

## Vitamin D – “The Wonder Vitamin” – What You Need to Know

By Ryan Harrison, MA, HHP

Vitamin D has been getting a lot of press lately. A Google search of the term “vitamin D benefits” yields a whopping 1,720,000 results! This means it is obviously something that people are interested in, are looking into, and are talking about. In fact, William Faloon of the Life Extension Foundation wrote that “no other nutrient, drug, or hormone has gained more scientific credibility than vitamin D.”<sup>1</sup> Yet surprisingly, most people that I know don’t know much about vitamin D and the incredible importance of this micronutrient. So let’s look a little closer at what this vitamin is and does, as well as how you can benefit from it through proper supplementation.

### What Is Vitamin D?

Vitamin D is quite unique among vitamins. For one thing, where other essential nutrients need to be taken into your body via food or drink, your skin is designed to make vitamin D when it is exposed to sufficient amounts of sunlight. In fact, outside of seafood, most foods found in the natural world don’t contain vitamin D in them, because nature intended your body to make it. (This is one reason, incidentally, that products are often “fortified” with it.)

*Medical News Today* describes vitamin D as a “group of fat-soluble prohormones.”<sup>2</sup> But what does that mean? It means that vitamin D is actually a collection of hormone precursors that exerts its effects on over 2,000 of the 30,000 genes in your body that make you, you.<sup>3</sup> There are five different types of the vitamin – D<sub>1</sub>, D<sub>2</sub>, D<sub>3</sub>, D<sub>4</sub>, and D<sub>5</sub> – but only vitamins D<sub>2</sub> and D<sub>3</sub> seem to matter to humans.<sup>4</sup> By far, the more potent of the two is vitamin D<sub>3</sub> (*cholecalciferol*), which research has determined is far more effective and easier for the body to use; you’d have to take three times as much vitamin D<sub>2</sub> (*ergocalciferol*) to get as much out of it as a single dose of vitamin D<sub>3</sub>.<sup>5</sup>

### What Does it Do?

Most people are aware that vitamin D has *something* to do with bones. After all, it’s often added to dairy products and calcium supplements. And it’s true: without sufficient vitamin D, you can develop rickets, osteoporosis, and osteomalacia.<sup>6,7</sup>

In fact, without vitamin D, your body can’t properly utilize calcium that you get from even common foods and drinks.

#### At A Glance

- Vitamin D is a popular supplement today, widely studied, discussed, and marketed.
- Vitamin D is unlike other vitamins. Your body can make it out of skin exposure to sufficient sunlight.
- Vitamin D is a group of prohormones that greatly affect over 2,000 genes.
- Vitamin D<sub>3</sub> is far more effective than D<sub>2</sub>.
- Vitamin D does more than assist with bone health; it has health-protective and therapeutic effects, as well.
- Most people are deficient in vitamin D; supplementing between 4,600-10,000 IU/day is suggested for adults.
- Long-term supplementation with Vitamin D<sub>3</sub> is safe but should not exceed 40,000 IU/day over a period of time.

But vitamin D does much, *much* more than just guard bone health. Researchers have uncovered a wide array of ways that this essential “wonder vitamin” impacts your health. These include: Combating various cancers, preventing multiple-sclerosis, lowering risk of gingivitis, alleviating musculoskeletal pain, lowering risk of cavities and periodontal disease, aiding in the detoxification of the brain, eliminating mercury from the body, optimizing the immune system, protecting skin health, encouraging fertility, enhancing athletic performance, and even possibly protecting against Type I diabetes.<sup>8,9,10</sup>

### Why Do I Need It? How Do I Get It?

Astonishingly, even though vitamin D is an “essential” nutrient that is often added to processed foods in order to “fortify” them, most people are deficient in vitamin D.<sup>11</sup> In fact, one source, which proposes that the optimal level of blood serum vitamin D is 50-100 ng/mL, suggests that an estimated 50-78% of the general population is deficient, with vitamin D levels in the blood at less than 30 ng/mL!<sup>12</sup> What’s more, an estimated 36% of the population may have vitamin D levels lower than even 20 ng/mL.<sup>13</sup> Are you one of them? The only way to find out for sure is to have your blood tested for 25-hydroxyvitamin D, the metabolically active form of the vitamin in the blood.

Once you know whether you need more vitamin D, there are a few different ways to get it. Probably the best way, of course, is from the sun. If you spend sufficient time bare-skinned in the sun on a regular basis, you may not need supplementation. But what if you don’t live in a climate with year-round sunshine? Or if you spend most of your day in a home or office? When you do go out, do you cover yourself in sunscreen? If so, that cuts down on your body’s ability to synthesize vitamin D, as well.

So for many people, supplementation is the best way to achieve optimal levels of vitamin D. Remember that vitamin D<sub>3</sub> is the most potent type of vitamin D for supplementation, so be sure that you make that selection. Most vitamin D<sub>3</sub> supplements can be found in doses between 1,000 and 5,000 IU. For optimal results, research suggests that, for adults, supplementing between 4,600 to 10,000 IU/day is best.<sup>14</sup> That might sound like a lot, but 10,000 IU of vitamin D<sub>3</sub> can be achieved with only two pea-sized capsules, and is equivalent to spending about 30 minutes bare-skinned in the sun.<sup>15</sup> (Keep in mind, however, that you *can* get too much vitamin D. The *Journal of Clinical Endocrinology and Metabolism* suggests that toxicity in humans probably occurs after a long-term daily consumption of 40,000 IU/day.<sup>16</sup>)

Finally, be sure that the vitamin D supplement you’re using has been manufactured correctly and safely according to current Good Manufacturing Practices (cGMP) set by the U.S. Food and Drug Administration. That way, you’ll know that you’re getting exactly what you’re paying for – no more and no less – and that it has been tested to be of high quality and purity.

