



### Tips for Managing a Gluten-Free Diet for those with Diabetes & Celiac Disease

People with type 1 diabetes, as well as other auto-immune diseases, have a greater risk of having celiac disease than the general public. Celiac disease means that gluten, a protein found in wheat, rye and barley, will need to be eliminated from the diet. In some patients, having celiac disease that is untreated will affect blood sugar control.

1. Achieve more stable blood glucose levels by eating 3 meals a day. Try not to go longer than 4 hours without eating.
2. Aim to eat the same amount of carbohydrates per meal. Carbohydrate sources include: gluten-free grains (see page 2), fruits, starchy vegetables and low-fat dairy products. 1 carbohydrate source is equal to 15 grams.
3. On average, if you eat 3 meals per day, consume 45-60 grams of carbohydrates per meal (3-4 carbohydrate choices).
4. Choose foods that provide a good source of fiber such as fruits, vegetables, whole grains and brans (ground flaxseed, rice bran, buckwheat bran, corn bran): Aim for 25-35 grams of fiber per day.
5. Gluten-free grains include:
  - Amaranth
  - Buckwheat
  - Corn
  - Quinoa
  - Millet
  - Montina
  - Rice
  - Sorghum
  - Teff
  - Wild rice

6. Use the "Plate Method" to guide your portion sizes:

- 1/4 of your plate = lean meat or protein
- 1/4 of your plate = whole grains or starches
- 1/2 of your plate = non-starchy vegetables

7. Gluten free products may be higher in carbohydrates than non gluten free products. Check food labels for carbohydrate content per serving.

8. Serving size matters! Be sure to note the amount of carbohydrate **per serving size**.

Nutrition Facts		
Serving Size: 1/4 cup dry (41g)		
Servings Per Container: 17 (per 26 oz bag)		
Amount Per Serving:	Dry	With 1/2 cup FLAVD fortified skim milk
<b>Calories</b>	150	200
Calories from Fat	10	15
<b>% Daily Value**</b>		
<b>Total Fat</b> 1g*	2%	2%
Saturated Fat 0g	0%	2%
Trans Fat 0g		
<b>Cholesterol</b> 0mg	0%	1%
<b>Sodium</b> 5mg	0%	3%
<b>Total Carbohydrate</b> 32g	11%	12%
Dietary Fiber 2g	8%	8%
Sugars 0g		
<b>Protein</b> 3g		
Vitamin A	0%	8%
Vitamin C	0%	2%
Calcium	0%	20%
Iron	4%	4%

\* Amount in mix. As prepared, one serving provides 1.5g fat (.5g saturated fat, .5g polyunsaturated fat, .5g monounsaturated fat), 2.5mg cholesterol, .75mg sodium, .39g carbohydrates (2g dietary fiber, 6g sugar) and 8g protein.

\*\* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

Serving size = 1/4 cup dry (equal to 3/4 cup cooked)

Total Carbohydrate = 32g

## Grams of Carbohydrates in Gluten Free Grains, Flours and Starches

The table below lists the amount of carbohydrate in many gluten-free grains, flours and starches. Use the food label first, if available. If not, use the amounts listed below to count carbohydrates.

Grains/Flours/Starches - 1 cup	Carb grams	Grains/Flours/Starches – 1 cup	Carb grams
Hazelnut flour	19	Montina flour	105
Almond flour	21	Arrowroot starch	113
Soy flour (full-fat)	30	Cornstarch	117
Buckwheat groats (cooked)	34	Quinoa grain (dry)	117
Wild rice grain (cooked)	35	Tapioca starch	119
Flaxseed meal(ground flax)	38	Wild rice grain (dry)	120
Soy flour (de-fatted)	38	Rice flour, brown	121
Rice, white, long grn (cooked)	41	Mesquite flour	122
Millet (cooked)	41	Buckwheat groats (dry)	123
Rice, brwn, long grn (cooked)	45	Rice flour, white	127
Garbanzo bean flour	73	Amaranth seed (dry)	129
Pea flour (golden)	76	Teff grain (dry)	130
Quinoa flour	77	Potato flour	133
Buckwheat flour	85	Sorghum grain	143
Millet flour	89	Rice, brown, long grain (dry)	143
Amaranth flour	89	Millet grain (dry)	146
Garfava flour	92	Rice, white, long grain (dry)	150
Cornmeal (whole grain)	94	Potato starch	158
Teff flour	94	Rice flour, brown	121
Rice flour, sweet	95	Mesquite flour	122
Sorghum flour	102		

### Additional Resources:

- *Managing Diabetes and Celiac Disease Together*
  - § Handbook Canadian Celiac Association and additional books/resources (Note: handbook contains information on Canadian food label, which is slightly different than the U.S. food label, and includes metric measurements.)  
[Canadian Celiac Association - Products](#)
  - § Canadian Celiac Association [www.celiac.ca](http://www.celiac.ca)
- *Celiac-Diabetes listserv*
  - § Free listserv for people with both diseases
  - § For more information or to join: [www.enabling.org/ia/celiac/](http://www.enabling.org/ia/celiac/)
- *Celiac Disease*
  - § Additional Resources available at: [www.GInutrition.virginia.edu](http://www.GInutrition.virginia.edu)
    - Click on Celiac Resources and Support Group
    - See article on Combining Diabetes and Gluten-Free Diets
- *Clan Thompson's Pocket Guide to Food* [www.clanthompson.com](http://www.clanthompson.com)
  - *Cecelia's Marketplace Gluten-Free Grocery Shopping Guide*  
[www.ceceliasmarketplace.com](http://www.ceceliasmarketplace.com)