

The Diabetic Exchange List (Exchange Diet)

*The Exchange Lists are the basis of a meal planning system designed by a committee of the American Diabetes Association and the American Dietetic Association. While designed primarily for people with diabetes and others who must follow special diets, the Exchange Lists are based on principles of good nutrition that apply to everyone.

The Exchange Lists

The reason for dividing food into six different groups is that foods vary in their carbohydrate, protein, fat, and calorie content. Each exchange list contains foods that are alike; each food choice on a list contains about the same amount of carbohydrate, protein, fat, and calories as the other choices on that list.

The following chart shows the amounts of nutrients in one serving from each exchange list. As you read the exchange lists, you will notice that one choice is often a larger amount of food than another choice from the same list. Because foods are so different, each food is measured or weighed so that the amounts of carbohydrate, protein, fat, and calories are the same in each choice.

The Diabetic Exchange List

	Carbohydrate (grams)	Protein (grams)	Fat (grams)	Calories
I. Starch/Bread	15	3	trace	80
II. Meat				
Very Lean		7	0-1	35
Lean		7	3	55
Medium-Fat		7	5	75
High-Fat		7	8	100
III. Vegetable	5	2		25
IV. Fruit	15			60
V. Milk				
Skim	12	8	0-3	90
Low-fat	12	8	5	120
Whole	12	8	8	150
VI. Fat			5	45

You will notice symbols on some foods in the exchange groups. Foods that are high in fiber (three grams or more per normal serving) have the symbol *. High-fiber foods are good for you, and it is important to eat more of these foods.

Foods that are high in sodium (400 milligrams or more of sodium per normal serving) have the symbol #. As noted, it's a good idea to limit your intake of high-salt foods, especially if you have high blood pressure.

If you have a favorite food that is not included in any of these groups, ask your dietitian about it. That food can probably be worked into your meal plan, at least now and then.

I. Starch/Bread List

Each item in this list contains approximately fifteen grams of carbohydrate, three grams of protein, a trace of fat, and eighty calories. Whole-grain products average about two grams of fiber per serving. Some foods are higher in fiber. Those foods that contain three or more grams of fiber per serving are identified with the symbol *.

You can choose your starch exchanges from any of the items on this list. If you want to eat a starch food that is not on the list, the general rule is this:

1/2 cup of cereal, grain, or pasta = one serving 1 ounce of a bread product = one serving

Your dietitian can help you to be more exact.

CEREALS/GRAINS/PASTA		
*Bran cereals, concentrated (such as Bran Buds, All Bran)	1/3 cup	
*Bran cereals, flaked	1/2 cup	
Bulgur (cooked)	1/2 cup	
Cooked cereals	1/2 cup	
Cornmeal (dry)	2 1/2 tbsp	
Grape Nuts	3 tbsp	
Grits (cooked)	1/2 cup	
Other ready-to-eat, unsweetened (plain) cereals	3/4 cup	
Pasta (cooked)	1/2 cup	
Puffed cereal	1 1/2 cups	
Rice, white or brown (cooked)	1/3 cup	
Shredded wheat	1/2 cup	
*Wheat germ	3 tbsp	
DRIED BEANS/PEAS/LENTILS		
*Beans and peas (cooked) (such as kidney, white, split, blackeye)	1/3 cup	
*Lentils (cooked)	1/3 cup	
*Baked beans	1/4 cup	
STARCHY VEGETABLES		
*Corn	1/2 cup	
*Corn on the cob, 6 in.	1 long	
*Lima beans	1/2 cup	
*Peas, green (canned or frozen)	1/2 cup	
*Plaintain	1/2 cup	
Potato, baked 1 small	(3 oz)	
Potato, mashed	1/2 cup	
Squash, winter (acorn, butternut)	3/4 cup	
Yam, sweet potato	1/3 cup	
BREAD		
Bagel 1/2	(1 oz)	
Bread sticks, crisp, 4 in. long x 1/2 in.	2 (2/3 oz)	
Croutons low fat	1 cup	
English muffin	1/2	
Frankfurter or hamburger bun	1/2 (1 oz)	
Pita, 6 in. across	1/2	
Plain roll, small	1 (1 oz)	
Raisin, unfrosted	1 slice	
*Rye, pumpernickel	1 slice	
V / 1 1	(1 oz)	

