



# **SEIZURES AND EPILEPSY** *In Older Adults*

# MISSION STATEMENT

*To lead the fight to overcome the challenges of living with epilepsy and to accelerate therapies to stop seizures, find cures, and save lives.*



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Editorial Board, Epilepsy Foundation

# Disclosures

- Medical and Health Education Consultant, Epilepsy Foundation

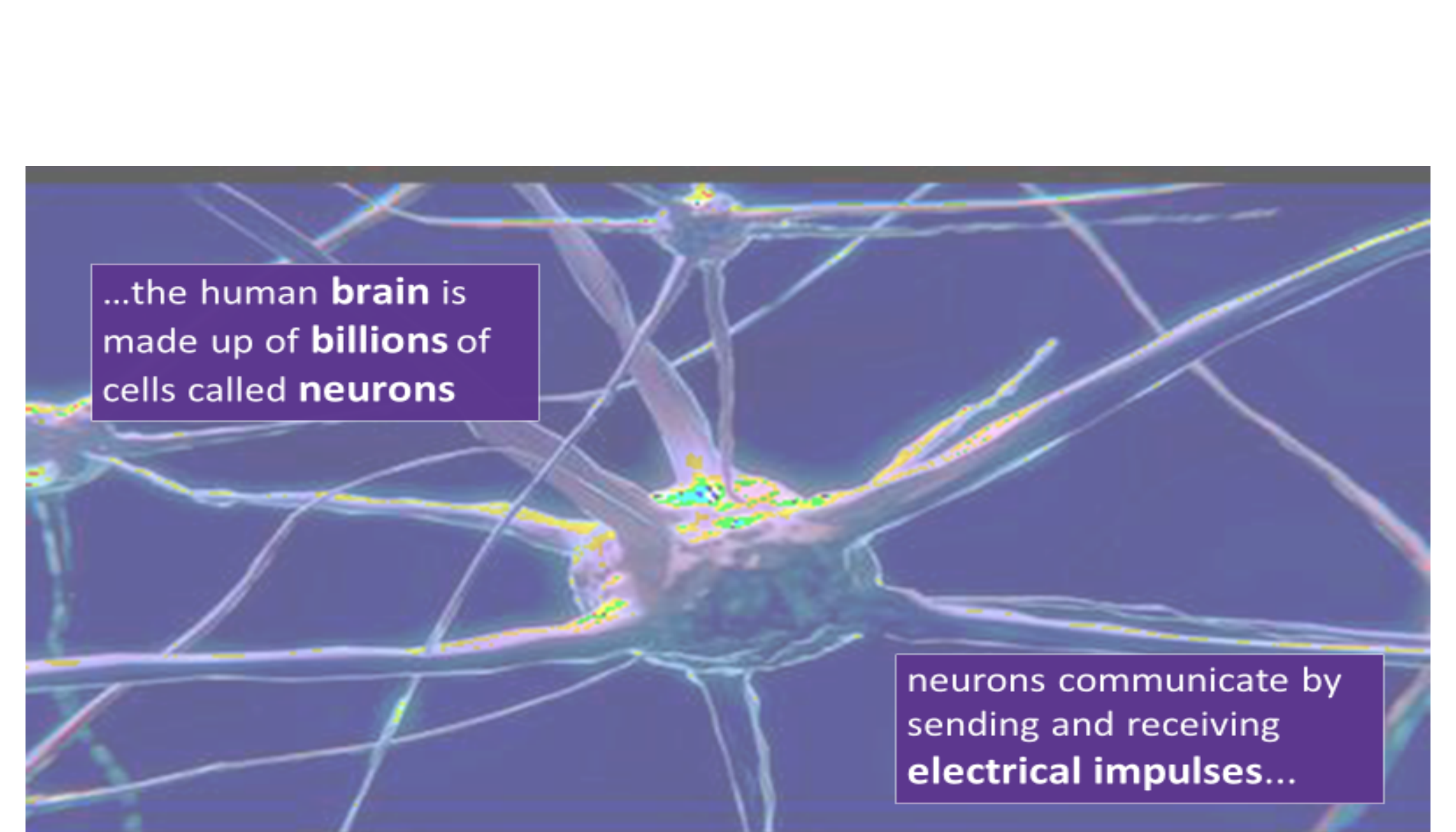


