Ashford and St. Peter's Hospitals
NHS Foundation Trust

Post discharge Vitamin K supplementation for High risk preterm babies

Author: Dr V Ponnusamy, NICU Consultant

Supervisor: Dr V Ponnusamy, NICU Consultant

Contact details: email@nhs.net

Guideline History		
Date	**Comments**	**Approved By**
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Routine post-discharge vitamin K supplementation of breastfed preterm babies

a. Introduction

Vitamin K deficiency bleeding is a rare but potentially devastating problem which is essentially preventable by prophylactic vitamin K (VK) at birth, and adequate dietary VK intake thereafter. Therefore, all babies should receive routine postnatal parenteral prophylaxis with Konakion MM Paediatric at birth (NICE/BNFC). Our Neonatal unit participated in a multicentre clinical study in 2017 to assess the prevalence of subclinical VK deficiency in preterm infants pre- and post-NICU discharge. This has shown that subclinical deficiency develops in the majority of breastfed preterm babies after discharge (CLARKE P et al,. 2022). While breastmilk is the best, preterm babies on unfortified breast milk require ongoing vitamin K supplementation to match the current recommendations and to match the adequtely-supplemented amounts of phylloquinone that cows milk-based formula fed babies receive (Vasu V et al., 2023). Some other UK neonatal units at the forefront of nutritional management of preterm babies (such as Newcastle NICU) have already been supplementing breast fed babies in this way for many years; some other countries (eg Italy) also practise this for preterm babies to prevent deficiency.

Following this, this guideline has been produced to support this new clinical practice development project in the nutritional care of preterm babies The aim is to supplement the preterm babies with Vitamin K following discharge to prevent them developing vitamin K deficiency in early infancy. Supporting evidence is provided by the referenced research paper).

Indications:

This will be limited to use in preterm-born babies (<37 weeks gestation) who are cared for in our NICU (mainly NICU but will include some preterm babies cared for on Transitional care/postnatal ward) and who are discharged home exclusively breastfeeding.

1) For all preterm babies who are being discharged home and exclusively breastmilk feeding without breast milk fortifier
2) Those predominantly breastmilk feeding at discharge (>50%) with no fortifier and whose mothers intend to continue mainly breastfeeding or intend to establish full breastfeeding with no breast milk fortifier.

Dose:

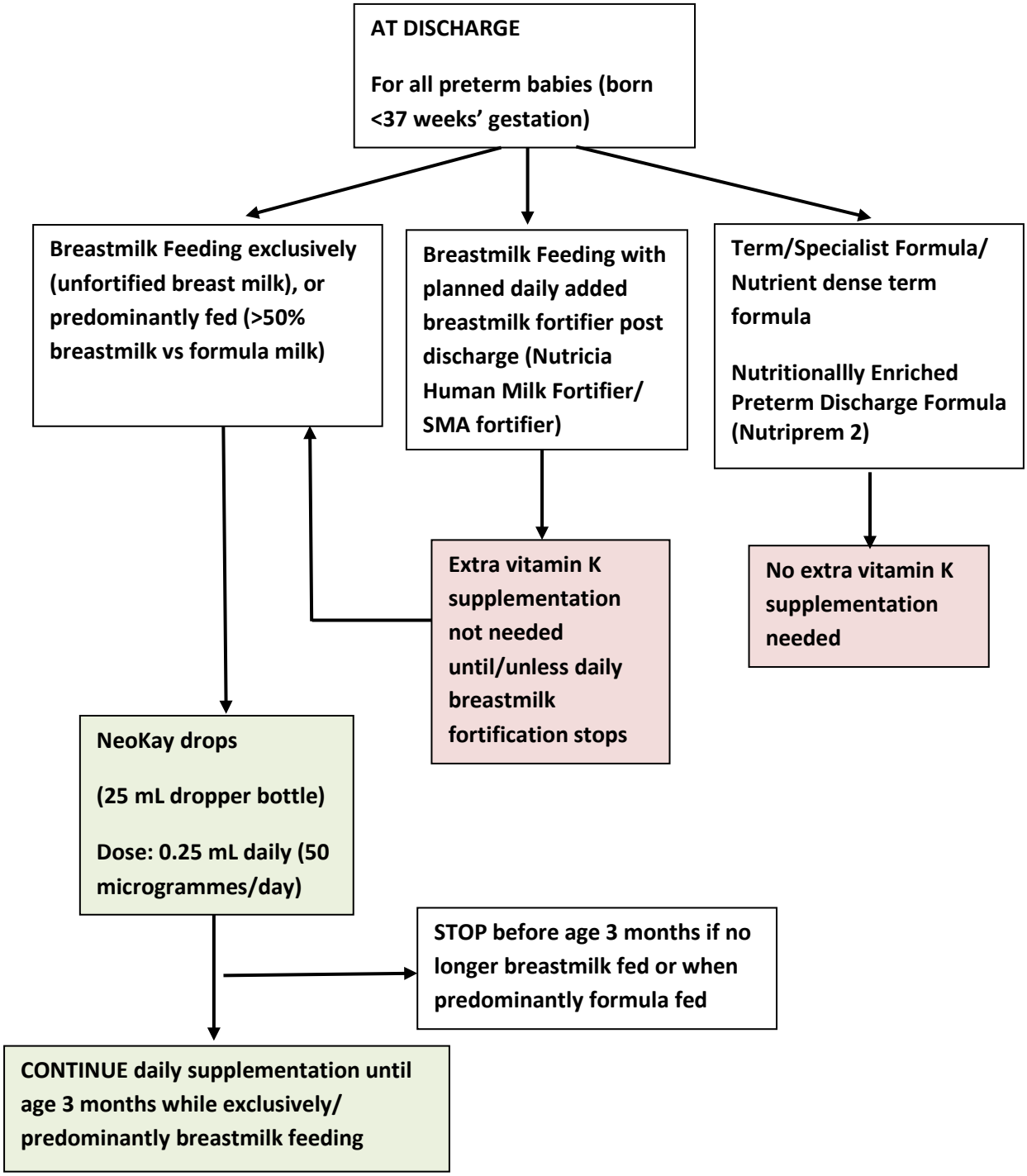
- 0.25 mL once daily (50 microgrammes once daily) to be given.
- At discharge, babies who fall under the above 2 categories need to be discharged with one bottle (containing 100 doses) as TTO. This will last each baby for over 3 months, and hence do not need further dispensing from GP

All parents should be guided to refer to the parent information leaflet on Vit K to ensure they understand the importance of giving routine supplementation regulaly at home.

b.Flowchart:

Please see flowchart below for easy guidance.

Guideline for routine post-discharge vitamin K supplementation of breastfed preterm babies



2. Supporting References

1. https://bnfc.nice.org.uk/drugs/phytomenadione/#indications-and-dose. Neonatal prophylaxis of vitamin-K deficiency bleeding in healthy babies who are not at particular risk of bleeding disorders (exclusively breast-fed babies)

2. CLARKE P, Shearer MJ, Card DJ, Nichols A, Ponnusamy V, Mahaveer A, Voong K, Dockery K, Holland N, Mulla S, Hall LJ, Maassen C, Lux P, Schurgers LJ, Harrington DJ. Exclusively breastmilk-fed preterm infants are at high risk of developing subclinical vitamin K deficiency despite intramuscular prophylaxis at birth. [Original Article] Journal of Thrombosis and Haemostasis 2022:20:2773–2785. Epub ahead of print Sep 10. doi: 10.1111/jth.15874. Available Open Access at: https://doi.org/10.1111/jth.15874

3. Vasu V, Mulla S, Pandya A, Card D, Shearer MJ, Clarke P. Late-onset vitamin K deficiency bleeding in an extremely preterm infant fed an exclusively human milk-based diet. J Thromb Haemost. 2023 Nov 20:S1538-7836(23)00831-0. doi: 10.1016/j.jtha.2023.10.029. Epub ahead of print. PMID: 37981048.