White (including French, Italian)	1 slice
Winte (including Prench, Italian)	(1 oz)
Whole wheat	1 slice
CRACKERS/SNACKS	
Animal crackers	8
Graham crackers, 2 1/2 in. square	3
Matzoh	3/4 oz
Melba toast	5 slices
Oyster crackers	24
Popcorn (popped, no fat added)	3 cups
Pretzels	3/4 oz
Rye crisp (2 in. x 3 1/2 in.)	4
Saltine-type crackers	6
Whole-wheat crackers, no fat added (crisp breads such as Finn, Kavli,	2-4 slices
Wasa)	(3/4 oz)
STARCHY FOODS PREPARED WITH FAT	
(count as 1 starch/bread serving, plus 1 fat serving)	
Biscuit, 2 1/2 in. across	1
Chow mein noodles	1/2 cup
Corn bread, 2-in. cube	1 (2 oz)
Cracker, round butter type	6
French-fried potatoes (2 in. to 3 1/2 in. long)	10 (1 1/2 oz)
Muffin, plain, small	1
Pancake, 4 in. across	2
Stuffing, bread (prepared)	1/4 cup
Taco shell, 6 in. across	2
Waffle, 4 1/2 in. square	1
Whole-wheat crackers, fat added (such as Triscuits)	4-6 (1 oz)

II. Meat List

Each serving of meat and substitutes on this list contains about seven grams of protein. The amount of fat and number of calories vary, depending on what kind of meat or substitute is chosen. The list is divided into four parts, based on the amount of fat and calories: very lean meat, lean meat, mediumfat meat, and high-fat meat. One ounce (one meat exchange) of each of these includes the following nutrient amounts:

	Carbohydrate (grams)	Protein (grams)	Fat (grams)	Calories
Very Lean		7	0-1	35
Lean		7	3	55
Medium-Fat		7	5	75
High-Fat		7	8	100

You are encouraged to use more lean and medium-fat meat, poultry, and fish in your meal plan. This will help you to decrease your fat intake, which may help decrease your risk for heart disease. The items from the high-fat group are high in saturated fat, cholesterol, and calories. You should limit your choices from the high-fat group to three times per week. Meat and substitutes do not contribute any fiber to your meal plan. Meats and meat substitutes that have 400 milligrams or more of sodium per exchange are indicated with the symbol #.

Tips

- 1. Bake, roast, broil, grill, or boil these foods rather than frying them with added fat.
- 2. Use a nonstick pan spray or a nonstick pan to brown or fry these foods.
- 3. Trim off visible fat before and after cooking.
- 4. Do not add flour, bread crumbs, coating mixes, or fat to these foods when preparing them.
- 5. Weigh meat after removing bones and fat and again after cooking. Three ounces of cooked meat are equal to about four ounces of raw meat. Some examples of meat portions are: 2 ounces meat (2 meat exchanges) = 1 small chicken leg or thigh, 1/2 cup cottage cheese or tuna; 3 ounces meat (3 meat exchanges) = 1 medium pork chop, 1 small hamburger, 1/2 of a whole chicken breast, 1 unbreaded fish fillet, cooked meat, about the size of a deck of cards.
- 6. Restaurants usually serve prime cuts of meat, which are high in fat and calories.

