**Status Epilepticus Pathway**

**Emergency Department**

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**Patient with seizure > 5 minutes**

- Determine prior history of seizures with EMS or caregiver
- Determine if anti-seizure medications were given prior to arrival
- Initiate ABCDE, oxygen, continuous pulse oximetry and CR monitoring

**Does patient have IV access?**

- **Yes**: Administer midazolam IV 0.2mg/kg/dose (max 10mg/dose)
  - OR lorazepam IV 0.1mg/kg/dose (max 4mg/dose)
- **No**

**Administer loading dose of home medication if IV formulation is available OR initiate second line medications**

**Reassess in 5 minutes - seizure stopped?**

- **Yes**
  - Reassess airway, breathing, and circulation
  - (Administer second line medication even if seizure stops after 2nd benzodiazepine dose)
- **No**

**Established Seizure Patient**

- Administer loading dose of home medication if IV formulation is available
- Reassess in 5 minutes - seizure stopped?
  - **Yes**
  - Reassess airway, breathing, and circulation
  - Administer loading dose of an alternative second line medication (2nd loading med)
  - Reassess in 5 minutes - seizure stopped?
    - **Yes**
      - Reassess airway, breathing, and circulation
      - Contact Critical Care Team and treat for refractory SE with continuous midazolam or pentobarbital infusion with continuous EEG monitoring recommended on transfer
    - **No**

**New Onset Seizures**

Second line/Loading Medications:
1. Levetiracetam 60mg/kg/dose IV (Max 4500mg)
   - OR
2. Fosphenytoin 20mg/kg/dose IV (Max 1500mg)
   - OR
3. Lacosamide 10mg/kg/dose IV (max 400mg/dose for load; 200mg/dose for maintenance)
   - OR
4. Valproic Acid 40mg/kg/dose IV (Max 3000mg)
   - *Only >2 years old or patients with Dravet syndrome
   - **If above unavailable, consider phenobarbital 20mg/kg/dose IV (Max 1000mg)
   - **Consider ordering two loading meds

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**Exclusion Criteria**

- Neonates < 30 days
- Patients with psychogenic non-epileptic attacks

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- Neonates < 30 days
- Patients with psychogenic non-epileptic attacks

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**Status Epilepticus Pathway**

**Emergency Department**

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**Patient with seizure > 5 minutes**

- Determine prior history of seizures with EMS or caregiver
- Determine if anti-seizure medications were given prior to arrival

**Administer midazolam (IM or IN) 0.2mg/kg/dose (max 10mg/dose)**

- 1-3 mos (4-6kg) = 1mg (0.2mL)
- 4-16 mos (7-9kg) = 1.25mg (0.25mL)
- 17mos-5yr (10-19kg) =2.5mg (0.5mL)
- 6-11yrs (20-37kg) = 5mg (1mL)
- >12yr (>38kg) = 10mg (2mL)

**Does patient have IV access?**

- **Yes**
  - Administer midazolam IV 0.2mg/kg/dose (max 10mg/dose)
  - OR lorazepam IV 0.1mg/kg/dose (max 4mg/dose)
- **No**

**Obtain EPOC panel**

**Obtain anticonvulsant levels for established seizure patients**

**Correct reversible causes (i.e. hyponatremia & hypoglycemia)**

**Administer midazolam IV 0.2mg/kg/dose (max 10mg/dose)**

**OR lorazepam IV 0.1mg/kg/dose (max 4mg/dose)**

**Reassess in 5 minutes - seizure stopped?**

- **Yes**
  - Reassess airway, breathing, and circulation
  - (Administer second line medication even if seizure stops after 2nd benzodiazepine dose)
- **No**

**Repeat 2nd dose of benzodiazepine AND administer second line medication**

**Is patient established seizure patient?**

- **Yes**
  - Reassess airway, breathing, and circulation
  - (Administer second line medication even if seizure stops after 2nd benzodiazepine dose)
- **No**

**Established Seizure Patient**

**Administer loading dose of home medication if IV formulation is available**

**OR initiate second line medications**

**Reassess in 5 minutes - seizure stopped?**

- **Yes**
  - Reassess airway, breathing, and circulation
  - (Administer second line medication even if seizure stops after 2nd benzodiazepine dose)
- **No**

**New Onset Seizures**

Second line/Loading Medications:
1. Levetiracetam 60mg/kg/dose IV (Max 4500mg)
   - OR
2. Fosphenytoin 20mg/kg/dose IV (Max 1500mg)
   - OR
3. Lacosamide 10mg/kg/dose IV (max 400mg/dose for load; 200mg/dose for maintenance)
   - OR
4. Valproic Acid 40mg/kg/dose IV (Max 3000mg)
   - *Only >2 years old or patients with Dravet syndrome
   - **If above unavailable, consider phenobarbital 20mg/kg/dose IV (Max 1000mg)
   - **Consider ordering two loading meds

---

**Yes**

**No**

**Yes**

**No**

**Yes**

**No**

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**Disclaimer:** Pathways are intended as a guide for practitioners and do not indicate an exclusive course of treatment nor serve as a standard of medical care. These pathways should be adapted by medical providers, when indicated, based on their professional judgement and taking into account individual patient and family circumstances.

