

VITAMIN K₁ - Phytomenadione

Trade Name	Konakion [®] MM Paediatric/Konakion [®] MM (Roche)
Class	Fat soluble vitamin
Mechanism of Action	Plays a crucial role in the synthesis of clotting factors (II, VII, IX and X) and the anticoagulant proteins C and S.
Indications	<ol style="list-style-type: none"> 1. Prophylactic therapy for haemolytic disease of the newborn 2. Treatment of haemolytic disease of the newborn or other causes of coagulopathy 3. Maintenance therapy in the management of liver dysfunction often in the setting of cholestatic jaundice
Contraindications	Oral prophylaxis should not be used for: preterm and unwell infants or infants on antibiotics. IM Vit K should be used in these cases.
Supplied As	<p>Ampoules (mixed micelle formulation):</p> <p>Konakion[®]-MM Paediatric 2mg in 0.2mL ampoules</p> <p>Konakion[®]- MM 10mg in 1mL ampoules (not a stock item in NICU)</p>
Dilution	<p>Do not dilute.</p> <p>Check that solution is clear to opalescent and pale yellow.</p>
Dosage	<ol style="list-style-type: none"> 1. Prophylaxis: IM: 1mg (0.1mL) at birth, 0.5mg (0.05ml) if <1500g Oral: 2mg with first feed, at 5 days; and at 6 weeks 2. Haemolytic Disease of the Newborn or Coagulopathy 1-10mg IV slow push, at 1mg/min 3. Maintenance Therapy for Liver Dysfunction Oral: 2mg – starting dose but discuss increasing the dose with the gastroenterologist if coagulation does not improve IV: May require same dose IV as oral if nil by mouth or not tolerating feeds
Interval	<ol style="list-style-type: none"> 1. IM: Single dose, Oral: At birth, day 5, 6 weeks 2. IV: Usually a single dose but repeated depending on clinical response 3. Daily
Administration	IM: injection into the lateral thigh Oral: via oral syringe IV: slow push
Compatible With	Do not dilute prior to administration . See below.

.... Compatible With	Terminal Y-site: Adrenaline, amikacin, aminophylline, ascorbic acid, calcium chloride, calcium gluconate, cefazolin, cefoxitin, cefuroxime, clindamycin, dexamethasone, dextrose, dopamine, erythromycin, fentanyl, fluconazole, furosemide, ganciclovir, gentamicin, heparin, hydrocortisone, imipenem /cilastain, indomethacin, insulin, labetalol, lidocaine, midazolam, morphine, noradrenaline, benzyl penicillin, phenobarbital, piperacillin, potassium chloride, propranolol, pyridoxine, sodium bicarbonate, sodium chloride, vancomycin, vasopressin.
Incompatible With	Terminal Y-site: Diazepam, diazoxide, dobutamine, magnesium sulphate, phenytoin, sulfamethoxazole-trimethoprim Avoid infusing in the same line as TPN and lipid – there is no data on compatibility with these fluids
Monitoring	If treating clotting abnormalities check prothrombin time. (Measurable response to treatment, takes a minimum of 2 - 4 hours to occur)
Stability	Discard ampoule after use
Storage	Room temperature and protect from light
Adverse Reactions	Anaphylaxis reported with IV administration Can also cause transient flushing. Pain and swelling at IM site. Less than 1% of patients with G6PD deficiency may experience haemolysis.
Metabolism	Rapidly metabolised in the liver, excreted in bile and urine.
Comments	Vitamin K intramuscular administration does not increase risk of childhood cancer. This suggestion has been disproved. NB Some of the compatibility information in past has been for a different formulation of the injection. If being discharged on a dose of >2mg prescribe the larger ampoule (10mg in 1mL). For stability reasons any remaining solution should be discarded and a new ampoule used for each dose.
References	<ol style="list-style-type: none"> 1. NZHPA Notes on Injectable Drugs 5th Edition 2. Medicines for Children, RCPCH, 1999 3. BMJ 1993; 307:89-91 Drugs 1995; 49(3): 376 4. Roche product info and personal communication, 2002 5. National Women's Clinical Guidelines 6. Neofax in www.micromedexsolutions.com 7. www.anmfonline.org
Updated By	P Schmidt & B Robertshawe December 2004 A Lynn, B Robertshawe Dec 2012 (re-order profile) A Lynn, B Robertshawe July 2016 A Lynn, B Robertshawe March 2022 (routine update +compatibilities)