

# Seizure Recognition and First Aid

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Pre-test





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# Objectives

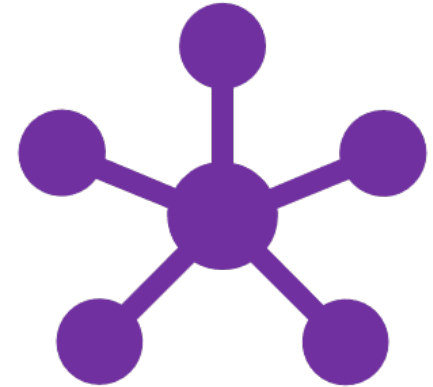
- Explain seizures and epilepsy
- Describe different types of epilepsy
- Learn First Aid
- Discuss treatment options
- Discuss Seizure Action Plan

**Pre-test**



# What is a seizure?

- A brief, excessive discharge of electrical activity in the brain that alters one or more of the following:
  - Movement
  - Sensation
  - Behavior
  - Speech
  - Awareness
- More than 20 different types
- Not all seizures are medical emergencies



# What is Epilepsy?

- *Chronic* neurological disorder characterized by a tendency to have *recurrent (2+), unprovoked* seizures
- Many “types” of epilepsy
- Also known as “seizure disorder”

# What causes Epilepsy?

- For 30% of people with epilepsy common identifiable causes include:
  - **Traumatic brain injury (TBI)**
  - Stroke
  - Brain tumor
  - Infections of the brain (e.g. meningitis, measles, malaria)
  - Genetics (2,000+ genes)
  - Brain injury at birth
  - Abnormal brain development
- For the remaining 70% the cause is unknown

# Burden of Disease

- Worldwide: 65 million worldwide live with active epilepsy
- United States:
  - 3.4 million individuals (1.2% of the US population)
  - 470,000 are children
  - 1 million older adults (age 55+) in the United States
- 1 in 26 will develop epilepsy their lifetime
- Chicago-metro area: **136,000** people
- The risk is higher in people with comorbidities

