

# Hypoglycemia

Blood sugar is basically the fuel that runs the body. It does not build strong, healthy muscles, bones, organs, or glands. When blood sugar is out of normal balance, symptoms of all types develop because almost all tissues in the body are dependent upon it for their function. If a muscle does not have adequate blood sugar, it becomes weak. Nerves and brain are dependent upon normal sugar levels to function correctly.

There are two basic types of disease associates with sugar. Diabetes mellitus is a condition where the blood sugar is too high; hypoglycemia is a condition where the blood sugar is too low. The pancreas secretes insulin to lower and utilize blood sugar; the adrenal glands produce glucocorticoid hormones to raise the blood sugar level.

Your blood sugar level fluctuates throughout the day with your eating and physical activities. As you take in nourishment, especially sugars, the blood sugar level raises; insulin keeps it from going to high and keeps you from becoming a diabetic. As you use up the sugar stored in the blood stream with physical activity, the adrenal gland hormones convert fat and protein to make new sugar and also help to release storage sugar into the blood stream. These mechanisms should keep your blood sugar at an ideal functioning level throughout the day and night.

Hypoglycemia is caused by many things. We will discuss only the more common varieties here.

**Hyperinsulinism** is a condition where too much insulin is secreted for the needs of the body, thus causing the blood sugar level to be lowered too far. Sometimes hyperinsulinism can be the result of something as simple as an individual who has a healthy, active pancreas eating high concentrations of sugar. The high concentrations of sugar in soda pop, candy, etc., are absorbed into the blood stream much more rapidly than the more realistic amounts of sugar contained in natural foods. Because of this rapid absorption of sugar, the body overreacts with insulin and lowers the sugar level too far. Unfortunately, the individual then has a desire to eat more sugar to bring the blood sugar level back up. A vicious circle is started with another insulin response.

**Functional hypoadrenia** The adrenal gland is responsible for bringing the blood sugar level up when it is too low. If the blood sugar level is lowered frequently by a condition such as hyperinsulinism, the adrenal glands will eventually be depleted and the blood sugar stays low. The depleted adrenal gland, known as functional hypoadrenia, can be the initial cause of hypoglycemia. The adrenal gland can become exhausted for many reasons. Primary among them

is stress, because the adrenal gland is very important in handling stress.

**Malabsorption.** A type of hypoglycemia is caused by the lack of normal digestive activity, absorbing and utilizing food products as necessary.

**Dietary inadequacy.** Hypoglycemia is often simply the result of inadequate dietary intake. This happens most often in weight reduction programs, such as the popular low carbohydrate diet. Inadequate fat or protein in the diet can contribute to hypoglycemia, because these items are utilized in the process of forming new sugar in the body when sugar stores are low.

The symptoms of hypoglycemia are often present though laboratory tests do not show frank hypoglycemia on a 6-hour glucose tolerance test. This situation is observed on chiropractic examination as a sugar handling stress. The glands in the body, working valiantly to keep the blood sugar at normal levels, are overworked and become inadequate for the demands placed on them. The classic example of this is functional hypoadrenia, which is very commonly present in sugar handling problems.

Sugar handling problems are becoming more and more common because of the refining of foods – especially the concentration of sugars in different types of food. The use of refined sugar (white sugar) has increased many-fold in just this century. Some authorities state that the average individual uses 6 times as much sugar now as he used in the turn of the century. As the use of sugar has increased, both diabetes mellitus and hypoglycemia have also increased.

Hypoglycemia and sugar handling stress are responsible for an extremely wide range of symptoms. This is because almost everything in the body is dependent upon sugar for normal function. Common symptoms are: fatigue, headaches, visual disturbances, shortness of breath, dizziness, light bothering the eyes, rheumatoid-type pains, backache, digestive disturbances, loss of libido, allergies, shakiness, and numbness in the arms and legs. Because the nerve system, including the brain, is very dependent upon adequate sugar levels, many “nerve” conditions develop. Among these are inability to think clearly, poor memory, depression, anxiety, moodiness, and even a tendency toward suicide.

