

Hypoglycemia

Purpose

Hypoglycemia is the term for a blood glucose level that is lower than normal. When foods are digested in the body, they are broken down into many nutrients. These nutrients are absorbed into the bloodstream to be used in performing various body functions. One of these nutrients is glucose, a sugar that provides fuel to the body. The process that regulates the amount of sugar in the blood is complex. Adrenaline is a part of this complicated process. Everyone has experienced a rush of adrenaline at some time -- that "love-at-first-sight" feeling, or the pounding heart after narrowly escaping an accident. Adrenaline is produced by the adrenal glands located on top of the kidneys. The sudden release of adrenaline is what causes the symptoms of hypoglycemia -- apprehension, hunger, sweating, rapid heartbeat, and faintness.

Hypoglycemia can occur from certain illnesses, such as liver disease and some types of tumors. These conditions cause a type of hypoglycemia called organic hypoglycemia. They usually require specific medical treatment or surgery. There is another type of hypoglycemia. In some people, the body simply responds differently to the digestion of foods. Some foods are digested and absorbed rapidly, resulting in a burst of glucose entering the bloodstream. In most people the body adjusts smoothly. It would be like two children trying to balance a see-saw. There may be a slight teetering or swinging up and down as the children shift their weight to achieve the balance. In some people, however, the response is like an actively rocking see-saw swinging up and down. The body over-reacts and sets the process in motion to reduce blood glucose. The result is a glucose level that is too low. Then the body releases adrenaline, increasing glucose in the bloodstream. This is called Reactive Hypoglycemia -- the body is simply over-reacting. It is not easy to diagnose. However, it usually occurs consistently from one to three hours after a meal and returns to normal on its own. When no known medical causes are found, the diagnosis of reactive hypoglycemia is made. The best way to manage reactive hypoglycemia is have glucose enter the bloodstream at a steady, even pace. This can be done with changes in eating habits.

Nutrition Facts

Following a hypoglycemia diet gives the body all the calories, protein, minerals, and vitamins necessary to meet the Recommended Dietary Allowance (RDA) for healthy adults.

Special Considerations

1. Simple carbohydrates and concentrated sweets: All carbohydrates can be broken down into glucose in the body. Some carbohydrates have a simple structure that easily breaks down into glucose. These are simple carbohydrates, commonly known as sugars. Table sugar, corn syrup, and honey are simple carbohydrates. Simple carbohydrates also occur naturally in fruits, milk, and other foods. They are digested rapidly, and this allows glucose to be absorbed into the bloodstream quickly. Therefore, meals that are high in simple carbohydrates can contribute to reactive hypoglycemia. Concentrated sweets such as candy, table sugar, soft drinks, cookies, cakes,

and ice cream are mainly simple carbohydrates. Avoid these foods unless they are made with sugar substitutes. Read package labels to avoid foods containing sugars. Look for terms such as sugar, corn syrup, corn sweetener, or high fructose corn syrup.

2. Complex carbohydrates and proteins are important in the diet. They are a basic source of energy. Complex carbohydrates are many molecules of simple sugars linked together like beads on a string. They take longer to break down in the intestine, and this helps to keep blood glucose levels more consistent. Pasta, grains, and potatoes are complex carbohydrates. Proteins are made of amino acids that the body needs for growth and good health. Foods from animal sources contain protein, but so do legumes, nuts and seeds. Most food protein can be converted into glucose by the body, but since this process takes some time, the glucose gets into the bloodstream at a slower, more consistent pace. That is why people with reactive hypoglycemia should eat complex carbohydrates and protein for their energy needs, instead of simple carbohydrates.
3. Choose high fiber foods. Fiber is the indigestible part of plants. Insoluble fiber, such as wheat bran, does not dissolve in water. It adds bulk to the stool and causes it to pass through the intestine more quickly. Soluble fiber does dissolve in water, forming a sticky gel. It is found in the fibrous coatings of foods such as legumes, oat products, and pectin found in fruit. Soluble fiber delays stomach emptying, digestion, and absorption of glucose. Therefore, it helps to prevent hypoglycemia symptoms between meals. When making fruit choices, choose whole fresh fruits or those canned without added sugar instead of fruit juice. The added fiber helps to slow down the absorption of sugar.
4. Size and frequency of meals is very important for managing hypoglycemia. The body really can't tell the difference between the glucose in a candy bar and the glucose in a whole grain roll. The object is to manage the diet so glucose is released into the bloodstream slowly and evenly. Many people skip meals, and this is certainly not good for people with reactive hypoglycemia. Start out with three well-balanced meals. Include a small mid-morning, afternoon, and evening snack. If symptoms are not relieved, it may be necessary to divide the daily food intake into five or six smaller, well-balanced meals evenly spaced throughout the day. Include an evening snack. Choose more complex carbohydrates over concentrated sweets, and try to include some insoluble fiber and protein with each meal.
5. Fats like those in whole milk, cheese, and meats should be limited. A low-fat diet has been shown to help in treating hypoglycemia. When selecting dairy products and meats for protein; choose lean meat, skim milk products, and eggs in moderation. Use oils sparingly.
6. Sweeteners such as sorbitol, saccharin, and aspartame (Equal® and Nutrasweet®) do not contain sugar or calories and may be used in a hypoglycemia diet. If you have questions about them, consult your physician or a registered dietitian.
7. Alcohol is high in calories and can cause hypoglycemia all by itself. Therefore, people with reactive hypoglycemia should avoid or limit alcohol.
8. Caffeine should be avoided. Caffeine stimulates the production of adrenaline. So does reactive hypoglycemia. Therefore, caffeine in the diet can make

