

Omega 3s—A Key Nutrient for Good Heart Health



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Omega 3s—A Key Nutrient for Good Heart Health

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Understanding Fats

Saturated fat

Monounsaturated fat

Polyunsaturated fat

Trans-fatty acids

Partially hydrogenated

Omega 3 fats

Omega 6 fats

Omega 9 fats

Short chain

Medium chain

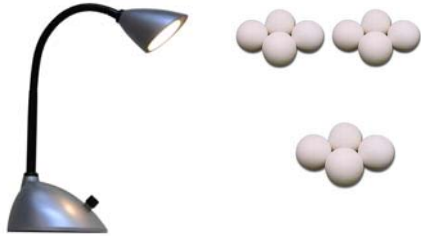
Long chain fatty acids

Basic Construction of Fat

All fats are made of the same basic elements-carbon, oxygen, and hydrogen.

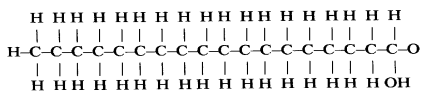
There can be from four to twenty-eight carbons in the chain, so each type of fatty acid can be classified as short-, medium-, or long-chained.

- The carbon chain carries hydrogen atoms.
- Think of a gooseneck lamp

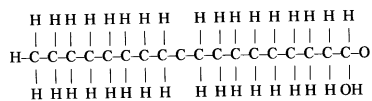


Saturated fats

- In *saturated fats*, the carbons in the chain are completely "saturated" with all the hydrogen they can carry.
- Saturated fats form relatively straight chains that bunch closely together.



SATURATED FAT



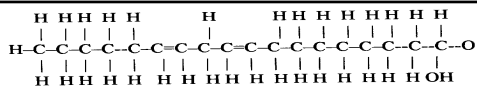
MONO-UNSATURATED FAT
Omega-9
 18 carbon atoms long

Oleic Oil—Olive & Sesame oils

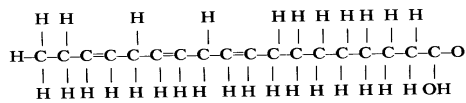
Such as corn, soybean, and sunflower oils. Contain fewer hydrogen atoms--from four to twelve fewer atoms.

The fewer the hydrogen atoms, the more kinks in the chain.

The more kinks, the more fluid the fat



POLY-UNSATURATED FAT
LINOLEIC ACID
Omega-6 Fat
Vegetable Oils

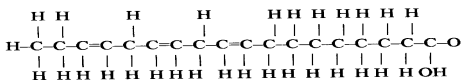


PUFA - ALPHA LINOLENIC ACID
Omega-3 Fat
Flax Seed Oil
18 carbon atoms long

Categorizing Fatty Acids

- Numbers and symbols represents the fatty acid.
- First number refers to the total number of carbons in the fatty acid chain.
- The second refers to the number of carbon double bonds.
- Last or "omega" number refers to the position of the first carbon double bond.

- Alpha linolenic acid (18:3w3 or LNA or ALA)
- 18 carbons,
- three double bonds,
- Omega 3

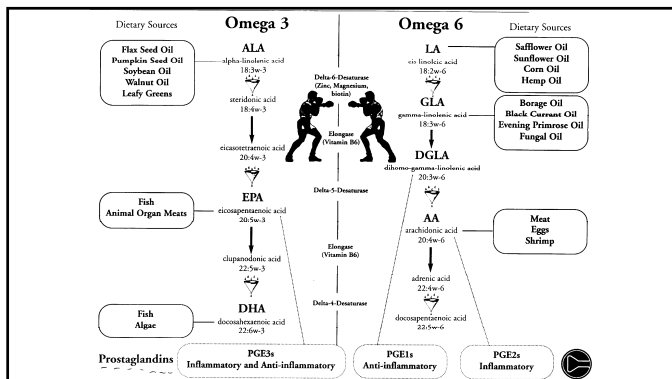


PUFA - ALPHA LINOLENIC ACID
Omega-3 Fat
Flax Seed Oil
 18 carbon atoms long

Nature's Anti-freeze

- Affected by the climate.
- Omega-3s help to keep cell membranes fluid & flexible.
- Fish do not produce omega-3s.
 - phytoplankton





Trans-fatty acids

- Such as margarine and shortening.
- Hydrogenation.
- Hardens the oils
 - longer shelf life.
- Destroys essential nutritional character.
- **Block the use of normal essential fatty acids.**

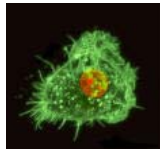
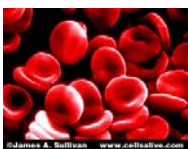
EFA's

- **Necessary for:**
- Healthy cell function
- Regulators that control the body's well-being.

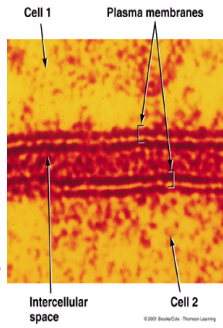


Our cells

- The cell is a tiny factory, taking in raw materials from the surrounding fluid and sending out various chemicals and waste.



- Everything going into or coming out of the cell has to pass through the cell's outer surface—its membrane.
- The membrane depends on essential fatty acids to remain fluid and flexible. Without them, the membrane becomes stiff and unable to do its job.



Cells attempt to compensate by incorporating saturated fats in cell membranes.

The result is a stiff and ineffectual structure.

Blake Graham, BSc, AACNEM • www.ProHealth.com • July 7, 2009

Omega-6 vs. Omega-3

- A ratio of roughly 1:1 or 2:1 is optimal.
- Ratio as high as 40:1.
- We can convert ALA into EPA and DHA,
 - process is slow
 - rate of conversion varies according to age, gender, and other factors.

