

Diazepam (Emulsion) Intravenous for Adults : First-line

Who can administer

Administration RESTRICTED - see Appendix 1

Important information

DO NOT CONFUSE WITH DIAZEPAM SOLUTION for injection

Diazepam injection is available in two different formulations - one as an emulsion, and one as a solution

- The emulsion version is preferable as it causes less venous irritation ^(ref 1)
- Due to supply issues, occasionally the solution version is the only one which is available- in this case- use the [Diazepam Solution](#) monograph
- It is ESSENTIAL to choose the correct one
- This monograph refers to the EMULSION version

Available preparations

Diazepam Lipuro 10mg per 2mL ampoule - EMULSION

Reconstitution

- Already in solution
- Shake ampoule before use
- Draw up into the syringe immediately prior to administration
- Use a 5 micron filter needle when drawing up contents of ampoule

Infusion fluids

Glucose 5%

Methods of intravenous administration

Slow intravenous injection

- Do not dilute (precipitation may occur) (see further information)
- Administer into a large vein, no faster than 5mg per minute ^(ref 1)

Continuous intravenous infusion (administer using an electronically controlled infusion device)

- Final diazepam concentration must be between 0.1 and 0.4mg/mL. (i.e. 10mg to 40mg diazepam per 100mL glucose 5%) ^(ref 1)
- Rate is variable - see under 'Dose'
- Incompatible with PVC. Non-PVC infusion container (e.g. Braun Ecoflac, Baxter Viaflo or Technopharm Macoflex are all suitable) and a low adsorption giving set (e.g. Baxter Ref VMC 9606, or Braun 8700110SP) must be used. (available from pharmacy)
- Fresh infusions must be made every 6 hours ^(ref 1)

Dose in adults

IMPORTANT: Elderly and debilitated patients should be given doses at the lower end of the dose ranges, due to increased sensitivity to the drug

Status epilepticus

- **Initial dose:** Give 5 or 10mg as a slow intravenous injection
- Repeat after thirty to sixty minutes as required (may be repeated every 10 to 15 minutes if needed- this should be only done after calling for specialist intervention)
- Follow if necessary by an intravenous infusion of up to 3 mg/kg over 24 hours - see below for calculation

Tetanus ^(ref 2,3)

- Give 0.1 to 0.3 mg/kg by slow intravenous injection every one to four hours as required
- Alternatively, a continuous infusion of 3 to 10mg per kg over twenty four hours may be used
- Example of calculations for continuous infusion
- Patient weighs 65kg
 - Dose is 2mg per kg in 24 hours = 130mg in 24 hours = 5.4mg per hour
 - A new infusion must be prepared every six hours - suggest preparing 40mg in 100mL Glucose 5% = 0.4mg per ml i.e. 5.4mg in 13.5mL per hour
 - This will only use 81mL of infusion bag, but at six hours, the infusion must be replaced with a freshly prepared one

Renal impairment

- Start with small doses, titrate to response

Hepatic impairment

- Avoid if possible as may precipitate encephalopathy
- Contraindicated in severe liver disease

Chronic respiratory insufficiency

- Increased risk of respiratory depression
- Very slow intravenous administration is recommended
- Contraindicated in severe respiratory insufficiency

Monitoring

- It is advisable to keep the patient in a supine position, and monitor for at least one hour post dose ^(ref 1)
- Monitor cardiorespiratory function

Further information

- When being given by **intravenous injection**, the solution cannot be diluted further.
- When being given by **intravenous infusion**, it can be added to infusion fluid.
- The apparent contradiction is because when it is diluted in a large volume the stability is protected. If diluted in a small volume of fluid, the drug will precipitate out.

Storage

- Store below 25⁰C

- Do not freeze

References

Diazepam Lipuro 10mg/2ml Braun- translated SPC 04/2014

1: Injectable medicines information Medusa, downloaded 08/06/2022

2: Martindale, The complete Drug Reference accessed online 08/06/2022

3: BNF accessed online 08/06/2022

Therapeutic classification

Benzodiazepine