

# Yorkshire and Humber Neonatal Operational Delivery Network

## Drug Administration Guide

# Phenytoin

<b>Indication</b>	Status epilepticus
<b>Dose</b>	<p>Loading dose (for phenytoin naïve patients only): 20mg/kg</p> <p>Maintenance dose: 2.5-5mg/kg twice daily, adjusted according to response and plasma phenytoin concentration</p>
<b>Route of administration</b>	<p>Loading dose to be given by slow intravenous injection or infusion over at least 20 minutes.</p> <p>Maintenance dose can be given by slow intravenous injection or orally.</p> <p>Phenytoin should not be given at a rate exceeding 1mg/kg/minute. Where possible use a central venous catheter to avoid venous irritation due to the high pH. Give through an in-line filter (0.22-0.5 micron). Using a 0.2 micron filter is acceptable.</p> <p>Monitor blood pressure and ECG during administration of phenytoin.</p>
<b>To prepare</b>	<p>250mg in 5mL vials (50mg/mL)</p> <p>Dilute to concentration not exceeding 10mg/mL.</p> <p><b>Preferred diluent:</b> sodium chloride 0.9%</p> <p><u>Not</u> compatible with glucose.</p> <p><b>To make 10mg/mL:</b> withdraw required dose and add 4 times that volume of 0.9% sodium chloride</p> <p>For example: if you require a dose of 60mg – withdraw 1.2mL of phenytoin (250mg/5mL) and add to 4.8mL of 0.9% sodium chloride to make a total volume of 6mL (10mg/mL).</p>
<b>Compatibilities</b>	Sodium chloride 0.9%
<b>Known incompatibilities</b>	Glucose, ceftazidime, clarithromycin, dobutamine, fentanyl, heparin, hydrocortisone, lidocaine, linezolid, morphine, propofol, potassium chloride, vasopressin, parenteral nutrition (vamin and lipid)
<b>Notes</b>	<p><u>Trough plasma concentration levels for optimum response:</u></p> <p>Neonates up to 3 months of age – 6-15mg/L (25-60micromol/L)</p> <p>Children 3 months to 18 years – 10-20mg/L (40-80micromol/L)</p> <p>Therapeutic plasma phenytoin concentrations are reduced in the first 3 months of life due to reduced protein binding.</p> <p>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.</p> <p>For side-effects see the BNFc - <a href="#">Phenytoin BNFc</a></p>
<b>References</b>	Leeds Teaching Hospitals neonatal prescribing and administration monograph, BNFc, Handbook or Injectable Drugs Trissel et al, Neonatal Formulary 7 <sup>th</sup> edition.

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 Clinicians must accept individual responsibility for using this information and prescribing safely.