

Supporting Students with Seizures in School

TIER 2 TRAINING

BASED ON THE SEIZURE TRAINING FOR SCHOOL PERSONNEL

FROM THE EPILEPSY FOUNDATION OF AMERICA

Seizures in School

Ever seen a
person having a
seizure?

Do you know
what to do?

Objectives

Recognize

3 Types of Seizures

Know

How to Activate the
MERT Team

Describe

The 3 Seizure First Aid
Steps

Describe

3 Ways to Support
Students with Seizures

Handouts

UNDERSTANDING SEIZURES & EPILEPSY

Seizure & Epilepsy Overview

What is epilepsy?



Seizure First Aid

What to do in the event of a seizure

1

STAY with the person and start timing the seizure. Remain *calm* and check for medical ID.



2

Keep the person **SAFE**. Move or guide away from *harmful objects*.



3

Turn the person onto their **SIDE** if they are not awake and aware. *Don't block airway*, put something small and soft under the head, loosen tight clothes around neck.

4

Do **NOT** put *anything* in their mouth. Don't give water, pills or food until the person is awake.



5

Do **NOT** *restrain*.



6

STAY with them until they are awake and alert after the seizure. *Most seizures end in a few minutes.*



Call 911:

- ▲ Seizure lasts longer than 5 minutes
- ▲ Repeated seizures
- ▲ Difficulty breathing
- ▲ Seizure occurs in water
- ▲ Person is injured, pregnant, or sick
- ▲ Person does not return to their usual state
- ▲ First time seizure

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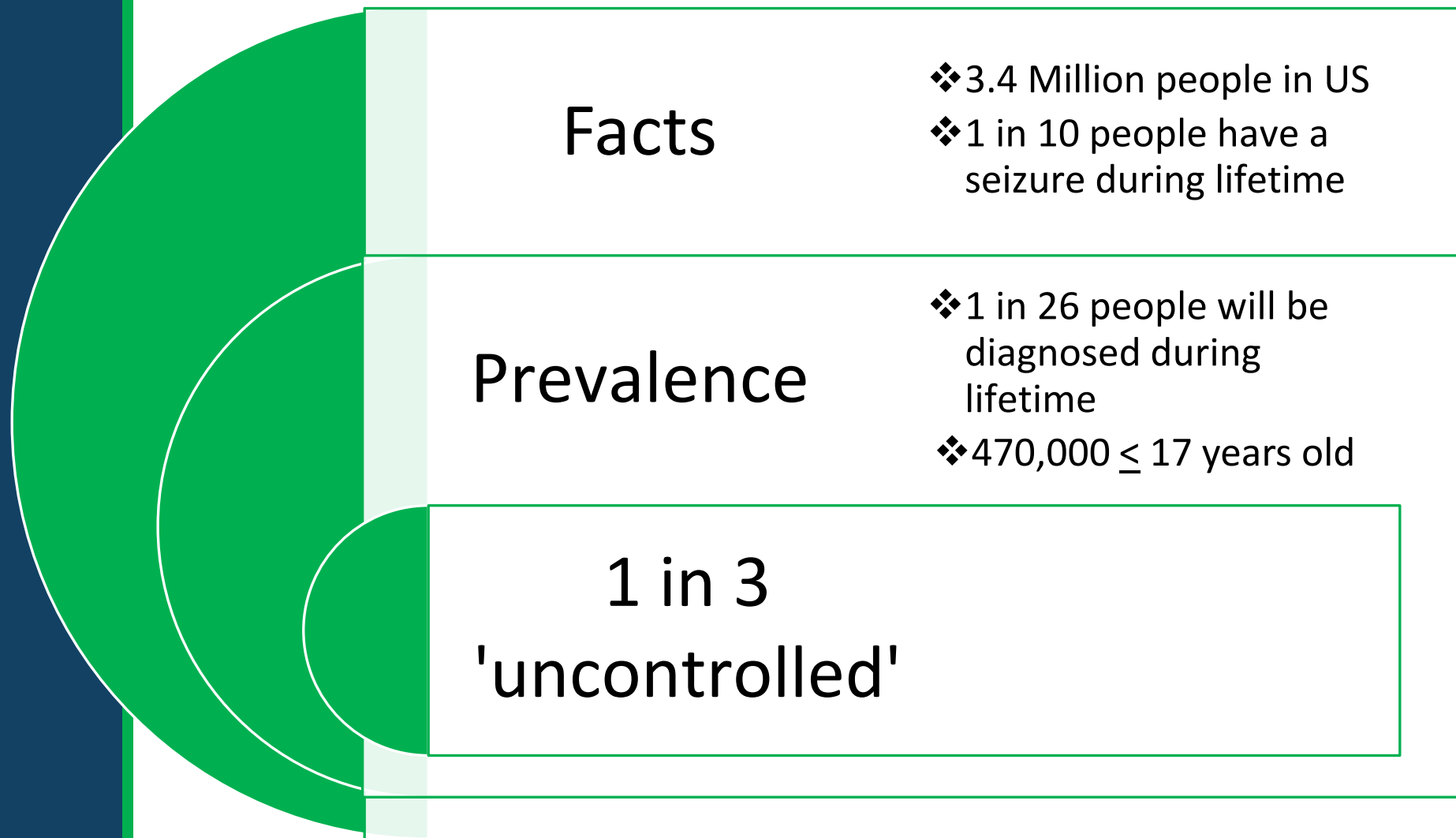
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Epilepsy

