

Gluten-Free Diet Guide for Families

CDHNF

Children's Digestive Health
and Nutrition Foundation

NASPGHAN

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Gastroenterology, Hepatology and Nutrition

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view the gluten-free diet and any other specific nutritional needs of your child. The registered dietitian will be able to help you contact local support groups and direct you to reliable web sites.

WHAT IS GLUTEN?

Gluten is the general name for one of the proteins found in wheat, rye, and barley. It is the substance in flour that forms the structure of dough, the “glue” that holds the product together and is also the leavening ingredient. When these proteins are present in the diet of someone with CD, they become toxic and cause damage to the intestine. This damage leads to decreased absorption of essential nutrients and, if left untreated, can lead to nutrient deficiency and subsequent disease (i.e. iron deficiency anemia, decreased bone density, unintentional weight loss, folate and vitamin B12 deficiency).

WHERE IS GLUTEN FOUND?

Food/grains

The grains containing gluten include wheat, rye, barley, and all their derivatives (see Table 1 for a listing of grains to be avoided). These grains are used in such items as breads, cereals, pasta, pizza, cakes, pies, and cookies and as added ingredients to many processed food items.

Table 1. Gluten containing grains to avoid

Barley	Faro	Spelt
Barley malt/extract	Graham flour	Triticale
Bran	Kamut	Udon
Bulgur	Matzo flour/meal	Wheat
Couscous	Orzo	Wheat bran
Durum	Panko	Wheat germ
Einkorn	Rye	Wheat starch
Emmer	Seitan	
Farina	Semolina	

IMPORTANT REMINDER: *This information from the CDHNF is intended only to provide general information and not as a definitive basis for diagnosis or treatment in any particular case. It is very important that you consult your doctor about your specific condition.*

For more information or to locate a pediatric gastroenterologist in your area please visit our website at: **www.naspghan.org**

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Introduction

If your child has just been diagnosed with celiac disease (CD), you may be experiencing mixed feelings. On one hand, no one likes to hear that his or her child has any kind of medical condition. However, you may be relieved to finally have the answer to your child’s past medical problems. You may also feel better knowing that celiac disease is a treatable disorder, that intestinal damage from celiac disease is reversible, and that therapy does not involve shots, pills, therapy or surgery. You may also feel confused, overwhelmed or unsure about how to start the healing process.

After getting nutritional advice, some parents head straight to the grocery store to stock up on gluten-free (GF) products for their child. They may spend hours in the grocery store, but leave with only a small bag of groceries and no idea of what to serve for dinner. They may experience the so called “Celiac Meltdown”!

The purpose of this booklet is to help prevent newly diagnosed celiac patients and their families from experiencing “Celiac Meltdown. This booklet is a starter guide that will help you through the initial days of the gluten-free lifestyle and is designed to help you and your family manage the emotional stress that you may be feeling right now.

The most important first step is to work with your physician and a knowledgeable registered dietitian (RD) who will re-

Overlooked Sources of Gluten

In order to completely remove gluten from your diet, less obvious sources of gluten must also be identified and avoided. You may find gluten in products, listed in table 2.

Table 2. Overlooked gluten sources

Ales	Soup Base
Beer and Lagers	Stuffing
Breading	Self-basting Poultry
Brown Rice Syrup	Imitation Bacon/seafood
Coating Mix	Soy Sauce
Communion Wafers	Marinades Thickeners Herbal
Croutons	Supplements,
Candy	Prescription Medications
Luncheon Meats	And Over The Counter Medication
Broth	Vitamin And Mineral Supplements
Pasta	Lipstick
Roux	Gloss And Balms
Sauces	Play Dough*

**The gluten protein does not pass through the skin. However, hands need to be properly washed after handling play dough and prior to eating to avoid cross contamination.*

Be sure to read all labels carefully. If a product has questionable ingredients, avoid it until the manufacturer confirms that the product is gluten-free. Labels must be read every time you purchase food because ingredients in a product can change at any time

NEW FOOD LABEL LAWS

There is good news to help make label reading easier. Any food products manufactured and labeled after January 1, 2006, will be under the "Food Allergen Labeling and Consumer Act. This new law requires companies to identify in "plain English" the eight most prevalent food allergens including eggs, fish, milk, peanuts, shellfish, soybeans, tree nuts and **wheat**. If wheat protein or a protein derived from wheat is used as an ingredient, even in small amounts, (e.g., colorings, flavoring, and seasoning) it must be declared in the allergy statement. This law does not, however, address the use of barley (malt), rye or oats. If the label does not indicate in the allergy statement that wheat has been used, you must still read the list of ingredients for other gluten containing grains. This legislation also requires the Food and Drug Administration (FDA) to develop rules for the use of the term "gluten-free".

