

# Epilepsy – Management

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# What is epilepsy? What is a seizure?

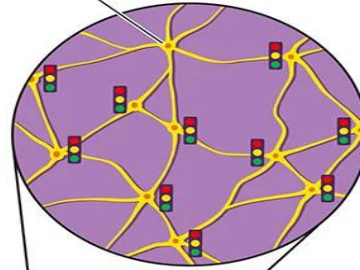
- Epilepsy, which is sometimes called a *seizure disorder*, is a disorder of the brain. A person is diagnosed with epilepsy when they have had two or more seizures.
- A *seizure* is a short change in normal brain activity.
- Seizures are the main sign of epilepsy.
- Some seizures can look like staring spells.
- Other seizures cause a person to fall, shake, and lose awareness of what's going on around them.

- A person cannot catch epilepsy from someone else.
- Epilepsy is not a disease. It is not a psychological disorder. Epilepsy is a seizure disorder.
- Epilepsy is more common than most people realize. In the general population, approximately one person in a hundred has epilepsy
- People of all ages and all nationalities have epilepsy.
- Epilepsy can begin at any age although its onset is most often in childhood or in the later years of life.
- The causes of epilepsy vary according to the age of the onset of epilepsy.

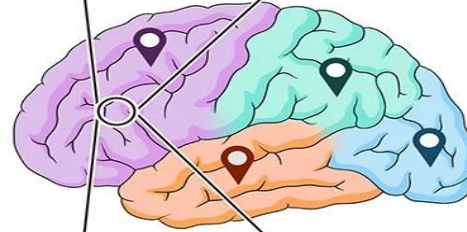
## Seizure

*Seizures happen in two main ways, generalized and focal.  
This example shows a focal seizure.*

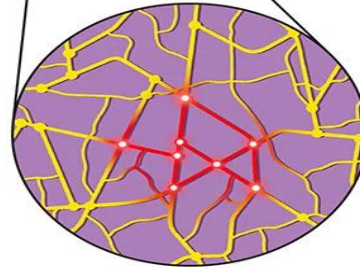
Neuron



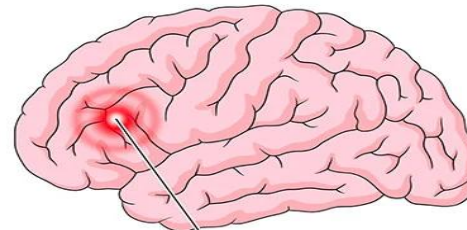
Your brain has billions of cells called neurons that all connect to create electrical networks. This network would be similar to roads and traffic lights.



Those networks make up and connect different parts of your brain, like different towns.



Seizures happen when the neurons malfunction and electrical signals fire uncontrollably. Think of traffic lights short-circuiting.



Focal seizure

The more neurons (traffic lights) that go haywire, the more intense or widespread the seizure and bodily effects.

# What causes epilepsy?

- Epilepsy can be caused by different conditions that affect a person's brain. Some known causes include:
  - [Stroke](#).
  - Brain tumor.
  - Brain infection from parasites (malaria, [neurocysticercosis](#)), viruses (influenza, dengue, Zika), and bacteria.
  - [Traumatic brain injury](#) or head injury.
  - Loss of oxygen to the brain (for example, during birth).
  - Some genetic disorders (such as [Down syndrome](#)).
  - Other neurologic diseases (such as [Alzheimer's disease](#)).



**genetics**



**brain damage**



**brain  
infections**



**alcohol use  
disorder**



# What are the major types of seizures?

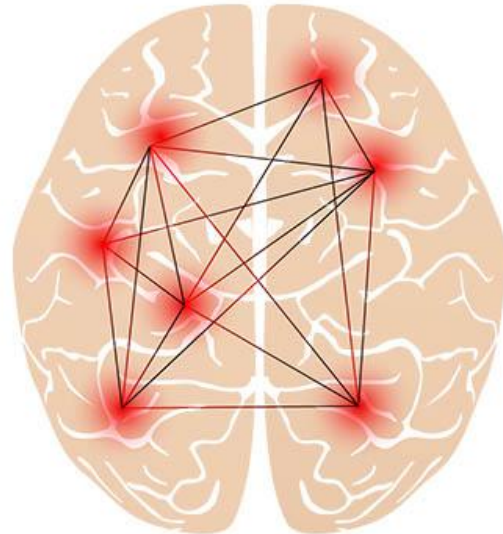
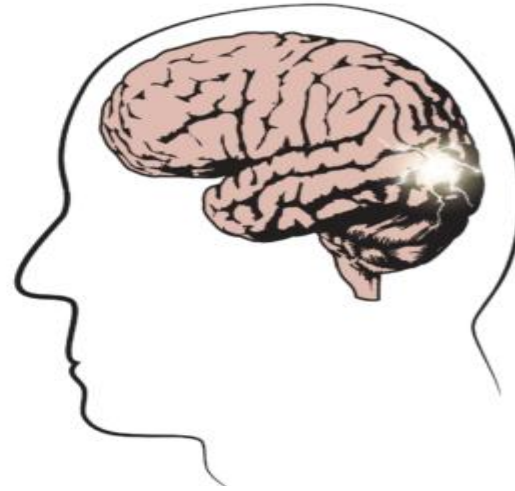
- Sometimes it is hard to tell when a person is having a seizure.
- A person having a seizure may seem confused or look like they are staring at something that isn't there.
- Other seizures can cause a person to fall, shake, and become unaware of what's going on around them.
- Seizures are classified into two groups.
  1. Generalized seizures affect both sides of the brain.
  2. Focal seizures affect just one area of the brain. These seizures are also