'Seizure Disorder'



Seizures

Common causes include:

- Brain trauma
- Brain lesions
- Infections of the brain
- Brain injury at birth
- Abnormal brain development
- Stroke
- Genetic Factors

Did you know?

Most **NOT**
emergencies

May **NOT** be
aware

NOT
contagious

IS a medical condition

Can **NOT**
swallow
tongue

EVERYONE can learn
Seizure First Aid

What Causes a Seizure?

- ❖ Electrical signals changed/disrupted
 - ❖ 'Short circuit' between brain cells
- ❖ Conditions that Can Cause Seizures:
 - ❖ Epilepsy
 - ❖ Low Blood Sugar
 - ❖ Head Injuries
 - ❖ Fever



What Do Seizures Look Like?

❖ Depend on area of the brain involved

❖ Sensation

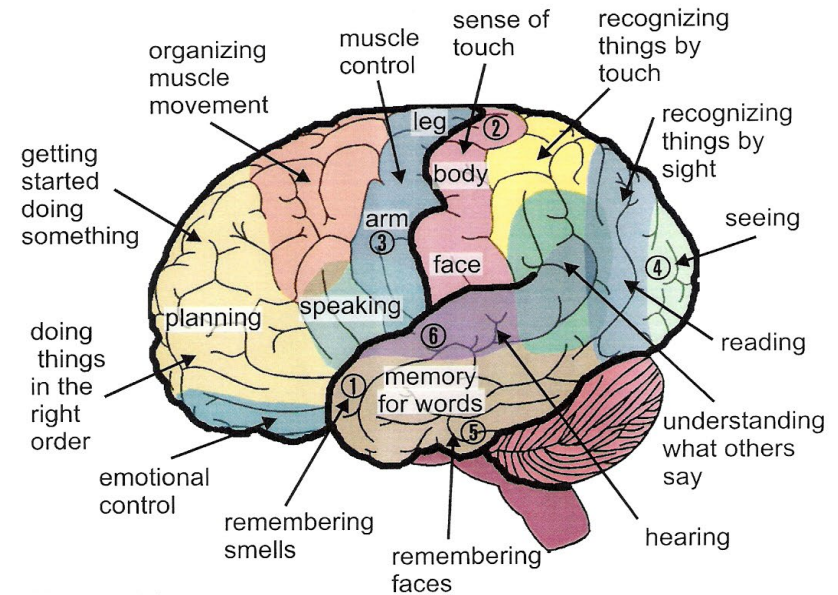
❖ Behavior

❖ Cognitive or physical functions

❖ Movements

❖ Awareness

Left Side of the Brain



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How are Seizures Classified?

