



YMCA Awards

Level 3 Nutrition to support
physical activity
2018

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Macronutrients and micronutrients

Macro-nutrients

The nutrients that provide the body with energy: fats, carbohydrates, proteins and water

Micro-nutrients

Vital to the proper functioning of all of your body's systems: Vitamins and minerals

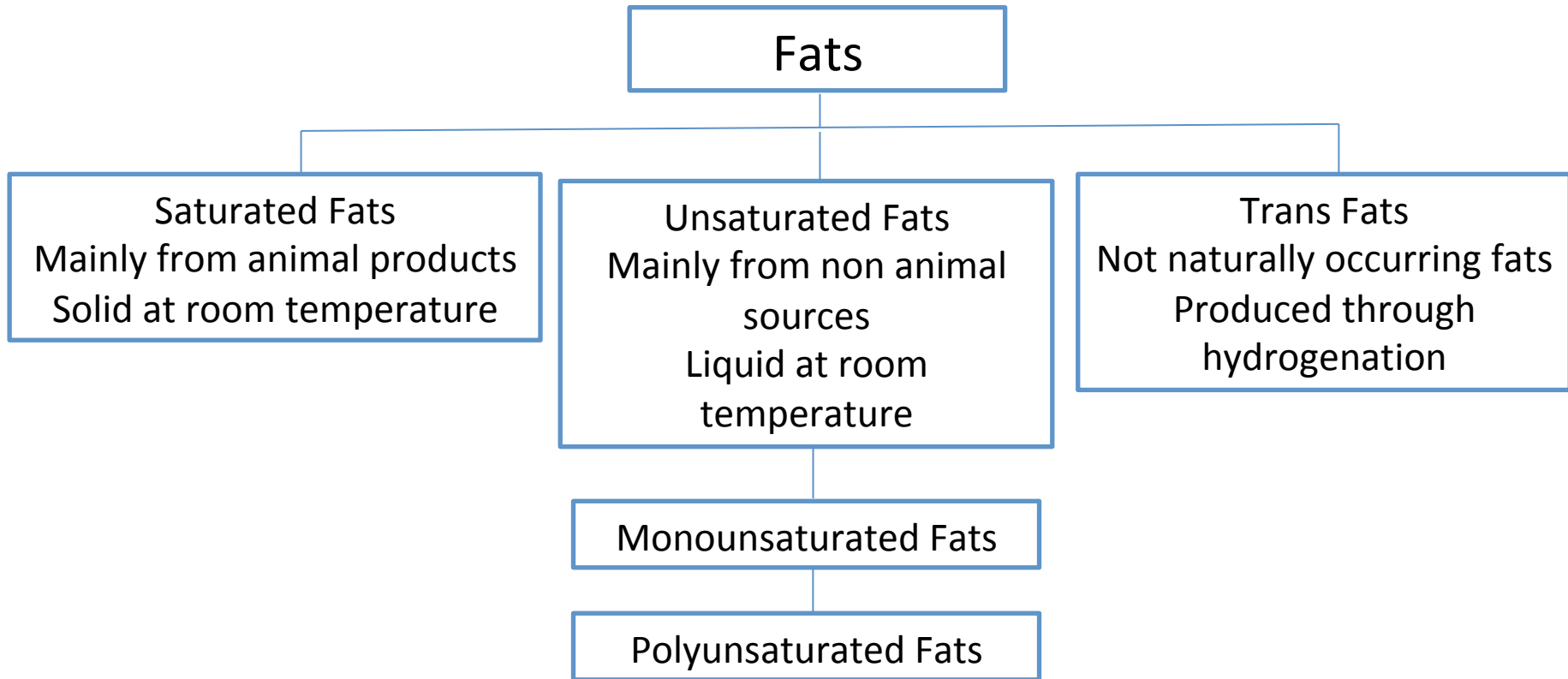
Level 3 Nutrition to support physical activity

Fat

Function of fat

- Protection of internal organs
- Thermoregulation
- Insulation of nerve cells
- Uptake and storage of fat-soluble vitamins
- Provide energy
- Component of cell membrane
- Storage and modification of hormones
- Provides a source of essential fatty acids (EFA)

Classification of fat



Energy value of fat

All fats have an energy value of 9kcal per gram



Sources of saturated fat

- Meat
- Meat products
- Butter
- Lard
- Cream
- Eggs
- Palm oil
- Coconut oil



Sources of trans fat

- Some vegetable spreads
- Baked products (cakes, biscuits)
- Ready meals
- Processed snacks (crisps)
- Fast foods



Sources of polyunsaturated fat

- Vegetable oils
- Nuts
- Oily fish:
 - Sardines
 - Tuna
 - Mackerel
 - Pilchards
 - Trout



Sources of monounsaturated fat

- Olive oil
- Flaxseed oil
- Avocado
- Seeds
- Nuts
- Rapeseed
- Almond oil



Sources of essential fatty acids

Omega 3

- Oily fish
- Flaxseed
- Pumpkin seeds
- Walnuts
- Rape seed
- Soya bean
- Dark green vegetables

Omega 6

- Vegetable oils
- Polyunsaturated margarines

Essential fatty acids and health

- Protection against heart disease (control of blood pressure)
- Prevention of blood clots
- Beneficial effect on blood lipid profiles
- Reduction of inflammation in arthritis and asthma
- Enhanced transport of oxygen by red blood cells
- Enhance immune responsiveness
- Maintenance of the quality of membranes and therefore may present some protection against the ageing process

UK dietary guidelines for fat

Current UK government guidelines advise cutting down on all fats and replacing saturated fat with some unsaturated fat

The government recommendations for saturated fat:

- Men should have no more than 30g a day
- Women should have no more than 20g a day
- Children should have less

Low density Lipoproteins (LDLs)

- LDLs contain high levels of fats and cholesterol
- As they are carried in the blood they are thought to build up fatty deposits on the artery walls (atherosclerosis)
- Often called 'bad cholesterol'

High density lipoproteins (HDLs)

- HDLs contain lower levels of fats and cholesterol
- As they are carried in the blood they are thought to prevent the build-up of fatty deposits on the artery walls (cardio protective)
- Often called 'good cholesterol'

Cholesterol

Cholesterol is made in the liver and has several crucial roles:

- Cell membrane structure
- Steroid hormone synthesis
- Bile production

Consequences of high fat diets

- Obesity
- Coronary heart disease



Consequences of low fat diets

- Poor hair and skin condition
- Deficiency in fat soluble vitamins
- Deficiency in essential fatty acids
- Hormone imbalance



