

## What is fat made up of?

Fat is made up of fatty acids and a glycerol molecule. Fatty acids can be grouped according to the number of chemical bonds between their molecules.

The most commonly known types of fats are:<sup>1</sup>

- Saturated fats – those that have single bonds between their molecules and are ‘saturated’ with hydrogen atoms. They tend to be solids at room temperature.
- Unsaturated fats – contain one or more double or triple bonds between their molecules (i.e. fewer hydrogen atoms). They tend to be liquid at room temperature.



## Fats, lipids and cholesterol

Fats present in the blood are called lipids. Lipids join with protein in the blood to form lipoproteins, also known as cholesterol, which are used to make energy.<sup>2</sup> Cholesterol is vital for the normal functioning of the body as they are found in cell membranes and are used to make hormones and vitamin D. There are two main sources of blood cholesterol: cholesterol obtained from the diet and cholesterol produced by the liver.<sup>3</sup>

## There are three types of lipoproteins:<sup>2</sup>

- High-density lipoproteins (HDLs) – often referred to as ‘good’ cholesterol
  - Carries cholesterol away from the cells and back to the liver. From there it’s either broken down or passed out of the body as a waste product<sup>3</sup>
- Low-density lipoproteins (LDLs) – often referred to as ‘bad’ cholesterol
  - Carries cholesterol to the cells that need it. If there is excess cholesterol for the cells to use, it can build up in the artery walls, leading to disease of the arteries<sup>3</sup>
- Very low-density lipoproteins (VLDLs)
  - Similar function to LDLs, but mainly carries triglycerides, another type of fat, to your tissues<sup>4</sup>

## What causes high cholesterol?

High cholesterol is most commonly caused by lifestyle factors, such as having an unhealthy diet, particularly consuming large amounts of saturated fat, and smoking. Individuals tend to be at a higher risk of high cholesterol if they have pre-existing conditions such as diabetes or high blood pressure (hypertension). In some cases, high cholesterol may run in families, or occur as a result of a genetic condition.<sup>3</sup>

## Health risks associated with high cholesterol

On its own, having an excessively high level of lipids in your blood (hyperlipidaemia), doesn’t cause any symptoms, but can have negative effects on an individual’s health because it increases the risk of serious conditions.<sup>3</sup>

Diets rich in saturated fats can contribute towards the development of insulin resistance and dyslipidaemia (abnormal blood fat levels), both of which are associated with an increased risk of type 2 diabetes. High levels of LDLs can also lead to heart attack and stroke due to restricted blood flow caused by the build-up of fatty material (atheroma) inside artery walls.<sup>5</sup>

According to the World Health Organization, raised cholesterol is a major cause of disease burden in both the developed and developing world as a risk factor for heart attack and stroke, and is estimated to cause 2.6 million deaths, globally.<sup>6</sup>

## Managing cholesterol levels

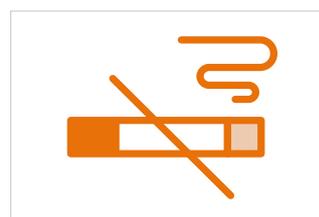
Cholesterol levels can be managed through a combination of...<sup>3,7</sup>



Eating a balanced diet, which is low in saturated fats and high in fibre



Exercising regularly



Not smoking



Reducing alcohol consumption

### Foods that can help lower cholesterol<sup>9</sup>

- Foods rich in unsaturated fats
  - Vegetable oils such as olive, sunflower, corn, rapeseed, nut and seed oils
- Fruit and vegetables, including avocado
- Nuts
  - Almonds, macadamias, brazil nuts, cashew nuts, hazelnuts, pistachios, walnuts, peanuts, pecans
- Oats and barley

Quorn mycoprotein is high in protein, a complete source of amino acids, high in fibre, low in total fat and contains no cholesterol.

#### Where to find Quorn mycoprotein

Quorn mycoprotein is the unique whole food at the heart of every single Quorn product. There is a huge range of great tasting Quorn® products and ingredients available, all of which can easily be used to recreate your favourite recipes with a nutritious and sustainable twist.

Visit [www.quornnutrition.com](http://www.quornnutrition.com) and [www.quorn.com](http://www.quorn.com) for more information about Quorn mycoprotein, products and recipes.

### Fat profile of selected Quorn products compared with meat equivalents<sup>9</sup>

Food	Cals/100g	Total fat (g/100g)	Sat fat (g/100g)	Cals from total fat	Cholesterol (mg/100g)
Quorn Mince (frozen)	94	2	0.5	19%	0
Beef mince (raw)*	225	16.2	6.9	65%	60
Quorn Burger (frozen)	146	4.8	0.5	30%	0
Beef burger (raw)*	291	24.7	10.7	76%	76
Quorn Southern Style Nuggets	207	11	1.3	48%	0
Breaded nuggets*	265	13	3.3	44%	54

\*Fat profile of selected Quorn products compared with meat equivalents. Source: McCance and Widdowson 'The Composition of Foods' Sixth Edition

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