# VITAMIN D DOWNLOAD

## Mushrooms: A natural source of vitamin D

Similar to humans, mushrooms naturally produce vitamin D following exposure to sunlight or a sunlamp: mushrooms' plant sterol – ergosterol – converts to vitamin D when exposed to light.

USDA's National Nutrient Database – the foundation of most food and nutrition databases in the U.S. – includes the vitamin D values of many foods, but mushrooms stand out as the only source of vitamin D in the produce aisle and one of the few non-fortified food sources. All mushrooms contain vitamin D, but growers also have the ability to increase D levels in mushrooms to a controlled amount by exposing them to ultraviolet (UV) light. Retailers currently offer a variety of light-exposed mushrooms which can provide close to 400 IU of vitamin D per serving (approximately 4-5 white button or crimini mushrooms, or one portabella).

## Health Impact of Vitamin D

To clarify popular discourse about the health impact and required quantities of vitamin D (and calcium), the Institute of Medicine (IOM) conducted an extensive review to inform dietary reference intakes (DRIs) for these essential nutrients.

Results validated the importance of vitamin D for its role in promoting bone growth and maintenance. For the first time ever, the committee set a recommended intake level for vitamin D – 600 IU.[1] This level is triple the value from 1997 that was previously considered adequate for most adults (200 IU).[2]

Vitamin D maintains and supports strong bones by helping the body absorb calcium. Deficiencies can lead to soft, thin and brittle bones – a condition known as rickets in children and osteomalacia in adults.[3] Emerging research has also suggested the role of vitamin D in various conditions, including but not limited to cancer, cardiovascular disease and hypertension, diabetes, immunity, neuropsychological functioning, physical performance, preeclampsia, and reproduction; though the IOM encourages further studies to support a causal role for these nutrients.

## Vitamin D Deficiency: people at risk[1]

**People with Darker Skin**: Greater amounts of the pigment melanin result in darker skin and reduce the skin's ability to produce vitamin D from exposure to sunlight.

**Children & Infants:** Breast-feeding, inadequate sun exposure and dark skin may cause vitamin D deficiency in children. Partially or fully breast-fed infants should receive 400 IU per day through supplements, as breast milk is not a source.

**Sunscreen Users:** Sunscreen absorbs UV light and prevents it from reaching the skin, reducing vitamin D production.

**Elderly:** People age 71 and older may require as much as 800 IUs per day. With age, skin is less effective in synthesizing vitamin D. Additionally, institutionalized elderly have decreased levels of sun exposure, further increasing risk.

**Obese:** Greater amounts of fat may store and thus diminish the availability of vitamin D that the body would otherwise absorb.

**Restricted dieters (vegans, food allergies, lactose-intolerant):** Exclusion of fortified dairy products can be a risk factor for inadequate vitamin D intake.

## Recommended Dietary Allowance for Vitamin D

| Life Stage Group | Recommended Dietary Allowance |
|---|---|
| 1-70 years old | 600 IU per day |
| 71+ years old | 800 IU per day |

## For More Information…

Visit www.mushroominfo.com for the latest news, recipes and blog posts from the Mushroom Council. Follow the Mushroom Channel on Twitter and check us out on Facebook.


1. IOM (Institute of Medicine). 2010. Dietary Reference Intakes for Calcium and Vitamin D. Washington, DC, National Academies Press.
2. IOM (Institute of Medicine). 1997. Dietary Reference Intakes for Calcium, Phosphorus, Magnesium, Vitamin D, and Fluoride. Washington, DC, National Academy Press.
3. Office of Dietary Supplements. Dietary Supplement Fact Sheet: Vitamin D. http://ods.od.nih.gov/factsheets/VitaminD-Consumer/