symptoms worse because the production of adrenaline is increased.

9. **Body Weight:** Excess weight has been shown to interfere with the body functions that regulate glucose. So if you are overweight, reducing to the proper body weight could help to control reactive hypoglycemia.

Sample Menu		
Breakfast	Lunch	Dinner
<ul style="list-style-type: none"> ▪ orange juice 1/2 cup ▪ cornflakes 3/4 cup ▪ whole wheat toast 1 slice ▪ margarine 1 tsp ▪ sugar-free jelly 1 tsp ▪ skim milk 1 cup ▪ coffee/creamer/sugar substitute 	<ul style="list-style-type: none"> ▪ lean hamburger 2 o hamburger bun 1 lettuce/tomato slice ▪ cooked carrot 1/2 cup ▪ tossed salad/Italian dressing 1 Tbsp ▪ fresh apple 1 ▪ sugar-free gelatin ▪ skim milk 1 cup 	<ul style="list-style-type: none"> ▪ baked chicken breast 2 oz ▪ baked potato 1/2 medium ▪ green beans 1/2 cup ▪ sliced Strawberries 1/2 cup ▪ dinner roll 1 ▪ diet margarine 1 tsp ▪ diet soda
Snack	Snack	Snack
<ul style="list-style-type: none"> ▪ orange 1 med 	<ul style="list-style-type: none"> ▪ skim milk 1 cup ▪ Graham crackers 3 	<ul style="list-style-type: none"> ▪ cranberry juice 1/3 cup ▪ peanut butter 1 Tbsp ▪ saltine crackers 6

This Sample Diet Provides the Following			
Calories	1760	Fat	50 gm
Protein	90 gm	Sodium	2000 mg
Carbohydrates	232 gm	Potassium	3300 mg

Food Groups		
Group	Recommend	Avoid
Meat and Meat Alternatives	all lean meat and poultry, seafood, peanut butter, nuts and seeds, limit eggs to four per week including those used in cooking	fatty and heavily marbled meats, hot dogs, salt pork, cold cuts, sausage, bacon, fried meats, or those prepared with sweetened sauces
Breads, Grains, & Potatoes*	enriched or whole grain bread and rolls; English muffins; unsweetened cereals; potatoes; rice; pasta and noodles; crackers; pretzels; popcorn; plain cakes and cookies made with allowed oils, low fat milk, and sugar substitute	presweetened cereals; sweet rolls; pastries; donuts with sugar topping, glaze, and fillings; frosted cakes; pies; cookies
Milk and Milk products	skim milk, 1% fat milk, nonfat dry milk, evaporated skim milk, plain or artificially sweetened now-fat yogurt, buttermilk, cocoa with sugar substitute, puddings made with allowed milk and sugar substitute, low-fat skim milk cheeses	whole or 2% milk, cream, chocolate milk, ice cream and ice cream products, flavored or fruited yogurt, milkshakes, sundaes, malted milk, sweetened pudding and custard, cocoa mixes, processed cheeses, cheese spreads
Vegetables*	dark green or yellow vegetables (eaten daily), all other raw or cooked vegetables, legumes (beans, peas, and lentils)	any glazed or sweetened
Fruits*	citrus fruit (eaten daily), raw fruit or fruit canned in natural juice or water, dried fruit	any canned in heavy syrups, candied fruit
Beverages	decaffeinated coffee, tea, and herbal teas, water; diet decaffeinated sodas; unsweetened fruit juice	sweetened fruit juice, <i>ades</i> and <i>punches</i> ; alcohol; regular and caffeinated soda.
Fats and Oils	unsaturated vegetable oils such as corn, safflower, sesame, soybean, sunflower, peanut, canola, or olive oil; salad dressings and mayonnaise made with these oils	visible fat, poultry skin, fried foods, high-fat sauces and gravies, butter, shortening, hydrogenated oils, coconut oil
Miscellaneous	jelly, jam, or gelatin with sugar substitute or unsweetened;	sugar, jam, jelly, honey, syrup, molasses, candy, sweetened