What Can The Patient With Celiac Disease Eat?

You may be uncertain about what to feed your child because it seems that there is so much that a patient with celiac disease can't eat. Not to worry, there are many foods that will fit into your child's diet that are naturally gluten-free (see Table 3 for a listing of GF grains and starches). There are also a variety of gluten-free substitutes to replace old favorites like pizza, pasta and bagels.

Table 3. Gluten-free grains and starches

Amaranth	Potato flour
Arrowroot	Quinoa
Buckwheat	Rice
Corn	rice bran
Flax	Sago
Flours made from	Sorghum
nutsbeans and seeds	Soy (soya)
Millet	Tapioca
Montina™	Teff
Potato starch	

Distilled vinegars are gluten-free as all distilled products do not contain any harmful gluten proteins. Malt vinegar, however, is not distilled and therefore contains gluten.

WHAT ABOUT OATS?

Many recent studies indicate that the protein found in oats may not be harmful to most people with celiac disease. However, there is concern that the oats may be contaminated with wheat during the milling and processing. **Please consult your physician or dietitian before adding oats to your child's diet.**

How Do I Start A Gluten-free Diet?

AT HOME

Your first instinct may be to stop at the grocery store on your way home from the doctors' office and search the grocery store for all the gluten-free products you can find. This is an overwhelming task that initially may end in frustration and emotional distress.

Start the new diet by looking at the foods you already have in your home. Many of your favorite brands may already be gluten-free, eliminating the need to search all the brands of a particular product.

Table 4

Gluten- Free Shopping List

PRODUCE:	DAIRY:	PACKAGED & CANNED
Fresh Fruits (e.g.) Apple Banana Orange, etc.	Unflavored Milk Cream Aged Cheese (caution on processed cheese) Most yogurts	Plain Fruits and Vegetables Canned Tuna or Chicken Dried Beans, Lentils, Peas Most Baked Beans
Fresh Vegetables (e.g.) Tofu White or Sweet Potato Corn Lettuce, etc.	Butter, Margarine Cream Cheese Cottage Cheese Sour Cream	CEREALS, GRAINS
	FROZEN FOODS	Cream of Rice Grits Puffed Rice Plain Brown or White Rice Corn Tacos / Tortillas
MEAT, FISH, POULTRY	Plain Fruits and Vegetables Most Ice Cream and Sherbet Gluten Free Frozen Waffles	CONDIMENTS
Fresh Beef Fresh Pork Fresh Poultry (caution: self basting) Fresh Fish or Seafood Eggs	SNACKS	Jam and Jellies, Marmalade Honey Peanut Butter Corn or Potato Starch Corn and Maple Syrup Molasses Brown, White and Confectioner's Sugar Spices and Herbs Salt, Pepper Relish, Pickles, Olives Ketchup, Mustard Distilled Vinegars Most Salad Dressing
BEVERAGE	Potato Chips (caution: flavored chips) Corn Chips Popcorn Rice Crackers, Rice Cakes Plain Nuts, Seeds Jello Pudding	
FATS AND OILS		
Vegetable, Canola and Olive Oil Shortening		

Start to plan your meals around naturally gluten-free foods. Plan a week's menu around these foods and make a grocery list to help you stay on track once you get to the store. Try the following meal suggestions:

Breakfast

- Cream of Rice cereal with nuts, seeds or dried fruit
- Puffed Rice cereal, milk and fresh fruit
- Fruit and yogurt smoothies
- Cottage cheese with apples and cinnamon
- Egg, cheese and veggie omelet with fried potatoes and ½ grapefruit
- Eggs, Canadian bacon or turkey bacon

Lunch and Dinner

- Loaded baked potatoes with cheese and veggies
- Salads with chopped veggies, toasted almonds or sunflower seeds and lean meats (chicken, tuna, ham)
- Tuna fish on mixed greens with fresh fruit
- Stir-fry with meat, poultry, seafood and chopped vegetables served over brown rice
- Meat or veggie fajitas or quesadillas made from corn tortillas
- Turkey or beef chili, corn chips and veggie sticks
- Beef or chicken kabobs on rice and ice cream

