

25-Hydroxy Vitamin D Test

What is Vitamin D and why do I need it?

Vitamin D is a family of compounds that is essential for the proper growth and formation of teeth and bones. Vitamin D helps your body absorb calcium, and maintains bone strength throughout your life. Your body produces Vitamin D when the sun's UV rays contact your skin. Other sources of the vitamin include fish, eggs, and fortified dairy products. It's also available as a dietary supplement for those who may not get enough exposure to sunlight, or lack Vitamin D in their food intake.

Vitamin D deficiency can lead to several health issues over time. If your Vitamin D levels are low and they're accompanied by bone pain, the deficiency could be affecting your bone density. Without sufficient Vitamin D in the system, your bones will be soft, malformed, and unable to repair themselves normally, resulting in diseases called rickets in children and osteomalacia in adults. Vitamin D has also been shown to influence the growth and differentiation of many other tissues and to help regulate the immune system. These other functions have linked Vitamin D with other disorders, such as autoimmunity and cancer. Low blood levels of the vitamin have been associated with increased risk of death from cardiovascular disease, cognitive impairment in older adults and severe asthma in children.

What is the 25-Hydroxy Vitamin D Test?

The 25-hydroxy Vitamin D test is a simple blood test, and the best way to monitor Vitamin D levels. The amount of 25-hydroxy Vitamin D in your blood is a good indication of how much Vitamin D your body has. The test can determine if your Vitamin D levels are too high or too low.

The test is also known as the 25-OH Vitamin D test and the calcidiol 25-hydroxycholecalciferol test. It can be an important indicator of osteoporosis (bone weakness) and rickets (bone malformation).

Who should get tested?

There are several factors which can increase your risk of Vitamin D deficiency. Young children and the elderly are particularly vulnerable to complications arising from insufficient Vitamin D in their systems.



Other factors that affect Vitamin D levels are:

- Not consuming enough food types that are rich in Vitamin D. This is likely if you follow a strict vegan diet, or are lactose-intolerant.
- Not getting enough exposure to the sun. People who are home-bound or live in northern latitudes or have a profession that keeps them from getting enough sunlight are at risk.
- You have a darker skin tone, since greater amounts of melanin in the skin reduce the amount of sunlight the skin can absorb
- Exclusively breast-feeding babies for prolonged time periods, which would increase their risk of developing Vitamin D deficiency
- You have kidney issues which prevent Vitamin D being converted to its active form in your body. This happens mostly within older age groups
- You've undergone gastric bypass surgery
- Certain medical problems, including Crohn's disease, cystic fibrosis, and celiac disease, can affect your intestine's ability to absorb Vitamin D from the food you eat. Certain people with obesity can also have Vitamin D deficiency, since Vitamin D is extracted from the blood by fat cells, altering its release into the circulation.

When is this test ordered?

Your doctor will order this test if they suspect that you're showing signs of Vitamin D deficiency, or if you're at risk of developing this deficiency.

There are several factors, including your previous medical and test history, which would determine when this test should be ordered for you. If you have low levels of calcium, phosphorus and / or parathyroid hormone, or exhibiting bone weakness, fatigue, loss in muscle mass, hair loss, the 25-hydroxy Vitamin D is usually ordered to identify a possible deficiency in Vitamin D.

Known risk factors like being homebound, institutionalized, having low sunlight exposure, obesity or having fat malabsorption can also lead to Vitamin D deficiency. This test is often requested before an individual begins treatment for osteoporosis.

When Vitamin D, calcium, phosphorus, or magnesium supplementation is necessary, Vitamin D levels are sometimes measured to monitor treatment effectiveness. Your doctor may change the recommended dosage based on the results of this test.

Rarely, this test may be done when calcium is high or a person has a disease that might produce excess amounts of Vitamin D, such as sarcoidosis or some forms of lymphoma. It may also occur from taking too many vitamin pills and other nutritional supplements. High doses of Vitamin D can result in a condition called hypervitaminosis D. Hypervitaminosis is a rare but serious condition that could put you at risk for liver or kidney problems.

How can I get tested?