# Types of Epilepsy

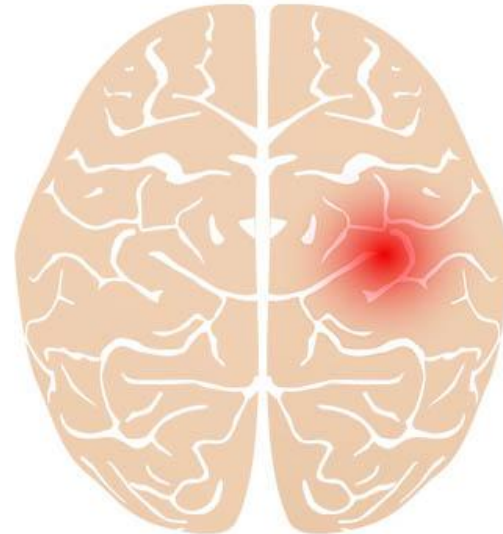
Generalized



Focal

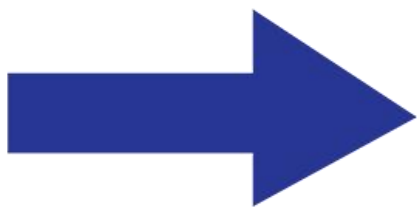


Generalized Seizure



Focal Seizure

















**Missed dose of AED<sup>11</sup>**



**Lack of sleep or disrupted sleep<sup>11</sup>**



**Illness (with or without a fever)<sup>11</sup>**



**Alcohol or illegal drug use<sup>11</sup>**



**Stress<sup>11</sup>**



**Flashing bright lights<sup>11</sup>**

## **Seizure Triggers**



**Certain foods<sup>11</sup>**



**Skipped meals  
(low blood sugar)<sup>10</sup>**



**Hormonal changes in women<sup>11</sup>**



**Medicines that interfere with AEDs<sup>11</sup>**



**Too much caffeine<sup>11</sup>**



**Not drinking enough liquids<sup>11</sup>**



# Recognizing the Signs of a Seizure

There are as many as forty different types of seizures known.

Symptoms of seizures vary depending on the type of seizure you experience. A generalized seizure is the most common, and it tends to show these symptoms:



**Loss of Mobility**



**Trembling and Shaking**



**Numb & Prickling Sensation**



**Unconsciousness**



**Muscle Contractions & Cramps**



**Change in Emotions & Behavior**



**Confusion & Uncertainty**



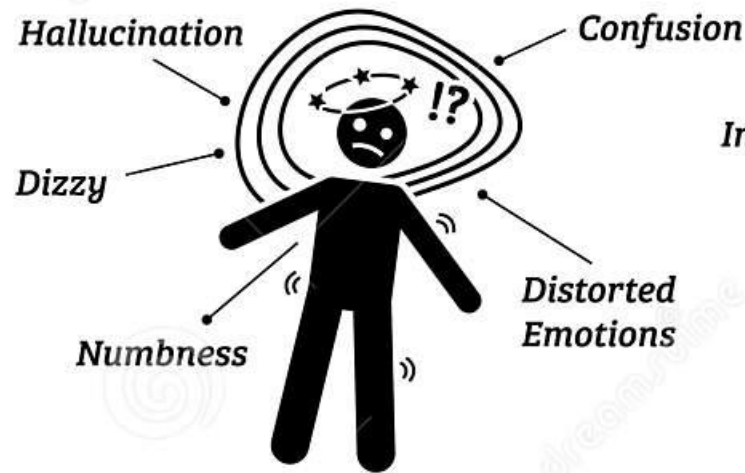
**Loss or Alteration of Basic Senses**  
(smell, sound, look, taste, or touch)



