

Blood Sugar Its Highs and Lows



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Sugar! You can hear and read almost anything about sugar, from how it is good food to how it causes major health problems in everyone who eats it. Somewhere in between is where the proper perspective will be found.

The answer is determined by how well the hormones of the body regulate blood sugar levels. Disturbed regulation can be due to some of the organs or glands that produce and control hormone levels not functioning properly. These can be examined by laboratory tests and applied kinesiology methods. Poor dietary choices can cause poor blood sugar regulation even if the organs and glands are functioning adequately. Keep in mind that there is seldom a single cause for any health problem.

Proper blood sugar regulation is necessary throughout life. When normal blood sugar regulation fails it goes into highs and lows, eventually leading to insulin resistance and metabolic syndrome — serious life changing conditions.

Sugar does not affect everyone the same way. We inherit our glandular characteristics and ability to handle sugar just as we inherit hair characteristics, body type, and skin color.

Blood sugar levels can be too low (hypoglycemia) or too high (diabetes mellitus), and then there are the in-betweens. Sometimes blood sugar is within normal levels, but the glandular system is in great stress maintaining a proper balance.

Properly regulated blood sugar is necessary for normal body function. Blood sugar is the fuel that runs the body; it does not build strong, healthy muscles, bones, organs or glands. The brain and nerves are in constant need of blood sugar and are among the first areas to develop symptoms when the level is disturbed.

Hypoglycemia

As with sugar there are many opinions about hypoglycemia. The American Diabetes Association, the Endocrine Society, and the American Medical Association issued a “Statement on Hypoglycemia” in which they say “... it is often attended by symptoms of sweating, shakiness, trembling,

anxiety, fast heart action, headache, hunger sensations, brief feelings of weakness, and occasionally seizures and coma.” They go on to relate that these symptoms are probably not due to hypoglycemia; rather, they are anxiety reactions. They further state, “... there is no good evidence that hypoglycemia causes depression, chronic fatigue, allergies, nervous breakdowns, alcoholism, juvenile delinquency, childhood behavioral problems, drug addiction, or inadequate sexual performance.” Let’s question these statements and examine sugar handling stress.

Many professionals, especially in natural health care, see varying levels of health problems resulting from blood sugar handling stress. Stress is the important word. Regulation of blood sugar is a complex process

Symptoms of hypoglycemia or effects of sugar handling stress:

Brain:

Confusion
Abnormal behavior
Inability to complete routine tasks
Visual disturbances
Mood swings
Faintness
Mental confusion
Outbursts of temper
Loss of consciousness, uncommon
Mood swings
Nervousness
Depression
Phobias
Forgetfulness

General:

Fatigue
Weakness
Dizziness
Inner trembling
Sudden hunger
Crying spells
Allergies
Cold hands and feet
Craving for sweets
Hunger
Heart palpitations
Insomnia
Headaches
Sweating
Trembling

Note that many of these symptoms can be caused by other conditions.

involving many hormones that are responsible for (1) raising and lowering blood sugar, (2) storing and releasing sugar for the body's needs, (3) converting other nutritional products into sugar, and (4) converting sugar from one form to another. When the glandular system regulating blood sugar is stressed, it causes imbalance in the hormones and neurotransmitters secreted by the glands, thus resulting in some of the symptoms associated with hypoglycemia.

Blood sugar comes primarily from carbohydrates in the diet. Carbohydrates are broken down into glucose, the type of sugar that circulates in the blood for the body to use. Glycogen is glucose converted to a form primarily stored in the liver and muscles for quick conversion to glucose when the body needs a quick increase in blood sugar to meet a specific demand. This is part of the body's fight or flight system.

There are several hormones that regulate blood sugar levels. The most significant ones, insulin and glucagon, are produced by the pancreas. Insulin allows the body to use sugar, thus lowering the sugar level, while glucagon increases the blood sugar level when it is too low.

A firm diagnosis of hypoglycemia is made when there is a triad of symptoms: (1) low blood sugar, (2) blood sugar below 45 mg/dl in a woman or below 55 mg/dl in a man, and (3) symptoms relieved by ingesting sugar.

Most conditions of hypoglycemia and sugar handling stress can be corrected by conservative methods. In some rare cases there may be a pancreatic tumor causing too much insulin to be secreted. This is a benign (noncancerous) tumor that can be removed by surgery. Diabetics may go into hypoglycemia by injecting too much insulin. Other medications can be the cause of hypoglycemia and should be reviewed by your doctor.

Your blood sugar level fluctuates throughout the day with eating and physical activities. As you take in nourishment, especially carbohydrates, the blood sugar rises; insulin allows the cells to use the sugar. When the sugar is used by physical and mental activity more sugar is released from storage by hormones from the pancreas and adrenal glands. If still more sugar is needed other adrenal gland hormones convert protein and fat to sugar.

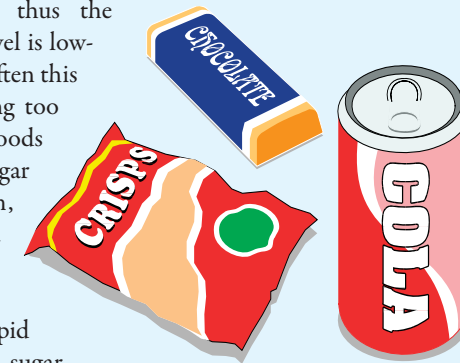
These mechanisms should keep your blood sugar at an ideal functioning level throughout the day and night.

