

WHAT IS A SEIZURE?

A **seizure** is defined as an electrical discharge of the cerebral cortex with resulting changes in function of the central nervous system. Any condition that disrupts the normal function of the central nervous system can result in a seizure. Approximately 50 million people worldwide have been diagnosed with seizure disorders.

The most common causes include space-occupying lesions of the brain, acute metabolic imbalances, medications, history of substance use disorder, ischemic events or vascular lesions, idiopathic epilepsy, infection, and head trauma.

SIGNS & SYMPTOMS

Seizures most often present with a beginning, middle, and ending stage presentation pattern. Not all parts of a seizure may be visible or identifiable. Not all persons with seizures will have symptoms as described below:

- Muscle jerking/twitching/tremors (convulsion), stiffening of the body
- Inability to swallow, drooling
- Visual auras, headaches, feelings of dread or panic
- Loss of consciousness
- Visual disturbances
- Repeated blinking of eyes, eyes may migrate to one side or look upward, staring
- Inability to speak/difficulty talking (dysphasia)
- Sudden confusion or memory loss
- Incontinence of urine or stool
- Recurring movements—chewing, lip smacking, clapping
- The **postictal** state (the period that begins when the seizure subsides and ends when the patient returns to pre-seizure baseline level of function) can last for seconds to minutes to hours and may be characterized by confusion, nausea, hypertension, headache, disorientation, or drowsiness. Seizures can include *primary (generalized) seizures* or *focal (partial) seizures*.
 - ▶ **Generalized seizures:** Seizures that include *grand mal* (seizures associated with a loss of consciousness and prolonged tonic/clonic movements) and petit mal seizures (seizure lasting 10 seconds or less with little to no confusion following). These seizures involve a large part of the brain and usually lead to loss of consciousness.

- ▶ **Focal (partial) seizures:** Localized to a specific area of the brain that is associated with correlating symptoms. Patients can experience loss of consciousness, changes in motor signs, vision impairment, and sensory changes.
- ▶ **Status epilepticus:** Continuous seizure activity without pause to allow an intervening period of normal brain activity.

INTERVENTIONS

- Identify the underlying etiology.
- In advanced illness, as culturally appropriate, discuss shifting goals of care to reduce symptom burden.
- Continue ongoing monitoring of symptoms and impact on functional status.
- Educate on seizure management plan for patients who are at risk for seizure. A seizure plan can include both nonpharmacological and pharmacological treatments.

NONPHARMACOLOGICAL INTERVENTIONS	PHARMACOLOGICAL INTERVENTIONS
<ul style="list-style-type: none"> • Model calm behaviors for the patient and family. • Educate caregivers to stay with the person and document seizure duration and presenting characteristics when able. • Turn the person on their side if vomiting occurs or when the seizure ends. • Provide a fan, cold compress, or cool damp washcloth if the patient has a fever. • DO NOT restrain or hold down the person, as this may injure the caregiver as well as the patient. • DO NOT attempt to place any objects in the patient's mouth. • If the patient is not breathing after a seizure, the family should be instructed to reposition the patient's head to open the airway. • Gently place a pillow under the head for support, if possible. • Padding siderails is a precaution for patient safety if seizures are frequent or intractable if available. 	<ul style="list-style-type: none"> • Rapid acting benzodiazepines, such as <ul style="list-style-type: none"> ◦ Lorazepam- slow IV push, oral concentrated drops, nasal gel ◦ Rectal diazepam gel ◦ Clonazepam wafers on the buccal surface • Use supplemental oxygen as needed. • Initiate antiepileptic therapies based on goals of care. • Determine potentially treatable etiologies (hypoglycemia, hyponatremia, hypercalcemia, hypoxemia, infection, alcohol and/or substance use withdrawal)

FAMILY & TEAM DISCUSSIONS

Patient and Family Education and Support

- Instruct on underlying etiology of seizure, treatment options, medications, and anticipated effects.
- Clarify the intent of treatments, anticipation of the needs of patients and their families, and involvement of caregivers in the treatment process when appropriate.
- Explore realistic goals and expectations and provide reassuring education on continued management strategies to allay fears.
- Educate on appropriate nonpharmacological strategies and safety precautions.
- Provide family instruction on administration and side effects of anti-seizure medications to be given during the seizure if prescribed.
- Increase family's awareness that the patient may be apneic during the duration of the seizure and normal respiration should resume when the seizure stops.
- Avoid seizure triggers (if known), such as sleep deprivation, excess caffeine, and hypoglycemia.
- Postictal care:
 - ▶ Explain that after a seizure, the patient can experience memory loss, sleepiness, lethargy, nausea, weakness, and headaches. These symptoms can last anywhere from minutes to hours.
 - ▶ Discourage family members from feeding the patient until they are alert and able to swallow. Caregivers should closely observe the patient for return to baseline level of orientation and function prior to encouraging oral intake.
 - ▶ If the patient does not regain consciousness after the seizure or continues to seize, notify emergency services if in accordance with the plan of care.
 - ▶ Identify when to contact the care provider and what to report—seizure lasts longer than 5 minutes, person does not return to their usual state, repeated seizures, patient has difficulty breathing.

Interprofessional Team:

Successful interventions in caring for patients with seizures benefit from multiple perspectives to treat physical, social, psychological, and spiritual aspects of care. Consider social work, psychology, counseling, or spiritual care consult for palliative/hospice support and intervention to address concerns regarding caregiver support, fear, anxiety, guilt, depression, spiritual and cultural rituals, and financial concerns.

SYMPTOM DOCUMENTATION EXAMPLE

62 yr old male with a glioblastoma on home hospice care has experienced increased frequency of seizure activity in the past 2 weeks as his tumor enlarges. The nurse is not present at the time of the observed seizure and asks the family for detailed information related to the event. She documents the following: Caregiver reports patient experienced tonic/clonic seizure while in bed. Total duration of seizure was approximately 2 minutes. Postictal lethargy was noted for 30 minutes, with patient arousable but drowsy. Able to respond verbally and move extremities post-seizure activity. No injury occurred during seizure due to side rail padding.

DESIRED NURSING OUTCOMES

- Ensure patient safety and comfort.
- Maximize functional status and quality of life for both patient and family.
- Equip the family with education and reassurance.
- Provide seizure management using nonpharmacological and pharmacological interventions.
- Promote ongoing goals of care discussion relating to disease progression and seizure emergency interventions and management.

RESOURCES

The Epilepsy Foundation <https://www.epilepsy.com/>

REFERENCES

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