



## Could It Be Celiac Disease?

Intestinal problems that linger despite adherence to the McDougall Diet may be the result of celiac disease (CD). As many as **one in every hundred people**—1% of the population—is affected by CD, a condition **caused by gluten—protein molecules most commonly found in wheat, barley, and rye.**<sup>1</sup> Celiac disease **prevents the small intestine from** effectively absorbing necessary nutrients. This malabsorption then leads to diarrhea, abdominal pain, flatulence, weakness, and weight loss. These symptoms are often confused with irritable bowel syndrome and 10% of people who receive this diagnosis actually have CD.<sup>2</sup> In late stages nutritional deficiencies can result.

So who gets CD? There is a genetic tendency to develop CD, but breastfeeding and the introduction of gluten-containing foods after the first three months of life reduce future risk of suffering from this kind of intolerance.<sup>3</sup> Therefore, **attention to early nutrition is the best form of prevention.** Children should be breast-fed exclusively until 6 months of age. (No other foods, not even additional water or juice.) The intestinal tract does not fully mature until age 2 years and therefore, extra care should be taken with your child's diet during this vulnerable period—introduce non-gluten starches and fruits at about 6 months of age—continue partial breast feeding until 2 years of age, ideally. Food proteins from the mother's diet are present in her breast-milk; therefore, in cases where there is a family tendency for CD, mother's diet should be gluten-free during her nursing responsibility.<sup>4</sup>



After sugar, gluten is the second most prevalent food substance in Western civilization. Traditionally, gluten is defined as a cohesive, elastic protein that is left behind after starch is washed away from wheat flour, and is actually made up of many different proteins. A wheat grain consists of 3 layers: the outer husk, the germ and the endosperm or “white flour.” This “white flour” portion, which constitutes about 70% of the grain, contains the potentially toxic gluten for those people with CD. The rubbery strands you see when you knead dough to make bread is gluten. Pure wheat gluten, made by rinsing wheat flour with water until all that remains is the concentrated protein, is used as a meat substitute, and is called seitan (say-tan). On a vegetarian menu you will see this replacement referred to as *mock-duck*, *-chicken*, *-fish* or *-beef*.

## Diagnosing Celiac Disease

The first step in confirming a clinical suspicion of celiac disease, based on the patient's story, is a blood test to measure levels of specific antibodies—Immunoglobulin A (IgA), anti-tissue transglutaminase (tTGA), or IgA anti-endomysium antibodies (AEA). **If the patient has been eating gluten regularly and all three tests come back positive, there is a very high chance that the patient has celiac disease.**<sup>5</sup> However, the suspicion is **only confirmed after a biopsy** of the intestine shows classic changes characteristic of CD. (In medical terms the characteristic changes are villous atrophy, hyperplasia of the crypts and increased intraepithelial lymphocytes.) However, the connection between gluten and this disease is so close

that the diagnosis can also be made when the patient experiences dramatic improvement of symptoms upon following a gluten-free diet.

### Celiac Disease Leads to Many Other Problems

The intestinal tract must perform two diametrically opposed functions—it must allow nutrients (including food proteins) into the body and at the same time defend against invading proteins from bacteria, parasites, and viruses.<sup>6</sup> This meeting of needs is accomplished by a single cell layer forming the “gut barrier.” In people with CD, the gluten protein damages this barrier creating a “leaky gut.” Now “foreign proteins” from microbes and food are indiscriminately allowed to pass through the intestinal wall—causing all kinds of troubles. People with untreated celiac disease have two to six times greater risk of dying, mainly due to an increase in the risk of lymphoma, and a much greater risk of suffering from autoimmune diseases like type-1 diabetes and thyroiditis.<sup>1,2,5,7</sup>

#### Health Problems Common with CD

##### *Autoimmune Diseases:*

- Type-1 diabetes
- Hypothyroidism
- Hyperthyroidism
- Sjögren’s syndrome
- Scleroderma
- Rheumatoid arthritis
- Psoriasis
- Lupus
- Alopecia (hair loss)
- Adrenal insufficiency
- Vasculitis

