

**REGION I EMERGENCY MEDICAL SERVICES
STANDING MEDICAL ORDERS
EMT – Basic**

SMO: Pediatric Seizures / Status Epilepticus

Overview: Seizure activity is a temporary alteration in behavior or consciousness caused by an abnormal electrical activity in the brain. Status epilepticus is defined as continuous seizure activity lasting > 30 minutes OR multiple seizures without regaining consciousness between seizures. Generalized (tonic-clonic) seizure usually involves the entire body and usual loss of consciousness as well as bowel and/or bladder incontinence and oral trauma such as biting of the tongue. Partial (focal) seizure usually involves one part of the body or a particular sense such as taste or smell. Patients usually do not lose consciousness and can maintain a normal mental status but may lead to a generalized seizure.

INFORMATION NEEDED

- Medical history: psychiatric and medical problems including previous seizures, alcohol use, medications, allergies; antecedent symptoms such as headache, trauma, fever, history of stiff neck, history of loss of motor sensory or speech.
- Onset, duration, description of seizure.
- Consider stroke as a possible etiology.
- Consider drug overdose (e.g. tricyclic antidepressants or cocaine).

OBJECTIVE FINDINGS

- Surroundings: syringes, medications, blood glucose monitoring supplies, insulin, etc.
- LOC and neurological assessment
- Bowel and bladder incontinence
- Oral trauma such as biting of tongue
- Signs of trauma: witnessed onset?
- History or description of seizure from bystanders or family
- Pupil size and reactivity
- Needle tracks
- Medical information tags, bracelets or medallions
- Blood glucose level

TREATMENT

- RMC
- Assure patency of airway, be prepared with suction
- Oxygen by blow-by or NRB mask at 100% if tolerated; if indicated, assist ventilations with BVM
- C-spine immobilization if any suspicion of head/ spinal trauma
- Restrain only as necessary for patient and provider protection
- Institute cooling measures as indicated by history/ assessment. Place moistened towels in axilla and groin to reduce fever. Avoid shivering response.
- Comfort and reassure patient/ family if conscious
- Obtain blood glucose level
- Transport in left lateral recumbent position if no C-spine injury is suspected

7/04

Reviewed:

Revised:

EMS/ Region1 SMOs

Documentation of adherence to protocol:

- ___ Airway patency/ interventions.
- ___ Administration of O2.
- ___ If suspicions of trauma-- immobilization performed.
- ___ Cooling measures instituted.
- ___ Blood glucose level check performed/ results.

PRECAUTIONS AND COMMENTS

- Always consider treatable etiologies (fever, hypoglycemia, hypoxia, narcotic overdose)
- Be attentive for excessive oral secretions, vomiting, and inadequate tidal volume.
- Avoid shivering response when instituting cooling measures. DO NOT place in ice bath, rub with alcohol.
- Treatment of seizures should be based on the severity and length of the seizure activity
- Focal seizures without mental status changes may not require prehospital pharmacological intervention.

7/04

Reviewed:

Revised:

EMS/ Region1 SMOs

**REGION I EMERGENCY MEDICAL SERVICES
STANDING MEDICAL ORDERS
EMT – Paramedic**

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- Comfort and reassure patient/ family if conscious
- Obtain blood glucose level
- Transport in left lateral recumbent position if no C-spine injury is suspected
- Obtain IV/ IO access.
- Obtain blood glucose level. If glucose level < **60 for child; less than 40 for newborn** administer **Oral Glucose** if patient conscious OR if altered mental status and concern of inadequate gag reflex **Glucagon 0.1 mg/kg IM (max dose 1 mg)** OR if blood glucose <60 and IV/ IO access established, administer **Dextrose**
 - Child greater than 2 years: **Dextrose 50%, give 1 ml/ kg**
 - Child 1 month to 2 years: **Dextrose 25%, give 2 ml/ kg**
 - Newborn (less than 1 month): **Dextrose 10%, give 1-2 ml/kg**
- Transport in left lateral recumbent position if no C-spine injury is suspected
- If opiate overdose is a possibility, give **Narcan (naloxone) 0.01mg/kg IVP, IO, or IM**
Additional doses may be needed—contact Medical Control for additional doses.
- For generalized convulsive (tonic-clonic) seizure,

Valium (diazepam) IVP, IO, slow (over 1-2 minutes) or IM:

- 1 month to 5 years of age give **0.2mg – 0.5 mg** (call Medical Control for exact dosing)
- over 5 years of age give **1.0 mg**

OR

Versed (midazolam) 0.1 mg/ kg IVP, IO, slowly (over 1-2 minutes) or IM. If needed, contact Medical Control for subsequent doses.

Documentation of adherence to protocol:

- Airway patency/ interventions
- Administration of O2
- If suspicions of trauma-- immobilization performed
- Blood glucose level check performed/ results/ administration of Oral Glucose/Glucagon/ Dextrose.

Medical Control Contact Criteria

- Subsequent doses of medications if status epilepticus continues after administration of initial doses of medications.

7/04

Reviewed:

Revised:

EMS/ Region1 SMOs

PRECAUTIONS AND COMMENTS

- Anticonvulsant agents can cause respiratory depression or respiratory arrest. Monitor closely and be prepared to support ventilations and oxygenation.
- Always consider treatable etiologies (fever, hypoglycemia, hypoxia, narcotic overdose)
- Be attentive for excessive oral secretions, vomiting, and inadequate tidal volume.
- Avoid shivering response when instituting cooling measures. DO NOT place in ice bath, rub with alcohol.
- Treatment of seizures should be based on the severity and length of the seizure activity.
- **Blood glucose:** consider **dextrose** for any child with an altered level of consciousness and blood glucose test of less than 80; and consider not treating a normal child with blood glucose above 60 (Treat the patient symptoms, not the numbers).
 - **D25W** is half strength D50W. Mix 1ml of D50W with each 1 ml of NS.
 - **D10W** is made by mixing 1ml of D50W with 4 ml of NS.
- Consider suspected child maltreatment and/or occult head trauma in patients with seizures and utilize pediatric trauma treatment protocols.