

Vitamin D, 25 Hydroxy, LC/MS/MS

Test Code 902068

Published Support

Highlights from The New England Journal of Medicine review article, *Vitamin D Deficiency*

- Vitamin D deficiency remains common in children and adults. Vitamin D deficiency in adults can precipitate or exacerbate osteopenia and osteoporosis, cause osteomalacia and muscle weakness, and increase the risk of fracture.¹
- According to several studies, 40 to 100% of U.S. and European elderly men and women still living in the community (not in nursing homes) are deficient in vitamin D. More than 50% of postmenopausal women taking medication for osteoporosis had suboptimal levels of 25-hydroxy vitamin D.²
- One study showed that 93% of persons 10 to 65 years of age who were admitted to a hospital emergency department with muscle aches and bone pain and who had a wide variety of diagnoses, including fibromyalgia, chronic fatigue syndrome, and depression, were deficient in vitamin D.³
- In patients with any stage of chronic kidney disease, 25-hydroxy vitamin D should be measured annually, and the level should be maintained at 30 ng per milliliter or higher, as recommended in the Kidney Disease Outcomes Quality Initiative guidelines from the National Kidney Foundation.⁵
- In a vitamin D-insufficient state, 1,25-dihydroxy vitamin D levels are often normal or even elevated.⁴
- The 1,25-dihydroxy vitamin D assay should never be used for detecting vitamin D deficiency because levels will be normal or even elevated as a result of secondary hyperparathyroidism.⁶
- Undiagnosed vitamin D deficiency is not uncommon, and 25-hydroxy vitamin D is the barometer for vitamin D status.⁶



Causes of Vitamin D Deficiency⁷

Cause

Effect

Reduced skin synthesis

Sunscreen use - absorption of UVB radiation
sunscreens

Reduces vitamin D₃ synthesis - SPF 8 by 92.5%,
SPF 15 by 99%

Skin pigment - absorption of UVB radiation by
melanin

Reduces vitamin D₃ synthesis by as much as
99%

Aging - reduction of 7-dehydrocholesterol in
the skin

Reduces vitamin D₃ synthesis by about 75%
in a 70-year old

Decreased bioavailability

Malabsorption - reduction in fat absorption,
resulting from cystic fibrosis, celiac
disease, Whipple's disease, Chron's
disease, bypass surgery, medications
that reduce cholesterol absorption, and
other causes

Impairs the body's ability to absorb vitamin D

Obesity - sequestration of vitamin D in body fat

Reduces availability of vitamin D

**Sonora Quest Laboratories has experienced a Vitamin D,
25-Hydroxy insufficiency rate of 40.6% on 30,959 samples
tested from January through December 2007.**

For more information on Vitamin D, 25-Hydroxy LC/MS/MS testing, please contact your Account Manager, or visit www.sonoraquest.com.

¹ p.266, ² p.267, ³ p.268, ⁴ p.277, ⁵ p.273, ⁶ p.278, ⁷ p.274 - Holick, M.D., Ph.D., Michael F. "Vitamin D Deficiency." The New England Journal of Medicine 357;3(2007)

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