- ❖ **WHERE** they start in Brain
- ❖ Whether **AWARENESS** is affected
- ❖ Involvement of **OTHER SYMPTOMS**



3 Types of Seizures

- ❖ **Focal**

 - ❖ Aware

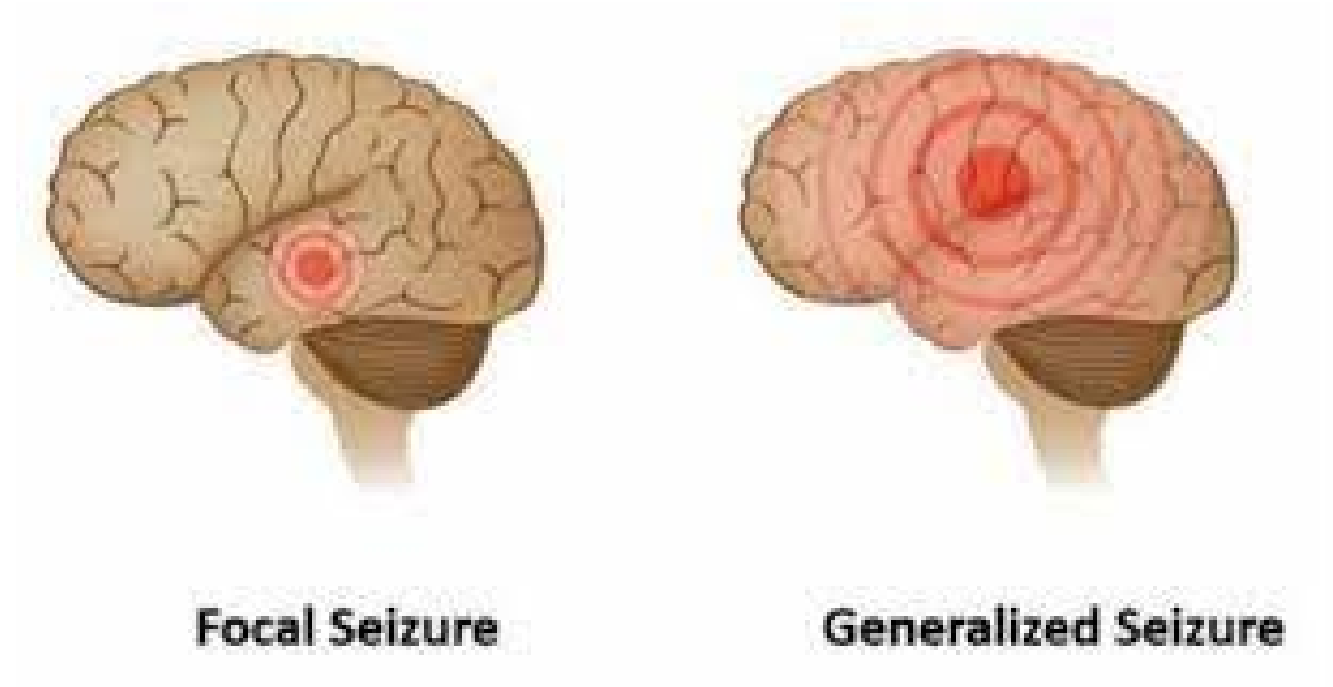
 - ❖ Impaired Awareness

- ❖ **Generalized**

 - ❖ Absence

 - ❖ Tonic-Clonic

- ❖ **Unknown**



Focal: Aware Seizures

Person is

- ❖ Aware/Alert
- ❖ Rhythmic movements 1 side or part of body
- ❖ Sensory and Autonomic Symptoms
 - ❖ Tingling
 - ❖ Sounds
 - ❖ Smells
 - ❖ Tastes
 - ❖ Upset Stomach
 - ❖ Visual distortions
- ❖ Cognitive and Emotional Symptoms
 - ❖ Déjà vu
 - ❖ Hallucinations
 - ❖ Fear/Anxiety
 - ❖ Feeling funny/indescribable



