

Even Swimmers in a Training Programme May Need Vitamin D

Since the 1920s, vitamin D was thought to only be necessary for preventing rickets (a bone disease), but recently has become widely popular. In the last few years, scientists and health professionals got a wake-up call when learning that this long-forgotten vitamin had so many beneficial effects on health—ranging from preventing cancer and diabetes to fighting the flu. Even the government raised its recommended daily intake levels in 2010, due to the attention and scientific support.



Roughly 75% of the population have insufficient or deficient vitamin D levels. This is due in part to our modern lifestyle of wearing clothes, being indoors, and wearing sunblock. Athletes typically do not meet the required dietary intakes. Here's a look at how vitamin D may affect athletes:

Vitamin D improves athletic performance

Vitamin D is produced in the body when exposed to UVB rays from the sun. Studies done decades ago in both Russia and Germany suggest that use of sunlamps (lamps which give off UVB rays, thereby producing vitamin D in the body) improved muscle strength in world-class athletes. In one of the studies, one group of sprinters was exposed to the sunlamps; the other group was not. Both underwent the same training for the 50 free. **The swimmers exposed to sunlamps improved their sprint times by an average of 7.4 percent more than those who did not!**

Another study testing vertical jumping ability done in 2009 showed that adolescent athletes with the lower levels of vitamin D weren't able to jump as high as those with higher vitamin D levels. Finally, observational studies show athlete's peak performance is in late summer, when they've had enough time to store vitamin D from the sun. Performance (measured by maximal oxygen uptake) tended to decline as the winter grew near—even though training remained the same.



Vitamin D improves muscle strength and recovery

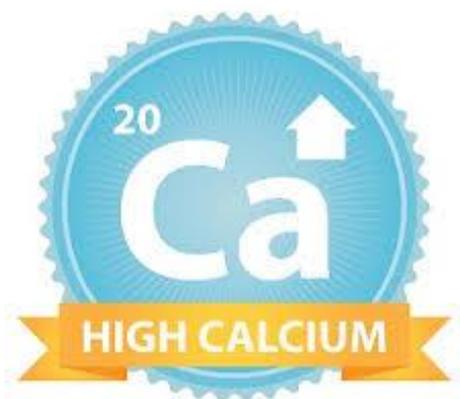
Vitamin D helps muscle fibres to develop and grow normally, and it affects the size and number of fast-twitch muscle fibres. Research shows muscle strength improves when those who are deficient in vitamin D attain normal vitamin D levels.

What's more, low vitamin D levels are associated with higher inflammation and inflammatory disease risk. Inflammation is a normal part of exercise and training—and as a result, compounds in the body called “cytokines” are produced. Vitamin D reduces cytokine production, thereby allowing the body to recover quicker between heavy training.



Vitamin D improves bone health

Vitamin D promotes calcium absorption and maintains bone mineral density—in other words, it keeps bones strong. Strong bones mean less risk for developing stress fractures, which can sideline athletes. This is especially important for swimmers who may not get as much impact-exercise as say, runners do.



Vitamin D improves immune health

A study published in the Archives of Internal Medicine in 2009 looked at nearly 19,000 Americans and found that those with the lowest levels of vitamin D in their blood were more likely to suffer from the cold/flu virus.

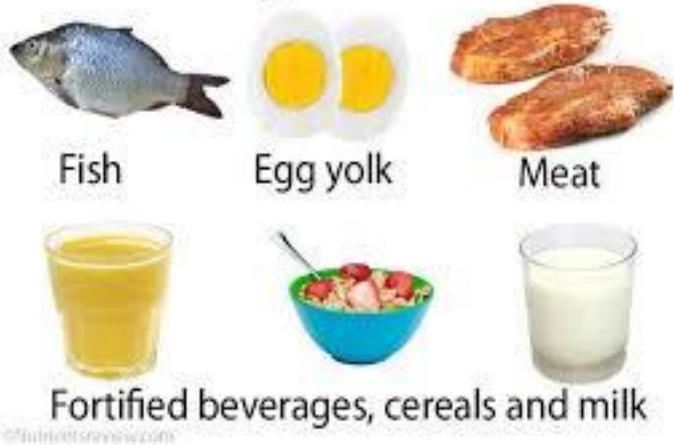


Optimizing your performance

Peak athletic performance is estimated to occur when vitamin D levels in the blood are between >32-50 ng/mL. Food sources include fish (4 oz. canned salmon or tuna provides roughly 600 IU vitamin D), fortified milk and other fortified foods. **A word of caution: taking more than 5,000 IU per day may worsen athletic performance.** Besides, the Institute of Medicine's upper limit is set at 4,000 IU per day. Getting a blood test done at the doctor's office is the only way to know what your vitamin D level is.

If your swimming training programme is indoors and you use sunscreen for times that you're outside, it may be a good idea to get your vitamin D level checked.

Foods High in Vitamin D



Did you know?

- Sunscreen with SPF 8 or higher completely blocks UVB rays, which prevents vitamin D production in the body
- It is nearly impossible to get too much vitamin D from the sun, since vitamin D production in the body stops when the body senses it has enough
- Individuals with dark skin have a lower ability to produce vitamin D from the sun
- Fish is one of the few food sources of vitamin D. Dietary supplements are a convenient way to obtain the nutrient
- Vitamin D3 is more bioavailable than vitamin D2. If using supplements, look for the D3 form
- The RDA for vitamin D is 600 IU for most adults and children over age 1

Research Source Erin Kelley, MS, RD member of the Academy of Nutrition and Dietetics.