

The Omega-3 Supremacy

By Dr. Zoltan P. Rona, M.D., M.Sc. • www.mydoctor.ca/drzoltanrona

Virtually every new patient I have seen in my private office practice in the past 10 years has been taking at least one or more nutritional supplement. In my experience, the most popular one by far is Omega-3 fatty acids coming from fish oil, seafood and other animal life. If it isn't the tried and true cod liver oil, it's halibut liver oil, salmon oil, krill oil or seal oil. Aside from the fact that the natural health industry has been promoting Omega-3 for decades, numerous conventional doctors (GPs, psychiatrists, cardiologists, and rheumatologists) now also recommend it to many of their patients.

Omega-3 fatty acids are also often referred to as essential fatty acids (EFAs) or polyunsaturated fatty acids (PUFA). EFA's make up at least 60% of the mass of our brains. These are called essential because our bodies cannot produce these from other nutrients. They must therefore be obtained from either diet or supplements. They are needed as basic elements of our cell membranes. They control the inflammatory response and, hence pain and the spread of disease. They also mediate the immune response, control hormone production and regulate nerve transmission.

The ideal ratio of Omega-6 to Omega-3 fatty acids is 1:1. The standard North American diet, due to the over consumption of breads, cereals, eggs, poultry, nuts, vegetable oils such safflower, corn, soy and sunflower from processed foods has a ratio of between 20:1 and 30:1. This relative Omega-3 deficiency is what is believed to be the cause of numerous health problems.

Why are so many people recommending and using Omega-3 oils? Conventional doctors will usually only recommend something if there is enough evidence to warrant a prescription. Numerous epidemiological studies and randomized clinical trials have documented the benefits of certain amounts of the Omega-3 oils known as EPA (Eicosapentaenoic Acid) and DHA (Docosahexaenoic Acid) in several major areas:

Brain and Cognitive Health

Omega-3 fatty acids are critical to the structure and function of neuronal membranes. The communication between various nerves could not occur in a normal way without Omega-3 fatty acids. As a result, just about every brain condition would benefit from optimal levels of DHA and EPA.

Depression is one of many common conditions that could benefit from Omega-3 fatty acids. They influence something called the cytokine system in the brain. These cytokines are known as interleukin-1-2 and -6, interferon-gamma, and tumor necrosis factor alpha. They can directly and indirectly influence the severity and outcome of depression.

Cognitive health promotion is another area of proven benefit of Omega-3 fatty acids. The incidence of ADHD (Attention deficit Hyperactivity Disorder) is rapidly escalating with a greater and greater dependency on drugs such as Ritalin (an amphetamine). In fact, at one time in the 1990s, so much Ritalin was being prescribed that the drug companies manufacturing it ran out of stock and could not keep pace with the demand.

The good news is that there are now numerous studies supporting the use of EPA and DHA in the treatment of ADHD. EPA and DHA are crucial in proper retinal and brain development. They improve school performance, learning, focusing on tasks and behaviour in children.

One study from Australia published in 2007 by Sinn and Bryan concluded that a 30 week treatment of children with ADHD with fatty acid capsules (providing 560 mg/day of EPA, 175 mg/day of DHA, 60 mg/day of gamma-linolenic acid, and 10 mg/day of vitamin E) plus a multivitamin tablet containing low (RDA) amounts of vitamin and minerals yielded slightly better results than seen in children who used Ritalin. These fish oils reduce ADHD symptoms whether or not a child is on Ritalin.

For those wanting an official seal of approval, Health Canada's Natural Health Product Directorate (NHPD) requires a minimum of 1.5 – 3.0 g of EPA and DHA per day including at least 1.0g of EPA per day (at a ratio of 2:1) to support mood balance. As we all know, if Health Canada says so, it must be true.

Cardiovascular Health

Back in the 1970s, it was reported that despite a relatively high-fat diet, the Inuit people of Greenland had little incidence of heart disease. They had long winters with little sun exposure, a factor thought to increase the risk of psoriasis yet psoriasis was rare in the Inuit. Their secret was a large consumption of Omega-3 fatty acids.

