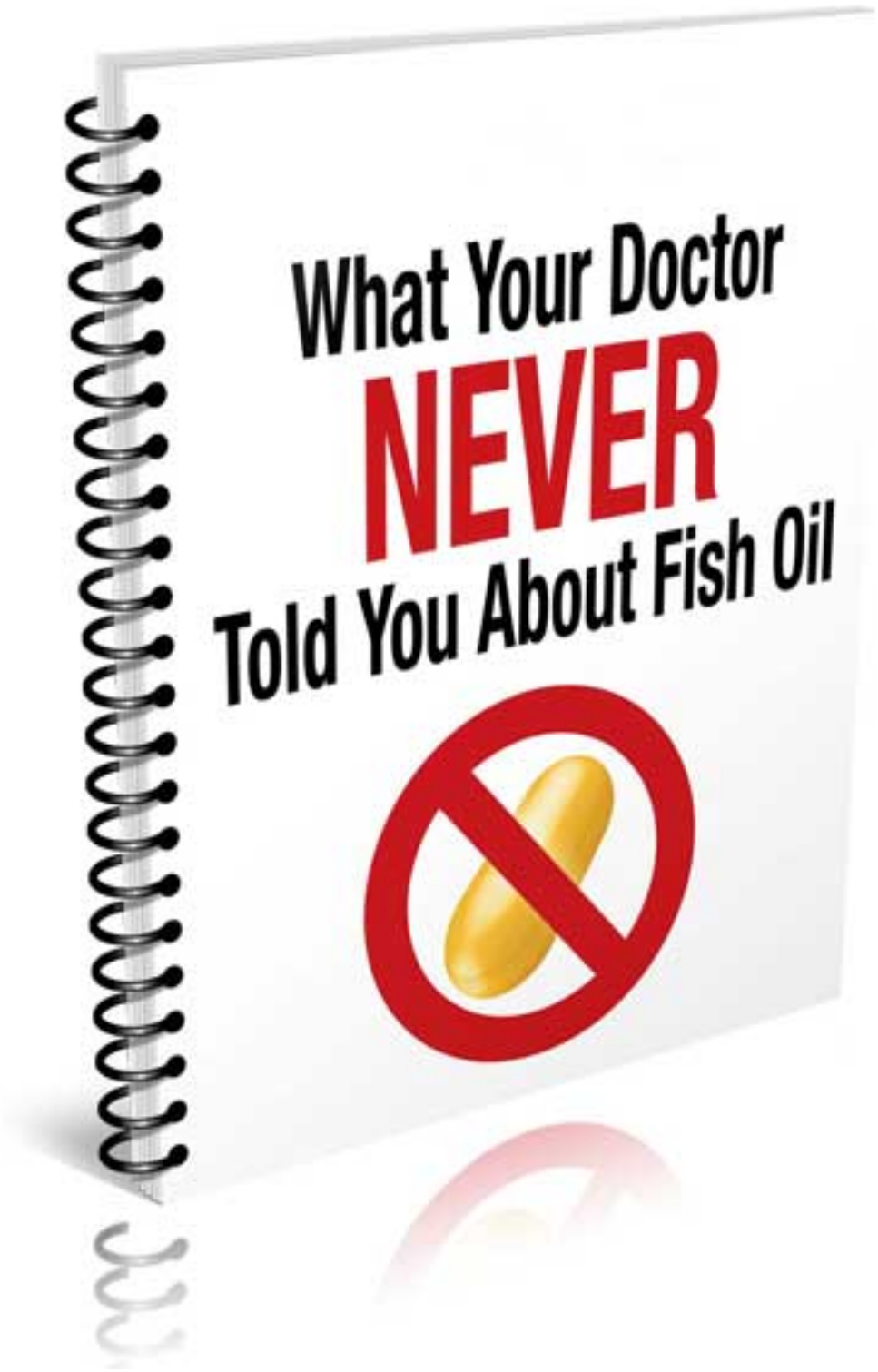
What Your Doctor
NEVER
Told You About Fish Oil

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What Your Doctor Never Told You About Fish Oil

By Cassandra Forsythe-Pribanic, PhD, RD, CSCS and Jayson Hunter, RD, CSCS

Introduction

What if your doctor told you that you had to eat certain foods or take special dietary supplements to protect yourself against poor memory, hormonal imbalances, heart disease, mood swings, depression, and sandpaper-like skin?

