

INSULIN INSENSITIVITY

INSULIN: A SOURCE OF INFLAMMATION

How to Improve Your Score: Follow the program below strictly for 30 days, then retake the questionnaire. Your score should improve dramatically.

In 2015 the New York State attorney general's office accused four major retailers of selling fraudulent herbal supplements. Most products (80%) from GNC, Target, Walgreens and Wal-Mart did not contain ANY of the herbs listed on their labels.

To ensure quality, use supplements from Biotics Research go to GetBiotics.com Click "Login". In the box that says "New? Enter your access code" use DFILC346 as your access code (dfilc346). There are other fine brands—just be sure of the quality of your supplements.

5 SIMPLE STEPS TO IMPROVE YOUR SCORE

1. **The Anti-Inflammation Diet:** See the enclosed report. It contains meal suggestions and recipes. If you do not have a copy of the report, download it for FREE at SymptomQuiz.com. The diet is strict because we are trying to address many problems at the same time. After 30 days you can "cheat". The report will tell you how to introduce foods in a way that enables you to sustain

the improvements obtained from following the program.

2. **GlucResolve™** (2, 2x/day). This is a daily multivitamin to support healthy blood sugar levels. In addition to foundational vitamins and minerals, **GlucResolve™** contains Taurine, Lipoic Acid, Pomegranate Seed Extract, EGCG, NAC, Berberine, Acetyl-L-Carnitine, Forskolin, Grapeseed and Quercetin that help foster healthy weight management, optimize metabolism, provide powerful antioxidants, and promote AMPK activity.
3. **Beta-TCP™** (2, 2x/day) **Beta-TCP™** supports both healthy bile flow, and the normal bile acid to cholesterol conversion. It contains both digestive and antioxidant enzymes (vitamin C), along with Taurine and organic beet concentrate.
4. **Biomega-1000™** (1, 2x/day). Research shows omega-3 fatty acids to be beneficial for people with insulin insensitivity (*Am J Cardiol*. 2020 Mar 1;125(5):678-684). **Biomega-1000™** provides a potent dose of omega-3 essential fatty acids (EFAs), sourced from a strategically placed facility in the far South Pacific Ocean off the coast of Chile, guaranteeing the freshest raw material available, full traceability of the product, and unparalleled purity. Each capsule delivers an

SUPPLEMENT QUALITY

Good supplement quality is vital. There are a few companies that make products you can trust. In case you are not absolutely sure of the quality of the supplements you use; we have made supplements from Biotics Research available to you. If you do not have access to quality supplements, go to GetBiotics.com

impressive 1,000 mg of EPA and DHA, making it the ideal choice for therapeutic dosing.

5. **General supplementation:** Polyphenols are micronutrients that are obtained from plants. They are rich in antioxidants and research has demonstrated many health benefits are obtained from consuming polyphenols. *Nitrogreens®* from Biotics Research is a rich source of polyphenols. Take one scoop in liquid twice each day.

What does a high score in this section mean? A discussion about insulin covers a lot of ground, including obesity, hypoglycemia, type 1 diabetes, type 2 diabetes, and metabolic syndrome. The average American consumes over 200 pounds of sugar each year (compared to about 10 pounds in the 18th century). About half of our calories consist of refined carbohydrates, which the body treats the same way as sugar. As a result, we are producing too much insulin. Over time, if the body produces too much insulin, it stops responding to it. It becomes insensitive to insulin which can lead to metabolic syndrome, high cholesterol, high blood pressure, and eventually lead to type 2 diabetes.

Insulin stores fuel: it transports sugar into the cells. Most (80%), of the body's cells become permeable to glucose when insulin binds to receptors on the cell membranes. Some sugar is used as fuel and some is stored in the short term for later use of energy as glycogen. Excess sugar is converted to triglycerides and then to fat. Excess insulin causes us to deposit that fat. Getting insulin insensitivity under control will help with weight loss.

Most glucose from food is stored in the liver. Once the liver is full, glucose is turned to fatty acids and packed as triglycerides in VLDL for deposition as fat. This means that eating a lot of sugar and starch will cause you to have high triglycerides and high levels of "bad" cholesterol. It will also create vitamin deficiencies. Eventually, dietary sugar and the production of excess insulin create metabolic syndrome (high cholesterol, high triglycerides, high LDL (bad cholesterol) and low HDL (good) cholesterol). Other factors that contribute to metabolic syndrome include stress, poor sleep habits, lack of exercise, and exposure to toxins.

Sugar is also linked to fatigue, high blood pressure, fatty liver, atherosclerosis, yeast overgrowth, magnesium loss, acidic pH, calcium/phosphorus imbalance, polycystic ovary disease, endocrine problems, chronic inflammation, the

tendency to form clots (creating atherosclerosis), and an environment that favors neoplastic (cancer) growth. Most people will feel much better if they simply give up eating sugar and refined carbohydrates.

Type 2 diabetes is due to insulin insensitivity. It differs from type 1 diabetes, which is a state where the body cannot produce insulin. Type 2 diabetics produce insulin, but the body simply does not respond. Much of the advice given here is for type 2 diabetics and not type 1 diabetics.

