Counting Carbohydrates with Type 1 Diabetes and Celiac Disease

You are not alone; 7 to 12 out of 100 people with type 1 diabetes also have celiac disease. It is important for you to control your blood sugar and follow a gluten-free diet. This handout provides examples of gluten-free foods and lists the amount of carbohydrate per serving. The foods are split into the following groups:

- Starches
- Fruits and Fruit Juices
- Milk, Yogurt, and Dairy-Like Foods
- Non-Starchy Vegetables
- Sweets, Desserts, and Other Carbohydrates
- Meats and Meat Substitutes
- Fats

The carbohydrate grams are listed at the top of each section.

Note the serving size listed for each food.

Although the foods listed here are usually gluten free, be sure to read nutrition labels on all mixed foods and processed foods to check for possible gluten-containing ingredients. Contact the manufacturer when in doubt.

Starches

Breads and Flours Each Serving = 15 grams carbohydrate Protein, fat and calories vary in gluten-free products		
Bagel, gluten-free (corn, rice, potato)	1/4 (1 oz)	
Biscuit, gluten-free (rice, potato)	1 small (1 oz)	
Bread, gluten-free (rice)	1/2 - 1 slice (1 oz)	
Bun, hotdog or hamburger, gluten-free (rice/tapioca)	1/4 bun (1 oz)	
Naan Bread, gluten-free (rice)	8 inches by 2 inches	
Pancake, gluten-free (rice, tapioca)	1 (4-inches across)	
Pita Bread, gluten-free (rice)	1/2 pocket (6-inches across)	
Waffle, gluten-free (rice, potato, tapioca)	1 (4-inch)	
Buckwheat flour	3 Tbsp	
Cornmeal	2 1/2 Tbsp	
Flax seed, ground	1/2 cup	
Masa (corn flour)	3 Tbsp	
Ragi flour	1/4 cup	
Taco shell or tostada shell, corn	2 crisp shells (5-inches across)	
Tortilla, corn	1 (6-inch)	



Cereals, Grains and Pasta Each Serving = 15 g carbohydrate Protein, fat and calories vary in gluten-free products		
Amaranth, grain, cooked	1/3 cup	
Buckwheat grain, dry	2 Tbsp	
Cereals		
Corn Flakes	2/3 cup	
Cream of rice, cooked	1/2 cup	
Grits, corn, cooked	1/2 cup	
Puffed corn	1/2 cup	
Puffed millet	1 cup	
Puffed rice	1 cup	
Kasha (buckwheat only)	1/2 cup	
Hominy grits, dry, regular	2 Tbsp	
Millet, cooked	1/3 cup	
Montina flour, dry	2 Tbsp	
Pasta (rice, corn, potato), cooked	1/3 cup	
Polenta, cooked	1/3 cup	
Quinoa, cooked	1/3 cup	
Rice, white or brown, cooked	1/3 cup	
Sago flour, dry	1 Tbsp	
Soba Noodles, (100% buckwheat)	2/3 cup	
Sorghum, dry	2 Tbsp	
Teff, dry	1/3 cup	
Wild rice, cooked	1/2 cup	

Starchy Vegetables Each Serving = 15 g carbohydrate, 3 g protein, 0-1 g fat, 80 calories		
Cassava	1/3 cup	
Corn	1/2 cup	
Corn on cob, large	1/2 cob (5 oz)	
Hominy, canned	3/4 cup	
Parsnips	1/2 cup	
Peas, green	1/2 cup	
Plantain, ripe	1/3 cup	
Potato		
Baked with skin	1/4 large (3 oz)	
Boiled, all kinds	1/2 cup (3 oz)	
Mashed, with milk	1/2 cup	
French fries (or oven baked fries)	1 cup (2 oz)	

Starchy Vegetables (continued) Each Serving = 15 g carbohydrate, 3 g protein, 0-1 g fat, 80 calories		
Pumpkin, canned, no sugar added	1 cup	
Squash, winter (acorn, butternut)	2/3 cup	
Succotash	1/2 cup	
Tapioca pearls, dry	2 Tbsp	
Taro root	1/3 cup	
Yam, sweet potato	1/2 cup	
Yucca	1/4 cup	