You'd do it, right?

This is because certain foods and special supplements contain ingredients that your body cannot make on its own, but needs in order to function normally and prevent disease.

But what if your doctor failed to tell you that some of these foods and supplements had dangerous problems of their own?

Issues like rancidity - which elevates oxidative stress in your body and increases your risk for advanced aging and disease; and mercury - which is a neurotoxin that can cause irreversible brain damage.

Also, the source of these food items and supplements comes from an animal that can be raised in unnatural, detrimental conditions - which is harmful to you. At the same time, these animals are over-consumed and are being watched on the governmental Endangered Species List.

For some reason, your doctors are not telling you the whole story about these special nutrients. But yet your body absolutely needs them.

Isn't it time to learn the truth and use this information to make the best decisions about your health as possible?

We think so.

In this special report, you'll learn how to get these essential nutrients in your body, without exposing it to detrimental side effects for you and the environment.

You can then pass this information along to your doctors and help them make better health decisions too.

Table of Contents:

Essentiality and Sources of Omega-3s

In recent years, the hot topic in the nutrition industry is omega-3 fatty acids - or simply, omega-3s. To some people, this may sound like a new fraternity, but to those "in-the-know" (like your doctor, and nutritionists), they're actually something your body really needs.

Omega-3 fatty acids are a type of fat that your body cannot make on its own and, therefore, must obtain from food. This makes these fats "essential" and a mandatory item that we need to eat in our diets almost daily.

The reason these fats are so essential is because they're responsible for making our nervous systems function correctly from day one. In addition, they allow our bodies to grow normally, repair wounds, prevent skin disorders, have proper vision, maintain ideal cognitive function, and preserve fertility.

Basically, without these fats, your body wouldn't function properly and you'd have more issues than you'd like to even think about.

Eat These Fats Now!

To get these fats, you need to eat certain foods rich in omega-3s. Unfortunately, there are few foods in our food supply that contain these beneficial fats.

There are three main types of omega-3 fats in our diets:

- alpha-linolenic acid (better known as ALA)
- eicosapentanoic acid (EPA)
- docosahexanoic acid (DHA)

EPA and DHA are usually found together, mostly in fish and seafood, where ALA comes from plant products. The table below shows you where you get these fats naturally from food:

Significant Sources of ALA	Significant Sources of EPA and DHA
• Flaxseeds/oil • Hemp seeds/oil • Chia seeds/oil • Pumpkin seeds/oil • Omega-3 eggs • Soybean oil • Canola oil • Walnuts/oil • Wheat germ oil • Grass-fed meat	• Cold-water fatty fish (salmon, trout, sardine, mackerel, herring) • Shellfish (shrimp, mussels) • Fish Oil • Krill/ Krill Oil • DHA Omega-3 Eggs • Algae Oil (DHA only) • Grass-fed meat

As you can see, there are not many foods that you probably eat regularly that contain EPA and DHA unless you live by the ocean and love seafood (there are many people that live right by the shore and hate fish which is a sad thing), or choose other foods rich in these fats.

And ALA, even though an omega-3 fat, does not have the same functionality and benefits as EPA and DHA.

Isn't ALA "A-OK?"

Some people feel that we get enough omega-3s in our diets because we eat a lot of foods that contain ALA. These foods include soybean oil (found in most salad dressings and any food product containing vegetable oil), canola oil and some nuts and seeds.

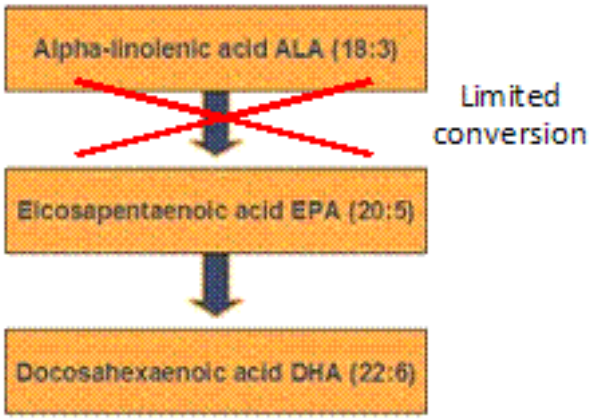
However, the effects of ALA in the body are not the same as EPA and DHA.

