South Australian Neonatal Medication Guidelines

Vitamin K

2mg/0.2mL injection

Note:

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

Synonyms

Phytomenadione, vitamin K_1, phytonadione

Dose and Indications

Prophylaxis against Vitamin K Deficiency Bleeding

Intramuscular dosing is the preferred approach. The alternative oral regime should only be offered where parents refuse the intramuscular dose.

Intramuscular (preferred method)

For neonates less than 1500grams give 0.5mg as single dose at birth

For neonates equal to or greater than 1500grams give 1mg as single dose at birth

Oral

Alternative to IM for full-term infants

Oral therapy is given in up to three separate 2mg doses at:

- Birth;
- 3 to 5 days of age; and
- The fourth week of life

This regimen has the potential for poor compliance. If using this method, the initiating prescriber must ensure that ALL doses are prescribed.

Oral option is NOT recommended for babies born to mothers on Carbamazepine, Phenobarbital, Phenytoin, Rifampicin, Warfarin, or too ill for early feeding.

Treatment of Vitamin K Deficiency Bleeding

Intravenous, Intramuscular

Initially 1mg repeated every 6 hours if required

Replacement of clotting factors may be necessary in the presence of active bleeding

Cholestasis

Oral

Initially 2mg twice a week increasing dose up to 5mg daily according to INR

Intramuscular

Administer 1mg once a fortnight increasing dose as required at Gastroenterologist discretion.

Preparation and Administration

Intramuscular

Dose	0.5mg	1mg
Volume	0.05mL	0.1mL

Use anterolateral thigh for IM administration.

Discard remaining solution

Intravenous

Dose	0.5mg	1mg
Volume	0.05mL	0.1mL

Administer with a push over at least 30 seconds.

May be injected into the lower part of an infusion set running sodium chloride 0.9% or glucose 5%

Can be diluted with glucose 5% if necessary. But must be protected from light by covering bag and line with aluminium foil

Oral

The injection can be used for oral administration. Each 0.2mL contains 2mg of vitamin K.

If there are any concerns that any of the oral doses are not retained (through vomiting or regurgitation within 1 hour of administration), then repeat the dose.

Compatible Fluids

Glucose 5%, sodium chloride 0.9%

Adverse Effects

Common

Pain, tenderness and erythema at injection site (intramuscular administration).

Infrequent

Hypersensitivity-like reactions with rapid intravenous administration (anaphylaxis including shock and cardiac or respiratory arrest)

Rare

Hyperbilirubinaemia through displacement of bilirubin (especially in preterm infants)

Monitoring

- Check prothrombin time when treating clotting abnormalities (a minimum of 2-4 hours post therapy is needed for measurable improvement)

Practice Points

- An extensive review of the medical literature has concluded that there is no association between vitamin K and childhood cancer, regardless of the route of administration. Link to parent information brochure: http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/ch38_vitamin_k_brochure_2010.pdf
- Oral prophylaxis is contraindicated in infants who are premature, unstable, on antibiotics, have cholestasis, or have diarrhoea
- Parents should receive written information during the antenatal period about the importance of vitamin K prophylaxis, and the options and relevance of oral or intramuscular prophylaxis
- A mechanism should be in place to ensure that the decision made antenatally about the method of prophylaxis is still valid and is communicated to staff caring for the mother during childbirth and postnatally. Health practitioners and institutions should ensure that appropriate informed consent procedures are in place and are followed
- Neonates experiencing birth asphyxia or bleeding problems, those born to mothers with liver disease or taking enzyme inducing anticonvulsant drugs (carbamazepine, phenobarbital, phenytoin), rifampicin or warfarin are at higher risk of vitamin K deficiency bleeding
- Vitamin K degrades in only a few hours of exposure to light. Do not leave out on bench exposed to sunlight in preparation for a newborn to arrive in the Unit.
- Impurities may develop within the 2 year shelf life of the product. Discard solutions that are turbid

References

> Joint statement and recommendations on vitamin k administration to newborn infants to prevent vitamin k deficiency bleeding in infancy 2010 http://www.nhmrc.gov.au/_files_nhmrc/file/publications/synopses/ch39_joint_statement_vitamin_k_2010.pdf

Document Ownership & History

Developed by: SA Maternal, Neonatal & Gynaecology Community of Practice
Contact: Health.NeoMed@sa.gov.au
Endorsed by: Commissioning and Performance, SA Health
Next review due: 24/4/2023
ISBN number: 978-1-74243-968-6
CGQS reference: NMG015
Policy history: Is this a new policy (V1)? **N**
Does this policy amend or update and existing policy? **Y**
If so, which version? **V2**
Does this policy replace another policy with a different title? **N**
If so, which policy (title)?

Approval Date	Version	Who approved New/Revised Version	Reason for Change
03/02/22	V2.1	Domain Custodian, Clinical Governance, Safety and Quality	Minor edit of weight banded dosing for VKDB prophylaxis based on NHMRC joint statement
24/4/21	V2	SA Health Safety and Quality Strategic Governance Committee	Formally reviewed in line with 5 year scheduled timeline for review.
1/11/12	V1	SA Health Safety and Quality Strategic Governance Committee	Original SA Health Safety and Quality Strategic Governance Committee approved version.