##### *Non-autoimmune Diseases:*

- Lymphomas
- Other cancers
- Dermatitis Herpetiformis (skin burning, prickling, itching or tingling)
- Bone loss (osteopenia/osteoporosis)
- Loss of dental enamel
- Anemia (iron deficiency)
- Liver dysfunction (elevated enzymes)
- Growth retardation
- Infertility
- Delayed puberty
- Neurologic disorders (cerebellar ataxia, migraine, neuropathy, epilepsy)
- Autism<sup>8</sup>
- Schizophrenia<sup>9</sup>
- Fetal loss

### Diet: The Only Treatment for Celiac Disease

Celiac disease is a lifelong condition—therefore patients must stick to a diet low in gluten in order to regain lost health and remain disease-free. As with all dietary treatments, lack of compliance, usually due to insufficient motivation and information, is the greatest obstacle against success. Fortunately, strict adherence to a gluten-free diet allows the intestine to heal, stopping the malabsorption, and plugging the “leaky gut,” which in turn reduces the risk of future autoimmune and non-autoimmune diseases.<sup>1,2,5-10</sup>

#### Offending Foods for CD<sup>10</sup>



**Barley**

Einkorn  
Emmer  
Kamut

**Rye**

Spelt  
Triticale

**Wheat\***

durum and semolina  
bulgur  
seitan

**Beer, ales, and malted drinks** contain considerable gluten.

\*Lactobacilli bacteria are used to make sourdough bread, which will remove (hydrolyze) most of the gluten and make the wheat tolerable for most people with CD.<sup>2</sup>

**Foods Acceptable for CD<sup>10</sup>**

*Grains:*

Amaranth  
Buckwheat (or kasha)  
Corn  
Job's tears  
Millet  
Quinoa  
**Rice**  
Sorghum  
Teff  
**Wild rice**

Oats\*<sup>11</sup>

*Other Foods:*

**All root vegetables**, like potatoes, yams, sweet potatoes, and cassava-root (tapioca)  
All legumes\*\*, more specifically, beans (including soy and chickpeas), peas and lentils  
All green and yellow vegetables  
All fruits

\* Oats have been demonstrated in multiple studies to be free of toxic proteins and tolerated by most (but not all<sup>11</sup>) people with CD, but there is worry that commercial oat products may be contaminated with wheat.

\*\*Legumes make extra gas, sometimes causing bloating and bowel discomfort. This reaction may be confused with symptoms of CD.

The McDougall Program (with the above adjustments) works very well for people with gluten intolerance as well as almost all other health problems. Once diagnosed with celiac disease, people attempt to replace familiar foods, like breads and noodles, with gluten-free varieties. You might try “spaghetti” noodles made from rice, corn, quinoa, or buckwheat. Use corn tortillas instead of wheat flour wraps. Though it may take some time to find suitable gluten-free substitutions for favorite foods, the result is well worth the effort—simple, cost-free, side-effect-free relief from a serious lifelong condition.

You will also find considerable help on the internet by searching for celiac disease. Many gluten-free products are sold and most companies seem to have concern for other dietary issues, including vegetarian diets.

<http://www.celiac.com>

<http://digestive.niddk.nih.gov/ddiseases/pubs/celiac/>

### **A Wheat-Free Diet: Your Next Step to Excellent Health**

Celiac disease is only one reason to consider eliminating wheat and similar grains (barley, rye) from your diet. Of all plant foods, **wheat** is the most common cause of food allergies and therefore **will need to be eliminated when the basic McDougall Diet (which contains wheat) fails to solve problems**, such as inflammatory arthritis, colitis, sinusitis, and asthma.

The most common and delicious way wheat is served is as flour made into breads, bagels, and pastas. However, **additional nutritional problems are created by turning the whole wheat berry into a powdery material, the flour. This grinding process changes the physical properties so that the flour's calories are absorbed more rapidly and completely** than calories in the original whole grain—**making weight loss difficult for some** people. Therefore, in the McDougall Program for Maximum Weight Loss all flour products are eliminated.

This simple modification of eliminating foods from the wheat family, and especially those processed into flours, may be the final essential step for some people to regain their lost health. So, if you are still having problems with weight loss and/or you're not feeling as well as you should, try centering your diet around potatoes, sweet potatoes, whole grain rice and beans with plenty of yellow and green vegetables and fresh fruits.

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