Intravenous Phenytoin

Dose:

**Status epilepticus**

**Loading dose for patients not already taking phenytoin:** 20mg/kg by slow intravenous injection or infusion **over at least 20 minutes** (with blood pressure and ECG monitoring). Usually start maintenance dose 12 hours after loading dose.

**For patients already taking phenytoin, seek advice on loading dose calculations**

**Maintenance:** (can be given via slow IV injection or by mouth)

- **Neonate to Child 1 month-12 years:** 2.5 to 5 mg/kg twice daily adjusted according to response and plasma-phenytoin concentration
- **Child 12-18 years:** up to 100mg 3-4 times a day

**Route of administration:**

- Intravenous infusion or slow intravenous injection:
  - Give into a large vein through an in-line filter (0.22–0.50 micron) at rate not exceeding 1mg/kg/minute (max. 50mg/minute)
  - Monitor blood pressure and ECG during administration
  - Where possible administer via a central venous catheter to avoid potential venous irritation as the preparation has a high pH.

**Products available:**

- 250mg in 5mL ampoules (50mg per mL)

**To prepare a dose:**

- Flush intravenous line with sodium chloride 0.9% before and after administration.
- Dilute **only** with sodium chloride 0.9% to a concentration 10 mg/mL prior to administration.
- Administration should commence immediately after the mixture has been prepared and completed within one hour.
- Phenytoin can be given undiluted as a slow intravenous injection and thereby does not need to be administered through an in-line filter.

**How to prescribe:**

- Prescribe the loading dose on an LTH drug chart once only section clearly specifying duration of infusion and diluent. Prescribe maintenance therapy on a LTH drug chart, clearly specifying the route of administration.

**Compatibilities:**

- Sodium chloride 0.9% only

**Incompatibilities:**

- All solutions containing glucose, parenteral nutrition (PN), ceftazidime, clarithromycin, dobutamine, heparin, propofol, all potassium containing fluids.

Phenytoin solution for injection should not be mixed with other drugs because of precipitation or crystallisation of phenytoin acid.

**Notes:**

- If there is no compatibility information for specific drugs, do not assume compatibility. For incompatible drugs or those with no compatibility information use a separate line or, for short infusions, flush well between drugs.
- The paediatric therapeutic range of phenytoin is 10-20mg/L. However, neonatal ranges differ because of reduced protein binding; in a neonate levels of 6-15mg/L are normally therapeutic. If levels are required it is normal practice to take trough levels immediately prior to a dose being administered.

**References:**


**Provenance**

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