

Status Epilepticus Transport/ED/Inpatient Pathway

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Transport start pathway from where referring hospital stopped

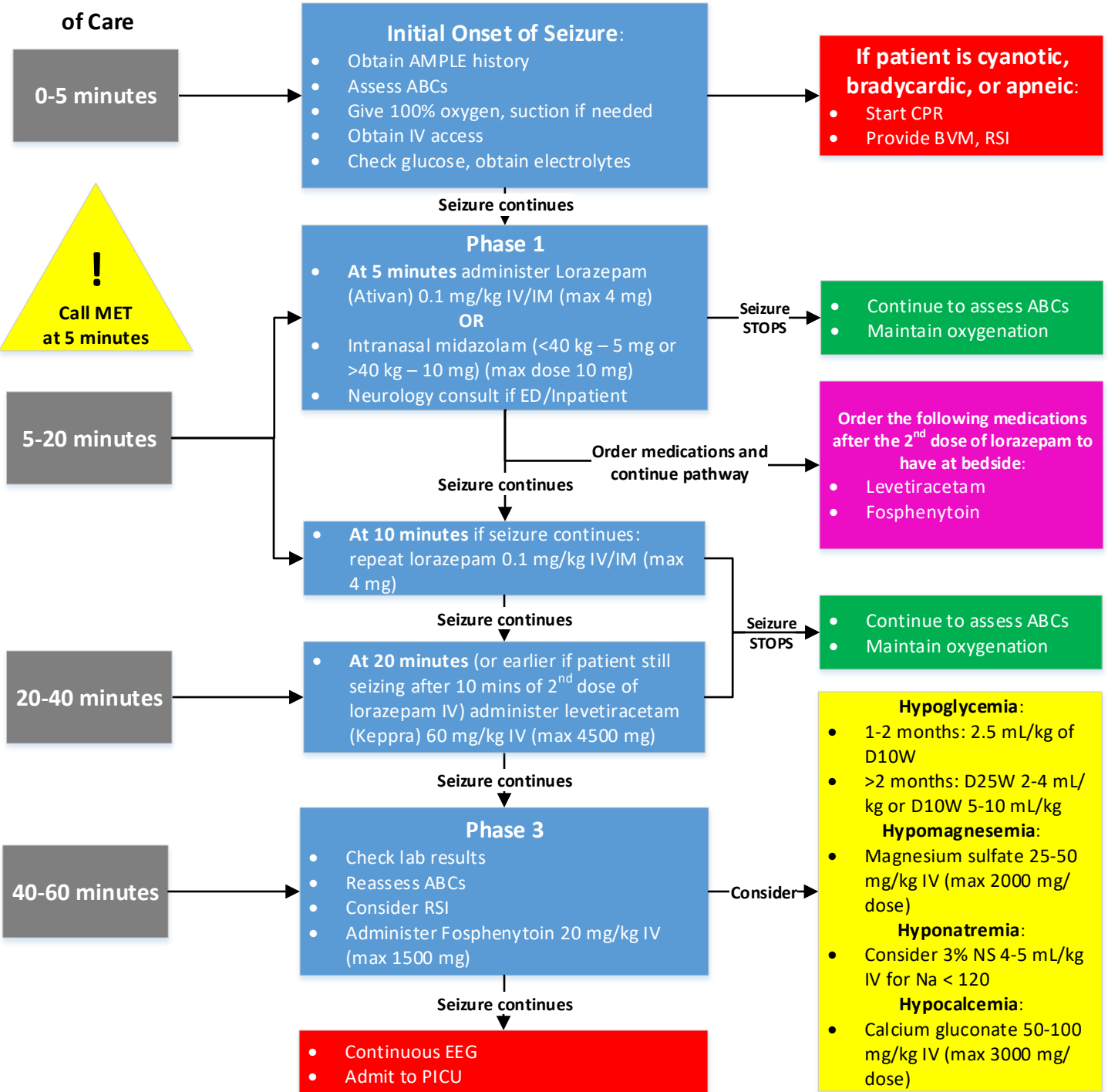
Inclusion Criteria

- Age > 1 month
- Generalized convulsive seizure > 5 minutes
- With or without history of epilepsy
- With or without fever
- Patient presenting with seizure > 5 minutes who received neuromuscular blocking agent
- Any non-convulsive seizure