It is now a fairly well established fact that heart disease, especially coronary artery disease, is the end result of inflammation. Omega-3 fatty acids are anti-inflammatory so it would stand to reason that EPA and DHA would be of help in both the prevention and treatment of cardiovascular disease. A review paper of 25 clinical trials by Harris showed exactly this to be true. Major cardiovascular events were inversely correlated with the tissue levels of EPA and DHA.

EPA and DHA also prevent blood from being too sticky and forming arterial blockages. All those people who have been recommended to take a baby aspirin a day would do just as well to take adequate amounts of DHA and EPA. I usually recommend about 1000 mg in a 2:1 ratio of EPA:DHA for prevention of heart disease and significantly more (4000 – 8000 mg) for various inflammatory conditions (e.g. arthritis, multiple sclerosis, colitis, Crohn's disease, psoriasis etc.).

Scan this code with a QR reader app on your smartphone
to watch the video "Getting Thin on Omega-3 Fats"



Three major trials have documented the efficacy of Omega-3 fatty acids in secondary prevention of coronary artery disease. The DART (Diet and Reinfarction Trial) was a randomized trial on 2,033 men with recent heart attacks. EPA and DHA was administered in either the form of oily fish or fish oil capsules. The results showed that a 2-year all cause mortality was reduced in the study group by 29% mostly from heart disease. Of particular interest was the fact that the subgroup that consumed only fish oil capsules as opposed to increasing fish consumption, showed a more remarkable reduction in cardiovascular events.

In my practice I test every fish and seafood eater for high mercury blood and hair levels. Invariably, those who eat fish or seafood on a regular basis have elevated mercury levels either in the blood or hair or both. The bigger the fish, the higher the mercury levels. Most polluted are tuna, sea bass, swordfish and Japanese sushi. Smaller fish like salmon, anchovies, mackerel and tilapia are relatively lower in mercury but still unacceptably contaminated with PCBs and dioxins.

Those who rarely eat fish or seafood but use fish oil supplements never have elevated mercury levels unless they have numerous mercury amalgam dental fillings. Most manufacturers remove mercury and other toxic heavy metals from their fish oil supplements.

The second trial was called the GISSI study. It randomized 11,323 post-heart attack patients to one capsule per day of Omega-3 fatty acids, providing 850mg EPA/DHA. At the end of year one, patients had a 21% reduction in all cause mortality and a 30% reduction in cardiovascular mortality. After 4 months of fish oil supplementation, there was a 45% reduction in sudden cardiac death.

The third trial, the JELIS trial, studied 18,645 patients with high blood levels of cholesterol of which 70% were women. The patients were randomized to a statin drug (e.g. Lipitor, Crestor) alone or a statin with EPA/DHA of 1,800/day. Five years later, those randomized to EPA/DHA had a 19% reduction in major cardiovascular events.

Researchers now believe that the mechanism by which EPA/DHA works is by the enrichment of cell membrane phospholipids. Omega-3 fatty acids also reduce blood pressure, increase vasodilation (enlarge the caliber of arteries), improve arterial and endothelial function and reduce platelet aggregation. They also raise the levels of HDL (the “good” cholesterol carrying lipoprotein).

High blood levels of triglycerides, another risk factor for coronary artery disease, are also improved by supplementation of Omega-3 EPA/DHA intake. In fact, in 2011, The American Heart Association (AHA) recommended between 0.5 - 1 gram of Omega-3 EPA and DHA for people with borderline high triglyceride levels, between 1 - 2 grams for individuals with high triglyceride levels and 2 - 4 grams for those with very high triglyceride levels. Those with documented coronary artery disease should take between 1 - 3 grams of Omega-3 daily. The proof of Omega-3 supremacy in this area is almost universally accepted.

Rheumatoid Arthritis

According to Health Canada’s Natural Health Products Directorate (NHPD), fish oil supplementation between 2,800 and 3,000 EPA + DHA per day at a ratio of 2:1 in conjunction with conventional therapy is considered efficacious for rheumatoid arthritis.