Ask your healthcare provider about getting the 25-Hydroxy Vitamin D Test as part of your health checkups, and to establish your baseline Vitamin D level. Measuring your existing level will help your doctor determine if you need treatment or increase your Vitamin D intake through food, supplements or lifestyle changes. It also equips you and your doctor to monitor your Vitamin D levels in the future.

Understanding your results

Your test report will indicate the Vitamin D levels in the form of nanomoles/liter (nmol/L) or nanograms/milliliter (ng/mL). The results can indicate whether your levels are normal, deficient, insufficient or too high. Your medical history, age, gender and other factors influence the outcome of the tests. It's best to consult your doctor on the next course of action. Your doctor will help explain the results of your test and determine whether further testing or treatment is required.

How is the test performed?

The 25-Hydroxy Vitamin D is a blood test

When will I get my results?

Your test results will be available to your healthcare provider within 2 weeks of sample collection.

Sources

- Mayo Clinic Staff. (2013). Vitamin D. mayoclinic.com/health/vitamin-d/NS_patient-vitamin-d
- Vitamin D [Fact sheet]. (2014) ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/
- Vitamin D testing. (2013) mayomedicallaboratories.com/articles/vitamin-d/
- Lab Tests Online- Vitamin D Test (2016) labtestsonline.org/tests/vitamin-d-tests
- Harvard School of Public Health: Vitamin D and Health hsph.harvard.edu/nutritionsource/vitamin-d/
- Institute of Medicine: "Dietary Reference Intakes for Calcium and Vitamin D."

COMPLETE and ACCURATE information is required in all shaded areas.

Patient Surname (from CareCard)		First	Initial(s)	Date of Birth		Sex
Bill to: <input type="checkbox"/> MSP <input type="checkbox"/> ICBC <input type="checkbox"/> WorkSafeBC <input type="checkbox"/> Patient <input type="checkbox"/> Other _____		PHN _____		DAY	MONTH	YEAR
I.D. Number _____		Postal Code _____		Chart Number _____		
Patient Address _____		City, Province _____		Patient Telephone Number _____		
Ordering Physician, Address, MSP Practitioner Number		Locum for: Physician _____	C0 Number _____	Date/Time of Collection	Phlebotomist	Data Entry
Copy to: Address, MSP Practitioner Number		Pregnant <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Fasting _____ hours prior to test	Date/Time/Name of Medication _____		
		<input type="checkbox"/> Phone <input type="checkbox"/> Fax	Telephone Requisition Received By: _____			
Diagnosis and indications for guideline protocol and special tests						

For tests indicated with a shaded tick box , consult provincial guidelines and protocols (www.BCGuidelines.ca)

HEMATOLOGY

Hematology profile
 PT-INR On Warfarin?
 Ferritin (query iron deficiency)
 HFE – Hemochromatosis (check ONE box only)
 Confirm diagnosis (ferritin first, ± TS, ± DNA testing)
 Sibling/parent is C282Y/C282Y homozygote (DNA testing)

CHEMISTRY

Glucose - fasting (see reverse for patient instructions)
 GTT - gestational diabetes screen (50 g load, 1 hour post-load)
 GTT - gestational diabetes confirmation (75 g load, fasting, 1 & 2 hour test)
 Hemoglobin A1c
 Albumin/creatinine ratio (ACR) - Urine

LIPIDS

One box only. For other lipid investigations, please order under Other Tests section and provide diagnosis.
 Baseline cardiovascular risk assessment or follow-up (Lipid profile, Total, HDL, non-HDL & LDL Cholesterol, Triglycerides, fasting)
 Follow-up of treated hypercholesterolemia (Total, HDL & non-HDL Cholesterol, fasting not required)
 Follow-up of treated hypercholesterolemia (ApoB only, fasting not required)
 Self-pay lipid profile (non-MSP billable, fasting)

THYROID FUNCTION

One box only. For other thyroid investigations, please order under Other Tests section and provide diagnosis.
 Monitor thyroid replacement therapy (TSH Only)
 Suspected Hypothyroidism TSH first (plus FT4 if required)
 Suspected Hyperthyroidism, TSH first (plus FT4 or FT3 if required)