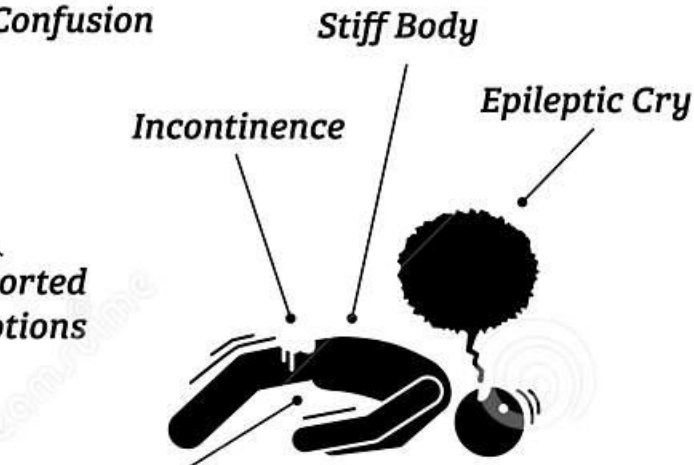
**Incontinence**



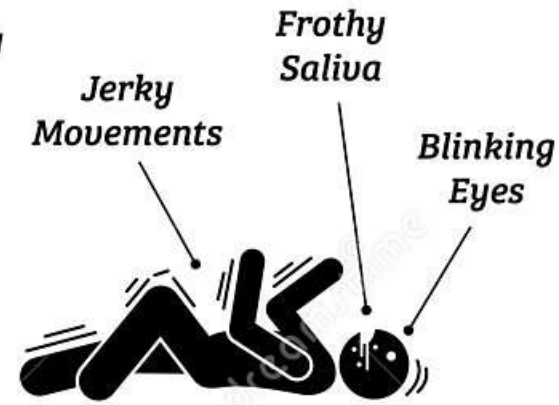
# Stages of a Seizure



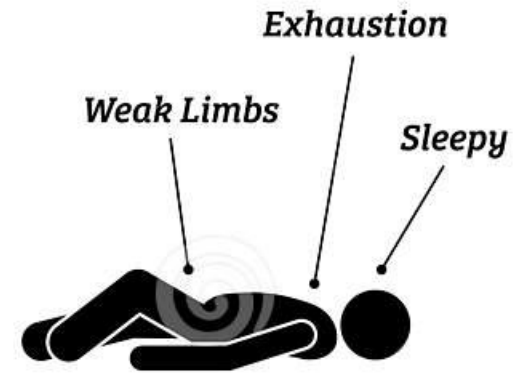
**Aura Stage**



**Tonic Stage**

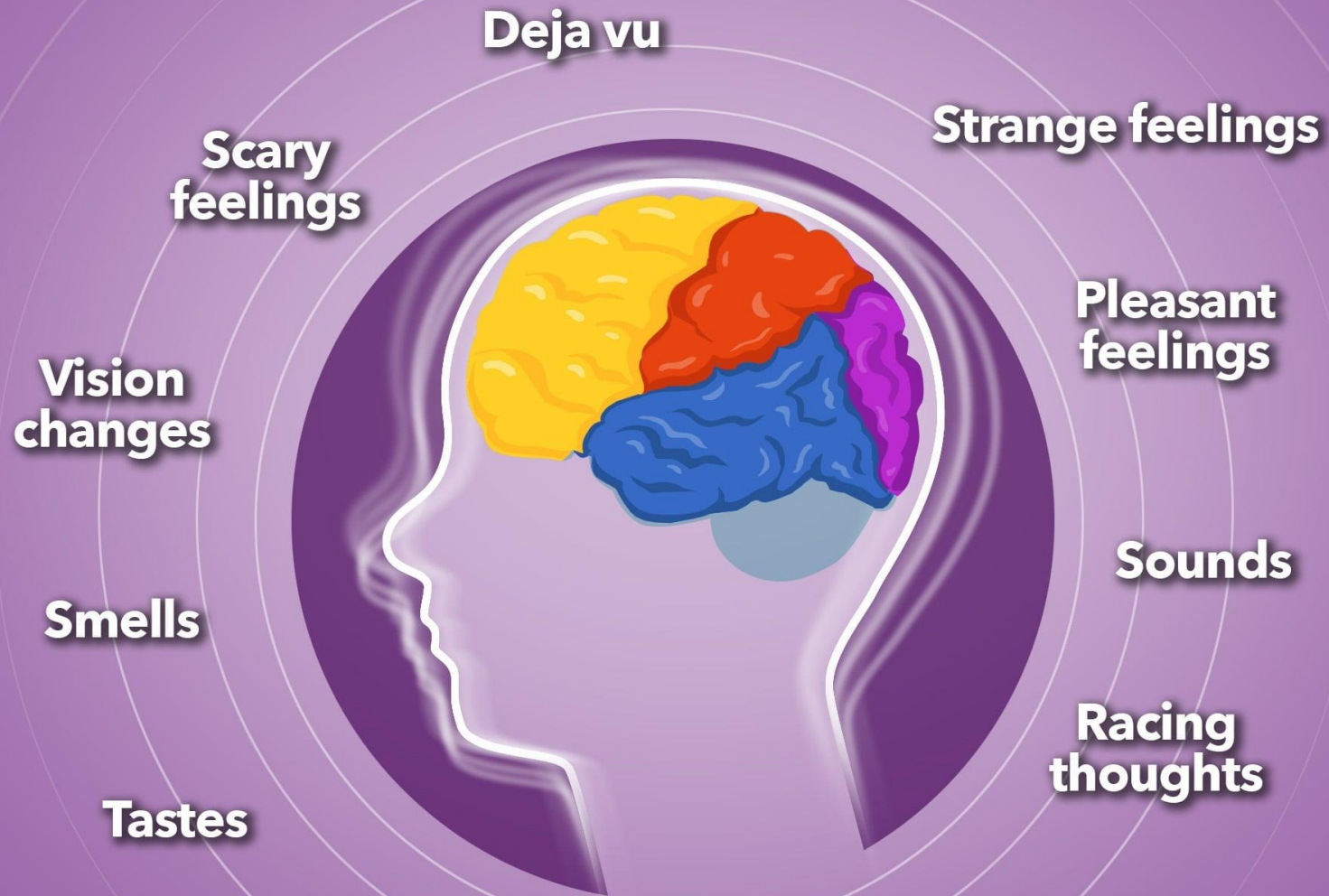


**Clonic Stage**



**Postictal Stage**

# Examples of changes in feelings, sensations, thoughts, or behavior include<sup>12</sup>:



# Post-Seizure Activity

- Stay with them until the seizure ends and they are fully awake and alert
- Have them sit in a safe place and explain what has happened to them in simple terms
- Continue to comfort them until they are ready to move about
- Understand how to comfort children or those around if they have witnessed the seizure (educate them at their level)
- Ensure plenty of rest, quiet, and relaxation for a few days after the event
- Contact your doctor for breakthrough seizures and schedule appointment as advised

