Vitamin D: Are you getting enough?

Most Americans don’t get enough vitamin D—even people who are active, eat a healthy diet and take vitamin supplements. According to a 2007 study by St. Luke’s and the Whiteside Institute for Clinical Research, our community reflects this national trend. Nearly half of all study participants were found to be deficient in vitamin D, including some who were taking a daily multivitamin.*

Vitamin Superstar

We’ve long known that vitamin D helps build strong bones and benefits our overall health. Less well understood, however, is how it protects us against a number of serious physical and emotional health conditions, and even premature death.

Osteoporosis, falls and hip fractures
Vitamin D helps the body absorb calcium, maintain bone mass and prevent osteoporosis. Low bone mass is associated with weak, brittle bones, which can result in falls and injuries such as hip fractures.

Cancer
People with high vitamin D levels have a lower risk of developing breast, pancreatic, colon and other gastrointestinal cancers, and leukemia.

Diabetes
Infants who are given high doses of vitamin D during their first year of life have a far lower risk of developing type 1 diabetes. Adults with low levels of vitamin D increase their risk of developing type 2 diabetes.

Heart attack
People with low vitamin D levels and hypertension are more likely to suffer a heart attack.

Immune diseases
Vitamin D deficiency is linked to diseases such as multiple sclerosis, rheumatoid arthritis, lupus, fibromyalgia and inflammatory bowel disease.

Premenstrual syndrome
Women with low vitamin D levels increase their risk of experiencing symptoms of premenstrual syndrome.

Anxiety and depression
Both men and women with vitamin D deficiencies are more likely to suffer from anxiety and depression.

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Factors That Influence Vitamin D Levels

The human body naturally produces vitamin D when exposed to direct sunlight. This explains why factors such as season, geographic latitude, time of day, cloud cover, angle of the sun, smog and sunscreen use can affect the amount of vitamin D we produce. People living in the northern regions of the United States, for example, get fewer hours of sunlight, which limits their vitamin D production.

How Much Is Enough?

The amount of vitamin D we need depends on a variety of factors, including gender, age, skin color and pregnancy. The American Academy of Pediatrics recommends that infants and children receive 400 international units (IU) of vitamin D per day. For adults, most experts recommend 800-2,000 IU per day, with older adults requiring the highest amounts.**

Sources of Vitamin D

Sun exposure, foods and supplements are the primary sources of vitamin D.

Sun exposure

Ten to 15 minutes of sunshine three times a week without sunscreen is enough to produce sufficient vitamin D in summer months for younger adults. Because age decreases the skin’s ability to make vitamin D from sunlight, it is safest for older adults to take vitamin D supplements year round. At the same time, too much sun increases the risk of skin cancer, so it’s important to wear sunscreen for longer periods of exposure.

Food

Fish is one of the few foods naturally high in vitamin D. Most of the vitamin D in the American diet comes from fortified foods, such as cereal, margarine, orange juice and milk. All milk sold in the United States is fortified with vitamin D.

<table>
<thead>
<tr>
<th>Food Item</th>
<th>IU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salmon, 3.5 oz</td>
<td>360</td>
</tr>
<tr>
<td>Margarine (fortified), 1 tbsp</td>
<td>250</td>
</tr>
<tr>
<td>Tuna (canned in oil), 3 oz</td>
<td>200</td>
</tr>
<tr>
<td>Milk (fortified), 8 oz</td>
<td>100</td>
</tr>
<tr>
<td>Orange juice (fortified), 8 oz</td>
<td>100</td>
</tr>
<tr>
<td>Egg</td>
<td>20</td>
</tr>
<tr>
<td>Swiss cheese, 1 oz</td>
<td>12</td>
</tr>
</tbody>
</table>

Supplements

Because it’s nearly impossible to reach the recommended vitamin D requirement from food alone, most adults will need to take a supplement. The amount of vitamin D in supplements varies, so it’s important to check the label first.

<table>
<thead>
<tr>
<th>Supplement</th>
<th>IU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multivitamins</td>
<td>400-800</td>
</tr>
<tr>
<td>Calcium with vitamin D</td>
<td>200</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>400-5,000</td>
</tr>
</tbody>
</table>

Factors That Influence Vitamin D Levels

Aging and diet are two other factors that influence vitamin D levels. As we age, our skin loses its ability to manufacture vitamin D from sun exposure. And although most diets do provide some amounts of vitamin D, food alone—even vitamin-fortified foods—can’t compensate for a lack of sun or the effects of aging.

*The research study, led by David Arvold, MD, was conducted through the Whiteside Institute for Clinical Research with a grant from St. Luke’s Foundation. Participants were patients who visited St. Luke’s Internal Medicine Associates during February 2007. Research findings were published in Endocrine Practice, April 2009:15(3):202-211.