these seizures usually lasts less than 2 or 3 minutes.

What this looks like:

- These seizures may look dramatic. They start suddenly and the movements can be strong or forceful.
- The seizure may begin with an aura or focal onset aware seizure (previously called simple partial seizure). For example, the seizure may start with a smell, feeling of nausea, or change in sensation or movement. The eyes or head may turn forcefully to one side. The person is fully aware of what's happening at this point.
- This seizure type can also begin with a focal onset impaired awareness seizure (previously called complex partial seizure). The person may be confused or not aware of what happens during the seizure.
- The bilateral tonic-clonic part usually begins with stiffening of the muscles (called the tonic phase).
  - Air being forced past the vocal cords causes a cry or groan. The sound probably does not reflect pain or distress, because the person is not aware at this point.
  - The person loses consciousness and falls to the floor.
  - The tongue or cheek may be bitten, so bloody saliva may come from the mouth.
  - Breathing can be temporarily impaired, and the person may look blue in the face.
- Jerking movements happen next (called the clonic phase).
  - The arms, legs, and face begin to jerk quickly and repeatedly; bending and relaxing at the elbows, hips, and knees can be seen.
  - After a short period of time, the jerking slows and stops.
- A person may lose control of their bladder or bowel as the body relaxes.

"If the person does not return to normal, or if another seizure occurs before they return to normal, this may be a sign of a seizure emergency called status epilepticus."

- Consciousness returns slowly. The person may be drowsy, confused, agitated, or depressed after the seizure for hours or sometimes for days.
- The active part of the seizure generally lasts 1 to 3 minutes. It can take much longer (minutes to hours) for some people to fully recover after it.
- A tonic-clonic seizure that lasts longer than 5 minutes is a medical emergency.
- It may be hard to tell if a tonic-clonic seizure starts as focal or generalized onset, especially if they occur during sleep or are not seen by anyone else. Then they are called unknown onset tonic-clonic seizures.
- Most tonic-clonic seizures during sleep begin in one area and have a focal onset.

After the seizure, the person may be drowsy, confused, agitated, or depressed for a while. Some people may need to rest for a few hours after a seizure, while others return to their normal state within minutes.

Focal Onset Aware Seizures

Focal onset seizures are the most common type of seizure experienced by people with epilepsy. Previously called partial seizures. Commonly called Focal Seizure.

A focal onset aware seizure is when the seizure begins on one side of the brain and the person has no loss of awareness of their surroundings during it.

When people have focal onset aware seizures, they are fully awake, alert, and able to recall events during the seizure.

Some are “frozen” during the seizure, so they may or may not be able to respond to others during the seizures.

These seizures usually last less than 2 minutes.

Focal Onset Impaired Awareness Seizures

Previously called complex partial seizures. Often called temporal lobe seizures if they start in the temporal lobes of the brain.

- Begins in one side of the brain.
- Has a change in their level of awareness during some or all of the seizure. Some people can have this kind of seizure without realizing anything has happened.
- Can affect memories of events just before or after the seizure.

- Can include involuntary movements called automatisms like rubbing of the hands, lip-smacking, or chewing movements. If the seizure involves the frontal lobes, you may see bicycling movements of the legs or pelvic thrusting, or other complex movements.
- May experience an aura.
- Less often, people may repeat words or phrases, laugh, scream, or cry.
- Person may do dangerous or embarrassing things such as walk into traffic or take their clothes off.
- Seizures can last from 30 seconds to 3 minutes.

The person may be tired or confused for about 15 minutes and may not return to normal function for hours after a Focal Impaired Awareness Seizure.

Gelastic and Dacrystic Seizures

Gelastic and dacrystic seizures are focal (or partial) seizures that start in an area at the base of the brain called the hypothalamus.

- Gelastic seizures is the term used to describe focal or partial seizures with bouts of uncontrolled laughing or giggling. They are often called laughing seizures. The person may look like they are smiling or smirking.
- Dacrystic seizures are focal or partial seizures when a person makes a crying sound. They may also look like they are grimacing.
- The emotions (laughing or crying) are often forced, and the person can't stop them from happening.
- Most people don't feel happy or a sense of well-being during a gelastic seizure. The opposite may happen - they may feel scared or a loss of control. Some people may feel anxious that they will laugh at a socially inappropriate time.
- Usually, a person is aware of what's going on around them during these seizures.
- The gelastic or dacrystic seizures are usually seen in people with a lesion or area on the hypothalamus called a hamartoma. The term hypothalamic hamartoma or HH is used to describe this.
- This lesion or congenital spot (meaning it's been present since birth) is not a type of cancer.
- Seizures associated with HH usually start as focal seizures. Other seizure types may be seen as the person gets older.

