

Gluten-Free Eating

Why This Diet is Important

Gluten is a general name for the storage proteins (prolamins) found in wheat, barley, rye and related cereal grains – triticale, spelt and kamut. If you have celiac disease (CD) or dermatitis herpetiformis (DH), a skin form of celiac disease, even a small amount of gluten is harmful. In CD, gluten damages the small intestine resulting in poor absorption of nutrients. In DH, gluten causes skin rashes and itching and also damages the small intestine. A strict gluten-free diet (GFD) is the only treatment for CD & DH and requires the lifelong elimination of all foods containing wheat, barley, rye, related cereal grains and **commercial** oats. A GFD will help your small intestine to heal and will eventually result in elimination of the symptoms, which can include: diarrhea, constipation, stomach pain, weight loss, tiredness, low iron levels and the skin rash in DH. The diet also reduces the risk of developing osteoporosis, reduced fertility, lymphoma and potentially other autoimmune disorders. Even if you are symptom free, you must follow the diet to reduce the risk of these long-term complications.

This information is to help you get started on a gluten-free diet. It is still necessary that you meet with a registered dietitian who specializes in celiac disease and seek help from support groups such as the Canadian Celiac Association - www.celiac.ca.

The Story on Oats

The storage protein in oats, called avenin, does not appear to be toxic in CD. Traditionally, oats have been restricted in the GFD because commercial oats can be contaminated with wheat, barley, rye and related cereal grains. Health Canada and the Canadian Celiac Association have developed a position statement on oats indicating that pure, uncontaminated oats, now available in Canada, are safe in moderate amounts for the majority of people with CD. A small number of people with CD may not tolerate even pure, uncontaminated oats, but the reason for this is unknown. Discussions with your physician and registered dietitian are recommended before introducing pure oats into your GFD.

Cross-Contamination

When preparing gluten-free food, you must be careful to avoid cross-contamination with gluten. This is true both at home and when eating food away from home. Even very small amounts of gluten can cause damage to the intestine and/or the skin. You will need your own toaster and containers for condiments such as peanut butter, margarine and jam. All meal preparation surfaces including cutting boards, utensils, pots and pans must be clean and free from gluten before you prepare a gluten-free meal. Cross-contamination can also occur in bulk food bins, restaurants (e.g. deep fried foods cooked in oil used for frying breaded products), and in food manufacturing plants. The Canadian Celiac Association has information on cross contamination in its New Members Kit.

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Gluten Containing Foods and Ingredients

Atta (chapatti flour)	Farina	Oatmeal, oat bran, oat flour and whole oats***
Barley (flakes, flour, pearl)	Farro or Faro (also known as spelt)*	Pastas
Beer, ale, lager	Fu**	Rye bread and flour
Breading and bread stuffing	Graham flour	Seitan ****
Brewers yeast	Hydrolyzed wheat protein	Semolina
Bulgur	Kamut*	Spelt (also known as farro or faro, dinkel)*
Communion wafers	Malt, malt extract, malt syrup and malt flavouring	Triticale
Couscous	Malt vinegar	Wheat bran
Croutons	Malted milk	Wheat flour
Dinkel (also known as spelt)*	Matzoh, matzoh meal	Wheat germ
Durum*	Modified wheat starch	Wheat starch
Einkorn*		
Emmer*		

* Types of wheat

** A dried gluten product derived from wheat that is sold as thin sheets or thick round cakes. Used as a protein supplement in Asian dishes such as soups and vegetables.

*** Unless they are from pure, uncontaminated oats

**** A meat-like food derived from wheat gluten used in many vegetarian dishes; sometimes called “wheat meat”.

Source: Adapted from *Gluten-Free Diet: A Comprehensive Resource Guide 2008* by Shelley Case, Dietitian. www.glutenfreediet.ca Reprinted with permission.

Quick Guide to Hidden Sources of Gluten

There are many hidden sources of gluten. **Always read food labels.** A registered dietitian can teach you about hidden sources and what to look for when reading food labels. **The Canadian Celiac Association's *Pocket Dictionary of Ingredients*** is an excellent guide to help determine if a food is gluten-free or not. Listed below are **some** hidden sources of gluten.

