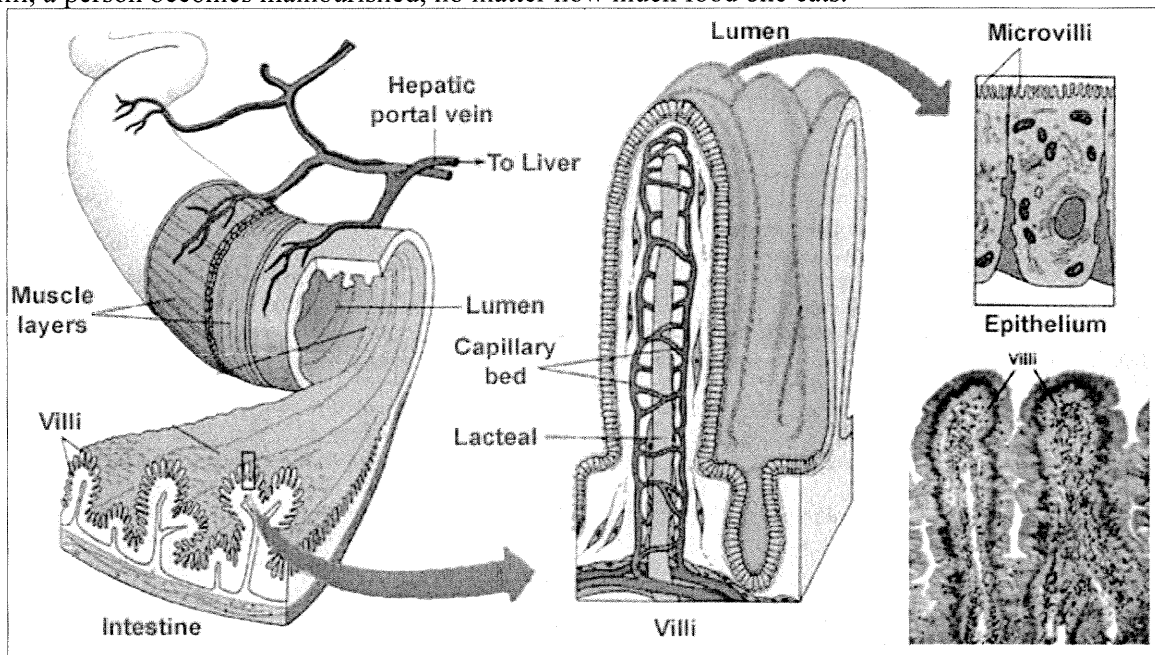


# What Is Celiac Disease

**Celiac Disease** is a malabsorption condition triggered by consumption of the protein gluten, which is found in wheat, barley, rye and oats. As a result, essential nutrients, carbohydrates, proteins, and fats are not absorbed properly, leading to many debilitating nutritional deficiency diseases. The intestinal villi along with the lactase enzymes on the intestinal surface are destroyed because of malabsorption of carbohydrates, particularly the sugar lactose. Lactose is also the primary sugar in milk and is made up of two sugars, glucose and galactose. Malabsorption of lactose is particularly prominent in individuals with Celiac Disease who have underlying lactose intolerance. However, soy protein can also cause these same physical changes to the villi.

**The loss of villi** and scarring of supportive tissue of the small intestine progress to the point where by age 45-50 years, 90% of intestine can be damaged, resulting in poor assimilation of nutrients, which are the raw materials needed for tissue repair, growth and maintenance of the immune system. Damaged villi—tiny, finger like protrusions lining the small intestine significantly reduced the absorptive surface of the small intestine. Villi allow nutrients from food to be absorbed through the walls of the small intestine into the bloodstream. Without healthy villi, a person becomes malnourished; no matter how much food one eats.



Villi on the lining of the small intestine help absorb nutrients

**Celiac Disease affects 1-in-133 Americans**—only 1-in-4700 is ever diagnosed, although more women are diagnosed than men. Celiac Disease is also known as Celiac Sprue, Nontropical Sprue, and Gluten-Sensitive Enteropathy. The exact cause of Celiac Disease is unknown, but it's often inherited. If someone in your immediate family has Celiac, there is a 5 to 15 percent chance that you may have it as well.