Gelastic seizures are often short, lasting 10-20 seconds or less. There is often a slight smile that may seem forced and laughter or grunting that seems unusual or not appropriate at that time.

- Gelastic and dacrystic seizures may spread to affect both sides of the brain, resulting in absence, atonic, tonic (also called drop attacks), and tonic-clonic seizures.

What is a gelastic or dacrystic seizure like?

Gelastic seizures are often short, lasting 10 to 20 seconds or less. They may look different with each person, yet there are some common features, such as:

- They often start with an aura. The person may look startled or even have a look of panic or fear.
- There can also be an unpleasant feeling in the stomach (like butterflies), a tickling in the chest or headache. Automatic behaviors, such as lip smacking or swallowing may be seen.
- The person may stare. Their eyes may seem vacant, dilate, and move up and to one side.
- There often is a slight smile that seems a bit forced and laughter or grunting that seems unusual or not appropriate at that time. In infants, there may be grunting and unusual squirming as well.

- Some people look for comfort. A child may seek comfort from a parent or favorite toy for no apparent reason. Others may run to a place where they feel safe.
- Parents report that their child's gelastic seizures appear triggered by loud noises or fearful responses to sudden actions.
- These seizures can occur many times a day. In some cases, as many as 100 a day have been seen.

Myoclonic Seizures

Myoclonic seizures are brief, shock-like jerks of a muscle or a group of muscles. "Myo" means muscle and "clonus" (KLOH-nus) means rapidly alternating contraction and relaxation—jerking or twitching—of a muscle.

What it looks like:

- Have brief jerking movements of the whole body or parts of the body
- Spill or drop objects
- May fall
- May not be aware of what happened
- Usually, they don't last more than a second or two.

There can be just one, but sometimes many will occur within a short time.

In **juvenile myoclonic epilepsy**, the seizures usually involve the neck, shoulders, and upper arms. In many patients, the seizures most often

occur soon after waking up. They usually begin around puberty or sometimes in early adulthood in people with a normal range of intelligence. In most cases, these seizures can be well controlled with medication but it must be continued throughout life.

When a myoclonic seizure ends, the person usually continues doing whatever they were doing before and during the seizure. They are awake and able to think clearly and first aid is often not needed.

Psychogenic Nonepileptic Seizures (PNES)

PNES resemble, mimic, or can appear outwardly like epileptic seizures, but their cause is psychological. PNES in most cases comes from a psychological conflict or accompanies an underlying psychiatric disorder. There is no known organic or physical cause for PNES. Treatment focuses on addressing underlying psychological problems or psychiatric disorders.

A number of different disorders can be listed

as possible contributors to a person developing PNES. These disorders are seen frequently in people diagnosed with PNES:

- A history of mood disorders
- Anxiety
- Dissociative disorders
- Post-traumatic stress disorders
- History of physical, emotional, or sexual abuse
- Family stressors or conflict
- Psychosis
- Personality disorders
- Attention problems
- History of traumatic brain injury
- Substance abuse
- Behavioral disturbances (anger, aggression, withdrawal)

A diagnosis is typically made using a combination of information, but PNES is most reliably determined by recording a PNES event with video EEG (electroencephalogram) monitoring along with a complete medical, neurologic, and psychiatric history; a description from any witnesses; results of prior diagnostic testing; and no response to prior treatment with antiseizure medications.

Treatment focuses on the underlying disorder.

Tonic-clonic Seizures

The type of seizure most people think of when they hear the word "seizure." Also called a convulsive seizure; Previously called grand mal.

- The tonic phase comes first.
  - All the muscles stiffen.
  - Air being forced past the vocal cords causes a cry or groan.
  - The person loses consciousness and falls to the floor.
  - A person may bite their tongue or inside of their cheek. If this happens, saliva may look a bit bloody.
- After the tonic phase comes the clonic phase.
  - The arms and usually the legs begin to jerk rapidly and rhythmically, bending and relaxing at the elbows, hips, and knees.
  - After a few minutes, the jerking slows and stops.
- The person's face may look dusky or a bit blue if they are having trouble breathing or the seizure lasts too long.
- Seizures usually lasts 1 to 3 minutes.

