



PATIENT EDUCATION HANDOUT

PEDIATRICS

Vitamin K in Newborns

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WHY IS VITAMIN K IMPORTANT IN NEWBORNS?

Vitamin K is a fat-soluble vitamin essential for blood clotting. Newborns have naturally low levels of vitamin K, increasing their risk for vitamin K deficiency bleeding (VKDB).^{1,2} Without supplementation, it can take up to 6 months for newborns to develop sufficient clotting.³

To prevent VKDB, the American Academy of Pediatrics (AAP) recommends a single intramuscular dose of vitamin K within 6 hours of birth. Infants who weigh less than 1500 g receive 1 mg, while those weighing more than 1500 g receive 0.3–0.5 mg/kg.^{3,4}

Why do newborns lack Vitamin K?

- Minimal vitamin K crosses the placenta during pregnancy.
- Newborns have little gut bacteria to make vitamin K.
- Breastmilk contains low levels of vitamin K.

TYPES OF VKDB

VKDB is categorized by timing of onset

- **Early VKDB:** Occurs within 24 hours of birth, often in infants of mothers taking medications that interfere with vitamin K metabolism.
- **Classic VKDB:** Occurs between days 2–7 with typical symptoms of gastrointestinal, skin, or mucosal bleeding.
- **Late VKDB:** Occurs between 2–12 weeks and is most concerning due to life-threatening bleeding, often in the brain. Late VKDB typically presents without warning signs, and without vitamin K prophylaxis, has a mortality rate of 20%–50%. Infants who do not receive the vitamin K injection are approximately 81 times more likely to develop late VKDB compared to those who do receive it.⁵

COMMON CONCERNS AND MISCONCEPTIONS

Is oral vitamin K as effective as the injection?

- Oral vitamin K may prevent classic VKDB, but it is less effective in preventing late-onset VKDB³
- Oral vitamin K requires strict parental adherence and multiple doses over several months
- AAP does not recommend the oral vitamin K formulation due to inconsistent absorption

Is the benzyl alcohol preservative harmful?

- The vitamin K injection contains 9 mg/mL of benzyl alcohol¹
- A toxic dose of benzyl alcohol typically occurs between 99– 405 mg/kg/day, far exceeding the small 0.5- to 1-mg dose newborns receive⁶
- Preservative-free formulations are also available

Can a maternal diet rich in vitamin K prevent VKDB?

- Increasing maternal vitamin K intake does not prevent early-onset VKDB, though it may increase placental vitamin K concentrations

Vitamin K administration at birth remains the safest and most effective way to prevent life-threatening VKDB. Parents are encouraged to discuss any concerns with their physician. Additional resources are available through the Centers for Disease Control and Preventions (CDC) website and AAP.^{1,3}

SOURCES

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