Snacks Each Serving = 15 g carbohydrate, 3 g protein, 0-1 g fat, 80 calories	
Popcorn, popped	3 cups
Potato chips, plain, salted	1 oz (11 chips)
Rice cakes, plain, salted	2 (4-inch)

Beans, Peas and Lentils (cooked) (also found under Meat and Meat Substitutes)		
Each Serving = 15 g carbohydrate, 7 g protein, 0-3 g fat, 125 calories		
Baked beans	1/3 cup	
Beans (black, garbanzo, kidney,	1/2 cup	
lima, navy, pinto, white)		
Lentils (brown, green, yellow)	1/2 cup	
Peas (black-eyed, split)	1/2 cup	
Refried beans, canned	1/3 cup	
Soybeans (edamame)	1/2 cup	

Fruit and Fruit Juices

Fruit		
Each Serving = 15 g carbohydrate, 0 g protein, 0 g fat, 60 calories Note: the weights in parentheses include the peel, skin, rind, and seeds		
Apple, unpeeled, small	1 (4 oz)	
Apples, dried	4 rings	
Applesauce, unsweetened	1/2 cup	
Apricots, fresh	4 whole (5 1/2 oz)	
Apricot, dried	8 halves	
Banana	1/2 large or 1 baby banana (4 oz)	
Blackberries	3/4 cup	
Blueberries	3/4 cup	

Fruit (continued) Each Serving = 15 g carbohydrate, 0 g protein, 0 g fat, 60 calories	
Cantaloupe	1 cup cubed (11 oz)
Cherries	
Sweet, canned	1/2 cup
Sweet, fresh	12 (3 oz)
Dates	3
Dried fruits	2 Tbsp
Figs	2 medium (3 1/2 oz)
Fruit cocktail	1/2 cup
Grapefruit	
Large	1/2 (11 oz)
Sections, canned	3/4 cup
Grapes, small	17 (3 oz)
Honeydew	1 cup cubed (10 oz)
Kiwi, large	1 (3 1/2 oz)
Mandarin oranges, canned	3/4 cup
Mango	1/2 cup or 1/2 small (5 1/2 oz)
Nectarine, small	1 (5 oz)
Orange, small	1 (6 1/2 oz)
Papaya	1 cup cubed (8 oz)
Peach	
Canned	1/2 cup
Fresh, medium	1 (6 oz)
Pear	
Canned	1/2 cup
Fresh, large	1/2 (4 oz)
Pineapple	
Canned	1/2 cup
Fresh	3/4 cup
Plums	
Canned	1/2 cup
Fresh, small	2 (5 oz)
Prunes	3
Raisins	2 Tbsp
Raspberries	1 cup
Strawberries	1 1/4 cup whole berries
Tangerines, small	2 (8 oz)
Watermelon	1 1/4 cup cubes (13 1/2 oz)

Fruit Juice (Liquid = fast absorption) Each Serving = 15 g carbohydrate, 0 g protein, 0 g fat, 60 calories		
Apple juice or apple cider	1/2 cup	
Fruit juice blends, 100% juice	1/3 cup	
Grape juice	1/3 cup	
Grapefruit juice	1/2 cup	
Orange juice	1/2 cup	
Pineapple juice	1/2 cup	
Prune juice	1/3 cup	

Milk and Yogurt

Fat-free (skim) and Low-fat (1%) Selections (Best choice) Each Serving = 15 g carbohydrate, 8 g protein, 0-3 g fat, 100 calories		
Fat-free or low-fat buttermilk 1 cup		
Fat-free milk	1 cup	
Low-fat, 1 % milk	1 cup	
Evaporated fat-free milk	1/2 cup	
Fat-free dry milk powder	1/3 cup dry	
Yogurt,		
Fat-free, flavored with artificial sweetener	2/3 cup (6 oz)	
Plain, fat-free	2/3 cup (6 oz)	

