

# The Wonders of Vitamin D



Vitamin D is a nutrient that helps the body use calcium and phosphorous to build and maintain strong bones and teeth (Health Canada, 2010). Insufficient levels of vitamin D have typically been associated with bone disorders, such as rickets and osteoporosis. In Canada low levels of Vitamin D are considered a major public health problem/concern, especially during the winter (Schalfenberg, 2007, Rucker. D et al, 2002). Research studies have also shown that individuals of African descent naturally have low levels of Vitamin D (Nesby-O'Dell et al, 2002, Gordon M.C et al, 2004). Vitamin D may be the most important supplement you are not taking, or not taking enough of.

## Why are Individuals of African descent particularly vulnerable to vitamin D deficiency?

Individuals of African descent (Blacks) have a lot of melanin in their skin. Melanin protects the skin against ultraviolet light (from the sun), but in so doing, it also affects the skin's ability to activate pre-vitamin D (Villarosa, 2009). So the darker the skin tone, the less vitamin D you can produce

## What factors make individuals more likely to have low Vitamin D production?

The following factors are associated with low vitamin D levels (Schalfenberg, 2007):

- **Inadequate skin exposure to sunlight**
  - Skin type- darker skin as mentioned above
  - Use of sun screen
  - Excessive covering of the skin with clothes/clothing
- **Inadequate dietary intake:** The recommended dietary needs vary according to age and pregnancy state, but are typically between 400 and 800 international units (IU) per day (Health Canada, 2010), for example children aged 4-8 years need approximately 600 I.U per day.
- **Obesity:** Individuals with body mass index >30 and if the person does little out-door activity (Holick, 2006)
- **Pregnancy:** Increased demand for the vitamin for the baby and the mother (Hollis & Wagner, 2004)
- **Drug interactions:** Some medications are known to interact with Vitamin D synthesis and hence reduce the vitamin levels.

## What are the benefits of Vitamin D for various disease conditions?

- It improves bone health and prevents bone diseases such as Ricketts and Osteomalacia (Wharton et al, 2003)
- It quickens resolution of skin conditions such as Psoriasis (Schalfenberg, 2007)
- It reduces the risks of Diabetes Mellitus (Hypponen et al, 2001; Chiu et al, 2004))
- It reduces risks of some of the most common cancers - Colon, Prostate, Breast, Ovarian and Pancreas (Giovannucci et al, 2006)

- It reduces the risks of upper respiratory tract infections including seasonal influenza (Liu et al, 2006).

Taking regular and adequate amounts of vitamin D can help reduce the risks and increase the benefits. This is particularly important for individuals of African descent and especially during the winter. Some of the common sources of vitamin D include:

1. Exposure to sunlight
2. Oily fish or fish oils
3. Fortified foods, such as milk, soya milk, or rice milk, cereal and orange juice
4. Vitamin D supplements.

Health Canada recommends supplementation of vitamin D between 400 and 800 IU per day. If you are not sure about how much vitamin D you need to take, please consult your family physician.

## References

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