VITAMIN D: THE POPULAR VITAMIN

Vitamin D is popular these days. That is because research has demonstrated that this essential fat-soluble vitamin is important for overall health. Our skin has the unique ability to make vitamin D through UVB rays, but since it is advisable to limit sun exposure, our bodies may not be making adequate amounts for optimal health. Additionally, some foods naturally contain vitamin D, and fortified foods contain minimal amounts of this nutrient. Furthermore, the increased prevalence of overweight and obesity has exacerbated our nation’s poor vitamin D status. Consequently, nationally representative research demonstrates that 93% of Americans are receiving inadequate vitamin D from their diet alone, and approximately 1/3 of the US population, including children, adolescents, adults, and the elderly, are suffering from either insufficient or deficient levels of vitamin D. A vitamin D supplement is an inexpensive, safe and effective way to ensure you are receiving adequate amounts of this important micronutrient.

WHY IS VITAMIN D IMPORTANT?

- **Bone health support**: Vitamin D helps build and maintain strong bones by enhancing calcium absorption, regulating concentrations of calcium and phosphorus in the body, and regulating osteoclast (bone-resorbing cell) and osteoblast (bone-building cell) actions involved in bone remodeling. Vitamin D is mandatory for prevention of rickets and osteomalacia, and along with calcium, is associated with higher bone mineral density, lower osteoporosis risk, and reduction in fracture and fall risk.
- **Muscle health support**: Vitamin D is important for muscle health because it supports muscle function, muscle strength, and balance.
- **Immune health support**: Vitamin D supports immune health by playing a crucial role in both acquired and innate immune responses.
- **Other extraskeletal roles currently under investigation suggest vitamin D’s role in the body to be virtually ubiquitous.**

FOOD SOURCES OF VITAMIN D

Few foods naturally contain vitamin D; these include certain fatty fish (e.g., salmon, mackerel, sardines), fish liver oils, eggs, and UV-irradiated mushrooms. To prevent rickets, the US began fortifying our dairy and cereal with vitamin D in the early 20th century.

Unfortunately, you have to consume large amounts of these natural or fortified sources to meet your vitamin D needs. For example, you would need to consume approximately 20 glasses of milk per day to achieve 2,000 IU of vitamin D, a daily recommended level associated with healthy vitamin D blood levels.

DID YOU KNOW THAT THERE ARE TWO TYPES OF VITAMIN D?

Vitamin D is available in two forms: vitamin D₂ (plant-derived) and vitamin D₃ (animal-derived). Vitamin D₃ is the preferred form because it has been shown to be more effective at raising and maintaining serum vitamin D levels in your body. Vitamin D₂ is the form most commonly found in nutritional supplements; the D₃ form is found as a prescription mostly.
Pharmacokinetics research demonstrates that 100 IU of vitamin D increases serum 25-hydroxyvitamin D [25(OH)D] levels by approximately 1 ng/ml. Although individual differences and one’s baseline status affect the response to supplementation, this “rule of thumb” is useful to estimate dosing for vitamin D supplementation regimens. The Institute of Medicine (IOM) Dietary Reference Intakes (DRIs) for vitamin D and the US Endocrine Society’s Clinical Practice Guidelines for vitamin D are useful to understand population and individual vitamin D needs, respectively. These recommendations are summarized in the tables below:

### VITAMIN D INTAKE AND SUPPLEMENTATION RECOMMENDATIONS

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>MINIMUM REQUIREMENT FOR BONE HEALTH</th>
<th>To Raise 25(OH)D Levels Consistently &gt; 30 ng/ml</th>
<th>To Correct Deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants (0-1 year)</td>
<td>400 IU/day</td>
<td>At least 1,000 IU/day</td>
<td>2,000 IU/day or 50,000 IU/week (for 6 weeks)</td>
</tr>
<tr>
<td>Children &amp; Adolescents (1-18 years)</td>
<td>600 IU/day</td>
<td>At least 1,000 IU/day</td>
<td>2,000 IU/day or 50,000 IU/week (for 6 weeks)</td>
</tr>
<tr>
<td>Adults (19+ years)</td>
<td>600 - 800 IU/day</td>
<td>At least 1,500 - 2,000 IU/day</td>
<td>6,000 IU/day or 50,000 IU/week (for 4 weeks)</td>
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</tbody>
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Note: obese children and adults may need 2-3 times more vitamin D daily than their normal-weight counterparts.

### ARE YOU AT RISK FOR VITAMIN D INSUFFICIENCY?

You maybe are at risk if you:

- Do not take a daily multivitamin with vitamin D and/or a vitamin D supplement
- Do not make vitamin D in your skin from UVB rays as efficiently: older adults; darker-skinned individuals
- Have an increased need for vitamin D: overweight or obese individuals; older adults

Your doctor can arrange for a simple serum 25-hydroxyvitamin D blood test to determine your vitamin D status. Be proactive with your health and consider taking a daily vitamin D supplement as part of a healthy supplement regimen.

### ABOUT PHARMAVITE LLC

For more than 40 years, Pharmavite has been a trusted leader in the wellness industry, recognized for providing high-quality vitamin, mineral and herbal supplements and all-natural foods under its Nature Made® and SOYJOY® brand names. Nature Made is the number one selling national vitamin and supplement brand in traditional retail scanning outlets. SOYJOY is an all-natural, delicious baked bar made with real fruit and ground whole soybeans.

The dietary supplement industry is regulated by the U.S. Food and Drug Administration and the Federal Trade Commission, as well as by government agencies in each of the 50 states.


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**REFERENCES**