In a study by Kremer et al., the fish oil group (compared to a group that took corn oil capsules) had significant decreases in tender joints, duration of morning stiffness and overall evaluation of global arthritis activity.

In another double-blind study, Cleland et al. compared a fish oil supplement (18g/day) with an olive oil supplement for 12 weeks and found that the production of leukotrienes (inflammatory molecules) was reduced by 30% in the fish oil group and unchanged in the olive oil treated group.

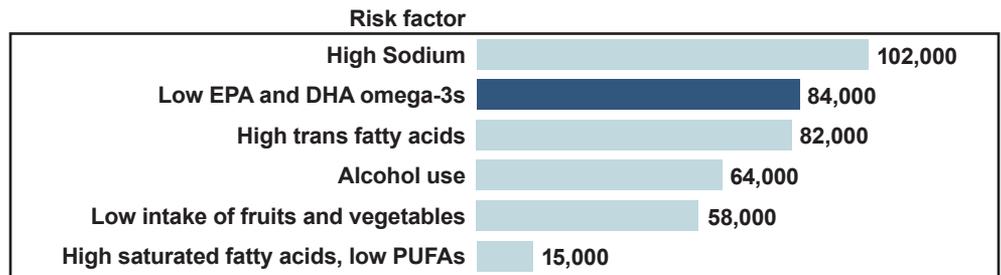
The message here is obvious. If you have inflammation, there’s a very good chance that Omega-3 fatty acids will help reverse your disease, especially if it’s rheumatoid arthritis.

Other Major Benefit of Omega-3 Oils

Are you one of those people that constantly needs to visit your doctor to have your earwax flushed out because it accumulates so rapidly? Ever wonder why this happens? Well, it turns out that earwax buildup that hardens and needs constant clearing with instilled oils or water is really the result of Omega-3 deficiency. Get enough Omega-3 and the earwax fails to harden in the ear canals and can easily come out on its own. Forget those messy ear drops and start supplementing with at least 5 grams of Omega-3 every day.

Allergies, asthma, eczema, constipation and learning disabilities have all been linked to a deficiency of Omega-3 fatty acids.

Annual Deaths from All Causes in the US Due to Dietary Factors



Danaei G, Ding EL, Mozaffarian D, Taylor B, Rehm J, et al. (2009) The Preventable Causes of Death in the United States: Comparative Risk Assessment of Dietary, Lifestyle, and Metabolic Risk Factors. PLoS Med 6(4): e1000058

Omega-3 fatty acids preserve the blood levels of vitamin D, now universally acknowledged as being one of the most important nutrients for the prevention of cancer, heart disease, inflammation of any kind, diabetes and all auto-immune diseases. Most scientists now believe that the reason why Omega-3 is so important is that it supports the many functions of vitamin D. If you want to read more about vitamin D but do not want to spend weeks doing that, read my new book, "Vitamin D, The Sunshine Vitamin".

Cautions with Omega-3

If you are on blood thinning medication, Omega-3 supplementation may potentiate the action of the blood thinning drug and unwanted bleeding may occur. This does not mean that you cannot use fish oil. It only means you may have to tell your doctor about it so that the prescription blood thinner dosage can be reduced.

Fish oil supplements are usually highly beneficial for diabetics because they improve circulation and reduce high triglyceride levels. Some Type 2 Diabetics develop a slightly elevated fasting blood sugar level with fish oil supplements and there may be some interactions with certain anti-diabetes medications. Check with your doctor if there are any concerns and use fish oil supplements at lower doses or as directed by your doctor.

How to Choose Omega-3 Supplements

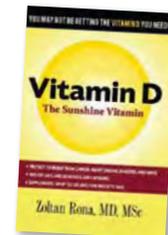
Look for purity, potency and freshness. The brand name you choose should have a Natural Health Product number (NPN) and be able to provide you with a detailed biochemical and toxicological analysis of the contents of the bottle, whether in capsule or liquid form.

The potency should be measured in milligrams. Ignore products with "extra high potency" claims that charge up to 4 times the price for regular potency brands. This is a gimmick. The total milligrams per bottle should be the deciding factor in your choice. Also, make sure you check the expiry date and avoid buying any supplements that do not give you enough time to consume the product.

