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Your Blood Sugar Level

Sugar is an energy source for your cells that travels to different parts of your body in your blood, hence the name "blood sugar". It comes from the food that you eat. Your digestive system breaks down the foods containing carbohydrates into sugar which then enters the blood to be carried to the cells to use for energy or to store.

Your cell walls have what is a called a semi permeable membrane. This membrane allows substances to move across from the outside of the cell to the inside of the cell, but it does so selectively. The membrane allows some tiny substances such as water, salt, sodium, magnesium, potassium, calcium and other micro-nutrients to freely enter the cells. Sugar, however, is a large substance and needs help to get into the cells. This help is provided by insulin, a type of hormone created by the pancreas. The insulin acts as a key that unlocks the cell to allow the sugar to enter. Insulin goes into specific receptors on the cell and creates a path, a gateway into the cell.

Rising levels of blood sugar prompt the pancreas to create more insulin. As the sugars enter the cells, the levels in the blood begin to drop and the pancreas starts producing glucagon, a hormone that tells the liver to release stored sugar. The interplay of insulin and glucagon is what helps to keep a steady supply of blood sugar in the body.

It's a pretty good system but it can go wrong.

DYSGLYCEMIA

Dysglycemia is an umbrella term for too much blood sugar, too little blood sugar, erratic levels of blood sugar levels, basically any blood sugar imbalance. These blood sugar imbalance conditions have names that you're probably familiar with.

Hypoglycemia is a condition of too little blood sugar. Someone who is in a hypoglycemic state has their blood sugar at a low level. They can, while in this state, experience such things as irritability, headache, light-headedness, weakness, and other symptoms. The symptoms will persist until something is done to relieve them. Typically, the intervening act is to eat. When the person eats, their blood sugar level gradually returns to a more normal level, and then they feel better.

Hypoglycemia is not a constant state, it is a recurring state. A hypoglycemic's blood sugar level bottoms out, then gradually comes up to more normal levels after they eat. Then this cycle can happen again a few hours later. Someone with hypoglycemia has difficulty in maintaining normal blood sugar levels through the usual metabolic function.

Hypoglycemia is a medical condition because the body has trouble returning the low blood sugar level back to normal without an intervening act, usually eating. The hypoglycemic person must eat to relieve the symptoms.

Hypoglycemia can occur from such things as improper diet, irregular eating habits, irregular exercise, too much stress, nutrient deficiencies, or a combination of those. (Stress can also affect the adrenal glands).

One of the most obvious symptoms of hypoglycemia has come to be known as "hangry", which means hungry and angry. The hypoglycemic person is extremely irritable, and they can overreact to people and situations to the point of irrationality.

When this occurs, many people will eat whatever is handy to relieve the symptoms. Often, the sugar cravings that are characteristic of hypoglycemia will

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prompt them to eat chocolate, processed food snacks or other types of junk food which will drive their blood sugar level much too high.

Frequent repetition of this cycle of forcing the blood sugar level too high can eventually lead to the next stage which is hyperglycemia, the next step on the road to type 2 diabetes.

Many people don't recognize that they have hypoglycemia, and that's unfortunate because there are treatments that can reverse the condition, and this is the best stage at which to identify and correct a blood sugar abnormality before it gets any worse and/or progresses to the next stage, hyperglycemia.

Hyperglycemia is a condition of too much blood sugar, intermittently. People who are hyperglycemic have difficulty in maintaining blood sugar levels in the normal range. Over the course of the day, their blood sugar level spikes, then drifts back down to a normal level, then spikes, then drifts back down a normal level. Like hypoglycemia, the blood sugar levels do not stay in the normal range. In the condition of hyperglycemia, they alternate between too high and normal.

Hyperglycemia is characterized by brain fog and fatigue after eating. Most often, people with hyperglycemia experience fatigue. They're tired, their thinking is clouded, they don't want to work in the afternoon, they want a nap. Then later in the day, when their blood sugar level has normalized, their energy can come back up, their brain function kicks back in, and they're ready to work into the evening hours. Then they have trouble sleeping.