# What to Do When A Seizure Occurs

- Stay calm
- Move objects out of the way to avoid bodily injury
- Loosen clothing around the neck
- Place a pillow or something soft under their head
- Lay them on their side
- Remove eye glasses
- Time the duration of the seizure and observe details to report to doctor afterwards
- Continue to talk to them in a calming voice

## First Aid for Seizures

Within the first 5 minutes of seizure



Stay calm, loosen clothing



Cushion head and move to recovery position



Keep away from harmful objects



Don't put anything in the mouth



Don't restrain the child



Calculate seizure time

If Seizure does not stop in 5 min



Midazolam



Attach nasal spray



Spray in the nostril(as prescribed)

If the child is non-responsive to MIDAZOLAM or If





# What NOT to Do When A Seizure Occurs:

- *DO NOT* put anything in their mouth
- *DO NOT* try to hold them down
- *DO NOT* try to give mouth to mouth resuscitation
- *DONOT* give key or chain or metal items

# When to Call an Ambulance:

## When to Call 911 for Someone Having an Epilepsy Seizure



**Someone without a history of seizures has one**

**Seizures occur one after another**



**The person asks for medical attention**



**A seizure lasts 5 minutes or longer**



**Seizures occur closer together than normal**

**The person has trouble breathing or is choking**





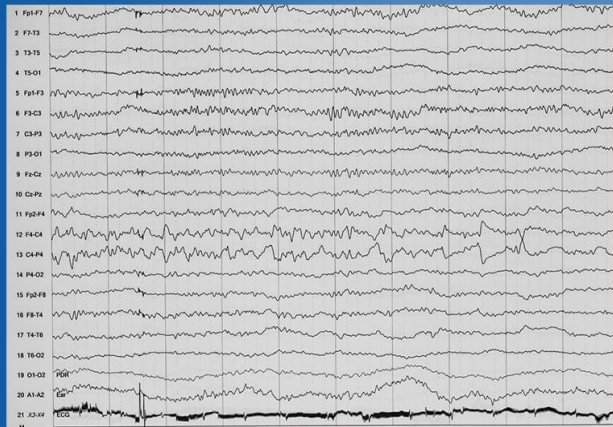


## Family history and medical history

A family history helps the doctor understand if there is any family tendency to have seizures. The medical history helps the doctor understand if any medical conditions you've had in the past might be causing your seizures.<sup>25</sup>

## Physical and neurologic exam

The physical and neurologic exam help the doctor figure out if any other medical conditions might be causing the seizures.<sup>25</sup>



## Electroencephalogram (EEG)

An EEG records electrical activity in the brain. EEGs can help the doctor understand what's happening in the brain.<sup>25</sup>



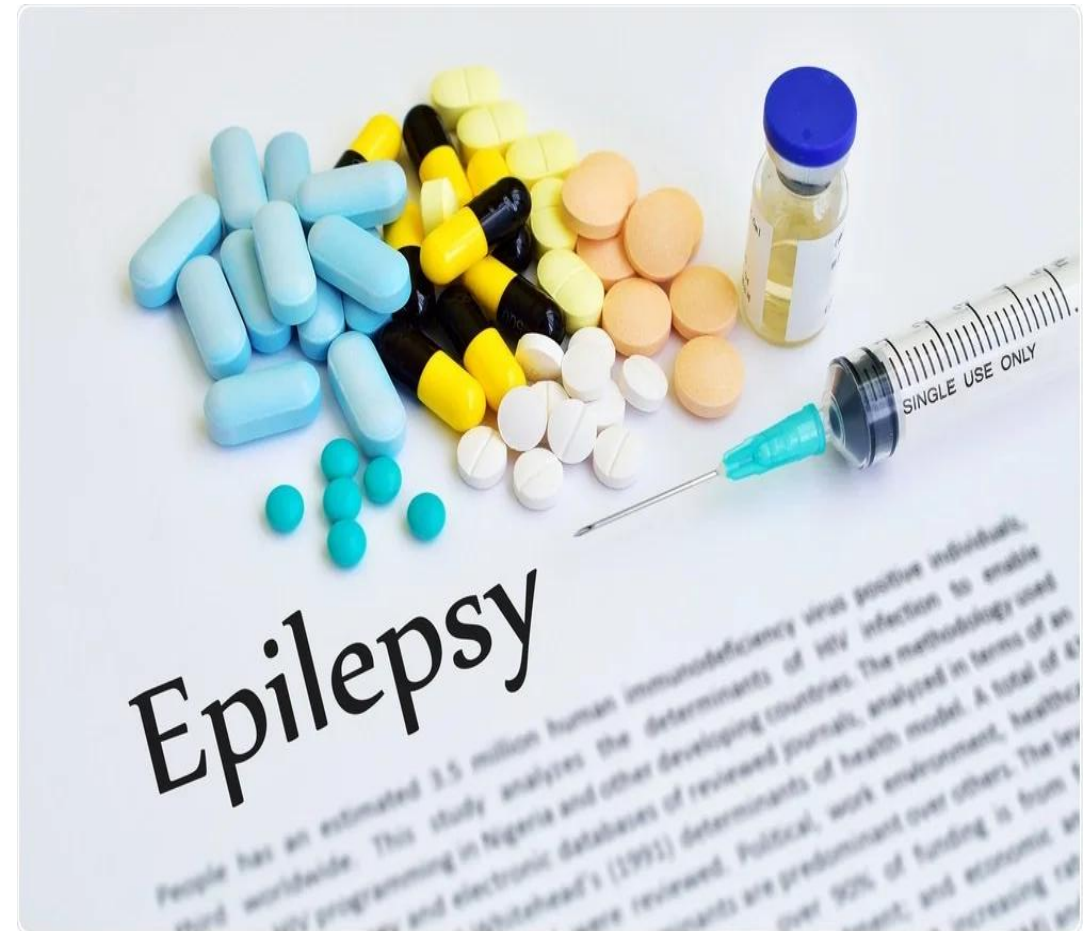
## Computerized tomography (CT)

