

Celiac Disease Testing

Celiac disease is a common disorder that affects about one percent of the Canadian population. This is an autoimmune disorder, in which the immune system reacts negatively to the presence of gluten in the diet leading to inflammation of the small intestine and damage to the intestinal wall. This reduces a person's ability to absorb nutrients including iron, folate, calcium, Vitamin D, protein, fat and other food compounds, which are necessary for good health.

Gluten is a group of proteins present in wheat, rye and barley and their cross bred grains. The damage to the intestine can lead to a variety of symptoms, which vary greatly from person to person both in extent and seriousness.

If celiac disease is diagnosed early and treated with a gluten-free diet, the damaged tissues can heal and the risk of developing many of the long term complications of this disease, including osteoporosis (a weakening of the bones), lymphoma (tumors arising in the lymph nodes), and infertility can be reduced.

Symptoms

An **adult** with Celiac disease can exhibit a variety of symptoms. Gastrointestinal signs and symptoms may include:

Abdominal pain and distension

Weakness and tiredness

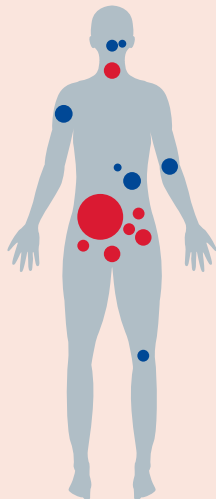
Blood in the stool

Chronic diarrhea or constipation

Flatulence

Greasy, foul-smelling stools

Vomiting



Other signs and symptoms may include:

- Iron-deficiency anemia that does not respond to iron supplements
- Easy bruising and/or bleeding
- Bone and joint pain
- Defects in dental enamel
- Fatigue, weakness
- Mouth ulcers
- Weight loss
- Infertility or osteoporosis

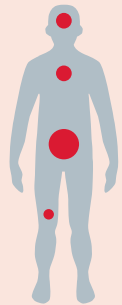
In **children**, celiac disease symptoms may include:

Gastrointestinal symptoms

Delayed development

Short stature

Failure to thrive



Some people with celiac disease have dermatitis herpetiformis, a type of skin rash.

Tests for Detecting Celiac Disease

Celiac disease antibody tests are developed to help diagnose and monitor the disease and a few other gluten-sensitive conditions. These tests detect autoantibodies in the blood that the body produces in response to a gluten-containing diet.

LifeLabs offers a combination of two tests to aid in the diagnosis of Celiac disease. These tests measure the amount of immunoglobulin A (IgA) and immunoglobulin G (IgG) autoantibodies produced in response to a gluten-containing diet. IgA is the primary antibody present in gastrointestinal secretions.

Tissue transglutaminase antibody (tTG), IgA class — the primary test ordered to screen for celiac disease. It is the most sensitive and specific blood test for celiac disease and is the test recommended by the Canadian Celiac Association. This test may also be used to monitor treatment effectiveness, as tTg IgA antibody levels should fall once gluten is removed from the diet. Around 2-3% of people with Celiac disease have an IgA deficiency, which may lead to a false negative tTG IgA result. LifeLabs tTg IgA test assesses IgA concentrations and will indicate when IgA concentrations are low - minimizing the risk of false negative results.

Deamidated Gliadin IgG antibodies – The Deamidated Gliadin IgG test is recommended to patients with a confirmed IgA deficiency. The Deamidated Gliadin IgG antibodies test may be positive in some people with celiac disease who are negative for anti-tTG IgA, especially children less than 2 years old.

Your doctor may also suggest that you have a biopsy of your upper small intestine (endoscopy). He/she will also check your medical and family history, and do a physical exam, and possibly genetic tests.

When Should I Get Tested?

Celiac disease tests should be considered if you show signs and symptoms suggesting celiac disease, malnutrition, and/or malabsorption. The symptoms are often nonspecific and variable, making the disease difficult to spot. The symptoms may, for a time, be mild and go unnoticed and then progressively worsen or occur sporadically.

Talk to your healthcare provider if you have any persistent symptom listed above. Based on several factors, including your family and medical history, your doctor can help you determine if you should be screened for Celiac disease.

One or more antibody tests may be ordered when someone with celiac disease has been on a gluten-free diet for a period of time. This is done to verify that

antibody levels have decreased and to verify that the diet has been effective in reversing the intestinal lining damage.

