



Treating convulsive status epilepticus in children



• Definition of convulsive status epilepticus (CSE) is a seizure that continues for greater than 5 min, so treatment usually starts once seizure has lasted > 5 min

• After 5 min seizures are unlikely to spontaneously terminate

• The risk of a seizure becoming refractory increases with increasing seizure duration.

• *ESETT/**ECLIPSE/**ConSEPT trials showed equal potency for phenytoin, levetiracetam and valproate

• Levetiracetam has a good safety profile and is easy to administer

• Children who frequently have seizures or CSE usually have an individually tailored guideline.

• Do not give phenytoin too rapidly as it will cause bradycardia and/or asystole.

• In sepsis consider measuring calcium and magnesium levels as they are sometimes low.

• Monitor glucose aim for 4–8 mmol L⁻¹

• Measure serum sodium and treat if < 125 mmol L⁻¹ (3 mL kg⁻¹ 3% sodium chloride)

• Consider temperature control measures if hyperthermic

• Consider meningitis, encephalitis and Raised ICP

• Consider CNS haemorrhage if signs of trauma

• There is no evidence for the ideal third line agent: thiopentone, propofol, ketamine and midazolam may all be used

* Kapur et al. Randomized Trial of Three Anticonvulsant Medications for Status Epilepticus. N Engl J Med 2019;381:2103–2113.doi:10.1056/NEJMoa1905795

** Lyttle M, Pereira M et al. Levetiracetam versus phenytoin for second-line treatment of paediatric convulsive status epilepticus (ECLIPSE): a multicentre, open-label, randomised trial. Lancet, Volume 393, Issue 10186, 2125 – 2134

*** Dalziel SR, Borland ML et al; PREDICT research network. Levetiracetam versus phenytoin for second-line treatment of convulsive status epilepticus in children (Concept): an open-label, multicentre, randomised controlled trial. Lancet. 2019 May 25;393(10186):2135–2145