Hyperglycemia can be reversed. There are treatments available.

Unresolved hyperglycemia can progress to a condition called insulin resistance. Insulin resistance is also called prediabetes.

Insulin resistance, or prediabetes, is a condition where blood sugar levels are consistently too high, but not yet high enough to be diagnosed as type 2 diabetes. The high blood sugar levels cause the pancreas to increase insulin levels to cope with getting all that blood sugar into the cells. The increased levels of insulin (the hormone that creates a "tunnel" for the blood sugar to get into the cells) can physically damage the cells' receptors. There is so much insulin being produced that it's almost like a relentless onslaught against the cells' receptors. When that happens, the cells' receptors can't accept the insulin because the receptors have become deformed or distorted. The cells have become resistant to insulin, and not enough sugar can get into the cells where it is needed.

The sugar that cannot get into the cells stays in the blood which creates a state where the blood sugar level is constantly elevated. The levels are not high enough that the person would be diagnosed as diabetic, but they are well on the way to type 2 diabetes.

Common symptoms of insulin resistance include hormone imbalances and hormone problems, chronic low energy, weight gain around the abdomen and difficulty with weight loss, skin conditions such as acne and skin tags, cravings for starchy foods and carbohydrates, slow wound healing, blurred vision, headaches, increased thirst, and frequent urination. This is also the stage at which autoimmune disorders can flare up.

If insulin resistance continues over a period of time, the condition can progress to **type 2 diabetes**, a state where the overworked pancreas produces less and less insulin and what little insulin it can create either just barely functions or doesn't function at all. What happens then is that considerably less blood sugar is able to enter the cells and all that blood sugar stays in the bloodstream. The blood sugar level is now so high that it meets the criteria for a diagnosis of type 2 diabetes.

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People with type 2 diabetes often experience weight gain and an inability to lose weight as well as all the symptoms of insulin resistance. They can also develop disorders of the respiratory system, the gastric system, the urinary system, the central nervous system. Other complications from type 2 diabetes can include eye disease, renal failure, nerve damage, hearing impairment, and other distressing conditions. Type 2 diabetics are also at increased risk for heart attack and stroke.

Like the other blood sugar disorders, type 2 diabetes can be treated with naturopathic medicine.

THESE CONDITIONS CAN BE REVERSED

Blood sugar disorders, particularly in the earlier stages of hypoglycemia and hyperglycemia, are, perhaps, among the most neglected medical conditions. There could be a variety of reasons why blood sugar disorders are not recognized and reported to a doctor as often as they should be.

Perhaps people who get irritable when they're hungry or who get "the shakes" when they haven't eaten for a while don't realize that they may have a health problem. It may be that people who get tired or have brain fog after eating don't recognize that these are signs of a medical condition. They may think that these reactions are normal responses. They are not. These symptoms may be common, but they are not normal, and corrective actions can and should be taken before the condition progresses.

Like many other medical conditions, unreported, undiagnosed and untreated blood sugar disorders can and often do progress in severity over time. Hypoglycemia can lead to hyperglycemia and then progress to insulin resistance and finally to type 2 diabetes.

Oftentimes, it is not until the disorder has reached the more advanced stages of insulin resistance and type 2 diabetes that the symptoms become so persistent and so severe that people seek treatment, or that blood tests will identify the condition. That is most unfortunate because, like many other medical conditions, the earlier a blood sugar disorder is recognized and addressed, the easier it is to treat.

These conditions do not have to be life-long afflictions. They can be helped at any stage with a tailored program of correct diet, supplements, the right exercise, and stress management.

Natural treatments are available for any stage of blood sugar disorders. If you are concerned about your blood sugar levels, call us now at (780) 485-9468 to book a consultation, or book online.