



Seizure



History

- Reported / witnessed seizure activity
- Previous seizure history
- Medical alert tag information
- Seizure medications
- History of trauma
- History of diabetes
- History of pregnancy
- Time of seizure onset
- Document number of seizures
- Alcohol use, abuse or abrupt cessation
- Fever

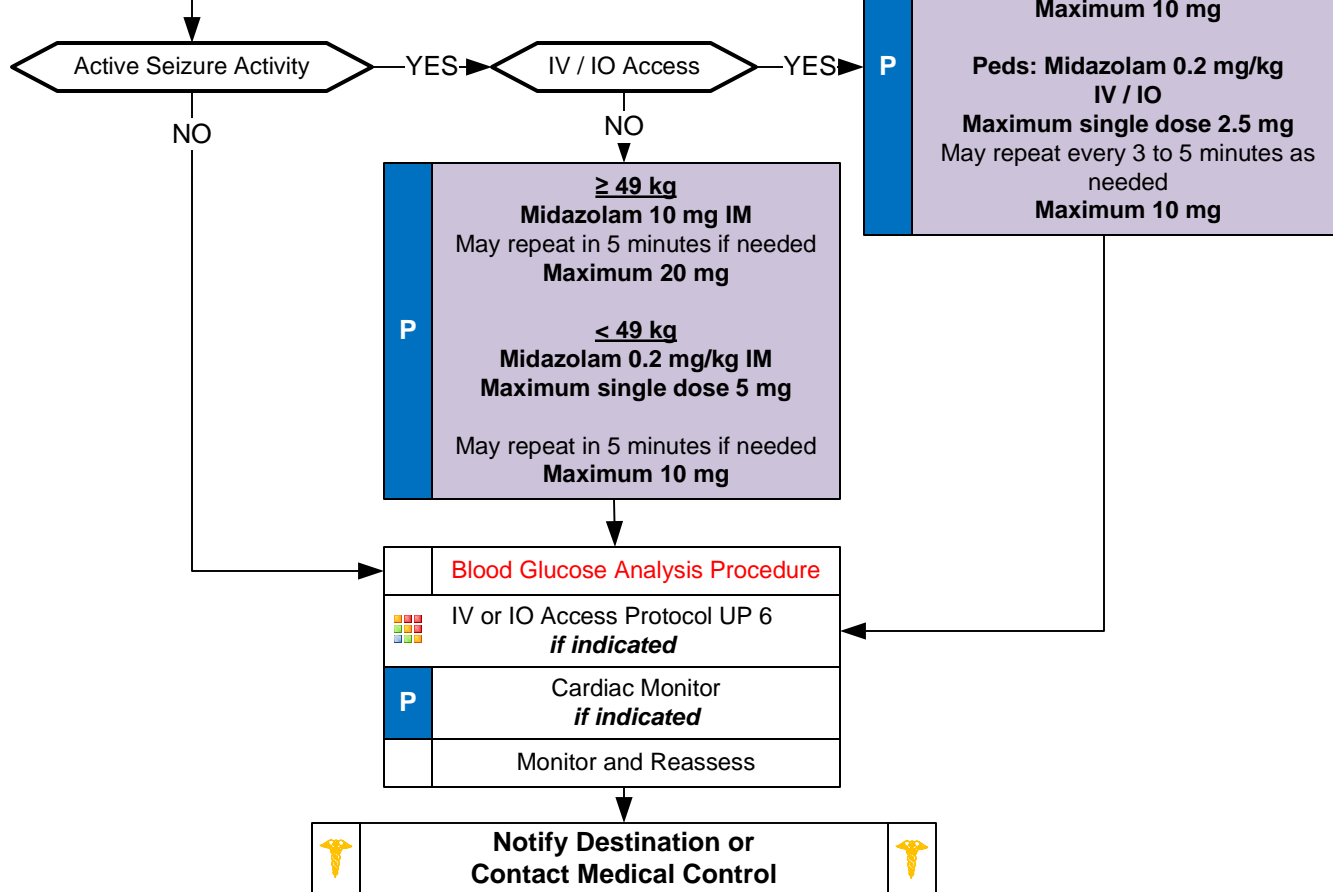
Signs and Symptoms

- Decreased mental status
- Sleepiness
- Incontinence
- Observed seizure activity
- Evidence of trauma
- Unconscious