Snacks

- Rice cakes or rice crackers with cheese, hummus and peanut butter
- Nachos made from corn chips with melted cheese and salsa
- Celery sticks with cream cheese, peanut butter or cheese spread
- Pudding, ice cream or yogurt topped with berries and whipped topping
- Baked apple
- String cheese
- Popcorn

AT THE GROCERY STORE

On your first trip to the grocery store, think about shopping the perimeter of the store. This is where you will find naturally gluten-free foods. As you step into your favorite grocery store, start with the fresh produce section. No need to worry here. Stock up on nutrient rich, low fat, low-sodium fruits and veggies.

Next, visit the fresh meat, poultry, and seafood section. Again, these are naturally gluten-free. Think about making a fresh turkey breast or lean roast for dinner and then using the leftovers as a filling for a corn tortilla for lunch. Use caution when choosing luncheon meat and other processed

meats. The processed meats may contain gluten as fillers or flavor enhancers - so read the label carefully.

After the meat section, you can visit the egg and dairy section. These products are, for the most part, gluten-free. Calcium-rich desserts and snacks like ice cream, yogurt and pudding may be good choices for a gluten-free diet. If your child has lactose intolerance, try lactose free milk, yogurt, and hard cheese as these are usually well tolerated in those patients. Lactaid tablets can also be taken with dairy.

Within the inner isles of the grocery store, look for:

- Corn tortillas
- Plain rice
- Dried beans and legumes
- Spices and herbs
- Peanut butter
- Cooking oils (canola and olive oils are low in saturated fats and contain healthy monosaturated fat)

As the demand for GF products increases, many grocery stores will begin to stock more products that are specifically gluten-free. Look in the Asian section for rice noodles and crackers. Check out the “organic” or “health food” section for GF pastas, flours, and baking products.

Specialty health food stores typically have GF foods in the frozen food section. One can select GF bagels, breads, or brown rice pizza crusts to defrost and warm at home.

Some frozen food sections have GF frozen meals as a convenient option.

FOOD PREPARATION

Once you get your groceries home, you need to think about how your food is prepared. Here are several suggestions to help you avoid contaminating your food with gluten:

- Purchase separate jam, jelly, mayonnaise, and peanut butter to avoid wheat/bread crumbs in the shared jars.
- Purchase a separate toaster for gluten-free breads, or use a toaster oven that can be cleaned between uses, or place tinfoil on the rack to avoid contamination.
- Clean counter tops and cutting boards often to remove gluten-containing crumbs.
- Cooking utensils, colanders, and pans need to be cleaned carefully after each use and before cooking gluten-free products.

Life Goes On!

EATING AWAY FROM HOME

A diagnosis of CD does not mean never eating at a restaurant again. Do not stay home for fear of making a mistake on the gluten-free diet. Dining out is a big part of our way of life and, with a little effort and planning, can continue to be enjoyed.

- Before leaving home, do some homework. Most restaurants have a website that can easily be found through an Internet search engine. Review the menu online to see if there is enough selection for you. Some restaurants have GF menus or a list of common food allergens utilized in making their foods.
- Call ahead and talk to the manager or the chef and ask about specially prepared items that are GF.
- Try to make your first visit to a restaurant before peak dining times.
- Always identify yourself as someone who cannot eat wheat, rye or barley. Food items that you would never guess have flour in them, often do. (One large popular pancake house adds pancake batter to their omelets.) Salads may not have croutons, but may arrive at your table with a bread stick across the top.
- Don't be afraid to ask how the food is prepared. Meats may be marinated in soy sauce. French fries may be made in the same fryer as other breaded products. Hamburgers and hamburger buns may be grilled in the same area. All these methods can lead to gluten contamination.
- Be pleasant and informative, but not demanding.
- Bring your own GF bread or crackers.

DON'T BLAME THE GLUTEN!

On a strict GF diet, gastrointestinal symptoms will begin to improve in a few weeks and will completely resolve after 6 to 12 months. After healing has occurred and antibody levels have returned to normal, symptoms may not be a reliable way to determine whether or not you have taken in gluten.

You can eat gluten-containing foods and may not have symptoms and, conversely, you can have symptoms without ingesting gluten. The following items may cause GI problems that are not gluten related.

