

Background

Fat is an essential part of everyone's diet¹

A certain amount of fat is necessary to ensure an adequate intake of essential fatty acids and fat soluble nutrients as well as energy. Fat is involved in many vital processes in the body, for example by maintaining healthy skin and promoting healthy cell function.

It is a myth that all types of fat found in food are bad for your health. Scientists now understand that it is *not* the total amount of fat in the diet which has the greatest impact on health but the *type* of fat that is most important. As a result government agencies and health organisations around the world have revised their dietary advice to consumers emphasising that reducing the amount of saturated fat in their diets should be their primary objective.

What is the difference between Saturated and Unsaturated Fat?

Saturated fats are those fats with no unsaturated bonds in the fatty acid chain. In the diet they come primarily from animal sources but are present in all fats. They are present in high amounts in common foodstuffs such as butter, cheese and meat products. Saturated fat in the diet increases the risk of high blood cholesterol levels which in turn are linked with increased risk of heart disease.

Unsaturated fats have an unsaturated double bond and are called monounsaturates when there is one, and polyunsaturates when there are two or more unsaturated double bonds. Monounsaturates are present in most fats, either animal or plant origin, but at much higher levels in the latter. Most polyunsaturated fats come from plants such as sunflower, rapeseed, nut or corn and are liquid at room temperature.

What are Trans Fatty Acids (TFAs)?

Trans Fatty Acids (TFAs) can form when unsaturated oils are hardened (hydrogenated) by saturating some of the unsaturated fatty acids. This hardens the fat and makes it suitable for margarines or cooking/baking fats. This process produces some mono-unsaturates with a different configuration which are termed 'trans' fatty acids. It is generally recognised that TFAs can have a more adverse effect on blood cholesterol than saturated fats. High levels of blood cholesterol can increase the risk of heart disease. The advice to consumers is therefore to try to reduce their intake of TFAs.

Fats and Food

Fat contributes to the texture, flavour and aroma and so enhances the palatability of food.

¹ <http://www.nutrition.org.uk/nutritionscience/nutrients/fat>

Potato crisps and most savoury snacks are cooked with vegetable oils. Depending upon the cooking process and raw materials used, savoury snack products range in fat content from around 2% - 40%.

Vegetable oils contain significant levels of vitamin E, a natural antioxidant that protects the body's cells from oxidative damage and may decrease the risk for heart disease and stroke. Vegetable oils do not contain cholesterol.

Even in the UK, which is one of the largest per capita consumers of savoury snacks within the European Union, savoury snacks contributes less than 3% to the average adults dietary intake of fat and less than 2% of their calorie intake.²

FOOD SOURCES RICH IN THE VARIOUS TYPES OF FATTY ACIDS	
Type of fat	Sources
Saturated	Butter, cheese, meat, meat products (sausages, hamburgers), full-fat milk and yoghurt, pies, pastries, lard, dripping, some hard margarines and baking fats, coconut and palm oil.
Monounsaturated	Olives, rapeseed, nuts (pistachio, almonds, hazelnuts, macadamia, cashew, pecan), peanuts, avocados, and their oils.
Polyunsaturated	Omega-3 polyunsaturated: Salmon, mackerel, herring, trout (particularly rich in the long chain omega-3 fatty acids EPA or eicosapentaenoic acid and DHA or docosahexaenoic acid). Walnuts, rapeseed, soybean flax seed, and their oils (particularly rich in alpha linolenic acid). Omega-6 polyunsaturated: Sunflower seeds, wheat germ, sesame, walnuts, soybean, corn and their oils. Certain margarines (read the label).
Trans fatty acids	Present in some baking fats (e.g. partially hydrogenated vegetable oils) the use of which have been largely discontinued by the European food industry. Trans fats are also known to occur naturally at very low levels within dairy products, fatty beef and meat from sheep.

Fats and the Diet

Fat in our body and in our food is composed of fatty acids. Some fatty acids cannot be made in the body – they are called “essential” fatty acids, and must be obtained from food. Consequently, fat is not only a desirable part of the diet but an essential one.

Fats and cholesterol have a number of important functions in the body:

- Fats provide a concentrated source of energy
- Fats supply fat-soluble vitamins A, D, E and K and help their absorption by the body
- Fats are components of cell membrane structures and helps maintain healthy skin

² National Diet and Nutrition Survey (NDNS) Rolling programme. Years 1-3 data combined (2008/9 - 2010/11), DH, 25 July 2011.

<http://transparency.dh.gov.uk/2012/07/25/ndns-3-years-report/>

- They serve for the lubrication of body surfaces and in the formation of certain hormones

Therefore a certain amount of fat is necessary in a balanced and varied diet both for adults and children.

How much fat should we eat? The daily intake of fat in the EU varies from 32% - 38% of the total energy. While there is no consensus on appropriate upper levels of total fat in the diet, the European Food Safety Authority (EFSA) has concluded that total fat intakes of less than 35 % of the total energy may be compatible with both good health and normal body weight depending on dietary patterns and the level of physical activity.³ For sedentary societies such as Europe, EURODIET recommends that less than 30% of daily energy should come from fat in order to be consistent with good health.⁴

For good health, it is necessary to pay attention to both the total amount and the types of fats in a diet. An excessive consumption of fats (especially saturated ones) may be a major factor influencing coronary heart disease, and, through elevated calorie intake disturbing energy imbalance leading to obesity.⁵

³ EFSA Scientific Opinion on Dietary Reference Values for fats, including saturated fatty acids, polyunsaturated fatty acids, monounsaturated fatty acids, trans fatty acids, and cholesterol. EFSA Journal 2010; 8(3):1461.

⁴ EURODIET Core Report, Nutrition & Diet for Healthy Lifestyles in Europe, 2000; also "Making sense of Guideline Daily Amounts": in EUFIC Food Today 4/2007.

⁵ EUFIC – Reference Paper: Facts About Fats.

<http://www.eufic.org/article/en/nutrition/fats/expid/review-fats/>