



Portage County EMS Patient Care Guidelines



Seizures

Note:

- Whenever seizures occur, look for an underlying cause and treat it. This is especially important if there is no previous history of epilepsy.
- If the patient is pregnant or recently (1 – 2 weeks) post-partum, refer to the *Obstetrical Emergencies Guidelines*.
- Status epilepticus is defined as a seizure lasting longer than 5 minutes, or recurring seizures without a return to baseline neurological status. This is a life-threatening emergency!
- Pseudo-seizures look like seizures, but are actually a behavioral disturbance characterized by intermittent spells of non-epileptic convulsions that are usually involuntary. They are frequently misdiagnosed as epilepsy and often treated with anti-epilepsy drugs for a long time, before the true nature of the attacks is revealed.

Priorities	Assessment Findings
Chief Complaint	"Seizure" "Unresponsive" "Convulsions"
LOPQRST	How long did it last? Description of seizure activity. History of seizures? Possible contributing factors[1]
AS/PN	Unresponsive, postictal, incontinent, tongue biting?
AMPL	History of seizures, Seizure medications?
Initial Exam	ABC's and correct any immediate life threats
Detailed Focused Exam	Scene size-up: Is there a significant mechanism of injury? Fall? General Appearance: Pt. currently seizing? Unresponsive? Postictal? Evidence of trauma? Vitals: BP, HR, RR, Temp, SpO ₂ , ETCO ₂ Skin: Flushed, warm Neuro: ALOC?, Focal deficits (CVA)
Data	Blood Glucose, SpO ₂ , ETCO ₂
Goals of Therapy	Stop the seizure Treat the underline cause Monitor and maintain airway.
Monitoring	Vitals, cardiac monitoring, SpO ₂ , neurological checks

EMERGENCY MEDICAL RESPONDER/ EMERGENCY MEDICAL TECHNICIAN

- Routine medical care
- Consider nasopharyngeal airway if the patient is unable to maintain a patent airway
- Protect the patient with ongoing seizures from harming themselves by clearing away potential hazards and placing a pillow or padding under the head.
- Administer oxygen 2 – 4 LPM per nasal cannula if SpO₂ < 94%. Increase flow and consider non-rebreather mask to keep SpO₂ > 94%
- Initiate spinal immobilization if the patient sustained a fall or any other trauma to the head, neck or back
- Obtain blood glucose. If < 60 mg/dL refer to *Altered Level of Consciousness Guidelines*

Give a status report to the ambulance crew by radio ASAP.

ADVANCED EMERGENCY MEDICAL TECHNICIAN

- IV normal saline @ KVO

Contact Medical Control for the following:

- Additional fluid orders

INTERMEDIATE

- If the patient is actively seizing, give **midazolam** intranasal (IN) via mucosal atomizer (5mg/1mL solution).
 - >50 kg: 10 mg IN
 - <50 kg: 0.2 mg/kg IN
- If IN administration is not possible, consider **midazolam** 1 – 5 mg (PEDS 0.1 mg/kg) IM[3]
- Once an IV has been established, consider **midazolam** 1 – 5 mg (PEDS 0.1 mg/kg) IV/IO for continued seizures
- Titrate IV dose to effect. May repeat once in 5 minutes. Maximum total dose 10 mg

Contact Medical Control for the following:

- Additional midazolam doses
- Persistent seizures

PARAMEDIC

- **DiazePAM** 0.15 mg per kg IV
 - Maximum single dose: 10 mg
 - Administer at a rate of less than 5 mg per minutes
 - May repeat in 5 minutes

Additional Alternatives (Medications shortage, special situations)

- **LORazepam** 0.05 mg- 0.1 mg per kg (Max dose of 2 mg) slow IV/ IO push every 3-5 minutes or IM every ten minutes until cessation of seizures.
- **DiazePAM rectal gel** (reference for administration of patient's own medications)
 - 2-5 years: 0.5 mg per kg per rectum once
 - 6-11 years: 0.3 mg per mg per rectum once
 - 12 + years: 0.2 mg per kg per rectum once
 - All: maximum single dose: 20 mg

Contact Medical Control for the following:

- Persistent seizures (additional doses of lorazepam or midazolam)
- There appears to be a need for RSI/RSA[2]. Note: Once the patient is paralyzed, muscular convulsions will cease, but occult CNS seizure activity may persist. Therefore, you must repeat doses of midazolam or lorazepam every 5 minutes under the assumption of ongoing seizure activity.

FOOTNOTES:

[1] The causes of seizures include: epilepsy, eclampsia, hypoglycemia, hypoxia, drug or alcohol withdrawal, drug overdose, stroke and head trauma.

[2] RSI/RSA requires 2 qualified paramedics at the patient's side

[3] In the event of a midazolam medication shortage:

- a. Lorazepam 1 – 2 mg adults (PEDS 0.1 mg/kg) IM/IN/IV/IO or
- b. Diazepam 1 – 10 mg adults (PEDS 0.1 mg/kg) IM/IV/IO.

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