After the seizure

- Normal breathing resumes
- May appear confused
- Need to sleep for minutes or hours
- May have a headache for a while

Tonic Seizures

Muscle "tone" is the muscle's normal tension at rest. In a tonic seizure, the tone is greatly increased: the body, arms, or legs suddenly become stiff or tense.

- Usually involves all or most of the brain
- Have tension and stiffening in the body, arms, and legs
- Fall if standing
- Have small changes in awareness
- Usually happen during sleep
- Stiffening of a part of the body may begin in one area and stay local (called focal tonic seizures)
- Seizures usually last less than 20 seconds

Person may or may not be sleepy or confused after the seizure

Drug-Resistant Seizures

Seizures sometimes are not controlled with seizure medications. A number of different terms may be used to describe these including: "uncontrolled" or "drug resistant." Drug-resistant epilepsy occurs when a person has failed to become (and stay) seizure-free with adequate trials of two anti-seizure medications (called ASMs).

Studies suggest that epilepsy fails to come quickly under control with medicines in about one-third of cases, but the true frequency depends upon the definition of uncontrolled.

Seizures can be uncontrolled for four broad reasons.

- The diagnosis is wrong.
- The treatment is wrong.
- Despite the best treatment, triggers or lifestyle factors may affect seizure control.
- Properly diagnosed seizures do not respond to the best medical treatment.

Not all uncontrolled seizures are considered drug resistant. For example:

- If the diagnosis is corrected and seizures can be brought under control with a different treatment, then they would not be considered drug resistant.
- If triggers of lifestyle factors could be avoided or modified preventing breakthrough seizures, then medication therapy may work better. A person in this situation would not be considered drug-resistant, but different drug trials may be considered, and non-drug treatments may be considered to help control seizures.

Seizure First Aid

1 **STAY** with the person until they are awake and alert after the seizure.
✓ Time the seizure ✓Remain Calm
✓ Check for **medical ID**

2 Keep the person **SAFE**
✓ Move or guide away from **harm**

3 Turn the person onto their **SIDE** if they are not awake and aware.
✓ Keep **airway clear**
✓ **Loosen tight clothes** around neck
✓ Put **something small and soft** under the head

Call **911** if...

- Seizure lasts longer than 5 minutes
- Person does not return to their usual state
- Person is injured, pregnant, or sick
- Repeated seizures
- First time seizure
- Difficulty Breathing
- Seizure occurs in water

Do **NOT**

✗ Do **NOT** restrain.
✗ Do **NOT** put any objects in their mouth
✓ **Rescue medicines can be given** if prescribed by a health care professional.

Don't do these things:

- Don't restrain or hold people down, unless they are in a dangerous situation and need help to stay safe.
- Don't put anything in their mouth.
- Don't give them any water, food, or pills to swallow unless they are fully alert.

Always call 911 if any of these things are true:

- The seizure lasts for more than 5 minutes.
- A second seizure starts shortly after the first one ends.
- A person doesn't recover after their seizure in the usual amount of time.
- A person is given a rescue medicine and
  - Seizure continues for 15 minutes after administration
  - Seizure behavior is different from usual episodes
  - Breathing slows or becomes difficult
  - Skin color change
  - They are having unusual or serious reaction.
- The seizure happened in water.
- Breathing seems difficult or the person seems to be choking.
- The person is pregnant, injured, or has diabetes or another medical condition.
- The person asks, or the seizure action plan instructs you to call 911.
- You don't know if the person has epilepsy, or it is their first seizure.

YOU DO NOT NEED TO CALL 911 IF ALL OF THESE THINGS ARE TRUE:

- You know the person has epilepsy.
- The seizure ends in under 5 minutes.
- The seizure follows the person's typical type and length.
- The person returns to normal after the seizure.
- There are no signs of injury or other problems.

> "If someone has a seizure for the first time, call 911 or take them to the emergency department right away."

What about seizure clusters?

Some people with epilepsy have seizures that come in clusters. This is when there are 2 or more seizures occurring within 24 hours. This can happen with any seizure type.

- If someone has cluster seizures for the first time, this may be a life-threatening emergency. Call 911.
- If the person has seizure clusters on a regular basis and can use rescue medicine to stop the seizures, follow the rescue medicine instructions. You probably don't need to call 911.
- Make sure to follow the person's seizure action plan. The plan should have information about what to do if a seizure cluster happens and when to get emergency help.

Seizure Emergencies

A seizure is considered an emergency when it lasts a long time (longer than 5 minutes) or when seizures occur close together and the person doesn't recover between seizures. Just like there are different types of seizures, there are also different types of emergencies.

