



Clinical Guidelines

Status Epilepticus

Document Control Information

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Assessment

Aetiology

- Febrile convulsion
- Known epileptic with acute illness
- Meningoencephalitis
- Metabolic/electrolyte abnormality (glucose, calcium, sodium)
- Drug, intoxication, poisoning
- Stroke / bleed
- Trauma (including NAI)
- Secondary to raised intracranial pressure i.e., blocked VP shunt, space-occupying lesion.
CATS can facilitate a conference call with neurosurgical team if required.
- Duration of fitting
- Nature of fit (generalised or focal)
- Treatment given

Initial management

- Ensure patent airway
- Administer high flow oxygen
- Check glucose (treat hypoglycaemia with 3mls/kg bolus of 10% glucose)
- Stop seizures using the APLS (2023) protocol shown below. IV levetiracetam is recommended at step 3 of the algorithm.
- Investigations - Check urea, electrolytes, calcium, and magnesium. Consider blood cultures if child had fever. Consider taking early urine sample for toxicology.
- Maintain normothermia.
- Ceftriaxone (cefotaxime for neonates), aciclovir and clarithromycin are recommended if aetiology is uncertain (i.e., meningo-encephalitis is a possibility) and aciclovir should be used for focal fits of unknown cause.
- Consider IV bolus of 3ml/kg 2.7% sodium chloride and/or mannitol 0.25g/kg (aim Na 145 mmol/l) if signs of raised intracranial pressure (bradycardia, hypertension, pupillary signs) this should be discussed with neurosurgery.
- If Na is <125 give 3mls/kg 2.7% sodium chloride
- *Lumbar puncture should be avoided in a child with a reduced level of consciousness.*
- Consider CT scan +/- contrast if seizures atypical, focal or aetiology uncertain.



Indications for intubation

- Child in refractory convulsive status epilepticus after completion of IV levetiracetam and IV phenytoin/ IV phenobarbitone
- Airway compromise at any time
- Hypoxia
- Glasgow coma score remains <8
- To establish neuroprotection (CO₂ control) in a child requiring a CT scan and pending results

Management of the child requiring intubation

- Rapid sequence induction (see CATS intubation checklist).
- Insert NGT or OGT if not already in situ. Place on free drainage.
- Initiate infusions of morphine and midazolam once ETT in situ.
- If seizures continue consider further midazolam bolus and discuss with CATS consultant.
- Administer IV fluids at 60% maintenance.



Paediatric Status Epilepticus Algorithm

Treat and investigate as per CATS Guideline & APLS Protocol.

Indications for intubation via RSI

Refractory convulsive status epilepticus, airway compromise, hypoxia, GCS<8/15 or to facilitate safe CT head

Intubated Patient- Consider extubation if:

- Intubated for low GCS or hypoventilation secondary to anti-seizure medications (hold sedation)
- Seizures controlled (if intubated for seizures ensure loaded with anti-epileptic drug)
- No new findings on CT head if performed
- No signs of raised ICP, pupil abnormality, posturing or focal neurology
- Not requiring neuroprotection (e.g. post CPR, traumatic brain injury)
- No neurological preceding symptoms suggesting encephalopathy or meningo-encephalitis
- Intact airway reflexes and no airway concerns (easy intubation)
- No concurrent respiratory concerns e.g. significant pneumonia or aspiration
- Cardiovascular stability (not required >40ml/kg fluid resuscitation or vasoactive infusion)
- Adequate clinical support available post extubation

Stop sedation and neuromuscular blockade (NMB) to assess

Extubation Assessment – review the following

RESP	SPO ₂ within expected range Oxygen < 30% PIP<22 PEEP ≤ 5 Spontaneous breathing (use patient triggered ventilator mode if available) Adequate CO ₂ clearance	CNS	Seizure terminated Absence of focal neurology Airway reflexes present (cough/gag) Normal posture PEARL Responding to voice / better
CVS	Patient is CVS stable		

YES

Extubate Child

Agree suitability for extubation, but maintain communication with CATS
Admit to ward under close observation

NO

Deemed unsuitable for extubation

Restart IV sedation with morphine & midazolam as per CATS drug chart
Avoid NMB prior to CATS team arrival to facilitate neurological assessment