Because the symptom complex is so wide and varied among people with hypoglycemia or sugar handling problems, many doctors do not understand the condition and tend to label the patient as “hypochondriac” or “nervous”. The suffering individual is placed on tranquilization, or no answer is given to him. Occasionally when hypoglycemia is

recognized, a diet to include a larger sugar intake is prescribed. This is absolutely the wrong procedure. Even though it will temporarily -for very short periods- give relief of the symptoms, it adds fuel to the fire and makes the condition worse.

Diet and nutritional support are very commonly used in the treatment of hypoglycemia, and are productive with good results. It should be remembered, however, that this is only part of the picture. Structural, neurologic and other energy patterns should be evaluated and treated when indicated.

Some people, because of hereditary background, are more susceptible to sugar handling problems than others. When susceptibility is present a more rigid dietary regime and nutritional support – as well as other evaluations – may be necessary throughout a lifetime. Relatives of those who have hypoglycemia and other sugar handling problems should be periodically evaluated to either correct involvement or for preventive measures.

The diets for hypoglycemia and for sugar handling stress are basically the same. Some variations in the diet are necessary to fit the glandular pattern of each individual.

The diet is designed to aid your body in regulating blood sugar. Whether an individual has a frank condition of hypoglycemia or has a sugar handling stress, the glandular system is in constant turmoil trying to regulate blood sugar. By following the dietary recommendations in this pamphlet, you will in essence be doing the same thing for your glandular system as putting an injured shoulder in a sling and rest until it can heal. In many cases the extreme rigidity of this diet can be relaxed after the body has regained balance and the glandular integrity is restored. You should remember, however, that the basic principles of this diet should never be put aside, and you should not return to the same old bad habits that contributed to your health problem in the first place. In fact, this diet is a basic healthy diet and you should consider having other members of your family eat in a similar way.

The items listed to be avoided are detrimental to anyone's health. Of course they will affect some people worse than others. The detrimental effect is usually dependent upon the individual's hereditary pattern of glandular activity. We all inherit our glands much the same as we inherit our facial characteristics, body build, etc. Some people can greatly abuse the glandular mechanisms of the body and not develop symptomatic problems, while others are extremely sensitive to the principle presented in this diet.

Quite often an individual feels significantly improved within just a short time after beginning this dietary approach. Occasionally there is someone who actually feels worse, temporarily, when first starting the diet. The adverse reactions, if they develop, come when the person is very dependent on stimulants to the glandular system. The diet takes away these stimulants, because a gland cannot repair if it is constantly being stimulated. As the glandular system regains its balance, this initial adverse reaction will

diminish, and improved health will follow. The small percentage of people who have this initial reaction must persist through this stage to regain health, much the same as an alcoholic must stay away from that first drink in order to regain his health.

Dietary correction varies among individuals with sugar handling problems because of their different glandular balances. Herein are presented the basic principles of the diet for sugar handling, your doctor will make changes in the diet if he finds it necessary, to make the diet fit you.

### **FOODS NOT PERMITTED**

Most of these foods are not permitted because of their high carbohydrate (sugar and starch) content. Refined carbohydrates (basically white sugar and white flour products) are especially poor because they provide energy (calories) with very little nutrition (vitamins, minerals, and protein) essential for good body function and body repair.

By eliminating these foods you can take a major step toward good body weight control. Most of these foods are so-called "empty calories". Generally, both the under-weight and over-weight individuals benefit from this basic diet.

#### **General**

Cakes	Candy Coated Fruits
Pies	Icing
Pastries	Glazes
Ice Cream	Jellies
Custards	Jams
Puddings	Marmalades
Flavored Gelatin	Cocoa
Fruit packed in syrup	Corn Syrup
Donuts	Maple Syrup
Brownies	White Sugar
Candies	Powdered Sugar
Chocolate Syrup	Brown Sugar
Marshmallows	Sugared Peanut Butter
Candy Coated Nuts	Apple Butter

#### **Miscellaneous**

Read the labels for sugar content. Sugar in a list of ingredients may be found as:

Dextrose	Fructose
Sucrose	Corn Sweeteners
Maltose	Galactose

Items frequently found with a high sugar content:

Chile Sauce	Cranberry Sauce
Barbeque Sauce	Ketchup
Bottled Salad Dressing	Mustard
Steak Sauce	

#### **Breads and Grains**

Enriched White Bread	Muffins
Rolls	Noodles
Sugar Coated Cereals	Pretzels
Biscuits	Pancakes
Graham Crackers	Waffles
Saltines	Flour Tortillas

Soda Crackers  
Macaroni

Croutons

### **Fruits**

These fruits are not permitted primarily because of their high carbohydrate content.