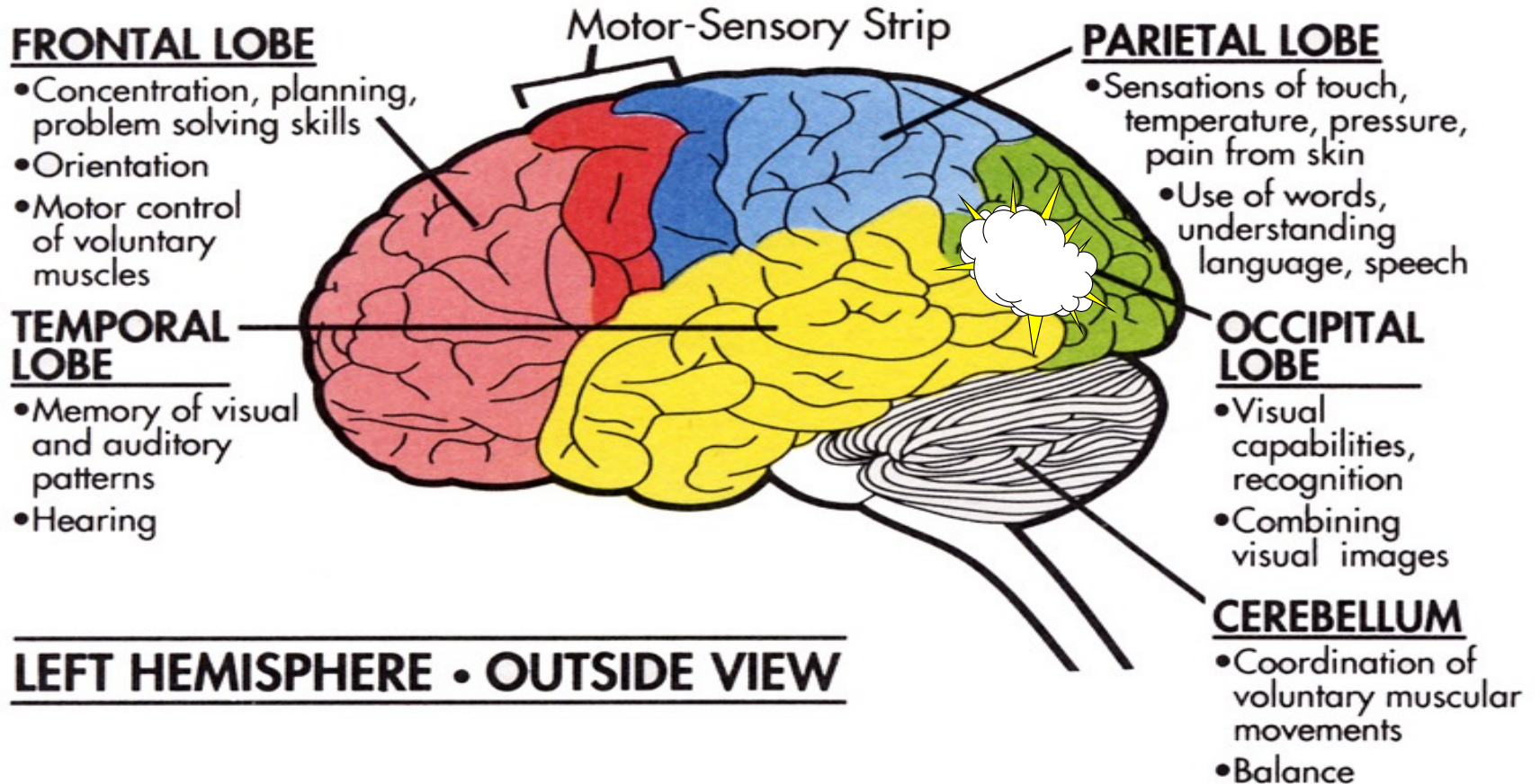


# Seizure Types

- Where they **start** in the brain
  - Generalized onset seizures
  - Focal-onset seizures
- Whether or not a person's **awareness** is affected
- Whether or not there are **other symptoms**, ex: movement



# Your Brain



# Focal Aware Seizures

## Symptoms:

- Person is awake and alert; awareness is maintained
- Focal, motor:
  - Rhythmic movements (Isolated twitching of the arms, face, legs)
- Focal non-motor:
  - Altered sense of smell, taste, hearing, feeling, seeing
  - Psychic symptoms (Déjà vu, hallucinations, feeling of fear or anxiety)
- *May be confused with acting out*
- *Can be easily missed or undetected!*



*Usually lasts 1 to 3  
minutes*

# Focal Impaired Awareness Seizures

## Symptoms:

- Awareness is impaired: may be confused, unable to respond
- Often begins with a blank dazed stare
- Motor symptoms:
  - Repetitive purposeless movements
  - Clumsy or disoriented movements, aimless walking, picking things up, nonsensical speech or lip smacking
- *May be confused with drunkenness, drug abuse or aggressive behavior*



*Usually lasts 1 to 3  
minutes*

# Generalized Onset Seizures

## **Non-motor, previously called Absence:**

### **Symptoms:**

- Pause in activity w/ a blank stare
- Brief lapse of awareness
- Possible chewing or blinking motion
- Quick seizure with quick recovery
- May occur many times a day



*Usually lasts less  
than 20 seconds*

### **Often this type of seizure is confused with:**

- Daydreaming
- Attention problems

# Generalized Onset Seizures

## Motor, Previously called Tonic Clonic:

### Symptoms:

- A hoarse cry followed by loss of consciousness and a fall
- Stiffening of arms and legs, then rhythmic jerking
- Shallow breathing and drooling may occur
- Possible loss of bowel/bladder control
- Skin, nails, lips may turn blue
- Person will need to rest for period of time; may have headache, confusion



*Usually lasts 1 to 3  
minutes*

# First Aid

- Generalized Onset w/  
Motor

- Stay calm and track time
- **Nothing in the mouth**
- Turn on his/her side
- Protect person's from possible hazards
- Cushion head
- After the seizure, remain with person until awareness is regained