A CT scan uses radiation to see if there are changes in the brain, such as bleeding, that might be causing the seizures. CT scans are also called CAT scans.<sup>25</sup>



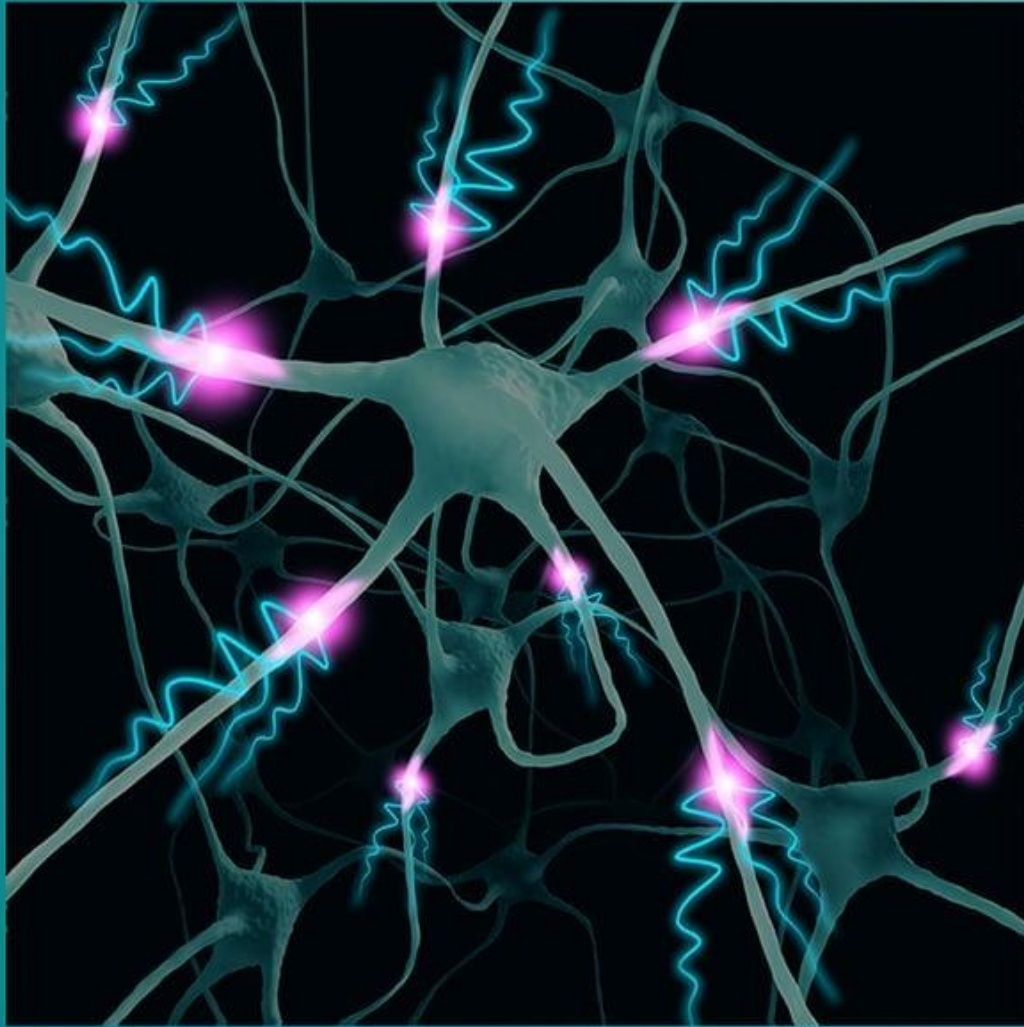
# How is epilepsy treated?

- **Medicine.** Anti-seizure drugs are medicines that limit the spread of seizures in the brain. A health care provider will change the amount of the medicine or prescribe a new drug if needed to find the best treatment plan. Medicines work for about 2 in 3 people with epilepsy.