There are many reasons that blood sugar goes outside the normal levels. Most often the reasons are functional and/or dietary. Because one of the strong features of applied kinesiology examination is to evaluate functional problems, it is an important aid in finding the cause(s) of blood sugar handling stress.

Hyperinsulinism

Hyperinsulinism is a condition wherein too much insulin is secreted for the body's needs; thus the blood sugar level is lowered too far. Often this is due to eating too much sugar. Foods with high sugar concentration, such as soda pop, candy, pies, and cake, may cause a rapid rise in blood sugar.

Some people are sensitive to this rapid change, and excessive insulin is secreted that lowers the blood sugar level too far. Unfortunately, the individual then wants more sugar to bring the blood sugar level up again. A vicious circle is started with another insulin response. Often the proper correction for hyperinsulinism is to simply avoid eating foods with high concentrations of sugar. Any high concentration of carbohydrates can cause the problem, but the worst are those that have processed sugars such as table sugar and high fructose corn syrup. The latter is a more recent food additive found in processed food in great abundance.



Adrenal Stress Disorder

The adrenal glands are partially responsible for raising the blood sugar level when it is too low; they convert protein and fat to sugar. If the blood sugar level is frequently lowered by a condition such as hyperinsulinism, the adrenal glands already under stress may become depleted. This is not complete adrenal failure, which is called Addison's disease and is life threatening; rather, the

adrenal glands are not capable of optimally performing all the functions required of them. The depleted adrenal gland condition, known as adrenal stress disorder, can be the initial cause of a blood sugar handling problem or contribute to some of the symptoms associated with hypoglycemia. The adrenal glands can become exhausted for many reasons; primary among them is stress. The adrenal glands are very important in handling stress.

Malabsorption

Hypoglycemia can be caused by lack of normal digestive activity where food is not absorbed and used properly. It is one of the conditions of digestion that can complicate hypoglycemia. An applied kinesiologist will examine the digestive system for many types of digestive problems that will cause or aggravate hypoglycemia or sugar handling stress.

Diet is the problem

The most common cause of sugar handling stress is over-consumption of carbohydrates, especially refined ones, i.e. processed foods such as white crystalline sugar, white flour, and sugars added to processed foods.

All carbohydrates are broken down into glucose in the body. Some carbohydrates have a simple structure that quickly breaks down into glucose, which rapidly raises the blood sugar level. Table sugar, corn syrup, and honey are simple carbohydrates that also occur naturally in fruits, milk, and other foods. Concentrated sweets such as candy, soft drinks, cookies, cakes, and ice cream are mainly simple carbohydrates. These products produce a rapid and often excessive release of insulin, causing the blood sugar to quickly drop to a low level.

When one consumes a lot of candy, cake, sweet drinks, and other highly sweetened foods it is obvious there is an excessive sugar intake, but sugar intake can be exaggerated without one's knowledge. Simple carbohydrates are hidden in almost all processed foods. A common additive is high fructose corn syrup, a liquid fructose made by splitting two components of corn syrup. Fructose readily attaches to proteins, changing their structure and interfering with normal activity. Fructose accelerates glycation (sugar attaching to protein), damaging protein to a significantly greater degree than sucrose or glucose. This damage creates neuropathy in diabetes.

Complex carbohydrates are a basic source of energy. They are comprised of many molecules of simple sugars linked together and take longer to break down in the intestine. This causes slower absorption and keeps the blood sugar more constant. Potatoes, whole wheat bread, corn, peas, and beans are examples of complex carbohydrates. In some cases of sugar handling stress these are good to include in the diet. Some people are even sensitive to these food products. An applied kinesiology examination is effective in determining what carbohydrate types are acceptable.

Protein is important in the diet because of amino acids that the body needs for growth and good health. Foods from animal sources contain protein, as do legumes, nuts and seeds. Protein and complex carbohydrates break down at a slower, more consistent rate to supply glucose, thus avoiding a rapid rise in blood sugar.

Metabolic Syndrome

Sugar handling stress may eventually lead to insulin resistance. This happens when the body's tissues get progressively insensitive to insulin-mediated glucose uptake. In order to process the excess glucose the pancreas produces more and more insulin to keep glucose within a normal range. Eventually the pancreas can no longer keep increasing the insulin level and type II diabetes develops.

Along with insulin resistance, numerous conditions develop known as metabolic syndrome. This includes all or some of the following conditions: abdominal obesity, low HDL cholesterol, high LDL cholesterol, high triglycerides, high blood pressure, and proinflammatory conditions in the blood vessels. This causes an increased risk of coronary heart disease and other diseases related to plaque buildup in artery walls, such as stroke and peripheral vascular disease.

Metabolic syndrome is at epidemic proportions in the USA today. It is estimated that over 50 million Americans have it. Some say the cause of increased metabolic syndrome and type II diabetes is unknown, but your applied kinesiologist knows why and can help you avoid these conditions or treat them if they are already present.

Early correction is essential.