Older adults living with  
epilepsy deserve the  
best care

## Epilepsy in Older Adults : Learning Objectives

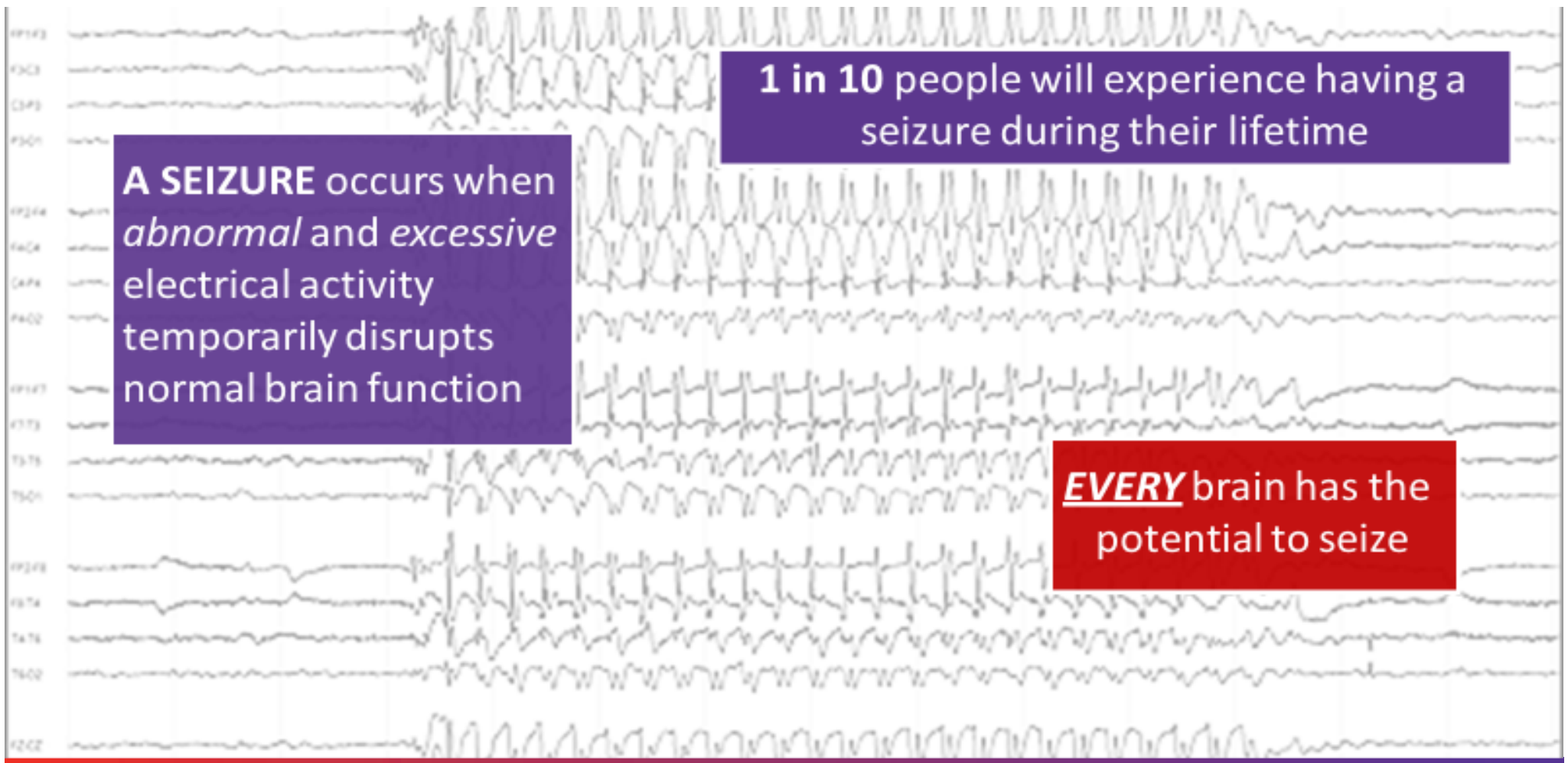
- Review seizures and the basics of epilepsy
- Review epidemiology of epilepsy in older adults
- Identify common seizure types, and those most often seen in older adults
- Describe seizure signs & symptoms in older adults
- Understand challenges for older adults with epilepsy
- Review Seizure First Aid

