



Holladay Physical Medicine

4211 Holladay Blvd. – Holladay, UT 84124 – (801) 272-8471

Bruce Gundersen, D.C., DIANM

www.holladayphysicalmedicine.com

This Information is about this condition in general. Every individual has a unique presentation. Once you understand this information, consult the doctor on any specific questions about your condition.

Glucose-Insulin Imbalance/ Sugar Handling

Glucose-Insulin Imbalance is usually a lifelong (chronic) disease in which there are high levels of sugar in the blood.

Causes, incidence, and risk factors

Insulin is a hormone produced by the pancreas to control blood sugar. Glucose-Insulin Imbalance can be caused by too little insulin, resistance to insulin, or both.

To understand Glucose-Insulin Imbalance, it is important to first understand the normal process by which food is broken down and used by the body for energy. Several things happen when food is digested:

- A sugar called glucose enters the bloodstream. Glucose is a source of fuel for the body.
- An organ called the pancreas makes insulin. The role of insulin is to move glucose from the bloodstream into muscle, fat, and liver cells, where it can be used as fuel.

People with Glucose-Insulin Imbalance have high blood sugar because their body cannot move sugar into fat, liver, and muscle cells to be stored for energy. This is because either:

- Their pancreas does not make enough insulin
- Their cells do not respond to insulin normally
- Both of the above

There are two major types of diabetes. The causes and risk factors are different for each type:

- Type 1 diabetes can occur at any age, but it is most often diagnosed in children, teens, or young adults. In this disease, the body makes little or no insulin. Daily injections of insulin are needed. The exact cause is unknown.

- Type 2 diabetes makes up most diabetes cases. It most often occurs in adulthood. However, because of high obesity rates, teens and young adults are now being diagnosed with it. Many people with type 2 diabetes do not know they have it.

Gestational diabetes is high blood sugar that develops at any time during pregnancy in a woman who does not have diabetes.

Glucose-Insulin Imbalance affects more than 20 million Americans. Over 40 million Americans have pre-diabetes (which often comes before type 2 diabetes).

Symptoms

High blood sugar levels can cause several symptoms, including:

- Blurry vision
- Excess thirst
- Fatigue
- Hunger
- Urinating often
- Weight loss

Because type 2 diabetes develops slowly, some people with high blood sugar have no symptoms.

Symptoms of type 1 diabetes develop over a short period of time. People may be very sick by the time they are diagnosed.

After many years, Glucose-Insulin Imbalance can lead to other serious problems:

- You could have eye problems, including trouble seeing (especially at night) and light sensitivity. You could become blind.
- Your feet and skin can get painful sores and infections. Sometimes, your foot or leg may need to be removed.
- Nerves in the body can become damaged, causing pain, tingling, and a loss of feeling.
- Because of nerve damage, you could have problems digesting the food you eat. This can cause trouble going to the bathroom. Nerve damage can also make it harder for men to have an erection.

Signs and tests

A urine analysis may show high blood sugar. However, a urine test alone does not diagnose diabetes.

Your health care provider may suspect that you have diabetes if your blood sugar level is higher than 200 mg/dL. To confirm the diagnosis, one or more of the following tests must be done.

Blood tests:

- Fasting blood glucose level -- diabetes is diagnosed if it is higher than 126 mg/dL twice. Levels between 100 and 126 mg/dL are called impaired fasting glucose or pre-diabetes. These levels are risk factors for type 2 diabetes.
- Hemoglobin A1c test --
 - Normal: Less than 5.7%
 - Pre-diabetes: 5.7% - 6.4%
 - Diabetes: 6.5% or higher
- Oral glucose tolerance test -- diabetes is diagnosed if glucose level is higher than 200 mg/dL after 2 hours of drinking a glucose drink. (This test is used more often for type 2 diabetes.)

Screening for type 2 diabetes in people who have no symptoms is recommended for:

- Overweight children who have other risk factors for Glucose-Insulin Imbalance, starting at age 10 and repeated every 2 years
- Overweight adults (BMI greater than 25) who have other risk factors
- Adults over age 45, repeated every 3 years

Treatment

Early on in type 2 diabetes, you may be able to reverse the disease with diet, exercise and lifestyle changes.

There is no cure for type 1 diabetes at this time and recommend working coincident with your endocrinologist to provide physical medicine modalities that support the glucose/insulin management process.