[ChildrensNebraska.org/Pathways]

Updated 12/2022
STATUS EPILEPTICUS
PATHWAY
EMERGENCY DEPARTMENT

Disclaimer: Pathways are intended as a guide for practitioners and do not indicate an exclusive course of treatment nor serve as a standard of medical care. These pathways should be adapted by medical providers, when indicated, based on their professional judgement and taking into account individual patient and family circumstances.

IM/IN Midazolam Dosing

<table>
<thead>
<tr>
<th>Age (weight)</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3 months old</td>
<td>1mg (0.2mL)</td>
</tr>
<tr>
<td>(4 - 6 kg)</td>
<td></td>
</tr>
<tr>
<td>4 - 16 months old</td>
<td>1.25mg (0.25mL)</td>
</tr>
<tr>
<td>(7 - 9 kg)</td>
<td></td>
</tr>
<tr>
<td>17 months to 5 years old</td>
<td>2.5mg (0.5mL)</td>
</tr>
<tr>
<td>(10 - 19 kg)</td>
<td></td>
</tr>
<tr>
<td>6 - 11 years old</td>
<td>5mg (1mL)</td>
</tr>
<tr>
<td>(20 - 37 kg)</td>
<td></td>
</tr>
<tr>
<td>&gt; 12 years old</td>
<td>10mg (2mL)</td>
</tr>
<tr>
<td>(&gt; 38 kg)</td>
<td></td>
</tr>
</tbody>
</table>

1st Line Benzodiazepine Dosing

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midazolam IV</td>
<td>0.2mg/kg/dose (max 10mg)</td>
</tr>
<tr>
<td>Lorazepam IV</td>
<td>0.1mg/kg/dose (max 4mg)</td>
</tr>
</tbody>
</table>

Lorazepam Infusion

Bolus: 0.2mg/kg IV once
Followed by:
Continuous infusion: initiate at 0.09 mg/kg/hr
Titration: Bolus continuous infusion rate and increase by 0.09 mg/kg/hr every 15 minutes as needed for cessation of electrographic seizures on EEG or burst suppression to a max of 2 mg/kg/hr

Pentobarbital Infusion

Bolus: 5mg/kg IV once
Followed by:
Continuous infusion: Initiate at 1 mg/kg/hr
Can bolus 5mg/kg from infusion every 30 minutes until burst suppression
Titration: Increase by 0.5 mg/kg/hr every 8 hours as needed to max of 4 mg/kg/hr

Second Line Dosing

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levetiracetam</td>
<td>60mg/kg/dose IV (max 4500mg)</td>
</tr>
<tr>
<td>Fosphenytoin</td>
<td>20mg/kg/dose IV (max 1500mg)</td>
</tr>
<tr>
<td>Lacosamide</td>
<td>10mg/kg/dose (max 400mg/dose for load; 200mg/dose for maintenance)</td>
</tr>
<tr>
<td>Valproic Acid</td>
<td>40mg/kg/dose IV (max 3000mg)</td>
</tr>
</tbody>
</table>

*Excluding Dravet Syndrome

Phenobarbital

20mg/kg/dose IV (max 1000mg)

If above medications are not available administer:

Levetiracetam 60mg/kg/dose IV (max 4500mg)
Fosphenytoin 20mg/kg/dose IV (max 1500mg)
Lacosamide 10mg/kg/dose (max 400mg/dose for load; 200mg/dose for maintenance)
Valproic Acid 40mg/kg/dose IV (max 3000mg)

*Only >2 years old or patients with Dravet syndrome

Infusion Dosing

Midazolam Infusion

Bolus: 0.2mg/kg IV once
Followed by:
Continuous infusion: initiate at 0.09 mg/kg/hr
Titration: Bolus continuous infusion rate and increase by 0.09 mg/kg/hr every 15 minutes as needed for cessation of electrographic seizures on EEG or burst suppression to a max of 2 mg/kg/hr

Pentobarbital Infusion

Bolus: 5mg/kg IV once
Followed by:
Continuous infusion: Initiate at 1 mg/kg/hr
Can bolus 5mg/kg from infusion every 30 minutes until burst suppression
Titration: Increase by 0.5 mg/kg/hr every 8 hours as needed to max of 4 mg/kg/hr