What is a Seizure?

- Excessive/disorderly firing of nerves
- Imbalance between nerves firing and relaxing

Seizures can be many things, depending on...

- What part of the brain is affected
- How much of the brain is affected
Epilepsy is...

- A condition of \textit{recurrent} and \textit{unprovoked} seizures

- “Seizure Disorder” = Epilepsy

- Epilepsy is common (1 in 26)
Incidence Rate for Seizures at School

- 1:50 people under the age of 18
- 1:3 student with a developmental disability
Dispelling Common Myths

- The tongue **cannot** be swallowed during a seizure
- Epilepsy is not contagious
- Epilepsy can begin at any age
- Most seizures are NOT medical emergencies
- Most epileptic seizures are NOT convulsive
- Medication does not stop all seizures
- Children can outgrow their epilepsy
- People with epilepsy are not necessarily developmentally delayed
Classroom Support

- Remain **calm**
- Be supportive
- Be familiar with student’s Seizure Action Plan
- Be familiar with student’s emergency medication
Is student in a wheelchair/mobile?

Keeping other students calm & safe

“Rescue Medication”- does student have any?

Does student have an IEP, 504, or IHP?
Special Challenges

- Communicating with parents
  - Language barrier
  - Parent unwilling to share pertinent information
  - Parent in denial

- Medically fragile student

- Bullying by other students
Signs of Seizures in Children

- Short **attention blackouts**
- Sudden **falls** for no reason/unexplained **clumsiness**
- Brief periods of **unresponsiveness**
- Unusual **sleepiness**
- Repeated **unnatural movements** that look strange
Current Terminology of Seizure Types

Partial Seizures

- Simple Partial
- Complex Partial
- Partial seizures can become generalized

Generalized Seizures

- Absence
  - Formerly Petit-mal
- Tonic-Clonic
  - Formerly Grand-mal
Simple Partial Seizures

- Involves one area of the brain, but any lobe
  - Motor
    - Abnormal movements
  - Sensory
    - Strange smells or tastes; hallucinations
  - Autonomic
    - Strange feelings, change in heart rate, sweating
  - Psychic
    - Changes in thoughts or feelings

- Student is awake and alert

- Lasts 10-20 seconds
Complex Partial Seizure

- Starts in a small area in the brain and quickly moves to other areas
  - Blank stare
  - Unaware of surroundings, but able to move
  - Unresponsive or inappropriately responsive
  - Repetitive movements of mouth and/or hands
  - Confused speech, repetitive phrases, screaming, crying

- Student will probably not remember the seizure

- Usually lasts 30 seconds- 2 minutes
Absence Seizure

- **Simple**
  - Brief period of staring off into space
  - Less than 10 seconds

- **Complex**
  - Staring + movement (blinking, chewing, hand gestures)
  - Less than 20 seconds

- Student unaware of what is going on

- Very easy to go unnoticed
First Aid: Simple Partial & Absence

- Stay calm
- Protect student from injury
- Reassure other students
- Time & observe the seizure
- Document & report
Stay calm. Call for school nurse.

**Protect** student from injury

**Time and document** the seizure

**Speak softly and calmly**

**Don’t** grab or hold the student down

**Follow emergency protocol** if seizure lasts >5 minutes or is unusual for that student

Report seizure to the parent
Tonic- Clonic Seizures

- Convulsive seizure
  - Tonic phase
    - Muscles stiffen
    - Student will fall to ground
    - May bite tongue or cheek
    - May scream
  - Clonic phase
    - Arms and legs jerk rapidly
    - Bent elbows and knees
    - Loss of bladder or bowel control as body relaxes

- Usually last 1-3 minutes

- Student is not conscious during the seizure and may be very drowsy or sleep after the seizure
First Aid: Tonic- Clonic

- Call for the school nurse
- Cushion student’s head and **protect** from injury
- **Turn on side** (if possible) and keep **airway clear**
- **DO NOT** put anything in their mouth
- **Time** and **observe** seizure
- **Do not** try to restrain or hold down student
- **Follow** seizure action plan or PISD emergency protocol
- Report seizure to parent
Seizure in a Wheelchair

- Do not move the chair unless absolutely necessary for safety reasons
- Secure wheelchair, if not already
- Fasten seatbelt loosely to prevent falling out of chair
- Support and protect head
- Keep airway open and allow secretions to flow from mouth
- Pad wheelchair to prevent further injury
- Follow student’s seizure action plan
Status Epilepticus and Cluster Seizures