Reduced-Fat Selections Each Serving = 15 g carbohydrate, 8 g protein, 5 g fat, 120 calories	
Milk, 2%	1 cup
Kefir	1 cup
Yogurt, plain low-fat	2/3 cup (6 oz)
Sweet acidophilus milk	1 cup

Whole Milk Selections (Limit use - high in saturated fat) Each Serving = 15 g carbohydrate, 8 g protein, 8 g fat, 160 calories	
Milk, whole	1 cup
Evaporated whole milk	1/2 cup
Yogurt, plain (made from whole milk)	1 cup (8 oz)
Goat's milk	1 cup

Non-dairy Milks Food composition varies – See right-hand column		
Almond milk	1 cup	10 g carb, 2 g protein, 2 1/2 g fat, 70 calories
Rice milk	1 cup	23 g carb, 1 g protein, 2 1/2 g fat, 120 calories
Soy milk		
Light	1 cup	15 g carb, 4 g protein, 3 g fat
Regular, plain	1 cup	15 g carb, 8 g protein, 5 g fat

Sweets, Desserts, and Other Carbohydrates

Beverages, Soda, Energy and Sports Drinks Carbohydrate content varies – See right-hand column		
Cranberry juice cocktail	1/2 cup	15 g carb
Energy drink	1 can (8.3 oz)	30 g carb
Fruit drink or lemonade	1 cup (8 oz)	30 g carb
Hot chocolate		
Regular	1 envelope (added to 8 oz water)	30 g carb, 5 g fat
Sugar-free or light	1 envelope (added to 8 oz water)	15 g carb
Soft drink (soda), regular	1 can (12 oz)	38 g carb
Sports drink	1 cup (8 oz)	15 g carb

Pudding, Sweets, Sweeteners, Syrups, and Toppings Food composition varies – See right-hand column		
Candy, hard	3 pieces	15 g carb
Chocolate "kisses"	5 pieces	15 g carb, 5 g fat
Gelatin, regular	1/2 cup	15 g carb
Honey	1 Tbsp	15 g carb
Pudding, (without wheat flour)		
Regular	1/2 cup	30 g carb, 3 g protein, 6 g fat
Sugar-free	1/2 cup	15 g carb, 2 g protein, 1g fat
Sugar	1 Tbsp	15 g carb
Syrup		
Chocolate	2 Tbsp	30 g carb
Light (pancake type)	2 Tbsp	15 g carb
Regular (pancake type)	1 Tbsp	15 g carb

Non-Starchy Vegetables

Serving size = 1/2 cup cooked 1 cup raw 1/2 cup vegetable juice

Each Serving = 5 g carbohydrate, 2 g protein, 0 g fat, 25 calories		
Amaranth or Chinese spinach	Mushrooms	
Artichoke and Artichoke hearts	Okra	
Asparagus	Onions	
Baby corn	Oriental radish or daikon	
Bamboo shoots	Pea pods (snow peas)	
Beans (green, wax, Italian)	Peppers (all varieties)	
Bean sprouts	Radishes	
Beets	Rutabaga	
Bok choy	Sauerkraut	
Borscht	Soybean sprouts	
Broccoli	Spinach	
Brussels sprouts	Summer squash	
Cabbage - all types	Sugar snap peas	
Carrots	Swiss chard	
Cauliflower	Tomato (fresh or canned)	
Celery	Tomato sauce	
Chayote	Tomato juice/vegetable juice	
Coleslaw, no dressing	Turnips	
Cucumber	Water chestnuts	
Eggplant	Yard-long beans	
Gourds (bitter, bottle, luffa)	Zucchini	
Greens (collard, kale, mustard, turnip)		
Green onions or scallions		
Hearts of palm	Salad greens are Free Foods	
Jicama	including: chicory, endive, escarole, lettuce, romaine,	
Kohlrabi	spinach, arugula, radicchio,	
Leeks	and watercress.	
Mixed vegetables (without corn or peas)		
Mung bean sprouts		

