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Celiac Disease

Also called: Celiac sprue, Gluten-sensitive enteropathy, Nontropical sprue

What is celiac disease?

Celiac disease is a chronic (long-term) digestive [<https://medlineplus.gov/digestivediseases.html>] and immune [<https://medlineplus.gov/immunesystemanddisorders.html>] disorder that damages your small intestine. The damage may prevent your body from absorbing vitamins [<https://medlineplus.gov/vitamins.html>] , minerals [<https://medlineplus.gov/minerals.html>] , and other nutrients from the food you eat. This can lead to malnutrition [<https://medlineplus.gov/malnutrition.html>] and other serious health problems

Celiac disease is triggered by eating foods that contain gluten. Gluten is a protein found in wheat, barley, rye, and other grains. It may also be in other products like vitamins and supplements [<https://medlineplus.gov/dietarysupplements.html>] , hair and skin products, toothpastes, and lip balm.

Celiac disease is different from gluten sensitivity [<https://medlineplus.gov/glutensensitivity.html>] . Both involve problems with gluten and can cause some of the same symptoms, such as abdominal (belly) pain [<https://medlineplus.gov/abdominalpain.html>] and fatigue [<https://medlineplus.gov/fatigue.html>] . But gluten sensitivity does not damage the small intestine like celiac disease does.

Wheat allergy, a type of food allergy [<https://medlineplus.gov/foodallergy.html>] , is also different. With both celiac disease and wheat allergy, your immune system is reacting to wheat. But with wheat allergy, you can have some different symptoms, such as itchy eyes or trouble breathing [<https://medlineplus.gov/breathingproblems.html>] . And a wheat allergy will not cause long-term damage to the small intestine.

What causes celiac disease?

The exact cause of celiac disease is not known. Research suggests that celiac disease only happens in people who have certain genes and eat food that contains gluten. Researchers are studying other factors that may play a role in causing the disease.

Who is more likely to develop celiac disease?

Celiac disease is more common if you:

- Have a family member who has the disease
- Have Down syndrome [<https://medlineplus.gov/downsyndrome.html>] , Turner syndrome [<https://medlineplus.gov/turnersyndrome.html>] , or Williams syndrome
- Are White
- Are female

What are the symptoms of celiac disease?

The symptoms of celiac disease can be different from person to person. Sometimes the symptoms may come and go. Some people may not notice any symptoms.

Some of the possible symptoms affect your digestive system. Digestive symptoms are more common in children than in adults. The digestive symptoms include:

- Bloating (feeling fullness or swelling in your belly)
- Chronic (long-term) diarrhea [<https://medlineplus.gov/diarrhea.html>] or greasy, bulky, unusually bad-smelling stool (poop)
- Constipation [<https://medlineplus.gov/constipation.html>]
- Gas [<https://medlineplus.gov/gas.html>]
- Lactose intolerance [<https://medlineplus.gov/lactoseintolerance.html>] because of damage to the small intestine
- Nausea and vomiting [<https://medlineplus.gov/nauseaandvomiting.html>]
- Pain in the abdomen (belly)
- Weight loss in adults, or not enough weight gain in children

Some people with celiac disease have symptoms that affect other parts of the body, such as:

- Fatigue
- Depression [<https://medlineplus.gov/depression.html>] and anxiety [<https://medlineplus.gov/anxiety.html>]
- Irritability (in children)
- Dermatitis herpetiformis, an itchy rash [<https://medlineplus.gov/rashes.html>] with blisters (mainly in adults)
- Bone or joint pain
- Symptoms involving the mouth, such as canker sores [<https://medlineplus.gov/cankersores.html>] or dry mouth [<https://medlineplus.gov/drymouth.html>]

What other problems can celiac disease cause?

Over time, celiac disease can cause other health problems, especially if it is not treated. These problems can include:

- Malnutrition
- Anemia [<https://medlineplus.gov/anemia.html>] , especially iron-deficiency anemia
- Bone loss [<https://medlineplus.gov/bonedensity.html>]
- Nervous system problems [<https://medlineplus.gov/neurologicdiseases.html>] such as headaches [<https://medlineplus.gov/headache.html>] , balance problems [<https://medlineplus.gov/balanceproblems.html>] , or peripheral neuropathy [<https://medlineplus.gov/peripheralnervedisorders.html>]
- Reproductive problems, such as missed menstrual periods [<https://medlineplus.gov/menstruation.html>] and miscarriages [<https://medlineplus.gov/miscarriage.html>] in women and infertility in men [<https://medlineplus.gov/maleinfertility.html>] and women [<https://medlineplus.gov/femaleinfertility.html>]

How is celiac disease diagnosed?

