معهد دسمان للسكري
Dasman Diabetes Institute
KFAS
أحد مراكز
Center

VITAMIN D TEST 25(OH)

The role of Vitamin D in bone and mineral metabolism was recognized after vitamin D was used as a factor that could cure rickets.

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, Salmon and mackerel. Vitamin D2 nutritional sources are from some vegetables, yeast and fungi. The vegetarian diet is abundant in Vitamin D2.

Vitamin D (CD3, D2 and metabolites) is converted to 25-hydroxyvitamin D in the liver. The measurement of 25-OH vitamin D concentration in serum or plasma is the best indicator of vitamin D nutritional status.

Emerging evidence correlates insufficient levels of Vitamin D to an increased risk of developing many pathologies: Cardiovascular diseases, Hypertension, Cancer, diabetes. Multiple sclerosis, Rheumatoid arthritis, infectious disease, rickets or Osteomalacia (Soft Bone). Vitamin D is now recognized as a pro-hormone which has Multiple roles in maintaining optimal health.

Type of Specimen:

Blood sample (Serum) and fasting are not required.

When is the test ordered?

- Routine Health Screening.
- To determine if the identified vitamin D deficiency is Improving or getting worse.
- Osteomalacia (Soft Bones).
- Rickets.
- When Querying Vitamin D deficiency.

Related Tests:

- Serum Alkaline Phosphatase (ALP) measurements.
- Calcium (Ca).

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- Phosphorus (Phos).
- Parathyroid Hormone (PTH).

Some of the reasons for vitamin d deficiency:

- Patients are underexposed to sunlight.
- Has low level of calcium, increased level of Parathyroid hormone (PTH)which causes rickets and osteomalacia (soft bones).
- Less cholesterol-which the skin needs to produce (Vitamin D).
- Obesity.
- More soft drinks (use up calcium which uses up (Vitamin D).
- Taking certain drugs which consume or block (Vitamin D).
- Increased salt consumption which decreases essential cofactors of magnesium and calcium.

Possible Treatment:

- Usually supplementing, a capsule of 50,000IU once per week for 8 weeks.
- 2 to 3 months after treatment, 25-OH Vitamin D is recommended to be tested.

Normal Ranges:

Vitamin D status	Normal Ranges
Deficient	<50 nmol/l
Insufficient	50-75 nmol/l
Sufficient	>75 nmol/l
Toxic	>250 nmol/l
Frequency of Testing	1st visit and then Every 3 months
Turn Around Time (TAT)	7 Days

For 12 hours before testing patients should not take any dietary supplement or Multivitamins containing >5ug Biotin, as it might interfere with the assay methodology.

Educational Brochures
Clinical Laboratories

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References:

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- **U.S. National Library of Medicine – MedlinePlus**
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- **Endocrine Society Clinical Practice Guidelines – Evaluation, Treatment, and Prevention of Vitamin D Deficiency**
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