Meats and Meat Substitutes

Lean Selections		
(Good choice)		
Each Serving = 0 g carbohydrate, 7 g protein, 0-3 g fat, 45 calories		
Beef (Select or Choice grades): ground round, roast (chuck,	1 oz	
rib, rump), steak (sirloin, flank, porterhouse,		
T-bone), tenderloin		
Cheeses (0-3 g fat per oz)	1 oz	
Cottage cheese	1/4 cup	
Egg substitute, plain	1/4 cup	
Egg whites	2	
Fish: catfish, cod, flounder, haddock, halibut,	1 oz	
orange roughy, salmon, tilapia, trout, tuna (not breaded)		
Fish, smoked: herring or salmon (lox)	1 oz	
Game: buffalo, ostrich, rabbit, venison	1 oz	
Lamb: chop, leg, roast	1 oz	
Organ meats: heart, kidney, liver (high cholesterol)	1 oz	
Oysters, fresh or frozen	6 medium	
Pork, lean: tenderloin, rib or loin chop	1 oz	
Poultry, skinless: Cornish hen, chicken, turkey, domestic	1 oz	
duck or goose (well-drained of fat)		
Shellfish: clams, crab, lobster, scallops	1 oz	
Shrimp and squid (high cholesterol)	1 oz	
Tuna, canned in water or oil, drained	1 oz	
Veal, lean chop, roast	1 oz	
Salmon, canned	1 oz	
Sardines, canned	2 medium	
Processed meats may contain gluten. Read labels for		
gluten containing ingredients and contact manufacturer		
if in doubt.		
Canadian bacon	1 oz	
Ham	1 oz	
Sausage (low fat = 0-3 g fat per oz)	1 oz	

Medium Fat Selections Each Serving = 0 g carbohydrate, 7 g protein, 4-7 g fat, 75 calories		
Cheese, reduced-fat cheeses	1 oz	
(4-7 g fat per oz)		
Ricotta cheese	1/4 cup, 2 oz	
Mozzarella	1 oz	
Feta cheese	1 oz	
Beef: corned beef, ground beef,	1 oz	
Prime grades trimmed of fat (prime rib),		
short ribs, tongue		
Egg	1 whole	
Fish, fried (no breading)	1 oz	
Lamb: ground, rib roast	1 oz	
Pork: cutlet, shoulder roast	1 oz	
Poultry: chicken with skin, dove, pheasant,	1 oz	
wild duck, wild goose, ground turkey,		
fried chicken (no breading)		
Veal, cutlet (no breading)	1 oz	
Processed meats may contain gluten. Read		
labels for gluten containing ingredients and		
contact manufacturer if in doubt.		
Reduced-fat lunch meats (4-7 grams of fat per oz)	1 oz	
Sausage (medium fat = 4-7 g fat per oz)	1 oz	

High Fat Selections (Limit use) Each Serving = 0 g carbohydrate, 7 g protein, 8 or more g fat, 100 calories		
Cheese, regular: American, bleu, brie, cheddar, colby, hard goat, Monterey jack, queso, Swiss	1 oz	
Processed meats may contain gluten. Read labels for gluten containing ingredients and contact manufacturer if in doubt. Bacon		
regular pork bacon turkey bacon	2 slices 3 slices	
Hot dog: beef, pork, turkey, or chicken	1 hot dog	
Pork: ground, spareribs, sausage	1 oz	
Processed meats: bologna, pastrami, hard salami	1 oz	
Sausages: bratwurst, chorizo, Italian, knockwurst, Polish, smoked, summer	1 oz	

Plant-Based Proteins Carbohydrate content varies – See right-hand column		
Baked beans	1/3 cup	15 g carb, 7 g protein, 0-3 g fat
Beans, cooked: black, garbanzo, kidney, lima, navy, pinto, white	1/2 cup	15 g carb, 7 g protein, 0-3 g fat
Edamame	1/2 cup	8 g carb, 8 g protein, 0-3 g fat
Hummus	1/3 cup	15 g carb, 7 g protein, 8 g fat
Nut butters: almond, cashew, peanut, soy (no-sugar)	1 Tbsp	0 g carb, 7 g protein, 8 or more g fat
Peas, cooked: black-eyed and split peas	1/2 cup	15 g carb, 7 g protein, 0-3 g fat
Refried beans, canned	1/3 cup	15 g carb, 7 g protein, 0-3 g fat
Soy nuts, unsalted	3/4 oz	8 g carb, 7 g protein, 4-7 g fat
Tempeh (soy only)	1/4 cup	0 g carb, 7 g protein, 4-7 g fat
Tofu	4 oz (1/2 cup)	7 g protein, 4-7 g fat
Tofu, light	4 oz (1/2 cup)	7 g protein, 0-3 g fat