Is Any Test Preparation Needed?

Follow your health practitioner's instructions. For diagnosis, you should continue to eat foods that contain gluten for a time period, such as several weeks, prior to testing. If you are monitoring your celiac disease, no preparation is necessary and you may continue following a gluten-free diet.

Understanding Your Results

Your results report will indicate whether the levels of autoantibodies tested are normal or elevated. Your doctor can help you interpret your results and decide on the best course of action.

Difference between Celiac Disease and Wheat Intolerance / Allergy

Often when you have food intolerances or allergies to grains like wheat or rye, the symptoms and discomfort you experience appear similar to those of Celiac disease. However, these symptoms are present for a short period of time after you consume that food, and abate soon after. The reaction may be mild or severe, but it is limited and does not cause damage to the lining of your intestine the way that celiac disease does. If you feel that you may have wheat or other grain allergy, talk to your health practitioner about getting tested for allergen-specific IgE antibodies.

How is the test performed?

The Celiac disease tests are blood tests

How much does it cost?

To find out the current price in your province, please call LifeLabs customer care.

When will I get my results?

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

Sources

- [Health Canada](#): Food Allergies and Intolerances – Celiac Disease
- [Canadian Celiac Association](#): Information on Celiac Disease
- [Lab Tests Online](#): Celiac Disease Antibody Tests

COMPLETE and ACCURATE information is required in all shaded areas.

Patient Surname (from CareCard)		First	Initial(s)	Date of Birth		Sex
				DAY	MONTH	YEAR
<input type="checkbox"/> MSP <input type="checkbox"/> ICBC <input type="checkbox"/> WorkSafeBC <input type="checkbox"/> Patient <input type="checkbox"/> Other _____				Chart Number		Room # (LTC use only)
PHN _____		I.D. Number _____				
Patient Address		City, Province		Postal Code		Patient Telephone Number
Ordering Physician, Address, MSP Practitioner Number	Locum for:		C0 Number		Date/Time of Collection	Phlebotomist
	Physician _____					
	MSC # _____				Date/Time/Name of Medication	
Copy to: Address, MSP Practitioner Number	Pregnant <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Fasting _____ hours prior to test	<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 <input type="checkbox"/> , consult provincial guidelines and protocols (www.BCGuidelines.ca)						

