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.

**Sources**

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

**COMPLETE and ACCURATE information is required in all shaded areas.**

<table>
<thead>
<tr>
<th>Patient Surname (from CareCard)</th>
<th>First</th>
<th>Initial(s)</th>
<th>Date of Birth (DAY</th>
<th>MONTH</th>
<th>YEAR)</th>
<th>Sex (M/F)</th>
<th>MSP</th>
<th>ICBC</th>
<th>WorkSafeBC</th>
<th>Patient</th>
<th>Other</th>
</tr>
</thead>
</table>
|                                 |       |            | Chart Number      | Room # (LTC use only) | Patient Address | City, Province | Postal Code | Patient Telephone Number | Ordering Physician, Address, MSP Practitioner Number | Locum for:  
Physician  
MSC #  
Pregnant  
Fasting  
Phone  
Fax  
Date of Collection  
Phlebotomist  
Data Entry  
Date/Time/Name of Medication  
Telephone Requisition Received By:  
INITIAL/DATE |
|                                 |       |            | C0 Number         |                     | Physician        |                         |                |                              |                       |                                  |                                  |
|                                 |       |            |                   |                     | Date/Time/Name of Medication |                          |                |                              |                       |                                  |                                  |

**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**
- Hematometry 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:
- T & D (for hospital use - DOB and/or PHN & site)

**ROUTINE CULTURE**
- List current antibiotics:
  - Throat  
  - Sputum  
  - Blood  
  - Superficial  
  - Wound  
- Deep  
- Site:  
- Other:  

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

**GROUP B STREP SCREEN (Pregnancy only)**
- Vagino-analeroal 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)

**DERMATOPHYES**
- Dermatophyte culture  
- KOH prep (direct exam)  
- Specimen:  
  - Skin  
  - Nail  
  - Hair  
- Site:  

**MYCOLOGY**
- Yeast  
- Fungus  
- Site:  

**URINE TESTS**
- Urine culture - list current antibiotics:

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

Standing Order requests - expiry and frequency must be indicated

Physician Signature

Date

Requisition is valid for one year from the date of issue.
### Patient Service Centres

<table>
<thead>
<tr>
<th>Location</th>
<th>Hours (Monday to Friday)</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kamloops - St. Paul</td>
<td>8:00 to 4:00</td>
<td>(250) 374-5638</td>
</tr>
<tr>
<td>Kamloops - Nicola</td>
<td>8:00 to 3:00</td>
<td>(250) 372-0588</td>
</tr>
<tr>
<td>Kamloops - Tranquille</td>
<td>7:00 to 4:00; (Sat. 7:00 to 12:00)</td>
<td>(250) 376-4165</td>
</tr>
<tr>
<td>Prince George</td>
<td>7:00 to 4:00; (Sat. 7:00 to 12:00)</td>
<td>(250) 562-7358</td>
</tr>
<tr>
<td>Quesnel</td>
<td>7:30 to 3:00</td>
<td>(250) 992-5889</td>
</tr>
<tr>
<td>Terrace</td>
<td>8:00 to 4:00</td>
<td>(250) 615-0332</td>
</tr>
<tr>
<td>Dawson Creek</td>
<td>7:30 to 3:00</td>
<td>(250) 782-5764</td>
</tr>
<tr>
<td>Nelson</td>
<td>8:00 to 4:00</td>
<td>(250) 352-6628</td>
</tr>
<tr>
<td>Kimberley</td>
<td>7:30 to 3:30</td>
<td>(250) 427-2108</td>
</tr>
</tbody>
</table>

### 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).
# Laboratory Requisition Form

**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)**

**Clinician/Practitioner’s Contact Number for Urgent Results**

<table>
<thead>
<tr>
<th>Health Number</th>
<th>Version</th>
<th>Sex</th>
<th>Service Date</th>
</tr>
</thead>
<tbody>
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<td>mm dd yyyy</td>
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</tbody>
</table>

**Province**

- **Other Provincial Registration Number**

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

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

**Patient’s Address (including Postal Code)**

**Copy to:**
- **Clinician/Practitioner**

- **Last Name**
- **First Name**

**Address**

---

### Note:

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

<table>
<thead>
<tr>
<th>X</th>
<th>Biochemistry</th>
<th>X</th>
<th>Hematology</th>
<th>X</th>
<th>Viral Hepatitis (check one only)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Glucose</td>
<td></td>
<td>CBC</td>
<td></td>
<td>Acute Hepatitis</td>
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<td></td>
<td>HbA1c</td>
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<td>Prothrombin Time (INR)</td>
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<td>Chronic Hepatitis</td>
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<tr>
<td></td>
<td>Creatinine (eGFR)</td>
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<td>Pregnancy Test (Urine)</td>
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<td>Immune Status / Previous Exposure</td>
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<tr>
<td></td>
<td>Uric Acid</td>
<td></td>
<td>Mononucleosis Screen</td>
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<td>Specify:</td>
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<tr>
<td></td>
<td>Sodium</td>
<td></td>
<td>Rubella</td>
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<td>Hepatitis A</td>
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<td></td>
<td>Potassium</td>
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<td>Prenatal: ABO, RhD, Antibody Screen</td>
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<td>Hepatitis B</td>
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<td>ALT</td>
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<td>Hepatitis C</td>
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<td>Alk. Phosphatase</td>
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<td>or order individual hepatitis tests in the</td>
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<td></td>
<td>Bilirubin</td>
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<td>&quot;Other Tests&quot; section below</td>
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<td></td>
<td>Albumin</td>
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<td>Lipid Assessment (includes Cholesterol, HDL-C, Triglycerides, calculated LDL-C &amp; Cho/LDL-C ratio; individual lipid tests may be ordered in the &quot;Other Tests&quot; section of this form)</td>
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<td>Albumin / Creatinine Ratio, Urine</td>
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<td>Neutrophil Bilirubin:</td>
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<td>Child’s Age: days hours</td>
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<td>Clinician/Practitioner’s tel. no.</td>
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<td>Patient’s 24 hr telephone no.</td>
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<td>Therapeutic Drug Monitoring:</td>
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<td>Name of Drug #1</td>
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<td>Name of Drug #2</td>
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<td>Time Collected #1 hr. #2 hr.</td>
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<td>Time of Last Dose #1 hr. #2 hr.</td>
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<td>Time of Next Dose #1 hr. #2 hr.</td>
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<td>Specimen Collection</td>
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<td></td>
<td>Time</td>
<td>Date</td>
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**Microbiology ID & Sensitivities (if warranted)**

- Cervical
- Vaginal
- Vaginal / Rectal – Group B Strep
- Chlamydia (specify source):
- GC (specify source):
- Sputum
- Sputum
- Throat
- Throat
- Urine
- Wound (specify source):
- Stool Culture
- Stool Ova & Parasites
- Other Swabs / Pus (specify source):

**Prostate Specific Antigen (PSA)**

- Total PSA
- Free PSA

**Specify 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**

- Urine
- Stool Culture
- Stool Ova & Parasites
- Other Swabs / Pus (specify source):

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

**Clinician/Practitioner Signature**

**Date**

**Print**

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