Epilepsy

- Epilepsy can be defined as a transitory disturbance in consciousness or in motor, sensory, or autonomic function with or without a loss of consciousness.
- It is associated with paroxysmal, uncontrolled electrical discharges in the neurons of the brain that result in the sudden, violent, involuntary contraction of a group of muscles.
- The patterns or forms of seizures vary
- Seizures occur for a variety of reasons, including hypoglycemia, infection, electrolyte imbalance, alcohol, barbiturate withdrawal, and water intoxication

Epilepsy

- Seizures are followed by a rest period of variable length, called the postictal period.
- During this period the patient usually feels groggy and acts disoriented.
- Complaints of headache and muscle aches are common.
- Usually the patient sleeps after a seizure and may experience amnesia for the event.
Epilepsy

• When recurrent, generalized seizure activity occurs at such frequency that full consciousness is not regained between seizures, it is called **status epilepticus**.

• This is a medical emergency

Assessment

• Patient's awareness of the disorder and any precipitating factors.

• **Aura** is defined as a sensation, as of light or warmth, that may precede an attack of migraine or an epileptic seizure

• The character of the seizure

Clinical Manifestations

• Seizures can be classified according to the varied features of the attack

• Types:
  – Generalized tonic-clonic (grand mal)
  – absence (petit mal)
  – psychomotor (automatisms)
  – jacksonian (focal)
  – miscellaneous (myoclonic and akinetic) seizures
Diagnostic Test

• The most common test used to evaluate seizures is the EEG

Medical Management

• Treatment of patients with a seizure disorder almost always includes the use of one or more antiseizure drugs.

• Therapy is aimed at preventing seizures because cure is not possible.

• Failure to take the prescribed medication or an adequate dose is often the cause of treatment failure.

• Blood levels may be checked to provide an accurate check on the therapeutic level of the medications taken.

Activities of daily living.

• Activities such as driving a car, operating machinery, or swimming should be avoided.

• Maintaining adequate rest and good nutrition is also important.

• Alcohol use should be avoided.
Nursing Interventions and Patient Teaching

Care during a seizure

- The primary goals are protection from aspiration and injury and observation and recording of the seizure activity.
- Support and protect the head
- The patient should never be left alone.
- Turn the head to the side to maintain the airway.

Care during a seizure

- clothing may be loosened around the neck
- No effort should be made to restrain the patient during the seizure.
- Padded side rails.
- Maintain patent airway.
Medications

- Phenytoin sodium (Dilantin)
  - Generalized tonic-clonic, focal, psychomotor
  - Ataxia, vomiting, nystagmus, drowsiness, rash, fever, gum hypertrophy, lymphadenopathy

- Phenobarbital (Luminal)
  - Generalized tonic-clonic, focal, psychomotor
  - Drowsiness, rash

- Primidone (Mysoline)
  - Generalized tonic-clonic, focal, psychomotor
  - Drowsiness, ataxia

- Ethosuximide (Zarontin)
  - Absence seizures, psychomotor, myoclonic, akinetic
  - Drowsiness, nausea, agranulocytosis

- Trimethadione (Tridione)
  - Absence seizures
  - Rash, photophobia, agranulocytosis, nephrosis

- Diazepam (Valium)
  - Generalized tonic-clonic and status epilepticus, mixed
  - Drowsiness, ataxia

- Carbamazepine (Tegretol)
  - Generalized tonic-clonic, psychomotor
  - Rash, drowsiness, ataxia

- Valproic acid (Depakene)
  - Absence seizures
  - Nausea, vomiting, indigestion, sedation, emotional disturbance, weakness, altered blood coagulation

- Clonazepam (Clonopin)
  - Absence seizures, akinetic, myoclonic, generalized tonic-clonic seizures
  - Drowsiness, ataxia, hypersensitivity, respiratory depression

- Mephenytoin (Mesantoin)
  - Tonic-clonic, focal, psychomotor
  - Ataxia, nystagmus, pancytopenia, rash

- Gabapentin (Neurontin)
  - Focal, generalized tonic-clonic in adults
  - Somnolence, fatigue, ataxia, dizziness, gastrointestinal upset

- Lamotrigine (Lamictal)
  - Focal, generalized tonic-clonic in adults
  - Rash, dizziness, tremor, ataxia, diplopia, headache, gastrointestinal upset, Stevens-Johnson syndrome (rare)
Medications

- Fosphenytoin sodium (Cerebyx)
  - Short-term parenteral (IV or IM) in acute generalized tonic-clonic seizures; used for status epilepticus and for preventing and treating seizures occurring during neurosurgery
  - Dizziness, paresthesia, tinnitus, pruritus, headache, somnolence, ataxia, muscular incoordination, nystagmus, double vision, slurred speech, nausea, vomiting, and hypotension

Medications

- Gabapentin (Neurontin), topiramate (Topamax), tiagabine (Gabitril), levetiracetam (Keppra), zonisamide (Zonegran)
  - Indicated for partial seizures and for secondary generalized seizures. These drugs are currently used as adjunctive therapy.

- Neurontin: somnolence, dizziness, ataxia, nystagmus, fatigue
- Topamax: somnolence, dizziness, ataxia, speech disorders and related speech problems, difficulty with memory, paresthesia, diplopia
- Gabitril: dizziness/lightheadedness, asthenia/lack of energy, somnolence, nausea, nervousness, irritability, tremor, thinking abnormally/difficulty with concentration or attention