Facts About Vitamin D[1]

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Why do we need vitamin D?

Vitamin D is needed for normal absorption of calcium and phosphorus. It helps put these minerals into bones and teeth. This makes bones stronger and reduces risk for bone fractures. Vitamin D also helps keep the immune system functioning normally, so our bodies can resist some types of disease.

Figure 1. In the United States, most milk is fortified with vitamin D. Many dairy-free beverages have vitamin D added to enhance their nutrient content.
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What happens if we do not get enough vitamin D?

Lack of vitamin D affects bones and many other parts of the body. Growing children who do not get enough vitamin D may have bones that are too soft and unable to support their weight (rickets). Adults deficient in vitamin D can develop soft bones (osteomalacia). They can also lose bone mass, which leads to fragile bones that are at risk of fracturing (osteoporosis).

How much vitamin D do we need?

We need to get enough vitamin D from all sources to have adequate levels of it in our blood. Recent research indicates that Americans need to get more vitamin D than we previously thought was needed. Your physician may suggest a higher intake than current recommendations. Older adults and persons with dark skin are at a higher risk than others of having low levels of vitamin D in their bodies.

Current intake recommendations from the Dietary Reference Intakes for vitamin D are given in the table below.

Table 1. Daily intake recommendations for vitamin D.

Life Stage	Vitamin D (IU/day)	Vitamin D (mcg/day)
Children and teens	600	15
Adults, up to age 70	600	15
Adults, ages 71+	800	20
Pregnant and breastfeeding women	600	15
On food and supplement labels, the amount of vitamin D may be given in International Units (IU) or micrograms (mcg). Since skin synthesis of vitamin D varies so much, the latest dietary recommendations assume minimal sun exposure.		

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How can we get enough vitamin D?

We get vitamin D from three sources—food, supplements, and sunlight.

Figure 2. Salmon is a rich source of vitamin D, and broccoli is a good source of calcium. The two nutrients work together in our bodies. Credits: Beti Gorse/iStock/Thinkstock.com

Food

Eggs, sardines, and salmon contain vitamin D. Most fluid milk and some brands of yogurt are fortified with vitamin D as well. Fortified breakfast cereals, breads, and orange juice may also contain vitamin D. Here are some foods and the amount of vitamin D they typically contain:

Table 2. Typical vitamin D content in food (US Department of Health and Human Services & US Department of Agriculture, 2015).

Food	Vitamin D in IU	Vitamin D in mcg
Salmon, sockeye, cooked, 3 ounces	570	14
Tuna, canned and drained, 3 ounces	240	6
Sardines, canned in oil and drained, 3 ounces	165	4
Milk, 1%, fortified, 1 cup	120	3
Vanilla yogurt, low-fat, 6 ounces	80	2
Fortified orange juice, ¾ cup	75	2
Cereal, fortified, 1 serving	40 or more	1 or more
Egg, hard cooked, 1 large	45	1
IU = International Units mcg = micrograms		

Supplements

If you cannot get enough vitamin D from your diet and you don't get out in the sun much, a vitamin D supplement can help. It is recommended that older adults and persons with dark skin get extra vitamin D from fortified foods or supplements.

Sunlight

When exposed to sunlight, the skin makes vitamin D, which is then activated in the body. Most people get some vitamin D from sunlight. However, several factors affect how well the body makes vitamin D after the skin is exposed to sunlight. For example, people in the northern United States make less vitamin D than those in the South, especially in the winter when the sun is lower in the sky. In general, the following people may be at risk for vitamin D deficiency:

- Older people
- Persons with dark skin
- People who are obese or have kidney or liver disease
- People who do not get enough direct sun exposure

How much is too much?

Vitamin D toxicity is very rare, but it can cause nausea, constipation, weakness, and kidney damage. The latest recommendation is to get no more than 4,000 IU (less for children younger than nine) of vitamin D each day from food and supplements (National Institutes of Health, 2016). Sun exposure will not cause vitamin D toxicity.

Where can I get more information?

Your local UF/IFAS Extension Family and Consumer Sciences (FCS) agent may have written information and nutrition classes for you to attend. In Florida, find your local UF/IFAS Extension office at http://solutionsforyourlife.ufl.edu/map. Also, a physician or registered dietitian (RD or RDN) can provide reliable information.

Reliable nutrition information may be found online at these sites:

National Institutes of Health: https://ods.od.nih.gov/factsheets/VitaminD-Consumer/

Institute of Medicine: http://nationalacademies.org/HMD/Reports/2010/Dietary-Reference-Intakes-for-Calcium-and-Vitamin-D.aspx

USDA MyPlate SuperTracker: https://supertracker.usda.gov

Nutrition.gov: http://nutrition.gov

References

National Institutes of Health. (2016). Vitamin D: Fact sheet for consumers. *Health Information*. Accessed on November 6, 2017. https://ods.od.nih.gov/factsheets/VitaminD-Consumer/

US Department of Health and Human Services & US Department of Agriculture. (2015). *Dietary Guidelines for Americans: 2015–2020*. 8th Edition. Accessed on November 3, 2017. https://health.gov/dietaryguidelines/2015/guidelines/appendix-12/