



VITAMIN K

DOES MY BABY NEED IT?



VITAMIN K INFORMATION FOR WHĀNAU

Choosing to have your pēpi/baby be given any medication or treatment, or undergo any procedure is your choice. This pamphlet is designed to give you all the information about vitamin K so you can decide if it is right for your whānau.

Making choices about vitamin K for your pēpi/baby

- You can decide whether your pēpi/baby has vitamin K via injection, or as an oral medication.
- It's important that you understand the potential outcomes if you decline for your pēpi/baby to have vitamin K.
- Talk to your LMC about the role of vitamin K in keeping your pēpi/baby well, and any concerns you may have.

What is vitamin K?

Vitamin K is a vitamin that plays a vital role in blood clotting. Blood clotting is an important process to prevent excess bleeding if a blood vessel becomes injured. For example when you cut your finger, vitamin K helps the blood clot, and eventually stops the bleeding from the site of the cut. (7)

Vitamin K is present in certain foods like green leafy vegetables, and is produced naturally in the intestine and gut by bacteria. (3)

All newborn pēpi/babies have lower levels of vitamin K than adults. Newborn pēpi/babies have about 30-60% less vitamin K in their blood than adults, but the amount of vitamin K in their blood does naturally increase over the first few weeks of life. Most healthy breastfed pēpi/babies will have similar to adult levels of vitamin K in their blood by about 6 weeks of life. Formula fed pēpi/babies may have much higher levels – as infant formula is supplemented with vitamin K. (3)



It is YOUR choice!

No medical procedure can be performed, and no medication can be given, without your informed consent - even if it is a routine practice in the hospital or birth centre.

Before giving your consent, your care provider must fully and clearly explain to you:

- How this treatment or procedure will help
- What happens during the treatment or procedure
- What other options there might be
- What you can expect after the treatment or procedure
- Any risks that may be associated with the treatment or procedure



Why do newborn pēpi/babies have low levels of vitamin K?

Very little vitamin K is able to cross the whenua/placenta, and when a pēpi/baby is born their gut and intestines are sterile and have no bacteria in them – so their ability to make their own vitamin K is reduced. Whether there is a reason for these naturally occurring low levels of vitamin K is yet to be discovered. (3)

As a pēpi/baby's gut becomes coated with colostrum (early breastmilk) and begins to grow its own bacteria, the bacteria begin to produce vitamin K – but initially this is in very small amounts. Until the gut begins to produce bacteria a newborn's only source of vitamin K is from breastmilk. (6).

The main risk of having low levels of vitamin K is the development of a serious disease called vitamin k deficiency bleeding (VKDB) of the newborn. (6)

What is Vitamin K Deficiency Bleeding (VKDB)?

VKDB is a disease that occurs in 1-2% of pēpi/babies who haven't received supplemental vitamin K. It is when a baby begins to bleed, and cannot form clots to stop the bleeding due to their low levels of vitamin K. Internal bleeding can be hard to diagnose before your pēpi/baby becomes very unwell. The most common areas that bleeding occurs is in the gut, umbilical cord, nose, or the brain – though it can occur anywhere in the body. VKDB can lead to brain haemorrhage or death. (6)

There are three types of VKDB



EARLY

Happens within the first 48 hours after birth, it most often happens in pēpi/babies who are exposed to certain medications like those to treat epilepsy. Talk to your LMC if you're concerned about any medication you are taking.



CLASSICAL

Occurs during the first few weeks of life, this is the most common type of VKDB that impacts up to 0.7% of pēpi/babies who do not have vitamin K supplementation.



LATE

Occurs between 2 weeks and up to 6 months of age in a very small number of pēpi/babies (less than 0.1%) but causes permanent brain injury or death in 50% of pēpi/babies that become unwell with it. (7)



Which pēpi/babies are at higher risk for VKDB?

It's hard to know exactly which pēpi/babies will develop VKDB – **this is why health professionals recommend that all pēpi/babies receive supplemental vitamin K at birth.** However some factors have been identified as increasing the risk for VKDB including pēpi/babies:

- Whose gestational parent have taken certain types of medication including epilepsy medication or medication to treat tuberculosis
- With liver disease or cystic fibrosis who may have trouble absorbing vitamin K
- Who have birth injuries that result in significant bruising (for example from an instrumental delivery) (1,5).

How do pēpi/babies get vitamin K if they don't receive supplementation?

Vitamin K in breastmilk:

Breastmilk contains low levels of vitamin K. Colostrum, the first milk a feeding parent produces has higher levels of vitamin K, and colostrum also helps develop a pēpi/baby's gut bacteria – where most of their vitamin K is produced. Vitamin K content is also higher in breastmilk later in feeds, so feeding pēpi/babies on demand and allowing them unlimited access to the breast is important. While the feeding parent eating foods that are high in vitamin K may increase the vitamin K content in the breastmilk by a small amount, there is no evidence that this reduces a pēpi/baby's risk of VKDB. (1,5).