- **Acidic foods.** Vinegars, tomato products, and citrus juices can cause reflux symptoms.
- **Sorbitol.** It is found in medication and dietetic candy. As a non-digestible sugar, sorbitol can cause bloating, gas, cramping, and diarrhea.

- **Guar gums.** These gums are used in gluten-free products and may cause gas, bloating, and abdominal pain.
- **Lactose.** Before the intestine has healed completely, the lactase enzyme may be deficient. Lactase is needed to break down the sugar in milk called lactose. Undigested lactose can lead to increased gas, bloating, abdominal pain, and diarrhea.
- **Food allergens.** In a recent survey of the Celiac Sprue Association, over half of the members reported having additional food intolerances to foods such as milk, soy, nuts, yeast, eggs, corn, and fructose.
- **Flax.** Flax can increase the number of bowel movements.

GLUTEN-FREE DOES NOT MEAN IT IS GOOD FOR YOU!

Today there are many specialty companies that produce good gluten-free products. Although they taste wonderful, the ingredients used may not be a healthy alternative. Good nutrition is also important as you select foods in your diet. Table 5 gives some examples for a healthy GF diet.

Table 5. The healthy diet

Low fat	Read labels carefully as many GF foods may be higher in fat than their gluten-containing counterpart.
Calcium rich foods	Osteopenia and osteoporosis are common in people with CD.
Weight gain	After the GI tract has healed, it can now absorb all the nutrients in foods. Even though the calorie level has remained the same, this may be the cause of unintentional weight gain.
Constipation/diarrhea	If only processed white rice is used in replacement of wheat flour, the low fiber diet may lead to constipation. Conversely, if the fiber rich grains are added in the diet in large amounts too quickly, diarrhea can occur.
Weight loss	Dietary changes to eliminate gluten-containing foods may also lead to a decrease in caloric intake.

VITAMIN SUPPLEMENTS

A vitamin/mineral supplement may be necessary when your child's diagnosis is first made. The damage done to the intestinal lining can lead to a decreased absorption of iron, calcium, folate, and other B-vitamins. In addition, many gluten-containing breads, cereals, and pasta are fortified with B-vitamins and iron while many gluten-free foods are not and this can also contribute to vitamin and mineral deficiencies. It is important to select a vitamin/mineral supplement that is gluten-free and meets 100% of the recommended daily allowances, or the daily-recommended intake (RDA or DRI). A well-balanced diet can usually provide adequate amounts of most nutrients. Table 6 provides a list of nutrient rich foods to be included in the GF diet.

Table 6. Nutrient rich gluten-free foods

Calcium	Milk, yogurt, cheese, ice cream, sardines, salmon, broccoli, spinach, almonds, figs, calcium fortified soy milk and orange juice
Iron	Meat, fish, poultry, nuts, seeds, legumes, dried fruit, eggs, amaranth, quinoa
Folate	Broccoli, asparagus, orange juice, liver, legumes, bean flour, flax, peanuts, walnuts, sesame and sunflower seeds
B12	Liver, eggs, milk, meat, poultry, fish and seafood

Once The Diet Has Started

NUTRITIONAL CONSULT

It is important to have the contact information of a dietitian with expertise in CD. You may need several sessions with a dietitian before feeling confident about dealing with a gluten-free diet. Periodic visits with the dietitian are required - especially if the repeat serology is suggestive of gluten ingestion.

GASTROENTEROLOGY FOLLOW-UPS

The frequency of follow-up visits with the gastroenterologist depends on the age of the patient, the pace of the resolution of symptoms, and normalization of serology test results. If there is a good response to the diet and blood tests normalize within six to nine months, visits to the gastroenterologist can usually be less frequent, yearly follow-ups. A decline in antibody levels is expected after a six-month

period on an appropriate GF diet. With dietary compliance, the antibodies should eventually disappear. Persistence of the antibodies suggests poor dietary compliance, either knowingly or inadvertently. In this situation, a meeting with the nutritionist is necessary in order to identify sources of gluten in the diet.

SHOULD OTHER FAMILY MEMBERS BE TESTED?

First-degree relatives of patients with CD should undergo serological testing and a gastroenterologist should further evaluate family members with positive blood test results. Upper gastrointestinal endoscopy with intestinal biopsy remains the gold standard for diagnosis.

