



## UNDERSTANDING CELIAC DISEASE

### *Overview*

In celiac disease, the immune system is reacting against gluten, a protein found in wheat, causing damage to villi and loss of surface area for absorbing nutrients. Similar proteins are found in other grains such as rye and barley. Celiac disease is also known as gluten-sensitive enteropathy (GSE) or celiac sprue.

More than 330,000 Canadians are believed to be affected by celiac disease with only approximately 110,000 diagnosed. Rates of celiac disease have nearly doubled in the last 25 years in western countries.

Limited access to gluten-free foods may prevent families with celiac disease from traveling, dining out, and attending social activities thereby decreasing their quality of life. Gluten-free products are 2.5 times more expensive than regular items which makes the overall cost of living with the disease substantial for individuals and their families.

### *What causes celiac disease?*

Celiac disease is a specific digestive disorder of the nutrient absorbing part of the gut called the small intestine. The small intestine absorbs nutrients such as digested carbohydrates, proteins and fats because of numerous finger-like projections called villi. These villi vastly increase the surface area available for absorption. In celiac disease, the

body's own white blood cells attack and damage these villi. This leads to poor absorption which causes nutrient deficiencies and intestinal symptoms such as diarrhea.

It is not fully understood why certain people have this reaction or why this only occurs to those with specific HLA subtypes. Traditionally, this disease was found to be more common in patients with northern European backgrounds, such as Ireland and Scotland. However, more recent reports suggest that celiac disease occurs in other racial and ethnic groups. The risk for developing celiac disease is increased 20 times for those who have a first degree relative with the disease.

### *Symptoms*

In the past, the most common symptoms of celiac disease were diarrhea and inability to gain weight. When the small bowel is damaged and food is not properly digested and absorbed, excess fluid remains in the bowel. These malabsorbed nutrients will often result in liquid stools of greater than normal volume (diarrhea). When specific nutrients such as fat remain in the liquid stools, the stools may appear oily or frothy.

Today, many patients have minor symptoms or none at all and the disease is only discovered after routine testing

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reveals anemia (low red blood cell count) or osteoporosis. In hindsight, many patients will realize that they have had minor symptoms that they ignored.

In children, stunted growth and an inability to gain weight are important clues to diagnosis. More unusual features of celiac disease appear to be related to an altered immune system. These include a skin condition called dermatitis herpetiformis, insulin-dependent diabetes, thyroid disease and underactivity of the adrenal glands.

From the first recognizable onset of symptoms, it takes an average time of one year to obtain a diagnosis of celiac disease. In some cases, the time to diagnosis may take as long as 12 years.

30% of celiac disease patients may develop a malignancy, therefore adhering to a gluten-free diet is critical for preventive purposes.

### *Test & diagnosis*

Celiac disease can be easily diagnosed (or ruled out) by obtaining a tissue sample (biopsy) from the small intestine during gastroscopy. Gastroscopy is a safe procedure in which a slim, flexible telescope is swallowed under sedation.

In recent years, blood tests have become more available as a screening test, but small intestinal biopsy is still the most accurate test. Both biopsy and blood test results may be difficult to interpret if patients have been on a gluten-free diet for a period of time.

### *Living with celiac disease*

Celiac disease can be treated by avoiding foods containing wheat, rye and barley. Gluten is a filler in some foods and medications and therefore patients should carefully read labels to avoid ingesting gluten unknowingly. Rice and corn are safe, but sometimes oats may be mixed with wheat protein and may not be tolerated.

Following a gluten-free diet improves the symptoms and may reverse some of the complications of celiac disease such as osteoporosis.

### *More information*

For more information about protecting and enhancing your digestive health, please visit [www.CDHF.ca](http://www.CDHF.ca)