

Vitamin K for Newborn Babies

What is vitamin K?

Vitamin K is a vitamin which occurs naturally in food (such as in the liver and some vegetables) and is made by some good bacteria which live in our intestines. It is necessary to form clots and to stop/prevent bleeding (haemorrhage).

During early infancy, when fed entirely on milk, babies have very little Vitamin K stored in their bodies. A very small number of babies suffer bleeding due to this vitamin's deficiency. This is called "Vitamin K Deficiency Bleeding" (VKDB). The risk of bleeding can be effectively removed when sufficient extra vitamin K is given to babies. This is why the Department of Health recommends it at birth.

Why does my baby need vitamin K?

Very rarely, a newborn may start bleeding, for no specific reason. VKDB occurs when babies cannot stop bleeding because their blood does not have enough vitamin K to form a clot. This baby may start bleeding outside the body but also inside (it is, therefore, difficult to notice). Commonly, a baby with VKDB will have bleeding into their intestines, or into their brain, which can lead to brain damage and even death.

Infants up to 6-12 months of age can still develop VKDB if they have not had their supplementation at birth.

What is the risk of getting VKDB?

All infants irrespective of race, sex, colour, religion, national origin, etc. are known to be affected by VKDB. There are three types of VKDB:

- Early (\leq 24 hours). Can also happen in utero or at delivery.
- Classical (Day 2-7)
- Late (Day 8 – 12 months)

Without Vitamin K prophylaxis there would be an estimated 10-20 cases of brain haemorrhage in the UK annually and 4-6 babies could die. The incidence of late VKDB is 1 in 15,000-20,000 births and if intracranial bleeding is present there is a mortality risk of 20-50% and associated morbidity.

Why give vitamin K to all babies? Can't high risk babies be recognized?

It is not possible to identify newborns as high risk or low risk immediately with absolute certainty, especially as signs of the life-threatening bleeding like intracranial bleeding can present late. It can be weeks before gut bacteria of breastfed babies start making the vitamin K. That's why Vitamin K is invariably given to all babies.

Which babies are at greater risk?

Bleeding in the first 24 hours afterbirth is a particular risk to babies of mothers using certain drugs, such as anti-convulsant. Bleeding 24 hours following birth is more common and babies at greater risk are those who:

- Are premature.
- Had a complicated delivery (such as forceps delivery).

- Have liver disease that may show as prolonged jaundice or as other symptoms, such as pale stools or dark urine.
- Fail to take or find it hard to absorb feeds.
- Are ill for other reasons.
- Have bleeding or spontaneous bleeding in early infancy.

Can vitamin K be harmful?

There is no evidence that vitamin K injection causes any harm to the baby. It has been proven to be safe and beneficial for over 60 years. Concerns were expressed in 1992 by the Bristol case-control study regarding the unexpected association between neonatal prophylactic vitamin K injection and childhood cancer. A common problem to research was the retrospective assessment of neonatal exposure. That's why they gravitated towards the Bristol study. However subsequent studies in the 1990s and 2000s failed to find a link. In 1997, a joint expert group of the Medicines Control Agency, the Committee on Safety of Medicines and the Department of Health reviewed all available data and concluded that there is no increased risk of cancer.

How is vitamin K given?

There are two methods of giving vitamin K to your baby:

- By mouth;
- By intramuscular injection (IM);
- By intravenous injection (IV);
 - IV injections are not routinely used due to risk of allergic reactions. It is used only when IM injection is not possible such as in preterm with very low birth weight. If used it is always followed by subsequent oral doses.

What difference does which one I choose make?

Both intramuscular (IM) and oral methods offer protection against VKDB, but IM is the preferred route. The main difference is that if you choose "by mouth" for your baby, those will have to be repeated - Twice for bottle-fed and three or more times for breast-fed babies.

- **By intramuscular injection:**

One dose is given at birth by the midwife, nurse or doctor. It does not need to be repeated.

- **By mouth:**

This method can be as good as having an injection, **but only if doses are repeated.**

All healthy babies not at risk of bleeding are given 2 mg single dose at birth and a second dose of 2 mg after 4-7 days. Exclusively breast-fed babies will require a third dose of 2mg to be given at one month age. Bottle-fed babies, in contrast, wouldn't need a third dose because Vitamin K is already added to the artificial milk.

If the baby spits out the dose or becomes sick within three hours of administration a replacement dose should be given.

The Department of Health recommends that breastfeeding is preferred over artificial or bottle milk where possible. Don't swap simply for the added vitamin K in formula milk.

What if I decide for my baby not to have vitamin K?

You may decide that you do not want your baby to receive vitamin K or may prefer a modified course. In these circumstances, the risk of bleeding is increased, and you should be aware of the warning signs of VKDB.

What are the signs and symptoms of VKDB?

Unfortunately, in the majority of cases, there are no warning signs prior to a life-threatening event starts, but babies with VKDB might develop any of the following:

- Bruises (especially around baby's head and face);
- Bleeding from the nose/umbilical cord;
- Skin colour that is paler than before. For babies with a darker complexion, the gums may appear pale;
- The white parts of your baby's eyes look yellow after 3 weeks of life;
- Stool that has blood in it, is black or dark and sticky, or vomiting blood;
- Irritability, seizures, lethargy, or ongoing vomiting (possible signs of bleeding in the brain);

Any baby who is still jaundiced after two weeks of age must be seen by a midwife, doctor or health visitor - especially if they're not gaining weight properly, have pale stools and dark urine, or are ill in any way.

Consent

Although you consent for this treatment, you may at any time after that withdraw such consent. Please discuss this with your medical team.

Sources of information

E.g. specialist nurse, ward, consultant secretary, self-help group, national bodies or Web site addresses.

Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the Patient Experience Team – Tel: 0300 131 4731 (direct dial) or by email at: esh-tr.patientexperience@nhs.net

Hand hygiene

The Trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

Other formats

If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.

Tel: 0300 131 4434 Email: esh-tr.AccessibleInformation@nhs.net

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

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The following clinicians have been consulted in agreed this patient information:

- Dr Kandasamy – Paediatric Consultant (ESHT Neonatal Lead)
- Dr Borsato – Paediatrics ST1
- Dr Amina Khan, and Dr Bakht Khan

The clinical specialty/unit that has agreed this patient information leaflet: **Women's and Children's.**

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The directorate group that have agreed this patient information leaflet:

Women and Children's

Next review date: September 2027

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