Table 1. Adult Treatment Options for Selected Clinical Situations[14-25]

Clinical Indication	Treatment Options	Comments
Status epilepticus	Fosphenytoin[a] [14,17] Initial dose of 15-20 mg PE/kg IV at a rate of 100-150 mg PE/minute, followed by 4-6 mg PE/kg daily Phenytoin[15,17,19] Initial dose of 15-20 mg/kg IV at a rate of ≤ 50 mg/minute followed by IV or oral maintenance doses of 100 mg every 6-8 hours Levetiracetam [20,22] 20-30 mg/kg IV (maximum of 3 grams) given once at a rate of 5 mg/kg/minute. Valproate[19,20] Initial dose of 15-45 mg/kg IV at a rate ≤ 6 mg/kg/minute followed by 1-4 mg/kg/hr titrated to patient response Phenobarbital[17-19] 10-20 mg/kg IV at a rate ≤ 60 mg/minute followed by 1-3 mg/kg/day IV or PO in divided doses (may necessitate intubation)	Diazepam or lorazepam should be used initially and may be required during phenytoin load due to slow rate of phenytoin administration.[15,17,18] Administer phenytoin via a central line when possible. Dilution is not recommended due to increased risk of precipitation. Infusion rate should be decreased to 25 mg/minute in elderly patients and patients with cardiovascular disease.[15,17] Valproate should not be used in patients with underlying liver or metabolic disease [17,20] No randomized controlled trials have evaluated the use of levetiracetam in the treatment of status epilepticus. However, levetiracetam was effective for this indication in a number of retrospective trials. The most common initial dose was 2000-3000 mg/day administered over 15 minutes.[21] Mean IV or PO maintenance doses ranged from 1000 mg every 12 hours to 15 mg/kg every 12 hours.[22,23] Reduce the dose of levetiracetam in patients with renal impairment.[17,19]
Seizure prophylaxis	Fosphenytoin[a] [14,17] Initial dose of 10-20 mg PE/kg IV or IM followed by 4-6 mg PE/kg IV or IM daily Phenytoin[15,17] 100-200 mg parenterally every 4 hours during surgery and the immediate postoperative period Levetiracetam [25] Initial dose of 20 mg/kg IV over 60 minutes followed by 1000 mg IV every 12 hours for 7 days following head trauma	Administer phenytoin via a central line when possible. Dilution is not recommended due to increased risk of precipitation. Infusion rate should be decreased to 25 mg/minute in elderly patients and patients with cardiovascular disease.[15,17] Levetiracetam was effective in preventing seizures following supratentorial neurosurgery in a retrospective trial. Patients most commonly received 1000 mg daily (range of 500-3000 mg daily; route not specified).[24] Reduce the dose of levetiracetam in patients with renal impairment.[17,19]

[a]Fosphenytoin injection is currently in short supply.[1-7]
[b]Phenytoin injection is currently in short supply.[5,10,13]