### Vitamin K₁ (phytomenadione)

<table>
<thead>
<tr>
<th>Alert</th>
<th>Check ampoule carefully as an adult 10 mg ampoule (Konakion MM Adult) is also available.</th>
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</thead>
<tbody>
<tr>
<td>Indication</td>
<td>Prophylaxis and treatment of vitamin K deficiency bleeding (VKDB) including haemorrhagic disease of the newborn.</td>
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<tr>
<td>Action</td>
<td>Fat soluble vitamin which promotes the activation of blood coagulation Factors II, VII, IX and X in the liver.</td>
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<td>Drug Type</td>
<td>Vitamin.</td>
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<td>Trade Name</td>
<td>Konakion MM Paediatric.</td>
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<td>Presentation</td>
<td>2 mg/0.2 mL ampoule.</td>
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<td>Dosage / Interval</td>
<td><strong>IM prophylaxis</strong>&lt;br&gt;(&lt; 1500 , \text{g} ) administer 0.5 mg (0.05 mL) as a single dose at birth.&lt;br&gt;( \geq 1500 , \text{g} ) administer 1 mg (0.1 mL) as a single dose at birth.&lt;br&gt;&lt;br&gt;<strong>Oral prophylaxis</strong>&lt;br&gt;Administer 2 mg orally for 3 doses:&lt;br&gt;First dose: At birth.&lt;br&gt;Second dose: 3–5 days of age (at time of newborn screening) or at one week of age&lt;br&gt;Third dose: 4 weeks of age.&lt;br&gt;&lt;br&gt;<strong>IV prophylaxis</strong>&lt;br&gt;Administer 0.3 mg/kg as a single dose. Administer slowly, not exceeding 1 mg/minute.&lt;br&gt;IV prophylaxis may be given in sick infants if unable to give by IM injection.&lt;br&gt;&lt;br&gt;<strong>IV treatment of haemorrhagic disease of the newborn</strong>&lt;br&gt;Administer 1 mg IV as a slow bolus (maximum 1 mg per minute). If required, dilute with glucose 5% or sodium chloride 0.9% as described below.&lt;br&gt;Dose can be repeated in 4–6 hours if required.&lt;br&gt;Must be administered in the presence of a medical officer.&lt;br&gt;May be given subcutaneously if venous access not available.</td>
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<td>Route</td>
<td>IM, Oral, IV, subcutaneous</td>
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<tr>
<td>Preparation/Dilution</td>
<td>IM and oral: Administer injection undiluted.&lt;br&gt;IV: If required draw up one ampoule (0.2 mL) and dilute up to 2 mL (to make a 1 mg/mL solution) with glucose 5% or sodium chloride 0.9%.</td>
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<tr>
<td>Administration</td>
<td>IV: Administer as a slow IV bolus. Maximum rate 1 mg per minute. Administer undiluted or dilute with sodium chloride 0.9% or glucose 5% as above. May be injected into the lower part of an infusion set running sodium chloride 0.9% or glucose 5%.&lt;br&gt;IM: Administer undiluted. Do not use the solution if it is turbid or separated. Solution must be clear.&lt;br&gt;Oral: Injection solution can be administered orally. Break ampoule, place dispenser vertically into ampoule; withdraw solution from ampoule into dispenser until solution reaches marking on dispenser (2 mg); administer contents directly into mouth.</td>
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<td>Monitoring</td>
<td>Monitor prothrombin time when treating clotting abnormalities (a minimum of 2 to 4 hours is needed for measurable improvement).&lt;br&gt;Efficacy of treatment with Vitamin K₁ is decreased in patients with liver disease.&lt;br&gt;The risk of childhood cancer is not increased by IM administration of vitamin K₁.&lt;br&gt;Repeated doses are advised if infant vomits within an hour of an oral dose or if diarrhoea occurs within 24 hours of administration. Check with medical officer for advice.</td>
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<tr>
<td>Contraindications</td>
<td>Oral prophylaxis is contraindicated in infants who are: Premature; unwell; on antibiotics; have cholestasis; have diarrhoea.&lt;br&gt;Oral prophylaxis is contraindicated in infants of mothers who are on anticonvulsants</td>
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</tbody>
</table>
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including phenytoin, barbiturates and carbamazepine; rifampicin and the vitamin K antagonists including warfarin and phenindione.

**Precautions**
IV administration is associated with a possible risk of kernicterus in premature infants weighing less than 2.5 kg.

**Drug Interactions**
Co-administration of anticonvulsants can impair the action of vitamin K₁.

**Adverse Reactions**
Pain, swelling and erythema at IM injection site. Severe hypersensitivity reactions, including death have been reported with rapid IV administration – administer IV doses slowly and only on recommendation by a consultant.

**Compatibility**
Fluids: Glucose 5%, glucose 10%, sodium chloride 0.9%.

Y site: Alfentanil, amikacin, aminophylline, ascorbic acid, atracurium, atropine sulfate, aztreonam, calcium chloride, calcium gluconate, cefazolin, cefotaxime, ceftriaxone, dexamethasone, dopamine, adrenaline (epinephrine), fentanyl, furosemide (frusemide), gentamicin, heparin sodium, hydrocortisone, indomethacin, magnesium sulfate, midazolam, morphine, phenobarbital (phenobarbitone), sodium bicarbonate, vancomycin.

**Incompatibility**
Fluids: Fat emulsion (intravenous)

Y-site: Amphotericin (conventional), ampicillin, dantrolene sodium, diazepam, diazoxide, dobutamine, haloperidol lactate, hydralazine, magnesium sulfate, methylprednisolone, phenytoin, promethazine, sulfamethoxazole-trimethoprim.

**Stability**
Use immediately.

**Storage**
Store below 25°C. Protect from light.

**Special comments**
Check ampoule carefully as an adult 10 mg ampoule (Konakion MM Adult) is also available.

**Evidence summary**
As per NeoMed Consensus Group. Refer to reference manual or electronic version.

**References**
As per NeoMed Consensus Group. Refer to reference manual or electronic version.

Original version Date: 03/03/2016
Current Version number: 1
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Version Date: 03/03/2016
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