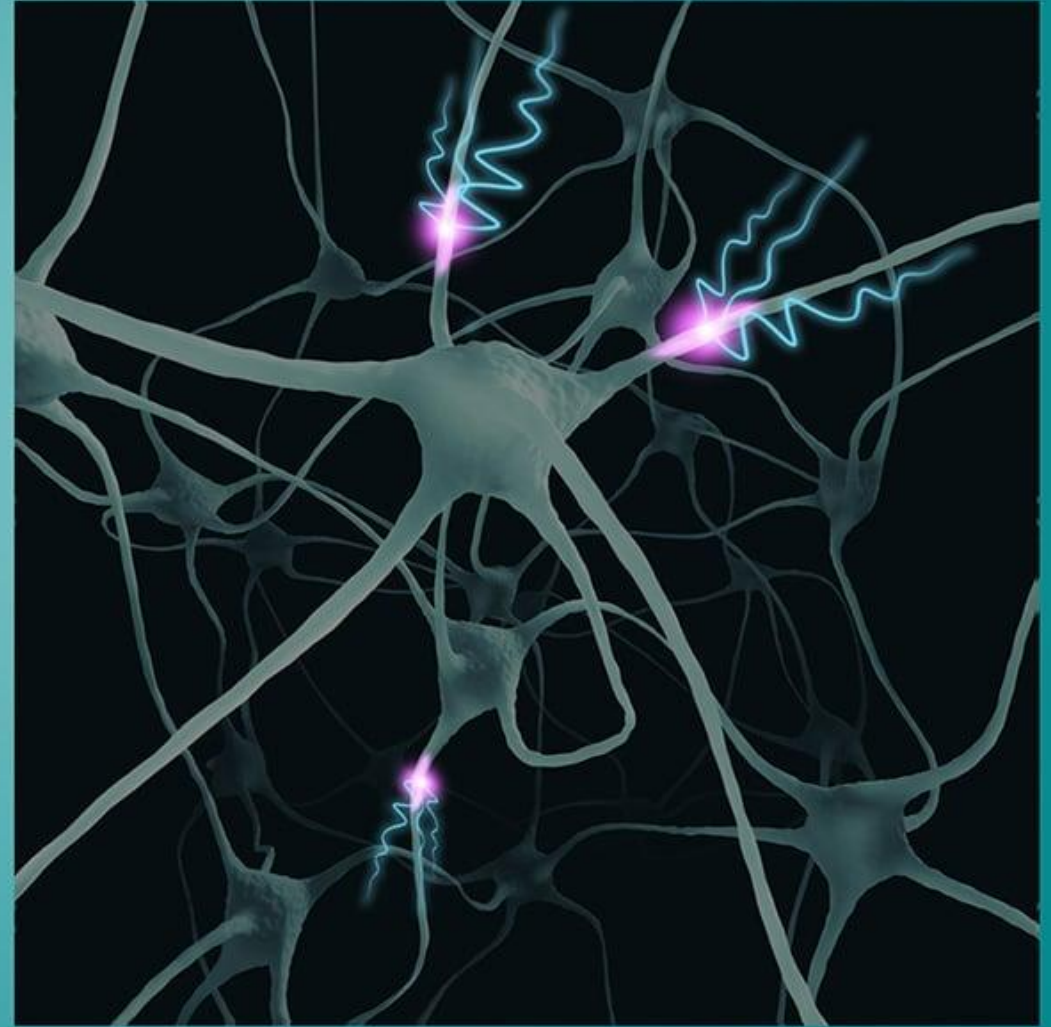


# What can I do to manage my epilepsy?

- Take your medicine.
- Talk with your doctor or nurse when you have questions.
- Recognize seizure triggers (such as flashing or bright lights).
- Keep a record of your seizures.
- Get enough sleep.
- Lower stress.



Overactive electrical signals in the neurons of the brain<sup>2</sup>

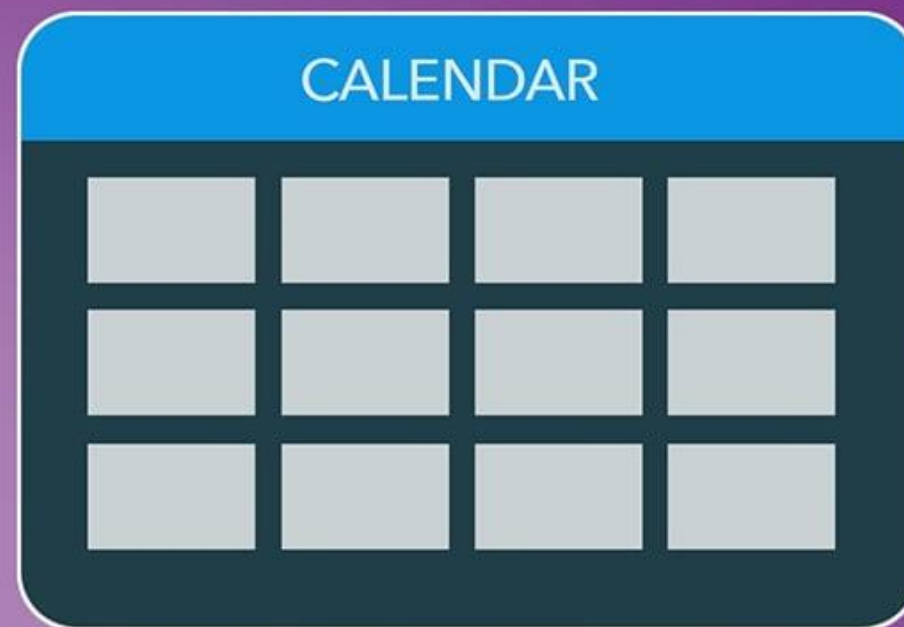


AEDs decrease the overactive electrical signals in the neurons of the brain<sup>2</sup>





