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Pharmacist's Letter
Hospital

# Sort Out Alternative Status Epilepticus Medications

**Medication shortages and new drug formulations will bring up questions about how to treat status epilepticus**.

**Continue using benzos first-line for emergent treatment**. Lorazepam 0.1 mg/kg IV to a max of 4 mg per dose is preferred...but we know it's commonly on shortage.

Keep other benzo options and routes in mind...in case you can't get lorazepam. Try midazolam injection IM or intranasally...or buccally in a pinch. Or you can give diazepam injection IV, intranasally, or rectally.

Use caution giving IV midazolam boluses. There isn't good evidence for dosing or conversions from IV lorazepam...although some experts use a 2 mg midazolam to 1 mg lorazepam conversion.

Add or update these benzo options in your EHR...and think about creating order sets...for easier prescribing. And stock them in key patient units...such as the ED and ICUs...depending on hospital policy.

**Clarify urgent second-line options**.

Move to a second-line med for seizures lasting a total of 20 minutes or more despite benzos.

Fosphenytoin, levetiracetam, and valproic acid are equally effective at stopping status epilepticus...for patients 2 years and up.

Standardize your hospital's practices and choose an agent you can use promptly. The longer seizures continue, the more likely the patient will be unresponsive to meds...causing neurological damage.

Consider using levetiracetam first to save time...commercially made vials can be stored on the unit to give IV push. Fosphenytoin and valproic acid need to be diluted first and require longer infusion times.

Plus levetiracetam has fewer interactions or adverse effects. Recommend it as a safer option if a medication history isn't available.

Be aware, new evidence suggests higher levetiracetam IV push doses are safe...up to 4,500 mg in adults and 60 mg/kg in kids. Remember that doses using more than 3 vials (1,500 mg) at the bedside require multiple syringes...due to new USP 797 rules for sterile immediate-use meds.

Phenobarbital and lacosamide are also second-line options...and can be given undiluted if needed. But they have adverse effects (hypotension, respiratory depression, etc) if infused too quickly.

Use the new preservative-free phenobarbital injection (*Sezaby*) for newborn seizures only. It's not approved for older kids and adults.

**Move to third-line options for refractory seizures**.

Give another second-line med...or recommend a propofol or midazolam titratable infusion. Expect patients with these continuous infusions to need intubation...and continuous EEG monitoring.

Don't be surprised if these patients need higher infusion rates than you usually see for sedation. Tailor your infusion pump guardrails to safely allow these higher rates when needed.

See our chart, *Pharmacotherapy of Status Epilepticus*, for more dosing details...and other options for refractory cases including ketamine and pentobarbital.

**Key References:**

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