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Shopping for Health: Vitamin D[1]

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Why do I need vitamin D?

Vitamin D is an important nutrient for maintaining health. We need vitamin D for calcium absorption, bone strength, muscle strength, and immunity. Low vitamin blood levels increase the risk of many chronic diseases (Liu et al. 2021) whereas vitamin D supplementation is associated with a decreased risk of cancer mortality (Guo et al. 2022).

How much vitamin D do I need?

The vitamin D recommendation for healthy children, teens, and adults less than 70 years of age is 600 IU per day (Institute of Medicine 2010). Older adults (over 70 years) should aim for 800 IU/day (Institute of Medicine 2011). People with obesity, osteoporosis or those with limited sun exposure, such as older adults living in long-term care homes may need higher intakes (Dawson-Hughes et al. 2010). Routine daily intakes of more than 4000 IU are not recommended for healthy people (Institute of Medicine 2011).

How can I get enough vitamin D?

Vitamin D needs can be met by eating foods containing Vitamin D and taking vitamin supplements. Traditionally, most of our vitamin D has come from sunlight. However, vitamin D produced from the sun may be limited by the use of hats, clothing, and sunscreen. People with darker skin and older adults produce much less vitamin D when exposed to the sun. It is very important to get enough vitamin D from food sources and supplements.

Food Sources of Vitamin D

Natural Sources

There are very few natural sources of dietary vitamin D. A preferred source is fatty fish.

Enriched Foods

Bread and other yeast-raised bakery products can be prepared with yeast high in vitamin D and become natural sources of vitamin D (Calvo and Whiting 2013). Mushrooms that have been exposed to ultraviolet B light are also good sources of vitamin D (Calvo and Whiting 2013).

Fortified Foods

Foods fortified with vitamin D are the largest contributors to dietary vitamin D (Calvo and Whiting 2013). These foods include milk and some yogurts, breakfast cereals, and other grains, orange juice, and margarine.

Shopping Tips

When shopping for foods with vitamin D, be sure to read the Nutrition Facts panel on food labels, as similar foods may contain different amounts of vitamin D. Varieties of a specific brand may not all be fortified. It is important to read the label carefully to determine how much vitamin D is in the food you are buying.

Figure 1 provides an example of a Nutrition Facts panel. The vitamin D content is listed as a percent of the Daily Value (DV) of 20 mcg (800 IU) For example, if the nutrition facts label on food indicates it provides 10% of the DV of vitamin D, it means that the food provides 80 IU of vitamin D per serving.



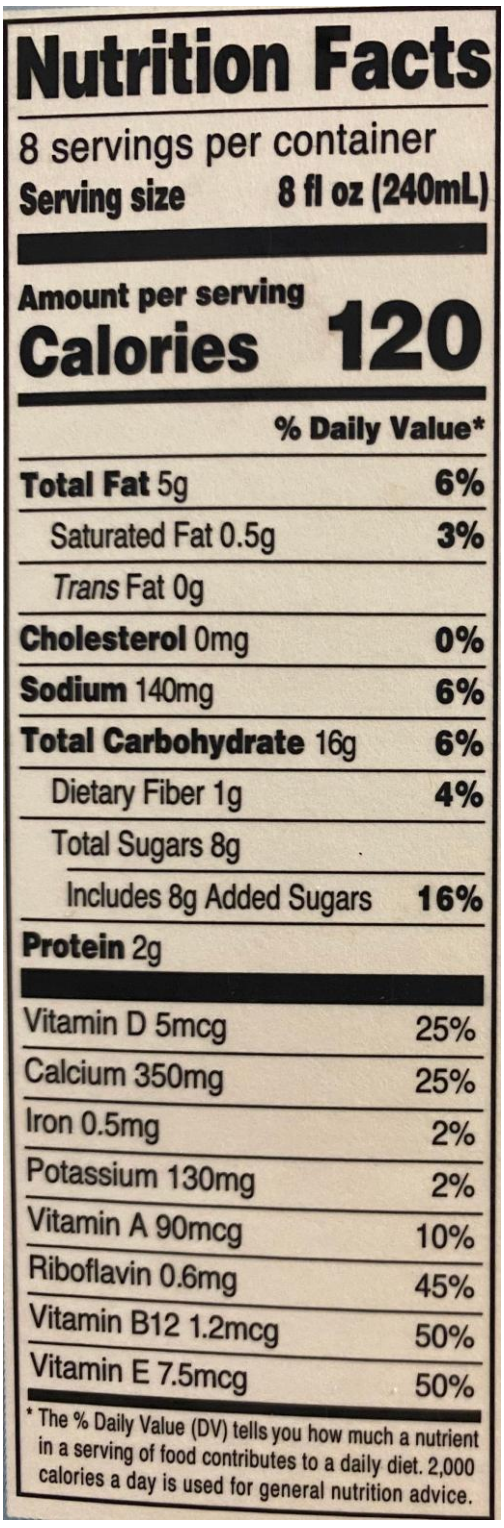
Figure 1. Nutrition Facts panel for part-skimmed milk.

Cereal

Many breakfast cereals are fortified with 10% of the DV or 2 mcg of vitamin D per serving. Some cereals may contain more vitamin D per serving, and others may not be fortified at all. Table 1 lists some examples of cereals and their levels of fortification.