1. **Infants and children** with Celiac Disease typically have steatorrhea, skin disorders, irritability, abdominal cramps, passing gas, weight loss, muscle wasting, and failure to thrive and grow. These symptoms typically occur after introduction to gluten-containing cereals into their diets. If untreated, childhood Celiac Disease can result in short stature as an adult, delayed puberty, and dental enamel defects of the permanent teeth. Children with Celiac Disease entering adolescence, may experience remissions and remain free of the signs and symptoms of Celiac Disease until later in adulthood. This later reactivation can be precipitated by surgery, pregnancy, viral infection, or severe emotional stress.
2. **Adults** with Celiac Disease may have symptoms of steatorrhea, weight loss, fatigue, canker sores, flatulence, bone or joint pain, arthritis, depression and anxiety; however they may have no symptoms or only vague abdominal discomfort such as bloating, abdominal distension and excess gas. They also may

have only one, or only a few signs of malnutrition. Some patients with Celiac Disease and gastrointestinal symptoms are mistakenly diagnosed with Irritable Bowel Syndrome.

**Signs and symptoms of Celiac Disease** vary among individuals, depending on the degree of malabsorption. Symptoms can range from no symptoms, few or mild to many or severe signs and symptoms. Celiac Disease symptoms can also mimic those of other conditions, such as Irritable Bowel Syndrome, gastric ulcers, Crohn's Disease and parasite infections. The following two categories are some common signs and symptoms:

1. **Signs and symptoms of malabsorption** are due to the inadequate absorption of the 90 essential nutrients—especially fat-soluble vitamins A, D, E, K and Essential Fatty Acids (Omega 3,6, and 9). Symptoms of fat malabsorption include alternating diarrhea or constipation, malodorous flatulence (foul-smelling gas), abdominal bloating, and increased amounts of fat in the stool (Steatorrhea—floating stool and/or excessive Essential Fat stains from stool in the toilet bowl).
2. **Signs and symptoms of long-term malnutrition** may include, liver disease, cancer of the intestine, but are not limited to the following:
  - **Diabetes:** malabsorption of Chromium and Vanadium.
  - **Dermatitis:** itchy skin rash due to essential Fatty Acid Deficiency.
  - **Cancer:** malabsorption of Zinc, Vitamin A and Selenium.
  - **Muscular Dystrophy and Cystic Fibrosis:** malabsorption of Selenium during pregnancy.
  - **Weight loss or fluid retention:** weight loss may not always occur because Celiac patients often have enormous appetites that compensate for the reduced absorption of nutrients. Weight loss can also be masked by fluid retention, which occurs in advanced malnutrition because the reduced absorption of protein. Fluid leaks out of blood vessels and into the body's tissues, particularly the ankles and feet, which cause swelling due to the edema.
  - **Anemia:** lack of absorption of Vitamin B12 and Iron.
  - **Osteoporosis:** lack of absorption of Vitamin D<sub>3</sub>, Calcium, Zinc, Boron and Magnesium can cause loss of bone density and lead to bone fractures followed by Hyperparathyroidism, which may lead to Osteopenia (decreased mineral content of the bone).
  - **Easy bruising:** lack of Vitamin K absorption can lead to bruising and excessive bleeding.
  - **Peripheral Neuropathy** (nerve damage): Vitamin B12 and Thiamine deficiencies may contribute to nerve damage with symptoms of poor balance and coordination problems, Epilepsy, Myelopathy (pathology of the spinal cord).
  - **Infertility:** 99% of all infertility is caused by untreated Celiac Disease—low or zero sperm count in men; and in women it's a lack of menstruation, miscarriages, premature labor and low birth weight.
  - **Muscle weakness:** lack of Potassium and Magnesium absorption can lead to severe muscle weakness, muscle cramps, and numbness or tingling sensations in the arms and legs.

**Diagnosis and treatment of Celiac Disease** starts with identifying the offending allergies, especially gluten, cow's milk and soy products. To perform this test use the Coca Pulse Test—learn your basic resting pulse (beats per minute) then eat a single food (i.e. milk only, wheat only, etc.) and check your pulse 15, 30 and 60 minutes after you eat the single food item. An elevated pulse rate of more than ten beats per minute is an indicator that you are allergic to that food. You can also keep a diet diary—this is especially useful when emotional symptoms and headaches are involved.