	herbs; spices; seasonings; vinegar; lemon juice; broth; unsweetened pickles; sugar substitutes; homemade soups with low-fat broth	gelatin, dietetic chocolate candy, sherbet, fruit ice, popsicles, creamed soups
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* **Complete Carbohydrates** (Breads, grains, and potatoes are good sources, but some fruits and vegetables also contain them.)

Some Food Sources of Fiber	
Insoluble Fiber	Soluble Fiber
Whole grains; including wheat, rye, brown rice, bran, and cereals Cabbage, Brussels sprouts, broccoli, and cauliflower Root vegetables Dried peas and beans Apples	Citrus Strawberries Oatmeal Strawberries Dried beans and other legumes Apples

What Counts As One Serving?	
Group	Amount
Breads, cereal, rice and pasta	bread, 1 slice cooked rice or pasta, 1/2 cup cooked cereal, 1/2 cup ready-to-eat cereal, 1 oz
Vegetables	chopped raw or cooked vegetables, 1/2 cup leafy raw vegetables, 1 cup
Fruits	fruit or melon wedge, 1 piece juice, 3/4 cup canned fruit, 1/2 cup dried fruit, 1/4 cup
Milk, yogurt, and cheese	milk or yogurt, 1 cup natural cheese, 1 1/2 oz process cheese, 2 oz
Meat, poultry, fish, dry beans, eggs, and nuts	cooked lean meat, poultry, or fish, 2 1/2 or 3 oz count 1/2 cup of cooked beans, or 1 egg, or 2 Tbsp of peanut butter as 1 oz of lean meat
Fats and sweets	LIMIT CALORIES FROM THESE especially if you need to lose weight

Suggested Meal Plan for A Hypoglycemia Diet

Before starting any diet, ask a doctor.
Please read my comments [below](#).

2,000 Calories
233 gm Carbohydrate,
98 gm Protein, 80 gm Fat

1,500 Calories
149 gm Carbohydrate
76 gm Protein, 65 gm Fat

Morning Meal

<u>Fruit</u>	1 Exchange	1 Exchange
<u>Egg or Meat</u>	1 Exchange	1 Exchange
<u>Bread</u>	2 Exchange	1 Exchange
<u>Fat</u>	1 Exchange	1 Exchange
<u>Milk, 2%</u>	1 Exchange	1 Exchange
<u>Beverage</u>	As Desired	As Desired

Mid-morning Meal

<u>Meat</u>	1 Exchange	1 Exchange
<u>Bread</u>	1 Exchange	1 Exchange
<u>Fruit</u>	1 Exchange	0
<u>Fat</u>	1 Exchange	0

Noon Meal

<u>Meat, Fish, Cheese, Poultry</u>	2 Exchange	2 Exchange
<u>Bread</u>	2 Exchange	1 Exchange
<u>Vegetable, Raw</u>	1 or 2 Exchange	1 or 2 Exchange
<u>Fruit</u>	1 Exchange	1 Exchange
<u>Fat</u>	2 Exchange	1 Exchange
<u>Beverage</u>	As Desired	As Desired

Mid-afternoon Meal

<u>Meat</u>	1 Exchange	0
<u>Bread</u>	2 Exchange	1/2 Exchange
<u>Fat</u>	1 Exchange	0
<u>Milk, 2%</u>	0	1/2 Exchange

Evening Meal

<u>Meat, Fish, Cheese, Poultry</u>	2 Exchange	2 Exchange
<u>Bread</u>	2 Exchange	1 Exchange
<u>Vegetable</u>	1 Exchange	2 Exchange
<u>Vegetable, Raw</u>	As Desired	As Desired
<u>Dessert, Sugar-free</u>	As Desired	As Desired
<u>Fat</u>	2 Exchange	1 Exchange
<u>Beverage</u>	As Desired	As Desired

Bedtime

<u>Bread</u>	1 Exchange	1/2 Exchange
<u>Milk, 2%</u>	1 Exchange	1/2 Exchange

The Hypoglycemia Diet - General Guidelines

The goal of treatment for hypoglycemia is to delay the absorption of food. This can be accomplished through changes in eating habits. Follow these general guidelines:

- Do not eliminate carbohydrate from the diet.
- Increase your intake of complex carbohydrates (starches). These foods are absorbed more slowly than simple carbohydrates and therefore do not cause rapid changes in blood sugar levels. Examples of complex carbohydrates are breads, cereals, pasta, rice, vegetables, and legumes.
- Avoid foods high in simple carbohydrates such as jams, jellies, table sugar, honey syrup, molasses, pies, candy, cakes, cookies, pastries and soda pop.
- Increase your intake of fiber. Fiber is the indigestible portion of Fruits, vegetables, legumes and grains. Carbohydrates are absorbed more slowly when they are part of a high fiber meal.
- Eat Fruit-fresh or canned without sugar - rather than drinking juice. The added fiber will slow down sugar absorption.
- Eat smaller meals with snacks between meals and at bedtime.
- Avoid foods and beverages containing caffeine often produces the same symptoms as hypoglycemia and may make you feel worse.
- Avoid alcoholic beverages. Alcohol lowers blood sugar levels, especially on an empty stomach.
- Maintain or achieve desirable body weight. Excess weight interferes with the body's ability to use insulin.
- Decrease your fat intake. A high-fat diet has been shown to interfere with insulin use. Because fat is high in calories, decreasing fat intake will also help you lose weight. If you are at your desirable body weight, replace calories from fat with calories from complex carbohydrates.

Occasionally you may need to change your plan. Here are some easy substitutions:

Starch Exchange

To omit one Starch Exchange: Add Fruit Exchange.

To add one Starch Exchange: Omit one Fruit Exchange.

Meat Exchange

To omit one Meat Exchange: Add one Lowfat Milk Exchange and Omit one Fruit Exchange.

To add one Meat Exchange: Omit one Lowfat Milk Exchange and Add one Fruit Exchange.

Fruit Exchange

To omit one Fruit Exchange: Add one Starch Exchange.

To add one Fruit Exchange: Omit one Starch Exchange.

Milk Exchange

To omit one nonfat Milk Exchange: Add one Fruit Exchange and one Lean Meat Exchange.

To add one nonfat Milk Exchange: Omit one Fruit Exchange and one Lean Meat Exchange.

The above hypoglycemic diet plan was given to me
by **MY** dietitian and approved by **MY** doctor.
Before following any diet please seek the advice of **YOUR** doctor or
dietitian.

Greetings,

First of all I would like to thank all those who have e-mailed me with their comments and questions.

I am not a doctor or any type of health care professional. I posted this diet plan on the web, so I wouldn't lose it. I kept losing my hardcopy, so one day I typed it in, now I can just go online and reprint it. Please before following any diet plan seek the advice of a doctor or health care professional. **Regular exercise is important.** When you start a diet, also ask about an exercise regiment to go with it.

FAQ: "What is an exchange?"

An exchange is one portion of food. For portion amounts please view the food lists (just follow the links above).

FAQ: "Why are there carbohydrates listed?"

The answer to that is found [Here](#).

FAQ: "Will I loose weight with this plan?"

This isn't a weight loss plan. It's designed to help balance your blood sugar levels.

FAQ: "2,000 Calories or 1,500 Calories?"

I'm on the 2,000 Calories plan. Please print out the plan and take it to your doctor and ask what is right for you.

FAQ: "Do I have to follow the plan exactly?"

Short answer, no. This is just a guide, not a strict rule. Long answer, maybe. Your doctor may say you need to follow it as is all the time. Everyone is different.

FAQ: "Why do you keep saying, ASK YOUR DOCTOR?"

Because you should ASK YOUR DOCTOR. As I stated just above the FAQs , I am not a doctor or any type of health care professional.

FAQ: "FAQ?"

FAQ stands for "Frequently Asked Question"

Is there an easier way to print the diet plan?

Yes there is. I've just finished compiling the diet plan into a PDF file:
http://www.programwitch.com/diet/Hypoglycemia_diet_plan.pdf.

AGAIN. The above hypoglycemic diet plan was given to me by **MY** dietitian and approved by **MY** doctor. Before following any diet please seek the advice of **YOUR** doctor or dietitian.

Suggested Meal Plan for A Hypoglycemia Diet

Starch/Bread List

Each item in this list contains approximately 15 grams of carbohydrate, 3 grams of protein, a trace of fat, and 80 calories. Whole grain products average about 2 grams of fiber per serving. Some foods are higher in fiber.

Those foods that contain 3 or more grams of fiber per serving are identified with the fiber 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 this list, the general rule is that:

- ½ cup of cereal, grain or pasta is one serving.
- 1 ounce of bread product is one serving.

Your dietitian can help you be more exact.