- Focal Onset w/  
Impaired Awareness

- Stay calm and reassure others
- Track time
- **Do not restrain**
- Gently direct away from hazards
- Don't expect student to obey to verbal instructions
- Stay close until fully alert and aware

# First Aid Posters

## 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

## Primeros Auxilios de Crisis Epilépticas

Cómo ayudar a alguien que está teniendo una crisis epiléptica

- 1 PERMANEZCA** con la persona hasta que esté despierta y alerta después de la crisis epiléptica.
  - ✓ **Registre** el tiempo
  - ✓ Mantenga la **calma**
  - ✓ Revise si lleva alguna **identificación de alerta médica**
- 2** Mantenga a la persona **SEGURA**.
  - ✓ Aleje o guíe a la persona de **objetos peligrosos**.
- 3** Acueste a la persona de **LADO** si no está despierta y consciente.
  - ✓ Mantenga **las vías respiratorias despejadas**
  - ✓ **Afloje cualquier ropa ajustada** alrededor del cuello
  - ✓ Ponga **algo pequeño y suave** debajo de la cabeza

**Llame al 911**

- ▶ Si la crisis epiléptica dura más de 5 minutos
- ▶ La persona no vuelve a su estado habitual
- ▶ La persona está lesionada, embarazada o enferma
- ▶ La persona tiene una convulsión tras otra
- ▶ Es primera vez que presenta una crisis epiléptica
- ▶ Hay dificultad para respirar
- ▶ La crisis epiléptica ocurre en el agua

**NO**

- ✗ **NO** le sujete.
- ✗ **NO** le ponga ningún objeto en la boca.
- ✓ Se pueden administrar **medicamentos de rescate** si los receta un profesional de la salud.

Para más información: [www.epilepsyichicago.org](http://www.epilepsyichicago.org)

# Convulsive Seizure in a Wheelchair

- Do not remove from wheelchair unless absolutely necessary
- Ensure breathing is unobstructed and allow secretions to flow from mouth
- Fasten seatbelt (loosely) to prevent person from falling from wheelchair
- Protect and support head
- Secure wheelchair to prevent movement



# Public Transportation: Any Seizure

- Check for **medical ID** bracelet if possible
- CTA and Metra: 1<sup>st</sup> car dedicated to anyone with a disability or needing assistance
- Bus driver should pull over
- Place person on their side or in aisle
- Follow Seizure Action Plan

# Medical Emergencies

- **Status epilepticus:**
  - Continuous state of seizure activity
  - Prolonged seizures or repeated seizures without regaining consciousness in between
- First time seizure
- More seizures than usual, or change in type
- Convulsive seizure lasting more than 5 minutes
- If the seizure occurs in water

Follow Seizure Action Plan

# Possible Seizure Triggers

- Factors that MIGHT increase the likelihood of a seizure in persons with epilepsy include:
  - Missed or late medication (#1 reason)
  - Overheating/overexertion
  - Stress/anxiety
  - Lack of sleep/fatigue
  - Poor diet/missed meals
  - Hormonal changes
  - Alcohol use, drug interactions
  - Hyperventilation/Flashing lights
- In many cases there is no identifiable trigger

# Anti-Seizure Medication

What you need to know:

- 70% seizure control on medication
- Side effects!
  - Double vision, sedation, dizziness, weight gain, irritability, inattention, or other motor function impairment, depression, hyperactivity, personality changes and reduced intellectual functioning
- Medication depends on seizure type, and what is right for that person
- More than 20 types

# EPIDIOLEX (cannabidiol)

- FDA approved 2018
- A marijuana strain rich in cannabidiol (CBD), a non-psychoactive compound of cannabis
- For difficult to treat seizures
- Can be used with anti-seizure medication
- Age 1+



# Palliative treatments

## Vagus Nerve Stimulation (VNS)

- Generator sends an electrical pulse at the programmed rate automatically, continuously, 24 hours a day

## Responsive Neurostimulation Therapy (RNS)

- Monitors, detects and responds to sz activity

## Epilepsy Surgery/Laser Ablation

- Rewire neural networks
- Can be a cure

## Ketogenic diet

- Special high-fat diet that is used for difficult to treat seizures
- Diet eliminates sweets such as candy, cookies, and desserts



# Rescue Medication: Rectal

- Diastat: Diazepam
- FDA approved gel form of valium
- For patients 2yrs and up who experience cluster seizures or breakthrough seizures.