In scientific investigations, EPA and DHA are shown to be more effective than ALA for improving insulin sensitivity and glucose tolerance (which decreases your risk of diabetes), while also being more beneficial for decreasing deaths from cardiovascular diseases (Anderson G et al, 2008; Breslow JL, 2006).

EPA and DHA are also the fats that make our central nervous system develop normally from infancy and help prevent vision disorders, like macular degeneration (Lee TK et al, 2010).

Some people also suggest that our bodies can make enough EPA and DHA when we eat foods rich in ALA. However, it's been shown scientifically that only 5-10% of ALA is converted to EPA and 2-5% is converted to DHA (Brenna JT, 2002) within our bodies.

Omega 3 Metabolic Pathway



Therefore, to get the full benefits from omega-3 fats, you need to eat foods and take supplements that contain EPA and/or DHA in addition to natural foods with ALA.

Don't get confused when looking for omega-3 foods in your grocery store: many items now boast "Contains Heart Healthy Omega-3s!" But when you look closely at the label, you'll see that the source of the omega-3 is usually soybean oil or canola oil.

And, to make it even better, some manufacturers have loaded these "healthy" omega-3 foods with excessive amounts of sugar that contribute to our massively growing population that are overweight and obese.

So watch out!

Choose Fish, Meat and Eggs Instead

As far as food goes, dark, fattier fish, like salmon and trout are some of your best omega-3 fat sources. But, as we said, not everyone likes fish or enjoys its smell. Also, fish have contamination issues (which we'll talk about a bit later in this report).

To help meet some of our omega-3 needs, we now can buy eggs rich in omega-3 DHA. These come from hens fed diets containing fish meal, which increases the amount of DHA in the yolk.

These eggs are shown in research investigations to increase the EPA and DHA content of your blood, which helps prevent disease and disability (Smuts CM et al 2003).

Another natural source of EPA and DHA is grass-fed meats (McAfee AJ et al, 2010). Cows, bison and lamb who are allowed to feed naturally off the land, rather than being fed corn-rich diets (like most meat in our country...), naturally accumulate less total body fat and have a higher content of EPA and DHA in their muscle tissues. Eating these meats also has been shown to improve the EPA and DHA blood content in humans.

Functional Foods with DHA

Not everyone likes fish, is scared of eggs, and can't afford to eat grass-fed meat (way too expensive!). So the food industry is adding DHA to many popular food items in an attempt to improve our health (and increase their sales).

When you go shopping, you might notice more and more foods with DHA added to them. Foods like DHA-enriched juice and DHA-milk are hot items on the shelves today.

The DHA in these products come from algal oil (aka, algae), which has been shown in certain industry-funded investigations to be safe and pose no adverse effects (Fedorova-Dahms I et al, 2010). DHA algal oil is rich in DHA and contains some EPA - but at a much lower dose of EPA than fish oil. Research investigations have shown that algal oil does enrich tissues with DHA just as well as fish oil, and raises EPA slightly.

The reason why these products focus on the DHA content rather than the EPA is because algal oil is richer in DHA than EPA, while DHA is considered to be a more potent brain nutrient. However, EPA is more beneficial for preventing mental illnesses and combating mood disorders (Ross BM et al, 2007).

Therefore, you may still need to look for other ways to get EPA in your diet.

Dietary Supplements

If you hate fish, dietary supplements are usually the most efficient way to get EPA and DHA in your body - oils from salmon, sardines and krill are some of the most popular and beneficial ways to get these fats in supplemental form.

But, as you'll learn in this report, there are reasons why fish oil supplements may be worse for you than they are beneficial, making other options of these necessary fats more ideal.

Even your doctor will agree with this information, but sometimes he/she fails to tell you all these details (or doesn't know). That's why it's good to be an informed consumer.