# THE BRAIN, SEIZURES & EPILEPSY



...the human **brain** is  
made up of **billions** of  
cells called **neurons**

neurons communicate by  
sending and receiving  
**electrical impulses...**



**A SEIZURE** occurs when *abnormal and excessive* electrical activity temporarily disrupts normal brain function

**1 in 10** people will experience having a seizure during their lifetime

**EVERY** brain has the potential to seize



## What does a seizure look like?

- Staring spell, muscle twitch or spasm, difficulty speaking, confusion, automatic mouth or hand movements, wandering, unsteadiness
- May cause a person to collapse, shake, become unaware
- Some have few outward signs, as subtle as a funny sensation or unusual smell a person experiences

*Seizure symptoms, and signs of seizures vary from person to person...  
...but in most cases are usually consistent and predictable for each  
individual*

***Not everyone who has a seizure has epilepsy:  
seizures can occur with other medical  
conditions***

In approximately **50%** of seizures that occur  
in older adults the cause is **UNKNOWN**





# Epilepsy

The **diagnosis of epilepsy** indicates that a person is at risk for **recurrent seizures**.

- It does not indicate the cause
- It does not indicate any prognosis
- Many different “types” of epilepsies
- Spectrum of impact



# Epilepsy

*Epilepsy = “Seizure disorder”*

## Old Definition

- 2 or more unprovoked seizures

## New definition

- 2 or more unprovoked seizures *or*
- 1 seizure + increased risk for seizures (*e.g. abnormal EEG or brain imaging*)
- Epilepsy Syndrome



# WHO HAS EPILEPSY?



## Anyone...

- Age
- Race
- Socioeconomic status
- Geography





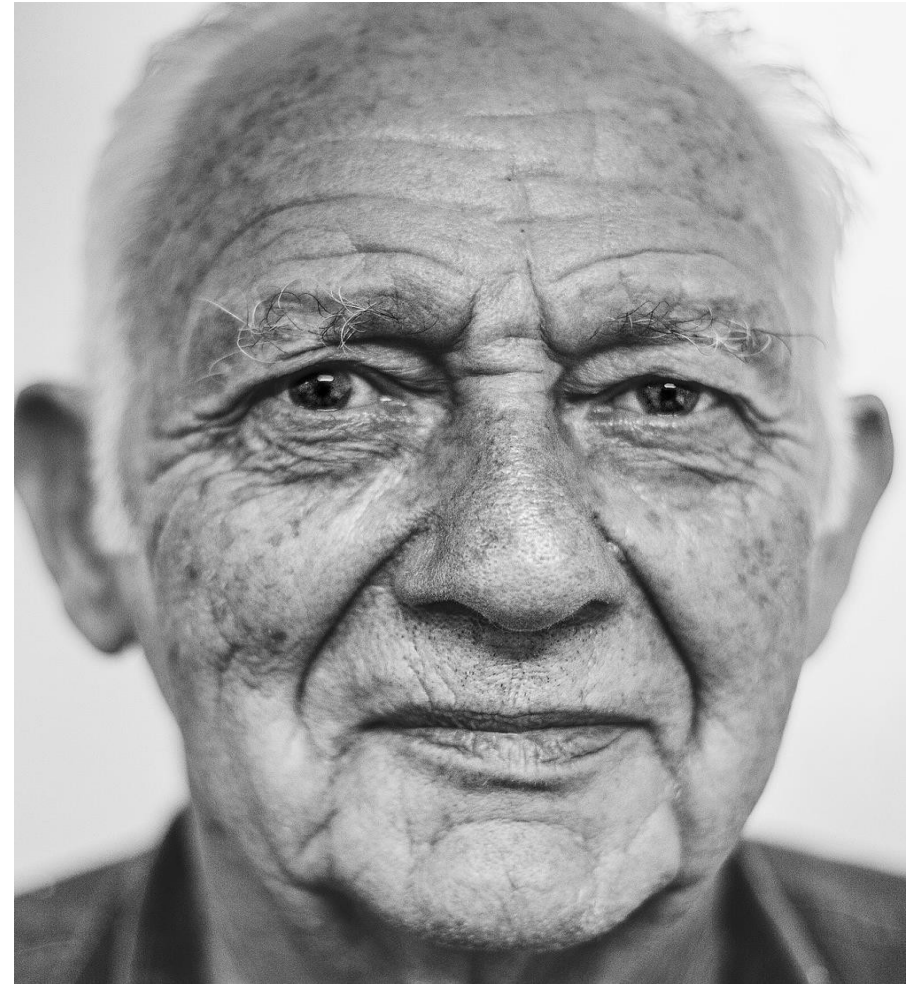
**1 in 26** people will develop epilepsy during their lifetime

