**Vitamin D Update**

**Change in Dietary Reference Intake (DRI) for Vitamin D**

In November 2010, the Institute of Medicine (IOM) released a report setting new dietary intake levels for calcium and vitamin D. These recommendations are replacing the previous references (which were called Adequate Intake values) that were made in 1997. The IOM states that these new DRI values are based on higher quality studies than were previously available.

For vitamin D, the estimated average requirement for both males and females under 70 years old is 400 international units (IU). In order to achieve this requirement, the scientists have set the recommended dietary allowance a little higher at 600 IU per day. For seniors over 70, that DRI is still higher at 800 IU per day. These recommendations are somewhat higher than the previous 1997 values, although there is considerable controversy over these recommendations. Many healthcare practitioners believe these recommendations are still too conservative.

**Challenging the Concept of “More is Better”**

The IOM state that toxicity concerns exist with mega-doses that are becoming more common in supplements. Vitamin D is fat-soluble so it will be stored in the body’s fat tissue and when extra is ingested it is not excreted via urine. Instead, it remains in the body even if it is not needed. In a press release from the Institute of Medicine, they state that excessive vitamin D can damage the kidneys and heart, although the exact level of toxicity is not clear and likely differs among people.

For this reason, the IOM states that the concept of “more is better” should be challenged when referring to nutrients. SpectraCell agrees with the IOM on this issue that “more is not necessarily better.” In fact, micronutrient testing by SpectraCell reinforces this concept since it measures whether or not a deficiency exists. If a person shows vitamin D deficiency on the micronutrient test, supplementation will likely benefit the patient. If vitamin D functions well (in other words, the person is not vitamin D deficient), they should not take extra vitamin D supplements.

**A Word About Vitamin D from the Sun**

We can get vitamin D from food, supplements or the sun. The surface of the skin has special vitamin D receptors that allow us to manufacture vitamin D from sunlight, or more specifically ultraviolet (UVB) radiation. Unlike ingested vitamin D, excessive exposure to sunlight does not cause vitamin D toxicity because any excess vitamin D from the sun is immediately metabolized into harmless by products and removed from the body. In fact, depending on latitude, time of day, season and skin tone, 5-10 minutes of exposure to sunlight contains about 3000 IU. Supplements usually contain less than 1000 IU.

**Which Form is Best? D2 or D3**

There are two major forms of the vitamin: D2 (ergocalciferol) and D3 (cholecalciferol). Some studies suggest that vitamin D2 is only about 30% as effective as D3 in maintaining tissue levels but a 2008 study showed that vitamin D2 is as effective as D3 in maintaining vitamin D concentrations in the body. Both D3 and D2 are metabolized in the liver and kidneys to form either the non-active storage form (25-hydroxyvitamin D) or the biologically active form (1,25-dihydroxyvitamin D). SpectraCell’s micronutrient test measures vitamin D3.

**References**

1. Institute of Medicine. Report Brief: Dietary Reference Intakes for Calcium and Vitamin D. November 2010