

PHENYTOIN

- PRESENTATION:** Ampoules containing 250mg in 5ml, 50mg/1ml of phenytoin sodium.
- INDICATION:** Treatment of status epilepticus, prophylaxis of seizures.
- DOSE AND ADMINISTRATION:** **Continuous monitoring of ECG and blood pressure during administration is essential.**
- Loading dose:** 20mg/kg. If haemodynamically unstable consider giving loading dose in two divided doses.
- Maintenance dose:** Initially if <80kg 100mg every 8 hours, if ≥ 80kg 100mg every 6 hours. Obese patients may need larger doses.
- Peripheral administration:**
Phenytoin is irritant if administered peripherally, and therefore ideally it should be diluted. See ICU standard infusion below. To avoid local irritation flush through the same catheter with sodium chloride 0.9% before and after administration. Administer via a large vein.
- Central administration:**
Phenytoin may be administered centrally without dilution, at a maximum rate of 50mg/minute but it is preferable to administer more slowly to minimise the hypotensive effects e.g. 100mg over 3-5 minutes, 1000mg over 60 minutes. If diluted as per the standard infusion the solution can be administered over 60 minutes (but no greater than 60 minutes due to physical incompatibility of the infusion).
- ICU STANDARD INFUSION**
Loading doses and maintenance doses should be diluted in sodium chloride 0.9% to a maximum concentration of 10mg/ml i.e. maximum of 1000mg in 100ml, up to 2500mg in 250ml. Infuse through a 0.22-0.5 micron in-line filter. Use as soon as infusion is mixed, and only use if it is free from haziness and precipitate.
- STABILITY:** Physically and chemically stable for a maximum of one hour once diluted.
- ADDITIONAL NOTES:** Phenytoin is not stable in glucose 5%.
If using the Hikma brand note that there are dose regimens and administration rates in the product information which do not reflect those used in UK clinical practice. However in the UK it is routinely used according to UK practice.

References

1. Phenytoin 250mg/5ml solution for injection or infusion. Pfizer Limited. Summary of Product Characteristics. Accessed 26.07.19
2. Phenytoin Hikma 50mg/ml solution for injection. Kent Pharmaceuticals Ltd. Summary of Product Characteristics. Accessed 26.07.19
3. British National Formulary. Accessed online 26.07.19
4. Adult Medical Emergencies Handbook. Ed Dr GRNimmo. NHS Lothian. 2009/11.
5. NHS Improvement Patient Safety Alert: Risk of death and severe harm from error with injectable phenytoin (November 2016).
6. NHS Greater Glasgow and Clyde Adult Therapeutics Handbook: Guideline for Phenytoin Dose Calculations. Last updated: August 2019. Accessed online 19/09/19.

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