

25-hydroxy vitamin D test

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The 25-hydroxy vitamin D test is the most accurate way to measure how much vitamin D is in your body.

In the kidney, 25-hydroxy vitamin D changes into an active form of the vitamin. The active form of vitamin D helps control calcium and phosphate levels in the body.

This article discusses the blood test used to measure the amount of 25-hydroxy vitamin D.

How the Test is Performed

Blood is typically drawn from a vein, usually from the inside of the elbow or the back of the hand. The site is cleaned with germ-killing medicine (antiseptic). The health care provider wraps an elastic band around the upper arm to apply pressure to the area and make the vein swell with blood.

Next, the health care provider gently inserts a needle into the vein. The blood collects into an airtight vial or tube attached to the needle. The elastic band is removed from your arm.

Once the blood has been collected, the needle is removed, and the puncture site is covered to stop any bleeding.

In infants or young children, a sharp tool called a lancet may be used to puncture the skin and make it bleed. The blood collects into a small glass tube called a pipette, or onto a slide or test strip. A bandage may be placed over the area if there is any bleeding.

How to Prepare for the Test

Do not eat for 4 hours before the test.

How the Test Will Feel

When the needle is inserted to draw blood, some people feel moderate pain, while others feel only a prick or stinging sensation. Afterward, there may be some throbbing.

Why the Test is Performed

This test is done to determine if you have too much or too little vitamin D in your blood.

Normal Results

The normal range is 30.0 to 74.0 nanograms per milliliter (ng/mL).

Note: Normal value ranges may vary slightly among different laboratories. Talk to your doctor about the meaning of your specific test results.

What Abnormal Results Mean

Lower than normal levels suggest a vitamin D deficiency. This condition can result from:

- Lack of exposure to sunlight
- Lack of adequate vitamin D in the diet
- Liver and kidney diseases
- Malabsorption
- Use of certain medicines, including phenytoin, phenobarbital, and rifampin

Low vitamin D levels are more common in African-American children, particularly in the winter, as well as in infants who are exclusively breastfed. Low vitamin D levels have also been associated with an increased risk of developing cancer. For more information, see the article on vitamin D deficiency.

Higher than normal levels suggest excess vitamin D, a condition called hypervitaminosis D.

Risks

Veins and arteries vary in size from one patient to another and from one side of the body to the other. Obtaining a blood sample from some people may be more difficult than from others.

Other risks associated with having blood drawn are slight but may include:

- Excessive bleeding
- Fainting or feeling light-headed
- Hematoma (blood accumulating under the skin)
- Infection (a slight risk any time the skin is broken)

Alternative Names

25-OH vitamin D test; Calcidiol 25-hydroxycholecalciferol test

References

Weng FL, Shults J, Leonard MB, Stallings VA, Zemel BS. Risk factors for low serum 25-hydroxyvitamin D concentrations in otherwise healthy children and adolescents. *Am J Clin Nutr.* 2007;86(1):150-158.

Lappe JM, Travers-Gustafson D, Davies KM, Recker RR, Heaney RP. Vitamin D and calcium supplementation reduces cancer risk: results of a randomized trial. *Am J Clin Nutr.* 2007;85(6):1586-1591.

Specker BL, Valanis B, Hertzberg V, Edwards N, Tsang RC. Sunshine exposure and serum 25-hydroxyvitamin D concentrations in exclusively breast-fed infants. *J Pediatr* 1985;107(3):372-376.

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Updated by: Ari S. Eckman, MD, Chief, Division of Endocrinology, Diabetes and Metabolism, Trinitas Regional Medical Center, Elizabeth, NJ. Review provided by VeriMed Healthcare Network. Also reviewed by David Zieve, MD, MHA, Medical Director, A.D.A.M., Inc.



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