Bananas	Prune Juice
Cherries	Maraschino Cherries
Figs	Dates
Prunes	Any Dried Fruit
Persimmons	Grapes

### **Beverages**

Artificial Fruit Drink	Cocoa
Soda Pop	Cola Drinks
Milk Shakes	Grape Juice
Malts	Root Beer
Instant Breakfast Drinks	Wine
Chocolate Milk	Cordials
Sweetened Fruit Drinks	Cocktails
Any Drink which contains white sugar	Beer

## **PERMITTED FOODS**

### **Protein**

An adequate amount of protein must be supplied each day. This can be obtained from fish, cheese, eggs, and meat in their many forms.

### **Fat**

Fat is necessary for normal health. Hydrogenated fat should be eliminated from the diet. This is fat, which has been treated by the food processor. It is usually listed on the label as "hydrogenated" or "hardened".

If you have a high cholesterol or triglyceride level, ask your doctor to prescribe a diet to help the condition.

### **Fruits**

Avocado	Apricots
Papaya	Cantaloupe
Blueberries	Strawberries
Honeydew	Pineapple
Tangerines	Muskmelon
Huckleberries	Apple
Watermelon	Kumquat
Orange	Blackberries
Lime	Peach
Cranberries	Loganberries
Pear	Currants
Mulberries	Quince
Gooseberries	Nectarines
Raspberries	Grapefruit
Lemon	

### **Breads, Grains, Miscellaneous**

Whole Wheat Bread or products  
Soya Flour  
Wheat Flour  
Oat Flour  
Jerusalem Artichoke Flour

Corn Meal  
Cracked Wheat  
Oatmeal  
Whole Wheat Cereal  
Nuts and Seeds  
Unsweetened Coconut  
Milkshakes using Natural Ingredients  
Decaffeinated Coffee  
Ground Raisins for Cooking  
Homemade Breads and Noodles  
Carob chips or Carob powder  
Unflavored Gelatin (flavor with juice not water)  
Cornstarch for Thickening  
Yeast  
Baking Powder  
Cream of Tartar  
Baking Soda

### **Vegetables**

Asparagus	Sauerkraut
Artichoke	Spinach
String Bean	Tomatoes and Juice
Beet greens	Turnips
Broccoli	Watercress
Brussels Sprouts	Soybeans
Cabbage	Beets
Cauliflower	Carrots
Celery	Celery Root
Collard	Chicory
Cucumber	Chives
Eggplant	Dandelion greens
Endive	Kohlrabi
Escarole	Onions
Kale	Peas
Leeks	Red Peppers
Lettuce	Rutabaga
Mushrooms	Beans
Mustard Greens	Lentils
Okra	Sweet Potatoes
Green Peppers	Lima Beans
Pickles	Squash, summer and winter
Pumpkin	Zucchini Squash
Radishes	Potatoes, preferably baked
Rhubarb	

### **Basic Dietary Regime**

Upon arising: 4 oz. juice (orange, grapefruit, apple).  
Breakfast: 4 oz. juice or fresh fruit, eggs or protein source, slice of whole wheat bread.  
Mid-morning: 4 oz. juice or fresh fruit.  
Lunch: soup or salad, protein, vegetable, permitted beverage, fruit for dessert.  
Mid-afternoon: fruit or juice with nuts or seeds, or glass of milk.  
½-hour before dinner: 4 oz. juice  
Dinner: same as lunch, in smaller quantities.  
Evening snack: glass of milk, or cheese, or piece of fruit.

### **Sample Menu**

Upon arising: 4 oz. orange juice

Breakfast: 1 slice cantaloupe, 1 fried egg, 2 strips bacon, 1 piece whole wheat toast with butter.

Mid-morning: 4 oz. apple juice

Lunch: salad with fresh vegetables, 1 piece chicken, slice of whole wheat bread or cottage cheese, permitted beverage.