OTHER CHEMISTRY TESTS

Sodium Creatinine/eGFR
 Potassium Calcium
 Albumin Creatine kinase (CK)
 Alk phos PSA - Known or suspected prostate cancer (MSP billable)
 ALT PSA screening (self-pay)
 Bilirubin Pregnancy Test
 GGT T. Protein
 T. Protein Serum Urine

MICROBIOLOGY

LABEL ALL SPECIMENS WITH PATIENT'S FIRST AND LAST NAME, DOB AND/OR PHN & SITE

ROUTINE CULTURE

List current antibiotics: _____
 Throat Sputum Blood
 Superficial Wound Site: _____
 Deep Wound Site: _____
 Other: _____

VAGINITIS

Initial (smear for BV & yeast only)
 Chronic/recurrent (smear, culture, trichomonas)
 Trichomonas testing

GROUP B STREP SCREEN (Pregnancy only)

Vagino-anorectal swab Penicillin allergy

CHLAMYDIA (CT) & GONORRHEA (GC)

CT & GC Testing
 Source/site: Urethra Cervix Urine
 GC culture: Throat Rectal
 Other: _____

STOOL SPECIMENS

History of bloody stools? Yes No
 C. difficile testing
 Stool culture
 Stool ova & parasite exam
 Stool ova & parasite (high risk, 2 samples)

DERMATOPHYTES

Dermatophyte culture KOH prep (direct exam)
 Specimen: Skin Nail Hair
 Site: _____

MYCOLOGY

Yeast Fungus Site: _____

URINE TESTS

Urine culture - list current antibiotics: _____
 Macroscopic → microscopic if dipstick positive
 Macroscopic → urine culture if pyuria or nitrite present
 Macroscopic (dipstick) Microscopic
 Special case (if ordered together)

HEPATITIS SEROLOGY

One box only. For other Hepatitis Markers, please order under Other Tests section.
 Acute viral hepatitis undefined etiology
 Hepatitis A (anti-HAV IgM)
 Hepatitis B (HBsAg, plus anti-HBc if required)
 Hepatitis C (anti-HCV)
 Chronic viral hepatitis undefined etiology
 Hepatitis B (HBsAg, anti-HBc, anti-HBs)
 Hepatitis C (anti-HCV)

Investigation of hepatitis immune status

Hepatitis A (anti-HAV, total)
 Hepatitis B (anti-HBs)
 Hepatitis marker(s) HBsAg

HIV SEROLOGY

HIV Serology (patient has legal right to choose not to have their name and address reported to public health – non-nominal reporting)
 Non-nominal reporting

OTHER TESTS

ECG Fecal Occult Blood (Age 50-74 asymptomatic q2y) Copy to Colon Screening Program.
 Fecal Occult Blood (other indications)

The personal information collected on this form and any medical data subsequently developed will be used and disclosed only as permitted or required by the Personal Information Protection Act (and related acts and regulations) of British Columbia. LifeLabs privacy policy is available at www.lifelabs.com. Use of this form implies consent for the use of de-identified patient data and specimens for quality assurance purposes.

Date _____
 Requisition is valid for one year from the date of issue.

Standing Order requests - expiry and frequency must be indicated
 Physician Signature _____

You will be asked to present your Care Card/BC Services Card at each visit.

For tests not covered by MSP, payment can be made by VISA, MasterCard and Debit.

