Indiana Emergency Medical Services for Children – Pediatric Seizures

MODEL PROTOCOL

ALS Care Provider

Pediatric Seizures – A clinical state characterized by abnormal, sustained electrical discharges from a cluster of cerebral nerve cells.

Clinical findings – In infants can be subtle consisting of abnormal gaze, sucking motions, or bicycling motion of the legs. In older children seizures can consist of repetitive muscular contractions and unresponsiveness. Seizures may be associated with fever, hypoxia, hypoglycemia, infection, ingestion, CNS bleeding, metabolic disorders, and congenital neurologic problems.

Complete Assessment

Assess airway | Assess neurological status | Assess glucose level | Assess temperature | Assess injury

Initial Interventions

Protect from injury | Vomiting and aspiration precautions | Do NOT use a bite block

Glucose < 60mg/dl or < 40mg/dl (neonate)
Refer to hypoglycemia protocol

Establish IV/IO access
Administer Dextrose (0.5 g/kg):

- > 12 yr D50% 1 ml/kg IV/IO
- 1 – 12 yr D25% 2 ml/kg IV/IO
- <1 yr D10% 5 ml/kg IV/IO

If no IV access administer glucagon:

- > 8 yrs 1mg IM
- < 8 yrs 0.5mg IM

Glucose > 60mg/dl

Drug administration for seizure lasting **more than 5 minutes**.
May repeat dose x 1 if seizure not aborted 5-10 minutes after initial dose. Further dosing contact medical control.

Midazolam – Drug of choice:

- 0.2mg/kg Intranasal or Buccal Administration. Maximum single dose 5mg if <50kg; 10mg if >50kg
- 0.1mg/kg IV/ IO/IM. Maximum single dose 4mg.

Lorazepam:

- 0.1mg/kg IV/IO/IM. Max single dose 2 mg.

Diazepam:

- 0.2 mg/kg IV/IO over 2-3 minutes. Maximum single dose 5mg if <5rs; 10mg if > 5yrs.
- 0.5 mg/kg PR Max single dose 20 mg. If parents have gel formulation use per medical direction.

All 3 benzodiazepines are appropriate options. However, studies have shown both midazolam and lorazapam to be safer and more effective than diazepam.

Patient Considerations

Have airway equipment available. Both status epilepticus and administration of benzodiazepines may precipitate respiratory distress/failure.

See pediatric respiratory distress/failure protocols.