

Emergency Management of Convulsive Status Epilepticus in Adults

Key Points

- Convulsive status epilepticus is a medical emergency with about 30% mortality and brain damage if seizure activity persists for over 30 minutes
- Treat for hypoglycaemia or alcohol withdrawal urgently
- Give up to 2 doses of benzodiazepines (ideally 4mg IV lorazepam x 2 doses)
- If the seizure persists for over 15 minutes total then give intravenous: levetiracetam 60mg/kg (max 4500mg) or valproate 40mg/kg (max 3000mg) or else phenytoin 20mg/kg (max 2000mg)
- If the seizure persists for 30 minutes total, the patient should be intubated urgently

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Key words: Status epilepticus, seizures, levetiracetam, valproate, lorazepam, phenytoin

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Abbreviations

What To Do

0 minutes:

- First steps** **Ensure no harm** to patient (cushion head, bed rails up, move sharp objects away); don't restrain
Start timing the seizure
- Airway** **Face mask**, suction around lips if vomit/blood/saliva
 Do not insert any airway/object between teeth
- Breathing** **High flow oxygen** via face mask
Measure oxygen saturation, pulse, BP
- Circulation** Monitoring as above
Blood tests – Venous blood gas (VBG), anti-seizure medication levels¹, full blood count, kidney/liver/thyroid function, CRP, Mg, bone profile, glucose
 Blood tests – Consider **alcohol/drug screen**, **blood cultures** if fever, **pregnancy test**²
Intravenous access – if not available
- Disability** **Check glucose** urgently – fingerprick or VBG
Consider IV thiamine or Pabrinex over 30 minutes if alcohol abuse (500mg thiamine or 2 pairs Pabrinex) or malnutrition (250mg thiamine or 1 pair Pabrinex) suspected
Consider 200ml 10% IV dextrose or 1mg IM glucagon if low glucose <4 mmol/l
- Other** Check collateral history: if known epilepsy, if there is a rescue protocol in place, if history of dissociative/non-epileptic attacks
 Prepare first-line treatment (benzodiazepine)

5 minutes:

Check what benzodiazepines or drugs have been given already in last 12 hours (including by paramedics)
 Check if any rescue protocol present and follow it if so
 If no rescue protocol, then give one benzodiazepine dose (listed in order of preference), max 2 doses in 24 hours

Benzodiazepine drug	Dose	Route	Reduced dose
Lorazepam	4mg	Intravenous	2mg if >80 years or frail
Diazepam	10mg	Intravenous	5mg if >80 years or frail
Diazepam	10mg	Rectal (if no IV access)	
Midazolam	10mg	Intramuscular	5mg if >80 years or <50kg
Midazolam	10mg	Buccal	

10 minutes:

If only one dose of benzodiazepine given in last 24 hours, give a second dose of benzodiazepine (intravenous if possible); if already two doses given, then proceed to next steps

- Prepare second-line treatments

15 minutes:

Give one second-line treatment, listed in order of preference

Contact critical care outreach team

Drug	Dose	Rate for IV route***	Avoid if:
Levetiracetam	60mg/kg (max 4500mg)	In 100ml sodium chloride 0.9%, over 15 min	Severe psychiatric disorder, severe renal failure
Sodium valproate	40mg/kg (max 3000mg)	In >50ml sodium chloride 0.9%, over 15 min	Person of childbearing potential (12-55 years age), severe liver disease, mitochondrial disease
Phenytoin	20mg/kg (max 2000mg)	50mg/min into large vein via a pump (25mg/min may be appropriate in elderly or those with heart disease)	Hypotension, bradycardia, porphyria, drug overdose

***This may differ from Medusa

30 minutes:

To consider intubation and general anaesthesia with Intensive Care Unit transfer

Throughout:

Do a 12-lead ECG (and monitor BP when giving phenytoin IV); refer to neurology team for consult

In patients with known epilepsy: Prescribe current anti-seizure medicines, check serum anti-seizure medicine levels, check if recent drug changes & triggers, CT head scan only if brain injury or persisting focal deficits

In patients without known epilepsy: CT head scan, collateral history, check if previous seizures of any kind, consider stroke, encephalitis or other underlying neurological disease.

Further management

Anti-seizure medicine levels in serum can be done for: Carbamazepine, Lamotrigine, Levetiracetam, Phenytoin. These can assess adherence to medication when measured in the admission blood sample

Consider managing for eclampsia if over 20 weeks pregnant

Maintenance doses for the second-line medications are: Levetiracetam 500-750mg twice daily; Sodium valproate 300-500mg twice daily; Phenytoin 200-300mg once daily

Sodium valproate initiation requires a pregnancy assessment when possible in women of childbearing potential. It should be switched to another medicine if a woman is found to be pregnant. The valproate annual risk acknowledgment form should be completed before discharge from hospital in all patients subject to this.

Phenytoin needs serum phenytoin level checking every 3 days

Prescribe 4mg IV lorazepam as needed (to give 5 minutes after a tonic-clonic seizure starts; max twice in 24 hours for this and any other benzodiazepine; 2mg in people who are frail or over 80 years old)

Describe seizure to help diagnose any dissociative/non-epileptic attacks (fluctuating movements, back arching, eyes squeezed shut, appears to respond in some way to voice or touch, leg withdraws to plantar reflex).

Further notes:

The medications and doses given herein may be unlicensed. However they are part of national and international guidelines including for the Intensive Care Society in the UK:

Mullhi R, Hayton T, Midgley-Hunt A, et al. Guidance for: The acute management of status epilepticus in adult patients. *Journal of the Intensive Care Society*. 2025;26(2):249-263. doi:[10.1177/17511437251321338](https://doi.org/10.1177/17511437251321338)

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Version History

Version	Date	Guideline Lead(s)	Status	Comment
1			Final	Previous version on the app
2	March 2026	Krishna Chinthapalli	Final	Full review Neurology Cross site Clinical Governance 19/03/2026

Related Documents

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