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13th Workshop Consensus for Vitamin D Nutritional Guidelines

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Scientists and nutrition experts at the 13th Vitamin D Workshop agree that about half of the elderly in North America and two-thirds of the rest of the world are not getting enough vitamin D to maintain healthy bone density, lower their risks for fractures and improve tooth attachment. Such vitamin D insufficiency also decreases muscle strength and increases the risk for falls and is even associated with increased risk for colorectal and other major cancer.

The conclusion of the 334 scientists from 23 countries at the meeting in Victoria, British Columbia April 8-12, was that, although the problem of insufficient vitamin D is widely recognized and reported, eating vitamin D rich foods does not solve the problem for most adults. This “sunshine vitamin” is the one nutrient that foods alone cannot provide enough of. Most of our dietary vitamin D is added to foods by manufacturers.

A wide variety of topics was covered at the meeting concerning the parent vitamin D₃ (an essential nutritional substance) and its steroid hormone daughter product calcitriol (also referred to as hormone D). Calcitriol is now known to be involved in the immune system, calcium and bone metabolism, and regulation of gene expression; hormone D is linked to prevention and treatment of osteoporosis, cancer, diabetes, and other diseases of aging, including tooth attachment, muscle function and inadvertent falls which can result in bone fractures.

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Dr. Robert Heaney, of Creighton University, Omaha, Neb. summarized studies, which point out that all adults should have a much higher blood vitamin D (measured as calcidiol) level, of approximately 75 nM. Swiss scientist Dr. Heike Bischoff-Ferrari concurred, presenting the combined findings about vitamin D from several large U.S. health databases.

The consensus of vitamin D nutritional experts present at the Vitamin D Workshop is that current governmental guidelines in all countries with respect to how much daily vitamin D is required simply to maintain bone health and health in general are too low and do not reflect the many scientific advances made in vitamin D and hormone D research over the past 10 years.

There was a general consensus that the blood concentration of vitamin D should at the very least meet or hopefully exceed a minimum desirable serum concentration of 50 nM (or 20 ng/ml). As reviewed in talks at the Workshop by professors from the U.S.A., Canada, The Netherlands and Switzerland, the standard of 25(OH)D of 50 nM in blood is not achieved by 50 percent of the North American elderly population and by two-thirds of the rest of the world and the situation is frequently not much better in younger subjects.

Even with dietary supplements, the amounts of vitamin D in foods (except for some fatty fish products) and vitamin supplement products are too low to offer much benefit to adults. As emphasized at the Workshop, vitamin D₃ fortification of foods such as bread, milk, or orange juice or vitamin D₃ supplementation in daily vitamin capsules should be very significantly improved and implemented.

Vitamin D₃ is also known as the “sunshine vitamin” because it can be formed in skin by ultra violet light in sunshine. However, it was also a consensus at the Workshop that it is not advisable for individuals to prolong their exposure to sunlight to produce the needed higher concentrations of vitamin D because of the well documented effects of sunlight on skin aging and the promotion of skin cancer. This was clearly summarized in a plenary lecture from Dr. Barbara Gilchrest, Chair of Dermatology at the Boston University Medical School, who described that the very same UVB light or suntan radiation that is responsible for vitamin D production in the skin also is responsible for photo aging and skin cancer.

Finally, the experts' opinion is that more clinical research is needed to define the wide spectrum of the beneficial effects of vitamin D₃ on global health and to define the optimal safe levels of vitamin D₃ intake. The present Upper Level (UL) of vitamin D intake that is deemed to be safe (2000 International Units/day; 50 µg) must be re-evaluated in light of much existing data acquired over the past 15 years. The UL should be elevated at least to facilitate urgently needed additional clinical studies on the value of higher daily doses of vitamin D₃ to the maintenance of better overall health.