Lean Meat and Substitutes		
Beef	One exchange is equal to any one of the following items: USDA Good or Choice grades of lean beef, such as round, sirloin, and flank steak; tenderloin; and chipped beef#	1 oz
Pork	Lean pork, such as fresh ham; canned, cured, or boiled ham#,	1 oz

	Canadian bacon#, tenderloin	
Veal	All cuts are lean except for veal cutlets (ground or cubed)	1 oz
Poultry	Chicken, turkey, Cornish hen (without skin)	1 oz
Fish	All fresh and frozen fish	1 oz
	Crab, lobster, scallops, shrimp, clams (fresh or canned in water#)	2 oz
	Oysters	6 med
	Tuna# (canned in water)	1/4 cup
	Herring (uncreamed or smoked)	1 oz
	Sardines (canned)	2 med
Wild Game	Venison, rabbit, squirrel	1 oz
	Pheasant, duck, goose (without skin)	1 oz
Cheese	Any cottage cheese	1/4 cup
	Grated parmesan	2 tbsp
	Diet cheese# (with fewer than 55 calories per ounce)	1 oz
Other	95% fat-free luncheon meat	1 oz
	Egg whites	3
		1/4
	Egg substitutes (with fewer than 55 calories per 1/4 cup)	cup
	Medium-Fat and Meat Substitutes	
	One exchange is equal to any one of the following items:	1
Beef	Most beef products fall into this category. Examples are: all ground beef, roast (rib, chuck, rump), steak (cubed, Porterhouse, T-bone), and meat loaf.	l 1 oz
Pork	Most pork products fall into this category. (Examples: chops, loin roast, Boston butt, cutlets)	1 oz
Lamb	Most lamb products fall into this category (examples: chops, leg, roast)	1 oz
Veal	Cutlet (ground or cubed, unbreaded)	1 oz
Poultry	Chicken (with skin), domestic duck or goose (well drained of fat), ground turkey	1 oz
Fish	Tuna# (canned in oil and drained)	1/4 cup
	Salmon# (canned)	1/4 cup
Cheese	Skim or part-skim milk cheeses, such as:	
	Ricotta	1/4 cup
	Mozzarella	1 oz
	Diet cheeses# (with 56-80 calories per ounce)	1 oz
Other	86% fat-free luncheon meat#	1 oz

	Egg (high in cholesterol, so limit to 3 per week)	1
	Egg substitutes (with 56-80 calories per 1/4 cup)	1/4
	Egg substitutes (with 50-80 calones per 1/4 cup)	cup
	Tofu (2 1/2 in. x 2 3/4 in. x 1 in.)	4 oz
	Liver, heart, kidney, sweetbreads (high in cholesterol)	1 oz
	High-Fat Meat and Substitutes	
Reme	mber, these items are high in saturated fat, cholesterol, and calorie	s, and
	should be eaten only three times per week.	,
	One exchange is equal to any one of the following items:	
Beef	Most USDA Prime cuts of beef, such as ribs, corned beef#	1 oz
Pork	Spareribs, ground pork, pork sausage! (patty or link)	1 oz
Lamb	Patties (ground lamb)	1 oz
Fish	Any fried fish product	1 oz
Cheese	All regular cheese#, such as American, Blue, Cheddar, Monterey, Swiss	1 oz
Other	Luncheon meat#, such as bologna, salami, pimiento loaf	1 oz
	Sausage#, such as Polish, Italian	1 oz
	Knockwurst, smoked	1 oz
	Bratwurst#!	1 oz
	Frankfurter# (turkey or chicken) (10/lb)	1 frank
	Peanut butter (contains unsaturated fat)	1 tbsp.
	Count as one high-fat meat plus one fat exchange:	•
Frankfurt	(heef pork or combination) (100 mg or more of sodium per	1 frank

III. Vegetable List

Each vegetable serving on this list contains about five grams of carbohydrate, two grams of protein, and twenty-five calories. Vegetables contain two to three grams of dietary fiber. Vegetables that contain 400 mg of sodium per serving are identified with a # symbol.

