

Medical Disclaimer

I am not a medical professional

This presentation is solely for educational purposes!

Always consult with a medical professional or your doctor when seeking medical advice, treatments, or diagnoses.

Always consult with a nutritionist or healthcare provider before making any changes to diet or nutrition programs.

Metabolic disease involves complicated science and it is not my intention to provide medical advice. Again, this presentation contains no medical recommendations!

I assume no liability, nor responsibility, to any person or entity using or acting with the information presented in this project.

What is metabolic syndrome?

Metabolic syndrome refers to the presence of a cluster of risk factors specific for cardiovascular disease. Metabolic syndrome greatly raises the risk of developing diabetes, heart disease, stroke, or all three.

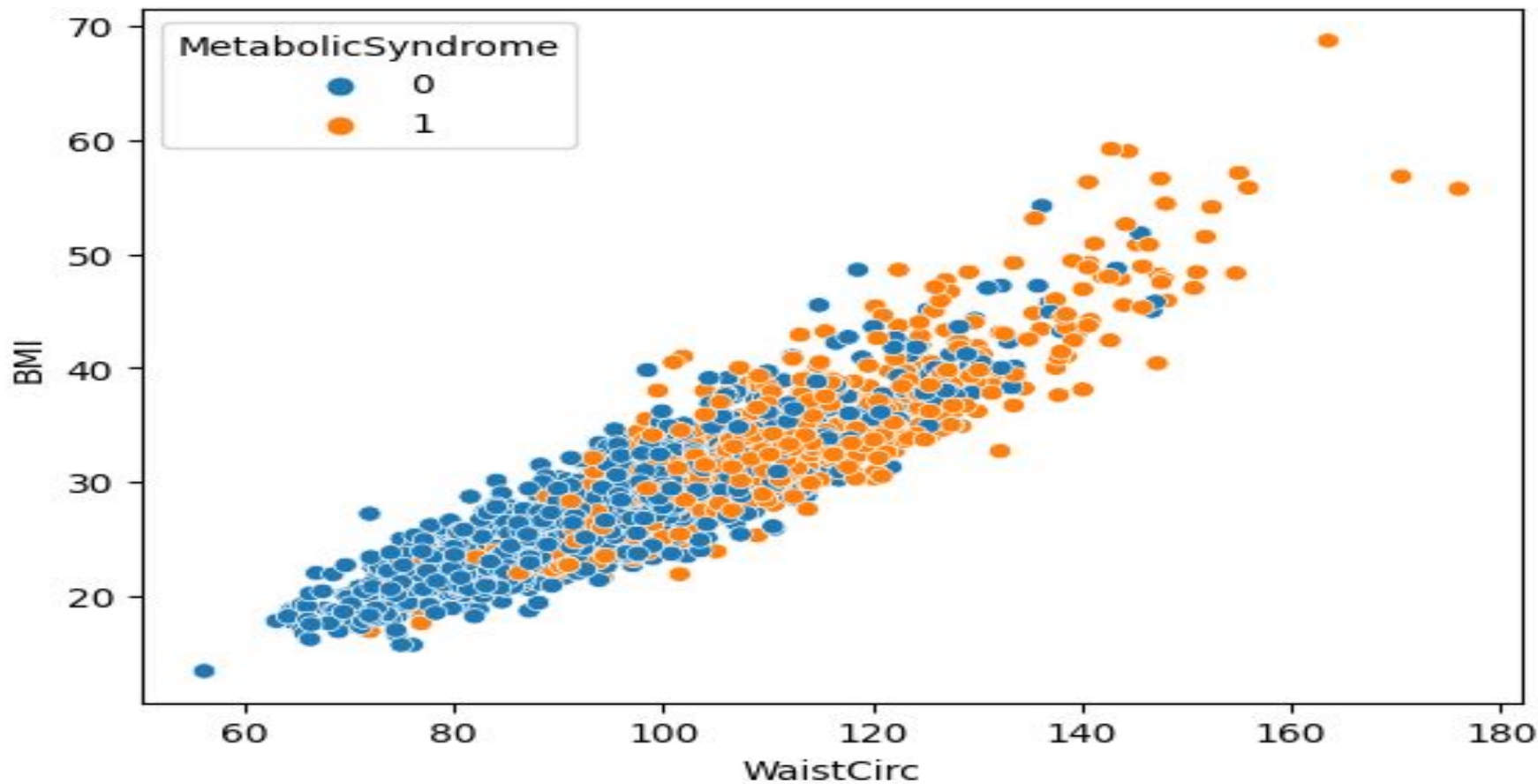
According to the National Heart, Lung and Blood Institute (NHLBI), the cluster of metabolic factors involved includes:

- 1) **Abdominal obesity.**
- 2) **High blood pressure.**
- 3) **Impaired fasting blood glucose.**
- 4) **High triglyceride levels.**
- 5) **Low HDL ('good') cholesterol.**

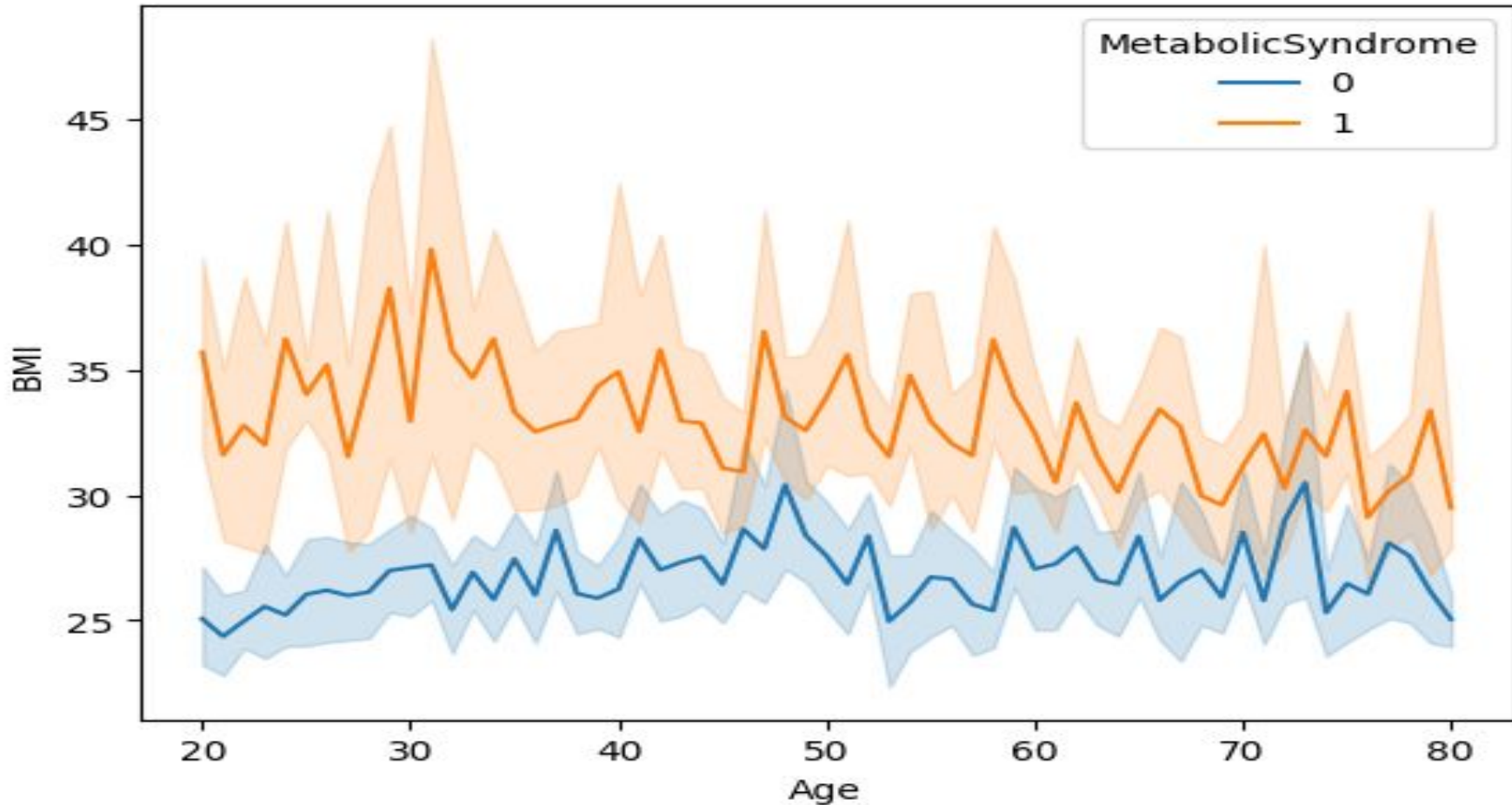
The NHLBI and AHA recommend a diagnosis of metabolic syndrome when a person has 3 or more of these factors.

