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Buckhead Concierge Internal Medicine

VITAMIN D and CALCIUM SUPPLEMENTATION

Recommendations from the Institute of Medicine

The Institute of Medicine recently released a report on the role of Vitamin D and Calcium supplementation with regard to bone health and other possible benefits. The report focuses on the individual daily requirements for optimum bone health. The importance of not over supplementing Vitamin D and Calcium in patients without deficiency is underscored. The report states that Calcium and Vitamin D must be taken together to build and maintain strong bones. The report also concludes that current evidence does not support other benefits for Vitamin D or Calcium intake such as immune system or cardiovascular benefits. The report also raises concern in the reliability of laboratories performing serum Vitamin D levels as these may have high variability and may possibly be over estimating the number of Vitamin D deficient persons.

Vitamin D

The amount of Vitamin D recommended daily, from food or dietary supplements:
Ages 1-70: 600 IU Daily
Ages 71 and older: 800 IU Daily

Calcium

Recommended daily levels of Calcium from food or dietary supplements:
Ages 1-3: 700 mg Daily
Ages 4-8: 1,000 mg Daily
Ages 9-18: 1,300 mg Daily
Ages 19-70: 1,000 mg Daily- but for women the amount rises to 1,200 mg daily at age 51
Ages 71 and older: 1,200 mg

Recommendations from Dr. Edward Espinosa:

In general the Institute of Medicine recommendations are based on amounts needed to prevent rickets, osteomalacia, and fractures. Higher amounts of Vitamin D are associated with lower risk of falls, cancer, heart disease and autoimmune disorders.

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Vitamin D

Vitamin D is made by sun-exposed skin and is found in some foods. One of the best sources is salmon. A 3-oz. (86 gram) serving of sockeye salmon provides almost 800 IU of Vitamin D. A 3-oz. serving of canned tuna provides about 150 IU of Vitamin D. Dairy products fortified with Vitamin D are also good sources. Examples include a cup of fortified milk (115 to 124 IU), a cup of fortified orange juice (80 IU), or 6-ozs (171 grams) of fortified yogurt (80 IU).

Sources of Vitamin D should be primarily from sun exposed skin and food sources, not pills. Testing Vitamin D levels should be considered for people likely to be deficient due to advanced age, dark skin, limited sun exposure, or gastrointestinal problems that may lead to malabsorption of Vitamin D. Supplementation should be initiated when a deficient or insufficient state is identified.

When supplementing Vitamin D, use cholecalciferol (vitamin D3) rather than ergocalciferol (vitamin D2).

Vitamin D Deficiency: Vitamin D deficiency is defined as Vitamin D (25OHD) levels less than 20 ng/mL. Individuals with Vitamin D deficiency should receive Vitamin D repletion. Repletion of Vitamin D requires initial treatment with 50,000 units of Vitamin D2 orally once per week for eight weeks, and then 1000 units of Vitamin D3 daily thereafter.

Vitamin D Insufficiency: Vitamin D insufficiency is defined as Vitamin D (25OHD) levels between 20 to 30 ng/mL. Individuals with Vitamin D insufficiency, should receive Vitamin D replacement. Vitamin D replacement requires treatment with 800 to 1000 units of Vitamin D3 daily. This intake will bring the average adult to 30 ng/mL over a three-month period, but some individuals will need higher doses.

Vitamin D (25OHD) concentrations should be measured approximately three months after initiating therapy. The goal Vitamin D (25OHD) concentration is at least 30 ng/mL.

Individuals should not take over 4000 IU of Vitamin D per day without proper serum monitoring of Vitamin D (25OHD).

Calcium

Calcium is found in foods. Dairy products are good sources. Eight ounces of yogurt or 1 cup of milk, or a 1.5-oz. serving of cheese, can provide around 300 mg. Fortified orange juice can provide 300 mg per 8-oz. serving.

Primary sources of Calcium should come directly from food, not pills. Supplementation with Calcium should be initiated in settings where bone density loss states may occur such as the female peri- and postmenopausal state.

Calcium supplementation recommendation is for 1000 mg to 1200 mg daily for most adults. Females over 51 years of age should take 1200mg daily.

Caution is advised in taking more than 2000 mg of Calcium daily from food and supplements. This may increase risk of kidney stones and possibly heart attacks.

Caution is advised in taking Calcium supplements alone without taking Vitamin D supplementation.