**3.4 million** people in the U.S.

**65 million** people worldwide

## Epilepsy in Older Adults

- Nationwide, close to **1 million** older adults (age 55+) report active epilepsy
- The incidence of seizures and epilepsy increases in older adults
- Each year, > **50,000 new cases** of epilepsy occur in people age 60 +
- In **1 out of 2** older adults the cause of epilepsy is unknown



# SEIZURES: CAUSES, EVALUATION, & TREATMENT OPTIONS

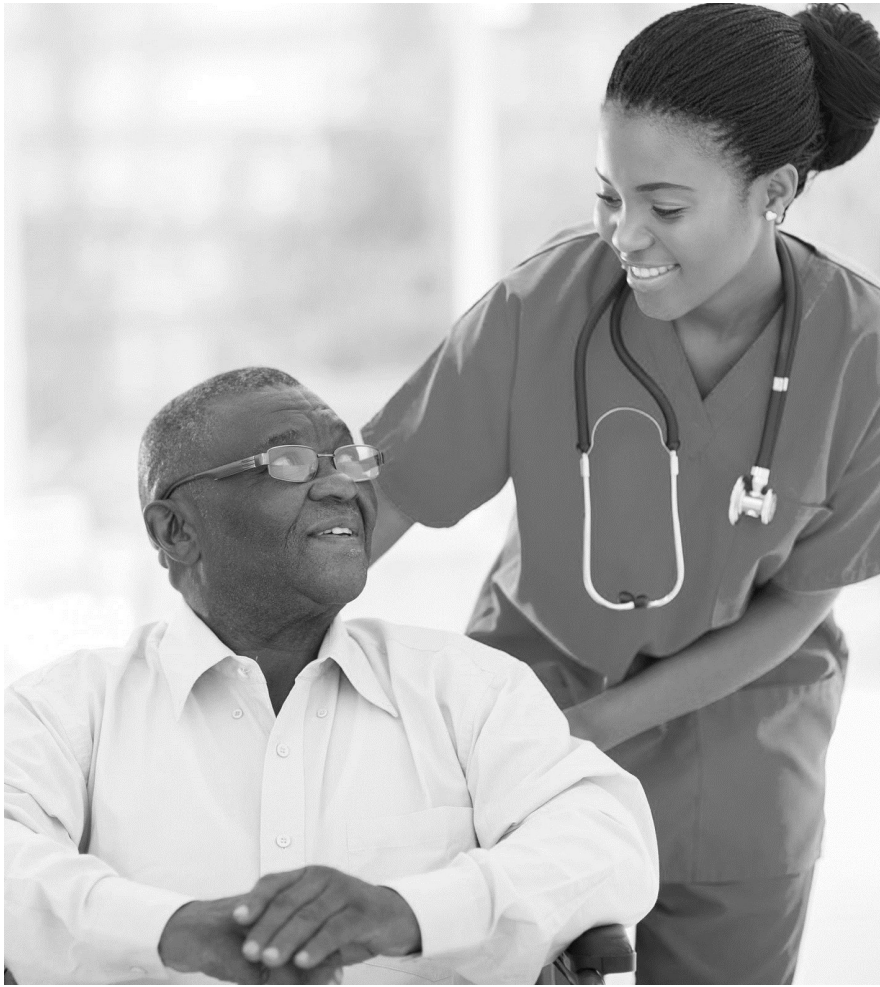


# Causes of Seizures in Older Adults

- Stroke
- Brain tumor
- Neurodegenerative Disease  
(*e.g., Alzheimer's*)
- Metabolic disorders  
(*e.g., abnormalities in blood glucose*)
- Alcohol withdrawal
- Infection
- Head trauma







