

References

Status Epilepticus: Seizure > 5 minutes, or any two seizures between which patient fails to retain consciousness

Actively Seizing: Signs:
Jerking/Twitching, stiffening, staring off, biting tongue, unresponsive, rhythmic lip smacking, mumbled/slurred speech, eye deviation, amnesia, glassy eyes.
SUBCLINICAL: Elevated HR and/or BP, breathing changes

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:

<https://www.ncbi.nlm.nih.gov/pubmed/21967361>

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

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

Rapid administration of medication is key to stopping seizure!

0 minutes

5 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

2nd line therapy next page

References

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

Kepra: 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.

10 minutes

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

20 minutes

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

Refractory Status: **Pharmacologic coma**; **Continuous EEG**

60 minutes

Disposition: Contact Pediatric Intensivist

AIRWAY CONTROL MAY BE NECESSARY

AIRWAY CONTROL LIKELY NEEDED

AIRWAY CONTROL NEEDED

References

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

Expert Guidelines: Neurocritical Care Status Epilepticus Guidelines: <https://www.ncbi.nlm.nih.gov/pubmed/22528274>