Special Ingredients, Special Functions

The reason your doctor touts omega-3s as a panacea that you should take is because they actually have a multitude of health benefits including:

- Prevention of blood clots and high blood pressure that lead to heart attacks and stroke
- Reduced risk of sudden deaths from coronary heart disease
- Decreased blood triglycerides
- Improved glucose metabolism and diabetes prevention
- Reduction of PMS symptoms and other mood stabilizing effects
- Protection from bone loss
- Anti-inflammatory effects
- Anti-obesity effects
- And more...

These recommendations from your doctor are also given by large health organizations such as the National Academy of Sciences and the American Heart Association.

Basically, omega-3s are one of the super heroes in our food supply - they fight disease and help us maintain normal whole-body homeostasis.

Happy Hearts

One of the biggest health effects of omega-3s is their ability to curtail incidences of heart disease and improve heart function.

According to both primary and secondary prevention studies, consumption of omega-3 fatty acids, fish, and marine oil reduces all-cause mortality and various CVD outcomes such as sudden death, cardiac death, and myocardial infarction.

Animal and isolated organ/cell culture studies demonstrate that omega-3 fatty acids affect cellular functions involved in ensuring a normal heart rate and coronary blood flow.

One of the most consistent mechanisms by which omega-3 oils reduce heart disease risk, is by lowering blood triglyceride levels and mildly reducing blood pressure. Other benefits include improving blood glucose concentrations and helping to prevent insulin insensitivity.

Happy Brains

Your brain is actually rich in fats, especially the omega-3 fat, DHA.

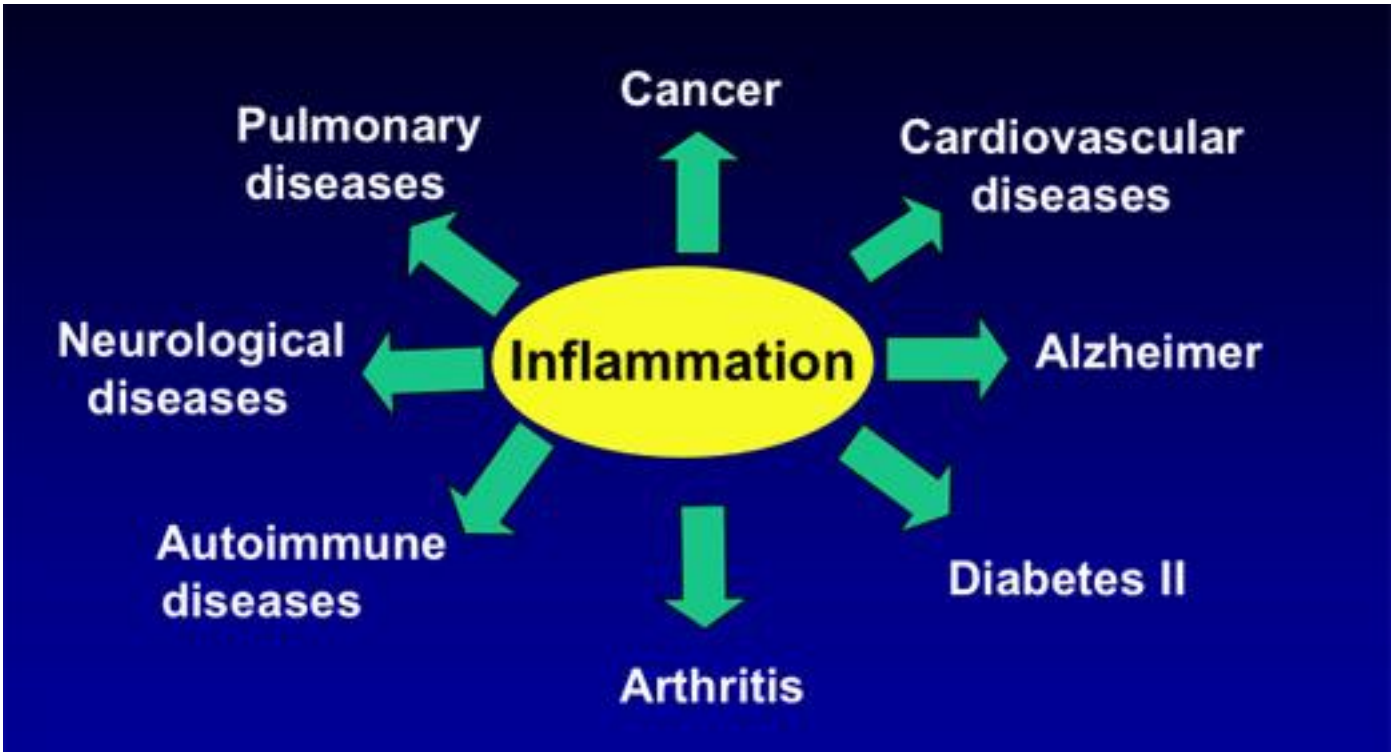
Brains lacking DHA are more likely to be prone to depression, schizophrenia and bipolar disorder. ADHD is also associated with low blood EPA and DHA, while depression can be reduced with EPA + DHA treatment.

