PHENYTOIN LOADING DOSE IN STATUS EPILEPTICUS

Ref No: 1932

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Developed	:	February 2013
Last updated	:	February 2013
Last reviewed	:	February 2013
Planned review	:	February 2015
Keywords	:	Phenytoin, Epilepsy
Comments	:	**Author** - Dawn Smith, Senior Pharmacist **Hyperlink** - Document title: Clinical Guideline Ref. 1302

INTRAVENOUS PHENYTOIN
(Loading dosage in status epilepticus)

INDICATIONS

- Status epilepticus – for patients not taking maintenance phenytoin therapy (see also clinical guideline 1302 – Status Epilepsy)

If phenytoin is given too rapidly, hypotension, cardiac arrhythmias, impaired cardiac conduction, CNS depression or respiratory arrest can occur. Monitor all patients with continuous ECG throughout the infusion and blood pressure every 5 minutes

NOTES

- Phenytoin sodium parenteral solution is highly alkaline. Soft tissue irritation and inflammation (varying from slight tenderness to extensive necrosis and sloughing, requiring amputation in rare instances) can occur with or without extravasation
- Administer **slowly** (maximum rate 50 mg/min) into a large vein
- It is important to ensure that extravasation does not occur – **check infusion site regularly**

PREPARATIONS

- Phenytoin sodium injection 50 mg/mL in 5 mL (250 mg) ampoules

DILUENTS

- Give neat or in Sodium chloride 0.9% only at a concentration not exceeding 10mg/ml

ADULT LOADING DOSAGE - 15-20mg/kg loading dose

Body weight	Phenytoin Dosage	Administer over at least
40-49kg	750mg	15minutes
50-64kg	1000mg	20 minutes
65-78kg	1250mg	25 minutes
79-92kg	1500mg	30 minutes
Over 92kg	1750mg	35 minutes

ADMINISTRATION INFORMATION

- Flush cannula with sodium chloride 0.9% before phenytoin administration
- Phenytoin can be given undiluted via syringe pump or diluted in sodium chloride 0.9% only
- If diluted, doses up to 1000mg must be added to 100ml and dose above 1000mg to 250ml sodium chloride 0.9%
- Diluted infusions must be clear and free of precipitate, infused via a 0.22-0.5 micron filter and used within an hour of preparation – suitable filters are available from pharmacy and can be put on your ward stock list if you wish to give phenytoin by dilute infusion (Pall filter for IV therapy Nanodyne ELD 96LLCE)
- Flush cannula with sodium chloride 0.9% after phenytoin administration

CONTRA-INDICATIONS

Sinus bradycardia, sino-atrial block, and second- and third-degree heart block; Stokes-Adams syndrome; acute porphyria

MONITORING

- During administration, monitor blood pressure every 5 minutes, ECG, respiration and inspect venflon site regularly for any pain or erythema.
- Check phenytoin levels 2 to 4 hours after completing the IV loading dose to ensure therapeutic levels have been achieved
- Target Phenytoin levels are 10-20mg/L

FURTHER MAINTENANCE DOSES AND LEVELS

- Intravenous loading may be followed by further maintenance doses of 100mg IV or orally every 6-8 hours
- If maintenance phenytoin dosing is continued, a second phenytoin level would normally be obtained after 3 to 5 days to check steady state levels, and dosage can be adjusted if necessary; remember phenytoin has non linear kinetics so small changes in dosage can result in large changes in levels

REFERENCE SOURCES

Note the following reference sources give different loading doses of phenytoin for status epilepticus in mg/kg and in the table of doses provided above, all doses are within the range of 15-19mg/kg:

NICE Clinical Guideline 137 January 2012 (advises 15-18mg/kg)
BNF 64, September 2012 (advises 20mg/kg)
Summary of Product Characteristics for IV Phenytoin (advises10-15mg/kg)
Medusa IV Guide
SATH Clinical Guideline 1302