

Gluten-Free Diet

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Prebiotics in your diet or in a supplement naturally restore digestive balance and health. Learn more . . .



Purpose

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. These fibers are rich in chicory root, Jerusalem artichoke, leeks, asparagus and others. Gluten containing wheat and barley also contain these prebiotics.

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

The following are lists of various foods that do **not** have gluten, **may** have gluten and **do** contain gluten.

Prebiotic Plant Fiber Oligofructose and Inulin

<u>NO Gluten</u>	<u>MAY Contain Gluten</u>	<u>DOES Contain Gluten</u>
Onion, garlic, leeks, Jerusalem artichokes, asparagus, chicory root, jicama, dandelion, banana, agave, jams		Wheat, barley, rye

Milk and Milk Products

<u>NO Gluten</u>	<u>MAY Contain Gluten</u>	<u>DOES Contain Gluten</u>
Whole, low fat, skim, dry, evaporated or condensed milk; buttermilk; cream; whipping cream; Velveeta cheese food; American cheese; all aged cheese such as Cheddar, Swiss, Edam and Parmesan	Sour cream, commercial chocolate milk and drinks, non-dairy creamers, all other cheese products, yogurt	Malted drinks

Meat or Meat Substitutes

<u>NO Gluten</u>	<u>MAY Contain Gluten</u>	<u>DOES Contain Gluten</u>
100% meat (no grain additives); seafood; poultry (breaded with pure cornmeal, potato flour or rice flour); peanut butter;	Meat patties; canned meat; sausages; cold cuts; bologna; hot dogs; stew; hamburger; chili; commercial omelets,	Croquettes, breaded fish, chicken loaves made with bread or bread crumbs, breaded or floured meats, meatloaf, meatballs, pizza,

eggs; dried beans or peas; pork

souffles, fondue; soy protein meat substitutes

ravioli, any meat or meat substitute, rye, barley, oats, gluten stabilizers

Breads and Grains

NO Gluten

Cream of rice; cornmeal; hominy; rice; wild rice; gluten-free noodles; rice wafers; pure corn tortillas; specially prepared breads made with corn, rice, potato, soybean, tapioca, arrowroot, carob, buckwheat, millet, amaranth and quinoa flour

MAY Contain Gluten

Packaged rice mixes, cornbread, ready-to-eat cereals containing malt flavoring

DOES Contain Gluten

Breads, buns, rolls, biscuits, muffins, crackers and cereals containing wheat, wheat germ, oats, barley, rye, bran, graham flour, malt; kasha; bulgur; Melba toast; matzo; bread crumbs; pastry; pizza dough; regular noodles, spaghetti, macaroni and other pasta; rusks; dumplings; zwieback; pretzels; prepared mixes for waffles and pancakes; bread stuffing or filling

Fats and Oils

NO Gluten

Butter, margarine, vegetable oil, shortening, lard

MAY Contain Gluten

Salad dressings, non-dairy creamers, mayonnaise

DOES Contain Gluten

Gravy and cream sauces thickened with flour

Fruits

NO Gluten

Plain, fresh, frozen, canned or dried fruit; all fruit juices

MAY Contain Gluten

Pie fillings, thickened or prepared fruit, fruit fillings

DOES Contain Gluten

None

Vegetables

NO Gluten

Fresh, frozen or canned vegetables; white and sweet potatoes; yams

MAY Contain Gluten

Vegetables with sauces, commercially prepared vegetables and salads, canned baked beans, pickles, marinated vegetables, commercially seasoned vegetables

DOES Contain Gluten

Creamed or breaded vegetables; those prepared with wheat, rye, oats, barley or gluten stabilizers

Snacks and Desserts

NO Gluten

MAY Contain Gluten

DOES Contain Gluten

Brown and white sugar, rennet, fruit whips, gelatin, jelly, jam, honey, molasses, pure cocoa, fruit ice, carob

Custards, puddings, ice cream, ices, sherbet, pie fillings, candies, chocolate, chewing gum, cocoa, potato chips, popcorn

Cakes, cookies, doughnuts, pastries, dumplings, ice cream cones, pies, prepared cake and cookie mixes, pretzels, bread pudding

Beverages

NO Gluten

Tea, carbonated beverages (except root beer), fruit juices, mineral and carbonated waters, wines, instant or ground coffee

MAY Contain Gluten

Cocoa mixes, root beer, chocolate drinks, nutritional supplements, beverage mixes

DOES Contain Gluten

Postum™, Ovaltine™, malt-containing drinks, cocomalt, beer, ale

Soups

NO Gluten

Those made with allowed ingredients

MAY Contain Gluten

Commercially prepared soups, broths, soup mixes, boullion cubes

DOES Contain Gluten

Soups thickened with wheat flour or gluten-containing grains; soup containing barley, pasta or noodles

Thickening Agents

NO Gluten

Gelatin, arrowroot starch; corn flour germ or bran; potato flour; potato starch flour; rice bran and flour; rice polish; soy flour; tapioca, sago

MAY Contain Gluten

Commercially prepared soups, broths, soup mixes, boullion cubes

DOES Contain Gluten

Wheat starch; all flours containing wheat, oats, rye, malt, barley or graham flour; all-purpose flour; white flour; wheat flour; bran; cracker meal; durham flour; wheat germ

Condiments

NO Gluten

Gluten-free soy sauce, distilled white vinegar, olives, pickles, relish, ketchup

MAY Contain Gluten

Flavoring syrups (for pancakes or ice cream), mayonnaise, horseradish, salad dressings, tomato sauces, meat sauce, mustard, taco sauce, soy sauce, chip dips

DOES Contain Gluten

Seasonings

NO Gluten

MAY Contain Gluten

DOES Contain Gluten

Salt, pepper, herbs, flavored extracts, food coloring, cloves, ginger, nutmeg, cinnamon, bicarbonate of soda, baking powder, cream of tartar, monosodium glutamate

Curry powder, seasoning mixes, meat extracts

Synthetic pepper, brewer's yeast (unless prepared with a sugar molasses base), yeast extract (contains barley)

Prescription Products

NO Gluten

MAY Contain Gluten

DOES Contain Gluten

All medicines - Check with pharmacist or pharmaceutical company.

Sample Menu

Breakfast

Cream of rice - 1/2 cup
Skim milk - 1 cup
Banana - 1 medium
Orange juice - 1/2 cup
Sugar - 1 tsp

Lunch

Baked chicken - 3 oz
Rice - 1/2 cup
Green beans - 1/2 cup
Apple juice - 1/2 cup
Ice cream - 1/2
* Ice cream should be made without wheat stabilizers.

Dinner

Sirloin steak - 3 oz
Baked potato - 1 medium
Peas - 1/2 cup
Fruit gelatin - 1/2 cup
Butter - 1 Tbsp
Tea - 1 cup
Sugar - 1 tsp

The above sample diet provides the following: *1748 calories; 77 gm protein; 225 gm carbohydrates; 62 gm fat; 1577 gm sodium; 2934 potassium*