

BCCH REFRACTORY STATUS EPILEPTICUS PRACTICE GUIDELINES

(Departments of Pediatric Critical Care Medicine and Pediatric Neurology, July 2015)

Hour 1 seizure management:
Please refer to *"Management of convulsive status epilepticus in infants and children"*
(Farrell K, BCMJ 2011; 53(6): 279-285 or
<http://www.childhealthbc.ca/guidelines/category/4-convulsive-status-epilepticus.htm>)

REFRACTORY STATUS EPILEPTICUS (RSE) = failure to stop seizure after adequate doses of 2 anticonvulsants

Contact Pediatric Neurology and Pediatric Intensive Care at BCCH - RSE management needs to be facilitated by Ped Neurology/PICU.

Midazolam 0.1-0.5 mg/kg IV/IO loading dose over 2-3 min (max 10 mg/dose).
Followed by infusion of 120 mcg/kg/hour

Insert naso/oral-gastric tube. Give **Levetiracetam** 60 mg/kg PO/IV[^] load

Initiate continuous EEG monitoring

[^] Prescribed by Neurology - access through Health Canada Special Access Programme.

Consider securing a definitive airway if there is respiratory compromise.

Drugs for Rapid Sequence Intubation:

Ketamine 2 mg/kg IV

Rocuronium 1 mg/kg IV (max 100mg)

Ensure close hemodynamic monitoring

If capable, consider invasive hemodynamic monitoring and central venous access.

Is seizure ongoing?

Yes

No

Midazolam 0.1-0.5 mg/kg IV/IO, then increase infusion to 240 mcg/kg/hour.

If seizure continues: **Midazolam** 0.1 mg/kg IV/IO and increase infusion in 120 mcg/kg/hour increments every 10 min to max of 900 mcg/kg/hour.

Maximize to 900 mcg/kg/hour over 1 hour.

Continue maintenance therapy as per Ped Neurology.

If applicable, wean Midazolam; but may continue to maintain adequate sedation.

Is seizure ongoing?

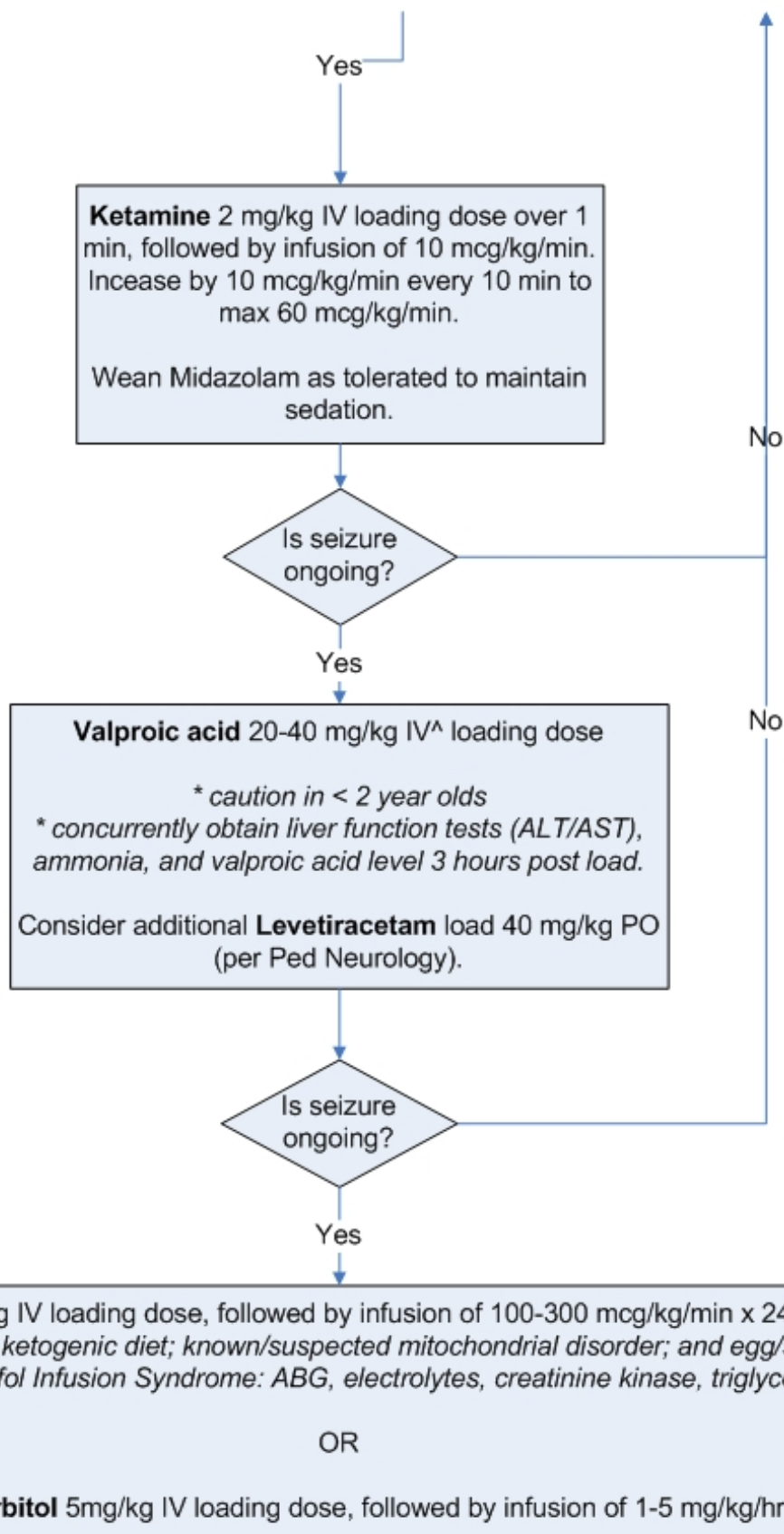
No

No

Yes

HOUR 2

HOUR 3



Notes on medication:

* To optimize seizure control and neuro-protection benzodiazepines are first-line followed by ketamine then propofol.

* Concurrently, anti-seizure therapy should be started with phenytoin/phenobarbital, followed by levetiracetam then valproic acid.

Absolute maximum dosages:

Midazolam = 2900 mcg/kg/hr

Ketamine = 125 mcg/kg/min

Pentobarbital = 10 mg/kg/hr

Propofol = 300 mcg/kg/min

Therapeutic target levels:

Phenytoin = 60-80

Phenobarbital = 160-180

Valproic acid = 500-600