Vegetables are a good source of vitamins and minerals. Fresh and frozen vegetables have more vitamins and less added salt. Rinsing canned vegetables will remove much of the salt. Unless otherwise noted, the serving size for vegetables (one vegetable exchange) is:

1/2 cup of cooked vegetables or vegetable juice 1 cup of raw vegetables

Artichoke (1/2 medium)	Eggplant
Asparagus	Greens (collard, mustard, turnip)
Beans (green, wax, Italian)	Kohlrabi
Bean sprouts	Leeks
Beets	Mushrooms, cooked
Broccoli	Okra
Brussels sprouts	Onions
Cabbage, cooked	Pea pods
Carrots	Peppers (green)
Cauliflower	Tomato (one large)
Rutabaga	Tomato/vegetable juice
Sauerkraut	Turnips
Spinach, cooked	Water chestnuts
Summer squash (crookneck)	Zucchini, cooked

Starchy vegetables such as corn, peas, and potatoes are found on the Starch/Bread List.

For "free" vegetables (i.e., fewer than ten calories per serving), see the Free Food List.

= 400 mg or more of sodium per serving.

IV. Fruit List

Each item on this list contains about fifteen grams of carbohydrate and sixty calories. Fresh, frozen, and dry fruits have about two grams of fiber per serving. Fruits that have three or more grams of fiber per serving have a * symbol. Fruit juices contain very little dietary fiber.

The carbohydrate and calorie contents for a fruit serving are based on the usual serving of the most commonly eaten fruits. Use fresh fruits or frozen or canned fruits with no sugar added. Whole fruit is more filling than fruit juice and may be a better choice for those who are trying to lose weight. Unless otherwise noted, the serving size for one fruit serving is:

1/2 cup of fresh fruit or fruit juice 1/4 cup dried fruit

Fresh, Frozen, and Unsweetened Canned Fruit		
Apples (raw, 2 in. across)	1	
Applesauce (unsweetened)	1/2 cup	
Apricots (canned) (4 halves)	1/2 cup	
Banana (9 in. long)	1/2	

Blackberries (raw)	3/4 cup
*Blueberries (raw)	3/4 cup
Cantaloupe (5 in. across)	1/3
Cantaloupe (cubes)	1 cup
Cherries (large, raw)	12 whole
Cherries (canned)	1/2 cup
Figs (raw, 2 in. across)	2
Fruit cocktail (canned)	1/2 cup
Grapefruit (medium)	1/2
Grapefruit (segments)	3/4 cup
Grapes (small)	15
Honeydew melon (medium)	1/8
Honeydew melon (cubes)	1 cup
Kiwi (large)	1
Mandarin oranges	3/4 cup
Mango (small)	1/2
Nectarines (2 1/2 in. across)	1
Orange (2 1/2 in. across)	1
Papaya	1 cup
Peach (2 3/4 in. across)	1
Peaches (canned) (2 halves)	1 cup
Pear (1/2 large)	1 small
Pears (canned) (2 halves	1/2 cup
Persimmon (medium, native)	2
Pineapple (raw)	3/4 cup
Pineapple (canned)	1/3 cup
Plum (raw, 2 in. across)	2
*Pomegranate	1/2
*Raspberries (raw)	1 cup
*Strawberries (raw, whole)	1 1/4 cup
Tangerine (2 1/2 in. across)	2
Watermelon (cubes)	1 1/4 cup
*Dried Fruit	
*Apples	4 rings
*Apricots	7 halves
Dates (medium)	2 1/2
*Figs	1 1/2
*Prunes (medium)	3
Raisins	2 tbsp
Fruit Juice	
Apple juice/cider	1/2 cup
Cranberry juice cocktail	1/3 cup

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Grapefruit juice	1/2 cup
Grape juice	1/3 cup
Orange juice	1/2 cup
Pineapple juice	1/2 cup
Prune juice	1/3 cup
* = 3 grams or more of fiber per serving	

V. Milk List

Each serving of milk or milk products on this list contains about twelve grams of carbohydrate and eight grams of protein. The amount of fat in milk is measured in percent of butterfat. The calories vary depending on the kind of milk chosen. The list is divided into three parts, based on the amount of fat and calories: skim/very low-fat milk, low-fat milk, and whole milk. One serving (one milk exchange) of each of these includes:

Milk	Carbohydrate (grams)	Protein (grams)		Calories
Skim	12	8	trace	90
Low-fat	12	8	5	120
Whole	12	8	8	150

Milk is the body's main source of calcium, the mineral needed for growth and repair of bones. Yogurt is also a good source of calcium. Yogurt and many dry or powdered milk products have different amounts of fat. If you have questions about a particular item, read the label to find out the fat and calorie content.