Convulsive status epilepticus

- Occurs with prolonged or repeated tonic-clonic seizures.
- The active part of a tonic-clonic seizure lasts 5 minutes or longer
- A person goes into a second seizure without recovering consciousness from the first one.
- They are having repeated seizures for 30 minutes or longer
- Requires immediate emergency treatment in a hospital

Nonconvulsive status epilepticus

- Occurs with long or repeated Focal-Onset Impaired Awareness Seizures (previously called complex partial seizures).
- Harder to recognize as the symptoms are subtle and more difficult to tell the seizure symptoms from the recovery period
- No consistent time frame on when these seizures become an emergency. It depends in part on how long a person's typical seizure is and how often they occur.
- When nonconvulsive status epilepticus occurs or is suspected, emergency medical treatment in a hospital is needed.

Acute repetitive seizures or clusters

Seizures of any type may occur in clusters over a number of hours or days. A person usually recovers between seizures and the clusters will end on their own.

People can be at risk for repeated clusters or status epilepticus if:

- Seizure clusters last longer than normal
- Seizures occur closer together
- Person doesn't recover as well between seizures or clusters
- If rescue medicines given to stop the clusters don't work

If a person can recognize seizure clusters or acute repetitive seizures easily enough, they can often be treated outside of a hospital setting. Ideally, this early treatment will prevent the need for hospital treatment. However, if out-of-hospital treatments don't work and seizures continue or complications occur, emergency medical treatment will be needed.

Seizures in Special Situations

Sometimes you'll need to take extra steps to help someone having a seizure. Below are some additional steps you may have to help with.

If someone is having a seizure in water:

- Keep their head and face above the surface by supporting them in the water with their head above the water.
- Move them out of the water once the seizure is done.
- Once they are out of the water, check for breathing and pulse. Begin CPR if necessary.
- Call 911 and have them taken to an emergency room after the seizure, even if they seem okay. Having a seizure in water is dangerous.

> "A person with seizures should not swim or be in standing water alone."

Learn CPR:

- American Heart Association - heart.org
- American Red Cross - redcross.org

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If someone is having a seizure on a passenger bus or a plane:

- Ask other passengers to help you lay the person on their side across two or more seats. If there are no empty seats, recline the person's seat if possible.
- Make sure their airway is clear so they can breathe freely. Turn their body and head to one side if possible.
- Put something soft behind their head so they won't hit it on anything hard. Make sure any pillows or blankets don't block their breathing.
- When they're awake and know where they are, help them into a reclining seat so they can rest.

If they recover and return to normal after a seizure, it's fine for them to stay on the bus or plane until it arrives at the destination.

If someone is having a seizure on a school bus:

- Safely pull over and stop the bus.
- Place the student on his/her side across the seat facing away from the seat back, or in the aisle if necessary.
- Make sure their airway is clear so they can breathe freely.
- Put something soft behind their head so they won't hit it on anything hard. Make sure any pillows or blankets don't block their breathing.
- Follow the student's seizure action plan and school policy.

When they recover, continue to the destination, or follow school policy.

If someone is having a seizure in a wheelchair:

- Don't remove them from the wheelchair unless you have to.
- Put the wheelchair lock on to keep the wheelchair in place.
- Put the seatbelt on loosely to keep them from falling out of the wheelchair.
- Stand in front of the wheelchair to prevent them from slipping out.

PhotoFanatic.org

- If they can't stay in the wheelchair safely, call for help and guide them gently to the floor.
- Protect and support their head the best you can.
- Make sure their airway is clear so they can breathe freely.

It may also be helpful to pad the person's wheelchair to prevent injuries in the future.

Seizure Rescue Therapies

Some people need to use additional medication or a device to help stop a seizure.

Rescue Medicines

Rescue medicines, referred to as an "as-needed" medicines or "rescue treatments," are given in specific situations. These medicines can prevent a prolonged seizure or cluster of seizures from becoming a life-threatening emergency. They're usually needed when someone with epilepsy has seizures that last longer, are different than usual, or have several seizures in a short time (cluster).

Some people may need to be given a rescue medicine as soon as the seizure starts. Always consult your healthcare provider and know when to take rescue medicine. Be sure to include that information in a seizure action plan. Like other medicines, rescue medicines are prescribed by licensed healthcare providers.

Remember that some people must take rescue medicine as soon as the seizure starts.

Always check with your healthcare provider about when to take your rescue medicine and include this information on your seizure action plan.

