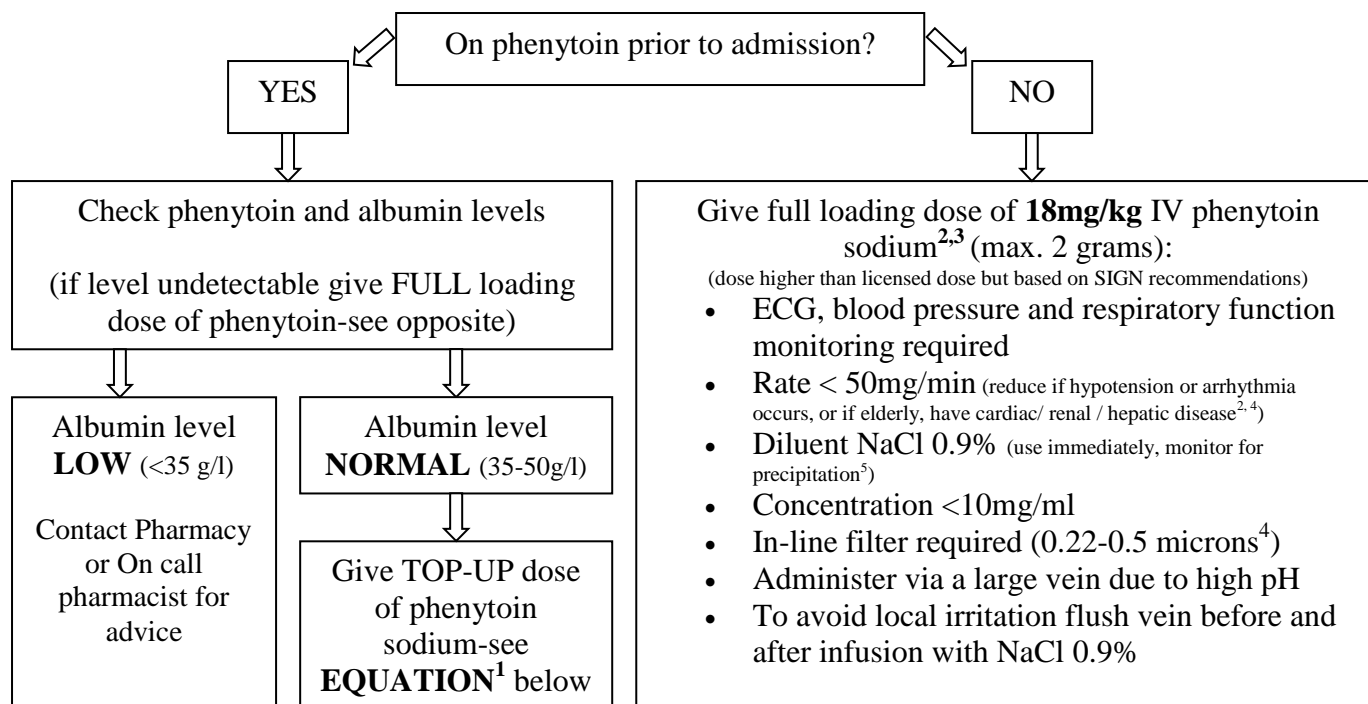


## Guidance for the prescribing and monitoring of phenytoin (IV and oral) in Adults

### PHENYTOIN LOADING DOSES

- For STATUS EPILEPTICUS or UNCONTROLLED EPILEPSY
- Use IV route if STATUS EPILEPTICUS or ORAL ROUTE COMPROMISED



### PHENYTOIN MAINTENANCE DOSES (IV or ORAL)

Give **3-4mg/kg/day<sup>4</sup>** phenytoin sodium  
(Start 12-24 hours after loading dose if given)

#### TOP-UP dose equation

Phenytoin sodium Top-up dose (mg) = (20 – measured concentration (mg/l)) x 0.7 x weight (kg)

Dose \ Weight	Approximate concentration increase			
	50kg	60kg	70kg	80kg
250mg	7mg/l	6mg/l	5mg/l	4.5mg/l
500mg	14mg/l	12mg/l	10mg/l	9mg/l
750mg	21mg/l	18mg/l	15mg/l	13.5mg/l

Table 1: Approximate increase in phenytoin concentration with 'top-up' doses

Example- if the patient weighs 70 kg and has a measured concentration of 5 mg/L, a single dose of 750 mg will increase the concentration to around 20 mg/L (5 mg/L + 15 mg/L).

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### When to check phenytoin levels<sup>1</sup>

**Target concentration- 5-20mg/l-** \*remember to check albumin with every level taken- (if albumin level is low contact pharmacy for advice)\*

**After loading/top-up dose-** 2-4 hours post IV dose or 12-24 hours after oral

**Commencing maintenance dose-** 3 - 5 days after starting a maintenance dose then re-analyse at 5-10 days later as further accumulation may occur

**Maintenance dose change (small increments only e.g. 25-50mg)** - 3-5 days after dose change then re-analyse 5 - 10 days later as further accumulation may occur

**Routine monitoring-** trough concentration (i.e. sample prior to next dose)

**Suspected phenytoin toxicity-** check level daily until < 20mg/l and/ or clinical signs resolved

### Conversion between formulations<sup>1</sup>

Phenytoin sodium **100 mg** oral capsules / tablets = phenytoin sodium **100mg** IV injection  
Phenytoin sodium **100mg** capsules/ tablets/ injection = phenytoin **90mg** suspension

### Phenytoin safety and monitoring requirements

- Check drug is prescribed correctly on drug cardex
- Check drug dose is appropriate
- Check drug is being administered
- Check LFT's and renal function
- Always check albumin level when checking phenytoin levels
- If new therapy- monitor for serious side effects e.g. leucopenia, skin reactions (see BNF)
- Consider drug interactions (Appendix 1 BNF<sup>4</sup>)
- Maintain patient on the same brand of phenytoin

### Common signs of Phenytoin Toxicity<sup>4,6</sup>

Drowsiness	Confusion	Slurred speech
Ataxia	Nausea	Nystagmus
Mental changes	Hyperglycaemia	Coma

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