Beer, ale, lager	Imitation bacon bits and imitation seafoods
Broth, soup, soup bases	Medications (check with your pharmacist)
Candies (Smarties® in Canada), some chocolates, some chocolate bars and licorice	Modified food starch (if source is not identified)
Flavoured coffees and teas	Sausages, hot dogs, deli meats
Hydrolyzed plant protein and/or hydrolyzed vegetable protein (if from wheat, or the source is not mentioned, are not allowed).	Sauces, marinades, gravies
	Seasonings
	Soy sauce

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Food Choices For A Gluten-Free Diet

Food Group	Foods Allowed	Foods to Question	Foods Not Allowed
Milk and Alternatives 2-3 servings each day	Milk, most ice cream, buttermilk, plain yogurt, cheese, cream cheese, processed cheese, processed cheese foods, cottage cheese	Flavoured yogurt, frozen yogurt, cheese sauces, cheese spreads, seasoned (flavoured) shredded cheese	Malted milk, ice cream made with ingredients not allowed
Grain Products 6-8 servings each day	Breads and Baked Products Items made with amaranth, arrowroot, buckwheat, corn bran, corn flour, cornmeal, cornstarch, flax, legume flours (bean, garbanzo or chickpea, Garfava™, lentil, pea), mesquite flour, millet, Montana™ flour (Indian ricegrass), nut flours (almond, chestnut, hazelnut), potato flour, potato starch, pure oat products **, quinoa, rice bran, rice flours (brown, glutinous, sweet, white), rice polish, sago, sorghum flour, soy flour, sweet potato flour, tapioca (cassava, manioc), taro, teff	Items made with buckwheat flour	Items made with wheat bran, wheat farina, wheat flour, wheat germ, wheat-based semolina, wheat starch*, durum flour, gluten flour, graham flour, atta, bulgur, einkorn, emmer, farro (faro), kamut, spelt, barley, rye, triticale, commercial oat products** (e.g. oat bran, oat flour, oat groats, oatmeal, steel cut) <u>Note:</u> * imported foods labeled “gluten-free” made with wheat starch ** oats must be pure , with no cross contamination
	Cereals - Hot Amaranth seed, cornmeal, cream of buckwheat, cream of rice (brown, white), hominy grits, pure oatmeal **, quinoa, rice flakes, soy flakes and soy grits	Rice and soy pabulum	Cereals made from wheat, rye, triticale, barley and commercial oats** <u>Note:</u> ** oats must be pure , with no cross contamination

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Food Group	Foods Allowed	Foods to Question	Foods Not Allowed
Grain Products 6-8 servings each day	Cereals - Cold Puffed or flaked amaranth, puffed buckwheat, puffed corn, puffed millet, puffed rice, rice crisps or corn flakes with no barley malt extract or barley malt flavouring, rice flakes and soy cereal	Rice and corn cereals	Cereals made with added barley malt extract or barley malt flavouring
	Pastas Macaroni, spaghetti, and noodles from beans, corn, lentils, peas, potato, quinoa, rice, soy and wild rice	Buckwheat pasta	Pastas made from wheat, wheat starch and other ingredients not allowed (e.g. orzo)
	Rice Plain (e.g. basmati, brown, jasmine, white, wild)	Seasoned or flavoured rice mixes	
	Miscellaneous Corn tacos, corn tortillas, rice tortillas		Wheat flour tacos and tortillas, matzoh, matzoh meal, matzoh balls, couscous, tabouli
	Plain rice crackers, rice cakes and popped corn cakes	Multi-grain or flavoured rice crackers, rice cakes and popped corn cakes	
	Gluten-free communion wafers	Low gluten communion wafers	Regular communion wafers
Meat and Alternatives 2-3 servings each day	Meat, fish, poultry Plain (fresh or frozen)	Deli or luncheon meat (e.g. bologna, salami), hot dogs, frankfurters, sausages, pâtes, meat and sandwich spreads, frozen	Fish canned in vegetable broth containing hydrolyzed wheat protein Frozen turkey basted or injected with hydrolyzed wheat protein

