

**L-carnitine has a reasonable biological basis to treat the metabolic effects 2<sup>o</sup> to valproate toxicity, but strong evidence supporting clinical efficacy is limited**

### Indications

May be considered in valproate (VPA) poisoning as an adjunct to standard management if any of the following are present:

- VPA-induced hepatotoxicity
- hyperammonaemia ( $\text{NH}_3 > 100 \text{ mmol/L}$ )
- encephalopathy/cerebral oedema
- worsening metabolic acidosis
- patients requiring haemodialysis as part of the management of valproate toxicity

### Contraindications

Previous hypersensitivity reactions to L-carnitine

### Adverse Effects

Limited information but reports of:

- GI upset/diarrhoea
- 'fishy body odour'
- seizures
- tachyarrhythmias
- hypotension

### Presentation

1 g/5 mL vial

### Dose and Administration (discuss use with a Clinical Toxicologist)

\*L-carnitine dosing is NOT well-defined in valproate poisoning.

A typical dosing schedule is as follows:

- Dilute each dose in 100 mL 0.9% saline and infuse over 30 min.
- Diluted made-up solutions are stable at room temperature for 24h.
- 100 mg/kg IV loading dose (max 6 g)
- 50 mg/kg IV every 8 hours (max 3 g per dose)

### Therapeutic Endpoint:

Poorly defined

Consider when clinically improving and ammonia concentration decreasing

### Pregnancy

Limited data to draw any conclusions regarding safety but animal studies show no increase in congenital abnormalities. Discuss with Clinical Toxicologist the risk/benefit.