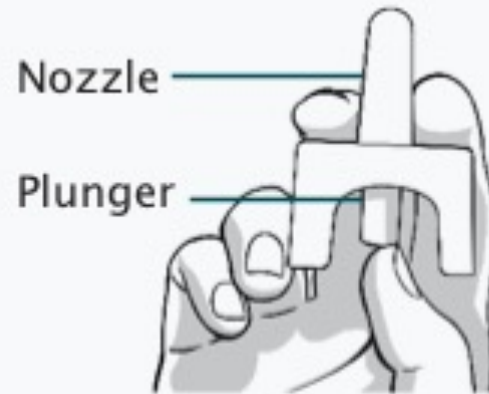
# Rescue Medication: Intranasal

- Nayzilam: midazolam nasal spray
- FDA approved 2019
- Best for cluster seizures
- Efficacy similar to diazepam
- Age 12+



# Rescue Medication: Intranasal

- Valtoco: diazepam nasal spray
- FDA approved 2020
- Best for cluster seizures
- Dosage dependent on age/weight
- Age 6+



# Seizure Action Plan

Effective Date \_\_\_\_\_

This student is being treated for a seizure disorder. The information below should assist you if a seizure occurs during school hours.

Student's Name	Date of Birth	
Parent/Guardian	Phone	Cell
Other Emergency Contact	Phone	Cell
Treating Physician	Phone	
Significant Medical History		

### Seizure Information

Seizure Type	Length	Frequency	Description

Seizure triggers or warning signs: \_\_\_\_\_ Student's response after a seizure: \_\_\_\_\_

### Basic First Aid: Care & Comfort

Please describe basic first aid procedures:

Does student need to leave the classroom after a seizure?  Yes  No  
If YES, describe process for returning student to classroom:

### Basic Seizure First Aid

- Stay calm & track time
  - Keep child safe
  - Do not restrain
  - Do not put anything in mouth
  - Stay with child until fully conscious
  - Record seizure in log
- For tonic-clonic seizure:**
- Protect head
  - Keep airway open/watch breathing
  - Turn child on side

### Emergency Response

A "seizure emergency" for this student is defined as:

#### Seizure Emergency Protocol

(Check all that apply and clarify below)

- Contact school nurse at \_\_\_\_\_
- Call 911 for transport to \_\_\_\_\_
- Notify parent or emergency contact
- Administer emergency medications as indicated below
- Notify doctor
- Other \_\_\_\_\_

#### A seizure is generally considered an emergency when:

- Convulsive (tonic-clonic) seizure lasts longer than 5 minutes
- Student has repeated seizures without regaining consciousness
- Student is injured or has diabetes
- Student has a first-time seizure
- Student has breathing difficulties
- Student has a seizure in water

### Treatment Protocol During School Hours (include daily and emergency medications)

Emerg. Med. ✓	Medication	Dosage & Time of Day Given	Common Side Effects & Special Instructions

Does student have a Vagus Nerve Stimulator?  Yes  No If YES, describe magnet use:

### Special Considerations and Precautions (regarding school activities, sports, trips, etc.)

Describe any special considerations or precautions:

Physician Signature \_\_\_\_\_ Date \_\_\_\_\_

Parent/Guardian Signature \_\_\_\_\_ Date \_\_\_\_\_

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# Post-training decal



# Our Free Services

- Education: School Personnel & Community Seizure First Aid Training
- Advocacy: Seizure Smart School Act
- Clinical Services AND Case Management
  - Support Groups
  - Resource Center Programming
- Kids/Teens Programming
- Medical ID bracelets available to clients

# Stay Connected

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Post-training  
Assessment