Also, people with mild Alzheimer's disease given EPA + DHA supplements have been shown to have improved cognitive scores after 6 months of treatment.

Finally, beginning from the day you were conceived, your body accumulated DHA and EPA in your central nervous system cell membranes because of their importance for normal brain, eye, muscle, and nerve functioning.

Decreased inflammation

Scientists are now discovering that almost every major disease that inflicts modern day society is related to increased inflammation. Enhanced inflammatory processes are usually found from heart disease, to cancer, to diabetes, to Crohn's disease (Ling Q eta l, 2008), to pancreatitis (Foitzik T et al 2002).



The omega-3 DHA is required to produce one member of a family of compounds called resolvins that participate in the body's response to inflammation. The DHA-derived resolving, in particular, helps to reduce inflammation brought about by ischemic insults (reductions in blood flow).

EPA also helps to temper inflammatory responses by decreasing production of pro-inflammatory compounds such as cytokines. In most diseases, cytokines are a major issue that underlies the damaging processes in the body. As such, EPA is also beneficial.

Should You Trust Your Doctor's Recommendations?

Even though omega-3s, specifically EPA and DHA, are incredibly beneficial for your health, your doctor's recommendations to take fish oil and eat more fish as a solution may not be in your best interests.

(Disclaimer: We are not your physician nor are we providing medical advice. We are simply reminding you it is your RIGHT to ask for further information from your doctor when they recommend any drug or supplement. Always follow your doctor's recommendations.)

This is because of contamination issues that you can't see, smell, or taste, but still has detrimental effects against your health.

The Problems with Fish

When you were a kid, your parents probably told you that fish was "brain food" and you probably didn't really comprehend what this meant, until now.

Fish is considered healthy for our brains because it contains our star omega-3 fats, EPA and DHA, which (as you learned above) are important for disease prevention, brain development, memory, and prevention of neurocognitive disorders, like Alzheimer's disease.

However, lately we're learning that some fish, and too much of these fish, may actually be harmful to our brains.

Government health agencies, including the American Heart Association, do recommend that fish be eaten twice per week to supply your body with essential omega-3 fatty acids. However, it makes this recommendation with a qualifying statement:

"Some types of fish may contain high levels of mercury, PCBs (polychlorinated biphenyls), dioxins and other environmental contaminants. Levels of these substances are generally highest in older, larger predatory fish and marine mammals."

Mercury Madness

Have you ever heard of the term "Mad as a Hatter?"

Well, this refers to the severe brain and nervous system damage that occurred in workers who made felt top hats. These men and women became mentally ill and were often given the label, "mad," as in "crazy."