Fats

Monounsaturated Fats Each Serving = 0 g carbohydrate, 0 g protein, 5 g fat, 45 calories		
Avocado	2 Tbsp (1 oz)	
Nut butters (trans fat-free):	1 1/2 tsp	
almond butter, cashew butter, peanut butter		
Nuts:		
Caution: Seasoned nuts may contain gluten. Read labels or		
contact manufacturer.		
Almonds	6 nuts	
Brazil	2 nuts	
Cashews	6 nuts	
Filberts (hazelnuts)	5 nuts	
Macadamia	3 nuts	
Mixed (50% peanuts)	6 nuts	
Peanuts	10 nuts	
Pecans	4 halves	
Pistachios	16 nuts	
Oils: olive oil, canola oil, peanut oil	1 tsp	
Olives		
Black (ripe)	8 large	
Green, stuffed	10 large	

Polyunsaturated Fats Each Serving = 0 g carbohydrate, 0 g protein, 5 g fat, 45 calories	
Margarine, reduced-fat	1 Tbsp
(30-50% vegetable oil, trans fat-free)	·
Margarine: stick, tub, or squeeze (trans fat-free)	1 tsp
Mayonnaise:	
Reduced-fat	1 Tbsp
Regular	1 tsp
Mayonnaise-style salad dressing	
Reduced-fat	1 Tbsp
Regular	2 tsp
Nuts:	
Caution: Seasoned nuts may contain gluten. Read labels or	
contact manufacturer.	
Pignolia (pine nuts)	1 Tbsp
Walnuts	4 halves
Oils: corn, cottonseed, flaxseed, grape seed, safflower,	1 tsp
soybean, sunflower	
Margarines with plant stanol esters	4 Theore
Light	1 Tbsp
Regular	2 tsp
Salad dressing:	
Caution: may contain gluten. Always read nutrition labels and look	
for gluten-containing ingredients, or contact the manufacturer.	
Reduced-fat (check label for carbohydrate count)	2 Tbsp
Regular	1 Tbsp
Seeds:	'
Caution: Seasoned nuts may contain gluten. Read labels or	
contact manufacturer.	
flaxseed, pumpkin, sunflower, sesame	1 Tbsp
Tahini, sesame paste	2 tsp

Saturated Fats	
(Limit use)	
Each Serving = 0 g carbohydrate, 0 g protei	in, 5 g fat, 45 calories
Butter	
Reduced-fat	1 Tbsp
Stick	1 tsp
Whipped	2 tsp
Butter blends made with oil	
Reduced-fat or light	1 Tbsp
Regular	1 1/2 tsp
Chitterlings, boiled	2 Tbsp (1/2 oz)
Coconut, shredded	2 Tbsp
Coconut milk	
Light	1/3 cup
Regular	1 1/2 Tbsp
Cream	
Half and half	2 Tbsp
Heavy	1 Tbsp
Light	1 1/2 Tbsp
Whipped	2 Tbsp
Whipped, pressurized	1/4 cup
Cream cheese	
Reduced-fat	1 1/2 Tbsp (3/4 oz)
Regular	1 Tbsp (1/2 oz)
Lard	1 tsp
Oil: coconut, palm, palm kernel	1 tsp
Salt pork	1/4 oz
Shortening, solid	1 tsp
Sour cream	
Reduced-fat or light	3 Tbsp
Regular	2 Tbsp

Compiled from: Choose Your Foods: Exchange Lists for Diabetes American Dietetic Association and American Diabetes Association, 2008

