



## Vitamin K Prophylaxis for Newborns

In Alberta, it is standard practice to give all newborns an infection vitamin K within the first few hours after birth. The purpose of this treatment is to prevent what is known as 'Vitamin K Deficiency Bleeding' (VKDB) also known as hemorrhagic disease of the newborn. This is a condition in which a newborn bleeds excessively internally. Healthy newborns have a relatively small amount of vitamin K in their blood in comparison to adults. Vitamin K is manufactured by the bacteria in our intestines, and babies do not have bacteria in their intestine when they are born. They colonize their gut as they eat and grow. Breast milk does contain small amounts of vitamin K that is more absorbable to the baby than the vitamin K present in formula. However, research is consistent in showing that breastfed babies are more susceptible to VKDB than formula fed infants up until they start eating solid foods.

Vitamin K's purpose in our body is to help clot our blood. This means that if a baby starts to bleed (internally or externally) for a variety of reasons, they may not have enough vitamin K to clot their blood and stop the bleeding. The incidence of VKDB in the first week after birth in infants who do not receive vitamin K at birth is likely around 1:1500 according to a study done in New Zealand (The CDC reports the incidence to be 1:60 to 1:250, this statistic is difficult to track and the research used to collect these numbers is very old). The incidence of VKDB after 1 week of age is 1:14,000 to 1:25,000.

Babies that have a higher risk of developing VKDB include those that:

- are exclusively breastfed
- have delayed or inadequate feeding
- have liver disease (these babies often cannot use the vitamin K that their body stores)
- are born to mothers on certain anticonvulsant, anticoagulants and tuberculosis medications.
- Babies who have diarrhea, celiac disease, or cystic fibrosis often have trouble absorbing vitamins, including vitamin K, from the foods they eat.

An intramuscular injection of vitamin K is offered to your baby within a few hours after birth. This reduces the risk of VKDB to 1:100,000. There are a few oral preparations available however the effectiveness of such preparations is questionable but thought to be better than no treatment at all. If you choose to purchase your own oral treatments they are usually given at birth, 2 weeks, and 6 weeks. The injection is given in your baby's thigh, it stings for a few seconds and typically has no other side effects. We encourage you to keep your baby skin to skin and/or breastfeeding while this injection is given to help cope with the discomfort from the needle.

Unfortunately, in many cases of vitamin K deficiency bleeding there are not any warning signs before it becomes a life-threatening situation. Internal bleeding, such as in the brain or lungs, may not be evident before it has caused permanent damage or death. Signs and symptoms of VKDB can be:

- bruising
- bleeding from the mouth, nose, and umbilicus
- blood in the urine or the stool
- pale skin colour; darker skinned babies their gums may look pale
- prolonged bleeding from puncture sites
- prolonged bleeding from circumcision
- fussiness, emesis, seizures, or a bulging fontanelle.

Please be aware as well that the vitamin K injection will be strongly recommended by a physician if you choose to circumcise your male baby. Some physicians will refuse to perform the procedure if the infant did not have vitamin K at birth. We encourage you to read more about this topic and discuss any of your questions with us.

## References

Canadian Pediatric Society (CPS). (2018). Position statement: Guidelines for vitamin K prophylaxis in newborns. <https://www.cps.ca/en/documents/position/vitamin-k-prophylaxis-in-newborns>

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