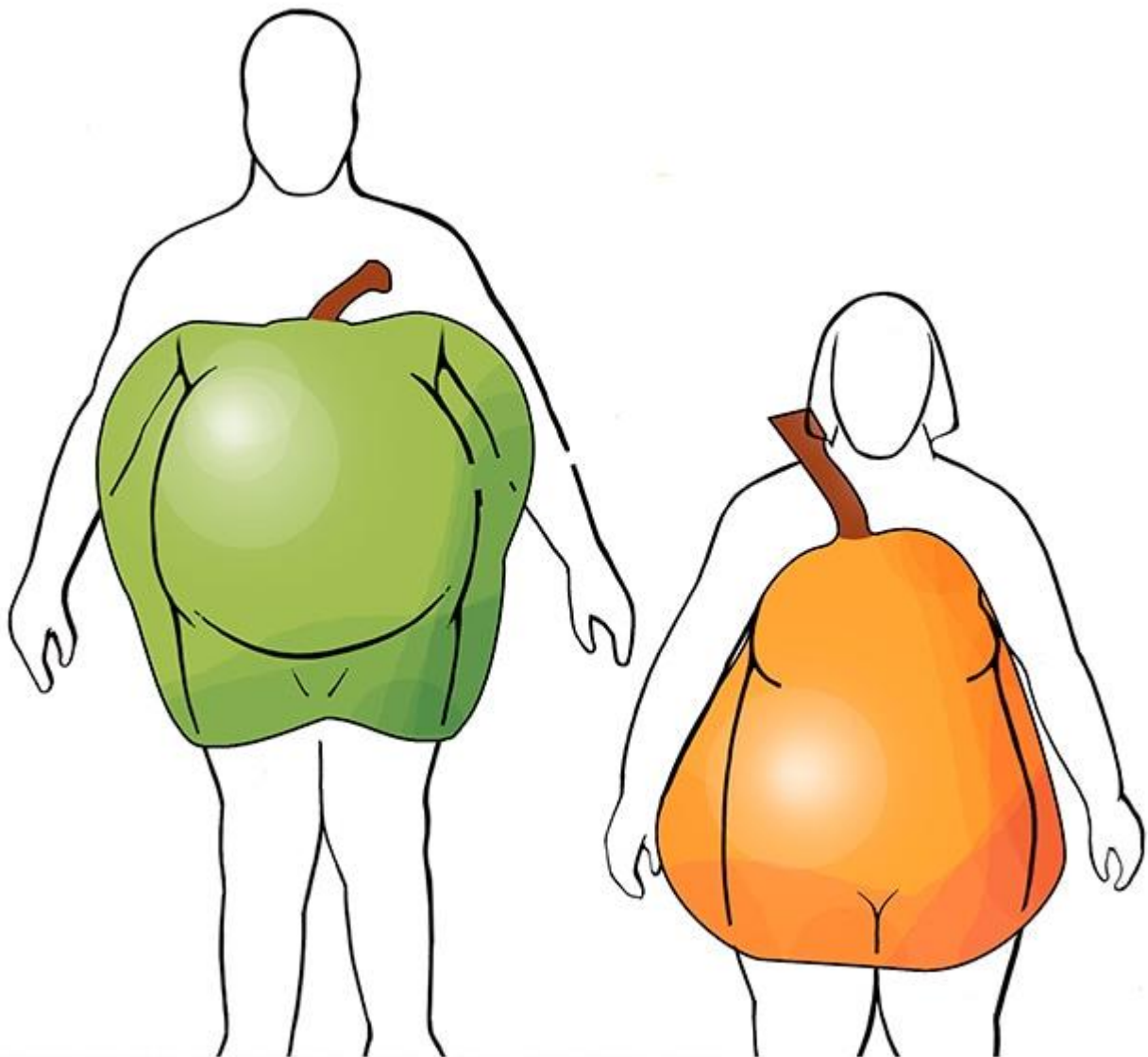


Metabolic Syndrome

Overview



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Apple and pear body shapes

Metabolic syndrome is a cluster of conditions that occur together, increasing your risk of heart disease, stroke and type 2 diabetes. These conditions include increased blood pressure, high blood sugar, excess body fat around the waist, and abnormal cholesterol or triglyceride levels.

