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News Release

Vitamin D and Calcium: A Dynamic Duo

Vitamin D is touted as the solution to a multitude of problems from osteoporosis to depression. Naturally produced by the human body when exposed to direct sunlight, vitamin D levels per individual vary with exposure levels to UV light and skin pigmentation. Vitamin D helps your body absorb the amount of calcium it needs to form strong bones and teeth. Because absorption of calcium is dependent on vitamin D, many manufacturers of calcium supplements add vitamin D to ensure optimal calcium uptake.

Many people take vitamin D supplements because typical diets provide about 100 IU/day, which is only about one quarter of the amount recommended by medical organizations. A blood test to determine the serum level of 25-hydroxy D is needed to determine if you are vitamin D deficient. Most vitamin D researchers believe your 25 hydroxy D level needs to be above 30 ng/ml, with the optimal range likely between 50 and 60 ng/ml. For every 100 IU of vitamin D that you ingest, you raise your blood level by 1 ng/ml. Aging decreases our ability to produce vitamin D via sunlight. A 70-year old has a 70 percent reduced ability to produce vitamin D via sunlight compared to a 20-year old. So the older we get, the more likely it is that we will need to get some of our vitamin D from supplementation. Vitamin D is fat-soluble vitamin, and it can be stored in the liver and fatty tissues. Because it can be stored, vitamin D can build up to toxic levels when consumed in excessive amounts, therefore it is important follow your medical professional's guidelines on how much you need.

Calcium level recommendations vary with age, but adult recommendations average about 1,300 mg per day. Bone itself undergoes continuous remodeling with constant resorption and deposition of calcium into new bone; a growing adolescent needs more calcium than a 45-year-old male. Gas, bloating, constipation, or a combination of these symptoms, are often the reason people stop taking calcium supplements. However, if you spread out the calcium dose throughout the day, take the supplement with meals or change the brand of supplement used these symptoms can be reversed.

There aren't too many foods that are naturally rich in vitamin D. Oily fish such as wild salmon contain about 500 to 1,000 IUs per serving (3.5 ounces). However, many processed foods have been fortified with vitamin D. According to the Institute of Medicine, fortified foods provide most of the vitamin D in the American diet. For example, most of the U.S. milk supply is fortified with 100 IU/cup of vitamin D (25 percent of the Daily Value or 50 percent of the AI level for ages 14 to 50 years). Meanwhile, milk, yogurt and cheese are rich sources of calcium. Nondairy sources include vegetables, such as Chinese cabbage, kale and broccoli.

Vitamin D, calcium and fat work together in your body to help you in many different ways. It is up to you to make sure you are getting enough of them so that they can work to their maximum benefit.

For more information on vitamin D and calcium or other health-related topics please contact Donna Shanklin, Regional Extension Agent—Health, at the St. Clair County Extension office at (205) 338-9416 or email drs0009@aces.edu.

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Vitamin D

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