

## Online Resources

For more on bone and joint health, visit:

[www.healthywomen.org/healthcenter/bone-and-joint](http://www.healthywomen.org/healthcenter/bone-and-joint)

National Osteoporosis Foundation. "Vitamin D and Bone Health."

<http://www.nof.org/prevention/vitaminD.htm>

National Institutes of Health:

<http://ods.od.nih.gov/factsheets/vitamind.asp>



*Information in this article also reprinted with permission from HealthyWomen.*

1-877-986-9472 (tollfree).

On the Web at: [www.HealthyWomen.org](http://www.HealthyWomen.org).

Edited by Genea Luck, Congregational Health Partnership.

Articles in this newsletter are not a substitute for the care and advice of medical professionals. When you have a question or need medical advice, diagnosis or treatment, consult your physician.

This newsletter is produced by Inova Health System in conjunction with your faith community. If you prefer not to receive this newsletter, please notify the appropriate personnel in your faith community.

Inova Health System is a not-for-profit healthcare system based in Northern Virginia that consists of hospitals and other health services, including emergency- and urgent-care centers, home care, nursing homes, mental health and blood donor services, and wellness classes. Governed by a voluntary board of community members, Inova's mission is to improve the health of the diverse community it serves through excellence in patient care, education and research.

Inova provides a healthy environment for its patients, families, visitors, staff and physicians by prohibiting tobacco use on its campuses.



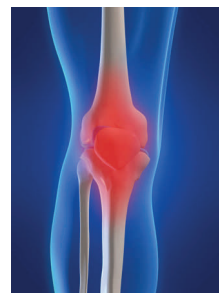
**Congregational Health Partnership**  
2700 Prosperity Ave  
Fairfax, VA 22031  
Phone: 703-698-2558  
Fax: 703-698-2579  
[www.inova.org/chp](http://www.inova.org/chp)  
[www.inova.org](http://www.inova.org)



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*Congregational Health Partnership is a program of Inova Community Affairs Division*



# For Your Health

## Vitamin D Deficiency

On the seemingly ever-changing list of what vitamins and minerals we ought to be taking—and in what amounts—vitamin D has long been a solid, boring standard.

For years, we were told that we'd have our needs covered if we drank fortified milk, got a few minutes of daily sun exposure (which delivers vitamin D directly to us through our skin), or took calcium or multivitamin supplements containing additional amounts of vitamin D.

That accepted wisdom is no longer. Recent research shows that many people living in the United States and around the world are getting insufficient levels of vitamin D, putting them at risk for health problems. If you spend a lot of time indoors at work or home, have dark skin, are older or severely overweight or have certain medical conditions, you're more likely to be vitamin D deficient. Even if you spend a lot of time outdoors but wisely cover up with sunscreen or sunblock, you also keep the vitamin D in sunlight from reaching your skin and being stored by your body.

Getting insufficient vitamin D has long been known to contribute to lower bone density, osteoporosis and bone fractures.

Now, having low levels of vitamin D has also been linked to cardiovascular risk and death, several cancers (including breast cancer in younger women), liver disease, multiple sclerosis and other autoimmune diseases, diabetes, periodontal disease and falls (caused by weakened muscles).

## Who is at Risk?

Vitamin D deficiencies are usually the result of impaired absorption and the inadequate use of the vitamin.

Vitamin D deficient diets are usually associated with milk allergy, lactose intolerance and strict vegetarianism.

People who are mostly at risk for a vitamin D deficiency include:

- People who spend little time in the sun,
- People with very dark skin,
- People living in nursing homes or other institutions,
- People with serious diseases of the nervous or digestive systems,
- People who are obese or very overweight.

## Good Sources of Vitamin D

Very few foods in nature contain vitamin D. Here are a few foods that are among the best sources:

- Milk
- Fatty fish like salmon, tuna, mackerel, sardines
- Egg yolks
- Liver, beef
- Yogurt
- Ready to eat breakfast cereals often have vitamin D added
- Some brands of orange juice have vitamin D added
- Dietary supplements and other fortified foods that have vitamin D added



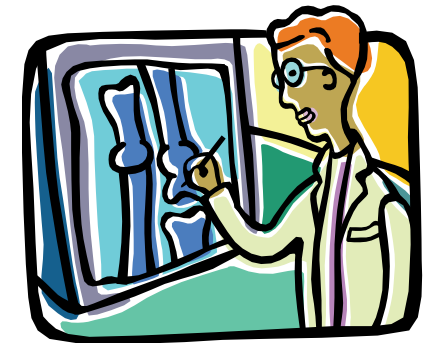
## How Does Vitamin D Help the Body

Vitamin D is essential for promoting calcium absorption in the body. Without vitamin D, bones can become thin, brittle, or misshapen.

Vitamin D also prevents rickets from developing in children. Rickets is typically a childhood disease, since a vitamin D deficiency hinders the growth and development of the bones during a young child's development years.

Vitamin D works to regulate the levels of phosphorus and calcium, which are vital nutrients for bone development in the body. When there is a vitamin D deficiency, the calcium and phosphorus from food is not properly absorbed. In children, this causes the bones to become soft and weak, which results in bone deformities.

Vitamin D also helps the immune system function and also aids in the reduction of joint inflammation.



Low levels of vitamin D not only contribute to osteoporosis but also a condition called osteomalacia, in which you feel an aching pain in your bone even as the bone weakens.

Low vitamin D also causes muscle weakness, which can lead to falls and fractures in older people. Often the first sign of osteoporosis is a broken bone, as many adults can go for years without knowing their bones are becoming brittle and weak.

Very high amounts of vitamin D can also be harmful to the body. If a person is taking too many vitamin D supplements as well as a prescription, high levels of vitamin D may result in kidney stones and other kidney problems.

It is very important for you to talk to your healthcare provider about having a blood test to measure your vitamin D levels. As adults age, it is difficult for the body to make and absorb vitamin D.