

# 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**

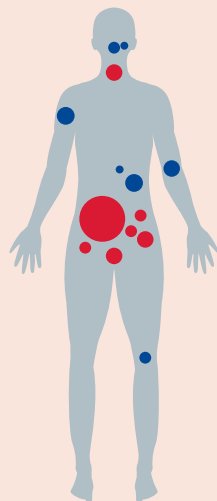
**Blood in the stool**

**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

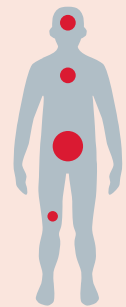
In **children**, celiac disease symptoms may include:

**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 as part of the immune response.

LifeLabs offers a combination of two tests that measure the amount of the IgA class (immunoglobulin A) and IgG class (immunoglobulin G) autoantibodies. IgG and IgA are two of five classes of antibody proteins that the immune system produces in response to a perceived threat. 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 IgA antibody levels should fall once gluten is removed from the diet.

**Deamidated Gliadin IgG antibodies** – Around 2-3% of people with Celiac disease have an IgA deficiency, which can lead to a false negative result of the tTG, IgA test. This is when a test to measure IgG is recommended. The Deamidated Gliadin IgG antibodies test may be positive in some people with celiac disease who are negative for anti-tTG, 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. For monitoring celiac disease after you have completely eliminated gluten from your diet, no preparation is necessary.

### 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?

The panel costs \$125 in Ontario. 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
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: _____	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](http://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, ± TS, ± 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  <b>ROUTINE CULTURE</b> 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: _____  <b>VAGINITIS</b> <input type="checkbox"/> Initial (smear for BV & yeast only) <input type="checkbox"/> Chronic/recurrent (smear, culture, trichomonas) <input type="checkbox"/> Trichomonas testing  <b>GROUP B STREP SCREEN</b> (Pregnancy only) <input type="checkbox"/> Vagino-anorectal swab <input type="checkbox"/> Penicillin allergy  <b>CHLAMYDIA (CT) &amp; GONORRHEA (GC)</b> <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: _____  <b>STOOL SPECIMENS</b> History of bloody stools? <input type="checkbox"/> No <input type="checkbox"/> Yes <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)  <b>DERMATOPHYTES</b> <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: _____  <b>MYCOLOGY</b> <input type="checkbox"/> Yeast <input type="checkbox"/> Fungus Site: _____	<input type="checkbox"/> Urine culture - list current antibiotics: _____  <input type="checkbox"/> Macroscopic → microscopic if dipstick positive <input type="checkbox"/> Macroscopic → 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	LIPIDS	HEPATITIS SEROLOGY
<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	<b>One box only. For other lipid investigations, please order under Other Tests section and provide diagnosis.</b> <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)	<input checked="" type="checkbox"/> <b>One box only. For other Hepatitis Markers, please order under Other Tests section.</b> <input type="checkbox"/> <b>Acute viral hepatitis undefined etiology</b> Hepatitis A (anti-HAV IgM) Hepatitis B (HBsAg, plus anti-HBc if required) Hepatitis C (anti-HCV) <input type="checkbox"/> <b>Chronic viral hepatitis undefined etiology</b> Hepatitis B (HBsAg, anti-HBc, anti-HBs) Hepatitis C (anti-HCV)
THYROID FUNCTION	OTHER CHEMISTRY TESTS	HIV SEROLOGY
<input checked="" type="checkbox"/> <b>One box only. For other thyroid investigations, please order under Other Tests section and provide diagnosis.</b> <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)	<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"/> T. Protein <input type="checkbox"/> T. Protein <input type="checkbox"/> Serum <input type="checkbox"/> Urine	<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 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)	

Standing Order requests - expiry and frequency must be indicated

Date _____	Physician Signature _____
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](http://www.myehealth.ca)

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

