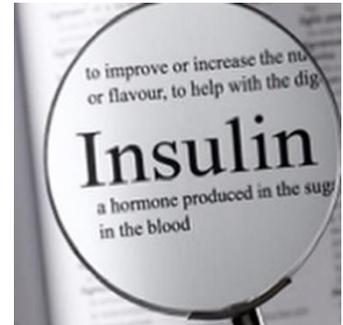


Insulin Resistance & Metabolic Syndrome

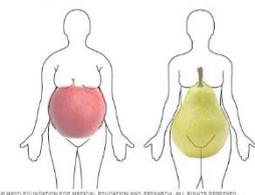
Insulin is an extremely important hormone that helps control blood sugar levels in the body. It is produced by your pancreas when signaled that glucose is present in the bloodstream. It then moves glucose (blood sugar) into storage cell sites for energy to be used immediately or for later use. First, the brain takes what it needs; and then, insulin deposits the remaining glucose into the muscles, liver and any excess into the adipose tissue (fat cells). Having blood glucose linger in the bloodstream for very long can be toxic. Having high levels, also known as hyperinsulinemia, has been linked to obesity, heart disease and cancer.



With **insulin resistance**, muscle, fat, and liver cells do not respond properly to the **insulin** secreted and therefore cannot easily move out glucose (blood sugar) from the bloodstream. This causes the pancreas to pump out even more insulin to do the job. The sequence of resistance first begins in your muscles, then fat, then liver and finally the brain causing brain cell to die off which will lead to dementia.

Insulin resistance typically has no symptoms. The more severe your insulin resistance, the greater your chance of developing diabetes and heart disease. Weight loss and exercise can help reverse insulin resistance as well as following the Thirty40Thirty Nutrition Program, which aims to balance blood sugars and control the rate of insulin production.

According to the Centers for Disease Control, more than 86 million Americans suffer from **metabolic syndrome** (often referred to as pre-diabetes).



Metabolic syndrome is a combination of conditions — high blood pressure, high blood sugar, excess body fat around the waist (a.k.a. "apple shape" vs. "pear shape"), and abnormal cholesterol or triglyceride levels — that occur together, increasing your risk of heart disease, stroke and diabetes.

Having only one of these conditions does not mean you have metabolic syndrome. However, any of these conditions increase your risk of serious disease. Having more than one of these may increase your risk even greater.

If you have metabolic syndrome or any of its traits, aggressive, healthy, lifestyle changes can delay or even prevent the development of serious health problems

References:

Authority Nutrition, *14 Ways to Lower Insulin* <https://authoritynutrition.com/14-ways-to-lower-insulin/>
Mayo Clinic, *Metabolic Syndrome* www.mayoclinic.org/diseases-conditions/metabolic-syndrome/home/ovc-20197517