Source: [Metabolic Syndrome | Johns Hopkins Medicine](#)

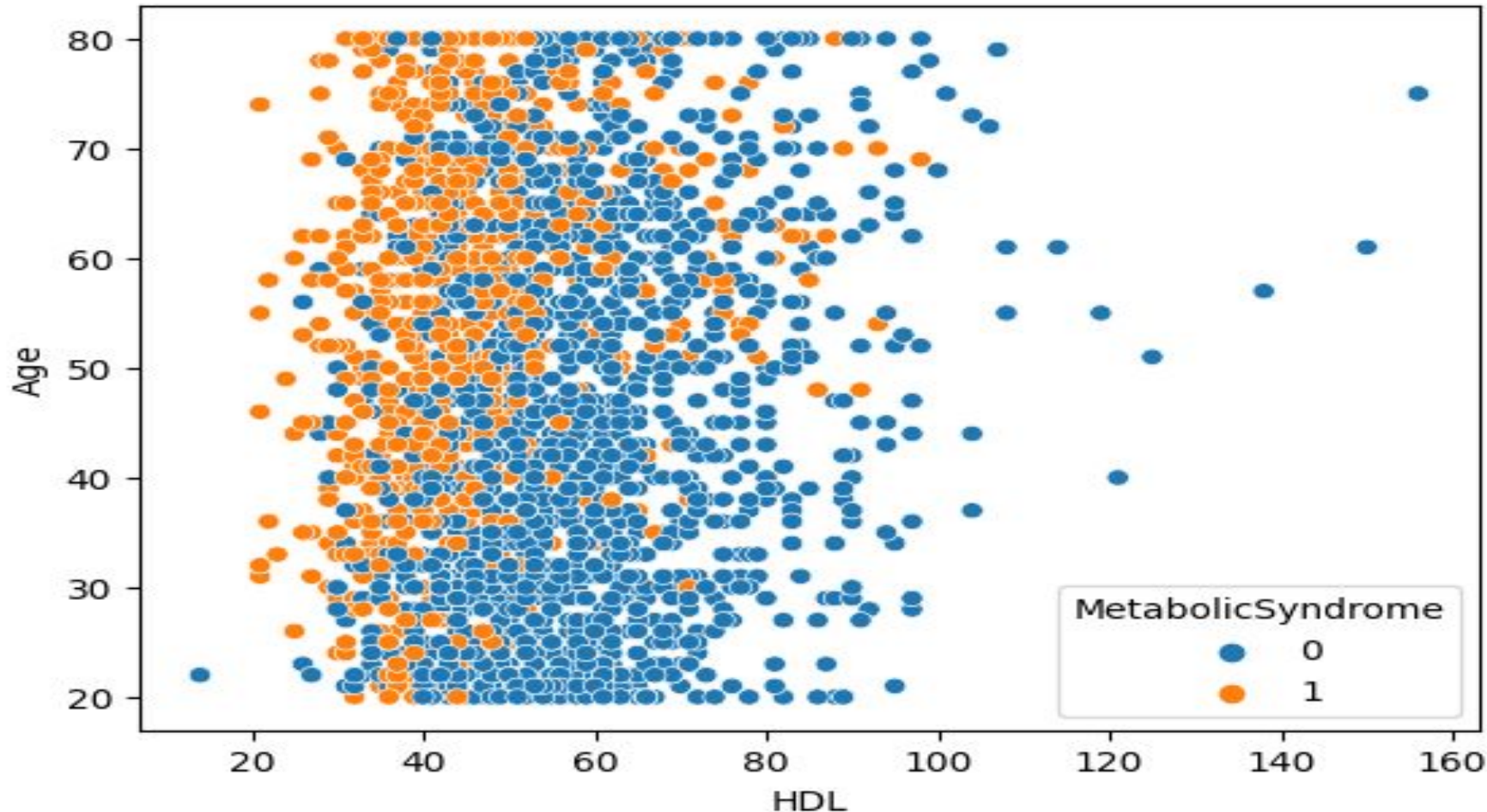
Abdominal Obesity



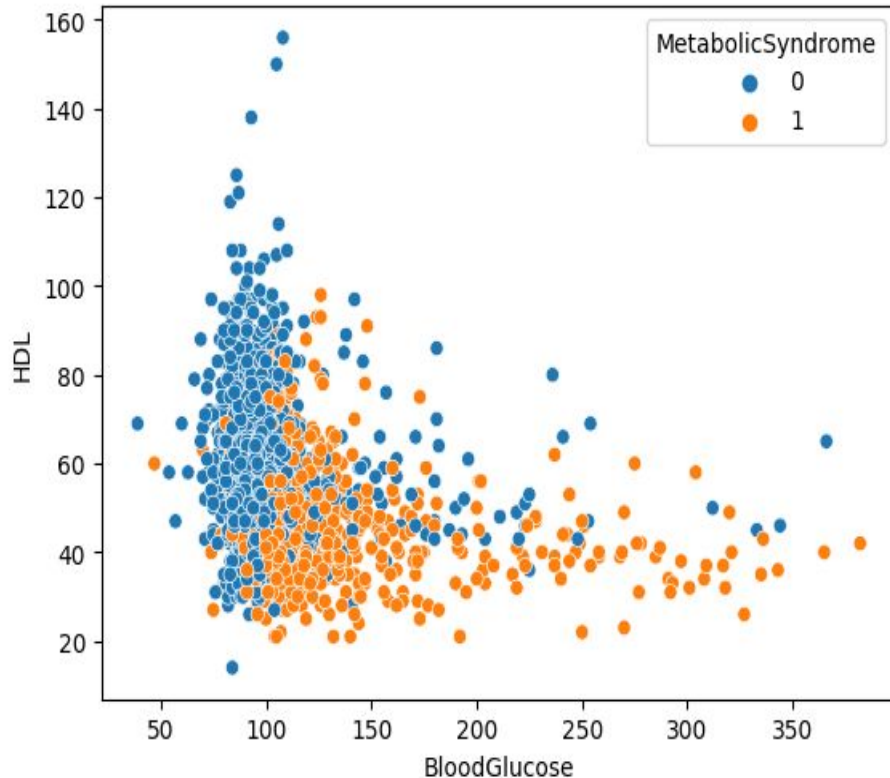
Obesity is the main driving factor for metabolic syndrome



HDL: The “good” cholesterol guy



HDL and Blood Sugar Metabolism



It is very common to see high blood sugar levels posing a risk for higher cholesterol numbers, but not the good HDL! In fact, recent studies have shown a strong connection between lower HDL numbers and a diminished ability to break down and process sugar in the blood.

[Cholesterol and Glucose Metabolism: What You Should Know \(healthline.com\)](https://www.healthline.com/health/cholesterol-and-glucose-metabolism)

[Interaction between Glucose and Lipid Metabolism: More than Diabetic Dyslipidemia - PMC \(nih.gov\)](https://pubmed.ncbi.nlm.nih.gov/20111111/)

Lifestyle education and options are important!