Typical Length: 1-3 Minutes

Often confused with

- ❖ Acting Out
- ❖ Psychosomatic Illness
- ❖ Mystical Experience
- ❖ Illicit Drug Use

Focal: Impaired Awareness Seizures

Confused, unable to respond

May begin with blank dazed stare

AUTOMATISMS

Clumsy/disoriented movements (aimless walking)

Unable to talk/words don't make sense

May get combative if restrained

After seizure:

- ❖ Confused
- ❖ Tired
- ❖ Headache
- ❖ Nausea

May be confused with:

- ❖ Substance abuse (alcohol, illicit drugs)
- ❖ Aggressive behavior

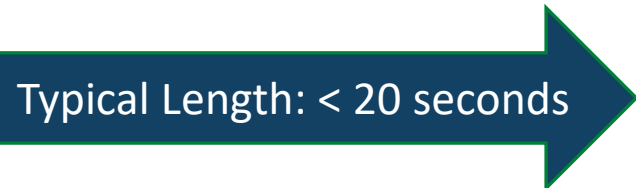


Typical Length: 1-3 Minutes

Generalized Absence Seizures

- ❖ Pause in activity with blank stare
 - ❖ Brief lack of awareness
 - ❖ Possible chewing/blinking
 - ❖ Return to full awareness almost immediately
 - ❖ May occur many times/day
-
- ❖ Often confused with
 - ❖ Daydreaming
 - ❖ Attention Problems (ADHD)

Typical Length: < 20 seconds



Generalized Tonic-Clonic Seizures



- ❖ Sudden, hoarse cry
- ❖ Loss of consciousness (fall hazard)
- ❖ Stiffening of arms and legs, then rhythmic jerking
- ❖ Shallow breathing
- ❖ Drooling
- ❖ Possible loss of bowel/bladder control or vomiting
- ❖ Skin, nails, lips may turn blue

Typical Length: 1-3 minutes

- ❖ After seizure:
 - ❖ Confusion
 - ❖ Headache
 - ❖ Tired
 - ❖ Sore
 - ❖ Difficulty talking

Seizure Action Plans

- ❖ Student Specific Instructions
- ❖ Seizure First Aid
- ❖ When to call 9-1-1
- ❖ Rescue medication instructions
- ❖ Emergency Contact Information

SEIZURE ACTION PLAN (SAP)  

Name: _____ Birth Date: _____
 Address: _____ Phone: _____
 Emergency Contact/Relationship: _____ Phone: _____

Seizure Information

Seizure Type	How Long It Lasts	How Often	What Happens

How to respond to a seizure (check all that apply)

First aid – **Stay, Safe, Side.** Notify emergency contact at _____
 Give rescue therapy according to SAP Call 911 for transport to _____
 Notify emergency contact Other _____

First aid for any seizure

STAY calm, keep calm, begin timing seizure
 Keep me SAFE – remove harmful objects, don't restrain, protect head
 SIDE – turn on side if not awake, keep airway clear, don't put objects in mouth
 STAY until recovered from seizure
 Swipe magnet for VNS
 Write down what happens _____
 Other _____

When to call 911

Seizure with loss of consciousness longer than 5 minutes, not responding to rescue med if available
 Repeated seizures longer than 10 minutes, no recovery between them, not responding to rescue med if available
 Difficulty breathing after seizure
 Serious injury occurs or suspected, seizure in water

When to call your provider first

Change in seizure type, number or pattern
 Person does not return to usual behavior (i.e., confused for a long period)
 First time seizure that stops on its' own
 Other medical problems or pregnancy need to be checked

When rescue therapy may be needed:

WHEN AND WHAT TO DO
 If seizure (cluster, # or length) _____
 Name of Med/Rx _____ How much to give (dose) _____
 How to give _____

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What **NOT** to do!