1. It takes 90 days to repair the injured gut, which means there is great hope if you take the effort to see if you are sensitive to gluten, cow's milk, or soy. It is a diet completely free of gluten, including food additives with gluten in the form of a flavoring, stabilizing or thickening agent like ice cream and ketchup. Additionally, the diet may exclude oats. The diet can be cumbersome; failure to comply with the diet may cause relapse.

**Gluten-free Food** includes grains and starch sources free of gluten. The most frequently used are maize, potatoes, rice, and tapioca (derived from cassava). Other grains and starch sources generally considered suitable include amaranth, arrowroot, millet, montina, lupin, quinoa, sorghum (jowar), sweet potato, taro, teff, chia seed,

and yam. Various types of bean and nut flours are sometimes used in gluten-free products to add protein and dietary fiber. In spite of its name, buckwheat is not related to wheat; pure buckwheat is considered acceptable for a gluten-free diet, although many commercial buckwheat products are actually mixtures of wheat and buckwheat flours, and thus not acceptable. Gram flour, derived from chickpeas, is also gluten-free.

1. People wishing to follow a completely gluten free diet must also take into consideration the ingredients of any over-the-counter prescription medications and some vitamins. Also, cosmetics such as lipstick, lip balms, and lip-gloss may contain gluten and need to be investigated before use.
2. The tricky part is recognizing the hidden gluten. Unfortunately, "wheat free" doesn't equate to "gluten-free." Since wheat, barley, rye, oats, and their derivatives are all natural foods, they can sometimes be listed under fairly innocent sounding names. That's why everyone with Celiac Disease including children, must learn to recognize sources of hidden gluten. Look for products specifically labeled "gluten-free."

**Individuals with Celiac Diseases must avoid the following items, which contain gluten:**

<p>The following items are <i>usually</i> sources of gluten (<i>the exception would be specially-made gluten-free versions</i>):</p> <ul style="list-style-type: none"> <li>-Bagels</li> <li>-Biscuits</li> <li>-Bread and Bread crumbs</li> <li>-Breaded fish</li> <li>-Breaded meats or poultry</li> <li>-Bread pudding</li> <li>-Cake</li> <li>-Cereal</li> <li>-Chicken nuggets</li> <li>-Croissants</li> <li>-Cookies</li> <li>-Crackers</li> <li>-Croutons</li> <li>-Doughnuts</li> <li>-Dumplings</li> <li>-Flour or Flour tortillas</li> <li>-Fried vegetables</li> <li>-Graham crackers</li> <li>-Hamburger and Hotdog buns</li> <li>-Ice cream cones</li> <li>-Macaroni</li> <li>-Melba toast</li> <li>-Muffins</li> <li>-Noodles</li> <li>-Pancakes</li> <li>-Pasta</li> <li>-Pastries</li> <li>-Pie and Pizza crust</li> <li>-Pretzels</li> <li>-Rolls</li> <li>-Spaghetti</li> <li>-Stuffing</li> <li>-Tabbouleh</li> <li>-Waffles</li> </ul>	<p>Foods you wouldn't expect to have gluten. The following is a list of foods that usually or often contain gluten.</p> <ul style="list-style-type: none"> <li>-Beer</li> <li>-Beverage mixes</li> <li>-Bologna</li> <li>-Candy (many candies are gluten-free, so read labels)</li> <li>-Canned baked beans</li> <li>-Cold cuts</li> <li>-Packaged cereals</li> <li>-Commercially prepared: <ul style="list-style-type: none"> <li>--Broth</li> <li>--Chocolate milk</li> <li>--Soups</li> </ul> </li> <li>-Custard</li> <li>-Fruit fillings</li> <li>-Gravy</li> <li>-Gum</li> <li>-Hot dogs</li> <li>-Ice cream</li> <li>-Non-dairy creamer</li> <li>-Potato chips</li> <li>-Pudding</li> <li>-Root beer</li> <li>-Syrups</li> <li>-Salad dressing</li> <li>-Soy sauce</li> <li>-Vegetables with commercially prepared sauces</li> </ul> <p>In some cases, wheat is added as a thickener; barley malt is often added as a form of natural flavor.</p>	<p>Study the ingredient list of all prepared foods and avoid those containing:</p> <ul style="list-style-type: none"> <li>-Barley and Barley grass</li> <li>-Binders</li> <li>-Blue Cheese</li> <li>-Bouillon</li> <li>-Bran</li> <li>-Brewers yeast</li> <li>-Bulgur</li> <li>-Cereal binding</li> <li>-Chilton</li> <li>-Couscous</li> <li>-Durham</li> <li>-Edible starch</li> <li>-Emulsifiers</li> <li>-Farina</li> <li>-"Fillers"</li> <li>-Hydrolyzed plant protein</li> <li>-Hydrolyzed vegetable protein</li> <li>-Kamut</li> <li>-Kasha</li> <li>-Malt flavoring &amp; Malt vinegar</li> <li>-Matzo</li> <li>-Modified food starch</li> <li>-Monosodium glutamate (MSG)</li> <li>"Natural" flavor in processed meats</li> <li>-Rye</li> <li>-Seitan</li> <li>-Semolina</li> <li>-Some spice mixtures</li> <li>-Soy sauce</li> <li>-Spelt</li> <li>-Stabilizer</li> <li>-Suet</li> <li>-Teriyaki sauce</li> <li>-Textured Vegetable Protein (TVP)</li> <li>-Wheat or Wheat grass</li> </ul>
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## Dr. Wallach's recommended Celiac program:

### Eliminate:

1. All fried foods
2. Any foods with gluten, which includes any products with wheat, barley, rye or oats
3. The following Cruciferous Vegetables: (*Cabbage, Broccoli and Brussels sprouts*)
4. Milk if lactose intolerant and/or soy milk
5. Monosodium Glutamate (*MSG, which is in processed meats—hot dogs, bologna, sausage and etc.*)
6. Youngevity's Natures Whey and Ultimate Youth are the only products not "gluten free"

### Daily gluten free diet: (*Recommend using a gluten free cook book and gluten free flour for baking*)

1. Meat, fish, chicken and eggs
2. Fresh fruits and vegetables
3. Instead of milk or soy milk, use vanilla flavored unsweetened Almond Breeze
4. Salted mixed nuts for snacks (*must have less than 50% peanuts in mix*)
5. Bake potato, sweet potato, squash, buttered rice, and rice cakes and etc.
6. A complete balance of Dr. Wallach's daily recommended **Ninety Essential Nutrients:**

### 60 Essential Minerals (*600 mg. RDA of Plant Derived Minerals per 100 lbs. of body weight*)

Aluminum	Erbium	*Manganese	Silica
Arsenic	Europium	*Molybdenum	Silver
Barium	Gadolinium	Neodymium	*Sodium
Beryllium	Gallium	*Nickel	Strontium
*Boron	Germanium	Niobium	*Sulfur
Bromine	Gold	*Nitrogen	Tantalum
*Calcium	Hafnium	*Oxygen	Terbium
*Carbon	Holmium	*Phosphorus	Thulium
Cerium	*Hydrogen	*Potassium	Tin
Cesium	Iodine	Praseodymium	Titanium
*Chloride	*Iron	Rhenium	*Vanadium
Chromium	Lanthanum	Rubidium	Ytterbium
*Cobalt	Lithium	Samarium	Yttrium
*Copper	Lutetium	Scandium	*Zinc
Dysprosium	*Magnesium	Selenium	Zirconium

*\*These are the twenty known minerals plants will benefit from*

### 16 Essential Vitamins

*Vitamin A	Vitamin B12 (Cobalamin)	Choline
Vitamin B1 (Thiamine)	Vitamin C	Flavonoids and bioflavonoids
Vitamin B2 (Riboflavin)	*Vitamin D	Folic Acid
Vitamin B3 (Niacin)	*Vitamin E	Inositol
Vitamin B5 (Pantothenic acid)	*Vitamin K	<i>*These are fat soluble vitamins</i>
Vitamin B6 (Pyridoxine)	Biotin	

### 12 Essential Amino Acids

Valine	Isoleucine	Histidine
Lysine	Tryptophan	Arginine
Threonine	Phenylalanine	Taurine
Leucine	Methionine	Tyrosine

### 3 Essential Fatty Acids

Omega 3 ( <i>Linolenic</i> )	Omega 6 ( <i>Linoleic</i> )	Omega 9 ( <i>Not Considered Essential</i> )
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