Test Results for clinicians: 1-800-431-7206. Patients can register to receive test results at www.myehealth.ca

Patient Service Centres	Hours (Monday to Friday)	Fax
Kamloops - St. Paul 135 - 546 St. Paul Street	8:00 to 4:00	(250) 374-5638
Kamloops - Nicola 202 - 321 Nicola Street	8:00 to 3:00	(250) 372-0588
Kamloops - Tranquille 1 - 685 Tranquille Road	7:00 to 4:00; (Sat. 7:00 to 12:00)	(250) 376-4165
Prince George 110 - 1669 Victoria Street	7:00 to 4:00; (Sat. 7:00 to 12:00)	(250) 562-7358
Quesnel 15 - 665 Front Street	7:30 to 3:00	(250) 992-5889
Terrace 105 - 4634 Park Avenue	8:00 to 4:00	(250) 615-0332
Dawson Creek 2 - 705 - 103rd Avenue	7:30 to 3:00	(250) 782-5764
Nelson 806 Vernon Street	8:00 to 4:00	(250) 352-6628
Kimberley 260 - 4th Avenue	7:30 to 3:30	(250) 427-2108

PATIENT INSTRUCTIONS: (unless otherwise indicated by your physician)

Fasting Required: Do not eat or drink (except water) for **8-12 hours** before the following tests:

- GLUCOSE - fasting
- GTT-gestational diabetes confirmation and GTT - non pregnant
- LIPIDS/CHOLESTEROL - if indicated

Note: Chewing gum and brushing teeth during the fasting period is acceptable.

Fasting is preferred, but not required for the following tests:

- Homocysteine, Iron/Transferrin

H. Pylori: Do not eat, drink (except water), or smoke for **4 hours** before the test. Do not drink **any** fluid for the last hour of fasting.

AM Cortisol and Testosterone: Collect sample within 3 hours of waking

Patient Instructions are also available on our website www.lifelabs.com

APPOINTMENTS ARE REQUIRED FOR THE FOLLOWING TESTS:


Call to schedule an appointment Mon - Fri from 9am - 5pm
604-412-4495 or Toll Free 1-855-412-4495

- Ambulatory Blood Pressure
- DOT/non-DOT Drug Screen
- Holter Monitor
- Lactose Tolerance/Hydrogen Breath Test
- Paternity / DNA
- Semen Analysis

APPOINTMENTS ARE AVAILABLE BUT NOT REQUIRED FOR THE FOLLOWING TESTS:

- Legal Drug Screen
- Panorama Pre-Natal Screening Test

For tests not listed above, you may arrive without an appointment OR schedule an appointment at a LifeLabs location online at www.lifelabs.com.

 **Ontario** Ministry of Health and Long-Term Care
Laboratory Requisition
Requisitioning Clinician / Practitioner

Name _____

Address _____

Laboratory Use Only

Clear Form

Clinician/Practitioner's Contact Number for Urgent Results () Service Date yyyy mm dd

Clinician/Practitioner Number CPSO / Registration No. Health Number Version Sex M F Date of Birth yyyy mm dd

Check (✓) one:
 OHIP/Insured Third Party / Uninsured WSIB

Province: Other Provincial Registration Number Patient's Telephone Contact Number ()

Additional Clinical Information (e.g. diagnosis) _____

Patient's Last Name (as per OHIP Card) _____

Patient's First & Middle Names (as per OHIP Card) _____

Copy to: Clinician/Practitioner
 Last Name _____ First Name _____

Address _____

Patient's Address (including Postal Code) _____

Note: Separate requisitions are required for cytology, histology / pathology and tests performed by Public Health Laboratory