Milk can be drunk or added to cereal or other foods. Many tasty dishes, such as sugar-free pudding, are made with milk (see the Combination Foods list). Add life to plain yogurt by adding one of your fruit servings to it.

Skim and Very Low-Fat Milk		
Skim milk	1 cup	
1/2% milk	1 cup	
1% milk	1 cup	
Low-fat buttermilk	1 cup	
Evaporated skim milk	1/2 cup	
Dry nonfat milk	1/3 cup	

Plain nonfat yogurt	8 oz	
Low-Fat Milk		
2% milk	1 cup	
Plain low-fat yogurt (with added nonfat milk solids)	8 oz	
Whole Milk The whole-milk group has much more fat per serving than the skim and low-fat groups. Whole milk has more than 3 1/4% butterfat. Try to limit your choices from the whole-milk group as much as possible.		
Whole milk	1 cup	
Evaporated whole milk	1/2 cup	
Whole milk plain yogurt	8 oz	

VI. Fat List

Each serving on the fat list contains about five grams of fat and forty-five calories.

The foods on the fat list contain mostly fat, although some items may also contain a small amount of protein. All fats are high in calories and should be carefully measured. Everyone should modify fat intake by eating unsaturated fats instead of saturated fats. The sodium content of these foods varies widely. Check the label for sodium information.

Unsaturated Fats		
Avocado	1/8 medium	
Margarine	1 tsp	
#Margarine, diet	1 tbsp	
Mayonnaise	1 tsp	
#Mayonnaise (reduced-calorie)	1 tbsp	
Nuts and Seeds:		
Almonds, dry roasted	6	
Cashews, dry roasted	1 tbsp	
Pecans	2	
Peanuts (small)	20	
Peanuts (large)	10	
Walnuts	2 whole	
Other nuts	1 tbsp	

Seeds (except pumpkin), pine nuts,	1 tbsp		
sunflower (without shells)	1 tosp		
Pumpkin seeds	2 tsp		
Oil (corn, cottonseed, safflower, soybean,	1 tsp		
sunflower, olive, peanut)	1 tsp		
#Olives (small)	10		
#Olives (large)	5		
Salad dressing, mayonnaise-type, regular	2 tsp		
Salad dressing, mayonnaise-type reduced-	1 then		
calorie	1 tbsp		
Salad dressing, all varieties, regular	1 tbsp		
#Salad dressing, reduced-calorie			
(2 tbsp of low-calorie dressing is a free	2 tbsp		
food)			
Saturated Fats			
Butter	1 tsp		
#Bacon	1 slice		
Chitterlings	1/2 oz		
Coconut, shredded	2 tbsp		
Coffee whitener, liquid	2 tbsp		
Coffee whitener, powder	4 tsp		
Cream (light, coffee, table)	2 tbsp		
Cream, sour	2 tbsp		
Cream (heavy, whipping)	1 tbsp		
Cream cheese	1 tbsp		
#Salt pork	1/4 oz		
# = 400 mg or more of sodium if more than one or			
	two servings are eaten.		

Free Foods

A free food is any food or drink that contains fewer than twenty calories per serving. You can eat as much as you want of items that have no serving size specified. You may eat two or three servings per day of those items that have a specific serving size. Be sure to spread them out through the day.

