

Omega-3 fatty acids

Living longer and healthier might be easy and simple – just understanding where the health comes from

Omega-3 fatty acids are considered essential fatty acids. They are essential to health but cannot be manufactured by the body. Not by humans nor pets. For this reason, omega-3 fatty acids must be obtained from food. Omega-3 fatty acids can be found in fish, such as salmon, tuna, and halibut, other marine life such as algae and krill, certain plants (including purslane) and nut oils. Also known as polyunsaturated fatty acids (PUFAs), omega-3 fatty acids play a crucial role in brain function as well as normal growth and development.

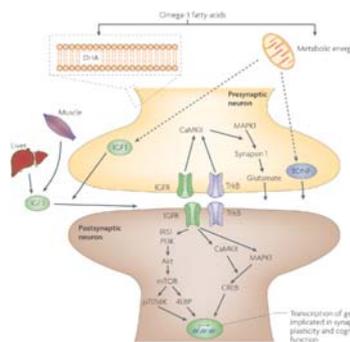


Brainfood
Photo nu-mega.com

There are three major types of omega 3 fatty acids that are ingested in foods and used by the body: alpha-linolenic acid (ALA), eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA). Once eaten, the body converts ALA to EPA and DHA, the two types of omega-3 fatty acids more readily used by the body. Extensive research indicates that omega-3 fatty acids reduce inflammation and help prevent risk factors associated with chronic diseases such as heart disease, cancer, and arthritis.

These essential fatty acids are highly concentrated in the brain and appear to be particularly important for cognitive (brain memory and

performance) and behavioral function.



In fact, infants who do not get enough omega-3 fatty acids from their mothers during pregnancy are at risk for developing vision and nerve problems. Symptoms of omega-3 fatty acid deficiency include extreme tiredness (fatigue), poor memory, dry skin, heart problems, mood swings or depression, and poor circulation.

It is important to maintain an appropriate balance of omega-3 and omega-6 (another essential fatty acid) in the diet, as these two substances work together to promote health.

Omega-3 fatty acids help reduce inflammation, and most omega-6 fatty acids tend to promote inflammation. An inappropriate balance of these essential fatty acids contributes to the development of disease while a proper balance helps maintain and even improve health.

A healthy diet should consist of roughly 2 - 4 times more omega-6 fatty acids than omega-3 fatty acids.

The typical petfood diet tends to contain 14 - 25 times more omega-6 fatty acids than omega-3 fatty acids, and many researchers believe

this imbalance is a significant factor in the rising rate of inflammatory disorders, visible in pets coats.

What are EPA/DHA?

EPA and DHA are essential fatty acids which stands for docosahexaenoic acid and eicosapentaenoic acid. This essential fatty acid is an Omega 3 fat, which is found in cold water fish. EPA and DHA are highly unsaturated fats because of they contain 6 and 5 double bonds on their long structural chain. These polyunsaturated fats play a very important role with the function of our pets bodies.

Omega-3 fatty acids are found in oily fish like salmon and flaxseed and canola oils



photo: nlm.nih.gov

EPA and DHA are vital nutrients and may be taken to maintain healthy function of the following: Brain and Retina- DHA is a building block of tissue in the brain and retina of the eye.

It helps with forming neural transmitters, such as phosphatidylserine, which is important for brain function. DHA is found in the retina of the eye and taking DHA may be necessary for maintaining healthy levels of DHA for normal eye function.

Cardiovascular system - EPA and DHA are converted into hormone like substances called prostaglandins, and they regulate cell activity and healthy cardiovascular function.

Growth and intellectual development - DHA plays a very important role during fetal development, early infancy, and old age. High concentrations of DHA are found in the brain and increases 300-500% in and unborns brain during the last trimester of pregnancy. Adding DHA to a pregnant bitches diet may be beneficial for the fetus's brain development. Elderly dogs should also take EPA DHA, because just like us, as we get older, our bodies form less DHA and EPA, which may cause less mental focus and cognitive function. Taking EPA DHA may also help with mental abnormalities, such as Alzheimer's Disease and Dementia.

There are other benefits to taking EPA and DHA because it also plays as a source of energy, it insulates the body against heat loss, prevents skin from drying and flaking, and cushions tissues and organs.

Who should take EPA and DHA?

All humans and pets benefit from taking EPA and DHA.

*) Martek Biosciences - Functional Fatty Acids Sept.20 2099

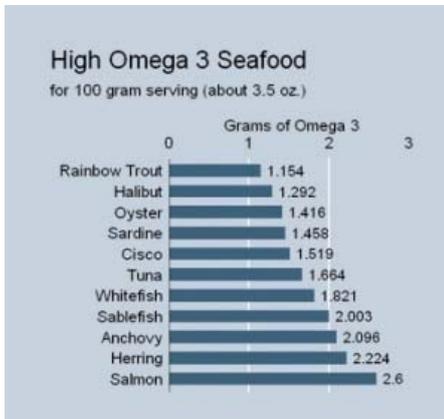


Photo: crossfitnewton.wordpress.com

Diabetes

Individuals with diabetes tend to have high triglyceride and low HDL levels. Omega-3 fatty acids from fish oil can help lower triglycerides and apoproteins (markers of diabetes), and raise HDL, so people with diabetes may benefit from eating foods or taking supplements that contain DHA and EPA. ALA (from flaxseed, for example) may not have the same benefit as DHA and EPA because some people with diabetes lack the ability to efficiently convert ALA to a form of omega-3 fatty acids that the body can use readily. There have been slight increases reported in fasting blood sugar levels in patients with type 2 diabetes while taking fish oil supplements.

