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

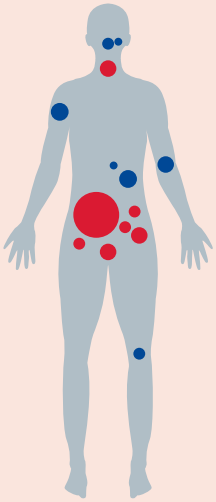
Blood in the stool

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

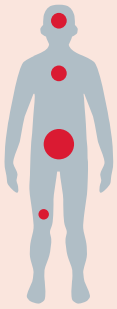
In **children**, celiac disease symptoms may include:

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.

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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

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Laboratory Requisition

This requisition form, when completed, constitutes a referral to LifeLabs laboratory physicians. It is for the use of authorized health care providers only.

THIS AREA IS FOR LAB USE

COMPLETE and ACCURATE information is required in all shaded areas.

Patient Surname (from CareCard) | First | Initial(s) | Date of Birth (DAY / MONTH / YEAR) | Sex ☐ F ☐ M

Bill to: ☐ MSP ☐ ICBC ☐ WorkSafeBC ☐ Patient ☐ 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: Physician _____ MSC # _____ | C0 Number | Date/Time of Collection | Phlebotomist | Data Entry | Date/Time/Name of Medication

Copy to: Address, MSP Practitioner Number | Pregnant ☐ Yes ☐ No | ☐ Fasting ____ hours prior to test | ☐ Phone ☐ Fax | Telephone Requisition Received By: INITIAL/DATE

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

- ☐ 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)

Standing Order requests - expiry and frequency must be indicated

Date

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

Physician Signature

LifeLabs Locations

Hours of operation are subject to change.
For current hours and locations visit our website at www.lifelabs.com

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

Clinician/Practitioner Number | CPSO / Registration No.

Check (✓) one:

☐ OHIP/Insured ☐ Third Party / Uninsured ☐ WSIB

Additional Clinical Information *(e.g. diagnosis)*

☐ Copy to: Clinician/Practitioner

Last Name | First Name

Address

Laboratory Use Only

Clear Form

Clinician/Practitioner's Contact Number for Urgent Results ( )

Service Date yyyy mm dd

Health Number | Version | Sex ☐ M ☐ F | Date of Birth yyyy mm dd

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

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

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

Patient's Address *(including Postal Code)*

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

x	Biochemistry
	Glucose ☐ Random ☐ Fasting
	HbA1C
	Creatinine (eGFR)
	Uric Acid
	Sodium
	Potassium
	ALT
	Alk. Phosphatase
	Bilirubin
	Albumin
	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)
	Albumin / Creatinine Ratio, Urine
	Urinalysis (Chemical)
	Neonatal Bilirubin:
	Child's Age: days hours
	Clinician/Practitioner's tel. no. ( )
	Patient's 24 hr telephone no. ( )
	Therapeutic Drug Monitoring:
	Name of Drug #1
	Name of Drug #2
	Time Collected #1 hr. #2 hr.
	Time of Last Dose #1 hr. #2 hr.
	Time of Next Dose #1 hr. #2 hr.

x	Hematology
	CBC
	Prothrombin Time (INR)
	Immunology
	Pregnancy Test (Urine)
	Mononucleosis Screen
	Rubella
	Prenatal: ABO, RhD, Antibody Screen (titre and ident. if positive)
	Repeat Prenatal Antibodies
	Microbiology ID & Sensitivities (if warranted)
	Cervical
	Vaginal
	Vaginal / Rectal – Group B Strep
	Chlamydia *(specify source)*:
	GC *(specify source)*:
	Sputum
	Throat
	Wound *(specify source)*:
	Urine
	Stool Culture
	Stool Ova & Parasites
	Other Swabs / Pus *(specify source)*:

x	Viral Hepatitis *(check one only)*
	Acute Hepatitis
	Chronic Hepatitis
	Immune Status / Previous Exposure *Specify:* ☐ Hepatitis A ☐ Hepatitis B ☐ Hepatitis C or order individual hepatitis tests in the "Other Tests" section below

Prostate Specific Antigen (PSA)

☐ Total PSA ☐ Free PSA

Specify one below:

☐ Insured – Meets OHIP eligibility criteria

☐ Uninsured – Screening: Patient responsible for payment

Vitamin D (25-Hydroxy)

☐ Insured - Meets OHIP eligibility criteria: osteopenia; osteoporosis; rickets; renal disease; malabsorption syndromes; medications affecting vitamin D metabolism

☐ Uninsured - Patient responsible for payment

Other Tests - one test per line

Specimen Collection

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

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

X

Clinician/Practitioner Signature | Date

Laboratory Use Only

Print