Product

Portion

Cereals/Grains/Pasta

Bran cereals concentrated *	1/3 cup
Bran cereals, flaked *	½ cup
Bulgur (cooked)	½ cup
Cooked cereals	½ cup
Cornmeal (dry)	2 ½ Tbsp
Flour, bleached or wheat	2 ½ Tbsp
Flour, Rye	3 Tbsp
Flour, Barley, Millet	½ cup
Grapenuts	3 Tbsp
Grits, hominy, cooked	½ cup
Other ready-to-eat unsweetened cereals	¾ cup
Pasta (cooked)	½ cup
Puffed cereal	1 ½ cup
Rice, white or brown (cooked)	1/3 cup
Shredded wheat	½ cup
Wheat germ *	3 Tbsp

Dried Beans/Peas/Lentils

Beans and peas (cooked) *	1/3 cup
Lentils (cooked)	1/3 cup
Baked beans	¼ cup

Starchy Vegetables

Corn *	½ cup
Corn on cob, 6" long *	1
Lima beans *	½ cup
Peas, green (canned or frozen) *	½ cup
Plantain *	½ cup
Potato, baked	1 small

Potato, mashed	½ cup
Squash, winter (acorn, butternut) *	1 cup
Yam, sweet potato, plain	1/3 cup

Bread

Bagel	½
Bread Sticks, crisp, 4"	2
Croutons, low fat	1 cup
English muffin	½
Hot Dog or Hamburger bun	½
Pita, 6" across	½
Plain roll, small	1
Raisin bread, unfrosted	1 slice
Rye, pumpernickel	1 slice
Tortilla, 6" across	1
White (including French, Italian)	1 slice
Whole wheat	1 slice

Crackers/Snacks

Animal crackers	8
Graham crackers, 2½ square	3
Matzoth	¾ oz
Melba toast	5 slices
Oyster crackers	24
Popcorn (popped, no fat added)	3 cups
Pretzels	¾ oz
Rye crisps *	4
Saltine type crackers	6
Whole wheat crackers *	2-4 slices

Starch Foods Prepared with Fat

Count as 1 bread + 1 Fat

Biscuit, 2½" across	1
Chow mein noodles	½ cup
Corn bread, 2" cube	1
Cracker, round butter type	6
French fried potatoes	10
Muffin, plain, small	1
Pancake, 4" across	2
Stuffing, bread	¼ cup
Taco shell	2
Waffle, 4½" sqr	1
Whole wheat crackers	4 - 6

* 3 grams of more of fiber per serving

Suggested Meal Plan for A Hypoglycemia Diet

Meat List

Each serving of meat and substitutes on this list contains about 7 grams of protein. The amount of fat and number of calories varies, depending on what kind of meat, or substitute you choose. The list is divided into three parts based on the amount of fat and calories: [lean meat](#), [medium-fat meat](#), and [high-fat meat](#).

You are encouraged to use more lean and medium-fat meat, poultry, and fish in your meal plan. This will help decrease your risk of 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 (3) times per week. Meat and substitutes do not contribute any fiber to your meal plan.

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 after cooking. Three ounces of cooked meat is about equal to 4 ounces of raw meat. Some examples of meat portions are: 2 ounce meat (2 meat exchanges) = 1 small chicken leg or thigh or $\frac{1}{2}$ cup cottage cheese or tuna. 3 ounces meat (3 meat exchanges) = 1 medium pork chop, 1 small hamburger, $\frac{1}{2}$ of a whole chicken breast, 1 unbreaded fish fillet, or 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 Meats and Substitutes

(one exchange is equal to any one of the following items)

One exchange provides 7 grams protein, 3 grams fat, 55 calories

Beef (1 oz.)

USDA Good of Choice grades of lean beef, such as round, sirloin, and flank steak; tenderloin; and chipped beef

Pork (1 oz.)

Lean pork, such as fresh ham; canned, cured or boiled ham; Canadian bacon, tenderloin.

Veal (1 oz)

All cuts are lean except for veal cutlets (ground or cubed). Examples of lean veal are chops and roasts.

Poultry (1 oz)

Chicken, turkey, Cornish hen (cooked without skin)

Fish

All fresh and frozen fish (1 oz)

Crab, lobster, scallops, shrimp, clams (fresh or canned in water) (2 oz)

Oysters (6 medium)

Tuna (canned in water) ($\frac{1}{4}$ cup)

Herring (uncreamed or smoked) (1 oz)

Sardines (2 medium)

Wild Game (1 oz)

Venison, rabbit, squirrel, pheasant, duck, goose (without skin)

Cheese

Any cottage cheese ($\frac{1}{4}$ cup)

Grated Parmesan (2 Tbsp)

Diet cheese (with less than 55 calories per ounce) (1 oz)

Other

95% fat-free luncheon meat (1 oz)

Egg whites (3 whites)

Egg substitutes with less than 55 calories per $\frac{1}{4}$ cup ($\frac{1}{4}$ cup)

Medium-Fat Meat and Substitutes

(One exchange is equal to any one of the following items)

One exchange provides 7 grams protein, 5 grams fat, 75 calories

Beef (1 oz)

Most beef products fall into this category. Examples are: all ground beef, roast (rib, chuck, rump), steak (cubes Porterhouse, T-bone), and meanloaf.