Milk

Milk is typically fortified with 2-3 mcg of vitamin D per cup, regardless of the fat content of the milk. Lactose-free milk and chocolate milk are also fortified with 2-3 mcg per cup. Soy milk and other plant-based milks are typically fortified, but not always. For example, a popular brand of oat milk is fortified with 5 mcg per cup (Figure 2).



Nutrition Facts

8 servings per container

Serving size **8 fl oz (240mL)**

Amount per serving

Calories **120**

	% Daily Value*
Total Fat 5g	**6%**
Saturated Fat 0.5g	**3%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 140mg	**6%**
Total Carbohydrate 16g	**6%**
Dietary Fiber 1g	**4%**
Total Sugars 8g	
Includes 8g Added Sugars	**16%**
Protein 2g	
Vitamin D 5mcg	25%
Calcium 350mg	25%
Iron 0.5mg	2%
Potassium 130mg	2%
Vitamin A 90mcg	10%
Riboflavin 0.6mg	45%
Vitamin B12 1.2mcg	50%
Vitamin E 7.5mcg	50%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Figure 2. Nutrition Facts panel for oat milk.

As vitamin D is a stable compound that is not lost during cooking, storage, or processing, foods prepared at home with milk will also contain vitamin D.

Yogurt

The fortification of yogurts varies greatly among different brands and types. Table 2 lists a sample of different yogurts and their levels of fortification.

Cheese

As with yogurt and milk, cheese does not naturally contain vitamin D, and few are fortified. Check the Nutrition Panel to identify those brands that are fortified.

Margarine

Not all margarine is fortified with vitamin D. Table 3 lists some fortified margarines. It is important to remember that specific brands may offer both fortified and non-fortified options.

Fish

Fish is one of the few good sources of naturally occurring vitamin D. Fatty fish, such as salmon and sardines, is the best source of vitamin D. Lean fish, such as cod, contains much lower amounts of vitamin D. Also, consider that wild-caught fish are more likely to have higher vitamin D contents (USDA-ARS n.d.). Table 4 lists fish varieties with various vitamin D contents. Although fish liver oils contain vitamin D, they are not recommended as sources of vitamin D due to their very high vitamin A contents (Cannell et al. 2008).

Shopping for Supplements

Supplementation is encouraged for people with low intakes of vitamin D, particularly older adults. Vitamin D is available for over-the-counter purchase as a component of multivitamins or in a stand-alone form. Many calcium supplements provide vitamin D as well. Supplements vary, but typically contain 400 IU to 2000 IU.

Be an informed shopper!

The key to optimizing your dietary vitamin D intake is to read food labels while shopping. Few foods are consistent in their levels of vitamin D. You must be proactive in finding brands that will meet your vitamin D needs.

Where can I get more information?

The Family and Consumer Sciences (FCS) agent at your local UF/IFAS Extension office may have more written information and nutrition classes for you to attend. A registered dietitian (RD) also can provide you with reliable

information. Reliable nutrition information may be found on the Internet at the following sites:

https://www.eatright.org

https://www.nutrition.gov

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Table 1. Vitamin D contents of various breakfast cereals.

Breakfast Cereal (no milk)	Vitamin D (mcg/serving)
Total® (1 cup)	2
All-Bran® (2/3 cup)	2
Rice Krispies® (1 1/2 cup)	3
Frosted Flakes® (1 cup)	2
Raisin Bran® (1 cup)	0
Cheerios® (1 cup), Wheaties® (1 cup), Rice Chex (1 1/3 cup) ®, Froot Loops® (1 1/3 cup)	2
Kellogg's Meuslix® (1 cup)	0
Life® (1 cup), Cap'n Crunch® (1 cup), Oatmeal Squares® (1 cup), Honey Graham Oh's!® (1/2 cup)	2
Kellogg's Mini-Wheats® (25 biscuits)	0
Go Lean Crunch!® (3/4 cup), Cinnamon Harvest® (31 biscuites)	0
Whole Grain Puffs® (1 1/2 cup)	2

mcg = microgram

Table 2. Vitamin D contents of selected yogurts.

Yogurt	Vitamin D (mcg/serving)
Stoneyfield Farm® Organic Whole-Milk Yogurt (3/4 cup)	1.9
LALAFrusion® Yogurt Smoothies (1 bottle)	3
Yoplait® Light and Original Varieties (1 container)	2.9
Stoneyfield Farm® Smooth and Creamy Organic Nonfat Yogurt (3/4 cup)	1.9
Dannon Light & Fit® Nonfat Greek Yogurt (3/4 cup)	0
Dannon Activia® (1 container)	1.6
Dannon Light & Fit® Protein Smoothie Yogurt Drink (1 bottle)	3.5
Yoplait Whips® Original Low Fat Yogurt (1 container)	3

mcg = microgram

Table 3. Vitamin D contents of fortified margarines.

Margarine	Vitamin D (mcg/serving)
Smart Balance® Imitation Butter Low Sodium Whipped (1 tbsp)	4
Country Crock® Calcium plus Vitamin D (1 tbsp)	4
Promise Activ® Buttery Spread (1 tbsp)	4

mcg = microgram

Table 4. Vitamin D contents of fish.

Fish	Vitamin D (mcg/serving)
Atlantic Mackerel (3 oz)	13.7
Sockeye Salmon (3 oz)	12
Bluefin Tuna (3 oz)	4.8
Atlantic Sardines, canned in oil (3 oz)	4.08
Yellowfin Tuna (3 oz)	1.75
Pacific or Atlantic Cod (3 oz)	0.5–0.8

mcg = microgram

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