



An Affiliate of Methodist Health System

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Bulletin Technical

VITAMIN D, 25-Hydroxy (25-OH Vitamin D)

Effective Tuesday, August 12, 2008, The Pathology Center will begin performing Vitamin D, 25-Hydroxy tests on-site. This test will be performed on Tuesday's and Friday's.

Vitamin D is recognized as a prohormone which has multiple roles in maintaining optimal health. Vitamin D₃ (cholecalciferol) and Vitamin D₂ (ergocalciferol) are the most abundant forms of Vitamin D in the body. Vitamin D₃ is synthesized in the skin from 7-dehydrocholesterol in response to sunlight. The best nutritional sources of Vitamin D₃ are oily fish, primarily salmon and mackerel. Vitamin D₂'s nutrition sources are from some vegetables, yeast and fungi, and (in the United States) dietary supplements. The vegetarian diet is abundant in Vitamin D₂.

Vitamin D (D₃, D₂, and metabolites) is converted to 25-hydroxyvitamin D in the liver. The measurement of 25-OH vitamin D concentration in the serum or plasma is the best indicator of vitamin D nutritional status. Importantly, the assay used in our laboratory equally measures 25 hydroxylated vitamin D₂ and D₃ (i.e. both nutritional and cutaneous sources); a key feature of a good 25-OH Vitamin D assay.

The LIAISON[®] 25-OH vitamin D total assay uses chemiluminescent immunoassay technology for the quantitative determination of 25-hydroxyvitamin D and other hydroxylated vitamin D metabolites in human serum or plasma. Assay results should be used in conjunction with other clinical or laboratory data to assist the clinician in making individual patient management decisions.

REFERENCE RANGES:

<u>25-OH Vitamin D</u>	<u>Vitamin D status</u>
<31 ng/mL	Deficiency
31-150 ng/mL	Sufficiency
>150 ng/mL	Possible Toxicity

NOTE: These ranges represent vitamin D levels desired to support selected physiologic outcomes, especially bone health. "Deficiency" (or insufficiency) is relatively common. A pediatric reference range has not been established.

SPECIMEN REQUIREMENTS:

SST, serum, EDTA plasma, or lithium heparin plasma are all acceptable. Fasting samples are recommended, but not required. Grossly hemolyzed or lipemic samples will not be tested. A minimum of 250 µL is required to perform the Vitamin D test. Samples should be kept refrigerated and protected from light. Samples are stable 48 hours refrigerated otherwise samples must be frozen.

Please contact Dr. Tom Williams or Jennifer Buck (402-354-4540) if there are any questions.