Pork (1 oz)

Most pork products fall into this category. Examples are chops, loin roast, boston butt, cutlets.

Lamb (1 oz)

Most lamb products fall into this category. Examples are chops, leg, and roast.

Veal (1 oz)

Cutlet (ground or cubed, unbreaded)

Poultry (1 oz)

Domestic duck or goose (well-drained of fat), ground turkey.

Fish

Tuna (canned in oil and drained) ($\frac{1}{4}$ cup)

Salmon (canned) ($\frac{1}{4}$ cup)

Cheese

Skim or part-skim milk cheese, such as:

Ricotta ($\frac{1}{4}$ 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, limit 2 per week) (1 egg)

Egg substitutes with 56-80 calories per $\frac{1}{4}$ cup ($\frac{1}{4}$ cup)

Tofu (4 oz)

Liver, heart, kidney, sweetbreads (high in cholesterol) (1 oz)

High-Fat Meats and Substitutes

Remember, these items are high in saturated fat, cholesterol, and calories, and should be used on three (3) times per week.

(One exchange is equal to any one of the following items)

One exchange provides 7 grams of protein, 8 grams fat, 100 calories

Beef (1 oz)

Most USDA Prime cuts of beef, such as ribs, corned beef.

Pork (1 oz)

Spareribs, ground pork, pork sausage (patty or link).

Lamb (1 oz)

Patties (ground lamb).

Fish (1 oz)

Any fried fish product.

Cheese (1 oz)

All regular cheeses such as American, Blue, Cheddar, Monterey, Swiss.

Other

Luncheon meat, such as bologna, salami, pimento loaf (1 oz)

Sausage, such as Polish, Italian. (1 oz)

Knockwurst, smoked. (1 oz)

Bratwurst (1 oz)

Frankfurter (turkey or chicken) (1 frank)

Peanut Butter (contains unsaturated fat) (1 Tbsp)

Count as one high-fat plus on fat exchange: Frankfurter (beef, pork or combination) (1 frank)

Suggested Meal Plan for A Hypoglycemia Diet

Vegetable List

Each vegetable serving on this list contains about 5 grams of carbohydrate, 2 grams of protein, and 25 calories. Vegetables contain 2 to 3 grams of dietary fiber. Vegetables which 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:

- ½ cup of cooked vegetables or vegetable juice
- 1 cup of raw vegetables

Artichoke (1/2 medium)
Asparagus
Bamboo shoots
Beans (green, wax, Italian)
Bean sprouts
Beets
Broccoli
Brussels sprouts
Cabbage, cooked
Carrots
Cauliflower
Eggplant
Collard greens
Mustard greens
Turnip greens
Chard
Kale
Jicama (1/4 cup)
Kohlrabi
Leeks
Mushrooms, cooked
Okra
Onions
Peapods, snow peas
Peppers (green)
Rutabaga
Sauerkraut *
Spinach, cooked
Summer squash
Tomato (one large)
Water chestnuts
Zucchini

Free Vegetables

(raw, 1 cup)
Cabbage
Celery
Chinese cabbage
Cucumber
Green onion
Hot peppers
Mushrooms
Radishes
Zucchini

Salad Greens

Endive
Escarole
Lettuce
Romaine
Spinach

* Contain 400 mg of sodium per serving.

Suggested Meal Plan for A Hypoglycemia Diet

Fruit List

Each item on this list contains about 15 grams of carbohydrate, and 60 calories. Fresh, frozen, and dry fruits have about 2 grams of fiber per serving. Fruits that have 3 or more grams of fiber per serving have a * symbol. Fruit juices contain very little dietary fiber.

