

## **Gluten free Diet**

Gluten is the protein part of wheat, rye, barley, and other related grains. Some people cannot tolerate gluten when it comes in contact with the small intestine. This condition is known as celiac disease (sometimes called non-tropical sprue or gluten sensitive enteropathy).

Celiac disease is now clearly known to be genetically determined. In other words, if you or your close relatives have a certain gene, then it is more likely that you will get celiac disease some time in your life. Of great concern and interest is the fact that nine out of ten people with celiac disease do not know they have it. A simple blood test can give the physician the first clue to this disease.

In patients with celiac disease, gluten injures the lining of the small intestine. This injury can result in weight loss, bloating, diarrhea, gas, abdominal cramps, and/or vitamin and mineral deficiencies. When patients totally eliminate gluten from the diet, the lining of the intestine has a chance to heal.

## **Gut Bacteria**

The primary area of injury in celiac disease is the small bowel but there may be a relationship between what happens in the small bowel and the colon or large bowel. There are very large numbers of bacteria in the colon. Most of these are beneficial and actually confer health benefits. When these good bacteria thrive, they suppress the bad bacteria, which are present in the colon. What has been found is that celiac patients have an altered make-up of bacteria in the colon which favors the unwanted bacteria.

## **Prebiotic Plant Fiber**

A prebiotic is not a probiotic, which are beneficial bacteria taken by mouth. These probiotics are present in yogurt, other dairy products and pills. Prebiotics, on the other hand, are the necessary plant fibers that contain both oligofructose and inulin. These two fibers are the main nourishment for the good bacteria that reside in the gut.

## **Health Benefits from Prebiotic Fibers**

There is now ample information in the medical literature to indicate that a prebiotic rich diet leads to demonstrable health benefits.

These include:

Increased calcium absorption

Stronger bones and bone density

Enhanced immunity

Reduced allergies and asthma in infants and children

A lower blood triglyceride level

Appetite and weight control

Lower cancer factors in the gut

## **The Celiac Wheat-Prebiotic Dilemma**

Nature has played a trick on celiac people. Wheat and wheat products provide over 80% of the prebiotics that North Americans ingest. Yet, celiac patients must assiduously avoid wheat, barley and rye. How do they then feed their good colon bacteria and get the health benefits, as outlined above? They must favor the other vegetables and fruits, as listed in the prebiotic section below. Additionally, they should consider a gluten free prebiotic supplement such as Prebiotin.

## **Special Considerations**

Removing gluten from the diet is not easy. Grains are used in the preparation of many foods. It is often hard to tell by a food's name what may be in it, so it is easy to eat gluten without even knowing it. However, staying on a strict gluten-free diet can dramatically improve the patient's condition. Since it is necessary to remain on the gluten-free diet throughout life, it will be helpful to review it with a registered dietitian.

The person who prepares the patient's food must fully understand the gluten-free diet. Read food labels carefully:

**Do not eat** anything that contains the following grains: wheat, rye and barley.

At one time, **oats** were thought to contain some gluten. It has now become apparent, however, that oats frequently were processed in machines that also processed wheat. Most manufacturers no longer do this, although if there are any questions, a person should get reassurance from the manufacturer by mail, email or phone.

The following **can be eaten** in any amount: corn, potato, rice, soybeans, tapioca, arrowroot, carob, buckwheat, millet, amaranth and quinoa.

**Distilled white vinegar** does not contain gluten.

**Malt vinegar** does contain gluten.

Grains are used in the processing of many ingredients, so it will be necessary to seek out hidden gluten. The following terms found in food labels may mean that there is gluten in the product.

Hydrolyzed Vegetable Protein (HVP), unless made from soy or corn

Flour or Cereal products, unless made with pure rice flour, corn flour, potato flour or soy flour

Vegetable Protein, unless made from soy or corn

Malt or Malt Flavoring, unless derived from corn

Modified Starch or Modified Food Starch, unless arrowroot, corn, potato, tapioca, waxy maize or maize is used

Vegetable Gum, unless made from carob bean, locust bean, cellulose, guar, gum arabic, gum aracia, gum tragacanth, xantham or vegetable starch

Soy Sauce or Soy Sauce Solids, unless you know they do not contain wheat

Any of the following words on food labels often mean that a grain containing gluten has been used.

Stabilizer

Starch

Flavoring

Emulsifier

Hydrolyzed Plant Protein