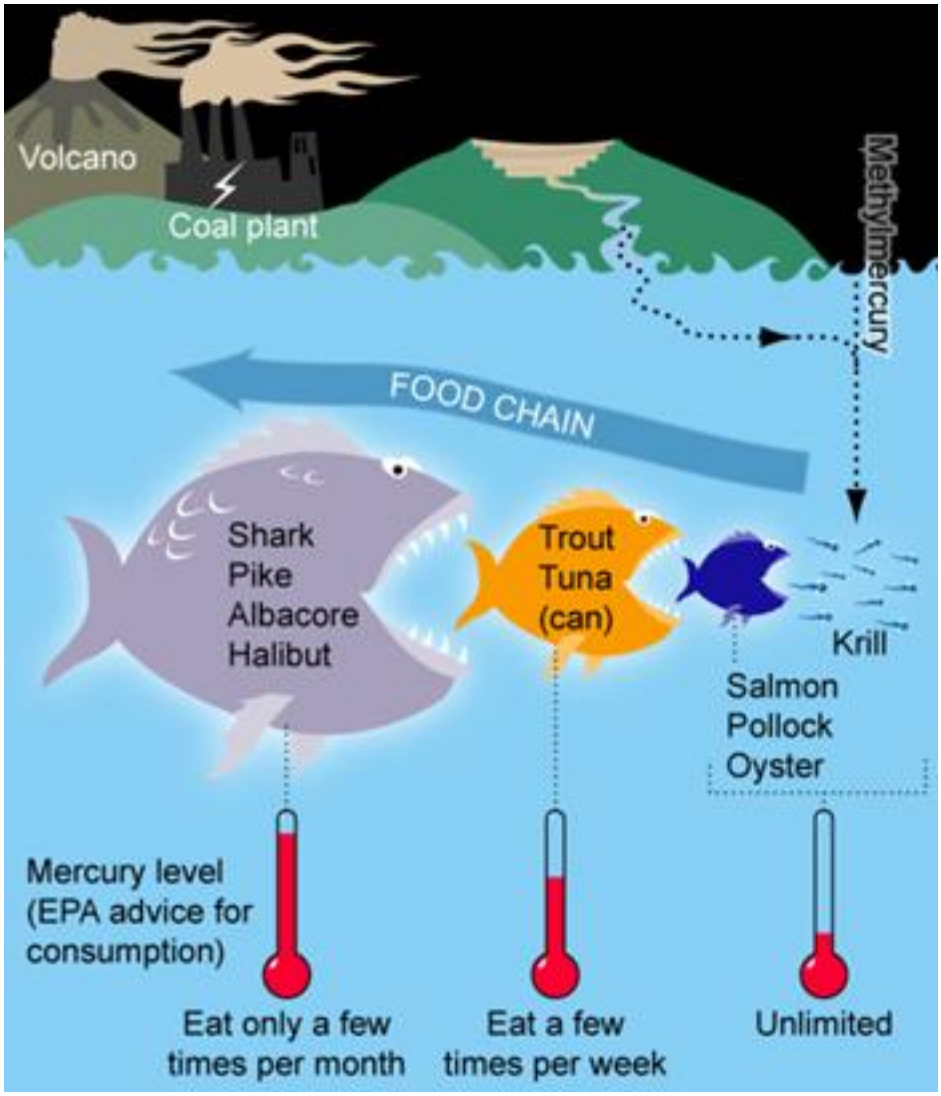
Thankfully mercury is not used in the process anymore, but it still has the same effects in our bodies, albeit from other sources.

Where Does Mercury Come From?

One of the greatest sources of human mercury exposure today is from the consumption of fish, although some plants and animals also contain some mercury due to bioaccumulation of mercury from the soil, water and air.

Fish contain mercury because the waters in which they swim in (i.e., our oceans, lakes, and streams) have become polluted with mercury and other contaminates from common industrial processes, like coal plants and gold mining, and natural earth processes, like volcanoes.

This mercury and pollutants become deposited in the fish, with larger fish containing more, simply due to their ingestion of smaller fish that also contain mercury.



The following table shows you which fish are high, moderate, and low in mercury, so you can make the best decisions for your health. When possible, choose low-mercury fish and shellfish most often.

