

**Flumazenil is a competitive benzodiazepine antagonist, and should be used cautiously because of the potential for adverse effects**

## Indications

Benzodiazepine toxicity with significant CNS or respiratory depression in the following situations:

- Paediatric lone benzodiazepine toxicity with airway / breathing compromise
- Airway breathing compromise and no specialist staff or equipment available to secure airway
- Patients who may be inappropriate to intubate (elderly with very poor pre-morbid state)
- Benzodiazepine toxicity in the setting of excessive administration in a therapeutic setting (iatrogenic poisoning)

## Relative contraindications:

- History of benzodiazepine dependence
- Epilepsy / seizure disorder
- Co-ingested proconvulsant drugs (eg tricyclic antidepressants)

## Presentation

500 mcg/5 mL ampoules

## Dose and Administration

- ***Flumazenil is rarely required in the Rx of benzodiazepine OD. Supportive care is the mainstay of Rx***
- 100-200 mcg (1-2 mL of 500 mcg/5 mL ampoule) IV 1-2 minutely until adequate conscious level (max 2000 mcg)
- Paediatric dose: 5 mcg/kg (up to 200 mcg) IV 1-2 minutely until adequate conscious level (max 40 mcg/kg up to 1000 mcg)
- Full reversal of any benzodiazepine contributing to sedation is expected with a cumulative dose of 2000 mcg
- Repeat flumazenil dosing may be required if sedation reoccurs (flumazenil effect lasts approx. 90 minutes)
- Consider an infusion 100-500 mcg/hour (Paediatric: 2-10 mcg/kg/hour) if sedation is prolonged and repeat dosing is required

***Only administer in a setting where equipment and expertise is available to manage seizures***

## Adverse Effects

**Seizures:** can occur and are more likely with co-ingestion of pro-convulsant medications, unrecognised benzodiazepine dependence, or in the presence of an underlying seizure disorder

- Treat with diazepam 5 mg IV every 5 minutes as necessary if seizure is prolonged or recurrent
- Phenytoin is not effective. Ongoing seizures may require general anesthetic sedation with EEG monitoring

**Benzodiazepine withdrawal:** with agitation, tachycardia, seizures

- May require administration of benzodiazepines

**Pregnancy:** Safety not established (Category B3). Administration should not be withheld if indicated