Get the Facts on Fat

A Review of Current Research and Recommendations

Jenny Arthur
Get the Facts on Fat: A Review of Current Research

The general consensus for many years has been that dietary intakes of saturated fat should be limited to help prevent conditions such as high blood cholesterol and cardiovascular disease. More recently, the media has profiled research which suggests that some saturated fatty acids may be beneficial to our health, leaving consumers confused as to what to eat and what not to eat. In this white paper, Jenny Arthur, summarises what you need to know about the current research and recommendations.

The food and beverage industry is working harder than ever to keep up with consumer demands, while adhering to public health guidelines and strict regulatory standards. From an industry and consumer point of view, changes to nutrition recommendations can cloud already muddy waters. The recent report produced by the National Obesity Forum and the Public Health Collaboration which appeared to question current guidelines around leading low-fat diets has further added to the current confusion about fat.

**The role of fat in the diet**

The fundamental fact that we need to consume some fat as an essential part of a healthy, balanced diet, has not changed. Fats help us to absorb the fat-soluble vitamins A, D and E. Regardless of the type, fats are high in energy providing 9 kilocalories per gram.

Frequently eating more energy than you need, however, whether it’s from fat, carbohydrate or protein, increases your risk of becoming overweight or obese, which can increase your blood cholesterol, a chemical building block found naturally within the cells in the body.

Cholesterol is needed to make steroid hormones and vitamin D, as well as bile acids which help the gut digest and absorb dietary fat, but too much can be detrimental to our health.

Cholesterol is carried in the blood in two ways: as low density lipoprotein (LDL) and high density lipoprotein (HDL). LDL cholesterol is often referred to as ‘bad cholesterol’ as too much can lead to fatty deposits developing in the arteries, which can restrict the flow of blood to the heart and brain, increasing the risk of heart disease and stroke. HDL cholesterol is often referred to as ‘good cholesterol’ as it is protective, taking cholesterol from parts of the body where there

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1 British Dietetic Association – Food facts: cholesterol [https://www.bda.uk.com/foodfacts/cholesterol.pdf](https://www.bda.uk.com/foodfacts/cholesterol.pdf)
is too much of it, to the liver, where it is disposed of².

The A-Z of fats

Fats can be broadly split into four groups:

• Monounsaturated fat
• Polyunsaturated fat
• Saturated fat
• Hydrogenated trans fat

The latter, trans fats, are found naturally at low levels in some foods, such as meat and dairy products but they can also be found in hydrogenated vegetable oil. It is recommended that this type of fat, associated with high cholesterol, should make up no more than 2% of the energy we get from our diet. For adults, this is no more than about 5g a day. However, most of the supermarkets in the UK have removed hydrogenated vegetable oil from all their own-brand products and the majority of people consume less than half the recommended amount of trans fat¹,².

Monounsaturated fats, found in olive and rapeseed oils and spreads, avocados, almonds, brazil nuts and peanuts, maintain levels of ‘good cholesterol’ (HDL) while reducing levels of ‘bad cholesterol’ (LDL).

There are two types of polyunsaturated fats: omega-3 and omega-6, both of which can help lower levels of bad cholesterol. Omega-6 fats are found in vegetable oils (e.g. rapeseed, corn, sunflower) and some nuts, whilst omega-3 fats are found in oily fish (e.g. mackerel, kippers, herring, trout, sardines, salmon and fresh tuna). The majority of the UK population consumes sufficient omega-6, mostly from cooking oil, but many aren't eating enough omega-3-containing food³ and we are advised to consume at least two portions of fish a week, one of which should be oily. Vegetable sources of omega-3 fats are not thought to have the same benefits on heart health as those found in fish².

Saturated fats are predominantly from animal sources, including meat and dairy products, as well as some plant foods such as palm oil. Most people are now aware of the types of foods considered ‘high’ in saturated fats, including: fatty cuts of meat, meat products (e.g. sausages and pies), butter, ghee and lard, cheese, cream, ice cream, some savoury snacks (e.g. crisps), chocolate, biscuits, cakes and pastries, palm oil, coconut oil and cream¹,². Based on UK-wide data-gathering studies, such as the National Diet and Nutrition Survey (NDNS), it is clear to see that people in the UK eat too many foods containing saturated fat. We are currently getting around 12.6% of our energy (kilocalories) from saturated fats which is above the 11% maximum recommended by the government². Current public health guidelines

It is essential that we include some fat in our diet but like all food groups, eating too much increases the risk of becoming overweight which in turn increases our likelihood of developing health problems. One size doesn’t fit all so there will be variation between

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¹ British Dietetic Association – Food facts: fat: [https://www.bda.uk.com/foodfacts/FatFacts.pdf](https://www.bda.uk.com/foodfacts/FatFacts.pdf)
individuals in terms of healthy intakes but it is recommended that no more than one third of our total fat intake should come from saturated fat; for men this would be no more than 30g/day and for women 20g/day. Trans-fats should make up no more than 2% of our total energy intake – roughly 5g each day for adults. Unsaturated fats (poly or mono) should provide the rest of our fat intake and this includes the omega-3 fats.