If you are buying capsules, make sure you purchase ones that are enteric coated. This is important so that the oils reach the small intestines before they are dissolved higher up in the stomach. Capsules that are not enteric coated produce a fishy regurgitation smell. Unless you have no sense of smell, you will find non-enteric coated supplements very unpleasant.

Dr. Zoltan P. Rona practises Complementary Medicine in Toronto and is the medical editor of "The Encyclopedia of Natural Healing." He has also published several Canadian best-selling books, including "Return to The Joy of Health" and "Vitamin D - The Sunshine Vitamin." For more of his articles, see www.mydoctor.ca/drzoltanrona

**To order this book by Dr. Rona
visit www.amazon.com or contact
High Level Wellness 905-764-9300**



REFERENCES

- Rona, Zoltan P. Rheumatoid Arthritis. Vancouver: Alive Books, 2000.
- Rona, Zoltan P. Vitamin D, The Sunshine Vitamin. Tennessee, USA: Alive Books, 2010 <http://www.amazon.com/Vitamin-D-Sunshine-Zoltan-Rona/dp/0920470823>
- Colter, AL, et al. Fatty acid status and behavioural symptoms of Attention Deficit Hyperactivity Disorder in adolescents: A case-control study. Nutrition Journal, Vol. 7, No. 1, February 14, 2008, p. 8 www.nutritionj.com/content/7/1/8
- Harris WS, Poston WC, Haddock CK. Tissue n-3 and n-6 fatty acids and risk for coronary artery disease events. Atherosclerosis 2007;193:1-10.
- Germano, M, et al. Plasma, red blood cells phospholipids and clinical evaluation after long chain Omega-3 supplementation in children with attention deficit hyperactivity disorder (ADHD). Nutritional Neuroscience, Vol. 10, February/April 2007, pp. 1-9
- Burr ML, Fehily AM, Gilbert JF, et al. Effects of changes in fat, fish, and fibre intakes on death and myocardial reinfarction: Diet And Reinfarction Trial (DART). Lancet 1989;2:757-61.
- Sorgi, PJ, et al. Effects of an open-label pilot study with high-dose EPA/DHA concentrates on plasma phospholipids and behavior in children with attention deficit hyperactivity disorder. Nutrition Journal, Vol. 6, 2007, pp. 16-23
- Dietary supplementation with n-3 polyunsaturated fatty acids and vitamin E after myocardial infarction: results of the GISSI-Prevenzione trial Gruppo Italiano per lo Studio dell Sopravvivenza nell' Infarto miocardico (errata in Lancet 2001;357:642 and Lancet 2007;369:106). Lancet 1999;354:447-55.
- Sinn, N, and Bryan, J. Effect of supplementation with polyunsaturated fatty acids and micronutrients on learning and behavior problems associated with child ADHD. Journal of Developmental & Behavioral Pediatrics, Vol. 28, April 2007, pp. 82-91
- Schachter, HM, et al. How efficacious and safe is short-acting methylphenidate for the treatment of attention-deficit disorder in children and adolescents? Canadian Medical Association Journal, Vol. 165, November 27, 2001, pp. 1475-88
- Yokoyama M, Origasa H, Matsuzaki M, et al. Effects of eicosapentaenoic acid on major coronary events in hypercholesterolaemic patients (JELIS): a randomized open-label, blinded end-point analysis. Lancet 2007; 369:1090-8.
- Richardson, AJ, and Montgomery, P. The Oxford-Durham study: a randomized, controlled trial of dietary supplementation with fatty acids in children with developmental coordination disorder. Pediatrics, Vol. 115, May 2005, pp. 1360-66
- Harris WS. Omega-3 fatty acids and cardiovascular disease a case for Omega-3 index as a new risk factor. Pharmacol Res 2007;55:217-23.
- Arnold, L, Eugene. Alternative treatments for adults with ADHD. Annals of the New York Academy of Sciences, Vol. 931, June 2001, pp. 310-41
- Lavie DJ, Milani RV, Mehra MR, et al. Omega-3 Polyunsaturated Fatty Acids and Cardiovascular Diseases. JACC 2009;54:585-94.
- Burgess, John R., et al. Long-chain polyunsaturated fatty acids in children with attention-deficit hyperactivity disorder. American Journal of Clinical Nutrition, Vol. 71 (suppl), January 2000, pp. 327S-30S
- Fish Oil Monograph. Retrieved November 1, 2009 from http://www.hc-sc.gc.ca/dhp-mpps/prodnatur/applications/licen-prod/monograph/mono_fish_oil_huile_poisson-eng.php. Natural Health Products Directorate, Health Canada.
- Stordy, B, Jacqueline. Dark adaptation, motor skills, docosahexaenoic acid, and dyslexia. American Journal of Clinical Nutrition, Vol. 71 (suppl), January 2000, pp. 323S-26S
- Kremer JM, Lawrence DA, Petrillo GF et al. Effects of high-dose fish oil on rheumatoid arthritis after stopping nonsteroidal anti-inflammatory drugs. Clinical and immune correlates. Arthritis Rheum 1995;38(8):1107-14.
- Cleland LG, French JK, Betts WH et al. Clinical and biochemical effects of dietary fish oil supplements in rheumatoid arthritis. J Rheumatol. 1988;15:1471-5.
- Logan AC. Omega-3 fatty acids and major depression: A primer for the mental health professional. Lipids in Health and Disease 2004;3:25.
- Bourre JM, Dumont O, Picciotti M et al. Essentiality of Omega-3 fatty acids for brain structure and function. World Rev Nutr Diet 1991, 66:103-117.
- Maes M, Smith RS. Fatty acids, cytokines, and major depression. Biol Psychiatry 1988, 43:313-314.
- Suarez EC, Krishnan RR, Lewis JG. The relation of severity of depressive symptoms to monocyte-associated proinflammatory cytokines and chemokines in apparently healthy men. Psychosom Med 2003, 65:362-368.
- Omega-3s and Children. Joey Shulman. http://www.alive.com/2052a5a2.php?subject_bread_crumb=156
- AHA recommends Omega-3 for Triglyceride management. www.heart.org