3. Supporting relevant trust guidelines

a. **Parent leaflet on Vit K supplementation**

b. **Vit K at birth**

Microsoft Word - Vitamin K Guideline Feb 2023 (asph.nhs.uk)

c. **Additives guidelines**

KSS Additives Guideline Sep 2023.pdf (asph.nhs.uk)

Appendix to Guide Oral Supplements Dec 2023.pdf (asph.nhs.uk)

d. **BMF at discharge**

4. Guideline Governance

a. Scope

This guideline in relevant to all staff caring for babies across neonatal intensive care, transitional care and maternity.

b. Purpose

i. This guidelines aims to facilitate a common approach to the management of babies admitted under neonatal care. At times deviation from the guideline may be necessary, this should be documented and is the responsibility of the attending consultant.

ii. This guideline is subject to regular review to ensure ongoing evidence based practice.

c. Duties and Responsibilities

What is expected from the health care professionals using this guideline to look after infants.

d. Approval and Ratification

This guideline will be approved and ratified by the Neonatal Guidelines Group.

e. Dissemination and Implementation

i. This guideline will be uploaded to the trust intranet 'Neonatal Guidelines' page and thus available for common use.
ii. This guideline will be shared as part of ongoing education within the Neonatal Unit for both medical and nursing staff.
iii. All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

f. Review and Revision Arrangements

a. This policy will be reviewed on a 5 yearly basis.
b. If new information comes to light prior to the review date, an earlier review will be prompted.
c. Amendments to the document shall be clearly marked on the document control sheet and the updated version uploaded to the intranet. Minor amendments will be ratified through the Neonatal Guidelines Group. A minor amendment would consist of no major change in process, and includes but is not limited to, amendments to documents within the appendices.

g. Equality Impact Assessment

Background • Who was involved in the Equality Impact Assessment
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
Conclusion • Provide a summary of the overall conclusions
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment

h. Document Checklist

To be completed (electronically) and attached to any document which guides practice when submitted to the appropriate committee for approval or ratification.

Title of the document:

Policy (document) Author:

Executive Director:

		Yes/No/ Unsure/NA	Comments
1.	**Title**		
	Is the title clear and unambiguous?		
	Is it clear whether the document is a guideline, policy, protocol or standard?		
2.	**Scope/Purpose**		
	Is the target population clear and unambiguous?		
	Is the purpose of the document clear?		
	Are the intended outcomes described?		
	Are the statements clear and unambiguous?		
3.	**Development Process**		
	Is there evidence of engagement with stakeholders and users?		
	Who was engaged in a review of the document (list committees/ individuals)?		
	Has the policy template been followed (i.e. is the format correct)?		
4.	**Evidence Base**		
	Is the type of evidence to support the document identified explicitly?		

		Yes/No/ Unsure/NA	Comments
	Are local/organisational supporting documents referenced?		
5.	**Approval**		
	Does the document identify which committee/group will approve/ratify it?		
	If appropriate, have the joint human resources/staff side committee (or equivalent) approved the document?		
6.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?		
	Does the plan include the necessary training/support to ensure compliance?		
7.	**Process for Monitoring Compliance**		
	Are there measurable standards or KPIs to support monitoring compliance of the document?		
8.	**Review Date**		
	Is the review date identified and is this acceptable?		
9.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for coordinating the dissemination, implementation and review of the documentation?		
10.	**Equality Impact Assessment (EIA)**		
	Has a suitable EIA been completed?		

Committee Approval (Neonatal Guidelines Committee)			
If the committee is happy to approve this document, please complete the section below, date it and return it to the Policy (document) Owner			
Name of Chair		**Date**	
Ratification by Management Executive (if appropriate)			
If the Management Executive is happy to ratify this document, please complete the date of ratification below and advise the Policy (document) Owner			
Date: n/a			