Seizures

Signs and Symptoms

- Altered level of consciousness
- Convulsions
- Fever
- Urinary incontinence

History

- Known seizure disorder or first time seizure
- Medication non-compliance
- Diabetic
- Pregnancy
- Alcohol/Drug abuse
- Trauma

Differential

- Hypoglycemia
- Drug overdose or withdrawal
- Head injury
- Meningitis
- Eclampsia
- Fever
- Hypoxia
- Metabolic/electrolyte abnormalities
- Hyperthermia/Heat stroke
- Brain tumor
- CVA
- Syncopal episode with transient convulsions
- Initial phase of cardiac arrest

WARNINGS

! Magnesium may cause hypotension and decreased respiratory drive. **Use with caution** at higher doses.

Care: Adults and Pediatrics

B E I P

Follow general directive #3, Orders for all Patients.

B E I P

Assess and manage ventilatory status. Protect from injury. Give high flow O_2 during seizure. Check blood glucose. If hypoglycemia suspected, refer to **Non-cardiac Emergencies Protocol #5.**

If the patient has an altered level of consciousness (unrelated to a diabetic emergency):

E I P

Establish an IV access, Monitor SpO_2 (and $ETCO_2$ if authorized).

E I P

For active generalized (Grand Mal) seizures, while closely monitoring for respiratory depression, administer: Midazolam (**Versed**®) **0.05-0.1mg/kg** up to 2.5 mg SLOW IV (over 2 minutes), titrating to termination of seizure activity. Be prepared to ventilate the patient.

If unable to establish IV, administer Midazolam (**Versed**®) **0.2mg/kg** up to 5mg IM

E I P

For recurring seizures or status epilepticus, may repeat IV or IM dose once.

(B) E I P

If 3mos to 6 yrs old with presentation consistent with febrile seizures but now awake, not seizing Administer **15mg/kg** pediatric acetaminophen if not already given within 4 hours.

(I) (P)

For eclamptic patients, administer **Magnesium Sulfate** 5 grams IV over 10 min. or as designated by **Medical Control Physician**.

Reassess and monitor patient as necessary.

Pearls

- Goal is to maintain the patient's airway, prevent injury, identify and treat the underlying cause and suppress the seizure activity.
- ABC's and blood glucose management are priorities.
- Postictal patient may present as combative, confused, amnesic unable to remember the event or their medical history.
- Focal seizures with no loss of consciousness do not require treatment with **Midazolam** (**Versed**®) unless they progress to Grand Mal seizures.
- If suspicion of Opiate overdose, refer to Non-cardiac Emergencies Protocol #10.
- Be prepared to protect airway and assist ventilations especially if Midazolam (**Versed**®) is used.
- 10mg/2ml concentration **Midazolam** (**Versed®**) is preferred for intramuscular use due to volume.
- Consider trauma as cause of seizure or secondary to injury while seizing and protect c-spine as per Trauma Protocol #4.
- Patients receiving Magnesium require cardiac monitor.
- For adults, when administering **Magnesium Sulfate** mix 5 grams in 250 ml **Normal Saline** to run wide open using a microdrop (60gtts/ml) set over 10 min.
- A witnessed cardiac arrest can initially look like seizure activity.

Performance Indicators

- Proper focus and management of airway, breathing.
- Seizure activity suppressed.
- Blood sugar documented.