

# Dietary advice for people with **COELIAC DISEASE**

Key Reviewer: **Dr Lisa Houghton**, Lecturer: Department of Human Nutrition, University of Otago

## Key concepts

- A gluten free diet is first line treatment for coeliac disease.
- A wide range of gluten free foods are now available in supermarkets, however it is important to read labels.
- There is a limited range of gluten free foods available partly subsidised on prescription. The only advantage of obtaining these foods on prescription is a possible reduction in cost for the patient.
- Gluten free foods on prescription are not different from, and not necessarily cheaper than supermarket equivalents, when taking into account consultation and other fees.

## Nutritional status of newly diagnosed people

At the time of diagnosis, some patients with coeliac disease present with substantial weight loss, anaemia and evidence of vitamin and mineral deficiencies. Nutritional status depends on the severity of GI tract damage and the length of time that the person has lived with the active disease. Malabsorption of iron, folate, calcium and fat-soluble vitamins are common.

When people with coeliac disease eliminate foods containing gluten from their diet, normal absorption of nutrients is usually restored within a few months but may take up to two years in older adults. Recommended repletion doses of vitamin and minerals are individually based, however many people with coeliac disease benefit from a calcium and vitamin D supplement.<sup>1</sup>

Calcium and vitamin D malabsorption dramatically increases the risk of osteoporosis and osteomalacia in people with gluten-sensitive enteropathy. Most people with coeliac disease have some degree of osteopenia or osteoporosis. People who develop osteoporosis at a young age are usually advised to be tested for coeliac disease. Fortunately, calcium and vitamin D supplementation coupled with a strict gluten-free diet, usually results in remineralisation of the skeleton.<sup>2,3</sup>

## Uncontaminated oats are ok for people with coeliac disease<sup>5</sup>

Oats, as part of a gluten free diet, have been the subject of controversy for a number of years. Recently the Canadian Coeliac Association, supported by Health Canada, has published a position statement on the use of pure and uncontaminated oats by people with coeliac disease.

They concluded that the majority of adults with coeliac disease could safely consume 50 to 70 grams of pure uncontaminated oats per day (half to three quarters cup dry rolled oats) and children could safely consume 20 to 25 grams per day (one quarter cup of dry rolled oats). Studies included in their analysis demonstrated safety over five years. However, the studies involved a small number of patients, the oats were pure, free of gluten contamination and the amount allowed per day was limited.

In New Zealand no oats can be guaranteed to be completely gluten free. Cross contamination with very small amounts of gluten may occur during the planting, harvesting, transport and processing of oats therefore it can be very difficult to avoid.

Some adults with coeliac disease can tolerate small amounts of gluten but if oats were introduced to the diet monitoring would be required to ensure tolerance.

## General remission diet

People with coeliac disease must follow a lifelong gluten free diet by excluding wheat, rye, barley and their derivatives. This means they cannot eat most breads, cereals, biscuits, pastas and processed foods. For some people adherence to a gluten free diet is difficult. However eating gluten containing foods often results in an immediate return of gastrointestinal symptoms and increases the risk of long-term health issues including osteoporosis, anaemia and autoimmune disorders.

People following a gluten-free diet can eat all non-carbohydrate food normally, however it is important to read food labels as processed food, coatings, sauces and dressings may contain gluten. Safe carbohydrate choices include potato, kumara, pumpkin, parsnips, yams, corn/maize, beans, pulses and rice.

Most supermarkets and health food shops now sell a wide range of gluten free products including non-wheat based flours, potato flour, rice flour and maize flour.

There is some concern about the level of gluten contamination in gluten free products and whether trace amounts of gluten are acceptable for people with coeliac disease. A low gluten diet may be tolerated by some adults with coeliac disease. Low gluten foods must have less than 20 mg of gluten per 100 g of the food. One study found that the residual gluten in gluten-free products is at a safe limit at usual consumption levels for adults with coeliac disease.<sup>4</sup> A zero gluten diet is recommended for children with coeliac disease, although consumption of commercially prepared gluten free foods is considered safe.

Gluten free diets generally should not be trialled without confirmation of the diagnosis of coeliac disease.

## Special foods

A small range of gluten free foods, including flour, bread mix and pasta, is available partially subsidised on the New Zealand pharmaceutical schedule. Initial application must



be made by a specialist for those diagnosed by biopsy with gluten enteropathy or those with dermatitis herpetiformis (caused by allergy to gluten).

### Partially subsidised gluten free foods

The price of prescription gluten free foods varies between pharmacies depending on their mark-up. Average costs\* to the patient are:

- \$4.04 for Healtheries gluten free baking mix 1000g
- \$7.25 for Bakels gluten free bread mix 1000g
- \$4.83 for NZB low gluten bread mix 1000g
- \$7.66 for Horleys gluten free bread mix 1000g
- \$12.83 for Horleys gluten free flour 2000g
- \$1.09 –s \$2.07 for Orgran gluten free pasta 250g

\* Estimated charge based on pharmacy mark-up plus GST. Wholesaler and pharmacy mark-ups may vary. This does not include prescription charges.

The only advantage of obtaining gluten free foods on prescription is a possible reduction in cost for the patient. However, there is not always an advantage once other

costs of obtaining a prescription are taken into account. As special foods are only dispensed by a limited number of pharmacies (usually hospital pharmacies) access may be an issue also.

### Further resources

The Manufactured Foods Database, compiled by Auckland City Hospital on behalf of the New Zealand Food Safety Authority, provides listings of manufactured foods available in New Zealand that are suitable for people with some common food allergies or intolerances including gluten intolerance:

[www.mfd.co.nz](http://www.mfd.co.nz)

The Coeliac Society of New Zealand offers many resources on its website including a list of gluten-free cafes and restaurants throughout New Zealand (click on “Eating by region”).

[www.colourcards.com/coeliac/](http://www.colourcards.com/coeliac/)

 See BPJ 9 “Coeliac disease” for further information on diagnosis, treatment and management.

### References

1. Niewinski M. Advances in coeliac disease and gluten-free diet. *J Am Diet Assoc.* 2008;108(4):661-72.
2. Valdimarsson T, Lofman O, Toss G, Strom M. Reversal of osteopenia with diet in adult coeliac disease. *Gut* 1996;38:322-7.
3. Sategna-Guidetti C, Grosso SB, Grosso S, et al. The effects of 1-year gluten withdrawal on bone mass, bone metabolism and nutritional status in newly-diagnosed adult coeliac disease patients. *Aliment Pharmacol Ther* 2000; 14:35-43.
4. Collin P, Thorell L, Kaukinen K, Mäki M. The safe threshold for gluten contamination in gluten-free products. Can trace amounts be accepted in the treatment of coeliac disease? *Aliment Pharmacol Ther* 2004;19(12):1277–83.
5. Canadian Coeliac Association. Guidelines for consumption of pure and uncontaminated oats by individuals with coeliac disease 2007. Available from <http://www.celiac.ca/> (Accessed July 2009).