



Do You Have Metabolic Syndrome?

Metabolic Syndrome is the name given to a cluster of symptoms including belly fat, high blood cholesterol and high blood glucose. It affects more than one in four Australian adults – the incidence is higher in people with diabetes. Yet the condition often goes undiagnosed. Do you have Metabolic Syndrome?

Metabolic Syndrome explained

Also called Syndrome X, Metabolic Syndrome is a condition that's characterised by the production of large amounts of insulin which the body can't use properly. Insulin can't do its job of taking glucose from the blood into body cells so blood glucose levels rise and can be detected with a medical test, although you may not have any symptoms. The resulting high concentrations of blood glucose can damage tiny blood vessels and delicate nerves.

Metabolic Syndrome is very common and becoming even more so. People from certain ethnic groups (such as indigenous Australians and people of Pacific Island heritage and Asian descent) are affected most and it is often seen in women with polycystic ovary syndrome (PCOS).

Symptoms of Metabolic Syndrome include:

- Central obesity. Fat is laid down around the abdomen rather than spread evenly around the body. This type of fat is metabolically active and triggers inflammation around the body.

- Abnormal blood fat levels. This occurs when there are high levels of LDL-cholesterol and triglycerides and low levels of a beneficial type of fat called HDL-cholesterol, which helps the body get rid of excess cholesterol. The result is an increased likelihood of arteriosclerosis (fatty plaques) on the walls of blood vessels.
- High blood pressure (hypertension). As blood moves through your arteries, it puts pressure on the artery walls; this is your blood pressure. Hypertension happens when your blood moves through your arteries at a higher pressure than normal. This means the heart has to work harder than normal, putting both the heart and arteries at greater risk of damage.
- High blood glucose levels. This occurs because cells become resistant to insulin, so glucose levels rise.

So, if you have central obesity (if you carry too much weight around the middle or are apple shaped) and you have two other conditions such as high blood pressure, diabetes or raised blood fats, you have Metabolic Syndrome and are at an increased risk of chronic conditions such as heart disease, stroke and other problems relating to blood vessels.



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Signs of Metabolic Syndrome include:

- Insulin resistance or glucose intolerance – the inability to use insulin properly or control blood glucose levels very well.
- Impaired fasting glucose (IFG) or diabetes. IFG occurs when blood glucose levels are higher than normal, but not high enough to be diagnosed as type 2 diabetes.

What causes Metabolic Syndrome?

Many people tend to become less active with age and the result can be weight gain. Too much fat and too much abdominal fat in particular can lead to the body becoming resistant to the hormone insulin. This means that although insulin is produced, it is much less effective, especially in the muscles and liver.

Metabolic Syndrome is a very complex condition but three factors seem to contribute:

- Genetic tendency
- Being overweight
- Physical inactivity.

So if you are born with a genetic tendency and you are overweight and you don't exercise, you are more likely to become insulin resistant and develop Metabolic Syndrome. More than half of all Australians have at least one of the Metabolic Syndrome conditions. And, according to the Diabetes Council of Australia, 'It's estimated that more than 16 per cent or about two million Australians have pre-diabetes' also known as Metabolic Syndrome.

What is insulin resistance?

Your body needs carbohydrates from wholegrains, vegetables and fruit, to supply energy as they are the body's preferred energy source.

When you eat carbohydrates, your body digests them into glucose and these tiny molecules pass from your intestine into your bloodstream. When your body detects rising levels of glucose, it stimulates the pancreas to secrete a hormone called insulin. It is insulin's job to 'hold hands' with glucose molecules and take them through cell membranes into cells, where they can provide a source of energy.

When a person has insulin resistance, the pancreas secretes more insulin to try and maintain blood glucose levels to within narrow limits.

Insulin resistance raises the risk of diabetes

If your pancreas still can't produce enough insulin to maintain blood glucose levels within normal limits, the glucose in

your blood rises. This is called impaired glucose tolerance (IGT) and it literally means that your glucose levels are too high. This can result in damage to tiny blood vessels. This increases the risk of heart and blood vessel diseases.

What is central obesity?

Central obesity or belly fat occurs when you carry excess weight around your middle, which increases your risk of Metabolic Syndrome and other conditions.

Having central obesity means that fat is wrapped around your vital organs (visceral fat), which is different to the kind of fat stored in other places, for example on your bottom and thighs.

We all need a certain amount of visceral fat but too much can risk your health. Visceral fat is much more metabolically active than the subcutaneous fat (the stuff that wobbles) which is a storage material. Visceral fat is not always visible and it produces chemicals that trigger inflammation.

Your risk of central obesity varies according to ethnicity and gender. Generally speaking, if your waist measures 94 cm or more (men) or 80 cm or more (women), you probably need to lose some weight. If you are a man of South Asian, Chinese, Asian-Indian, Middle Eastern or Central American heritage, you are more at risk if your waist measures 90 cm or more.



