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High dose vitamin D supplementation does not improve muscle function and may increase the risk of falls.

Vitamin D supplementation has recently been evaluated in Switzerland in a small 1 year randomized clinical trial by Bischoff-Ferrari and colleagues. This study compared the effects of two “high” doses of vitamin D (60,000 IU of vitamin D3 per month or 24,000 IU vitamin D3 plus 300 mg of calcifediol per month) to a standard dose of 24000 IU per month (equivalent to 800 IU per day). The study did not include a control group receiving zero vitamin D supplementation. The study was completed in 200 men and women over the age of 70 yrs. The people enrolled in the study had at least 1 fall before entering the study.

High dose vitamin D did not result in improvements in strength in the lower limbs. In fact there were actually more falls in the high dose vitamin D groups in comparison to the standard dose 24,000 IU Vitamin D monthly. Therefore, increasing vitamin D intake above standard recommended intake levels provided no benefit with respect to muscle strength, and was actually associated with an increased risk of falling.

Although vitamin D is present in a few food groups, including fatty fish, eggs and D fortified milk and cereal, it is difficult to meet daily requirements with diet alone. Vitamin D in doses of 800-1000 IU daily will prevent vitamin D deficiency in most people.

Osteoporosis Canada recommends routine vitamin D supplementation for all Canadian adults year round. Healthy adults between 19-50 years of age, including pregnant or breast feeding women, require 400 – 1,000 IU daily. Those over 50 or those younger adults at high risk (with osteoporosis, multiple fractures, or conditions affecting vitamin D absorption) should receive 800 – 2,000 IU daily.

Osteoporosis Canada advises Canadians to discuss their vitamin D requirements with their physician.