Omega-6 up 1,000-fold

- Changing the composition of our brains and bodies.

Essential Fatty Acid DEFICIENCY

99% At Least 99% of Americans Are Deficient in Omega 3 EFA's

The Omega 6/Omega 3 Ratio Should Be:

1 TABLESPOON OMEGA 3'S TO 1 TABLESPOON OMEGA 6'S

But Most People Consume A Ratio Of:

15 TABLESPOONS OMEGA 6'S TO 1 TABLESPOON OMEGA 3'S

Essential Fatty Acid Deficiency
By Ashley Steinbrinck on March 12, 2013 in Health News

Lack of Omega 3's & Imbalanced Ratio Promotes:

- Acne • ADD/ADHD • Alzheimer's Disease • Arthritis • Asthma • Cancer • Diabetes • Eczema
- Eye Diseases • Growth Retardation • Hair Loss • Heart disease • High Blood Pressure
- Immune Dysfunction • Kidney Deterioration • Memory Loss • Psoriasis • Schizophrenia
- Learning Disabilities • Depression • Obesity

EFA Deficiency Signs & Symptoms Include:

- Dry, Scaly, Dull, Oily & Dry, Patchy Bumpy or Flaky Skin • Fatigue • Thick or Cracked Calluses
- Dandruff/Cradle Cap • Dry, Lackluster, Brittle or Unruly Hair • Stiff or Painful Joints
- Soft, Fraying, Splitting, Dull, Slow Growing or Brittle Fingernails • Dry Eyes • Dry Mouth/Throat
- Inadequate Vaginal Lubrication • Menstrual Cramps • Premenstrual Breast Pain/Tenderness
- Excessive Ear Wax • Excessive Thirst • Allergies (Eczema/Asthma/Hay Fever/Hives)
- Craves Fatty Foods • Constipation • Frequent Colds • Depression • Poor Concentration

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Omega Oils and the Body's Regulators

- EFAs create a variety of chemicals, called *eicosanoids*, (*eye-KAH-sah-noids*) that regulate a wide variety of bodily processes.
- The Omega-3 and Omega-6 families each produce their own eicosanoids.

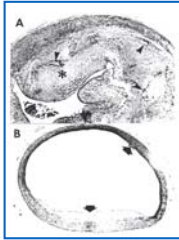
Wellness Requires Eicosanoid Balance

"Good" Eicosanoids	"Bad" Eicosanoids
<ul style="list-style-type: none"> • Inhibit platelet aggregation • Vasodilators • Anti-inflammatory • Control cellular proliferation • Enhance immune function 	<ul style="list-style-type: none"> • Promote platelet aggregation • Vasoconstrictors • Pro-inflammatory • Increase cellular proliferation • Suppress immune function

The bulk of our illnesses today are not infectious problems but lifestyle and nutrition problems—something we can, and must change.

We can change it by doing for ourselves and our clients what any good mechanic would do for our car— change the oil.

Fish Oil and Blood Flow



A. TC=565,
LDL=273

B. TC=546,
LDL=298

Dr. Barry Sears, Omega Rx Zone Presentation.

In The News

Dramatic evidence shows omega-3 fatty acids reduce risk of heart attack



- Dramatic evidence shows Omega-3 fatty acids reduce risk of heart attacks

Omega-3 fatty acids reduce risk of heart attack

- 1000 mg a day of a fish oil concentrate reduced the risk of sudden death from heart-related causes by 45%

- April 9, 2002 issue of Circulation



Study 2



- Women who consumed a minimum of five servings of fish per week over a 16-year period lowered their risk of coronary heart disease (CHD) by more than a third, and reduced their risk of fatal heart attack by half.

- April 10, 2002 issue of JAMA

Study 3

- Men without heart disease were 81% less likely to experience sudden death due to fatal **arrhythmia** (irregular heartbeat) when their blood levels of omega-3 fatty acids were high regardless of their age, smoking habits or amount of other types of fatty acids in their blood.



- NEJM, April 11, 2002, 346:1113-1118

n-3 Fatty Acids Reduce Mortality Risk in Heart Disease Patients

A five-year, follow-up study in Finland shows that fish consumption and high serum levels of n-3 fatty acids protect patients with coronary artery disease (CAD) by reducing the risk of dying. The study was reported in the *American Journal of Clinical Nutrition* (July 2003).



Participants included 209 men and 150 women, aged 35 to 74 years, with clinically established CAD. Investigators determined dietary intake through food diaries and measured fatty acid composition in serum components. The study endpoints included deaths of all causes, cardiovascular disease, coronary artery disease, nonfatal acute myocardial infarct (AMI), nonfatal stroke, coronary artery bypass grafting and coronary angioplasty. The results showed that patients who ate fish and had high serum levels of alpha linolenic acid (ALA), eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA) reduced their risk of all-cause mortality by 60% relative to the average consumed. Patients who consumed 57 grams per day of fish had a 55% lower risk of death from cardiovascular disease, heart attack, and stroke, and a 51% lower risk of death from coronary artery disease.

The study's authors concluded that "ALA, EPA, and DHA are nutritional factors that could potentially reduce risk of death in patients with CAD."

—*Coronary Blood, Ph.D.*
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Omega-3s Reduce Mortality Risk In Heart Disease Patients

- Patients who ate fish and had high serum levels of (EPA), and (DHA) reduced their risk of all-cause mortality in direct relation to the amounts consumed. Patients who consumed the most n-3 had a 55% lower risk of death from heart attack, and stroke, and a 51% lower risk of death from coronary artery disease.

• American Journal of Clinical Nutrition (July 2003).

Who Do You Know That Needs This Information?

Care Enough to Share



Q & A

Brian Wall

Host

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