

HOT TOPIC

# vitamin D

for stronger bones & a healthier you!

AVOID THE WINTER BLUES AND ACHIEVE OPTIMAL HEALTH BY ENSURING YOUR VITAMIN D INTAKE IS SUFFICIENT THIS SEASON

**LIVING IN THE SOUTHERN** hemisphere we are quite blessed with access to more natural sunshine, yet most people stay away from the sun. Although it is wise to avoid the harsher elements associated with direct sunlight (i.e., the ultraviolet rays during the times when they are at their most powerful and harmful), research has found that avoiding the sun altogether or receiving insufficient exposure to direct sunlight can result in some serious symptoms.

According to a study conducted in 2007 study<sup>1</sup>, not getting enough direct sunlight on our skin increases our chances of cancer by at least 70 per cent. This is because our body needs natural sunlight to synthesise adequate amounts of vitamin D in order to keep our bones strong and healthy, as well as support the immune system.

#### WHAT IS VITAMIN D?

Vitamin D exists in several forms, each with a different function. Some forms are relatively inactive in the body and, as such, have limited ability to function as a vitamin (and pro-hormone).

The major biological function of vitamin D is to maintain normal blood levels of calcium and phosphorus. Vitamin D helps your body absorb calcium, which ensures strong bones

and teeth. In addition, vitamin D regulates bone mineralisation in unison with other vitamins, minerals, and hormones. Without vitamin D bones tend to become thin, brittle, soft or mis-shapen. Vitamin D can prevent rickets in children and osteoporosis and osteomalacia in adults.

Vitamin D in the form of 'calcioi' (short for 'cholecalciferol') is a fat-soluble vitamin, which acts as a pro-hormone in the body. It can also be found in some food. In its most potent and bioactive form it is produced in our body after exposure to ultraviolet rays from the sun.

#### SOURCES OF VITAMIN D

Optimal health requires a daily dose of vitamin D. If supplementing, the best form to choose is Vitamin D3. The most natural and ideal source of vitamin D is however, from the early morning sun. Direct sunlight on your arms and legs, where you expose at least 25 per cent of your body, is an excellent start; the face, neck and other sun-sensitive parts of your body can be covered up if need be. The benefit of using natural sunlight as your source of vitamin D is that your body can never overdose on it, whereas we can with the supplemental versions.

During summertime, the best sun exposure is for 10 minutes before 9am, or late afternoon

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delivers practical solutions to enhance your physical, nutritional, emotional and mental balance. To win a 45-minute stress assessment or 1-hour nutritional consultation that will help you increase your energy and/or muscle mass, email 50 words or less explaining why you want to win, to editor@fitnessfirst.com.au before 3 August. Each phone-based consult is practical, dynamic and designed to increase your energy, and is valued at \$150.

If you rely on fortified milk as your vitamin D source you would need to drink at least **one litre** a day to get the minimum requirements of vitamin D (around 400 IU)

after 5pm. For the Albino population two to five minutes between 7am or 8am is ideal. These people would benefit from supplementing with 'calciol' if the sun is not an option for their sensitive skin. The darker skinned population typically requires 15 minutes of direct sun exposure on at least 25 per cent of their body. Interestingly, the darker your skin naturally is, the more vitamin D is required. For these people, make sure it is only morning sun that you expose your skin to, and avoid using tanning lotions while trying to get your natural vitamin D, as it blocks the ultraviolet rays, which are the rays that activate vitamin D synthesis in your skin. However, do use chemical-free suntan lotions during the day, when you are engaging in outdoor activities to avoid skin damage.

As we mentioned, Vitamin D3 is also contained in some foods, such as those listed below. Interestingly, most people would not eat these foods on a daily basis all year round; therefore, it is important to supplement with the active form of vitamin D during the months where the sunlight is not as available.

It is important to clarify that it is the ultraviolet (UV) rays of the sun that we need exposure to, as these are the only ones that actually trigger the synthesis of vitamin D in our body. If you rely on solariums or suntan beds to get your natural sunlight, check if they radiate ultraviolet rays as otherwise they do not contribute to enhancing the bone, teeth or immune system health that we are talking about here.

#### HOW DOES THE BODY USE VITAMIN D?

The liver and kidneys help convert vitamin D to its active hormone form (cholecalciferol / calciol / vitamin D3). Vitamin D3 is important in determining how our cells express themselves and is vital in the production of various hormones and neurotransmitters (messengers in the brain).

It is imperative to have a simple blood test that a general practitioner can request, to check your current levels of vitamin D before considering any supplementation. This is because over-

supplementing with vitamin D can also have serious consequences, such as bone resorption (breaking down of the calcium) and soft tissue calcification (hardening). It is also wise to have your vitamin D levels checked three to four months after initial supplementation to see if a deficiency is still present.

#### Deficiency or insufficiency of natural sunlight and vitamin D has been associated with the following conditions:

- + Adrenal insufficiency
- + Autoimmune disorders including multiple sclerosis and rheumatoid arthritis
- + Depression, seasonal affective disorder (SAD) – this one is very common
- + Diabetes, type I and 2
- + Heart disease, hypertension, syndrome X
- + Infertility, sexual dysfunction
- + Learning and behaviour disorders
- + Misaligned teeth and cavities
- + Obesity
- + Osteopenia, osteoporosis, osteomalacia (adult rickets)
- + Psoriasis.

Source: Krispin Sullivan ([www.sunlightandvitaminD.com](http://www.sunlightandvitaminD.com))

#### Foods that contain vitamin D3 and their level of content (in International Units (IU)) are:

- + 1 tablespoon cod liver oil – 1,360 IU
- + 100g salmon, cooked – 360 IU
- + 100g mackerel, cooked – 345 IU
- + 100g sardines, canned in oil, drained – 270 IU
- + 250ml milk, non-fat, reduced fat, and whole, vitamin D fortified – 98 IU
- + 1 whole egg, soft boiled (vitamin D is present in the yolk) – 25 IU.

Source: <http://healthlink.mcu.edu/article/982088787>



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