Treating both type 1 diabetes and type 2 diabetes involves medicines, diet, and exercise to control blood sugar levels and prevent symptoms and problems.

Getting better control over your blood sugar levels helps reduce the risk of kidney disease, eye disease, nervous system disease, heart attack, and stroke.

Diet

Elimination of all refined carbohydrates is a must. The diet must be predominated by protein. Avoid cakes, cookies, candy, white bread, pasta, pie, ice cream, donuts, and sugar of all kinds. Small meals and snacks of proteins will help. We suggest a modified KEATO diet be considered.

PREMISE

In order to recover from many of today's chronic health disorders, a basic premise must be understood on which all other treatments and remedies depend. The body must be fed the proper

ingredients to heal and it must not be fed or exposed to harmful or toxic elements. Go to our web page www.holladayphysicalmedicine.com Scroll down to the Absolute Health Clinic on the right and click on Learn More. Review each of the following completely: Things to Avoid or Eliminate, Things to Do, Detoxification, Preferred Foods, Forbidden Foods, and Cleaning Products Substitutes.

Each of these items is necessary for you to overcome this disorder. It is not likely that a cure is readily achievable and management is our initial goal. Depending on how long your body has suffered from this disorder, it may take at least half that long to gain control of the condition and manage it in such a way as to not completely interfere with your daily routine. Expectations should be largely based on your individual history with this condition.

USE OF PRESCRIPTION DRUGS

We do not prescribe drugs nor recommend their use if harmful side-effects are associated with your complaints. We also do not, in any case, recommend changes in the use of prescription drugs that a licensed physician has given you. If you believe alterations in those prescriptions are in the best interest of your health, always consult with the prescribing physician before making any changes.

SUPPLEMENTATION:

The ideal situation for nutrition in any injury or disease is first to eat whole foods, and to avoid processed foods, fast foods preservatives, refined carbohydrates and sugar. We have much information on our web page under Absolute Health Clinic. The physical medicine modalities we will provide you will help reduce the symptoms in the time we have projected. If you want to heal, this step is something you will need to take.

Nowadays, even if you do all of those things, you need to realize that our food supply has been gradually depleted. The pure ingredients needed to maintain body function, metabolism and immunity have been drastically reduced. We recommend only whole food supplements. Studies are clear that synthetic vitamins and mineral supplements are not only not helpful to the body in most cases, but can be toxic. Don't expect them to take the place of what we recommend here. They will not help you sufficiently to heal properly. The following list has been prioritized to help you gradually begin to supplement your improved diet and provide your body with the ingredients it needs to restore or improve your immune response and then provide the raw materials in usable form to repair the damaged or diseased tissue. The degree to which you can implement these items will largely determine how fast you recover and more importantly whether or not you have a recurrence or relapse of the symptoms again soon.

These products are all produced by Standard Process. You may obtain them on line from Amazon or other distributors if you like or we can order them for you and save you an average of \$5 per bottle plus you can avoid shipping charges.

GENERAL DAILY SUPPLEMENTS

Catalyn

Tuna Omega-3 oil

Calcium Lactate

Trace Minerals B12

Cataplex D

Prolamine Iodine

SPECIFIC FOR THIS CONDITION

Diaplex

Zypan

Cataplex GTF

Inositol

Pancreatrophin

Specific dosages will be provided by the doctor.

We have many other specific items for a variety of health deficient conditions. Consult our web page or ask the doctor.

EXERCISE

Begin a daily walking routine of 1 minute on the first day. Add 1 minute each day until you are at 45 minutes of continuous walking. Make this a specific time and walking around stores, work or home does not count.

MAINTENANCE:

Regular spinal adjustments and mild forms of physical therapy are important to reduce the symptoms on a regular basis. Patients who receive monthly spinal manipulation and therapy report fewer complications and improved life style. It is important that you follow your chiropractic physician's advice about the frequency of treatment for your particular condition.

OTHER INFORMATION:

We offer a wide variety of health information at our web site.

www.holladayphysicalmedicine.com All patients are welcome to use our information to improve your life and maintain your spinal health.

This information is provided to you as a health service by Dr. Bruce Gundersen, DC, DIANM. He is board certified by the International Academy of Neuromusculoskeletal Medicine and currently serves as chairman of the examination board for the Academy. He is also the President of the Utah College of Chiropractic Orthopedists and clinical director and chief clinician at Holladay Physical Medicine. He has practiced physical and regenerative medicine for over 40 years.