Management of Generalised Convulsive Status Epilepticus in Adults

Stage 1
0 – 5 minutes

Immediate Measures:

- Open and maintain airway
- Give oxygen
- Assess cardiac and respiratory function
- Secure IV access in large veins
- Check blood glucose
- Check temperature
- Time seizure from onset

Stage 2
> 5 minutes

Give ONE of the following drugs depending on local availability. Do not mix benzodiazepines:

- **Lorazepam** up to 4mg IV, given as 2mg IV over 1 minute, if seizure not terminating give a further 2mg IV after 2-3 minutes
- **Diazepam** 10mg IV or rectally. Maximum rate 5mg/minute. Risk of respiratory depression. Give 5mg of Diazepam in the elderly or patients less than 50kg
- **Midazolam** 10mg buccally, intranasally* or intramuscularly** (off-label). Give 5mg of Midazolam in the elderly or patients less than 50kg.
  *Intranasal midazolam: Use the buccal preparation. Half the dose in each nostril.
  **Intramuscular administration: use 10mg/2ml ampoules (stored in CD cupboard)

Administer a repeat dose of benzodiazepine at 10 minutes if there is no response.

Determine aetiology

- Any suggestion of hypoglycaemia: give 100ml of glucose 20% IV. If no IV access 1mg IM glucagon. Check blood glucose again after 10 minutes.
- Any suggestion of alcohol abuse or impaired nutritional status: give thiamine IV (as 2 pairs of Pabrinex® ampoules).
- Give usual antiepileptic drug (AED) treatment if not already given – can be given via nasogastric tube if airway secured (see GGC NBM epilepsy guideline).
- Consider appropriate antibiotic/antiviral if any concern about CNS infection.
- Take bloods: U+Es, LFTs, FBC, Coagulation screen, Glucose, CK, Calcium, Magnesium, Blood culture, Blood gas, alcohol and toxicology screen, AED levels.

Stage 3
10 - 30 minutes

If status persists, give ONE of the following AED loading doses:

- **Intravenous Levetiracetam** (off-label) 60mg/kg, max: 4500mg/dose. See the main guideline for dosage and administration instructions OR
- **Intravenous Sodium valproate** (off-label) 25mg/kg, max: 2500mg/dose (contraindicated in pregnancy/women of child bearing potential). See the main guideline for dosage and administration instructions OR
- **Intravenous Phenytoin** 18mg/kg, max: 1800mg/dose. See the main guideline for dosage and administration instructions.

See Appendix 1 below for guidance on indications/cautions to guide AED choice.

If seizure is not terminating call ICU to inform them of the patient and contact neurology via switchboard for advice.

If seizures continue or reoccur in patients who are haemodynamically stable then consider another stage 3 AED.

Stage 4
30 – 60 minutes

If status persists, see the full GGC guideline for details and seek specialist advice.

Appendix 1: Indications and cautions for stage 3 antiepileptic drugs in the treatment of status epilepticus

Drug	May be preferred:	Cautions to consider:
Levetiracetam	• Already taking levetiracetam and suspected poor adherence • Alternatives contraindicated or previously ineffective • Favourable side effect and interaction profile	• Known allergic reaction • Reduce maintenance dose in renal impairment • Mood or behavioural disorder (may worsen symptoms)
Sodium Valproate	• Already taking sodium valproate and suspected poor adherence • Genetic generalised epilepsy • Mood disorder • Alternatives contraindicated or previously ineffective	• Contraindicated in pregnancy/women of child-bearing potential • Pre-existing liver disease or pancreatitis • Known metabolic disorder predisposing to hepatotoxicity • Known allergic reaction • Mitochondrial disease • Avoid in patients prescribed carbapenem antibiotics • Porphyria
Phenytoin	• Already taking phenytoin and suspected poor adherence • Alternatives contraindicated or previously ineffective	• Bradycardia • Heart block • Porphyria • Known allergic reaction • Caution in liver disease • Administration via enteral tubes can be problematic • Therapeutic drug monitoring required