Many individuals who are overweight suffer from poor blood sugar control, diabetes, and high cholesterol.

Clinical studies suggest that overweight people who follow a weight loss program that includes exercise tend to achieve better control over their blood sugar and cholesterol levels when fish rich in omega-3 fatty acids (such as salmon, mackerel, and herring) is a staple in their low-fat diet.

Arthritis

Most clinical studies also investigating the use of omega-3 fatty acid supplements for inflammatory joint conditions have focused almost entirely on rheumatoid arthritis.

Several articles reviewing the research in this area conclude that omega-3 fatty acid supplements reduce tenderness in joints, decrease morning stiffness, and allow for a reduction in the amount of medication needed for people with rheumatoid arthritis.

In addition, laboratory studies suggest that diets rich in

omega-3 fatty acids (and low in the inflammatory omega-6 fatty acids) may benefit people with other inflammatory disorders, such as osteoarthritis.

In fact, several test tube studies of cartilage-containing cells have found that omega-3 fatty acids decrease the inflammation and reduce the activity of enzymes that destroy cartilage.



Photo: newwork.grubstreet.com

The results suggest that omega-3 fatty acids are effective treatment, along with conventional therapies such as anti-inflammatory drugs, for joint pain associated with rheumatoid arthritis, inflammatory bowel disease, and dysmenorrhea.



Photo seaweed.com

Osteoporosis

Clinical studies suggest that omega-3 fatty acids such as EPA help increase levels of calcium in the body, deposit calcium in the bones, and improve bone strength. In addition, studies also suggest that people who are deficient in certain essential fatty acids (particularly EPA and gamma-linolenic acid [GLA], an omega-6 fatty acid) are more likely to suffer from bone loss than those with normal levels of these fatty acids. In a study of women over 65 with osteoporosis, those given EPA and GLA supplements experienced significantly less bone loss over 3 years than those who were given a placebo. Many of these women also experienced an increase in bone density.



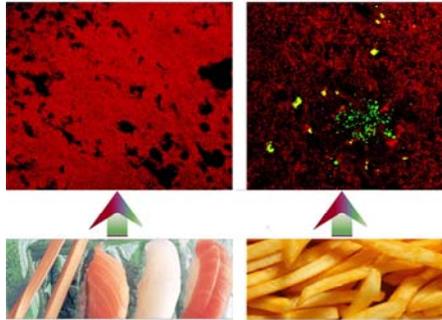
Photo: primev.com

Depression

People who do not get enough omega-3 fatty acids or do not maintain a healthy balance of omega-3 to omega-6 fatty acids in their diet may be at an increased risk for depression. The omega-3 fatty acids are important components of nerve cell membranes. They help nerve cells communicate with each other, which is an essential step in maintaining good mental health. In particular, DHA is involved in a variety of nerve cell processes.

Levels of omega-3 fatty acids were found to be measurably low and the ratio of omega-6 to omega-3 fatty acids were particularly high in a clinical study of patients hospitalized for depression. In a clinical study of individuals with

depression, those who ate a healthy diet consisting of fatty fish 2 - 3 times per week for 5 years experienced a significant reduction in feelings of depression and hostility.



Marine Lipids Protect Synapses and Memory

Photo: alzheimer.neurology.ucla.edu

Eating disorders

Clinical studies suggest that men and women with anorexia nervosa have lower than optimal levels of polyunsaturated fatty acids (including ALA and GLA). To prevent the complications associated with essential fatty acid deficiencies, some experts recommend that treatment programs for anorexia nervosa include PUFA-rich foods such as fish and organ meats (which include omega-6 fatty acids).

Burns

Essential fatty acids have been used to reduce inflammation and promote wound healing in burn victims.

Animal research indicates that omega-3 fatty acids help promote a healthy balance of proteins in the body -- protein balance is important for recovery after sustaining a burn. Further research is necessary to determine whether omega-3's benefit people in the same way.

Skin disorders

In one clinical study, 13 people with a particular sensitivity to the sun known as photo dermatitis showed significantly less sensitivity to UV rays after taking fish oil supplements.

Still, research indicates that topical sunscreens are much better at protecting the skin from damaging effects of the sun than omega-3 fatty acids.

In another study of 40 people with psoriasis, those who were treated with medications and EPA supplements did better than those treated with the medications alone. In addition, many clinicians believe that flaxseed (which contains omega-3 fatty acids) is helpful for treating acne.

