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ESSENTIAL FATTY ACIDS: HIGH TIME TO INCLUDE IMPORTANT FATS IN YOUR DIET!

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Essential fatty acids or EFAs are fatty acids that the humans and other animals must ingest because the body requires them for good health but cannot synthesize them. Those not essential are Non-Essential Fatty acids. The term "Essential Fatty Acids" refers to fatty acids required for biological processes but does not include the fats that only act as fuel. Essential Fatty Acids should not be confused with Essential Oils, which are "Essential" in the sense of being a Concentrated Essence. The types of EFAs are Omega-3 and Omega-6 Fatty Acids.

OMEGA-3 FATTY ACIDS

These are essential fats that have a numerous health benefits. Like all Fatty Acids, Omega-3s are chains of Carbon, Hydrogen and Oxygen atoms. Omega-3 Fatty Acids are Polyunsaturated, meaning they have two or more double bonds (poly = many) in their chemical structure. Just like Omegs-6s, Omega-3 Fatty Acids cannot be made by the body and we must get them from the diet. This is why they are termed as Essential Fatty Acids. Omega-3 Fatty Acids are not simply stored in the body and used for energy. They have important roles in all sorts of bodily processes, including Inflammation, Heart's health and Brain function. Being deficient in Omega-3s is associated with lower Intelligence, Depression, Heart diseases, Arthritis, Cancer and many other health problems. There are 11 different types of Omega-3 Fatty Acids. They are Alpha Linolenic Acid (ALA), Ecosapentaenoic Acid (EPA), Docosahexaenoic Acid (DHA), Hexadecatrienoic Acid(HTA), Stearidonic Acid (SDA), Ecosatrienoic Acid(ETE), Ecosatertaenoic Acid (ETA), Heneicosapentaenoic Acid (HPA), Docosapentaenoic Acid (DPA), Tetracosapentaenoic Acid and Tetracosahexaenoic Acid. However, not all Omega-3 Fatty Acids are equal. The three most important ones are ALA, EPA and DHA.

ALA

It is a short for Alpha-linolenic Acid. It is the most common Omega-3 in the diet. It is mostly found in plant foods and needs to be converted to EPA or DHA before it can be utilized by the human body. However, this conversion process is insufficient in humans. Only a small percentage of ALA is converted into EPA and even less into DHA. On an average, only 1-10% is converted into EPA and 0.5-5% is converted to DHA. Furthermore the conversions depend on adequate levels of other nutrients such as Vit-B6, B7, Copper, Calcium, Magnesium, Zinc and Iron. Many of these are lacking in modern diet, especially among vegetarians. Low conversion rate is also because Omega-6 Fatty Acids compete for the same enzymes needed for the conversion process. Therefore,

a high amount of omega-6 in the modern diet can reduce the conversion of ALA to DHA and EPA. When all ALA is not converted to EPA or DHA, it remains inactive and is simply stored or used as energy, like other Fats. ALA is found in many plant foods such as Spinach, Soyabeans, Walnuts and many seeds such as Chia, Flax and Hemp. Some seed oils, such as Flaxseed oil and Rapeseed (canola) oil are also rich in ALA. There is an association between diet rich in ALA and a reduced risk of Heart disease.

EPA

It is the short for Ecosa pentaenoic Acid. It has numerous physiological roles. Ecosanoids made from Omega-3s reduce Inflammation. Several studies have shown that Fish oil, which is rich in EPA and DHA, may reduce symptoms of Depression. A study shows that EPA reduces a number of hot flashes experienced by Menopausal women. Both EPA and DHA are mostly found in sea foods, including Fatty fish and Algae. Grass- fed animal products, such as Diary and Meats, also contain some EPA.

DHA

It is the short for Docosahexaenoic Acid. It is an important structural component of Skin and the Retina in the eye. Fortifying baby formulas with DHA leads to improved vision in infants. DHA is absolutely vital for Brain development and function in childhood, as well as brain functions in adults. Early- life DHA deficiency is associated with problems later on, such as Learning disabilities, ADHA, aggressive hostility and several other disorders and even onset of Alzhemer's disease during aging. It can reduce blood triglycerides, and may lead to lower harmful LDL particles. It has positive effects on disease such as Arthiritis, High blood pressure, Type-2 diabetes and some Cancers. DHA also causes the breakup of so called lipid rafts in membranes, making it more difficult for Cancer cells to servive and for inflammation to occur. As mentioned earlier, DHA is found high in sea foods, including Fatty fish and Algae. Grass fed animal products also contains DHA.

OMEGA-6 FATTY ACIDS

Omega-6 is Essential Fatty Acids. They are necessary for human health, but the body cannot make them. You may get them through food. Along with Omega-3 Fatty Acids, omega-6 Fatty Acid also plays a crucial role in Brain function, and normal growth and development. As a type of Polyunsaturated Fatty Acid (PUFA), Omega-6s help stimulate skin and hair growth, maintain bone health, regulate metabolism and maintain the reproductive system. Most Omega-6 Fatty Acids in the diet come from vegetable oils, such as Linoleic Acid (LA). Linoleic Acid is converted to Gamma-Linolenic Acid (GLA) in the body. It can then break down further to Arachidonic Acid (AA). GLA is found in several plant based oils, including Evening Primerose Oil (EPO), Borage oil and Black currant seed oil. GLA may actually reduce inflammation. Omega-6 is needed to reduce symptoms of Nerve pain in people with Diabetic Neuropathy, reduces Rheumatoid Arthiritis, Allergies, Breast cancer, Eczema, Hypertension, Menopausal symptoms, Breast pain (Mastalgia), Osteoporosis and Premenstrual syndrome. Omega-6 fatty acids can be found in Sunflower, Safflower, Soy, Sesame and Corn oils.

For general health, there should be a balance between Omega-6 and Omega-3 Fatty Acids. The ratio should be in the range of 2:1 to 4:1, Omega-6 to Omega-3, and some health educators advocate even lower ratios.