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<sup>1</sup> *Startling Findings About Vitamin D Levels in Life Extension Members*, Retrieved November 5, 2010 from [http://www.lef.org/magazine/mag2010/jan2010\\_Startling-Findings-About-Vitamin-D-Levels-in-Life-Extension-Members\\_01.htm](http://www.lef.org/magazine/mag2010/jan2010_Startling-Findings-About-Vitamin-D-Levels-in-Life-Extension-Members_01.htm)

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- <sup>2</sup> *What Is Vitamin D? What Are the Benefits of Vitamin D?*, Retrieved November 5, 2010 from <http://www.medicalnewstoday.com/articles/161618.php>
- <sup>3</sup> *My One Hour FREE Vitamin D Lecture to Clear Up All Your Confusion on This Vital Nutrient*, Retrieved November 5, 2010 from <http://articles.mercola.com/sites/articles/archive/2008/12/16/my-one-hour-vitamin-d-lecture-to-clear-up-all-your-confusion-on-this-vital-nutrient.aspx>
- <sup>4</sup> *What Is Vitamin D? What Are the Benefits of Vitamin D?*, Retrieved November 5, 2010 from <http://www.medicalnewstoday.com/articles/161618.php>
- <sup>5</sup> *Vitamin D2 is Much Less Effective Than Vitamin D3 in Humans*, Retrieved November 5, 2010 from <http://jcem.endojournals.org/cgi/content/full/89/11/5387>
- <sup>6</sup> Mindell, E. (2004). *Earl Mindell's New Vitamin Bible*. NY: Warner Books, pp. 76-77.
- <sup>7</sup> *Vitamin D: Cancer Prevention and Other Uses*, Retrieved November 5, 2010 from [http://www.lef.org/magazine/mag2006/mar2006\\_report\\_vitamind\\_02.htm](http://www.lef.org/magazine/mag2006/mar2006_report_vitamind_02.htm)
- <sup>8</sup> *Vitamin D is a Key Player in Your Overall Health*, Retrieved November 5, 2010 from <http://articles.mercola.com/sites/articles/archive/2008/11/01/Vitamin-D-is-a-Key-Player-in-Your-Overall-Health.aspx>
- <sup>9</sup> *Vitamin D: Cancer Prevention and Other Uses*, Retrieved November 5, 2010 from [http://www.lef.org/magazine/mag2006/mar2006\\_report\\_vitamind\\_02.htm](http://www.lef.org/magazine/mag2006/mar2006_report_vitamind_02.htm)
- <sup>10</sup> *How Sunshine and Vitamin D Can Help You Eliminate Mercury*, Retrieved November 8, 2010 from <http://articles.mercola.com/sites/articles/archive/2008/12/04/how-sunshine-and-vitamin-d-can-help-you-eliminate-mercury.aspx>
- <sup>11</sup> *Startling Findings About Vitamin D Levels in Life Extension Members*, Retrieved November 5, 2010 from [http://www.lef.org/magazine/mag2010/jan2010\\_Startling-Findings-About-Vitamin-D-Levels-in-Life-Extension-Members\\_01.htm](http://www.lef.org/magazine/mag2010/jan2010_Startling-Findings-About-Vitamin-D-Levels-in-Life-Extension-Members_01.htm)
- <sup>12</sup> *Startling Findings About Vitamin D Levels in Life Extension Members*, Retrieved November 5, 2010 from [http://www.lef.org/magazine/mag2010/jan2010\\_Startling-Findings-About-Vitamin-D-Levels-in-Life-Extension-Members\\_01.htm](http://www.lef.org/magazine/mag2010/jan2010_Startling-Findings-About-Vitamin-D-Levels-in-Life-Extension-Members_01.htm)
- <sup>13</sup> *Startling Findings About Vitamin D Levels in Life Extension Members*, Retrieved November 5, 2010 from [http://www.lef.org/magazine/mag2010/jan2010\\_Startling-Findings-About-Vitamin-D-Levels-in-Life-Extension-Members\\_01.htm](http://www.lef.org/magazine/mag2010/jan2010_Startling-Findings-About-Vitamin-D-Levels-in-Life-Extension-Members_01.htm)
- <sup>14</sup> *Startling Findings About Vitamin D Levels in Life Extension Members*, Retrieved November 5, 2010 from [http://www.lef.org/magazine/mag2010/jan2010\\_Startling-Findings-About-Vitamin-D-Levels-in-Life-Extension-Members\\_01.htm](http://www.lef.org/magazine/mag2010/jan2010_Startling-Findings-About-Vitamin-D-Levels-in-Life-Extension-Members_01.htm)
- <sup>15</sup> *Vitamin D2 is Much Less Effective Than Vitamin D3 in Humans*, Retrieved November 5, 2010 from <http://jcem.endojournals.org/cgi/content/full/89/11/5387>
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