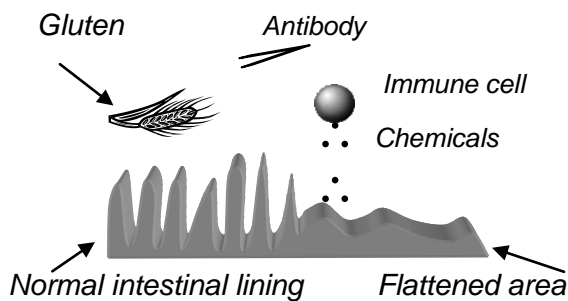


# Celiac Disease

Celiac disease is an autoimmune disease. People with celiac disease react to **gluten**, a protein found in the grains **wheat, barley, and rye**. When these grains enter the intestine to digest, the body treats the gluten like an invader and mounts an immune response by making *antibodies*.

Antibodies are proteins that are produced by the body's immune system. Antibodies normally attack invaders like bacteria and viruses. With celiac disease, the body makes antibodies that attack gluten from any gluten containing food that has been eaten.



*Antibodies attack gluten, and in turn, immune cells release chemicals that damage and flatten the linings of the intestine.*

*Flattened areas cannot absorb vitamins and minerals well.*

## **What is the treatment for celiac disease?**

The only effective treatment for celiac disease is to follow a lifelong gluten-free diet.

## **What are the symptoms and risks of celiac disease?**

Symptoms can include gas, diarrhea, oily stools, constipation, bloating, nausea and vomiting, lactose intolerance, fatigue, poor growth or delayed puberty in children, weight loss, bone and joint pain, headaches, depression, and difficulty concentrating.

Poor absorption of nutrients may lead to vitamin and mineral deficiencies which may lead to long term health problems, like anemia, osteoporosis, dental enamel defects, improper blood clotting, infertility, and problems with the nerves. Untreated celiac disease also increases the risk of intestinal cancer.

Around 10-20% of people who have celiac disease have chronic skin rashes that can blister, itch or burn. This rash is known as Dermatitis Herpetiformis.

Some people with celiac disease have no symptoms at all. They may be normal weight or even overweight. *Untreated celiac disease can still lead to health problems in people who remain symptom free, so it is very important to follow a strict gluten-free diet lifelong.*

### ***How is celiac disease diagnosed?***

A simple blood test is the first step. Antibody markers in the blood are checked. The best indicators are anti-tTG antibodies and anti-endomysium antibodies.

To confirm the diagnosis of celiac disease a small intestinal biopsy is required. ***It is critically important that the person seeking a diagnosis has the blood tests and the biopsy done before beginning a gluten-free diet.*** The blood tests and the biopsy could appear falsely normal after starting the gluten-free diet, so it is important to hold off on making diet changes until the diagnosis of celiac disease is confirmed.

