Gluten and casein are both naturally occurring proteins found in food. Gluten is found in wheat, spelt, barley, and rye. Casein is found in dairy products such as milk, cheese and yogurt. In some individuals, these proteins may trigger a range of symptoms, such as digestive pain, bloating or changes in bowel function; or exacerbate inflammatory issues, such as allergy or autoimmune disease. Based on your clinical presentation, your Practitioner may suggest following a diet that avoids the consumption of either gluten, casein, or both proteins for a short or extended period of time, as this may help relieve your symptoms.

While removing gluten and/or casein from your diet may seem overwhelming, there are many healthy and delicious foods that are naturally gluten and/or casein free. While following the gluten and/or casein free diet, choose wholefoods such as fruits, vegetables, meat, poultry, fish and seafood, beans, legumes, and nuts. Avoid highly processed gluten free or dairy free foods, high in refined sugar and fats. Table 1 below provides a list of foods to avoid and provides recommendations for substitutions.

Table 1: Foods containing gluten or casein to consume or avoid

|  | RECOMMENDED | AVOID X |
| :---: | :---: | :---: |
| Grains and Legumes | - Amaranth <br> - Arrowroot <br> - Basmati Rice <br> - Beans <br> - Brown Rice <br> - Buckwheat <br> - Chickpeas <br> - Lentils <br> - Millet <br> - Pea <br> - Quinoa <br> - Wild Rice <br> - Flour - any flour made from the above sources | - Baked Beans (unless gluten free) <br> - Flours - wheat flour, wholemeal flour, bakers flour, semolina, barley, rye (avoid battered or crumbed food) <br> - Wheat including durum, semolina, triticale, rye,barley, bulgur, couscous, and oats |
|  | - Buckwheat noodles <br> - Rice noodles <br> - Vegetable, corn, spinach, legume or quinoa pasta | - Durum wheat pasta (spaghetti, macaroni etc.) <br> - Egg noodles <br> - Hokkein noodles <br> - Barley pasta <br> - Spelt pasta <br> - Kamut pasta |
| Breads and Cereals | - Gluten free breads based on buckwheat, corn, rice, chickpea flour or other non-gluten containing flours. <br> - Gluten free muesli, homemade muesli made from a combination of brown rice flakes, millet flakes, organic cornflakes, puffed corn, puffed rice, raw nuts and seeds, shredded coconut <br> - Puffed quinoa | - Wheat breads - wholegrain, white bread, rye bread, oat bread, barley bread, pumpernickel bread. <br> - Non-gluten free cereals products (i.e. most commercial brands) |
|  | - Rice cakes <br> - Corn cakes <br> - Gluten-free products | - Wheat crackers <br> - Bran biscuits <br> - Ryvita crackers <br> - Oatcakes |
| Condiments | - Bouillon stock powder <br> - Sesame salt <br> - Tamari (check label) <br> - Mustard seeds <br> - Fresh dried herbs and spices <br> - Apple cider vinegar | - Gravy mixes, seasonings and rubs (unless GF) <br> - Hydrolysed vegetable protein <br> - Malt <br> - Malt vinegar <br> - Modified starch <br> - Mustard pickles <br> - Soy sauce <br> - Texturised vegetable protein <br> - Vegemite |
|  | - Fruit <br> - Nuts <br> - Dried fruits <br> - Desserts made without gluten and casein-containing ingredients | - Commercial cakes, biscuits, cookies, cakes, scones <br> - Pastries <br> - Ice Cream <br> - Liquorice |
| Dairy foods (casein-free Diets only) | - Almond milk <br> - Soy milk and yogurt <br> - Rice milk <br> - Non-dairy alternatives products (i.e. coconut yoghurt/ice cream) | - Cow's milk <br> - Goat's milk <br> - Butter <br> - Cheese <br> - Sour cream <br> - Yogurt <br> - Ice cream |

An increased level of consideration and care must be taken to avoid cross contamination during food preparation for coeliac patients to prevent gluten exposure, as doses as small as 50 mg of gluten (equivalent to $1 / 100$ of a slice of standard wheat bread) can damage the small intestine in people with Coeliac Disease (CD). ${ }^{1}$

## Tips to reduce the risk of cross-contamination include:

- Thoroughly clean breadboards, knives and other cooking utensils used in preparation of gluten-containing foods.
- Ensure appliances such as toasters, sandwich makers and grills are clean before preparing gluten free foods.
- Encourage patients to invest in a separate toaster/appliance for non-gluten free products when living in a shared environment.
- Use separate butter and condiment pots to prevent crumb contamination.
- Use separate water in a clean pot/strainer for cooking or re-heating gluten free pasta.
- Do not dust meats or fish with flour prior to cooking.
- Do not dust cake tins with gluten containing flour (including cornflour).
- Store gluten free products and ingredients in separate sealed containers and clearly label all foods once they have been removed from original packaging.
- Use separate oil for deep-frying. If this is not possible clean deep-frying oil regularly to remove visible batter or crumbs. This will ensure gluten free fried food is not contaminated.
- Icing sugar mixture commonly contains wheat. Keep this in mind when dusting cakes and slices. There is now a gluten free icing sugar mixture available.


## Additional information:

More information can be found on the following websites:

- The Metagenics Custom Elimination Diet: https://www.metagenicsinstitute.com.au/pdfs/diet/f75c2f4f-b529-b180-db61-b3da5555446f
- The Gluten-free and Casein-free (GFCF) Diet: http://www.gfcf.com/index.html
- Coeliac Australia: http://www.coeliac.org.au/
- Coeliac Australia produces an ingredient list booklet that lists over 800 ingredients and 300 additives used in Australian and New Zealand foods, and indicates whether they are safe for inclusion in a GF diet.
- For children, the childcare resource pack developed by Coeliac Australia provides information for teachers and school kitchen staff to help helps provide the best care for children with CD or gluten sensitivity.
- Multilingual Fact Sheets developed by Coeliac Australia may assist in communicating the importance of a GF diet to patients and their close relatives in order to avoid communication gaps with implementing GF diets or catering for gluten-sensitive patients.


## References:

${ }^{1}$ Coeliac Australia. Catering Gluten Free [Internet]. Australia: Coeliac Australia [cited 2020 July 24]. Available from: https://www.coeliac.org.au/catering-gluten-free/

