

# gluten-free diet

## clinical information for practitioners and patients

Gluten is a protein found in all forms of wheat (including durum, semolina, and spelt), rye, barley and related grain hybrids such as triticale and kamut. It is present in smaller amounts in oats and is undisclosed in an endless variety of processed foods.

### Coeliac Disease and Gluten Sensitivity

Coeliac Disease (CD) is also known as gluten-induced enteropathy or sprue. It is an autoimmune disease that leads to a permanent intestinal intolerance to gluten. The gluten causes inflammation of the intestinal wall and a flattening of the villi, finger-like projections that line the inside of the bowel. When these villi atrophy (flatten) the surface area for absorption is greatly reduced resulting in deficiencies of a number of nutrients. The overall prevalence of CD is estimated as 1 in approximately 130, however if you have a family history of CD your risk is increased to approximately 1 in 10.

Screening tests for CD include an AGA test or an EMA test. AGA measures the level of Anti Gliadin Antibodies (AGA) present in the blood and requires that the person tested include gluten in the diet for a positive result in CD. The EMA (Endomysial Antibody) test looks at the genetic marker associated with CD, which is independent of gluten inclusion in the diet. Both tests are simple screening tests and can produce false negative or false positive results; it is therefore recommended that a bowel biopsy be done if symptoms and screening tests suggest CD.

Gluten Sensitivity is a condition that involves a degree of gluten intolerance without the presence of immune markers associated with CD. The treatment approach is similar however, since removal of gluten often results in clinical improvement and symptom relief. After a period of avoidance, small amounts of gluten-containing foods may be well tolerated. *Guidance will be provided by your healthcare practitioner.*

### Symptoms of Coeliac Disease

Although there may be no symptoms of CD, the most common ones involve the digestive system and include abdominal bloating or pain, diarrhoea, constipation, flatulence, heartburn, or nausea with or without vomiting.

Other possible symptoms include sinusitis, asthma, skin disorders including eczema and dermatitis herpetiformis, fatigue, bone, joint and muscle pains, mouth ulcers, loss of tooth enamel, mood and behavioural problems, poor

growth or development in children, weight loss, hair loss and menstrual problems.

CD is associated with a higher risk of osteoporosis, iron deficiency anaemia, menstrual problems including amenorrhoea, miscarriage and infertility, and thyroid or other autoimmune diseases.



### Helpful hints

- Read all food labels carefully.
- The Australian food standards code requires that foods labelled as 'gluten free' must not contain any detectable gluten. Food labelled as 'low gluten' must contain less than 0.02% gluten. Look for this symbol when shopping for gluten-free foods in Australia.
- Lactose intolerance is a common accompanying problem to CD. Your practitioner may recommend the removal of dairy products as part of your treatment.
- Avoid cross contamination in the kitchen by developing gluten-free kitchen habits, storage plans and procedures for mixing, cooking and baking.
- Gluten-free breads taste better toasted and should be stored in the fridge or freezer.
- When eating out select food without crumbing, 'creaming', coatings, gravies and sauces. Ideally, call ahead to notify the chef of your dietary requirements.
- Obtain your fibre from brown rice, buckwheat, unpeeled potatoes, fresh and dried beans & legumes, fresh fruit & vegetables (**see Nutrmedicine Dietary Fibre Information Sheet for more detail**)
- Nutritional deficiencies are common, particularly of iron, zinc, vitamins B2, folate and B12. (**See Nutrmedicine Nutrient Food List for the best sources of these nutrients**)
- Avoid skipping meals, eat slowly and chew all food thoroughly. Enjoy your food!
- Plan your meals and carry snacks with you so you are prepared for all eventualities.