Vitamin K in infant formula:

Infant formula has much higher levels of artificially added vitamin K than breastmilk so formula fed pēpi/babies will eventually have higher levels of vitamin K in their blood than breastfed pēpi/babies. However formula fed pēpi/babies still have low levels of vitamin K in the first week of life – when they are at greatest risk for VKDB. (1,5.)



How do pēpi/babies get vitamin K supplementation:

By injection:

A single injection into the leg muscle of the pēpi/baby at birth with supplemental vitamin K reduces their risk of VKDB by 97%. (7)

Orally:

The exact same medication used in the injection can be given orally – though it is less effective: oral supplementation reduces the risk of VKDB by 80%. The oral supplementation has to be given three times to be 80% effective: once at birth, again at 1 week of age, and again at 6 weeks old. If the pēp/baby spits out or vomits up the medication it may need to be given a further time. (1,5).

Are there any risks to vitamin K supplementation?

All injections come with very rare risks such as infection, irritation, or nerve damage at the injection site. These risks are minimised with skilled and safe injection techniques from your care provider.

Two studies in the early 1990's questioned a link between vitamin K supplementation and childhood leukaemia. Since then no further studies have proven this query, and no evidence exists to support this claim despite extensive research into the area. (2).

What about natural alternatives?

There is no evidence to show that naturopathic or homeopathic remedies provide any protection against VKDB, or increase the levels of vitamin K. In many ways vitamin K **is** a natural remedy – the supplementation given is a vitamin.

Ingredients in vitamin K supplementation:

The main ingredient is purely vitamin K – there is also a very small amount of other ingredients that help stabilise the vitamin K and help it absorb into your pēpi/baby's blood stream. These other ingredients include glycolic acid – a common ingredient in skin care that comes from sugar cane, sodium hydroxide – a man made compound that is often used in soaps and helps stabilise the vitamin K, lecithin – a naturally occurring fat that is found in soy and eggs, hydrochloric acid – which occurs naturally in human stomach acid, as well as water. (4).

What NZ Health Professionals recommend:

The New Zealand College of Midwives (2019) recognise the benefit of vitamin K supplementation and support its use for all pēpi/babies.

The August 2000 consensus statement of Fetus and Newborn Committee of the Paediatric Society of NZ, The NZ Nurses Organisation, The Royal NZ College of General Practitioners, The Royal NZ College of Obstetricians and Gynaecologists recommends that all pēpi/babies receive vitamin K prophylaxis. These statements have been reviewed in 2018 and continue to be supported. (7)



A small number of pēpi/babies will develop VKDB

It is not possible to know which pēpi/babies will develop VKDB

Giving supplemental vitamin K protects most pēpi/babies from VKDB

It is your choice about whether to give your pēpi/baby supplementation.




References

1. Ardell S, Offringa M, Ovelman C, Soll R. Prophylactic vitamin K for the prevention of vitamin K deficiency bleeding in preterm neonates. Cochrane Database of Systematic Reviews 2018, Issue 2. Art. No.: CD008342. DOI: 10.1002/14651858.CD008342.pub2. Accessed 21 November 2021.
2. Majid, A., Blackwell, M., Broadbent, R. S., Barker, D. P., Al-Sallami, H. S., Edmonds, L., ... & Wheeler, B. J. (2019). Newborn vitamin K prophylaxis: a historical perspective to understand modern barriers to uptake. *Hospital pediatrics*, 9(1), 55-60.
3. Mihatsch, W. A., Braegger, C., Bronsky, J., Campoy, C., Domellöf, M., Fewtrell, M., ... & ESPGHAN Committee on Nutrition. (2016). Prevention of vitamin K deficiency bleeding in newborn infants: a position paper by the ESPGHAN Committee on Nutrition. *Journal of pediatric gastroenterology and nutrition*, 63(1), 123-129.
4. Medsafe. (2005). *Konakian MM Paediatric Patient Information Leaflet* . Retrieved on 26 November 2021
5. Puckett RM, Offringa M. Prophylactic vitamin K for vitamin K deficiency bleeding in neonates. Cochrane Database of Systematic Reviews 2000, Issue 4. Art. No.: CD002776. DOI: 10.1002/14651858.CD002776. Accessed 21 November 2021.
6. Sankar, M., Chandrasekaran, A., Kumar, P. et al. Vitamin K prophylaxis for prevention of vitamin K deficiency bleeding: a systematic review. *J Perinatol* **36**, S29–S35 (2016). <https://doi.org/10.1038/jp.2016.30>
7. Starship Children's Health. (2018). *Vitamin K Deficiency Bleeding and Prophylaxis in the Newborn*. Retrieved on 26 November 2021



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