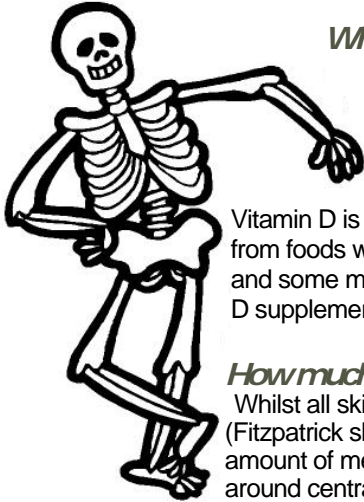


# UV radiation and vitamin D - A special note for people with dark skin



## *What is vitamin D?*

Vitamin D is needed to regulate calcium levels in the blood. It is also necessary for the development of healthy bones, muscles and teeth. Vitamin D is stored in fat and muscle and slowly released. The body can rely on tissue stores of vitamin D for between 30 and 60 days. It is important to maintain adequate vitamin D levels all year round.

Vitamin D is formed in the skin when it is exposed to UVB radiation from the sun. It can also be obtained from foods where it occurs naturally such as oily fish, eggs, and meat or fortified foods such as margarine and some milks. However food sources make a relatively small contribution to total vitamin D status. Vitamin D supplements are also readily available without medical prescription over the counter in pharmacies.

## *How much sun do I need?*

Whilst all skin types can be damaged by too much UV radiation, naturally dark skinned people (Fitzpatrick skin type 5 & 6 - rarely or never burns) are relatively protected from skin cancer by the large amount of melanin (skin pigment) in their skin. People with this skin type often come from countries around central and northern Africa.

There is very little research available to determine exactly how much sun exposure is necessary to maintain adequate vitamin D levels. Variations in age, skin colour, latitude, time of day and time of year makes it impractical to provide prescriptive advice to the population as a whole or to dark skinned people in particular.

Research suggests that if you have naturally dark skin, you require more ultraviolet radiation exposure to produce adequate levels of vitamin D as the pigment in your skin reduces ultraviolet radiation absorption. You should be able to safely increase your sun exposure in moderation without necessarily increasing your skin cancer risk.

Therefore, if you have dark skin and cover yourself for religious or cultural reasons, this further reduces the ultraviolet radiation available for vitamin D production. Vitamin D supplementation is likely to be required. It is advisable to check your vitamin D levels with your GP.

## *What about babies and infants of vitamin D deficient mothers?*

Babies and infants of mothers with inadequate vitamin D levels are also likely to be vitamin D deficient. Babies most at risk are those who are exclusively or partially breastfed by mothers who are vitamin D deficient. Where there is vitamin D deficiency, oral vitamin D supplementation - rather than relying on sun exposure - may be necessary. A medical practitioner should be consulted about whether there is need for vitamin D supplementation.

## *What about children at school?*

Children at school usually spend at least 60 minutes outdoors during recess times. Given that greater sun exposure time is needed for people with dark skin to produce adequate vitamin D levels, it is important for these children to have some sun on their skin during these periods. Whilst all children need to take care in the sun, children with dark skin do not normally need to apply sunscreen because of their high level of melanin. This is a decision for their families to make. We do recommend that these children wear a hat to protect their eyes and face.

As with babies and infants, where there is vitamin D deficiency, talk to your medical practitioner about whether there is need for vitamin D supplementation.

## *Do we need to worry about sun exposure?*

Yes - care still needs to be taken in the sun. Even though the incidence of skin cancers is lower in dark-skinned people, skin cancers that do occur are often detected at a later, more dangerous, stage.



Sun exposure can also cause damage to the eyes, such as contributing to the development of cataracts. Cataracts have blinded around 16 million people worldwide. According to the World Health Organization, up to 20% of these may have been caused or enhanced by sun exposure, especially in countries close to the equator, such as India, Pakistan and parts of Africa.

High levels of UV radiation have also been linked to harmful effects on the immune system.

### **Summing Up..**

- Further scientific investigation of the amount of ultraviolet radiation exposure required to ensure adequate vitamin D levels for people of different skin types in New Zealand is needed.
- If you have dark skin, it may not be necessary for you to apply sunscreen.

If you are at risk of vitamin D deficiency, and not able to increase your sun exposure, visit your family doctor for a blood test and ensure you have regular follow-ups. Take vitamin D supplements if advised by your family doctor, ensure you have a well balanced diet, and exercise moderately each day to maintain healthy bones.

The risk of other health effects related to sun exposure, such as eye damage, skin damage, and immunosuppression, is independent of skin colour.

It is beneficial for you to still wear a broad brimmed hat to protect your eyes and other sensitive areas on your face.



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