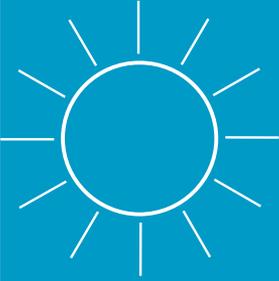


# FACTS ABOUT

## Vitamins and Supplements



# Vitamin D

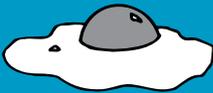
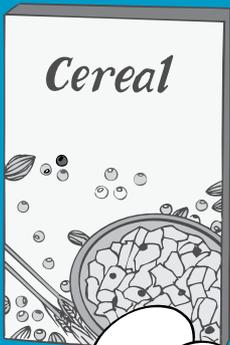
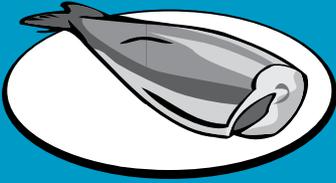
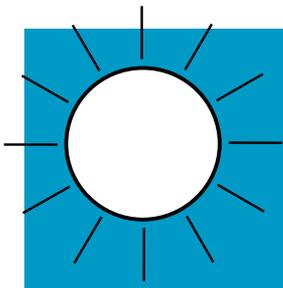
**Vitamin D** is a fat-soluble\* vitamin. It is important for bone health. Having vitamin D in your diet will maintain the proper levels of calcium and phosphorus in your blood. These two minerals are needed to build strong bones.

In adults, getting too little vitamin D can lead to osteoporosis or osteopenia (weak bones). In children, too little can result in rickets. Signs of rickets are muscle weakness, bowed legs, or knocked knees.

Other effects of vitamin D are being studied. Some studies suggest adequate vitamin D may protect against certain cancers and lower risk of autoimmune diseases like rheumatoid arthritis. Other studies suggest high blood levels of vitamin D may increase the risk of pancreatic and colorectal cancer in some people. More research is needed to establish how vitamin D affects risk of chronic disease.

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\*Dissolves in fat but not in water.



## Where do you get vitamin D?

You have three sources:

- 1. Sunlight**—in spring, summer, and fall your skin can make it for you. Exposing your arms and legs to sunshine for 15–30 minutes at mid-day will provide all the vitamin D you need for that day. However, sunscreen with a protection factor of 8 or higher reduces your skin's ability to make vitamin D by more than 95 percent.
- 2. Foods**—natural sources are oily fish like sardines, salmon, and mackerel; cod liver oil; and eggs. Milk, some orange juice, and cereals can be fortified with vitamin D. Check the Nutrition Facts panel.
- 3. Supplements**—both multivitamins and single doses of vitamin D are available. Supplements may contain vitamin D<sub>2</sub> or vitmain D<sub>3</sub>. Both D<sub>2</sub> and D<sub>3</sub> appear to be equally usable by the body.

# How much do you need?

Current recommendations are:

- **Infants through adolescents:**  
400 IU per day\*
- **Adults age 20–50:**  
200 IU per day
- **Adults age 51–70:**  
400 IU per day
- **Age 71+:**  
600 IU per day

\*2008 American Academy of Pediatrics recommendation



<b>Nutrition Facts</b>	
Serving Size 1 cup (240mL)	
Servings Per Container 16	
Amount Per Serving	
<b>Calories</b> 90	Calories from Fat 0
% Daily Value*	
<b>Total Fat</b> 0g	<b>0%</b>
Saturated Fat 0g	<b>0%</b>
Trans Fat 0g	
<b>Cholesterol</b> <5mg	<b>2%</b>
<b>Sodium</b> 130mg	<b>5%</b>
<b>Potassium</b> 420mg	<b>12%</b>
<b>Total Carbohydrate</b> 11g	<b>4%</b>
Dietary Fiber 0g	<b>0%</b>
Sugars 12g	
<b>Protein</b> 9g	<b>17%</b>
Vitamin A 10%	Vitamin C 10%
Calcium 30%	Iron 0%
	Vitamin D 25%

\*Percent Daily Values are based on a diet of 2000 calories a day.

These levels are under review by the Institute of Medicine, part of the National Institutes of Health. The recommendations may change in the future.

Read the Nutrition Facts panel on foods to see what level of vitamin D they contain. The adult standard of 400 IU per day is used to calculate the percent supplied by a serving of the food.

# Vitamin D Deficiency

For more information about vitamin D, see the *Supplement Facts: Vitamin D* (UK188) fact sheet available at [pubs.cas.psu.edu/FreePubs/pdfs/uk188.pdf](http://pubs.cas.psu.edu/FreePubs/pdfs/uk188.pdf) or from the Penn State Cooperative Extension office in your county.

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Media stories have focused on vitamin D deficiency in the population. A blood test provided by your health care provider is necessary to see if you are deficient in vitamin D. Anyone who eats few food sources or has little exposure to sunlight may be deficient.

If you decide to treat yourself without seeing a doctor, keep your daily intake of vitamin D to no more than 2,000 IU per day. This is the highest level of daily intake judged to be safe by the Institute of Medicine.

If you rely on supplements, take no more than 1,000 IU at any one meal. Be sure the meal contains some fat. Doing this twice a day would give you the safe upper limit of 2,000 IU/day if you eat no other food sources of vitamin D.

If you are deficient in vitamin D, getting 2,000 IU/day will slowly bring you up to a sufficient level. If your blood level is actually sufficient, this dosage is unlikely to harm you.