Differential

- CNS (Head) trauma
- Tumor
- Metabolic, Hepatic, or Renal failure
- Hypoxia
- Electrolyte abnormality (Na, Ca, Mg)
- Drugs, Medications, Non-compliance
- Infection / Fever
- Alcohol withdrawal
- Eclampsia
- Stroke
- Hyperthermia
- Hypoglycemia

Age Appropriate Airway Protocol(s) AR 1, 2, 3, 5, 6 as indicated	
Altered Mental Status Protocol UP 4 if indicated	
Childbirth/ Labor Protocol AO 1 Obstetrical Emergency Protocol AO 3 if indicated	
Behavioral Protocol UP 17, 18, 19 if indicated	
	Loosen any constrictive clothing Protect patient





Seizure



Signs and Symptoms:

- LOC or AMS/ behavioral changes such as bizarre behavior that often times has a repetitive or robotic-type movements.
- Head deviation or fixed eye gazes with AMS.
- Convulsions or tremors.
- Incontinence.
- Subjective changes in perception such as taste, smell or fear.

Classification:

Generalized:

1. Tonic-Clonic
2. Absence
3. Myoclonic

Neuronal discharges occur bilaterally in the brain with LOC noted.
Tonic movements: Flexion / extension of head/ trunk/ extremities.
Clonic movements: Rhythmic motor jerking of extremities or neck.

Partial:

1. Simple partial

Begin in focal area of brain. Patient may remain conscious.
May have aura which is a perception of flashing lights, noises or visual disturbances.

2. Complex partial

Remain awake but has an alteration in consciousness. May not recall the event.
Lip smacking, mumbling or continued rhythmic movements of hands are noted.
Typically are post-ictal.

3. Secondarily generalized

Loss of consciousness with generalized tonic-clonic movements

Partial-complex:

Begin in focal area of brain. Patient may remain conscious.
May have aura which is a perception of flashing lights, noises or visual disturbances.

Pearls

- **Recommended Exam: Mental Status, HEENT, Heart, Lungs, Extremities, Neuro**
- **Items in Red Text are key performance measures used to evaluate protocol compliance and care.**
- **Brief seizure-like activity can be seen following ventricular fibrillation or ventricular tachycardia associated cardiac arrest.**
- **Status epilepticus is defined by seizure activity lasting > 5 minutes or multiple seizures without return to baseline.**
- **Most seizure activity is brief, lasting only 1 – 2 minutes, and is associated with transient hypoventilation.**
- **Be prepared for airway problems and continued seizures.**
- **Seizure activity may be a marker of closed head injury, especially in the very young, examine for trauma.**
- **Adult:**
 - Midazolam 10 mg IM is effective in termination of seizures.
 - Do not delay IM administration with difficult IV or IO access. IM Preferred over IO.
- **Pediatrics:**
 - Midazolam 0.2 mg/kg (Maximum 5 mg) IM is effective in termination of seizures.
 - Do not delay IM administration with difficult IV or IO access. IM Preferred over IO.
- **Do not delay administration of anti-epileptic drugs to check for blood glucose.**
- **Grand mal seizures (generalized)** are associated with loss of consciousness, incontinence, and tongue trauma.
- **Focal seizures** affect only a part of the body and are not usually associated with a loss of consciousness, but can propagate to generalized seizures with loss of consciousness.
- Be prepared to assist ventilations especially if diazepam or midazolam is used.
- For any seizure in a pregnant patient, follow the AO 3 Obstetrical Emergencies Protocol.
- Midazolam (Versed) is shown to be as effective with IM route as Lorazepam (Ativan) is via the IV or IO route.
- Lorazepam (Ativan) is not as effective when administered IM. IV or IO route is preferred.
- Diazepam (Valium) is not effective when administered IM. Give IV or Rectally.
- **Optimal conditions for patients refusing transport following a seizure:**

Known history of seizures/epilepsy	Seizure not associated with drugs or alcohol
Full recovery to baseline mental status	Only 1 seizure episode in the past hour
No injuries requiring treatment or evaluation	Seizure not associated with pregnancy
Adequate supervision	