

## Triglycerides

Triglycerides are a common type of fat that accounts for about 95 per cent of all dietary fats. Both animal and vegetable fats contain triglycerides. Once digested, triglycerides circulate in the bloodstream to be used as energy by the cells. Any leftovers are stored in body fat to fuel the body between meals.

If you regularly eat more kilojoules than you burn, you will be overweight or obese and may have raised triglyceride levels circulating in your blood. High blood triglycerides are linked with an increased risk of health conditions including heart disease. High triglycerides are also known as hypertriglyceridemia.

### Metabolic syndrome – risk factors

High triglyceride levels are associated with a collection of disorders known as 'metabolic syndrome'. A person with metabolic syndrome has an increased risk of developing diabetes, stroke or heart disease.

A person is classed as having metabolic syndrome when they have any three of the following factors:

- Central (abdominal) obesity – excess fat in and around the stomach (abdomen)
- High blood pressure (hypertension)
- Higher than normal blood glucose levels
- Low HDL (high density lipoprotein) cholesterol
- High blood triglycerides.

### Triglycerides and cholesterol

Like triglycerides, cholesterol is a fatty substance that circulates in the blood. However, the body uses triglycerides and cholesterol differently. Triglycerides are a type of fuel, while cholesterol is needed for various metabolic processes such as making particular hormones and building cells.

The two types of cholesterol are high density lipoprotein (HDL) and low density lipoprotein (LDL). Over time, raised LDL causes fatty plaques to form on blood vessel walls. This process is called atherosclerosis. Blood flow is restricted through these narrowed blood vessels. A complete blockage can cause life-threatening conditions including heart attack or stroke.

High triglycerides contribute to the development of atherosclerosis. Studies show that many people with high triglycerides have low levels of HDL – the 'good' cholesterol that helps remove fat from the artery. Low HDL levels are a known risk factor in the development of heart disease.

### Causes of high triglycerides

In many cases, habitual overeating causes high triglycerides. Occasionally, the trigger is an underlying condition such as:

- Excessive alcohol consumption
- Adverse side effect of particular medications
- Poorly managed diabetes
- Hypothyroidism (insufficient production of thyroid hormones)
- Some types of liver disease
- Some types of kidney disease

- Some genetic disorders, including the inherited disease familial hypertriglyceridemia and familial combined hyperlipidemia (triglyceride and LDL are both elevated).

## Diagnosis of high triglycerides

A blood test can reveal whether or not you have high triglycerides. You may need to have two (or more) blood tests for accurate results. Don't eat anything for at least 12 hours before each blood test because food – particularly fatty food – can temporarily boost triglyceride levels in the blood and skew your test results.

Triglycerides are measured in mmol/L. The range includes:

- **Very high** – over 6 mmol/L
- **High** – between 2 and 6 mmol/L
- **Borderline high** between 1.7 and 2 mmol/L
- **Normal** – below 1.7 mmol/L

The doctor may also test your cholesterol levels. In many cases, high triglycerides and high cholesterol go hand in hand. This condition is sometimes known as combined hyperlipidemia.

## Treatment of high triglycerides

In most cases, high triglycerides are managed by making lifestyle changes. You may be advised to:

- Exercise for at least 30 minutes every day.
- Eat less, particularly high fat foods.
- Increase the amount of fibre in your diet.
- Avoid high sugar foods such as lollies. Choose foods with a low glycaemic index (GI) such as legumes and wholegrain products.
- Eat more fish. Choose fish rich in omega-3 fatty acids such as salmon, mackerel, tuna and trout. Omega-3 in high doses can reduce triglyceride levels.
- Cut back on alcohol. The kilojoules and sugar in alcoholic drinks can raise triglyceride levels.
- Lose excess body fat using a combination of healthy eating and regular exercise.
- Don't smoke.
- Manage coexisting health conditions such as diabetes or hypertension effectively.

## Medications may be needed for high triglyceride levels

Sometimes, healthy eating and regular exercise can't lower high triglyceride levels. This may be the case, for example, if you have familial hypertriglyceridemia or if you already have heart disease. Your doctor may prescribe medication such as fibrates or nicotinic acids. Drugs to help lower high blood cholesterol may also be prescribed, if necessary.

Suggestions for managing high triglyceride levels with medication include:

- Always take prescription medications exactly as instructed.
- See your doctor if you are having side effects from the medication. Known medication side effects may include indigestion, diarrhoea, fever or muscle problems.
- Don't assume that medications will somehow overcome the hazards of an unhealthy lifestyle. A healthy diet, regular exercise and maintaining an appropriate weight for your height are the most important management strategies for high triglycerides.

## Where to get help

- Your doctor
- An accredited practising dietitian, contact the Dietitians Association of Australia Tel. 1800 812 942
- Cardiovascular specialist (your doctor can refer you)

## Things to remember

- About 95 per cent of all dietary fats are triglycerides.
- Once digested, triglycerides circulate in the bloodstream to be used as energy by the cells.
- If you habitually eat more kilojoules than you burn, you may have raised triglyceride levels in the blood. This is linked with an increased risk of health conditions including heart disease.
- Lifestyle choices can keep triglyceride levels within the normal range. Aim to exercise regularly, eat a healthy diet and maintain an appropriate weight.

**This page has been produced in consultation with, and approved by:**

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