

# METABOLIC SYNDROME

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## Metabolic Syndrome

### What is metabolic syndrome?

Metabolic syndrome is a collection of heart disease risk factors that increase your chance of developing heart disease, stroke, and diabetes. The condition is also known by other names including Syndrome X, insulin resistance syndrome, and dysmetabolic syndrome. According to a national health survey, more than one in five Americans has metabolic syndrome. The number of people with metabolic syndrome increases with age, affecting more than 40% of people in their 60s and 70s.

### How is metabolic syndrome diagnosed?

You are diagnosed with metabolic syndrome if you have three or more of the following:

- A waistline of 101cm or more for men and 88cm or more for women (measured across the belly).
- A blood pressure of 130/85 mm Hg or higher or are taking blood pressure medications.
- A triglyceride level above 320.95 mg/dl (8.3 mmol/L).
- A fasting blood glucose (sugar) level greater than 100.90 mg/dl (5.6 mmol/L) or are taking glucose-lowering medications.
- A high density lipoprotein level (HDL) less than 85.07 mg/dl (2.2 mmol/L) for men or under 108.27 mg/dl (2.8 mmol/L) for women .

### Who typically has metabolic syndrome?

- People with central obesity (increased fat in the abdomen/waist).
- People with diabetes mellitus or a strong family history of diabetes mellitus.



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- People with other clinical features of “insulin resistance” including skin changes of acanthosis nigricans (“darkened skin” on the back of the neck or underarms) or skin tags (usually on the neck).
- Certain ethnic backgrounds are at a higher risk of developing metabolic syndrome.

As you grow older, your risk of developing metabolic syndrome increases.

### What are the symptoms of metabolic syndrome?

Usually, there are no immediate physical symptoms. Medical problems associated with the metabolic syndrome develop over time. If you are unsure if you have metabolic syndrome, see your healthcare provider. He or she will be able to make the diagnosis by obtaining the necessary tests, including blood pressure, lipid profile (triglycerides and HDL), and blood glucose.

### What causes metabolic syndrome?

The exact cause of metabolic syndrome is not known. Many features of the metabolic syndrome are associated with “insulin resistance.” Insulin resistance means that the body does not use insulin efficiently to lower glucose and triglyceride levels. Insulin resistance is a combination of genetic and lifestyle factors. Lifestyle factors include diet, activity and perhaps interrupted sleep patterns (such as sleep apnea).

### If I have metabolic syndrome, what health problems might develop?

Consistently high levels of insulin and glucose are linked to many harmful changes to the body, including:

- Damage to the lining of coronary and other arteries, a key step toward the development of heart disease or stroke.
- Changes in the kidneys’ ability to remove salt, leading to high blood pressure, heart disease and stroke.
- An increase in triglyceride levels, resulting in an increased risk of developing cardiovascular disease.
- An increased risk of blood clot formation, which can block arteries and cause heart attacks and strokes.
- A slowing of insulin production, which can signal the start of type 2 diabetes, a disease that is in itself associated with an increased risk for a heart attack or stroke. Uncontrolled diabetes is also associated with complications of the eyes, nerves, and kidneys.

### How do I prevent or reverse metabolic syndrome?

Since physical inactivity and excess weight are the main underlying contributors to the development of metabolic syndrome, getting more exercise and losing weight can help reduce or prevent the complications associated with this condition. Your doctor may also prescribe medications to manage some of your underlying problems. Some of the ways you can reduce your risk:

- **Lose weight:** Moderate weight loss, in the range of 5% to 10% of body weight, can help restore your body’s ability to recognize insulin and greatly reduce the chance that the syndrome will evolve into a more serious illness. This can be done via diet, exercise, or even with help from certain weight-loss medications if recommended by your doctor.

- **Exercise:** Increased activity alone can improve your insulin levels. Aerobic exercise such as a brisk 30-minute daily walk can result in a weight loss, improved blood pressure, improved cholesterol levels and a reduced risk of developing diabetes. Most healthcare providers recommend 150 minutes of aerobic exercise each week. Exercise may reduce the risk for heart disease even without accompanying weight loss.
- **Consider dietary changes:** Maintain a diet that keeps carbohydrates to no more than 50% of total calories. Eat foods defined as complex carbohydrates, such as whole grain bread (instead of white), brown rice (instead of white), and sugars that are unrefined (instead of refined; for example cookies, crackers). Increase your fiber consumption by eating legumes (for example, beans), whole grains, fruits and vegetables. Reduce your intake of red meats and poultry. Thirty percent of your daily calories should come from fat. Consume healthy fats such as those in canola oil, olive oil, flaxseed oil and nuts.

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