

## WHAT HAPPENS TO THE FAT AFTER CLIENTS HAVE BEEN THROUGH OUR 30 MINUTE PROTOCOL?

The idea that fat is 'burned' is actually a poor metaphor. Fats are oxidised, resulting in energy production.

When fat is mobilized from the fat cells (*Adipocytes*) as a result from fasting, starvation, exercise or photobiomodulation, the *Triglycerides* (the storage form of fats) are released and converted to Glycerol and Free Fatty acids.

These are carried in the circulation (Free Fatty acids are bound to albumen) destined for various organs to provide a source of energy.

**Mitochondria** in fat cells themselves and in all organs, particularly in the liver, use Free Fatty acids as an energy substrate. The liver also uses Glycerol in Gluconeogenesis (the process of creating new glucose for energy in starvation for instance).

Different size fatty acids have different pathways, but the final outcome is that they all undergo **B oxidation**. B Oxidation can take place in different parts of a cell – in Peroxisomes (small membrane bound organelles), in the Endoplasmic reticulum and in the Mitochondria.

**B Oxidation** is the process where Free Fatty acids are converted to *Acetyl Co-A* (which facilitates the Krebs cycle in Mitochondria) and *HADH* and *FADH* (which are electron carriers used in the Electron Transport Chain of the Mitochondria).

***The result is the production of Cellular Energy and Metabolic Water.***