Drinks	
#Bouillon or broth without fat	
Bouillon, low-sodium	
Carbonated drinks, sugar-free	

Carbonated water		
Club soda		
Cocoa powder, unsweetened	(1 tbsp)	
Coffee/tea		
Drink mixes, sugar-free		
Tonic water, sugar-free		
Fruit		
Cranberries, unsweetened	(1/2 cup)	
Rhubarb, unsweetened	(1/2 cup)	
Vegetables		
(raw, 1 cup)		
Cabbage		
Celery		
#Chinese cabbage		
Cucumber		
Green onion		
Hot peppers		
Mushrooms		
Radishes		
#Zucchini		
Salad Greens		
Endive		
Escarole		
Lettuce		
Romaine		
Spinach		
Sweets		
Candy, hard, sugar-free		
Gelatin, sugar-free		
Gum, sugar-free		
Jam/jelly, sugar-free	(2 tsp)	
Pancake syrup, sugar-free	(1-2 tbsp)	
Sugar substitutes (saccharin, aspartame)		
Whipped topping	(2 tbsp)	
Condiments		
Catsup	(1 tbsp)	
Horseradish		
Mustard		
#Pickles, dill, unsweetened		
Salad dressing, low-calorie	(2 tbsp)	

Taco sauce	(1 tbsp)
Vinegar	
Nonstick pan spray	

Seasonings Seasonings can be very helpful in making foods taste better. Be careful of how much sodium you use. Read labels to help you choose seasonings that do not contain sodium or salt.		
Basil (fresh)	Lemon pepper	
Celery Seeds	Lime	
Cinnamon	Lime Juice	
Chili powder	Mint	
Chives	Onion powder	
Curry	Oregano	
Dill	Paprika	
Flavoring extracts (vanilla, almond, walnut, butter, peppermint, lemon, etc.)	Pepper	
Garlic	Pimento	
Garlic powder	Spices	
Herbs	#Soy sauce	
Hot pepper sauce	Soy sauce, low sodium ("lite")	
Lemon	Wine, used in cooking (1/4 cup)	
Lemon juice	Worcestershire sauce	

Combination Foods

Much of the food we eat is mixed together in various combinations. These combination foods do not fit into only one exchange list. It can be quite hard to tell what is in a certain casserole dish or baked food item. Following is a list of average values for some typical combination foods to help you fit these foods into your meal plan. Ask your dietitian for information about any other foods you'd like to eat. The American Diabetes Association/American Dietetic Association *Family Cookbooks* and the American Diabetes Association *Holiday Cookbook* have many recipes and further information

about many foods, including combination foods. Check your library or local bookstore.

Food	Amount	Exchanges	
Casserole, homemade	1 cup (8 oz)	2 medium-fat meat, 2 starches, 1 fat	
#Cheese pizza, thin crust	1/4 of a 15-oz size pizza or a 10" pizza	1 medium-fat meat, 2 starches, 1 fat	
*#Chili with beans (commercial)	1 cup (8 oz)	2 medium-fat meat, 2 starches, 2 fats	
*#Chow mein (without noodles or rice)	2 cups (16 oz)	2 lean meat, 1 starch, 2 vegetable	
#Macaroni and cheese	1 cup (8 oz)	1 medium-fat meat, 2 starches, 2 fats	
Soup			
*#Bean	1 cup (8 oz)	1 lean meat, 1 starch, 1 vegetable	
#Chunky, all varieties	10 3/4-oz can	1 medium-fat meat, 1 starch, 1 vegetable	
#Cream (made with water)	1 cup (8 oz)	1 starch, 1 fat	
#Vegetable or broth	1 cup (8 oz)	1 starch	
#Spaghetti and meatballs (canned)	1 cup (8 oz)	1 medium-fat meat, 1 fat, 2 starches	
Sugar-free pudding (made with skim milk)	1/2 cup	1 starch	
If beans are used as a meat substitute:			
*Dried beans, *peas, *lentils	1 cup (cooked)	1 lean meat, 2 starches	

Foods for Occasional Use

Moderate amounts of some foods can be used in your meal plan, in spite of their sugar or fat content, as long as you can maintain blood-glucose control. The following list includes average exchange values for some of these foods. Because they are concentrated sources of carbohydrate, you will notice that the portion sizes are very small. Check with your dietitian for advice on how often and when you can eat them.