Transport Accepted - Waiting for the CATS team

- Consider NGT / OGT and place on free drainage
- CXR to confirm ETT and gastric tube placement
- Ventilate to normocarbica aim PaCO₂ 4-4.5 kPa (neuroprotection strategies)
- Minimum of hourly vital signs including pupil response
- 80% IV fluids (60% if raised ICP) & monitor glucose
- Consider mannitol or 2.7% NaCl if signs of raised ICP and consider CT head / repeat CT head. D/W CATS and neurosurgery.
- Prepare appropriate vasoactive infusion
- Prepare copies of CT scans or send them electronically if undertaken
- Position in midline with head up tilt



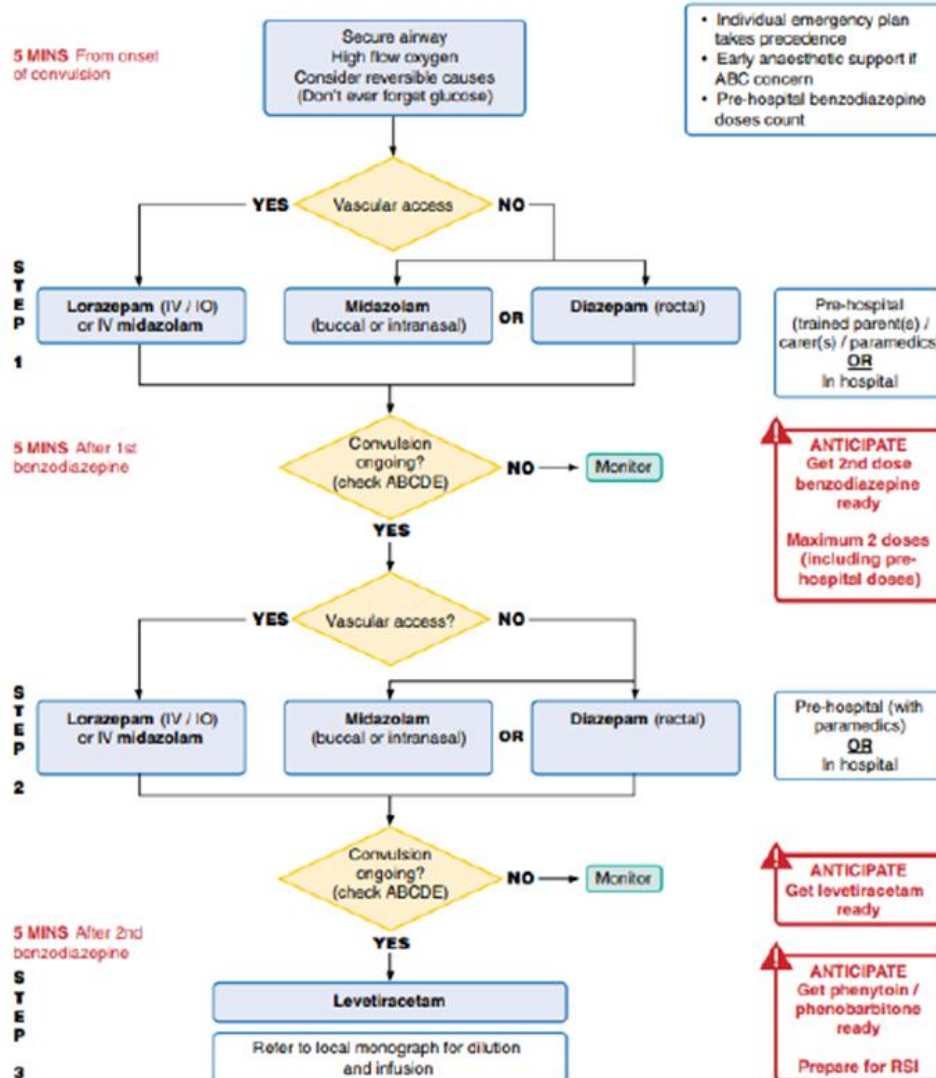
Transport considerations

Not all children who require intubation (particularly those intubated for temporary respiratory depression after benzodiazepines) will require transport to a PICU. The algorithm on page 6 can be used to identify children suitable for extubation and guide the process. For those not suitable for extubation consider the following:

- Ventilate to normocarbida (neuroprotection strategies)
- Prepare adrenaline infusion.
- Infusion or bolus drugs for breakthrough seizures available en route (benzodiazepines, thiopentone)
- Monitor blood glucose.
- 2.7% sodium chloride or mannitol if signs of raised ICP (bradycardia, hypertension, pupil changes), CT scan and discuss with neurosurgery.
- Restart muscle relaxation to assist ventilation and prevent accidental extubation during transport.
- Confirm CT scans are sent electronically if these have been performed.

