



# GOOD Bite

at home

*A nutrition fact sheet for parents and carers of children 0-5 years*

## Vitamin D - Essential for children and parents

Vitamin D is one of the most important nutrients required for overall health. Vitamin D helps control the amount of the minerals calcium and phosphate in our body. Both of these are required to ensure we have healthy bones, teeth, nerves and muscles.

We make 90 percent of our vitamin D from direct sunlight. Additionally, we are able to get small levels of vitamin D from a handful of foods including oily fish, red meats, liver, butter and egg yolks. It will also be present in some fortified foods such as breakfast cereals and margarine. Breast milk, despite its other benefits, contains almost no vitamin D. Infant formula is fortified with vitamin D.



## Why is Vitamin D important for health?

Calcium is vital for helping children develop strong and healthy bones. Children are encouraged to eat lots of calcium rich foods (e.g. cheese, yoghurt and milk) in their diet. Vitamin D is essential to enable absorption of calcium from their food. When Vitamin D levels are low, children absorb less calcium from their diet. This will result in their bones not getting the calcium they require. This can lead to rickets in young children.

Rickets causes weak, soft bones. If a child has softer bones with insufficient calcium to give them strength, the bones can bend and become an abnormal shape. This known as rickets. Rickets only occurs in growing bones, so it mostly occurs in infants and young children who are growing quickly.

Low vitamin D is also linked to other health problems including problems with immunity (how the body fights infections) and autoimmune diseases (including type 1 diabetes).



X-ray of infant's legs with rickets

# Children who are at risk of low vitamin D

- Children with dark skin. The dark pigment (melanin) acts as a natural sunscreen and increases the time they need in the sun to make vitamin D naturally. They will need 2-7 times the amount of ultraviolet (UV) light compared to people with light skin to produce similar vitamin D levels.
- Children whose skin is rarely exposed to the sun e.g. those who stay inside due to the climate e.g. wintertime or children who for cultural reasons have most of their body covered when outdoors.
- Breastfed babies who have one or more of the above risk factors. Breast milk is the best type of food for babies, but it contains very little vitamin D. As the baby develops during pregnancy, baby will get their initial store of vitamin D from their mother. They are at risk of low vitamin D if their mother had low vitamin D during pregnancy. The same risks for low vitamin D levels apply to pregnant mothers as children.
- Premature babies

## Common questions

### Can children absorb vitamin D from the sun through a window?

Children need ultraviolet (UV) light to absorb vitamin D. Unfortunately, glass windows block the UV rays responsible for making vitamin D. Hence they have to be in the direct sun.

### My child wears sunscreen when outdoors; does that mean they will not make enough vitamin D?

Sunscreen does block the UV rays responsible for making vitamin D. However, it is quite hard to apply enough sunscreen to completely protect every part of the skin, therefore there are going to be areas of skin where vitamin D can get still be made. For this reason, children who are outdoors a lot, even if they have sunscreen applied tend to have better vitamin D levels than children who spend long periods of time inside.

## More about the sunshine

The amount of sunlight available for vitamin D production in the skin varies with the climate, season, time of day and skin exposure.

Seasonal changes have been shown to have a significant effect on vitamin D production in the skin. In the winter months children spend less time outdoors and wear more clothing. For this reason, vitamin D deficiency is more common in the winter months compared to summer.

To get sufficient vitamin D from sunlight alone, infants need to be exposed for 2 hours a week with just their face exposed or 30 minutes a week with nothing but a nappy on. Obviously, they don't need to get this all at once, so about 5 minutes a day with only a nappy on or 20 minutes a day if only the face is exposed. Any longer than this, then sunscreen will need to be provided. In summer avoid the hottest part of the day between 10am and 3pm. In winter anytime of the day is fine. Infants with dark skin will need more than this.



## Contact Us!

This fact sheet is produced by the Central Coast Public Health/Community Nutrition Team. If you have any suggestions or nutrition topics you would like covered please contact us by telephone on 4320 3691 or fax on 4320 2828.