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WHAT TO INCLUDE	WHAT TO AVOID
<p><b>Grains /Flours /Roots /Tubers and Legumes</b> <b>Grains:</b> Buckwheat, brown rice, basmati rice, wild rice, maize (corn), quinoa, amaranth, millet, sorghum. (Some CD patients may have a secondary sensitivity to the grains quinoa, amaranth, buckwheat &amp; millet) <b>Roots and Tubers:</b> potato, tapioca, arrowroot, sweet potato, parsnip, jerusalem artichoke <b>Legumes:</b> Beans, soy, lentils, peanut, pea, chickpea. <b>Flours:</b> Any flours made from the above sources, chickpea flour.</p>	<p><b>Grains /Flours /Roots /Tubers and Legumes</b> <b>Grains:</b> Wheat (including, durum, semolina, triticale), rye, barley, bulgur, couscous and possibly oats. (Spelt and kamut are ancient grains but may be well tolerated by people with gluten sensitivity or wheat intolerance.) <b>Roots and Tubers:</b> French fries (check labels) <b>Legumes:</b> Baked Beans unless gluten-free. <b>Flours:</b> Wheat flour, wholemeal flour, bakers flour, semolina, barley, rye (avoid battered or crumbed food).</p>
<p><b>Breads and Cereals</b> <b>Breads:</b> Gluten free breads based on buckwheat, corn, rice, chickpea flour and/or soya flour. <b>Cereals:</b> Gluten free muesli, homemade muesli made from a combination of: Brown rice flakes, millet flakes, organic cornflakes, puffed corn, puffed rice, soy bran, soy grits, raw nuts &amp; seeds, shredded coconut.</p>	<p><b>Breads and Cereals</b> <b>Breads:</b> Wheat breads - wholegrain or white, rye bread, oat bread, barley bread, burritos, pumpernickel bread. (Spelt may be suitable for some people with wheat intolerance) <b>Cereals:</b> Commercial cereals (rice bubbles, weetbix, wheat containing muesli, coco pops etc) wheat germ, wheat bran, porridge oats, oat bran, oat germ. Any cereal containing malt.</p>
<p><b>Pastas</b> Buckwheat noodles, rice noodles, vegetable, corn, spinach or quinoa pasta.</p>	<p><b>Pastas</b> Durum wheat pasta (spaghetti, macaroni etc), egg noodles, hokkein noodles, barley pasta, spelt pasta.</p>
<p><b>Crackers</b> Rice cakes, corn cakes, gluten free products.</p>	<p><b>Crackers</b> Wheat crackers, bran biscuits, ryvita, kavli, oatcakes.</p>
<p><b>Snacks and Desserts</b> Popcorn, dried fruit (limit), fresh fruit, carob, sesame snacks, fruit and nut bars, gluten free biscuits or other snack.</p>	<p><b>Snacks and Desserts</b> Commercial biscuits, cookies, cakes, scones, pastries, liquorice, some lollies and ice creams, some commercial fruit pies, flavoured or frozen yoghurts, processed cheeses &amp; creams.</p>
<p><b>Stock, seasonings and thickeners</b> Bouillon stock powder, sesame salt, tamari (check label), mustard seeds, fresh dried herbs and spices, potato flour, apple cider vinegar, authentic balsamic vinegar, wine vinegar, maize corn flour, soy flour, arrowroot, kuzu &amp; agar-agar.</p>	<p><b>Stock, seasonings and thickeners</b> Malt, malt vinegar, Vegemite, wheat starch, modified starch, mustard pickles, soy sauce, gravy mixes and seasoning 'rubs'; Hydrolyzed vegetable protein (HVP), texturized vegetable protein (TVP); Some binders, fillers, excipients, extenders etc (It is best to contact the manufacturer or state Coeliac Society)</p>
<p><b>Beverages</b> White wine, light rum, gin, tequila without dyes, potato vodka; Teas, coffee, soft drinks, mineral water, fresh fruit and vegetable juices.</p>	<p><b>Beverages</b> Beers, ale and lager, cereal and malted beverages, malted or flavoured milk drinks, instant tea, coffee substitutes.</p>
<p><b>Other sources of gluten</b> Some medications use gluten as a binder. Contact your doctor or pharmacist for more information. If ingredients are not itemised, check with the manufacturer of the product or with your state Coeliac Society.</p>	

Adult Coeliacs, parents of Coeliac children and those with Dermatitis Herpetiformis have formed Coeliac Societies in all Australian States. These Societies provide information on the disease, gluten free diet, ingredients, where to buy, Cooking and recipes, overseas travel, education material, etc. If you would like to become a member or would like more information, please contact your State Society. [www.coeliac.org.au](http://www.coeliac.org.au)