

# Omega-3 Fatty Acids

## Overview

- Omega-3 fatty acids are **polyunsaturated**, meaning they have more than 1 double bond.
- They are called "omega-3" because the first double bond counting from the methyl end of the fatty acid is located at the third carbon.
- ALA is a fatty acid that is essential to the diet; however it cannot be synthesized by humans. It **must** be obtained from dietary sources.
- With the consumption of ALA from the diet, other longer chain omega-3 fatty acids can be synthesized by the body, such as EPA and DHA.



## Types

Alpha-linolenic acid (ALA)  
Eicosapentaenoic acid (EPA)  
Docosahexaenoic acid (DHA)

## Where are these fatty acids found?

### Common Sources of $\alpha$ -linolenic acid:

Food sources of alpha-linolenic acid are:  
flaxseed oil, walnuts, canola oil,  
soybean and olive oils.

### Common Sources for EPA and DHA

Cooked food sources of EPA and DHA are:  
cold water fish like herring and salmon,  
other fish such as trout and tuna, and  
seafood, such as oysters and shrimp.

## Proposed Health Effects

Studies examining fish consumption and fish oil supplementation have found beneficial effects on the following:

- Coronary Heart Disease
- Sudden Cardiac Death
- Stroke
- Cancer
- Diabetes Mellitus
- Rheumatoid Arthritis
- Ulcerative Colitis
- Crohn's Disease
- Immunoglobulin A Nephropathy

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