Taking your AEDs regularly  
and as directed<sup>7</sup>



Continue to take your AEDs for as  
long as your doctor recommends<sup>7</sup>

# The most common side effects

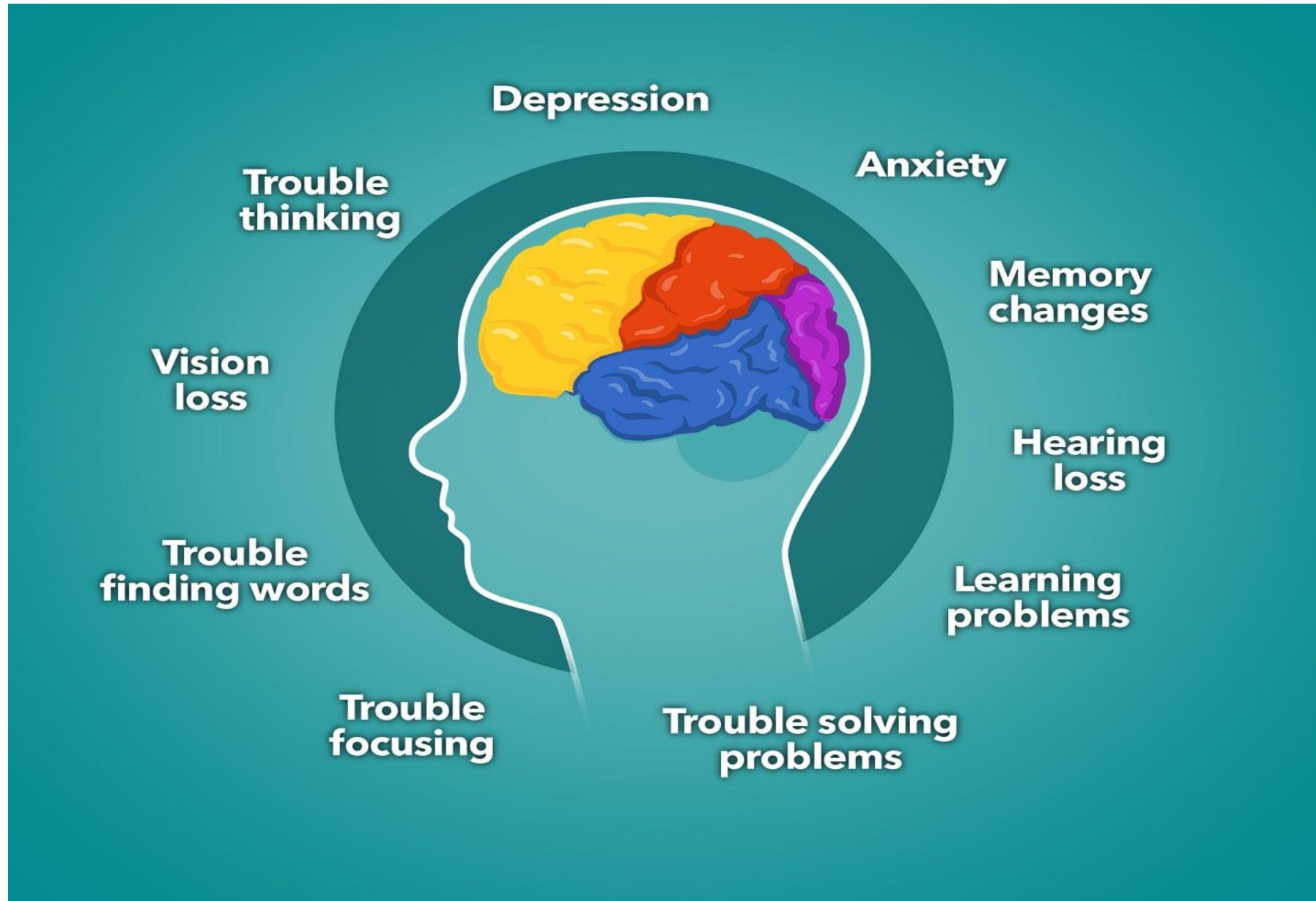
- drowsiness
- loss of coordination
- fatigue
- headache
- decreased appetite
- nausea
- drooling
- tremor
- weight gain or loss
- double or blurred vision
- dizziness
- impaired attention and memory
- overgrowth of the gums
- hair loss or excessive hair growth

## Seizure Tracker

Date Jan 23	Time of Day or night 3:45 PM	How long did seizure last? 10 seconds
What was I doing before the seizure?	At my desk in office	
How did I feel before the seizure?	a little tingly in my arms	
What might have triggered my seizure?	my computer screen flashed.	
Had I been taking my AEDs regularly?	yes	
When did I take my last AED dose?	this Am - 7am	



# Other conditions co-existing with epilepsy





# 5 Keys to Empowerment



Build your epilepsy IQ<sup>3</sup>



Manage lifestyle and wellness<sup>4</sup>



Establish a community  
of support<sup>2</sup>



Live safely with epilepsy<sup>5</sup>



Improve your quality of life<sup>6</sup>



**Certain situations carry extra risk for someone with epilepsy, such as<sup>5</sup>:**



**Heights**



**Traffic**



**Water**



**Source of  
heat**



**Source of  
electricity**

# Precaution can be taken to reduce risks

- Safety tips include:
- Avoiding open flames, stoves, irons, and smoking as there is an increased risk of fire or burns if a seizure occurs.
- Using a microwave oven rather than a stove.
- Padding the edges of tables and other furniture.
- Carpeting the floor, preferably with a thick underlay.
- Taking showers rather than baths - Showers are safer than baths for those with epilepsy, but injuries can still occur.
- If an individual experiences falls during a seizure, a low shower seat with a safety strap should be considered.
- Standing back from roads or the edge of platforms while traveling by bus or subway.

