



T.R.U.S.T.

# Seizure Recognition and First Aid

# Objectives

- Recognize common seizure types and their possible impact
- Know appropriate first aid
- Recognize when a seizure is a medical emergency
- Provide support

# 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
  - Awareness



# What is Epilepsy?

- A seizure is an event and epilepsy is the disease involving recurrent unprovoked seizures. In past definitions, epilepsy was referred to as a disorder.
  - At least two unprovoked (or reflex) seizures occurring greater than 24 hours apart.
  - One unprovoked (or reflex) seizure and a probability of further seizures similar to the general recurrence risk (at least 60%) after two unprovoked seizures, occurring over the next 10 years.

# Epilepsy is More Common Than You Think

- 3 million Americans and more than 65 million people worldwide
- 315,000 students in the United States, 12,000 in New Jersey
- More than 45,000 new cases are diagnosed annually in children
- 1 in 26 people will develop epilepsy at some point in their lifetime
- 1 in 10 people will have a seizure in their lifetime
- Epilepsy is more common than Cerebral Palsy, Parkinson's Disease, Muscular Dystrophy, and Multiple Sclerosis combined

# Did you know...?

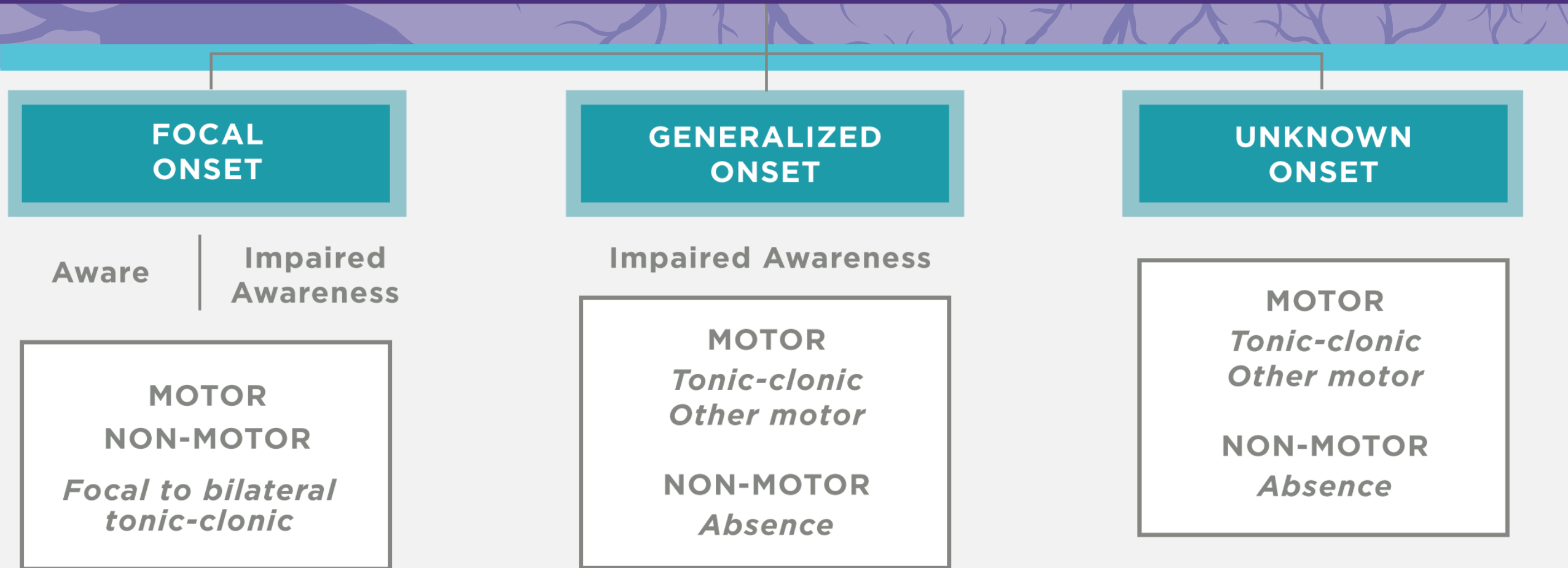
- Most seizures are NOT medical emergencies
- People may NOT be aware they are having a seizure and may NOT remember what happened
- Epilepsy is NOT contagious
- Epilepsy is NOT a form of mental illness
- People almost never die or have brain damage during a seizure
- A person can NOT swallow his/her tongue during a seizure

# Common Causes of Epilepsy

- For thirty percent (30%) of people with epilepsy there is a known cause:
  - Brain trauma
  - Brain lesions (e.g. tumors)
  - Poisoning (lead)
  - Infections of the brain (e.g. meningitis, encephalitis, measles)
  - Brain injury at birth
  - Abnormal brain development
- For the remaining seventy percent (70%) of people with epilepsy the cause is unknown or presumed to be genetic.