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Food Group	Foods Allowed	Foods to Question	Foods Not Allowed
Meat and Alternates 2-3 servings each day	Meat, fish, poultry Plain (fresh or frozen)	(cont'd) patties (meat, chicken or fish), meatloaf, ham (ready to cook), dried meats (beef jerky), seasoned flavoured fish in pouches, imitation fish products (e.g. surimi), meat substitutes, meat product extenders	(cont'd) Frozen or fresh turkey with bread stuffing Frozen chicken breasts containing chicken broth (made with ingredients not allowed) Meat, poultry or fish breaded with ingredients not allowed
	Eggs Fresh, liquid, dried or powdered	Flavoured egg products (liquid or frozen)	
	Other Lentils, dried peas, dried beans (e.g. black, chickpeas or garbanzo, navy, pinto, soy, white), plain tofu	Baked beans, flavoured tofu, tempeh, miso	Fu, Seitan
	Plain nuts and seeds (chia, flax, sesame, pumpkin, sunflower), nut and seed butters (e.g., almond, peanut, sesame)	Seasoned or dry roasted nuts, seasoned pumpkin or sunflower seeds	
Vegetables and Fruits 7-10 servings each day	Vegetables Fresh, frozen, and canned vegetables and juices	Vegetables with sauces, french-fried potatoes (especially where gluten-containing foods may be cooked in the same oil)	Scalloped potatoes (containing wheat flour) Battered deep-fried vegetables
	Fruits Fresh, frozen and canned fruits and juices	Dates, fruits with sauces	

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Food Group	Foods Allowed	Foods to Question	Foods Not Allowed
Snack Foods	Plain popcorn, nuts, soy nuts, potato chips, taco (corn) chips; gluten-free pizza	Seasoned (flavoured): nuts, soy nuts, potato chips, taco (corn) chips	Potato chips and pizza made with ingredients not allowed
Fats and Oils	Butter, cream, margarine, lard, shortening, vegetable oil, salad dressing with allowed ingredients	Salad dressings, suet, cooking spray	Salad dressings made with ingredients not allowed.
Desserts	Ice cream, sherbet, whipped toppings, whipping cream, egg custards, custard powder, gelatin desserts, milk puddings, cakes, cookies, pies and pastries made with allowed ingredients, gluten-free ice cream cones, wafers and waffles	Cake icings and frostings	Bread pudding, ice cream made with ingredients not allowed; cakes, cookies, muffins, pies and pastries made with ingredients not allowed; ice cream cones, wafers and waffles made with ingredients not allowed
Other Foods	Beverages Tea, instant or ground coffee (regular or decaffeinated), cocoa, soft drinks, most non-dairy beverages made from nut, potato, soy and rice	Flavoured and herbal teas, flavoured coffees, coffee substitutes, hot chocolate mixes	Cereal and malted beverages (e.g. Ovaltine® [chocolate malt and those with malt flavour], Postum®); non-dairy beverages (nut, potato, soy and rice) made with barley malt extract, barley-malt flavouring or oats
	Alcoholic Beverages Distilled alcohol – bourbon, rum, gin, rye whiskey, scotch whiskey, vodka and pure liqueurs; wines; gluten-free beers, ale and lagers (made with rice, buckwheat or sorghum)	Flavoured alcoholic beverages (e.g. coolers, ciders, Caesar vodka beverage)	Beer, ale and lager (made from barley)