Mid-afternoon snack: 1 apple, sunflower seeds

½-hour before dinner: 4 oz. grapefruit juice

Dinner: homemade soup, salad, small steak, baked potato, broccoli, fresh fruit cup for dessert.

Evening snack: choice of 1 glass milk, half an apple, and a few walnuts – or piece of hard cheese and an apple.

### **Symptoms of Low Blood Sugar:**

Nervousness  
 Irritability  
 Exhaustion, Faintness, Dizziness  
 Tremors, Cold Sweats  
 Weak Spells  
 Depression  
 Headaches  
 Digestive Disturbances  
 Forgetfulness  
 Awakening with the inability to return to sleep  
 Constant worrying, unprovoked anxiety  
 Mental confusion  
 Internal trembling, palpation, rapid pulse  
 Muscle pains  
 Numbness  
 Unsocial, antisocial  
 Indecisiveness, lack of concentration  
 Crying spells  
 Lack of sex drive, impotence  
 Allergies  
 Uncoordination  
 Leg cramps  
 Blurred vision, changes in vision  
 Itching, skin rashes  
 Sighing and yawning  
 Unconsciousness, dizzy upon standing up  
 Night terrors, nightmares  
 Arthritis, joint pain  
 Phobias and fears  
 Neurodermatitis  
 Suicidal intent  
 Nervous breakdown  
 Convulsions  
 Craving chocolate  
 Craving sweets  
 Irritable, headaches if a meal is missed

**\*\*IT IS A GOOD IDEA TO MARK THE SYMPTOMS YOU HAVE NOW AND THEN WATCH THEM IMPROVE OR DISAPPEAR AS YOU PROGRESS WITH THE DIET!**

Hypoglycemia is not a disease. It is a symptom that something has gone wrong with the complex machinery that normally prevents hypoglycemia from happening. Hypoglycemia means low blood sugar. Under normal circumstances, hypoglycemia never occurs. The body will always attempt to keep blood sugar stabilized. Hypoglycemia indicates that one or more the regulating processes of the body is not responding adequately to prevent hypoglycemia. Hypoglycemia is an abnormal state.

The maintenance of adequate, constant levels of blood sugar is one the most delicately regulated processes of the body. The regulators of blood sugar are:

The Pancreas: This gland secretes insulin from the beta cells of the Islets of Langerhans which acts to lower the level of blood sugar and responds to the level of sugar in the blood and delivers glucose to the cells of the body.

The Adrenal: This gland produces epinephrine which stimulates the breakdown of stored “sugars” in the liver and muscles and blocks the secretion of insulin from the pancreas in response to hypoglycemia.

The Liver: This gland controls the release of sugar that is eaten into the blood. Normally sugar should be “dripped” into the blood so there is not an overload in the blood which will trigger insulin release. The liver is responsible for storing sugars that will be released when the adrenal gland stimulates the release when the blood sugar drops too low.

There are two types of hypoglycemia:

Fasting low blood sugar and reactive low blood sugar.

Fasting low blood sugar will cause symptoms when you go too long without eating. Reactive low blood sugar will cause symptoms when specific foods you choose cause an insulin reaction.

If you go too long without eating, the normal activities of the day will cause you to burn calories and burn up blood sugar, thus producing low blood sugar. If you choose foods high in refined sugars and caffeine, the blood sugar will shoot up too high and cause a release of insulin which will in turn lower blood sugar.

The treatment then for hypoglycemia is to eat only certain foods, avoid the foods that cause a release of insulin, and support the function of the glands involved in controlling blood sugar. Scheduling six small meals or snacks through the day rather than three large meals will also help considerably.

Hypoglycemia will improve rapidly if you follow the diet and schedule of eating, symptoms will relive in just a few days to one week.

Hypoglycemia usually corrects itself in six months. A six-hour glucose tolerance test should be run to confirm your progress.

Stress is a contributing factor to hypoglycemia. If you are feeling pressured, rushed, anxious, sad, worried, tired, confused, depressed or over-worked you will be interfering

with your progress. Try to reduce the stress in your life by doing relaxation exercises, physical exercises, biofeedback training, deep breathing exercises, meditation or prayer time, consultation with a good counselor. If you cannot eliminate the stress itself, then try to handle it better by developing good coping techniques.

