

## Types of Fat Structures



### Polyunsaturated Fat

The main sources of polyunsaturated fats are seeds, nuts, grains, and vegetables. Polyunsaturated fat is usually in a liquid form state at room temperature and also when chilled. It lowers the overall cholesterol level, but it also reduces HDL or good cholesterol. Recommended daily allowances of polyunsaturated fats should be part of a balanced diet, but some tests have shown that high consumption may actually be damaging to the digestion and nervous system, so moderation is the key for a balanced and healthy diet.

Omega-3 fatty acid is a type of polyunsaturated fat that is especially healthy. Omega-3 fatty acids help to reduce the risk of heart disease, lower blood pressure, guard against plaque build-up in the arteries, and aid in brain development. It is found in some plant oils and in the tissues of all sea creatures. Among the plant oils rich in omega-3 fatty acids are flax seed, canola, and soybean oil. Fish that are particularly high in omega-3 are sardines, herring, tuna, and salmon.

#### Monounsaturated Fat

Most animal and vegetable fats contain monounsaturated fat, but in varying quantities. It is usually in liquid form at room temperature, but it may begin to solidify if is chilled. Monounsaturated fat is the most desirable type of fat in the diet because it helps to decrease the LDL (bad) cholesterol in the blood and helps to increase the HDL (good) cholesterol. Good sources of monounsaturated fat are olive oil, canola oil, peanut oil, and most nuts. Olive oil has the highest percentage (about 77%) of monounsaturated fat of any edible oil.

#### Saturated Fat

Animal meats, butter, whole milk, and some tropical plants oils, such as palm and coconut, are the main sources of saturated fat, which is the least healthy type of fat. Saturated fat raises the level of LDL (bad) cholesterol, which causes numerous health problems if consumed in large quantities. Most saturated fats are solid at room temperature.

### **Hydrogenated Oils**

Trans-fatty acid, also known as trans-fat, is formed when hydrogen is added to vegetable oil in order to change the liquid oil into a solid at room temperature. This process is known as hydrogenation, which also transforms the unsaturated fats of the liquid oils into saturated fat. Like saturated fat, trans-fat may raise blood cholesterol levels and increase the risk of heart related diseases. Many shortenings, margarine, and commercially baked goods are high in trans-fatty acids.

One advantage that hydrogenated or partially hydrogenated fats have is that they are less likely to turn rancid, which is very beneficial to the commercial food industry in creating foods with a longer shelf life. As with any type of food containing saturated fat, foods containing hydrogenated or partially hydrogenated fat should be enjoyed in moderation in order to maintain a balanced and healthy diet.





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The following table shows how olive oil compares with other popular oils in fat composition.

Type of Oil	Monounsaturated	Polyunsaturated	Saturated
Olive Oil	77%	9%	14%
Canola Oil	62%	32%	6%
Peanut Oil	49%	33%	18%
Corn Oil	25%	62%	13%
Soybean Oil	24%	61%	15%
Sunflower Oil	20%	69%	11%
Safflower Oil	13%	77%	10%

Regardless of the type or grade, olive oil contains 120 calories per tablespoon. As a matter of fact, all edible food oils contain about 120 calories per tablespoon. When used for cooking, the healthy aspects of olive oil do not change as the oil is heated.

Olive oil is a good source of the antioxidant, vitamin E. It contains 1.6 mg of vitamin E per tablespoon, which is 8% of the recommended daily allowance.

Olive oil has been linked to the following health benefits:

- © Lowering the risk of heart disease
- © Reduction in the level of LDL (bad) cholesterol
- © Lowering of blood pressure
- Decrease in blood sugar levels
- © Increase in the absorption of several vitamins including A, D, E, and K
- © Stimulation of the gall bladder to secrete bile, which helps to prevent gallstones
- © Promotes cellular growth, speeds healing, and helps the metabolism

The Mediterranean Diet Pyramid is based on the traditional diets of people in the 1960s. During that time life expectancy was among the highest in the world, in spite of the limited medical resources that were available at the time. Scientists have proven, what has been suspected for many years, that the Mediterranean diet, in conjunction with daily physical activity, is synonymous with good health.