

Omega-3 Balance

How to optimize for inflammation control, mood & vascular health

Why Are Omega-3 Fatty Acids Important?

While a broad spectrum of fats (in the correct amounts) are important for human health, there is a certain class of fats that is particularly important for two reasons: 1) It cannot be made in the body from other substances; it *must* be consumed through diet or supplementation. And 2) Our modern diets are severely deficient in the nutrient, leading to chronic health problems. This very important type of fat is a “polyunsaturated fat” (think: a super pliable, liquid fat) called Omega-3 fatty acid. This type of fat is important in keeping our arteries flexible, supporting cardiovascular health and ensuring the body has building blocks to make important anti-inflammatory and inflammation-modulating compounds to combat chronic diseases including those of the body and the brain.

Plant or Animal?

Omega-3 fatty acids can be consumed from plant and animal foods, but they come in different types. The richest source of omega-3 fatty acids from plant foods are from nuts and seeds like walnuts, chia seeds and flax seeds. The fatty acid they contain is called alpha-linolenic acid or “ALA”. You can also get something called “DHA” or docosahexaenoic acid from algae, or sea vegetables. The richest source of omega-3 fatty acids from animal protein come from oily fish, particularly the “forager fish” at the bottom of the sea-food chain. The omega-3 fatty acids they contain include “DHA” and “EPA” or eicosapentaenoic acid.

It's important to note that the *most* anti-inflammatory compounds are EPA and DHA. The body *can* produce EPA and DHA *from* ALA in plants through a series of conversion reactions depending on genetic factors and access to vitamin and mineral cofactors. Often times, to get the doses needed in a particular case, I will recommend going “straight to the source” when possible, through forager fish oils, to achieve adequate benefit more quickly.

Supplement or Diet?

One can supplement with fish oil for EPA & DHA, algae for DHA, and flax / walnut / chia / etc. for ALA to attempt to convert, or one can attempt to get these nutrients through diet alone. I actually find that a combination of the two strategies is often most effective for therapeutic levels and balance. That said, ALA supplementation can yield insufficient results due to the multi-step biochemical process to convert the fatty acid in the body, so fish oil is

then indicated. Fish oil supplements over-the-counter are notoriously contaminated, sold at sub-therapeutic doses and easily become rancid if not stored correctly. Therefore, I am extremely picky about sourcing for this reason, and am very strategic about dosing.

I find that many people are... unexcited to eat the types of fish highest in EPA/DHA and unwilling to eat them in the amounts required to override the need to supplement, so I encourage a combination of diet and supplementation in most patients. Below is a chart detailing the quantities of EPA and DHA in marine and plant foods to help guide you in your diet choices. If you are vegan or ethically plant-based, ask me about strategies to improve balance without fish oil, as well as lab-testing monitoring schedule.

EPA & DHA Marine Foods			
Per 3oz of Food	EPA (mg)	DHA (mg)	total (EPA + DHA) (mg)
Pacific Herring	1056	751	1807
Atlantic Herring	773	939	1712
Wild Atlantic Salmon	349	1215	1564
Wild Pink Salmon	456	638	1094
Mackerel (canned)	369	677	1046
Wild Sockeye salmon	451	595	1046
Sardines (canned)	402	433	835
Clams	117	124	241
Cod	3	131	134
Supplementation Commonly I Commonly Prescribe			
Supplement	EPA (mg) per tsp	DHA (mg) per tsp	total (mg) per tsp
Pure Omega Liquid (ITI)	1500 mg	500 mg	2000 mg
Super EFA (Genestra)	950 mg	725 mg	1675 mg
Super EFA Forte (Genestra)	1500 mg	1000 mg	2500 mg
Omegagenics EPA-DHA 2400 (Metagenics)	1410 mg	990 mg	2400 mg
Omegagenics 1000 (Metagenics)	710 mg per softgel	290 mg per softgel	1,000 mg per softgel
DHA From Algae (Xymogen)	0 mg	200 mg	200 mg

What About Omega-6 Fatty Acids?

The reason that we have such an “omega problem” in our modern culture is not only that we under-consume omega-3 fatty acids, but also that we *over-consume* omega-6 fatty acids as a result of processed-food consumption and the modern industrial food industry as a whole, including agri-industry farming practices. While a historical human diet consisted of about 1g omega-3 per 4g omega-6, our modern American diet consumes closer to a 1g omega-3 to >20g omega-6. That is a wild imbalance between these essential fats. This is a problem because these fatty acids *compete* with one another in the body for resources. High omega-6 fatty acids in the diet *exacerbates* the existing omega-3 deficiency. That means that while we increase our omega-3 fatty acids, it’s equally important to reduce our omega-6 consumption in the diet. Below is a list of omega-6 fatty acid sources that you should aim to minimize by reading labels (and avoiding processed foods in general!). Perhaps most importantly, we need to reduce our arachidonic acid levels which has the greatest tendency to contribute to a pro-inflammatory state in the body. This type of fat is richest in animal protein/ meat, dairy products and shellfish.

- ❖ Safflower oil
- ❖ Canola oil
- ❖ Sunflower oil, grapeseed oil
- ❖ Corn oil
- ❖ Soybean oil
- ❖ Cottonseed oil, poppyseed oil
- ❖ Peanut oil
- ❖ Fried snack foods (e.g. Corn chips)
- ❖ Fast foods including burgers, fries, subs
- ❖ Cake, cookies, most desserts
- ❖ Peanut butter
- ❖ Processed meats (e.g. hot dog, chicken wing)
- ❖ Roasted meats (e.g. roasted chicken thigh)
- ❖ Cured meats (e.g. pepperoni)
- ❖ Mayonnaise
- ❖ Animal meat (red meat, pork, poultry, predator-fish) (Arachidonic acid)
- ❖ Dairy (Arachidonic acid)
- ❖ Shellfish (Arachidonic acid)