## Evaluation

- **Critical:** medical history, description of event
- Medical and neurologic exam
- Blood tests
- Electroencephalogram (EEG)
- Magnetic Resonance Imaging (MRI)
- Cardiovascular testing (EKG, echocardiogram)
- Autonomic testing (tilt table)

# Available Treatments for Epilepsy

- Antiseizure medications
  - First line of therapy to control seizures
  - Multiple factors determine drug choice
  - In 2 out of 3 people seizures controlled
- Epilepsy surgery
- Neuromodulation
- Prescribed and Supervised Dietary Therapy
- Investigational medications



# TYPES OF SEIZURES & RISKS

# Seizure types

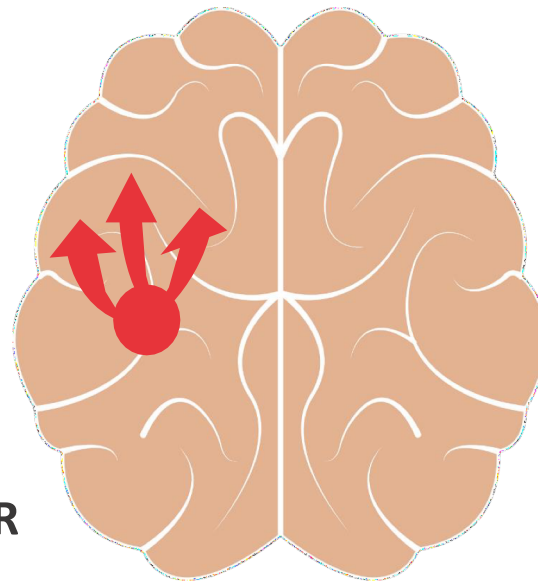
- **WHERE** they start in the brain

● Focal

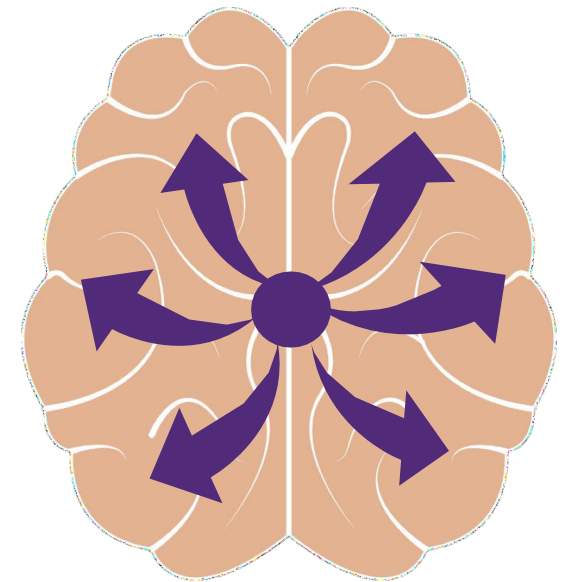
● Generalized

● Unknown

- Whether or not **AWARENESS** is affected
- Whether or not seizures involve **OTHER SYMPTOMS** such as movement



