

STATUS EPILEPTICUS



Status epilepticus (SE) is a medical emergency that is associated with significant morbidity and mortality.

TYPES OF STATUS EPILEPTICUS				
CONVULSIVE STATUS	NON-CONVULSIVE STATUS	FOCAL STATUS	ABSENCE STATUS	
≥ 5 minutes of continuous convulsive seizure OR ≥ 2 discrete seizures without return to baseline OR repeated seizures for ≥ 30 minutes.	≥ 10 minutes of continuous seizure OR ≥ 30 total minutes of ictal EEG activity in any given hour. These patients are at risk for convulsive status.	Focal epileptic seizure that lasts ≥ 30 minutes OR repeated focal epileptic seizures (≥ 30 minutes) with incomplete recovery between seizures.	Prolonged, generalized absence seizure that usually last for hours to days . Cardinal symptom is altered level of consciousness.	

Convulsive status is the most common type of status epilepticus (SE). > 50% of SE episodes occur in children with no prior seizure history.

COMMON ETIOLOGIES OF STATUS EPILEPTICUS				
ACUTE SYMPTOMATIC (17-52%)	REMOTE (16-39%)	OTHER		
 CNS infection Metabolic (hypoglycemia, hyperglycemia, hyponatremia, hypocalcemia) Stroke Hemorrhage Non-compliance with AEDs Overdose Toxins 	 Progressive neurodegenerative disorders Cerebral migrational disorders Perinatal hypoxic-ischemic encephalopathy Cerebral dysgenesis 	 Epilepsy Idiopathic (5-19%) Prolonged febrile convulsions (23-30%) Trauma 		

HISTORY

- Seizure history: pre-ictal, ictal, and post-ictal phases. Ask about duration, focal symptoms, provoking events, and use of anti-convulsant medications.
- Past medical history: previous seizures or history of epilepsy or other neurological disorders.
- Family history: seizures or epilepsy.
- Illness symptoms: fever, nausea, vomiting, diarrhea, rash.
- Trauma, accidental and nonaccidental injury
- Medications (AED)
- **Toxins**

st Line Therapy - 10

2nd Line Therapy

35-45 minutes

20 minutes

Seizure

stops

Monitor;

follow-up

investigations

PHYSICAL EXAM

- ABCs, vitals, level of consciousness, GCS
- Rule out CNS infections
- General physical exam: source of infection (eg: otitis media, upper respiratory tract, lungs, GI tract, urinary tract, or sepsis).
- Neurological exam
- Indications of toxidrome

INVESTIGATIONS

- Glucose
- **CBC** with differential
- Electrolytes
- Ca2+, Mg2+, P
- Liver function tests
- Toxicology screen
- Anticonvulsant level
- Electroencephalogram (EEG)
- Head CT or MRI
- Urine, blood, CSF cultures

MANAGEMENT OF STATUS EPILEPTICUS IN HOSPITAL

(6) GOAL: stop the seizure and prevent brain injury. Then determine the underlying cause. **AIRWAY** support **CIRCULATION** – BP, pulse BREATHING - assess breathing, Establish IV ACCESS minutes 100% O₂, monitor O₂ saturation Rapid GLUCOSE test

Position the child on their side to prevent aspiration.

NO IV ACCESS Lorazepam BUC or PR; Midazolam BUC, IN, or IM; Diazepam PR

If still seizing after 5 minutes

Repeat x1 within 5 minutes or switch to IV route Repeat x1 within 5 minutes

IV ESTABLISHED

Lorazepam IV; Midazolam IV;

Diazepam IV

Monitor; follow-up investigations

Seizure

Monitor;

follow-up investigations

stops

after 10 minutes 2nd line treatment options: Phenytoin IV, IO; Fosphenytoin IV, IM; Phenobarbital IV; Valproic acid IV; Levetiracetam IV

If still seizing after 5 minutes: use phenobarbital if fosphenytoin/phenytoin used OR use fosphenytoin/phenytoin if phenobarbital already used.

If still seizing

YES Seizure stops within 10 minutes?

NO REFRACTORY STATUS EPILEPTICUS: unresponsive to 2 different anticonvulsant medications (eg: benzodiazepine and phenytoin)

Consult PICU and Peds Neurology teams for consideration of rapid sequence intubation and midazolam continuous infusion. Monitor ABCs continuously.

Note: this algorithm applies only to infants and children. Management differs for neonates.