



Gluten-free has been a craze in the ‘diet world’ for many years. You may have noticed gluten-free labels on food packaging in the supermarket and wondered if you need to avoid gluten if you have diabetes. The simple answer is no, unless you have coeliac disease or non-coeliac gluten sensitivity (NCGS).

What is Gluten?

Gluten is a type of protein found in various grains including wheat, barley, rye, triticale, malt and oats. People with coeliac disease have an immune system that attacks their own body after eating gluten. This causes inflammation in the small intestine, which can cause problems like diarrhoea, abdominal pain, anaemia and ultimately an increased risk of colorectal cancer and infertility. If you have coeliac disease, you need to follow a gluten-free diet for the rest of your life to prevent these complications.

Is There Any Connection Between Diabetes and Gluten?

In Western countries, about 1% of the population has coeliac disease (in Asians, it is only 0.5%¹). Compare this with people with type 1 diabetes, with about 10%² having coeliac disease as well. This could be due to a genetic link between type 1 diabetes and coeliac disease. Both conditions have an inflammatory response that can make our immune system damage the body’s organs, like the intestines or pancreas. However, there does not seem to be any link between type 2 diabetes and coeliac disease.

Non-Coeliac Gluten Sensitivity (NCGS)

Some people have NCGS, but still suffer from symptoms similar to coeliac disease after eating gluten, although there is no damage or injury to the gut itself. It could also be mere intolerance to other components of gluten-containing food (e.g. FODMAPs; a group of fermentable carbohydrates) that could cause symptoms. If you suspect you have either coeliac disease or NCGS, it is important to talk to your doctor for a diagnosis before going on a gluten-free diet (as it is essential to be eating gluten for an accurate diagnosis).

If your diagnosis shows you need go on a gluten-free diet, it can seem difficult to juggle this with diabetes as well. Thus, it is important to speak to a dietitian to ensure you are getting the right nutrition while watching out for all potential sources of gluten.

What if I have Coeliac Disease or NCGS?

Gluten is found in many carb-containing foods because they are grain-based. Other than watching out for the carbohydrate quantity you are eating for your blood sugars, you will have to avoid gluten.

Some tips on following a gluten-free diet include:

- Assume all breads, bakery products, cereals, beer, pastas, wheat noodles, and snack foods, contain gluten unless it states "gluten-free" on the label. Many processed food products may contain traces of gluten including soy sauce, commercial sauces, canned foods containing thickeners, battered or marinated foods, and ice cream. Label reading is paramount!

Healthy starchy foods that are naturally gluten-free which you can include in your meal plan:

- brown, red glutinous and wild rice; and rice noodles like red rice beehoon
- fresh root vegetables, e.g. lotus root, tapioca, yam, white or sweet potatoes (with skin)
- corn/polenta
- buckwheat
- amaranth
- millet
- soy
- quinoa
- sorghum
- teff
- legumes, dhall and besan flour



- Do not be tricked: having a gluten-free label does not automatically make a product 'healthy'! Gluten-free products often have more added sugar or salt to enhance the flavour, so read the labels to choose a healthier choice. Gluten-free alternatives may also have different carbohydrate counts compared to the 'regular' version than what you are used to. Count these carbohydrate products as you would in your regular carbohydrate allowance in the day!

Many gluten-free products tend to be lower in fibre (e.g. noodles or biscuits made with tapioca flour, which is lower in fibre than typical wheat-based products). This may spike your blood sugars, so it is important to try to choose high-fibre gluten-free products to help regulate your blood sugars.



Should I go Gluten-Free?

If you do not have diagnosed coeliac disease or NCGS, you should not be following a gluten-free diet. There are no health benefits to a gluten-free diet compared with other diets optimal for diabetes. In fact, it could put you at risk of certain nutrient deficiencies and unnecessary expenditure on your wallet. However, if you do have coeliac disease or NCGS, then going gluten-free is an essential aspect to managing your condition and symptoms.

For more information on the gluten-free diet, you can visit <http://www.singaporecoeliacs.com/gluten-free-diet/> for tips on living in Singapore with a gluten-free diet, and https://www.health.qld.gov.au/__data/assets/pdf_file/0026/149930/gastro_coeliac.pdf for a comprehensive leaflet on foods to avoid and foods you can eat.

References:

1. <https://onlinelibrary.wiley.com/doi/pdf/10.1111/jgh.13270>
2. <http://www.diabetes.org/food-and-fitness/food/planning-meals/gluten-free-diets/>

About the author: Bonnie Lau is an accredited practising dietitian, with over five years' working experience. She has worked in SGH and TTSH, and is currently at Holmusk with its flagship product GlycoLeap (<https://glycoleap.com>).