

Ethanol is used to competitively inhibit alcohol dehydrogenase in toxic alcohol exposures, preventing the production of toxic metabolites.

## Indications

- Methanol poisoning
- Ethylene glycol poisoning
- Poisoning with other toxic alcohols

## Adverse effects:

- IV solution may cause phlebitis
- Ethanol intoxication
- Hypoglycaemia may occur, especially in children

*If available, Fomepizole is the preferred antidote for treatment of toxic alcohol poisoning in children and pregnancy*

(please discuss with a clinical toxicologist)

## Presentation

- Commercially available 40-43% preparations (e.g. Vodka) may be given orally (PO) or via a nasogastric tube
- 20 mL vial of 100% ethanol for dilution and administration via intravenous infusion

## Dose and Administration

### Loading dose: (over 30-60 minutes)

**PO or NG:** 1.8 mL/kg of 40-43% ethanol (4 x 30 mL shots vodka in a 70 kg adult)

**IV:** 8 mL/kg of 10% ethanol

### Maintenance:

**PO or NG:** 0.4 mL/kg/hour of 40-43% ethanol (30 mL of vodka each hour in a 70 kg adult)

**IV:** 1-2 mL/kg/hour of 10% ethanol

**A 10% ethanol solution is prepared by adding 100mL of 100% ethanol to 900mL of 5% dextrose**

## Therapeutic Endpoint:

- Maintenance of blood ethanol concentration of 0.1-0.15 g/dL (100-150 mg/dL OR 22-33 mmol/L)  
**(The use of a breathalyser is NOT reliable for the purpose of monitoring blood ethanol concentration)**
- Alcohol dehydrogenase is not effectively blocked at ethanol concentrations < 0.1 g/dL (22 mmol/L)
- Ethanol pharmacokinetics are extremely variable and blood ethanol measurement should be monitored hourly until steady state is reached and then 2-3 hourly
- Ethanol dosing will need to be increased when haemodialysis is commenced for the treatment of toxic alcohol poisoning (double infusion rate initially and adjust according to hourly ethanol concentration)

**Pregnancy:** treatment with ethanol should be instituted if indicated for treatment of toxic alcohol poisoning