HEMATOLOGY	MICROBIOLOGY	URINE TESTS
<input type="checkbox"/> Hematology profile <input type="checkbox"/> PT-INR <input type="checkbox"/> On Warfarin? <input type="checkbox"/> Ferritin (query iron deficiency) HFE – Hemochromatosis (check ONE box only) <input type="checkbox"/> Confirm diagnosis (ferritin first, \pm TS, \pm DNA testing) <input type="checkbox"/> Sibling/parent is C282Y/C282Y homozygote (DNA testing)	LABEL ALL SPECIMENS WITH PATIENT'S FIRST AND LAST NAME, DOB AND/OR PHN & SITE <u>ROUTINE CULTURE</u> List current antibiotics: _____ <input type="checkbox"/> Throat <input type="checkbox"/> Sputum <input type="checkbox"/> Blood <input type="checkbox"/> Superficial Wound Site: _____ <input type="checkbox"/> Deep Wound Site: _____ <input type="checkbox"/> Other: _____ <u>VAGINITIS</u> <input type="checkbox"/> Initial (smear for BV & yeast only) <input type="checkbox"/> Chronic/recurrent (smear, culture, trichomonas) <input type="checkbox"/> Trichomonas testing <u>GROUP B STREP SCREEN</u> (Pregnancy only) <input type="checkbox"/> Vagino-anorectal swab <input type="checkbox"/> Penicillin allergy <u>CHLAMYDIA (CT) & GONORRHEA (GC)</u> <input type="checkbox"/> CT & GC Testing Source/site: <input type="checkbox"/> Urethra <input type="checkbox"/> Cervix <input type="checkbox"/> Urine <input type="checkbox"/> GC culture: <input type="checkbox"/> Throat <input type="checkbox"/> Rectal <input type="checkbox"/> Other: _____ <u>STOOL SPECIMENS</u> History of bloody stools? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> C. difficile testing <input type="checkbox"/> Stool culture <input type="checkbox"/> Stool ova & parasite exam <input type="checkbox"/> Stool ova & parasite (high risk, 2 samples) <u>DERMATOPHYTES</u> <input type="checkbox"/> Dermatophyte culture <input type="checkbox"/> KOH prep (direct exam) Specimen: <input type="checkbox"/> Skin <input type="checkbox"/> Nail <input type="checkbox"/> Hair Site: _____ <u>MYCOLOGY</u> <input type="checkbox"/> Yeast <input type="checkbox"/> Fungus Site: _____	<input type="checkbox"/> Urine culture - list current antibiotics: _____ <input type="checkbox"/> Macroscopic \rightarrow microscopic if dipstick positive <input type="checkbox"/> Macroscopic \rightarrow urine culture if pyuria or nitrite present <input type="checkbox"/> Macroscopic (dipstick) <input type="checkbox"/> Microscopic <input type="checkbox"/> Special case (if ordered together)
CHEMISTRY <input type="checkbox"/> Glucose - fasting (see reverse for patient instructions) <input type="checkbox"/> GTT - gestational diabetes screen (50 g load, 1 hour post-load) <input type="checkbox"/> GTT - gestational diabetes confirmation (75 g load, fasting, 1 & 2 hour test) <input type="checkbox"/> Hemoglobin A1c <input type="checkbox"/> Albumin/creatinine ratio (ACR) - Urine <u>LIPIDS</u> <input checked="" type="checkbox"/> One box only. For other lipid investigations, please order under Other Tests section and provide diagnosis. <input type="checkbox"/> Baseline cardiovascular risk assessment or follow-up (Lipid profile, Total, HDL, non-HDL & LDL Cholesterol, Triglycerides, fasting) <input type="checkbox"/> Follow-up of treated hypercholesterolemia (Total, HDL & non-HDL Cholesterol, fasting not required) <input type="checkbox"/> Follow-up of treated hypercholesterolemia (ApoB only, fasting not required) <input type="checkbox"/> Self-pay lipid profile (non-MSP billable, fasting)		HEPATITIS SEROLOGY <input checked="" type="checkbox"/> One box only. For other Hepatitis Markers, please order under Other Tests section. <input type="checkbox"/> Acute viral hepatitis undefined etiology Hepatitis A (anti-HAV IgM) Hepatitis B (HBsAg, plus anti-HBc if required) Hepatitis C (anti-HCV) <input type="checkbox"/> Chronic viral hepatitis undefined etiology Hepatitis B (HBsAg, anti-HBc, anti-HBs) Hepatitis C (anti-HCV) Investigation of hepatitis immune status <input type="checkbox"/> Hepatitis A (anti-HAV, total) <input type="checkbox"/> Hepatitis B (anti-HBs) <input type="checkbox"/> Hepatitis marker(s) HBsAg
THYROID FUNCTION <input checked="" type="checkbox"/> One box only. For other thyroid investigations, please order under Other Tests section and provide diagnosis. <input type="checkbox"/> Monitor thyroid replacement therapy (TSH Only) <input type="checkbox"/> Suspected Hypothyroidism TSH first (plus FT4 if required) <input type="checkbox"/> Suspected Hyperthyroidism, TSH first (plus FT4 or FT3 if required)		HIV SEROLOGY <input type="checkbox"/> HIV Serology (patient has legal right to choose not to have their name and address reported to public health – non-nominal reporting) <input type="checkbox"/> Non-nominal reporting
OTHER CHEMISTRY TESTS <input type="checkbox"/> Sodium <input type="checkbox"/> Creatinine/eGFR <input type="checkbox"/> Potassium <input type="checkbox"/> Calcium <input type="checkbox"/> Albumin <input type="checkbox"/> Creatine kinase (CK) <input type="checkbox"/> Alk phos <input type="checkbox"/> PSA - Known or suspected prostate cancer (MSP billable) <input type="checkbox"/> ALT <input type="checkbox"/> PSA screening (self-pay) <input type="checkbox"/> Bilirubin <input type="checkbox"/> Pregnancy Test <input type="checkbox"/> GGT <input type="checkbox"/> Serum <input type="checkbox"/> Urine <input type="checkbox"/> T. Protein		OTHER TESTS <input type="checkbox"/> ECG <input type="checkbox"/> Fecal Occult Blood (Age 50-74 asymptomatic q2y) Copy to Colon Screening Program. <input type="checkbox"/> 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.		Standing Order requests - expiry and frequency must be indicated Physician Signature _____ Date _____ Requisition is valid for one year from the date of issue.

