

# What Is Metabolic Syndrome?

Metabolic syndrome is a group of metabolic risk factors that exist in one person. Some of the underlying causes of this syndrome that give rise to the metabolic risk factors include:

- being overweight or obese
- having insulin resistance
- being physically inactive
- genetic factors

Metabolic syndrome is a serious health condition. People with it have a higher risk of diseases related to fatty buildups in artery walls. Coronary heart disease, which can lead to heart attack, is an example. Stroke and peripheral vascular disease are other examples.

People with this syndrome are also more likely to develop type 2 diabetes.



Obesity and physical inactivity are among the underlying causes of metabolic syndrome.

## Who has metabolic syndrome?

In recent years this syndrome has become much more common in the United States. About 20 to 25 percent of adult Americans are estimated to have it.

The syndrome is associated with central obesity and insulin resistance. Obesity contributes to high blood pressure, high blood cholesterol, low HDL (“good”) cholesterol and high blood sugar.

Abdominal obesity especially correlates with metabolic risk factors. Metabolic syndrome is considered a clustering of metabolic complications of obesity.

In insulin resistance, the body can't use insulin efficiently. That's a problem because the body needs insulin to convert sugar and starch into energy for daily life and can lead to diabetes.

Some people inherit a tendency toward insulin resistance. In these people, acquired factors (excess body fat and physical inactivity) can trigger insulin resistance and the metabolic syndrome. Most people with insulin resistance have central (abdominal) obesity.

## How is the metabolic syndrome diagnosed?

The most widely used criteria to identify this syndrome are by the presence of three or more of these risk factors:

- Central obesity. This is measured by waist circumference:
  - More than 40 inches for men.
  - More than 35 inches for women.

*(continued)*



- Fasting blood triglycerides are 150 mg/dL or more or taking medicine for high triglycerides.
- Low HDL cholesterol levels or taking medicine for low HDL cholesterol:
  - Men — Less than 40 mg/dL
  - Women — Less than 50 mg/dL
- Elevated blood pressure of 130/85 mm Hg or higher or taking medicine for high blood pressure.
- Fasting glucose (blood sugar) of 100 mg/dL or more or taking medicine for high blood glucose.

Metabolic syndrome is like the “tip of an iceberg” alerting the physician and patient to not only the obvious components, but also the underlying conditions which are not directly measured or seen.

### How is metabolic syndrome treated?

People who have the metabolic syndrome can reduce their risk for cardiovascular disease and type 2 diabetes by controlling risk factors. The best way is for them to lose weight and increase their physical activity.

Here are some important steps for patients and their doctors in managing the condition:

- Routinely monitor body weight (especially central obesity). Also monitor blood glucose, lipoproteins and blood pressure.
- Treat individual risk factors (hyperlipidemia, high blood pressure and high blood glucose) according to established guidelines.
- Carefully choose high blood pressure drugs because different drugs have different effects on insulin sensitivity.

There is more research needed to understand how drug therapy might help people with the metabolic syndrome. It’s important to focus on the five components of this syndrome to properly manage it.

### HOW CAN I LEARN MORE?

- 1 **Talk to your doctor, nurse or other healthcare professionals.** If you have heart disease or have had a stroke, members of your family also may be at higher risk. It’s very important for them to make changes now to lower their risk.
- 2 Call **1-800-AHA-USA1** (1-800-242-8721), or visit **heart.org** to learn more about heart disease.
- 3 For information on stroke, call **1-888-4-STROKE** (1-888-478-7653) or visit us at **StrokeAssociation.org**.

### Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

**How can I reduce my weight?**

**Can physical activity affect my HDL cholesterol?**

### My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **heart.org/answersbyheart** to learn more.

**Knowledge is power, so Learn and Live!**

