<table>
<thead>
<tr>
<th>Generic (Brand) Abbrev.</th>
<th>Parenteral Available</th>
<th>Substitution/s</th>
<th>IV Alternative Conversion</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brivaracetam (Briviact®) BRV</td>
<td>YES</td>
<td>LEV</td>
<td>1:10 BVT:LEV</td>
<td>BRV (PO and IV) non-formulary</td>
</tr>
<tr>
<td>Cannabidiol (Epidiolex®) CBD</td>
<td>NO</td>
<td>None - see Chart A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>CarbAMazepine (Tegretol®) CBZ</td>
<td>YES</td>
<td>LCM or FOS</td>
<td>N/A</td>
<td>CBZ (IV) non-formulary</td>
</tr>
<tr>
<td>CloBAZam (Onfi®) CLB</td>
<td>NO</td>
<td>LZP</td>
<td>10:1 CLB:LZP</td>
<td>CLB (ODT) non-formulary; oral liquid restricted to pediatrics</td>
</tr>
<tr>
<td>ClonazePAM (Klonopin®) CZP</td>
<td>NO</td>
<td>LZP</td>
<td>1:4 CZP:LZP</td>
<td>Consider CZP ODT</td>
</tr>
<tr>
<td>Clorazepate (Tranxene®) CLZ</td>
<td>NO</td>
<td>LZP</td>
<td>7.5:1 CLZ:LZP</td>
<td></td>
</tr>
<tr>
<td>Corticotropin (Acthar®) ACTH</td>
<td>N/A</td>
<td>IV methylpred.</td>
<td>See comments</td>
<td>Discuss IV methylpred. dosing with pediatric epilepsy staff</td>
</tr>
<tr>
<td>DiazePAM (Valium®) DZP</td>
<td>YES</td>
<td>N/A</td>
<td>1:1 PO DZP:IV DZP</td>
<td>Consider maximum 5 mg IV per dose for pediatric patients</td>
</tr>
<tr>
<td>Eslicarbazapine (Aptiom®) ESL</td>
<td>NO</td>
<td>LCM or FOS</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Ethosuximide (Zarontin®) ESM</td>
<td>NO</td>
<td>VPA</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Felbamate (Felbatol®) FBM</td>
<td>NO</td>
<td>LCM or FOS</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Gabapentin (Neurontin®) GBP</td>
<td>NO</td>
<td>None - see Chart A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Lacosamide (Vimpat®) LCM</td>
<td>YES</td>
<td>N/A</td>
<td>1:1 PO LCM:IV LCM</td>
<td></td>
</tr>
<tr>
<td>LamoTRIgine (Lamictal®) LTG</td>
<td>NO</td>
<td>LCM or FOS</td>
<td>N/A</td>
<td>Consider LTG ODT</td>
</tr>
<tr>
<td>LevETIRAcetam (Keppra®) LEV</td>
<td>YES</td>
<td>N/A</td>
<td>1:1 PO LEV:IV LEV</td>
<td></td>
</tr>
<tr>
<td>LORazepam (Ativan®) LZP</td>
<td>YES</td>
<td>N/A</td>
<td>1:1 PO LZP:IV LZP</td>
<td></td>
</tr>
<tr>
<td>OXcarbazepine (Trileptal®) OXC</td>
<td>NO</td>
<td>LCM or FOS</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Perampanel (Fycompa®) PER</td>
<td>NO</td>
<td>None - see Chart A</td>
<td>N/A</td>
<td>IV formulation under FDA review, expected 2021</td>
</tr>
<tr>
<td>PHENobarbital (Luminal) PB</td>
<td>YES</td>
<td>N/A</td>
<td>1:1 PO PB:IV PB</td>
<td></td>
</tr>
<tr>
<td>Phenyltoin (Dilantin®) PHT</td>
<td>YES</td>
<td>Fosphenytoin</td>
<td>1:1 PO PHT:IV FOS</td>
<td>Phenytoin (IV) is non-formulary</td>
</tr>
<tr>
<td>Pregabalin (Lyrica®) PGB</td>
<td>NO</td>
<td>None - see Chart A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Primidone (Mysoline®) PRM</td>
<td>NO</td>
<td>PB</td>
<td>5:1 PO PRM:PO PB</td>
<td></td>
</tr>
<tr>
<td>Rufinamide (Banzel®) RUF</td>
<td>NO</td>
<td>LCM or FOS</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Topiramate (Topamax®) TPM</td>
<td>NO</td>
<td>None - see Chart A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Valproic acid (Depakote®) VPA</td>
<td>YES</td>
<td>N/A</td>
<td>1:1 PO VPA:IV VPA</td>
<td>Administer same total daily dose divided q8h</td>
</tr>
<tr>
<td>Vigabatrin (Sabril®) VGB</td>
<td>NO</td>
<td>None - see Chart A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Zonisamide (Zonegran®) ZNS</td>
<td>NO</td>
<td>None - see Chart A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

1. Substitutions are based on mechanism of action and/or effectiveness for seizure/epilepsy type.
2. Substitute with parenteral/intravenous (IV) formulation if available (non-formulary IV formulations denoted by asterisk*).
3. For AEDs without suitable IV substitutions, consider feeding tube placement. May also consider orally disintegrating (ODT) tablets, if available.
4. If a patient is on 4 AEDs and one of these has no suitable alternative, consider holding this single AED without replacement if clinically appropriate.
5. If there is no suggested substitute, consider any of the IV AEDs listed in Chart A as appropriate for seizure/epilepsy type.
6. Parenteral ketogenic diet is possible for hospitalized patients. Contact nutrition support if IV ketogenic diet is desired.

Updated 11/2019
## Chart A: Dosing Recommendations for IV AEDs

A loading dose is not necessary in all cases, but may be considered in patients with frequent seizures, or as otherwise clinically indicated. Due to the time required to reach steady-state and/or the large volume of distribution, a full or partial loading dose may be favored for FOS, PB, and VPA. A full or partial loading dose may also be favored when replacing an enteral AED with a short half-life/duration of action (e.g., BRV, CBD, GBP, OXC, VGB).

<table>
<thead>
<tr>
<th>AED</th>
<th>Pediatric Dosing</th>
<th>Adult Dosing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Load (IV once)</strong></td>
<td><strong>Max. Load</strong></td>
</tr>
<tr>
<td>FOS</td>
<td>15-20 mg PE/kg</td>
<td>1500 mg PE</td>
</tr>
<tr>
<td>LCM</td>
<td>5-10 mg/kg</td>
<td>400 mg</td>
</tr>
<tr>
<td>LEV</td>
<td>40 mg/kg</td>
<td>2000 mg</td>
</tr>
<tr>
<td>LZP</td>
<td>Not needed</td>
<td>Not needed</td>
</tr>
<tr>
<td>VPA</td>
<td>20 mg/kg</td>
<td>2000 mg</td>
</tr>
<tr>
<td>PB</td>
<td>10-20 mg/kg</td>
<td>1000 mg</td>
</tr>
</tbody>
</table>

1. Fosphenytoin (Cerebyx®) (FOS); 2. Consider avoidance of VPA peri-operatively due to concern for inhibition of platelet aggregation; 3. Consider loading dose at higher end of listed range only in the setting of active seizures/status epilepticus (please note that loading doses of PB may cause significant respiratory depression);