# “NEW” CLASSIFICATION OF SEIZURE TYPES BASIC VERSION <sup>1</sup>

*\* from International League Against Epilepsy, 2017*



<sup>1</sup> Definitions, other seizure types and descriptors are listed in the accompanying paper & glossary of terms

<sup>2</sup> Due to inadequate information or inability to place in other categories



# Seizure Types

- **Generalized Seizures**

- Involve the whole brain
- Common types include generalized onset non-motor and tonic-clonic
- Symptoms may include convulsions, staring, muscle spasms and falls

- **Focal Seizures**

- Involve only part of the brain
  - Common types include focal onset and focal onset impaired
  - Symptoms relate to the part of the brain affected
- There are over 20 different types of seizures.
  - People with epilepsy can have one type of seizure or several.

# Important to remember.....

Epilepsy is a spectrum disorder and is very specific to the person.

# Generalized onset non-motor seizures (Absence)






- Pause in activity with blank stare
- Brief lapse of awareness
- Possible chewing or blinking motion
- Usually lasts 1 to 10 seconds
- May occur many times a day
- May be confused with:
  - Daydreaming
  - Lack of attention
  - ADD

# Generalized Tonic Clonic Seizures

- A sudden, hoarse cry
- Loss of consciousness
- A fall
- Convulsions (stiffening of arms and legs followed by rhythmic jerking)
- Shallow breathing and drooling may occur
- Possible loss of bowel or bladder control
- Occasionally skin, nails, lips may turn blue
- Generally lasts 1 to 3 minutes
- Usually followed by confusion, headache, tiredness, soreness, speech difficulty

# Seizure First Aid- Generalized Tonic Clonic

## T.R.U.S.T.

- T** Turn person on their side 
- R** Remove objects/glasses 
- U** Use something soft under their head 
- S** Stay calm & stay with the person 
- T** Time seizure 

## Other Ways to Help

- Check for epilepsy or seizure disorder I.D. (bracelet, necklace)
- Protect student from possible hazards (chairs, tables, sharp objects, etc.)
- After the seizure, remain with the student until awareness of surroundings is fully regained
- Provide emotional support
- Document seizure activity

# Dangerous First Aid

- DO NOT put anything in the person's mouth during a seizure
- DO NOT hold down or restrain
- DO NOT attempt to give oral medications, food or drink during a seizure

# When is a Seizure a Medical Emergency?

- First time seizure (no medical ID and no known history of seizures)
- Convulsive seizure lasting more than 5 minutes
- Repeated seizures without regaining consciousness
- More seizures than usual or change in type
- Person is injured, has diabetes or is pregnant
- Seizure occurs in water
- Normal breathing does not resume

*Follow seizure emergency definition and protocol as defined by the healthcare provider in the seizure action plan*

# Focal Onset Aware (Simple Partial) Seizures

- Full awareness maintained
- Rhythmic movements (isolated twitching of arms, face, legs)
- Sensory symptoms (tingling, weakness, sounds, smells, tastes, feeling of upset stomach, visual distortions)
- Psychic symptoms (déjà vu, hallucinations, feeling of fear or anxiety, or a feeling they can't explain)
- Usually lasts less than one minute
- May be confused with: **acting out**



# Focal Onset impaired awareness seizures (Complex Partial)

- Awareness impaired/inability to respond
- Often begins with blank dazed stare
- AUTOMATISMS (repetitive purposeless movements)
- Clumsy or disoriented movements, aimless walking, picking things up, nonsensical speech or lip smacking
- Often lasts one to three minutes
- Often followed by tiredness, headache or nausea
- May become combative if restrained
- May be confused with:
  - Drunkenness or drug abuse
  - Aggressive behavior

