



Vitamin K Prophylaxis

What is Vitamin K and why is it important?

Vitamin K occurs naturally in plants we eat and is also produced in the body by beneficial bacteria. It plays an important role in the blood clotting process; without it, blood cannot clot. Newborns and infants need 2-5 micrograms daily.

What does this have to do with my newborn?

In the newborn, the vitamin K levels are low, so his blood has a much lower ability to clot. When bleeding happens in the first 12 weeks of life it is called Vitamin K Deficiency Bleeding (VKDB). Bleeding usually happens in the brain, near the umbilical cord or under the skin. In the past, VKDB was known as Hemorrhagic Disease of the Newborn (HDNB).

What are the incidence and risks of VKDB?

VKDB occurs in .25-1.7% of all babies born (studies have only been conducted in the US, Britain, Australia and Europe) and is classified as early, classic or late. The AAP has recommended that parents of all babies, especially those breastfed, be advised about the risks associated with incomplete or no prophylaxis. The most serious risk is that of a bleed into the brain which can cause brain damage or even death. Other risks include hemorrhage in the intestines or under the skin.

- Early VKDB happens within the first 24 hours of life and usually in babies of mothers who take anticonvulsant or anti-tuberculant medications, or certain antibiotics, all of which decrease the mother's levels of vitamin K.
- Classic VKDB happens in the first week with bleeding in the intestines, under the skin, and from the umbilicus. The rate is 4-17/1000. Surgery, traumatic birth, premature birth, low birth weight or circumcision increase a baby's risk.
- Late VKDB happens between 2-12 weeks of life with half of the babies experiencing bleeding into the brain. The rate is 4.4-7.2/100,000 but down to 1.4-6.4/100,000 with prophylaxis. It is almost always caused by liver or malabsorption diseases (such as hepatitis, cystic fibrosis, and celiac disease) in the baby that prevent vitamin K from being made or absorbed. This occurs almost exclusively in breastfed babies because formula contains more vitamin K.

The following factors may cause a baby to be at higher risk for VKDB:

- During pregnancy: poor nutrition, alcohol, and certain drugs, especially anticoagulants and anticonvulsants;
- During and after birth: preterm or low birth weight baby, difficult or traumatic delivery (including forceps or vacuum extraction), evidence of bruising or bleeding, totally breastfed baby, and administration of antibiotics to baby.
- During the postpartum period: solely breastfed babies whose mothers who do not supplement their diet with vitamin K.

What are the signs of VKDB?

Signs may include the following, although uncontrollable internal bleeding may not be detectable until serious damage, or even death has resulted:

- Black stools, after cessation of meconium
- Vomiting bright red blood
- Bloody urine
- Nosebleed
- Excessive bleeding from umbilical stump or circumcision wound
- Bruising or skin blotching may sometimes be a symptom, or can be from other causes.

What is vitamin K prophylaxis and how does it help?

When vitamin K is injected intramuscularly to the newborn within an hour of birth, it has been shown to practically eliminate the occurrence of VKDB, especially late VKDB. The amount given is .5-1 milligram, depending on the maturity of the infant. It has been the standard of care according to the AAP since 1961.

What are the downsides of vitamin K prophylaxis?

There are several risks that need to be weighed against the benefit of reducing the chance that your infant experiences a hemorrhage.

- It is a painful muscular injection that may compromise mother-child bonding and irritate or damage the nerves and muscles at the injection site.
- There is also the remote risk of infection at the site of injection.
- The baby may experience an allergic or otherwise negative reaction and this has not been adequately studied.
- The amount of vitamin K given is over 1000 times the recommended RDA for infants.
- The presence of liver or malabsorption diseases may be masked by prophylaxis at birth.
- It is given to all infants, regardless of risk factors.
- There has been some concern over an associated increase in childhood cancer but there has not been conclusive evidence of this link.

What are the alternatives?

There are several alternatives to intramuscular injection of vitamin K that are possible:

- Oral administration is almost as effective at eliminating classic VKDB when done correctly. However, it must be given several times (requires parental compliance) and may taste bad.
- The mother can increase her serum levels of vitamin K during pregnancy so that the infant has more vitamin K at birth, by supplementing with vitamin K and/or foods rich in vitamin K.
- The mother should choose labor positions which have been shown to help reduce risks, and refuse interventions which increase the possibility of the baby needing antibiotics.
- Breastfeeding should be encouraged because colostrum has a high vitamin K content, and the level of vitamin K in breastmilk can be increased by consuming a diet rich in the vitamin. There is also the potential that, like iron, vitamin K is in an extremely absorbable form in breastmilk.
- Finally, IM or oral prophylaxis can be refused completely. In the hospital prophylaxis is considered routine and will therefore be administered without warning, so you must ask for and sign the waiver before the baby is born and remind the nursing staff again after baby is born.

By selecting and initialing your options on the Informed Choice Checklist for this document you agree that:

I have had the opportunity to review this information, ask questions and have them answered to my satisfaction. I understand the benefits and risks of vitamin K prophylaxis as well as of alternatives, and I know that I can change my mind at any time and request a different course of treatment. I choose the following (please note your selections here for your own records to match those in your midwives' chart);

_____ I choose to have vitamin K administered by IM injection to my newborn.

_____ I choose to have vitamin K administered orally to my newborn.

_____ I choose not to have vitamin K administered to my newborn.

_____ I choose to supplement my diet with vitamin