If you have symptoms of celiac disease, your health care provider will look for signs that you might have celiac disease. To do this, your provider will get your medical and family history and do a physical exam.

If your provider thinks that you could have celiac disease, you will have some tests. Providers most often use **blood tests** [<https://medlineplus.gov/lab-tests/celiac-disease-screening/>] and biopsies [<https://medlineplus.gov/biopsy.html>] of the small intestine to diagnose celiac disease. The biopsy would be done during an upper gastrointestinal (GI) endoscopy. For this procedure, your provider uses an endoscope (a flexible tube with a camera) to see the lining of your esophagus, stomach, and small intestine. It also allows your provider to take a sample of tissue for a biopsy.

What are the treatments for celiac disease?


The treatment for celiac disease is following a gluten-free diet for the rest of your life. Sticking with a gluten-free diet will treat or prevent many of the symptoms and other health problems caused by celiac disease. In most cases, it can also heal damage in the small intestine and prevent more damage.

Your provider may refer you to a registered dietician (a nutrition expert) who can help you learn how to eat a healthy diet without gluten. You will also need to avoid all hidden sources of gluten, such as certain supplements, cosmetics, toothpaste,


etc. Reading product labels can sometimes help you avoid gluten. If a label doesn't tell you what is in a product, check with the company that makes the product for an ingredients list. Don't just assume that a product is gluten-free if it doesn't mention it.

NIH: National Institute of Diabetes and Digestive and Kidney Diseases




Start Here

- Celiac Disease [<https://familydoctor.org/condition/celiac-disease/?adfree=true>] (American Academy of Family Physicians)
Also in Spanish [<https://es.familydoctor.org/condicion/enfermedad-celiaca-es/?adfree=true>]
- Celiac Disease [<https://www.niddk.nih.gov/health-information/digestive-diseases/celiac-disease>]  (National Institute of Diabetes and Digestive and Kidney Diseases)
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/enfermedades-digestivas/enfermedad-celiaca>]


Symptoms

- Symptoms and Causes of Celiac Disease [<https://www.niddk.nih.gov/health-information/digestive-diseases/celiac-disease/symptoms-causes>]  (National Institute of Diabetes and Digestive and Kidney Diseases)
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/enfermedades-digestivas/enfermedad-celiaca/sintomas-causas>]


Diagnosis and Tests

- Celiac Disease Screening [<https://medlineplus.gov/lab-tests/celiac-disease-screening/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-enfermedad-celiaca/>]
- Diagnosis of Celiac Disease [<https://www.niddk.nih.gov/health-information/digestive-diseases/celiac-disease/diagnosis>]  (National Institute of Diabetes and Digestive and Kidney Diseases)
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/enfermedades-digestivas/enfermedad-celiaca/diagnostico>]
- Xylose Testing [<https://medlineplus.gov/lab-tests/xylose-testing/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/pruebas-de-xilosa/>]

Treatments and Therapies

- Treatment and Follow-Up [<https://celiac.org/about-celiac-disease/treatment-and-follow-up/>] (Celiac Disease Foundation)
- Treatment for Celiac Disease [<https://www.niddk.nih.gov/health-information/digestive-diseases/celiac-disease/treatment>]  (National Institute of Diabetes and Digestive and Kidney Diseases)
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/enfermedades-digestivas/enfermedad-celiaca/tratamiento>]


Living With

- Eating Out: 7 Tips For Staying Gluten-Free [<https://gluten.org/2019/10/18/restaurant-dining-seven-tips-for-staying-gluten-free/>] (Gluten Intolerance Group)
- Eating, Diet, and Nutrition for Celiac Disease [<https://www.niddk.nih.gov/health-information/digestive-diseases/celiac-disease/eating-diet-nutrition>]  (National Institute of Diabetes and Digestive and Kidney Diseases)
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/enfermedades-digestivas/enfermedad-celiaca/alimentos-dietas-nutricion>]
- Getting Started on a Gluten-Free Diet [<https://gluten.org/2019/10/14/getting-started-on-a-gluten-free-diet/>]
(Gluten Intolerance Group)
Also in Spanish [https://gluten.org/wp-content/uploads/2023/02/EDU_Getting-Started-on-a-GF-Diet-Spanish.pdf]
- Gluten-Free Diet Guide for Families [https://gikids.org/wp-content/uploads/2020/05/GlutenFreeGuide_Proof3.pdf]
(North American Society for Pediatric Gastroenterology, Hepatology and Nutrition) - **PDF**
- Gluten-Free Foods [<https://celiac.org/gluten-free-living/gluten-free-foods/>] (Celiac Disease Foundation)