Professional education about lifestyle and nutrition is critically needed to help prevent and treat many of today's diseases. Options to help people lead healthier lives must be fit in the models of the future.

Scientific advancement is also crucial to understanding overall health. So much can be done to provide causes, preventions, and sound treatments for diseases like metabolic syndrome.

The beneficial effects HDL provides our bodies is constantly being studied. I've provided links below to read if you are curious.

[Memory Loss and Your Cholesterol \(verywellhealth.com\)](https://www.verywellhealth.com/memory-loss-and-cholesterol-2786282)

[How Does Cholesterol Effect Healthy Brain Function? \(betteraging.com\)](https://www.betteraging.com/health/cholesterol-effect-brain-function/)

[HDL: The good, but complex, cholesterol - Harvard Health](https://www.harvardhealth.org/blog/2014/04/hdl-the-good-but-complex-cholesterol-38104)

Causes of metabolic syndrome:

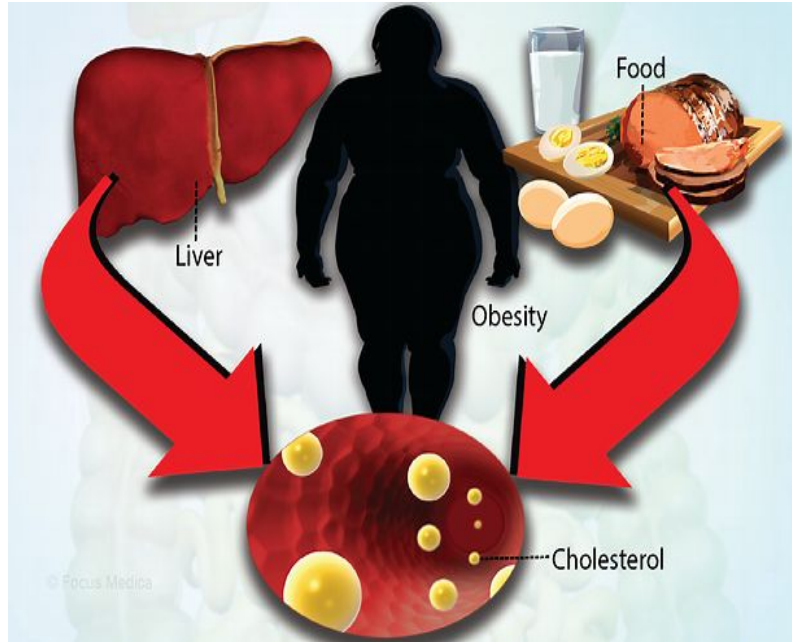
Metabolic syndrome is closely linked to overweight or obesity and inactivity.

It's also linked to a condition called insulin resistance. Normally, your digestive system breaks down the foods you eat into sugar. Insulin is a hormone made by your pancreas that helps sugar enter your cells to be used as fuel.

In people with insulin resistance, cells don't respond normally to insulin and glucose can't enter the cells as easily. As a result, your blood sugar levels rise even as your body churns out more and more insulin to try to lower your blood sugar.

[Metabolic syndrome - Symptoms and causes - Mayo Clinic](https://www.mayoclinic.org/diseases-conditions/metabolic-syndrome/symptoms-causes/slc-20750229)

Looking for answers amongst the healthy people...



[image source](#)

Preventing metabolic syndrome:

A lifelong commitment to a healthy lifestyle may prevent the conditions that cause metabolic syndrome. A healthy lifestyle includes:

- Getting at least 30 minutes of physical activity most days
- Eating plenty of vegetables, fruits, lean protein and whole grains
- Limiting saturated fat and salt in your diet
- Maintaining a healthy weight
- Not smoking

[Metabolic syndrome - Symptoms and causes - Mayo Clinic](#)