There are people who are insulin insensitive but have not developed type 2 diabetes or metabolic syndrome yet. Early symptoms of insulin resistance include fatigue, weight gain, brain fog, carbohydrate craving, and periods of hypoglycemia after a high carbohydrate meal (often needing a nap after eating). Approximately 50% of people with high blood pressure are insulin insensitive. Approximately 30% of American adults are insulin insensitive and 25% have metabolic syndrome. The *Journal of the American Medical Association* states that if a patient has three or more of the following symptoms then metabolic syndrome (sometimes called, syndrome X) is present: waist measurement greater than 40" in men (35" in women); triglycerides greater than 150 mg/dl; HDL lower than 40 mg/dl; blood pressure greater than 135/85; or fasting glucose of 110 mg/dl. This means that most people with high cholesterol do not need to focus on fat consumption, they should reduce sugar and starch consumption and take other steps to bring insulin insensitivity under control.

Getting insulin production under control is the key to weight loss—and there are some products that will help you to do this. Early signs of insulin insensitivity include:

- Fatigue
- Weight gain and difficult weight loss
- Brain Fog, inability to focus
- Carbohydrate craving
- Periods of hypoglycemia after high carb meals – despite high levels of glucose and insulin.
- Moody and/or depressed

Dietary changes are, of course, necessary. You need to go on a low glycemic diet—avoiding high glycemic foods like refined carbohydrates. **The Anti-Inflammation Diet** will work nicely. Follow a low glycemic diet; avoid refined foods, hydrogenated oils, and additives. Eat breakfast—with protein (breakfast should be the largest meal of the day). Eat a lot of fresh produce. Avoiding sugar is often difficult;

sugar is addictive. Supplementation should help with cravings.

One of the keys to dealing with food craving is controlling when you eat. Eat only three meals per day. Exercise regularly and stop snacking. The snacking issue is a tough one; many patients are labeled as hypoglycemic. Some feel weak or shaky if meals are delayed or feel the need to snack every two hours (or have been told to do so). You need to wean from this by increasing the time between snacks. When you first eat, you produce insulin which helps to store the calories of the meal. As time goes on, you produce glucagon, which helps to burn the stored calories. The first three hours after eating, insulin is dominant; after three hours glucagon becomes dominant. You cannot lose weight if you keep producing insulin and snacking makes you produce insulin. It is especially important not to eat between dinner and bedtime.

Type 1 and Type 2 Diabetes (material in this handout does not apply to type 1 diabetes):

We have already discussed type 2 diabetes. To review, people with type 2 diabetes produce insulin. The problem is that they have spent a lot of years producing too much insulin and the body stops responding to the insulin. In type 1 diabetes, the body does not produce insulin; insulin must be injected. People with type 1 diabetes tend to be thin. Those with type 2 diabetes tend to be overweight. People with type 1 diabetes must strictly control amounts of food, feeding times and insulin dosage. Natural treatments focus on limiting the damage from oxidative stress and high sugar levels. In type 2 diabetes watching the diet helps control insulin levels. Complications of the disease are similar. Both have cardiovascular and circulation issues. Both can have problems with vision and kidneys and can suffer from neuropathy.

People with type 1 diabetes do not produce insulin; therefore, attempts to normalize insulin production do not work. Management of type 1 diabetes is more about managing meal timing and size, and monitoring glucose and insulin levels. Your doctor should have gone over this with

you. Nutritionally, antioxidants and whole, unprocessed foods are beneficial.

The information below does not apply to people with type 1 diabetes. Attempts to normalize glucose production (nutritionally) will not work well. Monitoring blood sugar and managing meal size and timing are important. Diabetics will often benefit from high in whole foods and antioxidants, which will protect the cells of the kidney, eye, heart, and other areas that are prone to damage in diabetes.

Intermittent fasting: This is a well-researched way to get insulin insensitivity under control and to lose weight. You have an eight-hour window to eat. There needs to be 16 hours between dinner and breakfast the next morning. If you eat dinner at 5:00 pm, breakfast is at 9:00 am the next morning. It works because when you fast you produce glucagon, which is a hormone that helps to break down fat.

Other supplements:

Glucobalance® was formulated by doctors Johnathan Wright and Alan Gaby; and is specifically targeted to support individuals wishing to maintain healthy blood sugar levels. For some, specific dietary needs may exist, necessitating the need for higher amounts of important micronutrients. *Glucobalance®* provides support for maintaining normal, healthy blood lipid levels, as well.

Lipoic Acid has been shown to help reduce triglycerides. Studies have also shown it to be beneficial to some people with neuropathy.

Magnesium: Magnesium supplementation may help patients with insulin insensitivity. Studies show it to be beneficial to patients with metabolic syndrome and other sugar handling problems (*Magnes Res.* 2016 Apr 1;29(4):146-153), (*Pharmacol Res.* 2016 Sep;111:272-282), (*J Hum Nutr Diet.* 2017 Oct;30(5):621-633). *Mg-Orotate 500™* from Biotics Research is the best form because magnesium orotate is especially good for people with cardiovascular issues.

Go to WholeHealthWeb.com and find a natural health practitioner to help you.

A Comprehensive Guide to the Symptom Quiz

GO TO SYMPTOMQUIZ.COM TO DOWNLOAD AN EBOOK TO COMPLETELY EXPLAIN ALL CONDITIONS AND QUESTIONS COVERED IN THE HEALTH QUESTIONNAIRE