

What is metabolic syndrome?

Metabolic Syndrome is a group of health problems. It puts a child at risk for heart disease, type 2 diabetes and stroke. The exact cause is not known. It tends to run in families (genetic) and is more often seen in:

- Children who are overweight and not physically active.
- African-Americans, Hispanics, Native Americans and Asians.

In the past it was found mostly in adults. More children are now being diagnosed because obesity and less active lifestyles are more common. As many as 1 in 10 teens may have metabolic syndrome.

How does it affect my child?

Most children with this syndrome have no symptoms. That's why it is often overlooked. This can lead to life threatening diseases, such as:

- Type 2 diabetes.
- Insulin resistance. Insulin is a hormone in the body that is made in the pancreas. It helps food that is eaten become energy for the body to use. With metabolic syndrome the body does not respond to insulin as it should. The pancreas then has to make more insulin. Over time this can lead to type 2 diabetes. Insulin resistance can also add to the development of:
 - Polycystic Ovarian Syndrome.
 - Fatty Liver disease.
 - Acanthosis Nigricans. A skin disorder that causes dark, thick velvet-like patches of skin around the neck, armpits and groin.
- A build-up of cholesterol inside blood vessels. This can lead to blocks in blood vessels. It can also lead to problems such as high blood pressure, heart attack and stroke.
- Kidneys not working like they should.

How is it diagnosed?

Children with at least 3 of these 5 risk factors may have metabolic syndrome:

- A lot of belly fat.
- Low amount of good cholesterol, called HDL
- High amount of fats, called triglycerides, in the blood.
- High blood sugar.
- High blood pressure.

Tests may be done, depending on your child's exam and family history. Tests may include:

- Height and weight. These are used to figure out your body mass index (BMI). BMI tells how overweight a person is.
- Waist measurement.
- Blood pressure.
- Blood tests such as cholesterol level, and /or blood sugar.

How is it treated?

Start with changes in activity and diet patterns. These are called lifestyle changes. Things that will help the most are to:

- Lose weight if you are overweight.
- Get more physical activity. Limit activities such as watching television and playing computer or video games.
- Make healthy food choices. Pay attention to how much is eaten at a time.
- If you smoke, quit.

Ask your child's health care provider for more information on healthy eating or programs to help with weight loss. Talking with a dietitian may help.

If lifestyle changes do not help, medicines may be needed. Your child's doctor will talk to you more about this.

ALERT: Call your child's doctor, nurse, or clinic if you have any questions or concerns or if your child has special health care needs that were not covered by this information.



This sheet was created to help you care for your child or family member. It does not take the place of medical care. Talk with your healthcare provider for diagnosis, treatment and follow-up.