ARE YOUR CHILDREN VITAMIN D DEFICIENT: A SIMPLE BLOOD TEST TELLS ALL

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There is strong evidence that adults should maintain a blood vitamin D level at or above 30ng/ml (75nmol/L), as a means to prevent osteoporosis and cancer, and help maintain optimal immune function. Vitamin D may also help reduce of risk of diabetes, cardiovascular disease, multiple sclerosis and some other health conditions. (3).

But what about children, teenagers, and young adults, what blood level of vitamin D is healthy for individuals between the ages of 1 – 21 years of age?

Some groups suggest that vitamin D blood levels for young people between 1- 21 years of age should also be a minimum of 30ng/ml (75nmol/L). In this regard, a 2009 study in the journal Pediatrics, which defined sufficient vitamin D levels as greater than 30 ng/mL, found that an estimated 70 percent of young people ages 1 to 21 had deficient or insufficient vitamin D blood levels.

However, the Pediatric Endocrine Society suggests that minimum vitamin D blood level can be as low as 20ng/ml (50nmol/L) and is quite adequate for younger individuals. However, other guidelines recommend a vitamin D blood level above 30ng/mL (75nmol/L) for this younger population.

Loyola researchers studied vitamin D data from a nation-wide sample of 2,877 U.S. children and adolescents, ages 6 to 18, who participated in the National Health and Nutrition Examination Survey.
The study found that when using the value of 20ng/ml (50nmol), as the lowest safest level of vitamin blood level, that 10.3 percent of children ages 6 to 18 are at risk of inadequate or deficient vitamin D levels, which this translates to an estimated 5.5 million children living in the U.S. (1)

Vitamin D in Children's Health
Vitamin D serves many purposes in the health and development of children, teenagers and young adults, one of which include is ensure proper bone development and another appears to be immune system regulation in the prevention of autoimmune diseases including Type 1 diabetes:

Bone Development – Vitamin D is necessary to form strong growing bones during the developmental years. Vitamin D enhances absorption of calcium and magnesium, required to ossify bones as they grow and harden. Insufficient vitamin D during the formative years leads to soft bones, known as osteomalacia and/or increases the propensity for future development of osteoporosis after age 50 for women and after age 65 for men. (2)

Diabetes Prevention – Compelling evidence suggests that insufficient vitamin D in early life is associated with multiple positive pancreatic islet auto-antibodies that are typically found in Type 1 diabetes (insulin-dependent diabetes, which usually develops in younger individuals). (3) For example, a large 2013 study found that white, non-Hispanic, healthy young adults with higher serum levels (>75 nmol/L) of vitamin D had about half the risk of developing type 1 diabetes than those with the lowest levels of vitamin D (<30ng/ml or 75 nmol/L). (4) However, some studies indicate that children over 1 year of age may require 2000 IU of vitamin D per day to realize the maximum effect against developing Type 1 diabetes. A Finish study involving over 10,000 children demonstrated that infants given 2000 IU of vitamin D per day, beginning in the first year, showed an 80% lower incidence of type 1 diabetes

compared to infants ingesting less than the recommended amount of vitamin D during infancy and early childhood. It is, however, important to note that life long-term intake of 2000 IU of vitamin D in infants and young children has not been completed evaluated from a safety standpoint, and thus most authoritative bodies are reluctant to recommend more than 600 IU per day of vitamin D, taken as a supplement, for young children.(4).

Conclusion

My conclusion is that there is strong evidence to suggest that children and teenagers should maintain a minimum blood vitamin D level of 30ng/ml(75nmol/L), as a means to reduce the onset of type 1 diabetes, support bone development and possibly reduce risk of other autoimmune disease (e.g. rheumatoid arthritis). (3,4) In some cases this may require vitamin D supplementation with 400 -600 IU per day, and in other cases it may require much higher doses. It largely depends on available sunlight exposure throughout the year, elevation (at higher altitudes one makes less vitamin D in their skin from sunlight), and the ingestion or absence of rich food sources of vitamin D in the diet (certain fish such as sardines and mackerel are very high in vitamin D content). (3). All it takes is for your children to undergo a simple vitamin D blood test from your doctor showing their blood level of 25-hydroxycholecalciferol. If their results show a value less than 30ng/ml (75nmol/L) then additional supplementation is warranted in my view.

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Dr. Meschino is the Director of Wellness and Health Promotion for SEB (Smart Employee Benefits), a publicly traded company (TSX VENTURE: SEB), in which he designs and delivers employee wellness programs, along with his team at Meschino Health and Wellness Corporation. Dr James Meschino is an Associate Professor at the Canadian Memorial Chiropractic College in Toronto, where he has taught courses in the biochemistry, nutrition and natural medicine courses since 1984. He also teaches continuing education courses on nutrition and natural medicine to medical doctors, naturopaths, pharmacists, chiropractors and other health care providers.

He is also the author of four nutrition/wellness/anti-aging books, including *"The Meschino Optimal Living Program – 7 Steps to a Healthy, Fit, Age-resistant Body"*, and has been the Director of Nutritional Therapy at the Canadian Cancer Immunotherapy Centre in Toronto. Dr Meschino is the formulator for Adeeva nutritional supplement products, which are dispensed by health professionals throughout North America.

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