



METABOLIC SYNDROME

what is the metabolic syndrome?

WHAT IS THE METABOLIC SYNDROME?

The metabolic syndrome is characterized by a group of metabolic risk factors in one person.

They include:

- Central obesity (excessive fat tissue in and around the abdomen)
- Atherogenic dyslipidemia (blood fat disorders — mainly high triglycerides and low HDL cholesterol — that foster plaque buildups in artery walls)
- Raised blood pressure (130/85 mmHg or higher)
- Insulin resistance or glucose intolerance (the body can't properly use insulin or blood sugar)
- Prothrombotic state (e.g., high fibrinogen or plasminogen activator inhibitor [-1] in the blood)
- Proinflammatory state (e.g., elevated high-sensitivity C-reactive protein in the blood)

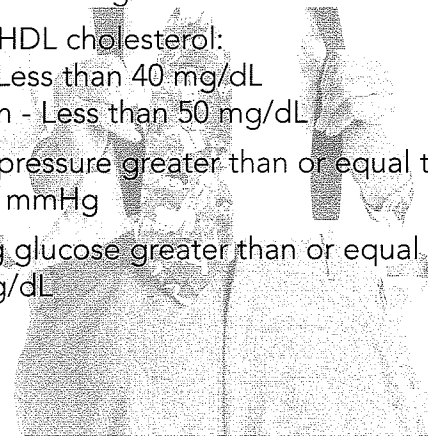
The underlying causes of this syndrome are overweight/obesity, physical inactivity and genetic factors. People with the metabolic syndrome are at increased risk of coronary heart disease, other diseases related to plaque buildups in artery walls (e.g., stroke and peripheral vascular disease) and type 2 diabetes.

HOW IS THE METABOLIC SYNDROME DIAGNOSED?

The criteria proposed by the Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) are the most current and widely used.

According to the ATP III criteria, the metabolic syndrome is identified by the presence of three or more of these components:

- Central obesity as measured by waist circumference:
Men - Greater than 40 inches
Women - Greater than 35 inches
- Fasting blood triglycerides greater than or equal to 150 mg/dL
- Blood HDL cholesterol:
Men - Less than 40 mg/dL
Women - Less than 50 mg/dL
- Blood pressure greater than or equal to 130/85 mmHg
- Fasting glucose greater than or equal to 110 mg/dL



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The ATP III panel did not find evidence to recommend routine measurement of insulin resistance (e.g. increased fasting blood insulin), prothrombotic state or proinflammatory state.

WHO HAS METABOLIC SYNDROME?

The metabolic syndrome has become increasingly common in the United States. It's estimated that about 20-25 percent of US adults have it. The syndrome is closely associated with a generalized metabolic disorder called insulin resistance, in which the body can't use insulin efficiently. This is why the metabolic syndrome is also called the insulin resistance syndrome.

Some people are genetically predisposed to insulin resistance. Acquired factors, such as excess body fat and physical inactivity, can elicit insulin resistance and the metabolic syndrome in these people. Most people with insulin resistance have central obesity.

AHA RECOMMENDATION

More studies are needed to understand the relationship between metabolic risk factors and the efficacy of drug therapy in people who have the metabolic syndrome. To gain the most benefit from modifying multiple metabolic risk factors, the underlying insulin resistant state must become a target of therapy.

The safest, most effective and preferred way to reduce insulin resistance in overweight and obese people is weight loss and increased physical activity.

Other steps for managing the metabolic syndrome are also important for patients and their doctors:

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