

# Seizure and Epilepsy Overview

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## DISEASE/SKILL OVERVIEW

Epilepsy is a common neurologic diagnosis that affects over 3.4 million people in the United States. It accounts for over 65 million people in the world who have recurrent seizures. A seizure may occur with any sudden surge of abnormal brain electrical activity. Recognizing a seizure event is an important component of the neuro-assessment process. Knowing the signs and symptoms of a seizure will start the foundation for learning and provide information for determining the seizure type that is being presented. New nomenclature for seizure types was introduced in 2017. Nursing education related to seizures should include details about each seizure type to enhance the knowledge of the seizure event and appropriate interventions.

## NEURO EXAM PEARLS

Describe clinical presentation of seizure event and interventions:

**Ex.** Seizure type(s). Know how to differentiate each type and presenting symptoms. Refer to the classification of seizure type table listed under "Additional Resources."

**Ex.** Motor and/or sensory details- Automatism, behavioral arrest, tonic-clonic, diaphoresis, etc.

**Ex.** Assess for signs of status epilepticus – time the seizure. Status epilepticus could be a prolonged seizure event lasting more than 5 minutes or multiple events within 5 minutes without returning to baseline.

**Ex.** Medications on standby (ex: Lorazepam)

Remember the guidelines for CPR.

Refer to the Seizure Safety and Precautions quick guide for more information.

## MANAGEMENT STRATEGIES/ NURSING IMPLICATIONS

- Safety should be the top priority for any seizure type.
- Stay with the patient and summon for assistance as needed.
- Seizure and Sudden Unexpected Death in Epilepsy (SUDEP) precautions should be activated.
- Prevent injuries, assess cardiac monitoring (ex. Ictal asystole), note any eye or head deviation, automatisms, etc.

### Nursing Assessment

- Ongoing assessment is critical for the pre-ictal, ictal, and post-ictal phases. Describe what you see. This will be useful information to establish seizure type. Can they speak? What does their speech sound like? What movements do they make? Can they follow commands?
- Was there any tongue biting or incontinence?
- What are the different seizure types? – Focal (aware or impaired), Focal evolving into bilateral tonic-clonic, Generalized, Unknown, Unclassified
- Do they have a VNS (vagal nerve stimulator) or other implanted devices? Do you use the magnet as instructed?
- Depending on seizure type, clinical actions will change. (Ex.) Side-lying position for tonic-clonic, etc.
- What do I do for post-ictal aggression? Avoid restraining any patient.
- When do I begin to think about Status epilepticus (SE)?

- EEG monitoring or imaging tests may be needed. Be prepared to assist at bedside or to transport patient if needed.
- Supportive care is needed for patient and/or family. (Physical, emotional, etc.)
- What referrals or consults need to be initiated? (Ex.- Rapid response)

## MEDICATION/SPECIALIZED LABS

Many common medications can lower a patient's seizure threshold. Knowledge regarding which medications within your area that have this property is an important aspect of safety.\*

- Blood work may be ordered to be drawn for anti-seizure medication (ASM) levels, tox screen, or electrolytes.
- Medications needed should be easily accessible. Possible medications needed to abort seizure activity: Ex. Lorazepam, Levetiracetam, Valproic Acid, Lacosamide, Phenytoin, etc.
- What medication should I think of for seizure control initially? How quick can I retrieve the medication? Do I need an order to administer this medication according to our policies?
- What are rescue medications? What should be available and what formulation? (ex. IN, IV, IO, PO, etc.)
- What are the appropriate blood levels for the ASM that I am obtaining?
- What are the maintenance doses for the commonly used ASMs?
- Is CBD (Cannabidiol) approved for use in my setting? What is the common route of administration?

## TEAM QUESTIONS/COMMUNICATION

- Continue to round for patients with known seizure history.
- Assess for and identify seizure triggers, such as:
  - ETOH withdrawal

- Febrile/sepsis
- Post-craniotomy/surgical
- Brain injury/trauma
- Post stroke

## Nursing Care Reminders

- Prevent re-occurrence of seizure events with critical thinking skills, follow provider orders, complete assessments routinely. Seek collaboration with other clinicians as needed
- Follow unit or hospital evidence-based protocols for seizure interventions
- Thoroughly document seizure events in writing or with use of electronic medical record.
- Document according to latest nomenclature for seizure types (Ex. Focal aware)

## PATIENT/FAMILY/CAREGIVER TEACHING SUPPORT

- Nurses should attend daily rounds whenever possible.
- Communication techniques: Verbal, Video, Written, Email
- Tell me how you are feeling? Provide supportive care to patient, family, and coworkers/team, if needed.
- Do you have someone you prefer to share your feelings with about this diagnosis?
- Do you have any questions at all? What can I/we do to assist you today?
- Visiting hours- open or restricted?
- Educate patients/families on common seizure triggers.
- May I show you what to do or give pointers of what to do in the event of a seizure?
- What resources are available? (Ex. Epilepsy Foundation, CDC, AES, etc.)
- Should counseling be offered?

***All Neuroscience Nursing Primer references listed on special reference page.***

- Epilepsy safety teaching – driving, water safety, fire/burn safety, etc.
- Any self-care management tools available? (Ex. Epsy app, Seizure tracker, Seizure diary, etc.)

## TOOLS/SUPPLIES

- Vital signs machine (with pulse oximetry)
- Cardiac telemetry
- Electronic medical record for documentation
- Signage for review (seizure types)
- Seizure types according to International League Against Epilepsy (ILAE)
- Algorithm for status epilepticus
- Pad side rails
- Simulation or role playing whenever available

## ADDITIONAL RESOURCES

1. <https://www.aesnet.org/clinical-care/emus>
2. <https://www.epilepsy.com>
3. <https://www.epilepsy.com/living-epilepsy/seizure-first-aid-and-safety/first-aid-seizures-stay-safe-side>
4. Classification of seizure type table: <https://www.epilepsy.com/article/2016/12/2017-revised-classification-seizures>

\* <https://www.uptodate.com/contents/image?imageKey=NEURO%2F106961>

This is not a complete list of medications. For a complete list, please speak with your pharmacist.