

## What can you do about your vitamin D levels?

- **Talk to your doc.** Many health-care providers recommend a simple lab test to determine vitamin D levels. Your doctor can determine if vitamin D supplements are right for you.
- **Let the sun shine!** Safe sun exposure, from 5 to 30 minutes, twice a week, in direct sun on exposed skin without sunscreen allows light-skinned persons to manufacture ample vitamin D. You may need more sunlight, or less. Ask your healthcare provider how much sunlight is right for you.
- **Focus on food.** Food sources of vitamin D are few – oily fish, including salmon, tuna and sardines are good sources. Smaller amounts of vitamin D are found in beef liver and egg yolks. Fortified foods, with added vitamin D, are increasing in number. These include milk, butter, some ready-to-eat cereals, breads, yogurt and juices. Read the Nutrition Facts panel – if vitamin D has been added, it will show on the food's label.
- **Mind your meds.** Several medications interfere with vitamin D's production or use by the body. Ask your doctor if your medicines affect your vitamin D levels.



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**Kansas State University Agricultural Experiment Station and Cooperative Extension Service**

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A photograph of a family of three standing in a field of tall, golden grass. The woman on the left is wearing a black and white long-sleeved top and black pants. The man in the center is wearing a green t-shirt and grey pants. The young child on the right is wearing a blue dress. They are all smiling and looking towards the camera. In the top left corner of the image, the K-State Research and Extension logo is visible.

# Vitamin D: From Sunshine to Supplements

*Vitamin D, the “sunshine vitamin,” is essential for its role in building and maintaining strong bones. But recent research reveals there is much more to the vitamin D story than just bones. Our bodies need vitamin D before birth and throughout life, as long as we live.*

What we know:

Science has long supported vitamin D's role in forming strong bones and keeping those bones sturdy through life. In the past, humans have been able to make ample vitamin D in their skin in the presence of sunlight. Because we store vitamin D in our bodies, there was enough for good health, even when skies were cloudy. Today many factors prevent us from making enough vitamin D, including:

- indoor living
- shade of tall buildings
- less outdoor play and work than ever before
- age – after age 50, we make less vitamin D
- obesity – vitamin D is trapped in body fat and is unavailable for use by the body

Consider sun safety – While sunscreen provides important protection against harmful rays, it blocks the body's ability to make vitamin D. Limited direct sun exposure – even a few minutes twice a week – can boost vitamin D levels. Then apply sun screen to assure safety in the sun.

Winter sunlight (from late October through February in Kansas) is too indirect to make vitamin D for those in mid- to northern US. Ultraviolet exposure is strongest near the equator.

What research is saying now:

Over 75% of Americans may have low vitamin D levels, and our health is at risk. Vitamin D is actually a *hormone*, affecting many genes and organs in the body. Vitamin D plays an important role in immunity -- **keeping the body's defense system** strong throughout life. Vitamin D is being studied for its role in insulin sensitivity in both type 1 and type 2 diabetes. Much vitamin D research is examining its role in various cancers, including prostate, colon and breast cancers. The vitamin D story continues to unfold!



Tolerable Upper Levels of Intake:

The Institute of Medicine encourages adults to stay below 4000 IU of vitamin D per day, from both food and supplements, to avoid the risk of harm.

How much vitamin D do people need?

This question is not easily answered, and sparks controversy in the vitamin D discussion.

Determining how much vitamin D an individual needs is challenging, because humans make and require different amounts, depending on their age, skin color, latitude and levels of body fat.

The American Academy of Pediatrics revised recommendations in 2008 regarding vitamin D. They now recommend vitamin D levels for infants to age 1 at **400 IU** (international units) each day; children 1 to 18 should receive **600 IU**. New recommendations for adults age 19 to 70 are **600 IU** daily; and for adults 71+, **800 IU** each day.

New recommendations reflect new understanding of vitamin D's role in health, but research is continuing to examine how much vitamin D is needed for optimal health.