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		Laboratory Use Only		<div>Clear Form</div>	
Name Address		Clinician/Practitioner's Contact Number for Urgent Results ()			
Clinician/Practitioner Number CPSO / Registration No.		Health Number Version		Sex <input type="checkbox"/> M <input type="checkbox"/> F	
Check (✓) one: <input type="checkbox"/> OHIP/Insured <input type="checkbox"/> Third Party / Uninsured <input type="checkbox"/> WSIB		Province Other Provincial Registration Number		Service Date yyyy mm dd	
Additional Clinical Information (e.g. diagnosis)		Patient's Last Name (as per OHIP Card)		Patient's Telephone Contact Number ()	
<input type="checkbox"/> Copy to: Clinician/Practitioner Last Name First Name		Patient's First & Middle Names (as per OHIP Card)		Date of Birth yyyy mm dd	
Address		Patient's Address (including Postal Code)			
Note: Separate requisitions are required for cytology, histology / pathology and tests performed by Public Health Laboratory					
Biochemistry		Hematology		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)		Immunology		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)		Prostate Specific Antigen (PSA)	
<input type="checkbox"/> Sodium		<input type="checkbox"/> Mononucleosis Screen		<input type="checkbox"/> Total PSA <input type="checkbox"/> Free PSA	
<input type="checkbox"/> Potassium		<input type="checkbox"/> Rubella		Specify one below: <input type="checkbox"/> Insured – Meets OHIP eligibility criteria <input type="checkbox"/> Uninsured – Screening: Patient responsible for payment	
<input type="checkbox"/> ALT		<input type="checkbox"/> Prenatal: ABO, RhD, Antibody Screen (titre and ident. if positive)		Vitamin D (25-Hydroxy)	
<input type="checkbox"/> Alk. Phosphatase		<input type="checkbox"/> Repeat Prenatal Antibodies		<input type="checkbox"/> Insured - Meets OHIP eligibility criteria: osteopenia; osteoporosis; rickets; renal disease; malabsorption syndromes; medications affecting vitamin D metabolism	
<input type="checkbox"/> Bilirubin		Microbiology ID & Sensitivities (if warranted)		<input type="checkbox"/> Uninsured - Patient responsible for payment	
<input type="checkbox"/> Albumin		<input type="checkbox"/> Cervical		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"/> Albumin / Creatinine Ratio, Urine		<input type="checkbox"/> Vaginal / Rectal – Group B Strep			
<input type="checkbox"/> Urinalysis (Chemical)		<input type="checkbox"/> Chlamydia (specify source):			
<input type="checkbox"/> Neonatal Bilirubin:		<input type="checkbox"/> GC (specify source):			
<input type="checkbox"/> Child's Age: days hours		<input type="checkbox"/> Sputum			
<input type="checkbox"/> Clinician/Practitioner's tel. no. ()		<input type="checkbox"/> Throat			
<input type="checkbox"/> Patient's 24 hr telephone no. ()		<input type="checkbox"/> Wound (specify source):			
<input type="checkbox"/> Therapeutic Drug Monitoring:		<input type="checkbox"/> Urine			
<input type="checkbox"/> Name of Drug #1		<input type="checkbox"/> Stool Culture			
<input type="checkbox"/> Name of Drug #2		<input type="checkbox"/> Stool Ova & Parasites			
<input type="checkbox"/> Time Collected #1 hr. #2 hr.		<input type="checkbox"/> Other Swabs / Pus (specify source):			
<input type="checkbox"/> Time of Last Dose #1 hr. #2 hr.					
<input type="checkbox"/> Time of Next Dose #1 hr. #2 hr.					
I hereby certify the tests ordered are not for registered in or out patients of a hospital.		Specimen Collection			
X Clinician/Practitioner Signature Date		Time 24 hour clock Date yyyy/mm/dd			
		Fecal Occult Blood Test (FOBT) (check one)			
		<input type="checkbox"/> FOBT (non CCC) <input type="checkbox"/> ColonCancerCheck FOBT (CCC) no other test can be ordered on this form			
		Laboratory Use Only		<div>Print</div>	