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Food Group	Foods Allowed	Foods to Question	Foods Not Allowed
Other Foods	Sweets Honey, jam, jelly, marmalade, corn syrup, maple syrup, molasses, sugar (brown and white), icing or confectioner's sugar, gluten-free licorice and other candies, marshmallows	Hard candies, Smarties®, chocolates and chocolate bars with wafers and cookies	Regular licorice and candies made with ingredients not allowed
	Condiments / Sauces Plain pickles, relish, olives, ketchup, plain prepared mustard, pure mustard flour, tomato paste, pure herbs and spices, black pepper, salt, vinegars (apple, cider, rice, balsamic, distilled white, grape or wine), gluten-free soy sauce, gluten-free teriyaki sauce, other sauces and gravies made with allowed ingredients	Seasoning mixes, specialty prepared mustards, prepared mustard flour, mustard pickles, curry paste, Worcestershire sauce	Soy sauce (made from wheat), teriyaki sauce (containing soy sauce made from wheat), malt vinegar, other sauces and gravies made with wheat flour, hydrolyzed wheat protein and / or other foods not allowed
	Soups Homemade broth, gluten-free bouillon cubes, cream soups and stocks made from ingredients allowed	Canned soups, dried soup mixes, soup bases and bouillon cubes	Soups made with ingredients not allowed, bouillon and bouillon cubes containing hydrolyzed wheat protein
	Other Plain cocoa, pure baking chocolate, carob chips and powder, chocolate chips, monosodium glutamate (MSG), cream of tartar, baking soda, vanilla, pure vanilla extract, artificial (synthetic, imitation) vanilla extract, vanillin, yeast (active dry, autolyzed, baker's, nutritional, torula), coconut, xanthan gum, guar gum, artificial sweeteners	Baking powder	Brewer's yeast

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Notes on “Foods to Question”

Category	Food Products	Notes
Milk and Alternatives	Cheese spreads or sauces (e.g. Nacho), seasoned (flavoured) shredded cheese	<ul style="list-style-type: none"> May be thickened/stabilized with wheat flour or wheat starch Seasonings may contain hydrolyzed wheat protein, wheat flour or wheat starch
	Flavoured or frozen yogurt	<ul style="list-style-type: none"> May contain granola, cookie crumbs or wheat bran
Grain Products	Buckwheat flour	<ul style="list-style-type: none"> Pure buckwheat flour is gluten-free Sometimes buckwheat flour is mixed with wheat flour
	Rice and corn cereals	<ul style="list-style-type: none"> May contain barley malt, barley malt extract or barley malt flavouring
	Buckwheat pasta	<ul style="list-style-type: none"> Some “Soba” (Japanese noodles) contain pure buckwheat flour which is gluten-free but others may also contain wheat flour
	Seasoned or flavoured rice mixes	<ul style="list-style-type: none"> Seasonings may contain hydrolyzed wheat protein, wheat flour or wheat starch or have added soy sauce that contains wheat
	Multi-grain or flavoured rice or corn cakes or rice crackers	<ul style="list-style-type: none"> Multi-grain products may contain barley and/or commercial oats Some contain soy sauce (may be made from wheat) or seasonings containing hydrolyzed wheat protein, wheat flour or wheat starch
Meat and Alternatives	Baked beans	<ul style="list-style-type: none"> Some are thickened with wheat flour
	Imitation fish products (e.g. surimi, imitation crab)	<ul style="list-style-type: none"> May contain fillers made from wheat starch
	Seasoned or dry roasted nuts or seeds	<ul style="list-style-type: none"> May contain hydrolyzed wheat protein, wheat flour or wheat starch
	Processed meat products: Deli or luncheon meats, hot dogs	<ul style="list-style-type: none"> May contain fillers made from wheat May contain seasonings made from hydrolyzed wheat protein, wheat flour or wheat starch
	Meat substitutes (e.g. vegetarian burgers, sausages)	<ul style="list-style-type: none"> Often contain hydrolyzed wheat protein, wheat gluten, wheat starch or barley malt

