Choice of IV anti-epileptic drug therapy guidance

Drug	Dose and administration	Preferred if:	Avoid if:
Levetiracetam	Dose: 60mg/kg Max dose: 4500mg* Max rate: 6mg/kg/min Preparation: Dilute required dose in at least 100mL sodium chloride 0.9%	Polypharmacy – no drug:drug interactions Hepatic impairment	Confirmed history of severe mood or behavioural disorder *Maximum dose reduced in renal impairment: - CrCl 50-79mL/min - max dose 2000mg - CrCl 30-49mL/min – max dose 1500mg - CrCl <30mL/min – max dose 1000mg
Sodium Valproate	Dose: 40mg/kg Max dose: 3000mg Max rate: 10mg/kg/min Preparation: Dilute required dose in at least 50mL of sodium chloride 0.9% or glucose 5%	Known/suspected idiopathic generalised epilepsy syndrome History of severe mood or behavioural disorder	**Women of childbearing potential (sodium valproate is highly teratogenic) – seek immediate senior help and/or contact neurologist on-call for advice if levetiracetam and phenytoin are also contra-indicated** Liver disease or pancreatitis is present Known or suspected metabolic/mitochondrial disorders Consider potential for drug interactions (CYP-enzyme inhibitor)
Phenytoin	Dose: 20mg/kg Max dose: 2000mg Max rate: 1mg/kg/min up to a max of 50mg/min Preparation: Dilute in sodium chloride 0.9% to a concentration of 5-10mg/mL	Previous response to treatment with phenytoin for status epilepticus	Co-morbid cardiovascular disease – cardiac monitoring required Hypotension/bradycardia/heart block Known/suspected idiopathic generalised epilepsy syndrome Known or suspected recreational drug overdose or alcohol withdrawal seizures are present No access to large vein (extravasation risk and potential for severe tissue injury) High risk for drug interactions (CYP-enzyme inducer)
Lacosamide	Dose: 200-400mg Max dose: 400mg* Max rate: 200mg over 15-30 minutes, 400mg over 30-60 minutes Preparation: May be administered undiluted or diluted in any suitable volume of sodium chloride 0.9% or glucose 5%.	May only be considered on the advice of a neurologist if all other options are unsuitable	Known 2nd/3rd-degree atrioventricular block Caution in severe cardiac disease or history of arrhythmias No access to large vein/central line
Phenobarbital	Dose: 10mg/kg Max dose: 1g Max rate: 100mg/minute Preparation: Dilute each 1mL to 10mL with sodium chloride 0.9% or glucose 5%	May only be considered on the advice of the critical care team in cases of suspected drug overdose	Acute intermittent porphyria Severe renal or hepatic impairment Severe respiratory depression High risk for drug interactions (CYP-enzyme inducer) No access to large vein/central line

Neurology SpR / consultant on-call can be contacted through PRH switchboard (01444 441881).

Detailed clinical information for the diagnosis and management of Status Epilepticus can be found via BMJ best practice (https://bestpractice.bmj.com/topics/en-gb/3000127)

Adult Convulsive Status Epilepticus Guideline, May 2021. Updated by Dr Julia Aram, Epilepsy Lead and Neurology pharmacists Mr Matthew Seymour and Mrs Gill Yates