

The Big Fat Debate

'Metabolising fats'

Fatty acids

Caproic (C6:0)

Caprylic (C8:0)

Capric (C10:0)

Lauric (C12:0)

Myristic (C14:0)

Palmitic (C16:0)

Stearic (C18:0)

Oleic (C18:1)

Linoleic (C18:2)

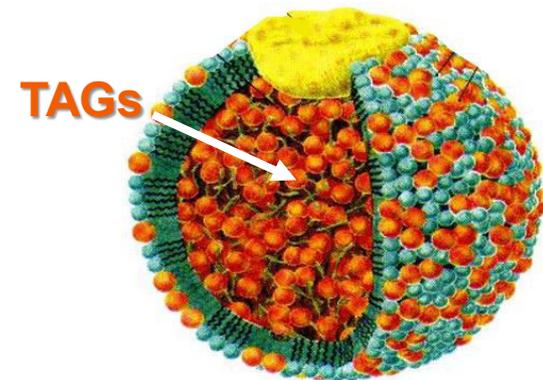
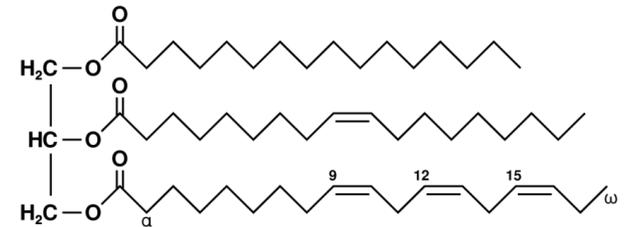
Medium chain fatty acids (Medium chain TAGs or MCTs)

- Direct hepatic access ✓
- Rapid oxidation for energy ✓
- Appetite suppression ?
- Reduces postprandial lipaemia ?

Long chain fatty acids

Saturates (C12:0-16:0) circulate in serum lipoproteins and raise serum LDL & HDL cholesterol ✓

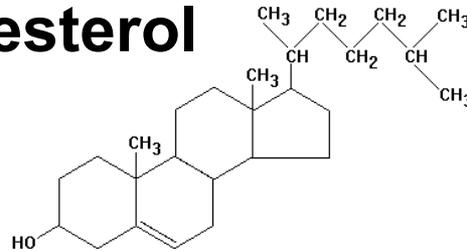
Triacylglycerol (TAG)



Serum Lipoproteins

Cholesterol (Lipid) Hypothesis

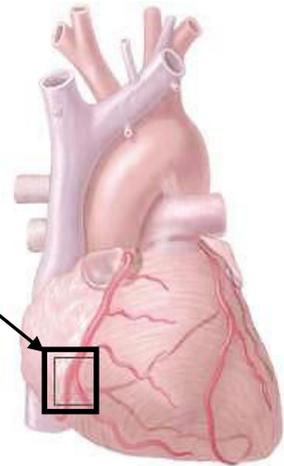
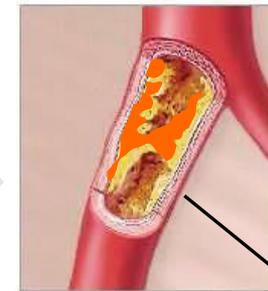
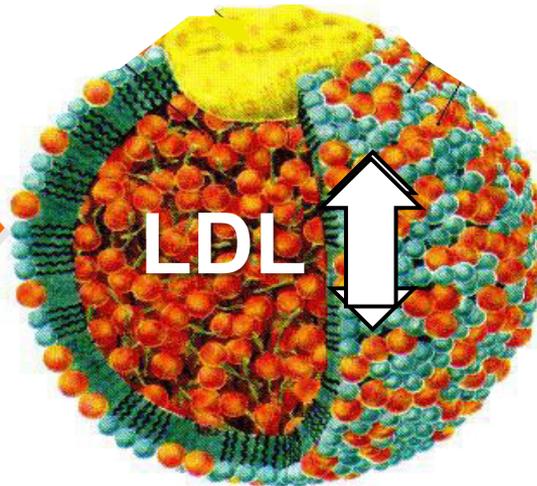
Serum cholesterol



Coronary heart disease



Saturated
fat



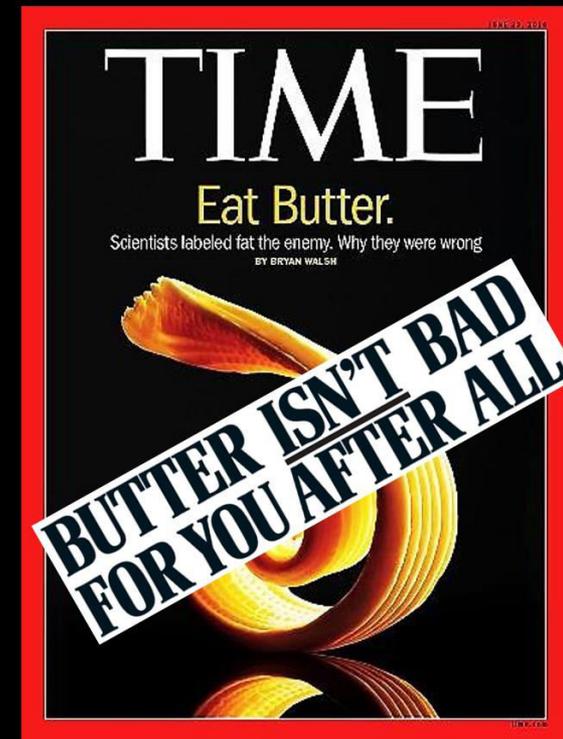
Diet-Heart Hypothesis

Current UK and US guidelines to reduce CVD risk

Intake of saturated fatty acids (SFA) should not exceed 10% of total energy (~30g/day man ~20g/day women)

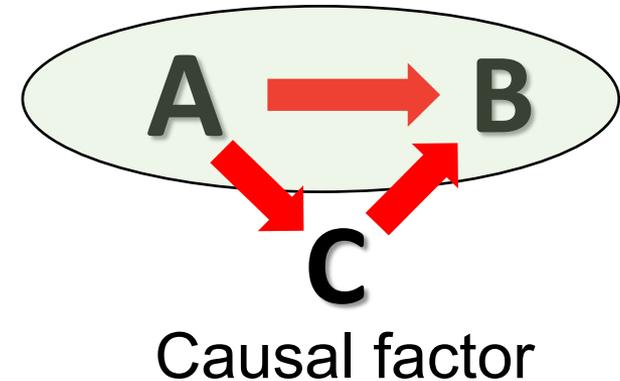


Meta-analyses fail to support a direct relationship between intake of SFA and death from CVD/CHD



Why should meta-analyses fail to show direct relationship between saturated fat and CVD?

Associations are based on correlation which does not imply direct causality



Consider totality and quality of evidence from different types of study