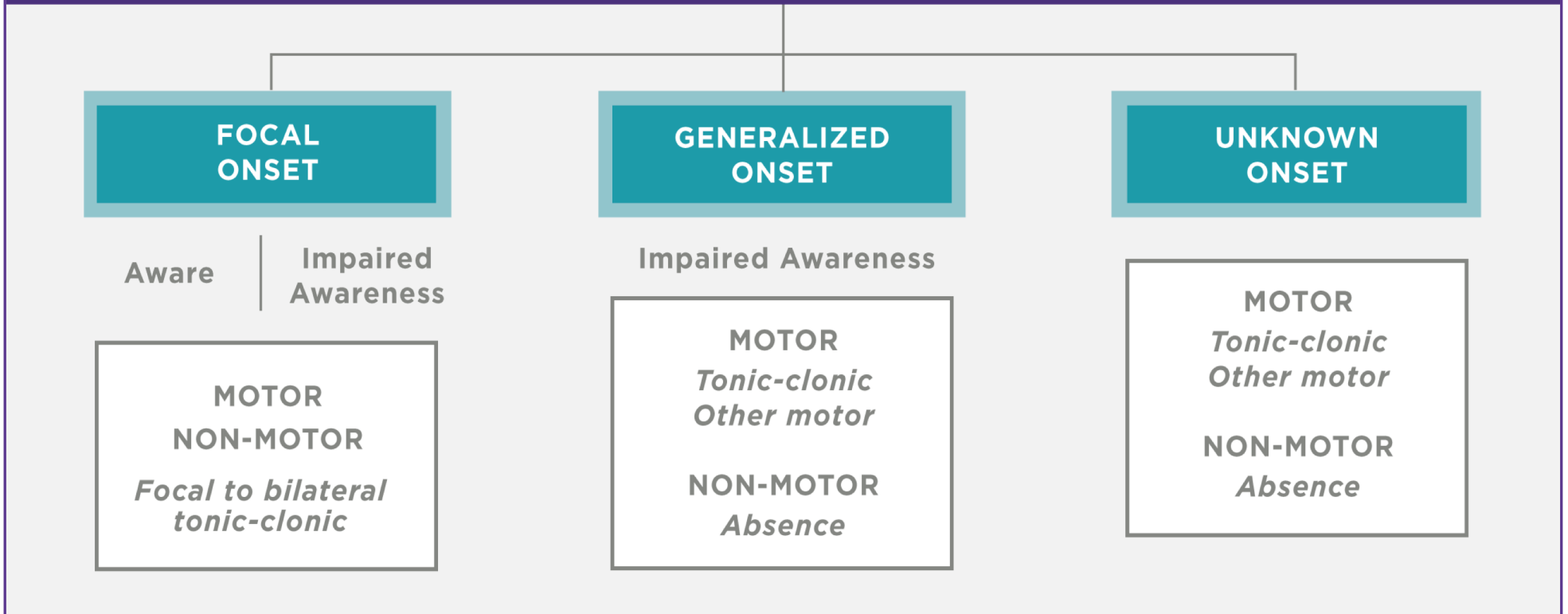
**FOCAL**



**GENERALIZED**

# “NEW” CLASSIFICATION OF SEIZURE TYPES BASIC VERSION

*\* from International League Against Epilepsy, 2017*



# Focal Aware Seizures

- Full awareness maintained
- Rhythmic movements, twitching
- Sensory symptoms: tingling, weakness, sounds, smells, tastes, feeling of upset stomach, visual distortions
- Psychic symptoms: déjà vu, hallucinations, feeling of fear, anxiety, a “funny” feeling



**LENGTH: Usually less than 1  
minute**

May be confused with:  
Psychosomatic illness  
Mystical experience Illicit  
drug use

# Focal Impaired Awareness Seizures

- Often begin with blank stare
- Unable to respond
- Automatism
- Clumsy or disoriented movements, aimless walking, picking, nonsensical speech, lip smacking
- Followed by fatigue, confusion, headache or nausea
- May become combative if restrained



**LENGTH: Typically, between 1 and 3 minutes**

May be confused with:  
Substance abuse (*alcohol, illicit drugs*) Aggressive behavior

# Challenges with Focal Seizures

- Symptoms misinterpreted as effects of aging
- Symptoms linked to other medical disorders
- Lack of awareness or recall during some seizures





# Generalized Tonic Clonic (GTC) Seizures

- A sudden, hoarse cry
- Loss of consciousness, fall
- Stiffening of arms and legs (tonic) followed by rhythmic jerking (clonic)
- Shallow breathing and drooling may occur
- Loss of bowel or bladder control
- Occasionally skin, nails, lips may turn blue
- Confusion, headache, tiredness, soreness, speech difficulty may follow



**LENGTH: Usually last 1 to 3 minutes**

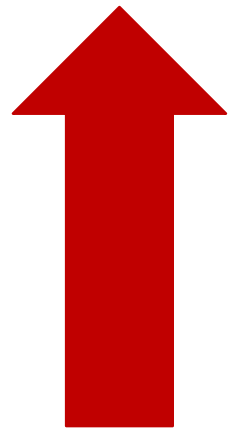


# Challenges with GTC Seizures

- Injury from falls  
(e.g. *bone fractures, head injury*)
- Muscle and soft tissue injury
- Prolonged recovery
- Risk for hospitalization
- Related safety issues
  - burns, scalds
  - drowning