Guide to mercury levels in different varieties of fish and shellfish

LOW-MERCURY FISH AND SHELLFISH

VERY LOW	BELOW AVERAGE
Shrimp	Pollock
Sardines	Atlantic Mackerel
Tilapia	Anchovies, Herring & Shad
Oysters & Mussels	Flounder, Sole & Plaice
Clams	Crabs
Scallops	Pike
Salmon	Butterfish
Crayfish	Catfish
Freshwater Trout	Squid
Ocean Perch & Mullet	Atlantic Croaker
	Whitefish

MODERATE-MERCURY FISH AND SHELLFISH

ABOVE AVERAGE	MODERATELY HIGH
Pacific Mackerel (Chub)	Carp & Buffalofish
Smelt	Halibut
Atlantic Tilefish	Sea Trout
Cod	Sablefish
Caned Light Tuna	Lingcod & Scorpionfish
Spiny Lobster	Sea Bass
Snapper, Porgy, Sheepshead	Pacific Croaker
Skate	American Lobster
Freshwater Perch	Freshwater Bass
Haddock, Hake, Monkfish	Bluefish

HIGH-MERCURY FISH

HIGH	VERY HIGH
Canned Albacore Tuna	King Mackerel
Spanish Mackerel	Swordfish
Fresh/Frozen Tuna	Shark
Grouper	Gulf Tilefish
Marlin	Tuna Sushi/Bluefin Tuna
Orange Roughy	

Who Needs to Stay Away from Mercury?

Pregnant women and young children in America are advised to avoid eating fish with the highest level of mercury contamination we commonly eat, which include shark, swordfish, king mackerel, and albacore tuna.

They are also recommended to limit their intake of fish of lower mercury contents to no more than 12 ounces per week (canned light tuna, salmon, and catfish) and check local advisories about the safety of fish caught in local lakes, rivers, and coastal areas.

This is because for pregnant women, mercury crosses the placenta and goes right to the brain and nervous system of a developing fetus, with potentially disastrous consequences - children born to mothers exposed to high levels of mercury suffer from sensory impairment (vision, hearing, and speech), disturbed sensation, and a lack of coordination.

High mercury intake in children is quite a problem too. Children will present with symptoms such as red cheeks, nose, and lips; loss of hair, teeth, and nails; muscle weakness, and increased sensitivity to light. The EPA has recognized that children are more sensitive to mercury exposure than adults, and so developed the "Fish Kids" campaign to increase awareness of this preventable issue.

Despite the warnings targeted at women and children, all of us need to be careful of our mercury intake. This means that we should choose the lowest mercury-containing fish as often as possible, and eat higher mercury fish infrequently.

Other Toxic Chemicals

All fish, whether big or small, are contaminated with PCBs (polychlorinated biphenyls), and similar compounds, such as agricultural pesticides like DDT and chlordane.

Even though many of these nasty chemicals have been banned or discontinued from most industrial and agricultural processes, they still persist in the environment and affect our food supply (Aliyu MH et al, 2010). These chemicals, like mercury, are linked to severe problems with skin, reproduction, development, and behavior.

PCBs are also known carcinogens (cause cancer) and can cause severe birth defects.

(NOTE: other foods, like beef, chicken, and plants are also affected by these chemicals to some degree.)

The amount of PCBs and chemicals in fish and other foods is small compared to direct exposure, but there is much uncertainty to what level is safe or harmless.

In the fish population, fattier fish (like salmon) contain more chemicals (PCBs) than lean fish. And, farmed fish, who are fed fish meal for food more frequently (to make them grow bigger faster) than they would in the wild, contain more chemicals than their free cousins.

Therefore, to minimize your exposure, choose wild smaller fish like wild Alaskan salmon or white fish, and avoid fattier fish like albacore tuna, herring, farmed salmon and mackerel.

Fishy Colors and Additives

Another issue with fish, aside from chemicals found within, is that some fish are injected with dyes after they are harvested to improve how they look on the ice bed at your grocery store. This happens mostly with red farmed fish such as salmon and trout to increase the chance that you'll buy them.

So, that bright red piece of farmed salmon you're thinking of purchasing for dinner may actually be dyed with unnatural red coloring instead of being colored naturally red with the unique carotenoid astaxanthin. Salmon normally get their deep red color from eating crustaceans, but, in farmed salmon, they are fed diets of ground up fish, corn, soy, and vitamins and minerals, making their flesh lighter in color.

Another drawback of fish is the fact that most fish products are covered in breading and sugary sauces - just like chicken (we don't know why people think chicken nuggets are superior to a chicken breast, but they do...). This just adds unnecessary carbohydrates, sugars, and sometimes, soy protein - that we all need less of in our diets.

