



**State of Minnesota
The Office of Ombudsman for
Mental Health and Developmental Disabilities**



Metabolic Syndrome Update



This Medical Alert is based on the work of the Medical Review Subcommittee and should be posted prominently. The Office of Ombudsman for Mental Health and Developmental Disabilities works to improve the services provided to people with disabilities by communicating important information found in the Medical Review Subcommittee's reviews of deaths and serious injuries. Thank you for promptly reporting deaths and serious injuries. You are helping us to meet our mission.

Metabolic syndrome is a name for a group of risk factors that occur together and increase the risk for coronary artery disease, stroke, and type 2 diabetes.

Causes, incidence, and risk factors

Metabolic syndrome is becoming more and more common in the United States. Researchers are not sure whether the syndrome is due to one single cause, but all of the risks for the syndrome are related to obesity.

The two most important risk factors for metabolic syndrome are:

- Extra weight around the middle and upper parts of the body (central obesity). The body may be described as "apple-shaped."
- Insulin resistance. The body uses insulin less effectively than normal. Insulin is needed to help control the amount of sugar in the body. As a result, blood sugar and fat levels rise.

Other risk factors include:

- Aging
- Genes that make you more likely to develop this condition
- Hormone changes
- Lack of exercise

People who have metabolic syndrome often have two other problems that can either cause the condition or make it worse:

- Excess blood clotting
- Increased levels of blood substances that are a sign of inflammation throughout the body

Signs and tests

Metabolic syndrome is present if you have three or more of the following signs:

- Blood pressure equal to or higher than 130/85 mmHg
- Fasting blood sugar (glucose) equal to or higher than 100 mg/dL
- Large waist circumference (length around the waist):

- Men - 40 inches or more
- Women - 35 inches or more
- Low HDL cholesterol:
 - Men - under 40 mg/dL
 - Women - under 50 mg/dL
- Triglycerides equal to or higher than 150 mg/dL

Treatment

The goal of treatment is to reduce your risk of heart disease and diabetes.

Your doctor will recommend lifestyle changes or medicines to help reduce your blood pressure, LDL cholesterol, and blood sugar.

- Lose weight. The goal is to lose between 7% and 10% of your current weight. You will probably need to eat 500 - 1,000 fewer calories per day.
- Get 30 minutes of moderate intensity exercise, such as walking, 5 - 7 days per week.
- Lower your cholesterol using weight loss, exercise, and cholesterol lowering medicines, if needed.
- Lower your blood pressure using weight loss, exercise, and medicine, if needed.

Some people may benefit from daily low-dose [aspirin](#).

People who smoke should quit.

Expectations (prognosis)

People with metabolic syndrome have an increased long-term risk for developing heart disease, type 2 diabetes, stroke, kidney disease, and poor blood supply to the legs.

The above information is from <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0004546/>

Weight gain leading to metabolic syndrome is common in clients receiving psychotropic medications like antidepressants, anticonvulsants/mood stabilizers, and antipsychotics. The following medications are known to contribute to substantial weight gain - antidepressants: amitriptyline, imipramine, and mirtazapine; mood stabilizers: lithium and valproate; and antipsychotics: chlorpromazine, clozapine and olanzapine.

The American Diabetes Association (ADA) Consensus on Antipsychotic Drugs and Obesity and Diabetes recommends the following monitoring: weight (BMI) at the start of antipsychotic therapy, at 4, 8, 12 weeks, and then quarterly; waist circumference at the start of antipsychotic therapy, at 12 months, and then annually; blood pressure at the start of antipsychotic therapy, at 12 weeks, and thereafter every 12 months; fasting blood glucose at the start of antipsychotic therapy, at 12 weeks, at 12 months, and then annually; and a fasting lipid profile at the start of antipsychotic therapy, at 12 weeks, at 12 months, and then annually. Of course, more frequent assessments may be needed based on clinical status.

Additional information on this topic is available in a free webcast: *Metabolic Syndrome Update*, David C. Henderson, MD, Modern Psychiatry: Contemporary Issues in Psychiatric Diagnosis and Treatment, sponsored by Massachusetts General Hospital Academy at http://mghcme.org/courses/course-detail/modern_psychiatry_contemporary_issues_in_psychiatric_diagnosis_and_treatment