

Seizures

Seizure- injury, illness or disease, which upsets the normal functions of the brain bringing about a sudden change in sensation, behavior or movement, Most common causes:

- Adults Failure to take anti-seizure medications
- Children- Fever induced (6 mos - 3 years) febrile seizure

Petite Mal seizure- characterized by a brief lapse of attention, sudden stare.
Typically occurs in children

Grand Mal seizure- characterized by unconsciousness and a generalized twitching of all the body's muscles lasting several minutes or longer

Convulsion- seizure that include uncontrolled muscular movements

Other causes

- Drug, alcohol; induced-Toxic seizures
- Brain Tumor- can occasionally cause seizures
- Congenital brain defects- birth defects
- Idiopathic- spontaneous seizure of unknown cause
- Infection-swelling/inflammation of the brain
- Metabolic- irregularities in metabolism, body chemistry
- Trauma- head injury, scaring from previous injury

Convulsive seizures may also be seen with:

- Epilepsy
- Stroke
- Hypoglycemia
- Eclampsia
- Hypoxia
- Childhood disease- measles, mumps, etc.

Epilepsy-

- Born with it or developed after surgery or accident, usually controlled well by medication as long as the patient is medication compliant. Epileptic patient are often very knowledgeable about their disorder and may refuse treatment,

Status Epilepticus- two or more seizures in 5-10 minutes with out regaining consciousness

Seizure Types

- Tonic- rigid onset-breathing may stop, incontinence
- Clonic- Violent jerking movement
- Postictal-sleepiness/unresponsive following some seizures may last 5-30 minutes

Recognizing seizures

- Cyanotic skin
- Abnormal breathing
- Possible head injury
- Loss of bowel and bladder control
- Severe muscle twitching
- Post seizure (postictal) state of unresponsiveness with deep labored respirations
- Consume oxygen in the body
 - Build up of acids in the blood stream
 - Cyanosis

Postictal state

- Once seizure stops, the patient's muscles relax and the breathing becomes deep and labored. This helps the body to balance the acidity in the blood stream
- May have hemiparalysis (weakness on one side of the body)
- Lethargy and confusion
- May be combative and or appear angry

Treatment

- Monitor ABC's
- High flow oxygen
- If patient is actively seizing move objects that pose a threat of injury to the patient
- Loosen restrictive clothing
- Recovery position
- Immobilize neck and spine if trauma suspected
- Protect the patient's modesty
- Transport

- **Tonic phase**
 - Generalized convulsive seizures may begin with myoclonic jerks or, rarely, with absences. The tonic phase begins with flexion of the trunk and elevation and abduction of the elbows. Subsequent extension of the back and neck is followed by extension of arms and legs. This can be accompanied by apnea, which is secondary to laryngeal spasm.
 - Autonomic signs are common during this phase and include increase in pulse rate and blood pressure, profuse sweating, and tracheobronchial hypersecretion.
 - Although urinary bladder pressure rises, voiding does not occur because of sphincter muscle contraction.
 - This stage lasts for 10-20 seconds.

- **Clonic phase**

- The tonic stage gives way to clonic convulsive movements, in which the tonic muscles relax intermittently, lasting for a variable period of time.
- During the clonic stage, a generalized tremor occurs at a rate of 8 tremors per second, which may slow down to about 4 tremors per second. This is because phases of atonia alternate with repeated violent flexor spasms. Each spasm is accompanied by pupillary contraction and dilation.
- The atonic periods gradually become longer until the last spasm. Voiding may occur at the end of the clonic phase as sphincter muscles relax. The atonic period lasts about 30 seconds. The patient continues to be apneic during this phase.
- The convulsion, including tonic and clonic phases, lasts for 1-2 minutes.

- **Postictal state**

- The postictal state includes a variable period of unconsciousness during which the patient becomes quiet and breathing resumes.
- The patient gradually awakens, often after a period of stupor or sleep, and often is confused, with some automatic behavior.
- Headache and muscular pain are common. The patient does not recall the seizure itself.