

Vitamin K shot hesitancy – Information for providers

What is the current NYS requirement for newborn vitamin K prophylaxis?

New York State regulations (10 NYCRR 12.3) state that “[it] shall be the duty of the attending physician, licensed midwife, registered professional nurse or other licensed medical professional attending the newborn to assure administration of a single intramuscular dose of 0.5 - 1.0 mg of vitamin K1 oxide (phytonadione) within six hours of birth in accordance with current standards of medical care”. Since 1961, the American Academy of Pediatrics (AAP) has recommended an intramuscular (IM) dose of vitamin K to prevent vitamin K deficiency bleeding (VKDB).

Is oral vitamin K an acceptable substitute for the injection?

No. Oral vitamin K for newborns does not meet the requirements of NYS regulation and is not recommended by the New York State Department of Health or the American Academy of Pediatrics.¹

What are the risks and benefits of the vitamin K shot, and why is it important?

The intramuscular injection of vitamin K is safe. The risks associated with the vitamin K shot are similar to the risks associated with any other shot: pain, bruising or swelling at the injection site.² However, it effectively prevents vitamin K deficiency bleeding (VKDB).

Where do parents get information about vitamin K?

There are relatively few resources for parents that are produced by reputable clinical, academic or government organizations. Some of the resources include information about oral vitamin K, because it is used in parts of Europe, and some states allow its use. As stated above, oral vitamin K does not meet NYS regulation requirements.

Also, there are many sources of incorrect information or misinformation. Parents may use social networks and peer groups, forums, and unregulated websites to access information. But some parents report that they consulted a medical provider.³

Why are parents hesitant about the vitamin K shot?

Parents are in fear of adverse side effects. However, vitamin K is safe, and has been safely administered since 1961. Also, parents may not understand what VKDB is, or why vitamin K is needed to protect their babies from VKDB, or how dangerous VKDB can be.

Why are parents concerned about the vitamin K shot?

Some of the concerns that can make a parent hesitant about the vitamin K shot at birth are: pain, exposure to preservatives, an excessive dose, and potential side effects.⁴

When parents are worried about pain, it might be helpful to suggest holding or breastfeeding their baby during or immediately after the shot is given.⁵

Some parents want to limit the early exposure to preservatives. One of the ingredients found in the vitamin K shot is benzyl alcohol, a preservative. However, benzyl alcohol is a common ingredient in many medications.² Benzyl alcohol is proven to be harmless in small doses, such as what is found in the vitamin K shot.

Similarly, some are concerned about potential excessive dosage. The amount of vitamin K in the IM dose is in fact higher than the daily requirement of vitamin K. However, it is important to justify the reason for the higher dose. Babies have low levels of vitamin K at birth, and the current IM dose will supply their need for vitamin K until they have another source from his or her diet.²

Some parents are concerned by a previously reported link between the vitamin K shot at birth and childhood leukemia. This study has since been disproved by numerous studies across different countries.⁶

A comprehensive evidence-based Questions and Answers document for the most common misconceptions and myths about vitamin K prophylaxis has been published by the University of Michigan C.S Mott’s Children’s Hospital, and is listed as additional educational resources for parents.

What are some effective strategies when working with parents who are reluctant or nervous about vitamin K?

Parents want what they believe is best for their baby. In order to provide them with the most effective and comprehensive information, it is important to assess the parent's individual knowledge about the vitamin K shot. Providers should provide factual information about the risks and benefits of receiving the shot. A provider should respectfully inquire and address their medical concerns by providing individualized parental education, while giving scientific evidence to address myths and misinformation. Studies report an increase in the acceptance of the vitamin K shot after receiving education about VKDB.⁷

Why is it important to address parental vitamin K hesitancy?

While VKDB is rare in the United States, it can be fatal. Also, there is a known association between vitamin K refusal and subsequent hesitancy and refusal to immunize.^{3,8} Hesitancy during the newborn stage offers the provider an opportunity to learn about the parent's concerns. It is important to take the time to provide adequate information about IM vitamin K, and provide additional education around vaccinations to increase likelihood of future immunization adherence.⁹

Additional educational resources for parents

The New York State Department of Health has developed a fact sheet for expecting parents. This document answers some of the most frequent questions that have been identified by researchers.

- https://health.ny.gov/community/infants_children/vitamin_k/index.htm

In addition, the University of Michigan has developed a Questions and Answers document that provides additional information on frequently asked questions, and addresses misinformation that is often shared through social media and social networks.

- www.med.umich.edu/1libr/Pediatrics/vitaminKQuestionsAndAnswers.pdf

¹ <https://pediatrics.aappublications.org/content/112/1/191> (full position reaffirmed February 2015)

² www.cdc.gov/ncbddd/vitamink/faqs.html

³ www.ncbi.nlm.nih.gov/pmc/articles/PMC5526450/pdf/nihms882898.pdf

⁴ www.ncbi.nlm.nih.gov/pubmed/26371205

⁵ www.womenshealth.gov/pregnancy/childbirth-and-beyond/your-babys-first-hours-life

⁶ www.med.umich.edu/1libr/Pediatrics/vitaminKQuestionsAndAnswers.pdf

⁷ www.ncbi.nlm.nih.gov/pubmed/26711469

⁸ www.ncbi.nlm.nih.gov/pubmed/25873083

⁹ www.aappublications.org/news/2018/07/27/vitamin-k-in-the-newborn-period-how-important-is-it-pediatrics-7-27-18