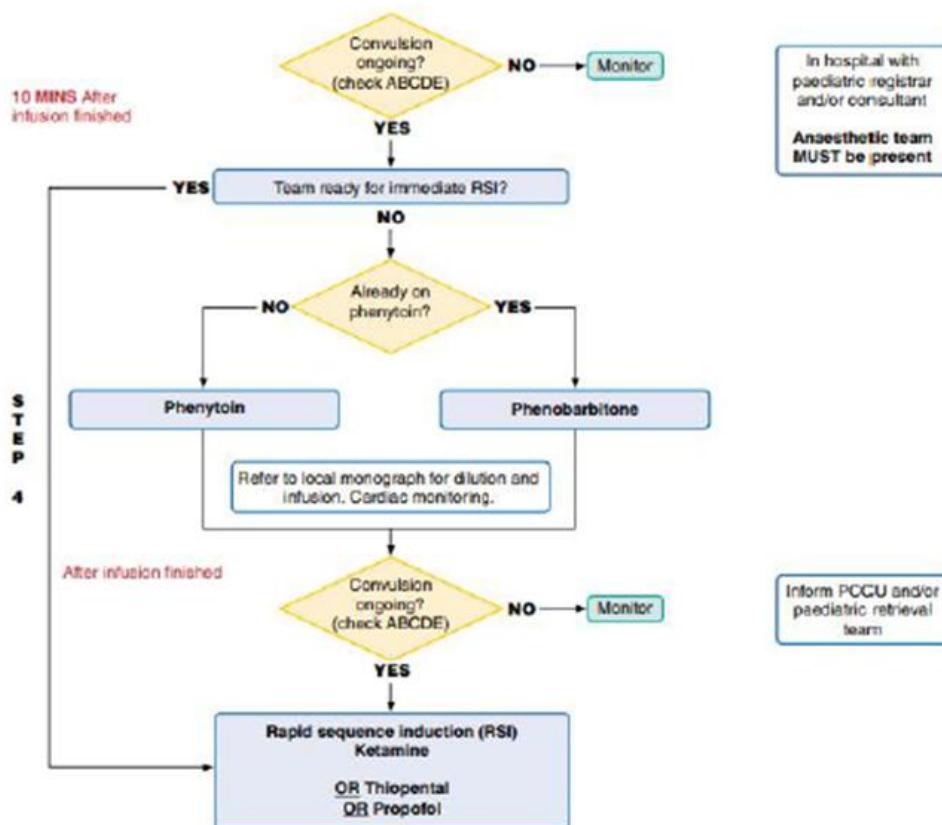


APLS: Status epilepticus



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APLS: Status epilepticus (continued)



Lorazepam (IV/IO)	0.1 mg/kg (max 4 mg)
Midazolam (IV/IO)	0.15 mg/kg (max 10 mg)
Midazolam (buccal or intranasal)	3–11 months 2.5 mg
	1–4 years 5 mg
	5–9 years 7.5 mg
	10–17 years 10 mg
	– 0.3 mg/kg (max 10 mg)
Diazepam (rectal)	1 month–1 year 5 mg
	2–11 years 5–10 mg
	12–17 years 10–20 mg
	– 0.5 mg/kg (max 20 mg)

Levetiracetam	40 mg/kg IV/IO (max 3 g) Give over 5 minutes
Phenytoin	20 mg/kg IV/IO (max 2 g) give over 20 minutes
Paraldehyde	0.8 ml/kg (max 20 ml) PR of premixed 50:50 solution in olive oil
Phenobarbitone	20 mg/kg IV/IO (max 1 g) give over 20 minutes
Ketamine	1–2 mg/kg
Thiopental (thiopentone)	3–5 mg/kg IV/IO
Propofol	(refer to local monograph)

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References

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- Resuscitation Council UK.** Paediatric emergency algorithms and resources. Treating convulsive status epilepticus in children. Updated July 2025. Available at: <https://www.resus.org.uk>