Exclusion Criteria

- Severe traumatic brain injury
- < 1 month of age

Follow Phases of Care



Status Epilepticus Pathway

Refractory Phase: > 60 minutes

Midazolam IV:

- Give 0.2 mg/kg bolus (maximum 10 mg), then start infusion at 0.2 mg/kg/hr (max 10 mg/hr)
- Increase infusion rate by 0.2 mg/kg/hr (max 10 mg/hr) every 10 minutes until target burst suppression or reach a dose of 1.2 mg/kg/hr
- Perform endotracheal intubation if not already done

Add Vimpat IV:

- 10 mg/kg (max 300 mg loading dose)
- Then 5 mg/kg BID (max 600 mg/day)

Therapeutic target not achieved

Add Ketamine IV:

- Start infusion at 0.5 mg/kg/hr
- Increase infusion rate by 0.5 mg/kg/hr every 15-20 minutes until target burst suppression or maximum dose of 7.5 mg/kg/hr
- Prepare to add IV pentobarbital infusion when ketamine infusion reaches 6 mg/kg/hr

Add Phenobarbital

- Start 20 mg/kg IV loading dose (max 1500 mg)
- Maintenance 5 mg/kg IV once daily (max 500 mg)

Therapeutic target not achieved

Pentobarbital IV:

- Give 5 mg/kg bolus, then start infusion at 1 mg/kg/hr
- Increase infusion rate by 0.5 mg/kg/hr every 15-20 minutes until target burst suppression or max dose of 3 mg/kg/hr
- Decrease midazolam infusion rate to 1 mg/kg/hr at the start of pentobarbital infusion, stop midazolam after first increase of pentobarbital infusion to 1.5 mg/kg/hr

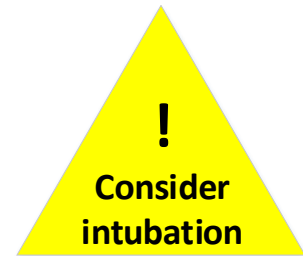
Add Perampanel:

- 4 mg PO once daily
- Increase every 2 days by 2 mg (max 12 mg)

For super refractory seizure for > 24 hours

Consider other therapies:

- Ketogenic diet
- Immunotherapy (corticosteroids, IVIG, plasmapheresis)
- Pyridoxine (if not already tried)
- Epilepsy surgery consultation



Therapy target achieved

Treatment Target

- Complete suppression of seizures
- EEG burst suppression around 70% (never <50%)

Maintain burst suppression:

- Initial 24-48 hours
- Repeated: 48-72 hours

Weaning continuous infusions:

- ≤48 hours duration: wean over 6-12 hours, decrease rate by 15-30% every 2 hours
- >48 hours duration: slow wean, decrease rate by 15-30% every 6-12 hours
- Consider adding scheduled benzodiazepines or barbiturates for withdrawal for infusions >5 days

Add maintenance anti-seizure medications:

- Use doses at high end of therapeutic range
- Consider combinations with multiple different mechanisms

Metrics

1. Time from seizure onset to first dose of lorazepam or midazolam administration
 - A. Dose correct?
2. Time from seizure onset to Keppra administration
 - A. Dose correct?

Contributing Members

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References

Samanta, D., Garrity, L., & Arya, R. (2020). Refractory and super-refractory status epilepticus. *Indian Pediatrics*, 57(3), 239-253.

Brophy, G. M., Bell, R., Claassen, J., Alldredge, B., Bleck, T. P., Glauser, T., ... & Vespa, P. M. (2012). Guidelines for the evaluation and management of status epilepticus. *Neurocritical care*, 17(1), 3-23.