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Vitamin D – How much is enough?

Recent studies show that the incidence of vitamin D deficiency is on the rise in the United States, particularly among residents of the northern regions of the country and among African Americans. Furthermore, some professional organizations are recommending levels of vitamin D intake that are twice as high as the current recommendation.

What is the role of vitamin D?

By helping the body to absorb calcium and phosphorus, vitamin D is essential for building and maintaining strong bones. In addition to preventing rickets in children and osteomalacia and osteoporosis (bone disorders which lead to fractures) in adults, recent research studies indicate that vitamin D may play a role in the prevention of some cancers (colon, breast, and prostate) and other chronic diseases, such as hypertension, heart disease, rheumatoid arthritis, and diabetes. More research is needed to understand vitamin D's protective effect against disease.

What are the current recommendations for vitamin D?

The daily amount of vitamin D recommended by the Institute of Medicine (IOM) is 200 International Units (IU) for infants, children, and adults through age 50; 400 IU for ages 51 through 70; and 600 IU for persons over 70 years of age. Be aware that vitamin D is the most toxic vitamin. Persons should not exceed the Tolerable Upper Intake Level (TUL) of 1000 IU for infants and 2000 IU for all other ages. Unsafe intakes are most likely to result from supplements. The major toxic effect is hypercalcemia (high blood calcium) which is associated with nausea, vomiting, reduced renal function, and calcification of soft tissues, such as blood vessels and lungs.

How can I get enough vitamin D?

The main way that we obtain vitamin D is by synthesizing it in the skin through exposure to the ultraviolet rays in sunlight. About 10-15 minutes of sun exposure a few times a week provides adequate vitamin D. Foods that are fortified with vitamin D (such as fortified milk products, cereals, and fruit juices) are also good sources of the vitamin. Only a few foods (butter, egg yolks, fatty fish, and liver) are naturally rich in vitamin D. If enough vitamin D cannot be obtained from sunlight and food, supplements may be appropriate.

Who is especially at risk of vitamin D deficiency?

- Persons who are not exposed to sunlight, such as those living in cloudy, cold regions of the country and homebound residents.
- Breast-fed infants who are not exposed to sunlight
- Persons with darker skin pigmentation and those who use topical sunscreen (some professionals recommend applying sunscreen 10-15 minutes after being outdoors)
- Older adults (conversion of the precursor in the skin to the vitamin decreases with age)
- Persons with malabsorption or kidney/liver disorders (due to reduced absorption or decreased conversion to the active form of vitamin D).