# Risk Factors for Seizures In Older Adults



## RISK FACTOR

## DEGREE OF RISK COMPARED TO HEALTHY OLDER ADULT

STROKE

20 times

DEMENTIA

5 to 10 times

DEPRESSION

6 times

TRAUMA

3 times

ALCOHOL

3 times

INFECTION

3 times

# RECOGNIZING SEIZURES PUBLIC AWARENESS

# Identification: Could this be a seizure?

## *Recognizing Signs and Symptoms of Seizures*

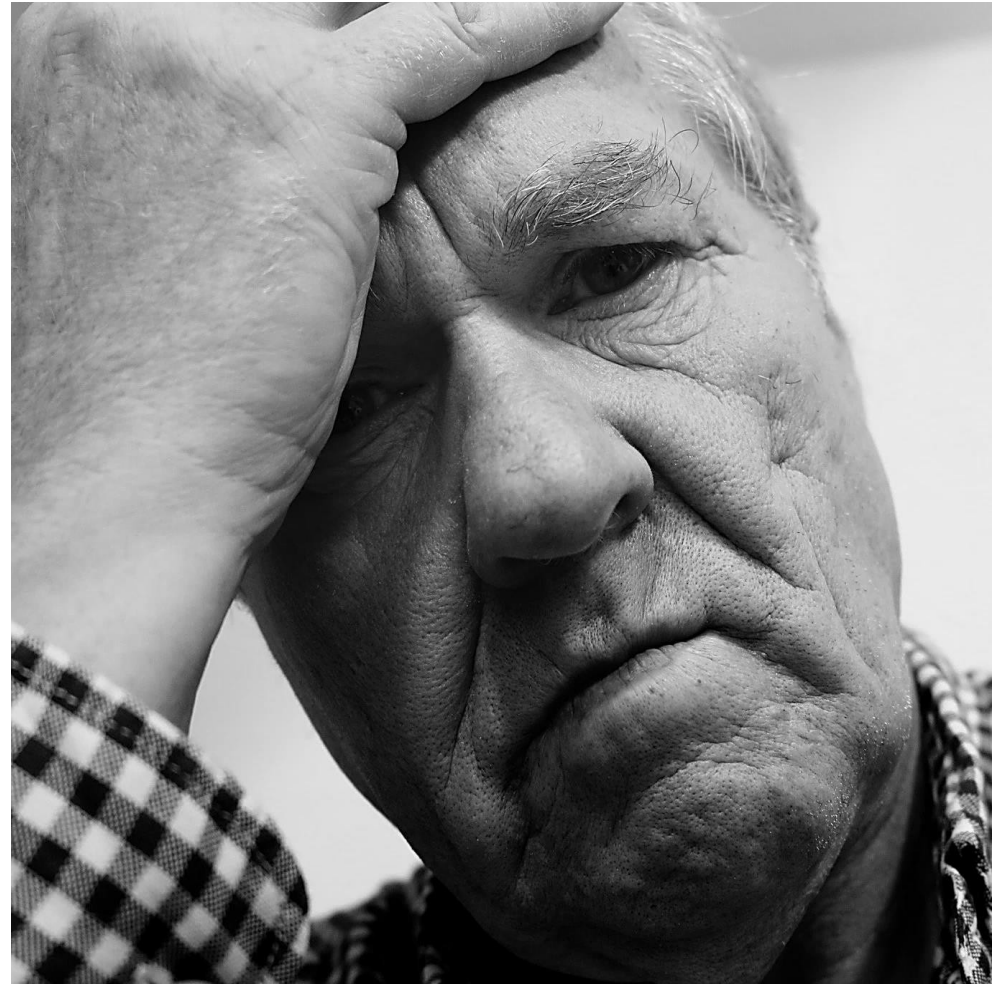
- Staring into space
- Feeling disoriented
- Hallucinations
- Temporary changes in behavior, speech
- Temporary problems with language
- Intermittent memory problems
- Sense of having lost time
- Wandering
- Repetitive blinking or chewing
- Non-purposeful lip-smacking, picking movement
- Shaking or twitching of face, arms or legs
- Sudden falls
- Occasional 'fainting spells'
- Spells of unexplained fatigue



# Seizure Identification

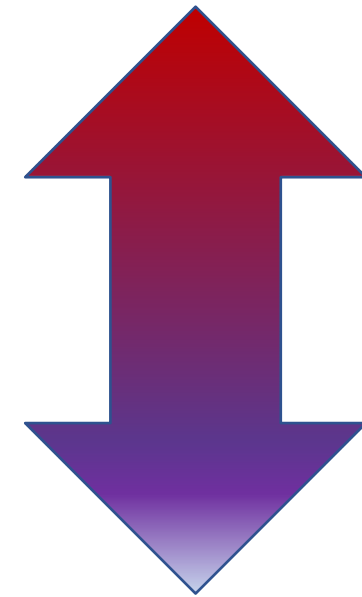
## Could this be a seizure?