For those patients with negative celiac serology results, genetic testing may be helpful in guiding the follow-up care and need for repeat celiac serology. In the absence of genetic markers there is no need to repeat serology tests.

FAMILY SUPPORT

Family support of the gluten-free diet is vital. It is very important that all family members are aware of GF dietary requirements and become involved in both grocery buying and meal preparation. Family support for dietary compliance is equally important. At home, gluten-free foods and flours must be stored separately to avoid cross contamination and for younger children with celiac disease, only their gluten-free foods should be easily accessible.

EMOTIONAL ASPECTS OF THE GLUTEN-FREE DIET

Some patients are relieved when diagnosed with CD because it is a disease that can be managed with diet alone. However, others are concerned by the drastic diet and lifestyle modification. Fear of eating, particularly dining outside of the home, can occur and result in social isolation because so many social events are centered around eating. These concerns must be discussed with the dietitian and gastroenterologist. With appropriate teaching, the gluten-free diet can be maintained even when dining out. Some of the regional support groups have lists of local gluten-free restaurants with GF menus or menu items.

The sudden dietary and lifestyle change may induce depression at varying degrees and involvement in support groups may help, especially for teenagers. Within this group, they can share their feelings with others and learn coping skills. In rare occasions, a referral to counseling may be necessary.

The important thing to remember is that you are fortunate to be aware of the fact that you have CD. Millions of people do not know they have the disease. You can reverse the impact the disease has had on your body through diet. We hope this guide will help you and wish you good health.

Resources

This is a representative but not a comprehensive list of resources for celiac disease.

MAJOR NATIONAL SUPPORT GROUPS

Gluten Intolerance Group

15110 10th Ave. SW, Suite A, Seattle, WA 98166
206.246.6652, Website: www.gluten.net

Celiac Disease Foundation

13251 Ventura Boulevard, Suite 1, Studio City, CA 91604-1838
818-990-2354. Website: www.celiac.org

Celiac Sprue Association/USA

PO Box 31700, Omaha, NE 68131-0700
402-558-0600, Website: <http://www.csaceliacs.org>

Canadian Celiac Association

5170 Dixie Road, Suite 204, Mississauga, Ontario, L4W 1E3
Phone: 905-507-6208, 1-800-363-7296, Website: www.celiac.ca

INTERNET

American Dietetic Association

www.eatright.org

Celiac Center at Columbia University

<http://www.celiacdiseasecenter.columbia.edu/CF-HOME.htm>

Celiac Disease and Gluten-free Resource

www.celiac.com

Celiac Frequently Asked Questions (FAQ)

www.enabling.org/ia/celiac/faq.html

Center for Celiac Research, University of Maryland School of Medicine

www.celiaccenter.org

Children's Digestive Health and Nutrition Foundation (CDHNF)

www.cdhnf.org, www.celiachealth.org

North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN)

http://www.naspghan.org/sub/celiac_disease.asp
<http://www.naspghan.org/sub/positionpapers.asp>

National Institutes of Health

<http://digestive.niddk.nih.gov/ddiseases/pubs/celiac/>
University of Chicago, Celiac Disease Program:
<http://www.uchospitals.edu/specialties/celiac/index.php>

BOOKS

Gluten-Free Friends

An Activity Book for Kids by Nancy Patin Falini, MA, RD, LDN,
www.savorypalate.com

Gluten-Free Diet

A Comprehensive Resource Guide by Shelley Case, B.Sc. RD,
www.glutenfreediet.ca

Kids with Celiac Disease

A Family Guide to raising Happy, Healthy, Gluten-free Children, By Danna Korn
http://www.celiac.com/cgi-bin/webc.cgi/st_main.html?p_catid=8

CELIAC PUBLICATIONS

Gluten-Free Living

National Newsletter for People with Gluten Sensitivity
www.glutenfreeliving.com

Sully's Living Without Magazine

www.livingwithout.com

COOKBOOKS

The Gluten-Free Gourmet-Living Well Without Wheat, Cookbook, series by Bette Hagman

http://www.best-cooking-books.com/search_Bette_Hagman/searchBy_Author.html

Wheat-Free, Gluten-Free Cookbook for Kids and Busy Adults, by Connie Sarros, www.gfbooks.homestead.com

Cookbooks and Informational Books by Carol Fenster <http://www.savorypalate.com>

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