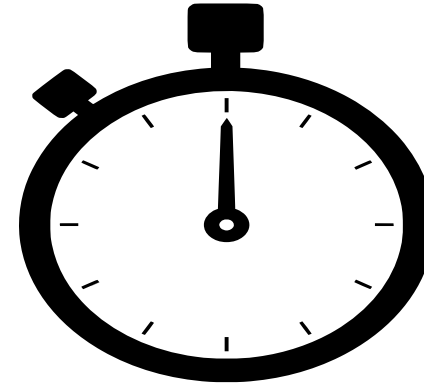
See your Handout

3 Steps to Seizure First Aid

❖ Stay + Time

❖ Safe

❖ Side



3-5 minutes → MERT

Recovery (Postictal) Phase

WHAT IS IT?

- ❖ Time immediately after seizure
- ❖ Before returning to usual state of awareness/function
- ❖ Depends on the type of seizure

HOW TO HELP

- ❖ Take person to a safe place to rest
- ❖ Monitor if alert/aware
- ❖ Remain until another adult arrives

FOLLOW SEIZURE ACTION PLAN!

Seizure Emergencies: Status Epilepticus

Continuous

Prolonged/repeated

Generalized seizure
>3-5 minutes

Seizure Emergencies

When to call 9-1-1
Activate MERT

Call 9-1-1/Activate MERT if:

- ✓ Seizure lasts too long
- ✓ Seizure with loss of consciousness over 5 minutes
- ✓ Not responding to rescue medicine
- ✓ Not typical seizure type (check with student's seizure action plan)
- ✓ Repeated seizures >10 minutes
(no recovery between seizures, not responding to rescue medicines)
- ✓ Difficulty breathing after a seizure
- ✓ Serious injury seen or suspected
- ✓ Seizure in water
- ✓ Student/family requests evaluation



MERT Team

Seizure Emergency Response

Many actions occurring *simultaneously*



1. Recognize emergency
2. Check to make sure the scene is safe.
3. Call 911 from ?
4. Assemble MERT Announce Secure Mode
5. Buddy Classrooms utilized
6. Take First Aid, AED, EPI, ECP to scene
7. Provide care to patient
8. Call parents
9. Someone meet EMS and show them to patient
10. Someone meet parents in parking lot and inform them of emergency & actions taken
11. Inform Central Administration
12. Scene control
13. Communication / Rumor control
14. Documentation of event
15. Debrief – lessons learned/ QI

Name: _____ Birth Date: _____

Address: _____ Phone: _____

Emergency Contact/Relationship _____ Phone: _____

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- Other _____

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- STAY** until recovered from seizure
- Swipe magnet for VNS
- Write down what happens _____
- Other _____

When to call 911

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Name of Med/Rx _____ How much to give (dose) _____

How to give _____

Know

Your role(s)

Student Specific Symptoms and Instructions

MERT Actions 1

- ❖ Call 9-1-1 immediately:
- ❖ Notify front office of Medical Emergency.
- ❖ **Deploy MERT Team**
 - ❖ **Announcement** (OVER-HEAD; WALKIE-TALKIE) to alert trained Medical Emergency Response Team (MERT) members:
“Attention Staff and Students, We are now going into Lock-in (Verbiage for all to stay in place) for a medical emergency in Room _____. MERT team please respond.”

MERT Actions 2

- ❖ Available MERT members immediately carry out assigned tasks.
 - Take AED and any emergency medical supplies and medication (if ordered) to location.
 - Inform Central Administration of Emergency.
 - Contact parents. Meet them in the parking lot.
 - Meet the ambulance. Unlock the gate/door/ direct traffic
 - Copy the medical records of the student. Provide to EMS.
 - Control the scene. Clear the area by directing uninvolved students to alternate location
 - Document emergency situation and response on Emergency Response/Incident Report form
 - Conduct debriefing session of incident and response following the event.