The carbohydrate and calorie content for a fruit serving and based on the usual serving of the most commonly eaten fruits. Use fresh fruits, frozen fruits, or canned without 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 is:

- ½ cup of fresh fruit or fruit juice
- ¼ cup of dried fruit

Fresh, Frozen, and Unsweetened Canned Fruit

Apple (1 apple, small)
Applesauce (½ cup)
Apricots (raw) (4 apricots)
Apricots (canned) (½ cup)
Banana (½ banana)
Blackberries * (¾ Cup)
Blueberries * (¾ Cup)
Cantaloupe (1/3 melon)
Cherries (raw) (12 cherries)
Cherries (canned) (½ cup)
Figs (2 figs)
Fruit cocktail (canned) (½ cup)
Grapefruit (½ grapefruit)
Grapes (15 grapes)
Honeydew melon (1/8 melon)
Kiwi (1 kiwi)
Mandarin oranges (¾ cup)
Mango (½ mango)
Nectarine * (1 nectarine)
Orange (1 orange, small)
Papaya (1 cup)
Peach (raw) (1 peach, small)
Peach (canned) (½ cup)
Pears (raw) (1 pear, small)
Pears (canned) (½ cup)
Persimmon (2 persimmons)
Pineapple (raw) (¾ cup)
Pineapple (canned) (1/3 cup)
Plum (2 plums)
Pomegranate * (½ pomegranate)
Raspberries * (1 cup)
Strawberries * (1-¼ cup)
Tangerine * (2 tangerines)
Watermelon (1-¼ cup)

Dried Fruit

Apples * (4 rings)
Apricots * (7 halves)
Dates (2-½ medium)
Figs * (1-½)
Prunes * (3 medium)
Raisins (2 tbs)

Fruit Juice

Apple juice/cider (½ cup)
Cranberry juice cocktail (1/3 cup)
Cranberry juice low cal (1 cup)
Grapefruit juice (½ cup)
Grape juice (½ cup)
Orange juice (½ cup)
Nectar (apricot, Peach, Pear) (½ cup)
Pineapple juice (½ cup)
Prune juice (½ cup)

* Have 3 or more grams of fiber per serving

Suggested Meal Plan for A Hypoglycemia Diet

Milk List

Each Serving of milk or milk products on this list contains about 12 grams of carbohydrate and 8 grams of protein. The amount of fat in milk is measured in percent (%) of butterfat. The calories vary, depending on what kind of milk you choose. The list is divided into three parts based on the amount of fat and calories: skim/very lowfat milk, lowfat milk, and whole milk. One serving (one milk exchange) of each of these include:

Type	Carbohydrate (grams)	Protein (grams)	Fat (grams)	Calories
Skim/Very Lowfat ½%, 1%	12	8	trace	90
Lowfat 2%	12	8	6	120
Whole 4%	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 is good to drink, but it can also be added to cereal, and to other foods. Many tasty dishes such as sugar-free pudding are made with milk (see Combination Food list). Add life to plain yogurt by adding one of your fruit servings to it.

Skim and Very Lowfat Milk

Skim milk (1 cup)
½% milk (1 cup)
1% milk (1 cup)
Lowfat buttermilk (1 cup)
Evaporated skim milk (½ cup)
Dry nonfat milk (1/3 cup)
Plain nonfat yogurt (8 oz)

Lowfat Milk

2% milk (1 cup)
plain lowfat yogurt (with added nonfat milk solids) (8 oz)

Whole Milk

The whole milk group has much more fat per serving than the skim and lowfat groups. Whole milk has more than 3-¼% butterfat. Try to limit your choices from the whole milk group as much as possible
Whole milk (1 cup)
evaporated whole milk (½ cup)
whole plain yogurt (8 oz)

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Fat List

Each serving on the fat list contains about 5 grams of fat and 45 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 (4" diameter) (1/8 medium)
Olives (10 small)
Margarine (1 tsp)
Mayonnaise (1 tsp)
Mayonnaise, reduced-calorie (1 Tbsp)

Nuts and Seeds:

Almonds, dry roasted (6 whole)
Butternuts (2 whole)
Brazil (2 whole)
Cashews, dry roasted (1 Tbsp)
Macadamia (15 whole)
Other nuts (1 Tbsp)
Pecans (2 whole)
Peanuts (20 small)
Pumpkin seeds (2 tsp)
Walnuts (2 whole)
Seeds, pine nuts, sunflower (1 Tbsp)
Soy (1 Tbsp)

Oil (1 tsp):
Corn
Cottonseed
Safflower
Soybean
Sunflower
Olive
Peanut

Salad dressings

mayonnaise-type (2 tsp)
mayonnaise-type, reduced-calorie (1 Tbsp)
all other varieties (1 Tbsp)
all other varieties, reduced-calorie (2 Tbsp)

Sauces:

Tartar (1 tsp)
Hollandaise (1 tsp)

Saturated Fats

Butter (1 tsp)
Bacon (1 slice)
Bacon fat (1 tsp)
Chitterlings (1/2 ounce)
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)
Gravy (2 Tbsp)
Lard (1 tsp)
Salt pork (1/4 oz)