Drinking lots of clear, bottled water each day helps, between 1 and 2 quarts a day. Taking a product called Hypoglycol is usually recommended. This is usually taken, one tablet with each meal. Additional chromium and zinc may be helpful. Additional B complex vitamins may help.

Suggested Reading:

Carlton Fredrick's The New Low Blood Sugar and You,

Carlton Fredricks

Sugar Blues, W. Duffy

Your Health Under Siege, J. Bland, Ph. D.

### **Hypoglycemic Snack Ideas**

- ?? Hard-boiled egg sprinkled with spike seasoning
- ?? Peanut butter or almond butter spread on apple or celery or jicama
- ?? Assorted raw vegetables dipped in kefir cheese or cream cheese or guacamole
- ?? Cream cheese spread on rice cake or celery stalk
- ?? Raw almonds (8) or raw nuts or trail mix without raisins or fruits
- ?? Two slices of cheese
- ?? Handfuls of bean sprouts or alfalfa sprouts
- ?? Plain yogurt mixed with acceptable fruits or sprinkled with puffed cereals
- ?? 8 oz. buttermilk, raw milk or plain yogurt
- ?? Slices of baked turkey, chicken, roast beef, lamb or homemade meatloaf
- ?? Chicken, egg or fish salad spread on green pepper, cucumber, lettuce, jicama or acceptable crackers
- ?? Soup in a wide mouth thermos (homemade vegetable, barley/mushroom, split pea)
- ?? Homemade bouillon type broth (chicken, turkey, beef) or Miso soup in a regular thermos
- ?? Protein drinks (8-10 oz.)
- ?? V8 juice
- ?? Cold steamed vegetables with a slice of cheese
- ?? Slice of cold meat wrapped in a lettuce leaf or wrapped around bunch of sprouts
- ?? Carob protein ball made with low honey and raisin content
- ?? 2 rice cakes with any acceptable spread
- ?? 2 oz. cottage cheese and sprouts
- ?? Cole slaw, three bean salad
- ?? Trail mix sprinkled on plain yogurt
- ?? Puffed cereal and milk or unsweetened granola and milk
- ?? Tofu and peanut butter massed and mixed together as a spread for rice cakes or apples or jicama
- ?? Cold cooked grains can be shaped into patties and sautéed in better butter and served hot with fruit or plain yogurt

- ?? Use zip lock bags to carry things with you such as:
- ?? Cold raw vegetables cut up and ready to eat. These can be cut the night before and placed wet in the bag and refrigerated till you leave for work.
- ?? Chunks of melon or strawberries or grapefruit
- ?? Trail mix or nuts

### **Better Butter Recipe**

Better Butter is "better than butter" and should be used as the spread of choice for table use, cooking and baking. A substance called hydrogenated oil or partially hydrogenated oil is the culprit in margarines. Both regular butter and margarine are not acceptable. Hydrogenated oil contributes to changes in the red blood cells, arterial walls, cell membranes, and liver function. It contributes saturated fat to the diet even though it is made from "cholesterol free" vegetable oil.

Regular stick butter is a natural food but is high in saturated fat and does contribute cholesterol to the diet. When you make and use better butter you are making your own margarine by using two natural ingredients which give you the best of both butter and margarine without any of the negative aspects. You are diluting the saturated fat of butter and eliminating the hydrogenated oil of margarine.

1 pound of regular or unsalted butter – softened  
2/3 to 1 cup of Puritan oil, Safflower oil, olive oil or sunflower oil  
400 IU of Vitamin E – squeezed from a clear capsule into the oil mixture

Blend with an electric mixer till smooth. Store in Tupperware container and store in refrigerator. It freezes very well also. The mixture will get soft at room temperature and semi-soft when cold.

When you open a new bottle of vegetable oil always add 400 IU of Vitamin E to the oil (400 IU per quart of oil). Vegetable oil can turn rancid and oxidize very easily. Vitamin E prevents this from happening and protects the oil and you from free radical formation. Store oil in the refrigerator away from heat, light and air.