VNS Device

Some people with epilepsy have a device called VNS (vagus nerve stimulation) that is surgically placed on the left side of their chest. It gives stimulation to the vagus nerve going to the brain on a regular basis. It is used in first aid too. If they feel a seizure coming on, they can pass a special magnet over the device to help stop the seizure or make it less severe.

> **"The VNS uses a special magnet that helps to stop a seizure or make it less severe when you wave it over the device."**

Seizure Action Plan

If you care for or work with someone who has epilepsy, ask if they have a seizure action plan. A seizure action plan is a document that lets people know what to do when someone has a seizure, including whether to use a rescue treatment. Copies of the plan should be shared with close family, friends, teachers, or coworkers as needed so they can provide support and proper first aid during a seizure. The plan should be updated yearly.

A seizure response plan usually includes:

- What type of seizures you have and how often they happen
- First aid instructions
- Information from your health care provider about what to do if a seizure doesn't stop or too many happen (called "status epilepticus")
- Instructions about when to call 911
- What hospital a person would like to go to if possible. (Note - often people may be taken to the closest hospital for quicker care.)
- Emergency contact information, including the phone number for your health care provider

To find sample seizure action plans, visit epilepsy.com/toolbox

Make a seizure action plan.

A seizure action plan (sometimes called a seizure response plan) is a document that lets people know what to do when someone has a seizure.

Copies of the plan should be shared with close family, friends, teachers, or co-workers as needed so they can provide support and proper first aid during a seizure. Don't forget to update your plan yearly.

A seizure action plan usually includes:

- What type of seizures you have and how often they happen.
- First aid instructions.
- Information from your health care provider about what to do if a seizure doesn't stop or too many happen (called "status epilepticus").
- When to give rescue medicine.
- Instructions about when to call 911.
- What hospital a person would like to go to if possible. (Note - often people may be taken to the closest hospital for quicker care.)
- Emergency contact information, including the phone number for your health care provider.

To find sample seizure action plans, visit epilepsy.com/toolbox.

Sudden Unexpected Death in Epilepsy (SUDEP)

People who continue to have seizures are at greater risk of a number of complications. The most serious complications are injuries and dying from seizures.

SUDEP is the sudden, unexpected death of someone with epilepsy, who was otherwise healthy. In SUDEP cases, no other cause of death is found when an autopsy is done. Each year, more than 1 in 1,000 people with epilepsy die from SUDEP. This is the leading cause of death in people with uncontrolled seizures. Talk with your healthcare team about your risk and take steps to reduce your risk.

Strive for Seizure Control

- Take your medicine on time, every day - exactly as prescribed.
- Get enough sleep. There is a significant relationship between sleep deprivation and seizures in people with epilepsy.
- Limit alcohol and illicit substances.
- Know your seizure triggers and develop plans to minimize them.
- Keep a diary of seizures, test results, and questions for your doctor.
- Create and share your own Seizure Action Plan.

Visit epilepsy.com/SUDEP to learn more about SUDEP.

Where can I find out more?

Visit epilepsy.com to:

- Learn even more about epilepsy and seizures
- Become Seizure First Aid Certified, visit epilepsy.com/firstaid
- Find a local Epilepsy Foundation office near you at epilepsy.com/local
- Download a sample Seizure Action Plan and paper seizure calendars from epilepsy.com/toolbox.
- Learn about seizure triggers at epilepsy.com/triggers
- Learn about SUDEP at epilepsy.com/SUDEP
- Take free courses on the Epilepsy Learning Portal at learn.epilepsy.com

Notes

With a network of partners throughout the United States, the Epilepsy Foundation is leading the fight to overcome the challenges of living with epilepsy. The Foundation connects people to treatment, support, and resources; leads advocacy efforts; funds innovative research and the training of specialists; and educates the public about epilepsy and seizure first aid. For more than five decades, the Epilepsy Foundation has shone a light on epilepsy to promote awareness and understanding and to advocate for laws that matter to people with epilepsy while also funding epilepsy research and supporting epilepsy investigators and specialists in their early careers. In partnership with the CDC, the Epilepsy Foundation has helped to improve access to care for people with epilepsy, expanded its digital reach and online resources in homes across the country, and trained more than 600,000 people in seizure recognition and first aid. The Epilepsy Foundation continues to focus on serving the epilepsy community through advocacy, education, direct services, and research for new therapies. To learn more visit epilepsy.com or call 1.800.332.1000.

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Rev. 04/2023 300SFA / PAB0423