

Diabetes

Life Lines



June-July, 2014

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Diabetes - the Medical Perspective

Celiac disease is an autoimmune disease. This means the body's cells attack themselves. The "attack" is an immune response. Many times an immune response can be good. AN immune response is what helps you recover from viruses or get rid of harmful bacteria. In an autoimmune disease, though, a trigger causes an immune response that is damaging to the body because its own cells, not a virus or bacteria, or the target.

The trigger in celiac disease is gluten. Gluten is a protein found in wheat, rye and barley. When people with celiac disease eat wheat, rye or barley, their immune system "attacks" the cells of the small intestine. This is where the gluten is first noticed by the body after digestion.

Type 1 diabetes is also an autoimmune disease order. In this autoimmune disorder it is the cells of the pancreas that are "attacked" and

destroyed instead of those of the intestine as found in celiac disease. People with type 1 diabetes have celiac disease more often than those who do not have type 1 diabetes. Researchers feel that this is because both are autoimmune diseases.

The symptoms of celiac disease include diarrhea, cramping, gas, and bloating. These occur because of the immune system attack on the intestinal cells. There can also be poor absorption of fat, carbohydrates, protein, vitamins and minerals. In addition, those with celiac disease may also have skin rashes, migraines and joint and bone pain. These can occur even though the main "attack" is on the intestine. Other parts of the body also feel the results of the immune system being called in for an "attack".

Children diagnosed with type 1 diabetes are often screened for celiac disease. The screening includes blood tests and tissue biopsy. Adults with type 1 disease may not have noticeable symptoms. They may want to ask their doctor about celiac disease. Adults with type 2 diabetes can develop celiac disease, but not as often as those with type 1 diabetes.

Diabetes and Food

Gluten free diets are the only treatment for those with celiac disease, also called gluten enteropathy. A gluten free diet avoids all kinds of wheat, including farina and graham. Farina is a breakfast cereal made from semolina wheat. Cereals like cream of wheat and Malt-O-Meal have this type of wheat. Graham wheat is found in graham crackers.

Rye and barley also need to be avoided. They also contain gluten. (Gluten is the protein that causes the immune responses and discomfort.) Less common sources of gluten include triticale, malt, and brewer's yeast.

If you have diabetes and celiac disease, your dietitian will talk to you about what you are currently eating. Replacements for foods you commonly eat that have gluten will be discussed and worked into a meal plan. The carbohydrates in those foods will also be worked into your overall total carbohydrate unites (carb units) if you use carbohydrate counting to manage your diet. If you use other methods to manage your diet in regards to your diabetes, these can also work with the gluten replacement foods.

Gluten-free carbohydrate choices include potatoes, corn, rice and beans, as well as fruit and milk. Rice, potato or bean mixes for convenient side dish

preparation may contain a gluten product. Rather than avoiding all these, you should become an expert in label reading. In addition to avoiding foods with any form of wheat, rye, barley, triticale, malt and brewer's yeast, most also avoid oats unless certified gluten-free. Other words to look for and avoid in foods include

- Hydrolyzed wheat protein
- Kamut
- Matzo
- Modified wheat starch
- Seitan
- Spelt

Although this rules out eating regular bread, muffins, pancakes and most breakfast starchy foods, there are wheat flour substitutes and gluten-free foods available.

Other foods that may need label reading include many beverages, such as coffee, tea, and ades, especially if they are flavored. However, if a label has "gluten-free" on it, you can be sure it has no gluten. This is regulated by the FDA.

Be sure not to cross-contaminate. Keep gluten-free foods away from foods that have gluten in storage, when cooking, and at meal time.

Recipes to Try

Zucchini Salad

4 1-cup servings per recipe

Ingredients

- 1 pound small zucchini, washed
- 2 tablespoons olive oil
- 1 cup chopped red onion
- 1 tablespoon lemon juice
- $\frac{3}{4}$ cup chopped cilantro



Directions

1. Slice zucchini, then half or quarter slices. Place in saucepan with about 1 inch of water and steamer. Steam 3 to 4 minutes.
2. Combine cilantro, onion, and zucchini in a medium bowl.
3. Combine oil and juice, pour over vegetable mixture. Toss gently.

Nutrition Facts per serving

Calories	107	Fat	7 grams
Protein	4 grams	Calories from fat	63
Carbohydrate	7 grams	Cholesterol	0 mg
Fiber	2 grams	Sodium	12 mg

This and other recipes available at
<http://urbanext.illinois.edu/diabetesrecipes/intro.cfm>

Dark Chocolate Strawberry Fondue

16 servings, 3 strawberries each

Ingredients

48 fresh strawberries
2 ounces unsweetened chocolate
½ cup skim milk
5 tablespoons Splenda



Directions

1. Place chocolate squares in a microwave-safe bowl and microwave on high in 1-minute increments until melted. Stir in between re-microwaves.
2. Whisk in milk and Splenda.
3. Dip strawberries using about 1 teaspoon of chocolate per berry.

Nutrition facts per serving

Calories	60	Fat	4 grams
Protein	1 gram	Calories from fat	36
Carbohydrate	5 grams	Cholesterol	0 mg
Fiber	2 grams	Sodium	6 mg

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Sample Menu

BREAKFAST	Amount/ Portion
Cream of rice cereal	1.5 cups
Margarine or butter	2 tablespoons
Soft boiled egg	1
Banana	1
Skim milk	2 cup
Calories 581; 94 carbohydrates; 6 carb units	
LUNCH	
Shrimp Tacos [†]	1 serving (3 tacos)
Spanish Rice [†]	½ cup
Cut raw vegetables	1 cup
Fresh Salsa [†]	½ cup
Low-fat yogurt	6 ounces
Peach	1
Skim milk	1 cup
Calories 560; 95 Carbohydrates; 6 Carbohydrate Choices	
DINNER	
Beef with Green Chile [†]	1 cup
Brown rice	1.5 cup
Zucchini Salad [†]	½ cup
Dark Chocolate Strawberry Fondue [†]	1 serving
Skim milk	1 cup
648 Calories; 89 Carbohydrates; 6 Carbohydrate Choices	
Total: 1800 Calories, 278 Carbohydrates, 18.5 Carbohydrate Choices	

[†] Recipes from *Recipes for Diabetes* at

<http://urbanext.illinois.edu/diabetesrecipes/> or *Fiesta of Flavors* at

<http://urbanext.illinois.edu/fiesta/intro.cfm?fn=intro>

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