# First Aid – Focal Onset Impaired Awareness

- Stay calm, reassure others
- Track time
- Check for medical I.D.
- Do not restrain
- Gently direct away from hazards
- Don't expect person to obey verbal instructions
- Stay with student until fully alert and aware
- If seizure lasts 5 minutes beyond what is routine for that person or another seizure begins before full consciousness is achieved, follow emergency protocol

# Seizure Triggers

- **Flashing lights** and **hyperventilation** can trigger seizures in some people with epilepsy
- Factors that might increase the likelihood of a seizure in people with epilepsy include:
  - Missed or late medication (#1 reason)
  - Stress/anxiety
  - Lack of sleep/fatigue
  - Hormonal changes
  - Illness
  - Alcohol or drug use
  - Drug interactions (from prescribed or over the counter medicines)
  - Overheating/overexertion
  - Poor diet/missed meals

# The Impact on Learning & Behavior

- Seizures may cause short-term memory problems
- After a seizure, coursework may have to be re-taught
- Seizure activity, without obvious physical symptoms, can still affect learning
- Medications may cause drowsiness, inattention, concentration difficulties and behavior changes
- People with epilepsy are more likely to suffer from low self-esteem
- School difficulties are not always epilepsy-related

# Convulsive Seizure in Wheelchair

- Do NOT remove the person from the wheelchair unless absolutely necessary
- Secure wheelchair to prevent movement
- Fasten seatbelt (loosely) to prevent the person from falling from wheelchair
- Protect and support head
- Ensure breathing is unobstructed and allow secretions to flow from mouth
- Pad wheelchair to prevent injuries to limbs
- Follow relevant seizure first aid protocol

# Seizure on a School Bus or Van

- Notify base of situation and location
- Safely pull over and stop bus
- Place the person on their side across the seat facing away from seat back (or in aisle if necessary)
- Follow standard seizure first aid protocol until seizure abates and person regains consciousness
- Continue to destination or follow company policy

# Status Epilepticus

- Medically defined as 30 minutes of uninterrupted seizure activity and may include:
  - One prolonged seizure
  - Multiple seizures without recovery to baseline
- Is a “MEDICAL EMERGENCY” and requires immediate action to stop the seizure activity
- Every person’s seizure action plan should clearly define what constitutes a seizure emergency and detail an emergency plan response

# Intractable Epilepsy

- Individuals with intractable epilepsy exhibit these attributes:
  1. Fail to respond to standard drug therapy or other treatment modalities
  2. May have underlying structural brain or neurological conditions
  3. Pose the greatest challenge for all involved with this individual



# Ketogenic Diet

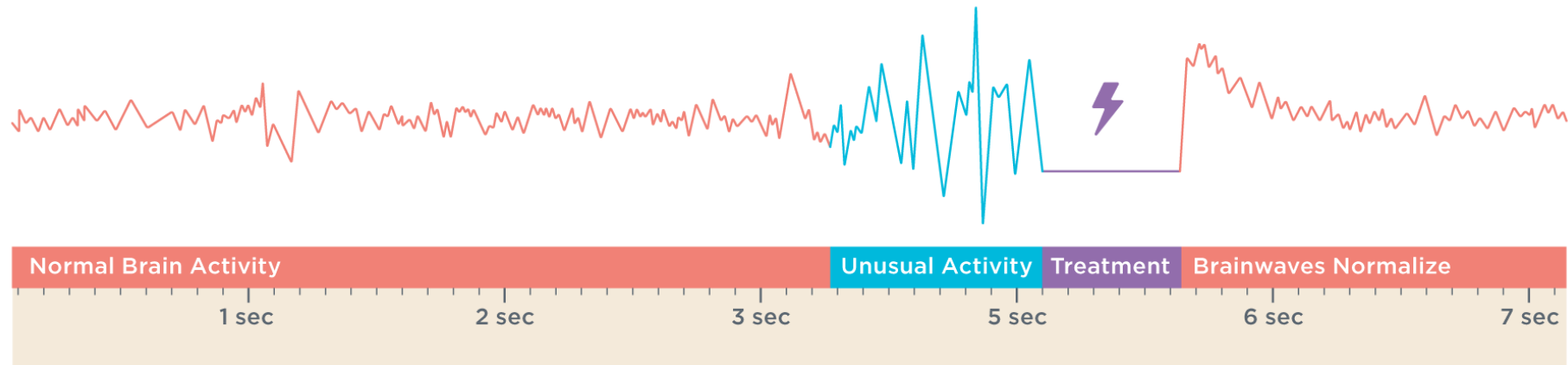
- Based on a finding that burning fat for energy has an antiseizure effect
- Used primarily to treat severe childhood epilepsy that has not responded to standard antiseizure drugs
- Diet includes high fat content, no sugar and low carbohydrate and protein intake
- Requires strong family, school and caregiver commitment – no cheating allowed
- It is a medical treatment – not a fad diet