Recommended by
Dr. Zoltan Rona

★ Purity ★ Potency ★ Freshness

Omega-3 Liquid & Softgels

An excellent source of Omega-3 fatty acids to help maintain better cardiovascular and cognitive health

EPA 800 mg
DHA 500 mg



Natural Lemon Flavour

EPA 400 mg
DHA 200 mg



Norwegian Source

100% Tested
for Purity,
Potency and
Freshness

Setting the Standard in Omega-3 EPA/DHA Fish Oil

Omega-3 fish oils conform to world-wide hygiene, quality, and purity standards, including those established by the European Commission (EC), Norwegian Food Safety Authority (NFSA), Health Canada, the United States Food and Drug Administration (FDA) and the Global Organization for EPA and DHA Omega-3 (GOED).

Trust the Quality



Trust the Purity

	GOED Limit	EC Limit	NFSA Limit	Omega-3
Arsenic (ppm)	0.1	N/S	N/S	< 0.1
Cadmium (ppm)	0.1	N/S	N/S	< 0.01
Lead (ppm)	0.1	0.1	0.1	< 0.05
Mercury (ppm)	0.1	N/S	N/S	< 0.005
(1) Dioxin & Furans (g WHO-PCDD/F-TEQ/g)	2.0	2.0	2.0	max 1.0
(2) Dioxin-like PCBs (g WHO-Dioxin-like PCBs-TEQ/g)	3	N/S	3	max 3
Sum of (1) & (2) (WHO-PCDD/F+Dioxin-like PCBs-TEQ/g)	N/S	10	N/S	max 4.0
PCBs (ppm)	0.09	N/S	N/S	< 0.09
PAHs: Benzo(a)pyrene (ppb)	N/S	2.0	2.0	max 2.0

N/S = Not Specified

www.tristarnaturals.com