Having just one of these conditions doesn't mean you have metabolic syndrome. But it does mean you have a greater risk of serious disease. And if you develop more of these conditions, your risk of complications, such as type 2 diabetes and heart disease, rises even higher.

Metabolic syndrome is increasingly common, and up to one-third of U.S. adults have it. If you have metabolic syndrome or any of its components, aggressive lifestyle changes can delay or even prevent the development of serious health problems.

Symptoms

Most of the disorders associated with metabolic syndrome don't have obvious signs or symptoms. One sign that is visible is a large waist circumference. And if your blood sugar is high, you might notice the signs and symptoms of diabetes — such as increased thirst and urination, fatigue, and blurred vision.

Causes

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.

Risk factors

The following factors increase your chances of having metabolic syndrome:

- **Age.** Your risk of metabolic syndrome increases with age.

- **Ethnicity.** In the United States, Hispanics — especially Hispanic women — appear to be at the greatest risk of developing metabolic syndrome. The reasons for this are not entirely clear.
- **Obesity.** Carrying too much weight, especially in your abdomen, increases your risk of metabolic syndrome.
- **Diabetes.** You're more likely to have metabolic syndrome if you had diabetes during pregnancy (gestational diabetes) or if you have a family history of type 2 diabetes.
- **Other diseases.** Your risk of metabolic syndrome is higher if you've ever had nonalcoholic fatty liver disease, polycystic ovary syndrome or sleep apnea.

Complications

Having metabolic syndrome can increase your risk of developing:

- **Type 2 diabetes.** If you don't make lifestyle changes to control your excess weight, you may develop insulin resistance, which can cause your blood sugar levels to rise. Eventually, insulin resistance can lead to type 2 diabetes.
- **Heart and blood vessel disease.** High cholesterol and high blood pressure can contribute to the buildup of plaques in your arteries. These plaques can narrow and harden your arteries, which can lead to a heart attack or stroke.

Prevention

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

Diagnosis

The National Institutes of Health guidelines define metabolic syndrome as having three or more of the following traits, including traits for which you may be taking medication to control:

- **Large waist** — A waistline that measures at least 35 inches (89 centimeters) for women and 40 inches (102 centimeters) for men
- **High triglyceride level** — 150 milligrams per deciliter (mg/dL), or 1.7 millimoles per liter (mmol/L), or higher of this type of fat found in blood
- **Reduced "good" or HDL cholesterol** — Less than 40 mg/dL (1.04 mmol/L) in men or less than 50 mg/dL (1.3 mmol/L) in women of high-density lipoprotein (HDL) cholesterol
- **Increased blood pressure** — 130/85 millimeters of mercury (mm Hg) or higher
- **Elevated fasting blood sugar** — 100 mg/dL (5.6 mmol/L) or higher

Treatment

If aggressive lifestyle changes such as diet and exercise aren't enough, your doctor might suggest medications to help control your blood pressure, cholesterol and blood sugar levels.

Lifestyle and home remedies

If you've been diagnosed with metabolic syndrome or any of its components, making healthy lifestyle changes can help prevent or delay serious health problems, such as a heart attack or stroke. A healthy lifestyle includes:

- **Regular physical activity.** Health experts recommend getting at least 30 minutes of exercise, such as brisk walking, daily. But you don't have to do that activity all at once. Look for ways to increase activity any chance you get, such as walking instead of driving and using the stairs instead of an elevator.

- **Weight loss.** Losing 7% of your body weight can reduce insulin resistance and blood pressure and decrease your risk of diabetes. In fact, any amount of weight loss is beneficial. It's also important to maintain your weight loss. If you're struggling with losing weight and keeping it off, talk to your doctor about what options might be available to help you, such as medications or weight-loss surgery.
- **Healthy diet.** Healthy-eating plans, such as the Dietary Approaches to Stop Hypertension (DASH) diet and the Mediterranean diet, emphasize eating vegetables, fruits, high-fiber whole grains and lean protein. Healthy-eating plans tend to recommend limiting sugar-sweetened beverages, alcohol, salt, sugar and fat, especially saturated fat and trans fat.
- **Stopping smoking.** Giving up cigarettes greatly improves your overall health. Talk to your doctor if you need help quitting.
- **Reducing or managing stress.** Physical activity, meditation, yoga and other programs can help you handle stress and improve your emotional and physical health.