Management of Convulsive Status Epilepticus in Infants and Children

Status epilepticus is defined as a seizure that lasts for > 30 minutes or recurrent seizures without full recovery between seizures for > 30 minutes. A child who has been convulsing for > 5 minutes should be treated as for status epilepticus.

**Manage ABCs**
- Cardiac monitor, oximeter
- Establish IV access
- Place in the recovery position

**Immediate Blood Tests**
- CBC, electrolytes & glucose
- Glucometer
- Measure blood level if on phenobarbital, phenytoin, carbamazepine or valproic acid

**Attempt IV**
- IV lorazepam 0.1 mg/kg over ½ - 1 min (max 4 mg)
- OR
- IV diazepam 0.3 mg/kg over 2 mins (max 5 mg in infants and 10 mg in child)
- OR
- IV Midazolam 0.1 mg/kg over 2-3 minutes (max 8 mg)
- Benzodiazepine can be repeated once after 5 mins

**Rapid IV Access obtained?**
- Yes
- No

**No**
- Buccal midazolam 0.2 mg/kg (max 10 mg)
- OR
- Rectal diazepam 0.5 mg/kg (max 10 mg)
- Benzodiazepine can be repeated once after 5 mins

**Yes**
- Insert intraosseous needle if seizure is not stopped with rectal benzodiazepine
- Is child on phenytoin?

**No**
- IV phenobarbital 20 mg/kg over 20 mins
- OR
- IV phenytoin 10 mg/kg in NS over 20 mins. (max 750 mg)
- Give phenytoin or phenobarbital after the first dose of benzodiazepine unless febrile and the seizure has stopped

**Yes**
- IV/IO phenytoin 20 mg/kg in NS over 20 mins (max 1500 mg)
- Give phenytoin after the first dose of benzodiazepine unless febrile and the seizure continues

**If IV/IO access not available or tenuous:**
- IM Fosphenytoin 20 mg phenytoin equivalents (PE)/kg (max 1000 mg PE)

**Seizure stopped?**
- Yes
- Admit to hospital, investigate and treat potential causes of status epilepticus.
- Notes: Admit to ICU / call Anesthetist
- Further Management After Cessation of Seizures:
  - Obtain further history: Recent trauma, infection, ingestion, drug history, seizure history
  - Further investigations:
    - Blood culture
    - Blood gas
    - Clotting studies, liver enzymes
    - Lumbar puncture (should be deferred until cessation of clinical seizure)
    - Imaging (CT head)
    - In selected patients: Plasma: ammonia, lactate, amino acids
    - Urine: organic acids, toxicology
  - Initiate appropriate therapy as indicated:
    - Empiric anti-meningitic doses of IV antibiotics and Acyclovir (in febrile patient without identified etiology)
    - Appropriate maintenance antiepileptic medications
    - Admit to appropriate ward or ICU

**NOTES:**
- IM dosing of fosphenytoin may not be practical due to large dose volume, requiring multiple IM injection sites
- Avoid instilling of hypotonic solution into large doses volume, requiring multiple IM injection sites
- IM instillation of phenytoin may not be practical due to large dose volume, requiring multiple IM injection sites
- Rescue Fosphenytoin: Availability, can be administered prior to Phenobarbital
  0.0 to 0.5 mg/kg (total volume of medication is a maximum of 30 mg)

**Further Management After cessation of Seizures:**
- Seizure history
- Recent trauma, infection, ingestion, drug history, seizure history
- Further investigations:
  - Blood culture
  - Blood gas
  - Clotting studies, liver enzymes
  - Lumbar puncture (should be deferred until cessation of clinical seizure)
  - Imaging (CT head)
  - In select patients: Plasma: ammonia, lactate, amino acids
  - Urine: organic acids, toxicology
  - Plasma: ammonia, lactate, amino acids
  - Urine: organic acids, toxicology
  - Appropriate maintenance antiepileptic medications

**NOTES:**
- Rapid sequence induction:
  - Atropine: 0.02 mg/kg (maximum 0.6 mg) (optional)
  - Ketamine: 2 mg/kg
  - Succinylcholine: 2 mg/kg (maximum 150 mg)
  - OR
  - Rocuronium 1 mg/kg (maximum 100 mg)

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    - Appropriate maintenance antiepileptic medications
  - Admit to appropriate ward or ICU