# How have you prepared for a seizure emergency in your home?

## Some ideas to stay safe at home include <sup>4</sup>:

Don't smoke or light candles or fires when you're home alone

Carpet floors with heavy pile and thick carpeting

Buy furniture with rounded corners or pad sharp corners

Install non-skid strips in the bathtub or shower

Use microwave for most of your cooking, or only use stove when someone else is home

Use plastic or paper instead of china or glass





**Make a list of people who need to know about your seizures,  
including family, friends, and coworkers.**



# The main things that impact the quality of life in people with epilepsy are<sup>22</sup>:



Seizure frequency  
and severity



Depression



AED side effects



Anxiety about  
seizures  
(seizure worry)



Stigma



Comorbid Disorders





**Reduce stress <sup>4,6,23</sup>**



**Get enough sleep <sup>24</sup>**



**Eat healthy foods <sup>4</sup>**



**Exercise regularly <sup>6</sup>**



**Talk to a therapist <sup>6</sup>**

# Here are some ways of finding help<sup>6</sup>:



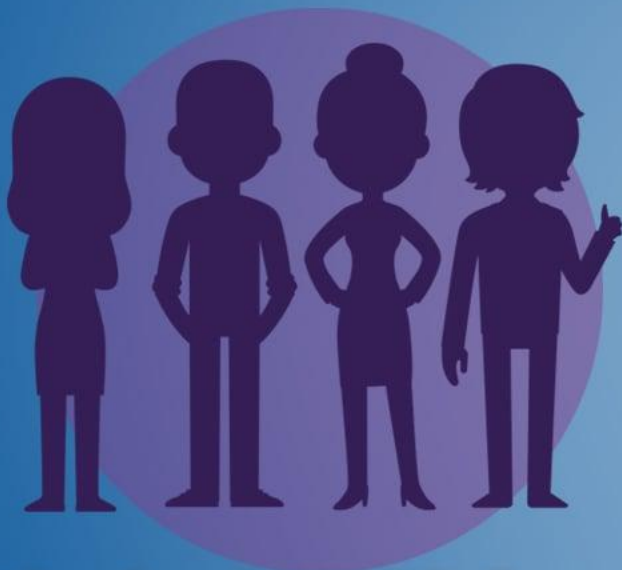




**Your Healthcare Team**



**Your Friends, Family  
Members, and Other Caregivers**



**Other People With Epilepsy  
(Support)**



**Patient**



**Your Coworkers**

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Comorbid Disorders



## Children or Teenagers

Children and teenagers with epilepsy may worry about:<sup>1</sup>

- Having seizures at school
- Having seizures in front of friends
- Having learning problems
- Being safe at school
- Participating in sports or other after-school activities
- How epilepsy affects their future



## Adults

Adults with epilepsy may worry about:<sup>1</sup>

- Driving
- Working
- Sleeping
- Having a seizure in public
- Dying during a seizure
- How stress affects seizures
- Whether their children will have epilepsy



## Women

Women with epilepsy may worry about:<sup>1</sup>

- How monthly hormonal changes may affect seizures
- How menopause may affect seizures
- How seizures affect sexual function
- How seizures affect pregnancy
  - How medications may affect pregnancy
  - How pregnancy might affect seizure control



## Men

Men with epilepsy may worry about:<sup>1</sup>

- Memory problems
- Confidence
- Plans for the future
- How seizures affect sexual function

# Can a person die from epilepsy?

- Most people with epilepsy live a full life. However, the risk of early death is higher for some. We know that the best possible seizure control and living safely can reduce the risk of epilepsy-related death.
- Factors that increase the risk of early death include:
  - More serious **health problems**, such as a stroke or a tumor. These conditions carry an increased risk of death and may cause seizures.
  - Falls or other injuries that happen because of seizures. These injuries can be life-threatening.
  - Seizures that last over 5 minutes. This is a condition called *status epilepticus*. Status epilepticus can sometimes happen when a person suddenly stops taking seizure medication.

# If I have epilepsy, can I exercise and play sports?

- Sometimes people with epilepsy worry that exercise or sports may worsen their seizures.
- Exercise is rarely a “trigger” for seizure activity. In fact, regular exercise may improve seizure control. Safely playing sports can also be great for your physical, mental, and emotional well-being.
- It is always important to avoid sports-related injuries that can increase the risk of seizures.



# Activities to enjoy include:

- tennis • basketball • volleyball • hiking • track and field • baseball • jogging

## Sports that pose risk

- hockey • football • soccer • boxing • karate
- scuba diving • parachuting • rock climbing

# Can a person with epilepsy drive

- If a person's seizures are uncontrolled, then driving is restricted.
- If epilepsy has been diagnosed, driving is generally not allowed until a person has been seizure free for at least 6 to 12 months and the person is under a doctor's care.

# Can a person with epilepsy work?

- Most people with epilepsy can work and can have rewarding careers.
- RPWD Act does not allow discrimination by an employer due to a disability such as epilepsy.
- If seizures do prevent a person from working, there are many ways to use skills including volunteering, developing a hobby, or pursuing an artistic talent

# Can a woman with epilepsy have a baby?

- Most women with epilepsy have healthy babies but there is a slightly higher risk that having epilepsy or taking seizure medication will affect the fetus.
- If a woman with epilepsy is planning to take or is taking birth control pills, is planning to become pregnant, or is pregnant, it is essential that she discuss these issues with her doctor so that the best possible medical care can be established.
- There is only a slightly higher risk of a child developing epilepsy if a parent has epilepsy.
- The overall risk of a child having unprovoked seizures is one to two percent in the general population and approximately six percent if a parent has epilepsy



THANK YOU