MERT Actions 3

Response Team members will immediately initiate the student's specific Seizure Action Plan (SAP) or "Basic First Aid for Seizures" if no SAP on file:

- Cushion Head
- Loosen Clothing
- Turn on Side
- Don't hold down or restrict movement
- Don't put anything in mouth
- Time the seizure

- Administer emergency medication (if ordered) per student's SAP
- Ensure that 9-1-1 has been called
- Keep airway open, monitor breathing –
If no breathing/ineffective breathing, start CPR and use AED when appropriate
- Also, remember to Document seizure activity on the "Seizure Observation Record"

MERT Actions 4

PLEASE NOTE: Regardless of any other instructions or requests you have received, **always call 9-1-1 if:**

- You are unsure of what to do
- It is a first- time seizure
- The seizure lasts more than 5 minutes
- The student is having difficulty breathing
- The student is injured, pregnant, or has diabetes
- There is a slow recovery or more than one seizure event

NOTE AND DOCUMENT:

WHAT HAPPENS DURING THE EVENT:

- ❖ Cognitive
- ❖ Sensation
- ❖ Muscle tone
- ❖ Movements
- ❖ Skin color
- ❖ Bowel or bladder

PART OF BODY INVOLVED:

- ❖ Started
- ❖ Spread
- ❖ Side of body

WHAT HAPPENS AFTER EVENT:

- ❖ Response
- ❖ Awareness
- ❖ Memory
- ❖ Ability to communicate
- ❖ Weakness or numbness
- ❖ Changes in mood
- ❖ Tired, sleepy

HOW LONG:

- ❖ Aura
- ❖ Actual Seizure
- ❖ Postictal phase
- ❖ Return to normal activity

Additional actions

Beyond the 3 Steps to Seizure First Aid

See your Handout

Approved FDA Seizure Rescue Medications



Diastat



Nayzilam



Valtoco

[How to Use Rescue Therapies - Bing video](#)

Diastat (Rectal Diazepam)

- Used for prolonged seizure activity, seizure clusters, or breakthrough seizures
- Pre-packaged syringe: dose should be locked in place by pharmacist
- Only given as directed by physician order
- Administered rectally
- Begins to work within 15 minutes
- Can be used on ages 2 years and older
- Usually tolerated well
- Student may fatigue after administered



Image courtesy of the Institute for Safe Medication Practices.



Diastat (Rectal Diazepam): Administering

To Give:

- Ensure privacy of student
- Lay student on their side
- Lubricate medication tip before administration
- Always call 911 unless EAP specifically states otherwise

<https://www.diastat.com/>



Nayzilam (Midazolam)

- Indicated for seizure clusters, acute repetitive seizures
- Approved for use in people 12 years and older
- Can be given by patient or caregiver
- **One time** use; 5mg/0.1ml spray in one nostril
- Second spray (new device) used in opposite nostril if seizure continues after 10 minutes



Nayzilam (Midazolam): Administer

To give

- Position student on their back
- Open package and hold with nozzle between pointer and middle fingers of dominant hand with thumb on plunger
- Hold the back of the student's neck with your non dominant hand
- Insert the nozzle into a nostril until fingers touch the nose
- Depress plunger and leave in nostril until entire medication is give
- Always **Call 911** after administering medication for seizures unless emergency plan indicates otherwise



Valtoco (Nasal Diazepam)

- Indicated for short-term treatment of seizure clusters, (also known as “episodes of frequent seizure activity” or “acute repetitive seizures”)
- Approved for use in people 6 years and older
- Can be given by patient or caregiver
- Second spray (new device) used in opposite nostril if ordered by provider



Valtoco (Nasal Diazepam): Dosing

Specific, individualized VALTOCO nasal spray dosing¹

- ◆ Individualized dosing based on age and weight¹
- ◆ Available in 4 treatment doses: 5 mg, 10 mg, 15 mg, 20 mg¹
- ◆ A second dose may be given 4 to 12 hours after initial dose, if needed¹
- ◆ Each single dose is ready to use, no assembly required¹

