

Fish Oil and Omega 3 Fatty Acids

If I could convince you that there was a drug available in the aisles of your local grocery & health foods store (and online of course), not overly expensive, with very few risks (I'll cover those in a minute), so long-established that even your grandmother would have recommended it, marketed and sold by drug companies in "prescription" form for people at risk for heart attacks and stroke, and is positively correlated with many of the health improvements that we're trying to achieve in this program, I'd bet you would also start taking it too. What is this magic pill? Fish oil. Fish oil? Yes, fish oil.

In this unit, you'll learn what is meant by the term "fish oil" and "Omega 3 fatty acids", what it does for you, the risks of taking it, where to find it, how to read the label, and how much to take. Read this entire paper or skim to the areas that are of most interest to you. As always, ask me for references, citations or additional material if you want to go beyond the material here.

What is Fish Oil and Omega 3 Fatty Acids: Just as we are made of muscle, bone, various tissues and fat, fish are made of the same things and the fats that they produce are the fish oils we're interested in (actually fish don't have bones, but cartilage instead). Different fish produce differing quantities and qualities of fish oil. Some fish are very oily – anchovies, salmon, and sardines are three of many kinds of oily fish while some are less oily – cod, flounder, and sea bass for example. The types of fish used for fish oil are generally smaller cold-water fish because they are easily harvested and because colder water produces more oily fish.

When you hear of Omega 3 Fatty Acids, this refers to a family of fatty acids that come from many different foods. They can be found in plants and animals. Some sources include flax seeds, walnuts, krill oil, even beef and chicken. An easy way to get omega 3s is from fish oil, it's a large part of what makes up fish oil.

Quick recap: Fish oil in supplement form usually comes from small cold-water fish. Om 3s are a type of fatty acid in fish oil.

What Fish Oil Does For You: It's a long list and I'll mention a half dozen of the biggies:

- It's a potent anti-inflammatory agent that helps "cool" the inflamed tissues in us
- It helps re-balances the Omega 6/Omega 3 ratios back to healthy ranges
- It improve insulin sensitivity – and that's another big one for us
- There some research suggesting a benefit for lowering risk of prostate, breast, and colorectal cancers
- Helps to lower LDL (bad) and raise HDL (good) cholesterol. Cholesterol is a whole different conversation and a weak correlate to overall health, but its helpful to know that fish oil can help on the cholesterol numbers.
- It a great way to speed the recovery for an athlete participating in rigorous workouts, and that applies to you. This relates back to the first point about being a potent anti-inflammatory.

Risks of Taking Fish Oil: There are few downsides, but you should be aware of them:

- Some people notice a "fishy" smell in a burp after taking this. This is easily avoided by taking the capsules (or liquid oil) as part of a larger meal.

- In larger doses, fish oil tends to thin the blood. This is part of the larger cardiac benefit mentioned earlier, though in very high doses (and well beyond what I recommend) it could be a problem if you are in a field where you might be bleeding more often than a normal person (professional knife fighter??, or in all seriousness a soldier about to be deployed in battle).
- Excess doses of fish oil in combination with excess alcohol consumption tend to place a heavy load on the liver for all its responsibilities. Once again, in the doses we're talking about, most probably not an issue, but excesses could be a problem.

How to Read The Label on the Bottle: This is important so listen up. It's a jungle out there and all fish oils *are not* created equally. Generally speaking, the higher quality fish oils cost more but are worth it. Also, some price shopping and hunting can cut your costs, but only after you learn what you're really paying for.

Okay, so you're buying fish oil. But what you're really buying in the fish oil are the Omega 3 fatty acids. As mentioned earlier this is one part of what makes up fish oil, and the part you're interested in. But wait; unfortunately it goes one step deeper. Within the family of Omega 3s, what you really want is two members of the Omega 3 family – get ready for some long names – eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Since we're counting ourselves in the “normal” column, we'll refer to these as EPA and DHA and that's how most bottles will refer to these Omega 3s.

All bottles break this down into amounts per pill/capsule or amount per teaspoon if in liquid form. The amounts are almost always in grams. Below is an example:

Supplement Facts		
Serving Size: 1 Softgel		
	Amount Per Serving	% Daily Value
Calories	10	
Calories from Fat	10	
Total Fat	1 g	2%†
Polyunsaturated Fat	1 g	**
Cholesterol	10 mg	3%†
Vitamin E (mixed tocopherols)	3 IU	10%
Fish Oil Concentrate (anchovy, sardine and/or mackerel)	1,065 mg	**
Omega-3 Fatty Acids	630 mg	**
Eicosapentaenoic Acid (EPA)	400 mg	**
Docosahexaenoic Acid (DHA)	200 mg	**

† Percent Daily Values are based on a 2,000 calorie diet.

So what do you notice? Serving size is 1 capsule – pay attention, because some brands will tell you the serving size is 2 or 3 capsules - so you'll need to do some simple math in your head to make sure you're getting what you need. You next notice that this capsule is 1065mg or 1.065 grams (converting from milligram to gram) of fish oil. But remember, we're interested in the Omega 3 fatty acids – so we're down to 630 mg of Om3s. But what we're ultimately after is the EPA+DHA and there's where you need to do your addition. We

see that these two parts total 600mg. So if you wanted around 2.5 gr / day of EPA & DHA – you would take 4 of these capsules a day (600 mg x 4 = 2400mg or 2.4gr)

The label shown above is for high quality fish oil. Most brands show far lower amounts of EPA & DHA. So it would take far more capsules to get to the same amount of EPA & DHA. I hope you now understand why quality matters, the higher concentration of EPA & DHA takes fewer capsules.

If in a store, the better brands will go out of their way to identify themselves as being higher concentration of EPA & DHA by putting that in large print on the bottle – so this helps, but check the numbers on the back of the bottle.

Where to Find Your Fish Oil: It's easy to find, though for various reasons I'm picky about my sources, so I'll point you to a few sources that I trust. Be aware that there are *plenty* of good sources that I have never heard of. I also know that there are some crummy ones too. Whole Foods and most natural food stores carry higher quality fish oils. Whole Foods is rather expensive, but convenient.

I buy almost all my supplements at www.iherb.com - you'll need to set-up an online account. I've found this source to carry the identical brands and quantities as Whole Foods (as well as many additional choices) at about 40% of the price. I'll be interested if anyone can find vitamins and supplements for less than I have found at this site. Please let me know if you do.

Here are the capsules I take: <http://www.iherb.com/Natural-Factors-RxOmega-3-Factors-EPA-400-mg-DHA-200-mg-240-Softgels/4251?at=0>

And here is the liquid form: <http://www.iherb.com/Nature-s-Answer-Liquid-Omega-3-Deep-Sea-Fish-Oil-EPA-DHA-Natural-Orange-Flavor-16-fl-oz-480-ml/7908?at=0>

How Much Fish Oil Should I Take? Okay, that's a trick question. You're now supposed to know that the correct question is **how much EPA and DHA should I take a day?** And the answer is "it depends" – but here are some guidelines.

- For the healthy person looking to maintain health: 2.5 gr/day
- For chronically inflamed person or high performance athlete: 5.0 – 7.5 gr/day