- **Status epilepticus**
  - Tonic-clonic seizure lasts 5 minutes or longer
  - Student has another seizure before regaining consciousness
  - Repeated seizures in a 30 minute time period
  - Status epilepticus is an emergency

- **Cluster seizures**
  - Seizures are short, but occur close together
  - May require emergency medication (refer to plan)
Plano ISD
Seizure Emergency Protocol

✓ Tonic-clonic seizure lasts longer than 5 minutes
✓ Repeated seizures without regaining consciousness
✓ Student is injured, has diabetes, or is pregnant
✓ First time seizure
✓ Student has breathing difficulties
✓ Seizure occurs in water
Incidence of Seizure Types

- Complex Partial: 36%
- Simple Partial: 14%
- Generalized Tonic-Clonic: 23%
- Other Generalized: 11%
- Other Partial: 7%
- Absence: 6%
- Unclassified: 3%

Half of all epilepsy seizure are partial seizures!

Less than 1/4 of epilepsy seizures are convulsive!
What a Seizure Can Look Like

- Fainting
- Migraines
- Behavior Disorders
  - ADHD
  - Oppositional Defiant Disorder
- Sleep Disorders
- Tourette’s
- Panic Attacks
- Movement Disorders
Seizure? or Behavior?

**SEIZURES ARE:**
- Stereotypical
  - same behavior
  - in the same sequence
- Paroxysmal
  - sudden
  - Unexpected
- Unchanged by behavior modification

**BEHAVIORS ARE:**
- Variable, situation dependent
- A response to specific situation or stimuli
- Altered by behavior modification techniques

LOOK FOR A PATTERN!
Detailed seizure reporting helps the treating physician

Identifies:
- seizure triggers
- patterns
- precautions
### Seizure Observation Record

<table>
<thead>
<tr>
<th>Student Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Date &amp; Time</td>
<td></td>
</tr>
<tr>
<td>Seizure Length</td>
<td></td>
</tr>
<tr>
<td>Pre-Seizure Observation (Briefly list behaviors, triggering events, activities)</td>
<td></td>
</tr>
<tr>
<td>Conscious (yes/no/unknown)</td>
<td></td>
</tr>
<tr>
<td>Injuries? (briefly describe)</td>
<td></td>
</tr>
<tr>
<td>Abnormal Tonic/Clonic Movements</td>
<td></td>
</tr>
<tr>
<td>Rigidity/Arching</td>
<td></td>
</tr>
<tr>
<td>Limp</td>
<td></td>
</tr>
<tr>
<td>Fall down</td>
<td></td>
</tr>
<tr>
<td>Rocking</td>
<td></td>
</tr>
<tr>
<td>Wandering around</td>
<td></td>
</tr>
<tr>
<td>Whole body jerking</td>
<td></td>
</tr>
<tr>
<td>Symmetry Movements</td>
<td></td>
</tr>
<tr>
<td>Left arm jerking</td>
<td></td>
</tr>
<tr>
<td>Right arm jerking</td>
<td></td>
</tr>
<tr>
<td>Left leg jerking</td>
<td></td>
</tr>
<tr>
<td>Right leg jerking</td>
<td></td>
</tr>
<tr>
<td>Random Movement</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td></td>
</tr>
<tr>
<td>Blush</td>
<td></td>
</tr>
<tr>
<td>Pale</td>
<td></td>
</tr>
<tr>
<td>Flushed</td>
<td></td>
</tr>
<tr>
<td>Eye</td>
<td></td>
</tr>
<tr>
<td>Pupil dilated</td>
<td></td>
</tr>
<tr>
<td>Turned (R or L)</td>
<td></td>
</tr>
<tr>
<td>Rolled up</td>
<td></td>
</tr>
<tr>
<td>Staring or blinking (clarify)</td>
<td></td>
</tr>
<tr>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>Salivation</td>
<td></td>
</tr>
<tr>
<td>Chewing</td>
<td></td>
</tr>
<tr>
<td>Lip smacking</td>
<td></td>
</tr>
<tr>
<td>Verbal Sounds (gagging, talking, throat clearing, etc.)</td>
<td></td>
</tr>
<tr>
<td>Breathing (normal, labored, stopped, noisy, etc.)</td>
<td></td>
</tr>
<tr>
<td>Incontinent (urine or feces)</td>
<td></td>
</tr>
<tr>
<td>Post-Seizure Observation</td>
<td></td>
</tr>
<tr>
<td>Confused</td>
<td></td>
</tr>
<tr>
<td>Sleepy/tired</td>
<td></td>
</tr>
<tr>
<td>Headache</td>
<td></td>
</tr>
<tr>
<td>Speech slurring</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Length to Orientation</td>
<td></td>
</tr>
</tbody>
</table>
Seizure Triggers