Food	Amount	Exchanges
Angel-food cake	1/12 cake	2 starches
Cake, no icing	1/12 cake (3-in. square)	2 starches, 2 fats

Cookies	2 small (1 3/4 in. across)	2 starches, 1 fat
Frozen fruit yogurt	1/3 cup	1 starch
Gingersnaps	3	1 starch
Granola	1/4 cup	1 starch, 1 fat
Granola bars	1 small	1 starch, 1 fat
Ice cream, any flavor	1/2 cup	1 starch, 2 fats
Ice milk, any flavor	1/2 cup	1 starch, 1 fat
Sherbet, any flavor	1/4 cup	1 starch
#Snack chips, all varieties	1 oz	1 starch, 2 fats
Vanilla wafers	6 small	1 starch, 2 fats
	is eaten, these foods have 400	

Management Tips

Here are some tips that can help you to change the way you eat.

Make Changes Gradually

Don't try to do everything all at once. it may take longer to accomplish your goals, but the changes you make will be permanent.

Set Short-term, Realistic Goals

If weight loss is your goal, try to lose two pounds in two weeks, not twenty pounds in one week. Walk two blocks at firest, not two miles. Success will come more easily, and you'll feel good about yourself.

Reward Yourself

When you achieve your short-term goal, do something special for yourself¶ go to a movie, buy a new shirt, read a book, visit a friend.

Measure Foods

It is important to eat the right serving sizes of food. You will need to learn how to estimate the amount of food you are served. You can do this by measuring all the food you eat for a week or so. Measure liquids with a measuring cup. Some solid foods (such as tuna, cottage cheese, and canned fruits) can also be measured with a measuring cup. Measuring spoons are used for measuring smaller amounts of other foods (such as oil, salad dressing, and peanut butter). A scale can be very useful for measuring

almost anything, especially meat, poultry, and fish. All food should be measured or weighed after cooking. Some food you buy uncooked will weigh less after you cook it. This is true of most meats. Starches often swell in cooking, so a small amount of uncooked starch will become a much larger amount of cooked food. The following table shows some of the changes:

Starch Group	Uncooked	Cooked	
Oatmeal	3 level tbsp	1/2 cup	
Cream of wheat	2 level tbsp	1/2 cup	
Grits	3 level tbsp	1/2 cup	
Rice	2 level tbsp	1/2 cup	
Spaghetti	1/4 cup	1/2 cup	
Noodles	1/3 cup	1/2 cup	
Macaroni	1/4 cup	1/2 cup	
Dried beans	3 tbsp	1/3 cup	
Dried peas	3 tbsp	1/3 cup	
Lentils	2 tbsp	1/3 cup	
Meat Group			
Hamburger	4 oz	3 oz	
Chicken	1 small drumstick	1 oz	
	1/2 of a whole chicken breast	3 oz	

Read Food Labels

Remember, dietetic does not mean diabetic! When you see the word "dietetic" on a food label, it means that something has been changed or replaced. It may have less salt, less fat, or less sugar. It does not mean that the food is sugar-free or calorie-free. Some dietetic foods may be useful. Those that contain twenty calories or less per serving may be eaten up to three times a day as free foods.

Know Your Sweeteners

Two types of sweeteners are on the market: those with calories and those without calories. Sweeteners with calories (such as fructose, sorbitol, and mannitol) may cause cramping and diarrhea when used in large amounts. Remember, these sweeteners do have calories, which can add up. Sweeteners without calories include saccharin and aspartame (Equal, Nutrasweet) and may be used in moderation

Plan for Exercise

You may need to make some changes in your meal plan or insulin dose when you begin an exercise program. Check with your dietitian or doctor about this. Be sure to carry some form of carbohydrate with you to treat low blood glucose (for example, dried fruit or glucose tablets). Additional information on these topics is available from your dietitian or doctor.

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