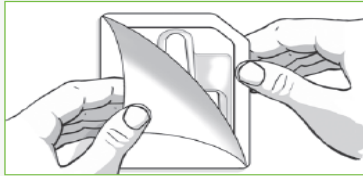
6-11 years (0.3 mg/kg)			
Weight (kg)	Weight (lb)	Dose (mg)	Given As
10-18	22.0-39.7	5	One 5 mg nasal spray device in one nostril
19-37	41.9-81.6	10	One 10 mg nasal spray device in one nostril
38-55	83.8-121.3	15	Two 7.5 mg nasal spray devices, one in each nostril
56-74	123.5-163.1	20	Two 10 mg nasal spray devices, one in each nostril
12+ years (0.2 mg/kg)			
Weight (kg)	Weight (lb)	Dose (mg)	Given As
14-27	30.9-59.5	5	One 5 mg nasal spray device in one nostril
28-50	61.7-110.2	10	One 10 mg nasal spray device in one nostril
51-75	112.4-165.3	15	Two 7.5 mg nasal spray devices, one in each nostril
76 and up	167.6 and up	20	Two 10 mg nasal spray devices, one in each nostril

<https://www.valtoco.com/how-to-use>

Valtoco (Nasal Diazepam): Administering

Step 1: Remove 1 VALTOCO blister pack from the box.

Each blister pack contains 1 nasal spray device. 1 device contains 1 dose.

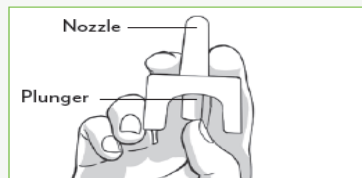


Peel back the tab with the arrow on the corner of the pack.



Remove VALTOCO from the pack.

Step 2: Hold VALTOCO with your thumb on the bottom of the plunger and your first and middle fingers on either side of the nozzle.



Step 3: Gently insert the tip of the nozzle into 1 nostril until your fingers, on either side of the nozzle, are against the bottom of the person's nose.



Step 4: Press the bottom of the plunger firmly with your thumb to give VALTOCO.