Inflammatory bowel disease (IBD)

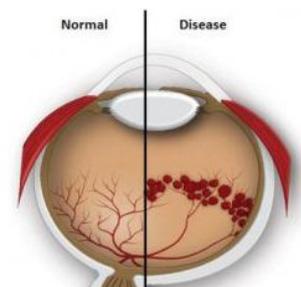
When added to medication, such as sulfasalazine (a standard medication for IBD), omega-3 fatty acids may reduce symptoms of Crohn's disease and ulcerative colitis -- the 2 types of IBD.

More studies to investigate this preliminary finding are under way.

Macular Degeneration

A questionnaire administered to more than 3,000 people over the age of 49 found that those who consumed more fish in their diet were less likely to have macular degeneration (a serious age-related eye condition that can progress to blindness) than those who consumed less fish.

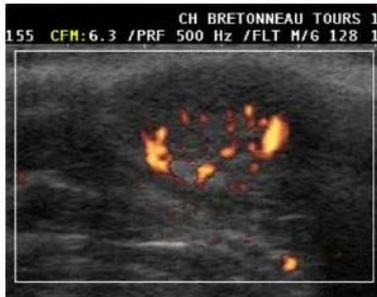
Similarly, a clinical study comparing 350 people with macular degeneration to 500 without the eye disease found that those with a healthy dietary balance of omega-3 and omega-6 fatty acids and higher intake of fish in their diets were less likely to have this particular eye disorder.



Another larger clinical study confirms that EPA and DHA from fish, 4 or more times per week, may reduce the risk of developing macular degeneration.

Colon cancer

Consuming significant amounts of foods rich in omega-3 fatty acids appears to reduce the risk of colorectal cancer. For example, Eskimos, who tend to follow a high-fat diet but eat significant amounts of fish rich in omega-3 fatty acids, have a low rate of colorectal cancer.



Control

Blood circulation in tumor



DHA

Martek Biosciences - Functional Fatty Acids
Sept. 20 2009

Animal studies and laboratory studies have found that omega-3 fatty acids prevent worsening of colon cancer while omega-6 fatty acids promote the growth of colon tumors. Daily consumption of EPA and DHA also appeared to slow or even reverse the progression of colon cancer in people with early stages of the disease.

The new evidence of DHA and EPA in canines have shown these Omega-3 fatty Acids to limit bloodflow in tumors, slowing the cancer progress *).

Prostate cancer

Laboratory and animal studies indicate that omega-3 fatty acids (specifically, DHA and EPA) may inhibit the growth of prostate cancer. Similarly, population based clinical

studies of groups of men suggest that a low-fat diet with the addition of omega-3 fatty acids from fish or fish oil help prevent the development of prostate cancer.

Like breast cancer, the balance of omega-3 to omega-6 fatty acids appears to be particularly important for reducing the risk of this condition. ALA, however, may not offer the same benefits as EPA and DHA. In fact, one recent clinical study evaluating 67 men with prostate cancer found that they had higher levels of ALA compared to men without prostate cancer. More research in this area is needed.

Other

Although further research is needed, preliminary evidence suggests that omega-3 fatty acids may also prove helpful in protecting against certain infections and treating a variety of conditions, including autism, ulcers, migraine headaches, preterm labor, emphysema, psoriasis, glaucoma, Lyme disease, systemic lupus erythmatosus (lupus), irregular heart beats (arrhythmias), multiple sclerosis, and panic attacks. Omega-3 fatty acid supplementation may also help to reduce stress and the effects it has on the body.

Nutrigenomics



Nutrigenomics - The future of health

The future - The latest findings in genetic research is showing the effects of chemicals and un-natural substances in foods creating havoc in human and pet health and potentially having unhealthy and dangerous destruction of the DNA.

Foods which are based on the latest scientific nutritional and genetic information, allows us to create foods which are nutritionally sound to serve

and protect us and our pets from all possible influences, be it environmental or genetic. This is the future of nutrition, based on *nutrigenomics*.



photo: smh.com.au

For smart, health-driven consumers genuine Atlantic salmon is already on the grocery list. Eating salmon regularly is a great way to get your Omega 3's. It tastes great and has 2 grams of Omega 3 including about 600mg of DHA per 100gram serving. Salmon provides some of the essential nutrients and fatty acids needed for good health and a sharp mind.

Maintain good eating habits for you and your pet by eating fish at least twice a week, fatty fish like salmon because it is rich in real and nutritious Omega 3's.

This is specially important for pets suffering from epilepsy, diabetes, eye diseases or cardiovascular diseases, as all these diseases effect the nerve functions where DHA and EPA have a positive role to play and can support in alleviating the effects of the disease. Life expectansy for pets suffering from cancer may be increased by 2-3 years by slowing the tumor growth with EPA and DHA Omega-3' s.

Scientists around the world are working hard to find the answers and nutrigenomics is the fastest growing research area and is expected to find more facts to support the health claims now made on the health effects of these Omega-3' S

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