# Vagus Nerve Stimulator (VNS)

- Device implanted just under the skin in the chest with wires that attach to the vagus nerve in the neck
- Delivers intermittent electrical stimulation to the vagus nerve in the neck that relays impulses to widespread areas of the brain
- Used primarily to treat partial seizures when medication is not effective
- Use of special magnet to activate the device may help student prevent or reduce the severity of an oncoming seizure
- Person may still require antiseizure medication



# The RNS<sup>®</sup> System Monitors & Responds to Your Brain's Unique Seizure Activity



**Monitors** your brain activity twenty-four seven



**Detects** unusual activity that can lead to a seizure



**Responds** with a small electrical pulse to prevent a seizure from occurring

# Diazepam Rectal Gel

- Also known as Diastat
- Used in acute or emergency situations to stop a seizure that will not stop on its own
- Approved by FDA for use by parents and non-medical caregivers
- State/school district regulations often govern use in schools



# Valtoco (diazepam) Nasal Spray

- The U.S. Food and Drug Administration (FDA) has approved Valtoco<sup>®</sup> (diazepam nasal spray). This is a new seizure medicine designed to treat periods of frequent seizures or cluster seizures that are distinct from the person's usual seizure pattern. The term "rescue therapy" or "rescue medicine" is usually used to describe this type of medicine.
- It is approved as an acute treatment, which means that the medicine is given at the time of the seizures or during periods of frequent seizures. It is not used as a daily seizure medicine or in place of daily seizure medicines.
- Valtoco can be used in children age 6 and over and in adults with epilepsy.
- This rescue therapy uses a new technology that allows the diazepam to be absorbed consistently through the nose.
- Valtoco (diazepam nasal spray) is a benzodiazepine, which is a group of drugs that can stop seizures quickly when used as an acute treatment.



# Midazolam (Nayzilam) Nasal Spray

- The first FDA-approved **nasal** option for treating seizure clusters.
- Packaged as a single-use treatment that can be carried with a patient and administered by persons who are not healthcare professionals.



# Individual Supports

- Prescription Assistance
  - Funds available for people with epilepsy who are temporarily unable to afford the purchase of their anticonvulsant medication.
- Information and Referral
  - For people with general epilepsy questions, concerns and issues, information includes pamphlets, brochures, videotapes, books and other information. Referrals are made to other types of services (medical evaluations/testing, housing, etc. as well)
- Scholarship
  - For graduating high school seniors with epilepsy who are pursuing their educational goals and who have financial need. Scholarship recipients are selected through a competitive process.
- Support Groups
- Mentoring Program

# Family Support

## Camp NOVA

- A one-week residential summer camp program for young adults with epilepsy & other disabilities. Programming includes recreational and disability learning activities to recreational, socialization, companionship, education, and fun. Ages 12 and up.





# Community Impact Boards

- Advocacy
- Awareness
- Fundraising

# Advocacy

- Paul's Law
- ESNJ Week at the State House



# Building Awareness

- Training for School Personnel
- Training for School Nurses
- Thinking About Epilepsy (For Students)
- Law Enforcement
- EMS
- Health Fairs



# Community Events



- Glow Walk Run- October 24, 2020  
Virtual
- Golf Outing – October 26, 2020  
Virtual
- National Epilepsy Awareness Month- November
- Paint the Pony Purple- November 7, 2020  
MJ's, Bayville

# Contact Information

- If you would like more information or a specific training on something we spoke about today, contact Andrea Racioppi - [aracioppi@epilepsynj.org](mailto:aracioppi@epilepsynj.org)
- To order educational materials (posters, bookmarks), please contact our office at 800-336-5843
- [www.paulslaw.org](http://www.paulslaw.org)