Gluten-Free Labeling of Foods [<https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/gluten-free-labeling-foods/>] (Food and Drug Administration)

- Sources of Gluten [<https://celiac.org/gluten-free-living/what-is-gluten/sources-of-gluten/>] (Celiac Disease Foundation)


Related Issues

- Associated Autoimmune Diseases [<https://gluten.org/2019/10/17/associated-autoimmune-diseases/>] (Gluten Intolerance Group)
- Celiac Disease and Thyroid Conditions [<https://gluten.org/2019/10/17/celiac-disease-thyroid-conditions/>] (Gluten Intolerance Group)
- Dental Enamel Defects and Celiac Disease [<https://www.niddk.nih.gov/health-information/professionals/clinical-tools-patient-management/digestive-diseases/dental-enamel-defects-celiac-disease>]  (National Institute of Diabetes and Digestive and Kidney Diseases)
- Diabetes and Celiac Disease [<https://gluten.org/2019/10/17/diabetes-and-celiac-disease/>] (Gluten Intolerance Group)



Specifics

- Slowly Responsive Celiac Disease [<https://celiac.org/about-celiac-disease/poorly-responsive-celiac-disease/>] (Celiac Disease Foundation)


Genetics

- Celiac disease: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/celiac-disease>]  (National Library of Medicine)

Videos and Tutorials

- Gluten and Celiac Disease [<https://medlineplus.gov/medlineplus-videos/gluten-and-celiac-disease/>]   (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/videos-de-medlineplus/gluten-y-la-enfermedad-celiaca/>]

Clinical Trials

- ClinicalTrials.gov: Celiac Disease [<https://clinicaltrials.gov/search?cond=%22Celiac+Disease%22&aggFilters=status:not%20rec>]  (National Institutes of Health)

Journal Articles


References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Vitamin and trace elements imbalance are very common in adult patients... [<https://www.ncbi.nlm.nih.gov/pubmed/40754594>]
- Article: Evaluation of the systemic immune-inflammation index in relation to histological stages... [<https://www.ncbi.nlm.nih.gov/pubmed/40745573>]
- Article: Knowledge and attitudes toward nutritional deficiencies in celiac disease among medical... [<https://www.ncbi.nlm.nih.gov/pubmed/40738930>]
- Celiac Disease -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Celiac+Disease%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+2+Years%22+%5Bedat%5D+NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]

Find an Expert

- Find a Healthcare Practitioner [<https://celiac.org/about-celiac-disease/find-a-healthcare-practitioner/>] (Celiac Disease Foundation)
- Find a Nutrition Expert [<https://www.eatright.org/find-a-nutrition-expert>] (Academy of Nutrition and Dietetics)

Gluten Intolerance Group [<https://gluten.org/>]

- National Institute of Diabetes and Digestive and Kidney Diseases [<https://www.niddk.nih.gov>] 

Children

- Celiac Disease [<https://kidshealth.org/en/kids/celiac.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/kids/celiac.html>]
- Pediatric Celiac Disease [<https://gikids.org/celiac-disease/>]
(North American Society for Pediatric Gastroenterology, Hepatology and Nutrition)

Teenagers

- Celiac Disease [<https://kidshealth.org/en/teens/celiac.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/teens/celiac.html>]

Patient Handouts

- Celiac disease - nutritional considerations [<https://medlineplus.gov/ency/article/002443.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/002443.htm>]
- Celiac disease - sprue [<https://medlineplus.gov/ency/article/000233.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000233.htm>]
- Learn about gluten-free diets [<https://medlineplus.gov/ency/patientinstructions/000813.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000813.htm>]



MEDICAL ENCYCLOPEDIA

Albumin blood (serum) test [<https://medlineplus.gov/ency/article/003480.htm>]

Celiac disease - nutritional considerations [<https://medlineplus.gov/ency/article/002443.htm>]

Celiac disease - sprue [<https://medlineplus.gov/ency/article/000233.htm>]

D-xylose absorption [<https://medlineplus.gov/ency/article/003606.htm>]

Dermatitis herpetiformis [<https://medlineplus.gov/ency/article/001480.htm>]

Fecal fat [<https://medlineplus.gov/ency/article/003588.htm>]

Learn about gluten-free diets [<https://medlineplus.gov/ency/patientinstructions/000813.htm>]

Related Health Topics

Gluten Sensitivity [<https://medlineplus.gov/glutensensitivity.html>]

The primary NIH organization for research on *Celiac Disease* is the National Institute of Diabetes and Digestive and Kidney Diseases [<https://www.niddk.nih.gov>]

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