

Lipids in foods



FATS, OILS, CHOLESTEROL

Lipids



- Lipids are defined as foods that do not mix with water. Lipids include:
 - Fats
 - Oils
 - Cholesterol

Lipids



- **Fats**

- Fats in foods are solid at room temperature
- Butter

- **Oils**

- Oils in foods are liquid at room temperature
- Olive oil

- **Cholesterol**

- Are only found in animal products
- Red meat, cheese, chicken, milk

Lipids



- Fats in foods can be categorized as
 - Saturated Fats
 - Unsaturated Fats can be either:
 - ✦ Monounsaturated fats
 - ✦ Polyunsaturated fats include the:
 - Essential fatty acids
 - Omega 3 fatty acids
 - Omega 6 fatty acids

Fats



- **Saturated Fats**

- Type of foods that contain large amounts of saturated fats:

- ✦ Butter
- ✦ Coconut
- ✦ Full fat cheese

Fats



- Unsaturated fats
 - Monounsaturated fats
 - ✦ Olive oil
 - ✦ Avocado
 - ✦ Almonds
 - Polyunsaturated fats
 - ✦ Fish
 - ✦ Cooking oils

Polyunsaturated fats include:



- Essential fatty acids include:
 - Omega 3 fatty acids
 - Omega 6 fatty acids
- Essential fatty acids are essential for good health in our body. Humans need food sources of essential fatty acids.

Foods that contain essential fatty acids



- **Omega 3**
 - Fish is excellent source of omega 3
- **Omega 6**
 - Nuts and seeds are excellent sources of omega 6

Cholesterol



- Is a lipid but not a fat
- Cholesterol only found in animal products
- Cholesterol is needed by body to produce hormones

Cholesterol



- All foods from animals contain cholesterol.
- Our livers make cholesterol too.

Oils in our diet



- Oils are fats that are liquid at room temperature
- Common oils that we consume:
 - Sunflower oil
 - Olive oil
 - Canola oil
 - Soybean oil
 - Corn oil

Lipid Digestion and Absorption



- Food that contains lipids are chewed in mouth into food bolus
- Food bolus moves into stomach
- Mixed and churned into chyme
- Chyme moves into small intestine

Lipid Digestion and Absorption



- Chyme, which moves into small intestines contains lipids.
- Lipids need to be emulsified, which means broken down into smallest fat particles.
- In small intestine, bile is released from gall bladder.

Lipid Digestion and Absorption



- It is the job of bile to emulsify the lipids in the chyme.
- After it is emulsified, the fat is now smaller enough to be absorbed through the walls of the small intestine into the bloodstream.

Lipid Digestion and Absorption



- However, fats are unable to flow through blood, because lipids do not mix with water and blood is mainly water.
- The emulsified fat is incorporated into transport particle called a chylomicron.
- The chylomicron is made up of protein on the outside, and the fats are on the inside.
- The chylomicron is how fats move through the bloodstream.

Role of lipids in our body



- **Fats in foods**
 - Add flavor
 - Add satiety
- **Fats on body**
 - Provide insulation for body
 - Provide padding and cushioning for organs
- **Cholesterol in body**
 - Produce hormones

Healthy fats vs Unhealthy fats



- **Healthy Fats**

- Fats found in whole, natural foods
- Fish, nuts, avocado, olive oil

- **Unhealthy Fats**

- Fats found in junk foods, processed foods and fast foods
 - ✦ Fried foods



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