Losing belly fat

Researchers writing in the American Journal of Clinical Nutrition showed that a calorie-controlled diet rich in wholegrains trimmed extra fat from the waistline compared with a diet that contained white cereals.

Participants who ate all whole grains (in addition to five servings of fruits and vegetables, three serves of low-fat dairy and two servings of fish or meat) lost more weight from the belly region than a comparison group that ate the same diet, but with all refined grains.

That's because wholegrains make changes to the way the body handles glucose and insulin so that it is easier for the body to mobilise stored fat.



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Hypertension

Also called high blood pressure, a person is said to be hypertensive when the blood pressure measures at higher than 140/90mmHg (your doctor can explain this to you). Hypertension increases your risk of developing heart disease, stroke and kidney diseases. Reducing the amount of salt in your diet is an important way to reduce hypertension. Most of our added salt comes from ready-manufactured and takeaway foods so try to cook more with fresh ingredients and use herbs and spices whilst gradually lowering the amount of salt and salty foods you use in cooking. Again, getting to the right weight range for you, exercising and not drinking too much alcohol can all help reduce hypertension. Speak with your doctor about what you can do to achieve a blood pressure level that is right for you and whether you need specific medical treatments to lower hypertension.

Cholesterol and triglycerides

Cholesterol is a fatty substance that is essential for body cells. Too much of the harmful type – LDL-cholesterol, can block and narrow arteries reducing the amount of oxygen and nutrients that reach body cells including the cells of the heart.

Triglycerides are made by the body too. But raised levels are linked with heart disease and other chronic (long-term) problems. Drinking too much alcohol and being overweight raises triglyceride levels. Often, having high triglycerides is linked with having low levels of a healthy type of cholesterol called HDL-cholesterol. This type of cholesterol protects the body by encouraging the removal of excess blood fats from the body.

Impaired glucose tolerance

Also known as pre-diabetes, impaired glucose tolerance (IGT) means that blood glucose levels are higher than they should be – but not high enough to be called diabetes. Around one in three people with IGT develop diabetes unless they make improvements to their health and lifestyle.



What can you do?

More research is being conducted and some people may need prescribed medications. But lifestyle changes can go a long way to reducing your risk and delaying or preventing, the onset of serious disease.

- **Speak with your doctor**

Keeping your blood pressure under control is essential so get a check-up with your GP. It is also important to control your blood fats (cholesterol) and keep your blood glucose at healthy levels; speak with your doctor about individual advice. Medication may be required to reduce your risk of heart attacks, diabetes and strokes.



- **Eat smarter**

Enjoy a diet that is rich in wholegrains, vegetables and fruit and cut down on the amount of sugary, fatty foods you consume. Eating a diet rich in wholegrains is important because they are higher in fibre than their white carbohydrate counterparts and this helps improve insulin sensitivity because the carbohydrates are broken down much more slowly giving the body a chance to tackle the sustained energy release. The fibre also means that you consume fewer calories and eat more slowly (wholegrains require more chewing) which reduces your chances of overeating and eating too quickly.





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- **Enjoy exercise**

It is very important that you exercise regularly – at least half an hour of moderate intensity exercise on most days. Moderate intensity exercise is the kind that leaves you out of breath but still able to carry out a conversation.

Try not to spend too long sitting down – get up and walk around regularly if you spend long hours in front of a screen.

Start slowly if you haven't exercised for a while and if you have a medical condition. Walking is a good way to get going and works for many people or try team sports or yoga. But choose something you enjoy because you're more likely to stick at it if you like what you're doing.

- **Get into your ideal weight range**

Get into a weight-loss group and surround yourself with positive, like-minded people. Studies have shown people who lose weight and get healthy in a group are more likely to lose weight and keep it off.

The combination of increasing physical activity and eating healthier will help you lose excess body fat, and reduce your weight.

- **Don't smoke**

Smoking increases your risk of cardiovascular disease, stroke, cancer and lung diseases. Quitting brings huge health benefits, especially if you have Metabolic Syndrome.

- **Don't drink too much alcohol**

It is also important to moderate how much alcohol you drink. Alcohol is loaded with calories as are the mixers that go with it. The body tends to store excess calories from alcohol around your middle very readily because it is near the liver where alcohol is detoxified. Too much alcohol increases weight gain and your chances of weight problems. Alcohol is also processed in the liver to produce triglycerides, a type of fat. This can be stored in the liver which slows down the efficient functioning of the liver, which is an important body cleansing system. Drinking too much alcohol interferes with the way your liver breaks down and stores fat. Reduce your intake to less than two standard drinks a day or cut it out completely. See your doctor for more advice.

