

Insulin Resistance is a topic that has been discussed in countless Nutri-Spec Letters and Articles over the years. In fact, the majority of Articles and Letters written over the years either mention Insulin Resistance specifically, or, discuss its causes, or its consequences --- such as abdominal obesity, hypoglycemia, hyperglycemia, hypertension, tubby tummy, elevated triglycerides and cholesterol, low HDL, --- all the conditions associated with Metabolic Syndrome, and Cardiovascular Disease, as well as an increased risk of Cancer.

How do we reverse Insulin Resistance? ----- The short answer is, “with Nutri-Spec.” For a more in-depth answer we need to consider what Insulin Resistance is all about ...

Where does it begin? ----- Some combination of ...

Genetic predispositions + prenatal metabolic stresses + incorrect infant feeding + a lifetime of excess of sugar/carb intake = = = the creation of an individual that we call an “Insulin Reactor.” An Insulin Reactor produces more insulin per food intake than the average person does. In other words, four people could eat the exact same meal, and all will produce their own individualized quantity of insulin in response to that food.

An Insulin Reactor in that group will produce much much, more insulin than the other three --- particularly in response to high carb/sugar meal. Insulin reactors early in life often experience hypoglycemia (very low blood sugar in response to the excess insulin reaction), or a reactive hypoglycemia (--- such that the blood sugar never drops to an extremely low level but does drop very quickly --- typically rising quickly after a high carb intake, than with the excess insulin response, the blood sugar drops very quickly). Both hypoglycemia and reactive hypoglycemia have their own set of symptoms --- including brain fog, fatigue, anxiety, depression, etc.

Over a period of years, the Insulin Reactor produces more and more erratic insulin reactions - -- a stage of patho-physiology development called Dysinsulinism. The whole sequence ---

Carbolic/Sugar-Baby → Insulin Reactor → Dysinsulinism → Insulin Resistance = = = Metabolic Syndrome.

The Insulin Resistance stage results initially from a dysfunction of the insulin receptors in cells. The cells are bombarded with such repeated blasts of high insulin, that they become resistant to its effects over time. At that stage, any tendency to hypoglycemia or reactive hypoglycemia changes to just the opposite --- the Insulin Reactor produces huge amounts of insulin, but the insulin has little effect at pushing sugar out of the blood and into the cells. So now the person has both high insulin and intermittently high blood sugar. Over a period of years this insulin resistance develops into continuously high blood sugar --- which is Type 2 Diabetes.

Along the way, all the symptoms/conditions of Metabolic Syndrome progress --- all in the list above such as tubby tummy, high triglycerides, etc. Obviously, carb and sugar intake control is critical, but just as important is not really the percentage of carbs in the diet, but how frequently a person eats. An insulin reactor has a pancreas that is always loaded and ready fire with a hair

trigger. The slightest bit of food intake causes an excess release of insulin. So one of the most important steps in reversing Insulin Resistance is limiting the number of times a day the pancreas is provoked into releasing insulin. In other words, food should enter the mouth no more than twice daily. No between meal snacks whatsoever. Also critical is a minimum of 14 hours from the last bite of the last meal of the day until the first bite of the next day.

Again, food enters the mouth at two substantial meals daily and nothing in between. That rule is even more important than the percentage of carbs in the diet. You must desensitize the pancreas, thus increasing the sensitivity of cells to insulin to whatever extent is possible.

As far as Nutri-Spec Imbalances are concerned, those with Insulin Resistance tend to be either Anaerobic, Parasympathetic, or Ketogenic. But there are factors involved other than Metabolic Imbalances. One major factor is the intestinal microbiota. The same rotten dietary habits that start the sequence of Insulin Resistance also disturb the microbiota. Through the Gut-Pancreas Axis, Gut-Adipose Axis, Gut-Liver Axis, and the Gut-Hypothalamus Axis, blood sugar is largely influenced by inflammatory markers derived from abnormal critters in the gut --- and can be almost entirely reversed by restoring normal microbiota, and of course, as you might expect, the prebiotics and probiotics in Immuno-Synbiotic are selected specifically because of their effects on the inflammatory processes that contribute to Metabolic Syndrome.

This connection between the gut microbiota and insulin resistance, Type 2 Diabetes, Metabolic Syndrome, Abdominal Obesity, and so forth, is highlighted in two of the articles on the Nutri-Spec website. One is called the [SECRET CAUSE OF INFLAM-AGING LIES DEEP WITHIN YOUR GUT](#), and the other one is called [PREBIOTICS --- THE NATURAL WAY TO CONQUER ...](#) and those Articles are attached.

You can also look into our Article entitled [ENDOGENIOUS INFLAM-AGING](#), which has been the main topic of our Nutri-Spec Letters for quite a while now. That Article is also attached. In terms of Insulin Resistance, you want to particularly look at pages 11 & 12 which show how supplementation with [Rejuvenins](#) in elderly patients decreases insulin by 55% and decreases Insulin Resistance by 59%. The Rejuvenin supplementation vastly improved glucose oxidation --- and the Respiratory Quotient showed much more efficient fat burning and thus less dependance on sugar metabolism. These results were achieved in elderly patients who initially had fasting glucose 15% higher and insulin 469% higher than younger subjects, and Insulin Resistance 571% higher than younger controls. That shows that Insulin Resistance can be reversed even in the elderly by controlling INFLAM-AGING with Activator + Rejuvenator + Immuno-Synbiotic.