Structured lipids are dietary triglycerides that have had their fatty acids ‘restructured’ for therapeutic benefits.

**How Do They Work?**

**How Are They Made?**

1. **Step 1** - Medium- and long-chain fatty acids (MCFAs and LCFAs) are each attached to a glycerol backbone.
2. **Step 2** - Enzymes and chemical processes (de-esterification) liberate the fatty acids from their glycerol backbone.
3. **Step 3** - These fatty acids are then randomly rejoined (random re-esterification) to create lipids containing MCFAs and LCFAs on the same glycerol backbone.

**What Are The Benefits?**

- Reduced muscle catabolism
- Improved nitrogen balance during metabolic stress
- Enhanced fat-soluble vitamin and antioxidant absorption
- Improved delivery of total fat and essential fatty acids to peripheral tissues

**Physiologic Benefits**

- Increased fatty acid uptake
- Enhanced fat-soluble vitamin and antioxidant absorption (30%—40%)
- Improved delivery of total fat and essential fatty acids to peripheral tissues (40%—50%)

**Physiologic Outcomes**

- Improved nitrogen balance during metabolic stress
- Reduced muscle catabolism

When lipids are unstructured, MCFAs rarely reach the general circulation and therefore do not provide energy to peripheral tissues.