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Category	Food Products	Notes
Vegetables and Fruits	Dates	<ul style="list-style-type: none"> Dates may be dusted with commercial oat flour, dextrose or rice flour
	French fried potatoes	<ul style="list-style-type: none"> Often cooked in the same oil as gluten-containing products resulting in cross-contamination
Soups	Canned soups, dried soup mixes, soup bases and bouillon cubes	<ul style="list-style-type: none"> May contain wheat flour or hydrolyzed wheat protein May contain noodles or barley Cream soups are often thickened with wheat flour Seasonings may contain hydrolyzed wheat protein, wheat flour or wheat starch
Fats and Oils	Salad dressings	<ul style="list-style-type: none"> May contain wheat flour, malt vinegar or soy sauce (made from wheat) Seasonings may contain hydrolyzed wheat protein, wheat flour or wheat starch
	Cooking spray	<ul style="list-style-type: none"> Some types have added wheat flour or wheat starch
Desserts and Sweets	Cake icings or frostings	<ul style="list-style-type: none"> Wheat starch may be added
Snack Foods	Seasoned potato chips, taco (corn) chips, nuts and soy nuts	<ul style="list-style-type: none"> Some potato chips contain wheat starch Seasoning mixtures may contain hydrolyzed wheat protein, wheat flour or wheat starch
Beverages	Flavoured or herbal teas or flavoured coffee	<ul style="list-style-type: none"> Some flavoured or herbal teas, coffee substitutes and other drinks may have barley malt flavouring. Some specialty coffees may contain a chocolate chip-like product that contains cookie crumbs.
	Coffee substitutes	<ul style="list-style-type: none"> Roasted chicory is gluten-free; others may be derived from wheat, rye, barley and/or malted barley
	Flavoured alcoholic coolers	<ul style="list-style-type: none"> May contain barley malt

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Category	Food Products	Notes
Other	Baking powder Specialty mustards, mustard flour and curry paste	<ul style="list-style-type: none"> Most brands contain cornstarch which is gluten-free but some brands contain wheat starch Some brands contain wheat flour and / or wheat starch

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Gluten-Free Substitutions for Wheat Flour

Substitutions for 1 tablespoon (15 ml) Wheat Flour

1 ½ tsp	Arrowroot starch	7 mL
1 ½ tsp	Cornstarch	7 mL
1 ½ tsp	Potato starch or flour	7 mL
1 tbsp	White rice flour	15 mL
1 tbsp	Tapioca starch or flour	15 mL
1 tbsp	Bean flour (garbanzo/chickpea)	15 mL
2 tsp	Quick-cooking tapioca	10 mL
1 ½ tsp	Gelatin powder (unflavoured)	7 mL

Gluten-Free Flour Mix

1 cup of this mixture can replace 1 cup of wheat flour in a recipe.

4 cups	White rice flour	1000 mL
1 ⅓ cup	Potato Starch	325 mL
1 cup	Tapioca flour	250 mL

Sift ingredients together and store in an airtight container. Refrigerate for longer storage periods.

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A Gluten-Free Baking Tip

When first learning to bake gluten-free products use well-tested recipes from a gluten-free cookbook.

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Sometimes it is difficult to change a regular recipe to a gluten-free recipe. You may need to try a few times with different gluten-free flours to get it to work well. New healthy mixes often make a better quality product.

Try this mixture to replace one cup of wheat flour:

½ cup	sorghum flour	125 mL
½ cup	bean flour	125 mL
2 tbsp	tapioca starch	30 mL

You may also need to change the amounts of baking powder, baking soda, yeast and sugar to make an old recipe work. Start with the amounts in the original recipe and change one ingredient at a time.

Source: Canadian authors Donna Washburn and Heather Butt. *Complete Gluten-Free Cookbook: 150 Gluten-Free, Lactose-Free Recipes, Many with Egg-Free Variations*. 2007. Reprinted with permission.

There are many food manufacturers that make a wide variety of gluten-free breads, pastas, cookies and other items. There are also numerous gluten-free cookbooks and resource books available.



Additional Resources

Canadian Celiac Association
5170 Dixie Road - Suite 204, Mississauga, ON L4W 1E3
Email: <http://www.celiac.ca>
Tel: 1-800-363-7296.

These resources are provided as sources of additional information believed to be reliable and accurate at the time of publication and should not be considered an endorsement of any information, service, product or company.



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