**Status Epilepticus** or *(actively seizing* in PED)? (atraumatic)

**TIME IS BRAIN!**

Resus Bed
Immediate IV/IO Access
ABCs
**Dextrose**
Exposure
Oxygen
Cardiac Monitor w/ end tidal CO2
Status Epilepticus Order Set in EPIC

**Time is Brain:** For every minute from onset to ED arrival, 5% increase in status lasting longer than 60 minutes. Prehospital patients treated with IM midaz more likely to stop seizing by ED arrival than IV versed:


**Dextrose:** Hypoglycemia = dextrose < 60. Treatment = 5cc/kg D10W

**Benzodiazepine:**
IV Access: Ativan 0.1 mg/kg, max 4mg
NO IV Access: Midaz 0.2 mg/kg; max 10mg

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**0 minutes**

1st line therapy: **Benzodiazepine**
Give 1st dose ASAP*
At SAME time, draw up 2nd dose
Repeat in 5 minutes if still seizing
If giving second dose, prepare 2nd line therapy**

*Count prehospital benzos
**Additional benzos beyond #2 unlikely to achieve control

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**5 minutes**

2nd line therapy next page
10 minutes

2nd line therapy (IV): Fosphenytoin or Keppra
May also consider Phenobarbital (neonates/toxins), Depakote (caution for potentially pregnant females)
Lab Evaluation & Neuroimaging

20 minutes

AIRWAY CONTROL MAY BE NECESSARY

3rd line therapy (IV): Choose different agent from 2nd line options. (If < 2 years consider pyridoxine deficiency (pyridoxine 100mg IV); also consider toxin/antidote, INH ingestion)

40 minutes

AIRWAY CONTROL LIKELY NEEDED

Refractory Status: Pharmacologic coma; Continuous EEG

60 minutes

AIRWAY CONTROL NEEDED

Disposition: Contact Pediatric Intensivist

References

Fosphenytoin: 20 mg PE/kg, max 1g PE, run @ 3mg PE/kg/min. Side effects: arrhythmias, may worsen seizures from toxins

Keppra: 50 mg/kg, max 3g. Load over 10 min

Phenobarbital: 20 mg/kg, max rate 2 mg/kg/min. Causes respiratory depression.

Depakote: 20 mg/kg. May repeat x 1. Max rate 3 mg/kg/min

Lab Evaluation: Consider CBC, CMP, Mg, Phos, Stool Cx (Shigella, Salmonella, Rotavirus), Blood Cx, UA/UCx, LP studies (up to 12% CNS infection), AED level (if applicable), ABG/VBG

If hyponatremic: 3-5cc/kg 3% saline

If hypocalcemic: 100mg/kg CaGluc, max 3g

Neuroimaging: Head CT (preferred – up to 8% with CNS lesions), consider MRI, eval stability for emergent imaging. https://www.ncbi.nlm.nih.gov/pubmed/25313971

Airway Control: Pros and cons for neuroprotective intubation. Consider atropine (if < 12 months, will lose pupil exam), AVOID ketamine (lowers seizure threshold). If using long-acting paralytic (rocuronium, vecuronium) need continuous EEG to evaluate for seizure activity.

Pharmacologic Coma: Midaz infusion: 0.2 mg/kg load, then 0.01-0.4 mg/kg/hr. Pentobarb infusion: 10 mg/kg load over 1 hr, then 1-5 mg/kg/hr

References

Continuous EEG: After 60 minutes most cases of status epileptics are non-convulsive