x	Biochemistry	x	Hematology	x	Viral Hepatitis (check one only)
<input type="checkbox"/>	Glucose <input type="checkbox"/> Random <input type="checkbox"/> Fasting	<input type="checkbox"/>	CBC	<input type="checkbox"/>	Acute Hepatitis
<input type="checkbox"/>	HbA1C	<input type="checkbox"/>	Prothrombin Time (INR)	<input type="checkbox"/>	Chronic Hepatitis
<input type="checkbox"/>	Creatinine (eGFR)	<input type="checkbox"/>	Immunology	<input type="checkbox"/>	Immune Status / Previous Exposure Specify: <input type="checkbox"/> Hepatitis A <input type="checkbox"/> Hepatitis B <input type="checkbox"/> Hepatitis C or order individual hepatitis tests in the "Other Tests" section below
<input type="checkbox"/>	Uric Acid	<input type="checkbox"/>	Pregnancy Test (Urine)	<input type="checkbox"/>	Prostate Specific Antigen (PSA) <input type="checkbox"/> Total PSA <input type="checkbox"/> Free PSA
<input type="checkbox"/>	Sodium	<input type="checkbox"/>	Mononucleosis Screen	<input type="checkbox"/>	
<input type="checkbox"/>	Potassium	<input type="checkbox"/>	Rubella	<input type="checkbox"/>	Vitamin D (25-Hydroxy) <input type="checkbox"/> Insured - Meets OHIP eligibility criteria: osteopenia; osteoporosis; rickets; renal disease; malabsorption syndromes; medications affecting vitamin D metabolism <input type="checkbox"/> Uninsured - Patient responsible for payment
<input type="checkbox"/>	ALT	<input type="checkbox"/>	Prenatal: ABO, RhD, Antibody Screen (titre and ident. if positive)	<input type="checkbox"/>	
<input type="checkbox"/>	Alk. Phosphatase	<input type="checkbox"/>	Repeat Prenatal Antibodies	<input type="checkbox"/>	Other Tests - one test per line
<input type="checkbox"/>	Bilirubin	<input type="checkbox"/>	Microbiology ID & Sensitivities (if warranted)	<input type="checkbox"/>	
<input type="checkbox"/>	Albumin	<input type="checkbox"/>	Cervical	<input type="checkbox"/>	Other Tests - one test per line
<input type="checkbox"/>	Lipid Assessment (includes Cholesterol, HDL-C, Triglycerides, calculated LDL-C & Chol/HDL-C ratio; individual lipid tests may be ordered in the "Other Tests" section of this form)	<input type="checkbox"/>	Vaginal	<input type="checkbox"/>	
<input type="checkbox"/>	Albumin / Creatinine Ratio, Urine	<input type="checkbox"/>	Vaginal / Rectal - Group B Strep	<input type="checkbox"/>	Other Tests - one test per line
<input type="checkbox"/>	Urinalysis (Chemical)	<input type="checkbox"/>	Chlamydia (specify source): _____	<input type="checkbox"/>	
<input type="checkbox"/>	Neonatal Bilirubin:	<input type="checkbox"/>	GC (specify source): _____	<input type="checkbox"/>	Other Tests - one test per line
<input type="checkbox"/>	Child's Age: _____ days _____ hours	<input type="checkbox"/>	Sputum	<input type="checkbox"/>	
<input type="checkbox"/>	Clinician/Practitioner's tel. no. () _____	<input type="checkbox"/>	Throat	<input type="checkbox"/>	Other Tests - one test per line
<input type="checkbox"/>	Patient's 24 hr telephone no. () _____	<input type="checkbox"/>	Wound (specify source): _____	<input type="checkbox"/>	
<input type="checkbox"/>	Therapeutic Drug Monitoring:	<input type="checkbox"/>	Urine	<input type="checkbox"/>	Other Tests - one test per line
<input type="checkbox"/>	Name of Drug #1 _____	<input type="checkbox"/>	Stool Culture	<input type="checkbox"/>	
<input type="checkbox"/>	Name of Drug #2 _____	<input type="checkbox"/>	Stool Ova & Parasites	<input type="checkbox"/>	Other Tests - one test per line
<input type="checkbox"/>	Time Collected #1 _____ hr. #2 _____ hr.	<input type="checkbox"/>	Other Swabs / Pus (specify source): _____	<input type="checkbox"/>	
<input type="checkbox"/>	Time of Last Dose #1 _____ hr. #2 _____ hr.	<input type="checkbox"/>		<input type="checkbox"/>	Other Tests - one test per line
<input type="checkbox"/>	Time of Next Dose #1 _____ hr. #2 _____ hr.	<input type="checkbox"/>		<input type="checkbox"/>	

I hereby certify the tests ordered are not for registered in or out patients of a hospital.

Time 24 hour clock Date yyyy/mm/dd

Fecal Occult Blood Test (FOBT) (check one)
 FOBT (non CCC) ColonCancerCheck FOBT (CCC) no other test can be ordered on this form

Laboratory Use Only

Print

X _____
 Clinician/Practitioner Signature Date