In order to be mindful about the amount of fat we are consuming, food labelling can be very helpful. You will now see many items with ‘Reference Intakes’ (RIs) for fats and calories, which (unless the label says otherwise) are based on an average-sized woman doing an average amount of physical activity, as below. This is a guide and will vary from person to person and from day to day.

<table>
<thead>
<tr>
<th>Reference Intakes for Calories and Fats</th>
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<tbody>
<tr>
<td><strong>Energy</strong></td>
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<tr>
<td><strong>Total Fat</strong></td>
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<tr>
<td><strong>Saturates</strong></td>
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</tbody>
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Table 1. Daily nutritional guidelines for an average-sized woman doing an average amount of physical activity

Front-of-pack labelling (e.g. traffic light system) can also help consumers to distinguish those foods which are considered high in saturated fat (i.e. more than 5g of saturates per 100g), low in saturated fat (i.e. 1.5g of saturates or less per 100g or 0.75g per 100ml for liquids) or saturated fat-free (i.e. 0.1g of saturates per 100g or 100ml)

**Should we review the guidelines regarding saturated fats?**

When typing “saturated fat” into a publications database, many of the 499,000 search results also contain the words “cardiovascular disease”, “cholesterol” and/or “obesity” in the title. Since the 1940s/50s a vast amount of research has been generated surrounding saturated fat and many associated health conditions.

Recently, however, there has been talk of research which suggests saturated fat isn’t as bad as we first thought. Does this mean we should be consuming butter by the bucket load and start drinking bottles of ghee? No. While there may have been some research developments suggesting specific saturated fatty acids may have beneficial properties, this research is still in its infancy and the bottom line remains the same as it always has – too much of any food group, and in particular refined and processed foods, can lead to weight gain and associated diseases.

The majority of guidelines recommend a reduction in saturated fats as key to reduce incidence and mortality of cardiovascular disease. Recent meta-analysis and

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4 NHS Choices – Fats: the facts: [http://www.nhs.uk/Livewell/Goodfood/Pages/Fat.aspx](http://www.nhs.uk/Livewell/Goodfood/Pages/Fat.aspx)
research carried out by Cambridge University\(^8\), has raised some doubts about the scientific substantiation for this advice, suggesting that a new approach to research is needed. It is important to note, however, that whilst some results may be conflicting, a vast amount of evidence, past and present, supports the current recommendations.

Leatherhead continue to monitor the latest nutrition research to ensure our members are kept up-to-date with current guidelines.

### Summary

- Fat is made up of different types of fatty acids, some of which are essential for health in small amounts
- Fatty acids are usually classified as saturated, monounsaturated or polyunsaturated, depending on their chemical structure
- These structural differences directly influence health effects, with mono and polyunsaturates usually being associated with health benefits when consumed as part of a varied diet. The exception to this is trans fatty acids, which are unsaturated in terms of their structure but behave in the body like saturated fatty acids
- Fat provides energy; 1 gram provides 37 kJ (9 kcal). Foods that contain a lot of fat provide a lot of energy. Fat is a carrier of fat-soluble vitamins and is necessary for their absorption
- A high intake of saturated or trans fatty acids can have adverse effects on health
- In the UK, saturates currently contribute 12.7% of food energy in adults, which is above the recommendation of 11%, whereas average total fat intake is close to the 35% of food energy recommended for the population
- Intake of trans fatty acids is now well below the population recommendation of no more than 2% of food energy, at 0.7%
- In the UK, intakes of omega-6 polyunsaturated (principally linoleic acid) are close to the recommendation of 6.5% of dietary energy, but intakes of the long chain omega-3 fatty acids found in fish oils are low compared to recent recommendations

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About the author

Jenny Arthur is the Director of Nutrition at Leatherhead. She is a Marketing Professional and a Nutritionist. She has worked for a range of private sector companies, including Marks & Spencer as their Company Nutritionist, and for the Department of Health running their nutrition programme. Jenny has repositioned the Leatherhead Nutrition offering to focus on Nutrition Intelligence desk based research, Glyceamic Index/Response studies and Weight Management studies.
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