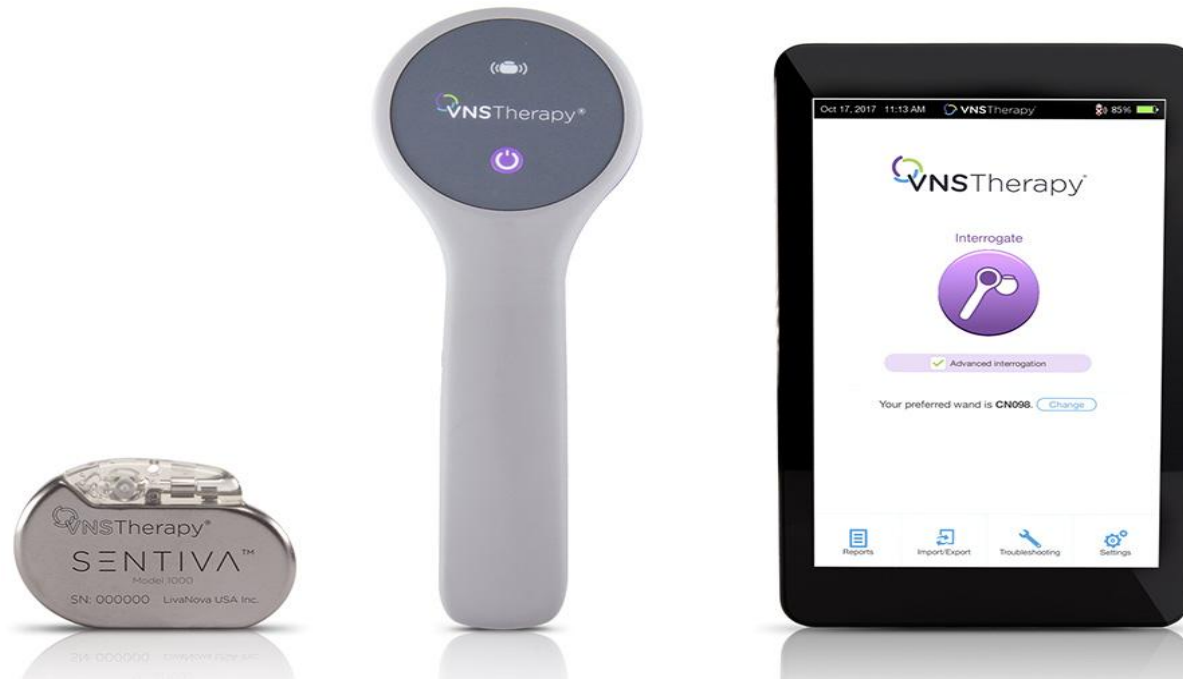


Step 5: Remove VALTOCO from the nose after giving the dose.

Each individual VALTOCO contains 1 single spray.

Throw it away (discard) after use.

VNS (Vagus Nerve Stimulation)



VNS (Vagus Nerve Stimulation): Mechanism

VNS may help control seizures by:



◇ Increasing blood flow in key brain areas



◇ Raising levels of Neurotransmitters



◇ Changing EEG patterns during a seizure

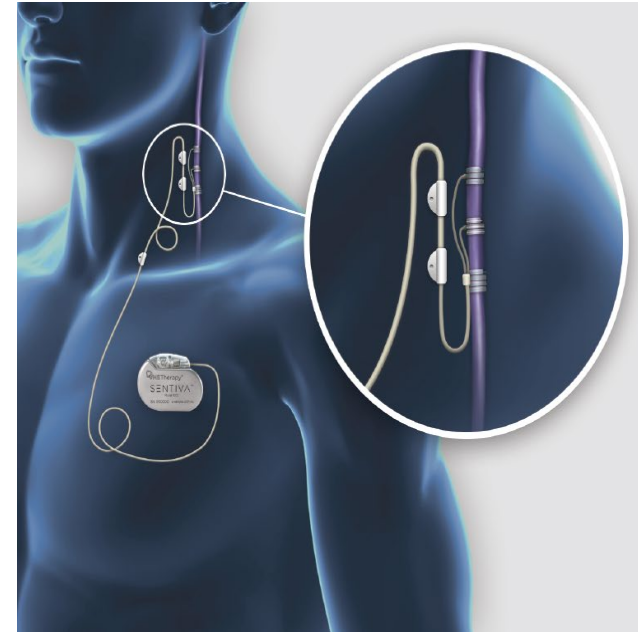


Types of VNS

Standard Models

Aspire SR Model

SenTiva™ Model



Vagus Nerve
Stimulation
(VNS)
Placement

Standard Models

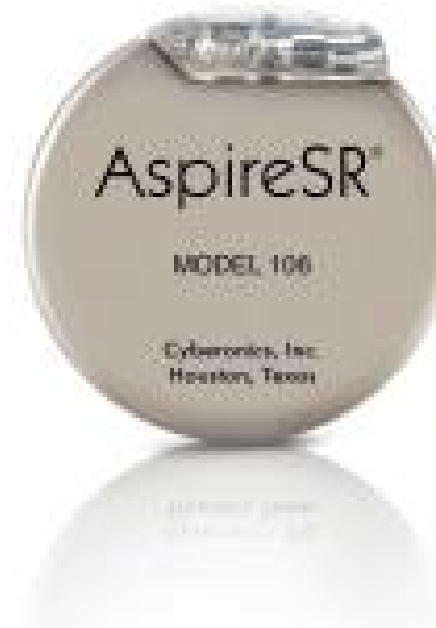
- ❖ Variety of settings
 - ❖ Including off and on
- ❖ Typical stimulation
 - ❖ 30 seconds every 5 minutes

Magnet can trigger additional stimulation



Aspire SR Model

- ❖ First to give stimulation with \uparrow heart rate
- ❖ Stimulation can also be preprogrammed
- ❖ Magnet option for extra stimulation during seizure



SenTiva™ Model

- ❖ Newest model
- ❖ Programmable
- ❖ Amount of stimulation can be adjusted



To Stop a Seizure