- Syncope (fainting spells)
- Blood sugar abnormalities
- Transient ischemic attack (TIA)
- Transient global amnesia (TGA)
- Vertigo
- Migraine headaches
- Sleep disorders
- Movement disorders
- Psychogenic events (PNES)



# Common Seizure Types in Older Adults

- Focal Impaired Awareness (>50%)
- Generalized Tonic Clonic
- Focal Aware
- Unclassified

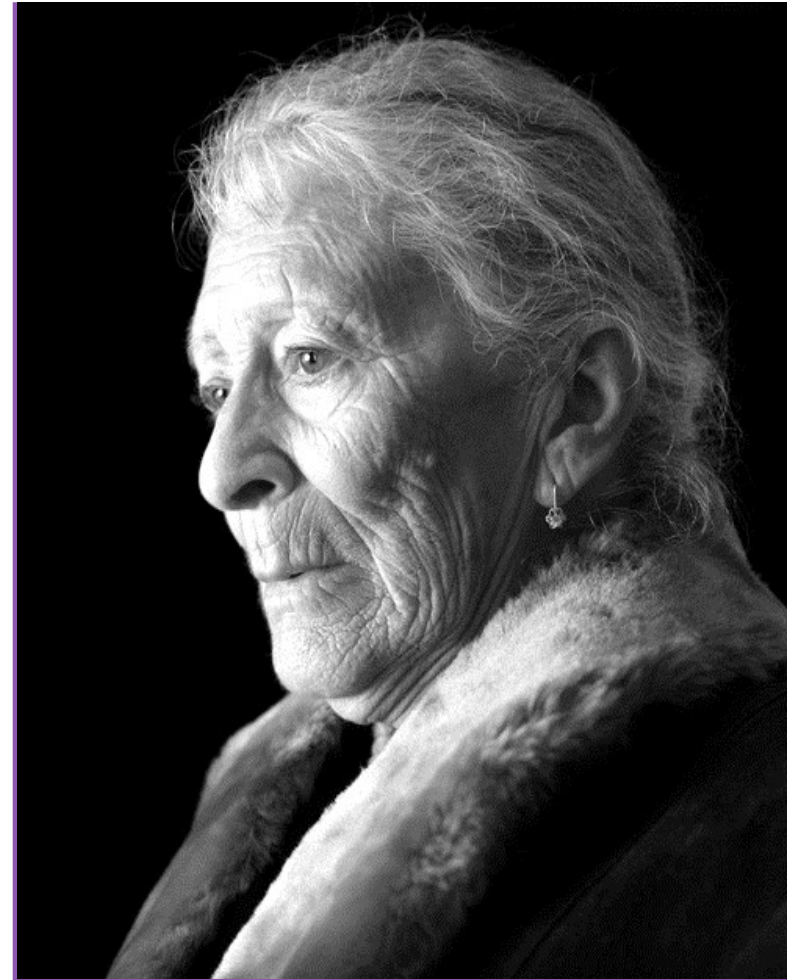




# Public Misperceptions in Epilepsy

## *The need to raise awareness and understanding*

- Associate epilepsy with mental deficiencies
- Misconceptions can lead to denial
- Seizure warning signs and symptoms ignored
- Stigma includes beliefs that epilepsy,
  - Causes aggressive behavior
  - Causes undue burden on family and society
  - Makes a person “less able”
  - Is a disease of the young
  - Will unnecessarily limit independence





# SEIZURE FIRST AID

## 3 BASIC PRINCIPLES OF SEIZURE FIRST AID

STAY  
SAFE  
SIDE



# Seizure First Aid

How to help someone having a seizure

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

Learn more: [epilepsy.com/firstaid](http://epilepsy.com/firstaid)



[epilepsy.com](http://epilepsy.com)

24/7 Helpline: 1-800-332-1000

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