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Free Foods List

A **Free food** is any food or drink that contains less than 20 calories per serving. You can eat as much as you want of those items that have no serving size specified. You may eat two or three servings per day of those items that have a specific 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
Cocoa powder, unsweetened (1 Tbsp)
Coffee/Tea *(Note: Remember to watch your caffeine intake)*
Drink mixes, sugar free
Tonic water, sugar free

Fruit

Cranberries, unsweetened (½ cup)
Rhubarb, unsweetened (½ cup)

Sweet Substitutes

Candy, hard, sugar free *(Note: Remember some sugar substitutes have a laxative effect in large quantities)*
Gelatin, sugar free
Gum, sugar free
Jam/Jelly, sugar free
Pancake syrup, sugar free (1 to 2 tsp)
Sugar substitutes (saccharin, aspartame - Sweet and Low™, Nutrasweet™)
Whipped topping (2 tsp)

Condiments

Catsup (1 Tbsp)
Horseradish
Mustard
Pickles², dill, unsweetened
Salad-dressing, low-calorie (2 tsp)
Taco sauce (3 tsp)
Vinegar

Vegetables (raw, 1 cup)

Cabbage
Celery
Chinese cabbage
Cucumber
Green onion
Hot Peppers
Mushrooms
Radishes
Zucchini

Salad Greens

Endive
Escarole
Lettuce
Spinach

Other

Nonsick pan spray
Nonfat Butter substitutes (2 Tsp)

Seasonings

Seasonings can be very helpful in making food taste better.

Basil (fresh)	Flavoring extracts	Lemon juice	Paprika
Celery seeds	(vanilla, almond, etc.)	Lemon pepper	Pepper
Cinnamon	Garlic	Lime	Pimento
Chili powder	Garlic powder	Lime juice	Spices
Chives	Herbs	Mint	Soy sauce
Curry	Hot pepper sauce	Onion powder	Wine, used in cooking
Dill	Lemon	Oregano	Worcestershire sauce

* 400 mg. or more of sodium per serving.

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Occasional Foods List

Moderate amounts of some foods can be used in you 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 you dietitian for advice on how often and when you can eat them.

Food	Amount	Exchanges
Angel food cake	1/12 cake	2 starch
Cake, no icing	1/13 cake of 3" square	2 starch, 2 fat
Cheetos	1 oz	1 starch, 2 fat
Corn chips	1 oz	1 starch, 2 fat
Cookies	2 small	1 starch, 1 fat
Frozen fruit yogurt	1/3 cup	1 starch
Gingersnaps	3	1 starch
Granola bars	¼ cup	1 starch, 1 fat
Ice cream, any flavor	½ cup	1 starch, 2 fat
Ice milk, any flavor	½ cup	1 starch, 1 fat
Potato chips	1 oz	1 starch, 2 fat
Sherbet, any flavor	¼ oz	1 starch
Snack chips, all varieties *	1 oz	1 starch, 2 fat
Teddy Grahams	16	1 starch
Vanilla wafers	6 small	1 starch, 1 fat

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Combination Foods List

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 dish of baked food item. This is a list of average values for some typical combination foods. This list will help you fit these foods into your meal plan. Ask your dietitian for information about any other foods you'd like to eat.

Food	Amount	Exchange
Casseroles, homemade	1 cup (8 oz)	2 starch, 2 medium-fat meat, 1 fat
Cheese pizza*, thin crust	¼ of 15 oz or ¼ of 10"	2 starch, 1 medium-fat meat, 1 fat
Chili with beans ^{1*} (commercial)	1 cup	2 starch, 2 medium-fat meat, 1 fat
Chow mein ^{1*} (without noodles or rice)	2 cups	1 starch, 2 vegetable, 2 lean meat
Macaroni and cheese*	1 cup	2 starch, 1 medium-fat meat, 2 fat
Bean soup ^{1*}	1 cup	1 starch, 1 vegetable, 1 lean meat
Chunky soup, all varieties*	10¾oz can	1 starch, 1 vegetable, 1 medium-fat meat
Cream soup* (made with water)	1 cup	1 starch, 1 fat
Vegetable soup* or broth*	1 cup	1 starch
Spaghetti and meatballs (canned)*	1 cup	2 starch, 1 medium-fat meat, 1 fat
Sugar-free pudding made with milk	½ cup	1 starch
If beans are used as a meat substitute:	1 cup(cooked)	2 starch, 1 lean meat
Dried beans ¹ , peas ¹ , lentils ¹		

* 400 mg. or more of sodium per serving.

¹ 3 grams of more of fiber per serving.