✓ Missed or late medication (#1 trigger)
✓ Stress/anxiety
✓ Lack of sleep/fatigue
✓ Poor diet/missed meals
✓ Constipation/full bladder
✓ Drug interactions (antibiotics!)
✓ Menstruation
✓ Flashing lights/loud noises
✓ Overheating/overexertion
Treatment for a Seizure

- VNS - Vagus Nerve Stimulator
- Oxygen
- Emergency Medications
  - Rectal diazepam gel
  - Nasal midazolam spray
Vagus Nerve Stimulator

- Implanted device set to deliver nerve stimulation at preset intervals (programmed by neurologist)

- Additional stimulation can be delivered using the VNS magnet
VNS: Use

- Student may wear magnet around wrist or have easily accessible on backpack
- Swipe magnet across left side of chest once
- Seizure will probably not stop immediately
- Wait 1 minute and swipe again, if needed (follow Seizure Action Plan)
- Must be trained by a Plano ISD nurse
Must be ordered by physician for use during a seizure
Most students with oxygen have a private duty nurse with them
Must be trained by a Plano ISD nurse
  - proper handling
  - proper set up
  - proper administration
Diastat: Rectal Diazepam

- Rescue medication for a seizure emergency
- Must be trained by Plano ISD nurse on proper administration technique
- Seizure Action Plan will specify at what point medication is to be given
Nasal Midazolam

- Rescue medication for a seizure emergency
- Only RNs are administering this medication due to need for close monitoring
Seizure Preparedness at School

- Seizure Action Plan

- Updated information from parent (obtained by school nurse)
  - Current medication?
  - Most recent seizure?
  - Emergency medications?

- Seizure Observation Record
Seizure Action Plan

- Individualized
  - Seizure/health information
  - Seizure first aid/emergency response

- Prepared by: parent and physician

- Reviewed by: school nurse

- Distributed to relevant school personnel
  - At beginning of school year
  - Change in health status occurs
# Seizure Action Plan

**Student’s Name**: [Name]

**Date of Birth**: [Date]

**Grade/Teacher**: [Teacher]

**Parent/Guardian**: [Name]

**Phone**: [Number]

**Cell**: [Number]

**Other Emergency Contact**: [Name]

**Phone**: [Number]

**Cell**: [Number]

**Treating Physician**: [Name]

**Phone**: [Number]

**Fax**: [Number]

**Bus #**: [Number]

## Seizure Information

<table>
<thead>
<tr>
<th>Seizure Type</th>
<th>Length</th>
<th>Frequency</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

**Seizure triggers or warning signs:**

**Student’s response after seizure:**

## Basic First Aid: Care & Comfort

Please describe basic first aid procedures if different than shaded box at right:

Does student need to leave the classroom after seizure? [ ] Yes [ ] No

If YES, describe process for returning student to classroom:

## Basic Seizure First Aid

- Stay calm and track time
- Keep child safe
- Do no restrain
- Do not put anything in mouth
- Stay with child until fully conscious
- Record seizure in log

For Tonic-Clonic Seizure

- Protect head
Basic first aid depends on type of seizure:

- No change in consciousness (**Simple Partial**)
- Altered Awareness (**Complex Partial** or **Absence**)
- Loss of Consciousness/Convulsions (**Generalized Tonic-Clonic**)
Seizure First Aid: Review

- Stay calm!
- Most seizures are **not** medical emergencies
- Always **time** a seizure
- Nothing in the mouth
- Don’t hold down
- Follow Seizure Action Plan
Resources

- Epilepsy Foundation
  www.epilepsyfoundation.org

- Local affiliate
  www.epilepsy.com/texas

- www.epilepsyclassroom.com

- www.epilepsy.com