Drug Therapy Protocols: Phenytoin

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<tr>
<th>Date</th>
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<tr>
<td>Purpose</td>
<td>To ensure a consistent procedural approach to Phenytoin administration.</td>
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<td>Scope</td>
<td>Applies to all QAS clinical staff.</td>
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<td>Information security</td>
<td>This document has been security classified using the Queensland Government Information Security Classification Framework (QGISCF) as UNCLASSIFIED and will be managed according to the requirements of the QGISF.</td>
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Phenytoin

Drug class
Anticonvulsant

Pharmacology
Phenytoin is an anticonvulsant which also has Class 1B anti-arrhythmic activity. The primary mechanism of action is prevention of repetitive neuronal discharge through inhibition of Na+ channel activity.[1–3]

Metabolism
Hepatic.[1]

Indications
- As a second line anticonvulsant in status epilepticus
- Seizure prophylaxis in certain neurosurgical cases[4]

Contraindications
- Allergy and/or Adverse Drug Reaction
- Cardiac conduction abnormalities identified on the ECG

Precautions
- Impaired liver function
- Hypotension and/or severe myocardial insufficiency

Side effects
- Hypotension
- Bradycardia
- AV heart block
- CNS depression
- Nausea and/or vomiting
- Skin rash

Presentation
- Ampoule, 250 mg/5 mL phenytoin

Onset (INF) | Duration (INF) | Half-life
---|---|---
30–60 minutes | 24 hours | 24 hours
Phenytoin

Special notes

- All phenytoin infusions are to be initiated using hospital medication and infusion (filter) supplies. Phenytoin will not be carried by the QAS flight team.
- Patients receiving phenytoin infusions require close haemodynamic monitoring: ECG, heart rate, blood pressure and respiratory function.
- Phenytoin should be administered into a large vein and flushed thoroughly to avoid phlebitis – IV cannula patency must be confirmed prior to administration. IV INF rate must not exceed 25 mg/minute.[1]
- Severe cardiotoxic reactions and fatalities have been reported with atrial and ventricular conduction depression and VF.
- All cannulae and IV lines must be flushed thoroughly with sodium chloride 0.9% following each medication administration.

Schedule

- S4 (Restricted drugs).

Routes of administration

Intravenous infusion (IV INF)

Adult dosages

- As a second line anticonvulsant in status epilepticus
- Seizure prophylaxis in certain neurosurgical cases

Adult dosages

CCP ESoP aeromedical – RSQ Clinical Coordinator consultation and approval required in all situations.

18 mg/kg (rounded down to the nearest 250 mg) over 60 minutes.

Infusion preparation: Inject 18 mg/kg (rounded down to the nearest 250 mg) of phenytoin into a 100 mL bag of sodium chloride 0.9%. Ensure bag is appropriately labelled.

Paediatric dosages

Note: QAS officers are NOT authorised to administer phenytoin to paediatric patients.