If you really have a hard time with a plain piece of fish, try it in a stir-fry or use it instead of beef for making chili. Be experimental, but just stay away from the breaded fish sticks - those are also usually accompanied with tartar sauce which is just basically soy bean oil, vinegar and sugar (and not very healthy).

Fish Farming is Harming

Fish farms were created to help reduce the burden of commercial fishing on our environment. However, like other large-scale animal farming, the processes that go into this mass production of food are not with our best interests in mind.

You can find fish farms in almost every state in the U.S., with the exception of Alaska which bans salmon farms to protect its wild salmon industry.

Fish farms are selected fish that will grow as fast and as big as possible, in order to provide a faster and larger profit. This means genetic alteration of the fish, or genetic selection.

These fish also are fed inappropriate diets that change their fatty acid composition and increase their chemical content (farmed fish are higher in chemicals), and are sometimes given growth hormones or antibiotics.

Some of these farms also expose genetically altered fish to our environment, which results in competition with the wild fish and potentially an even further decline of their natural population.

For example, The Coastal Alliance for Aquaculture Reform reports that farmed salmon are confined in pools of antibiotics, pesticides, chemicals and wastes, which then spill into local waters. Also, millions of these genetically altered salmon escape into the wild each year, which changes the natural genetic basis of the population and reduces biodiversity.

Overall, avoid farmed salmon at all times; it's not good for you or the environment - choose wild salmon always when out to dinner or when cooking at home.

(Note: the beef and chicken industries also have issues of their own, but that's beyond the scope of this report.)

What should you do?

Many people have decided that they'll never eat fish because of all the problems with it, but that's not the answer. Fish, like salmon, are still the most important sources of omega-3 EPA and DHA, and a rich source of protein and other healthy fats.

When choosing fish, choose wisely by:

- selecting wild fish from local areas,
- choosing lower mercury, smaller fish, over larger, predatory fish, and
- avoiding the breading and sauces that often accompany many fish fillets.

You can also supplement with purified fish oil.

However, as you'll learn next, fish oil may not actually be as pure as you think...

The Problems with Fish Oil

Since most people turn up their noses to the sight and smell of fish, or they're scared of the chemicals and additives, they turn to fish oil to meet their omega-3 needs.

In fact, fish oil purchases have steadily climbed over the past decade, with weekly sales totaling $6.48 million for the week ending January 2, 2010 (Winter J, 2010).

This is even despite several lawsuits filed in the past couple of years against fish oil suppliers and retailers due to PCB contamination above the "safe-harbor" limit for human consumption.

Yes, that's right. Even though fish oil products claim to be free of chemicals found in fish, there are several fish oil producers who are cutting corners and not purifying fish oil in the way it should be.

Also, this increased demand for fish oil puts even further stress on the fishing and fish farming industry, which drives down our fish populations even further.

Fish Oil Purification

In order to extract oil from fish, there are a few different processes the fish go through. Fish are typically "cooked" in either a cold or hot process method to coagulate the fish proteins and release the oil from the cells.

The oil is then strained and pressed to remove any unwanted solids. Then the oil is purified by different types of distillation processes, like molecular distillation or steam distillation, which removes toxins and chemicals and concentrates the EPA and DHA.

Molecular distillation is a process in which the fish oils are first converted into an ester form and then heated, causing certain other compounds, such as contaminants, to be removed. Distillation may also reduce levels of some potentially beneficial compounds (such as small amounts of vitamins) found in fish oil, but this has to be weighed against the benefit of removing contaminants.

Other refinement techniques used on fish oils include "winterization" in which the oil is chilled, permitting for separation and removal of saturated fats which naturally occur in fish oil.

However, sometimes these purification methods are imperfect, and more toxins than are acceptable are left in the oils. Since manufacturers are not required to state the amount of PCBs, dioxins, or mercury in the finished product (unless it's in California), they might not care much about the purification results.

PCBs and Other Harmful Chemicals Found in Fish Oils

In March 2010, several well-known fish oil brands were exposed for containing harmful levels of PCBs and other dangerous chemicals.

An environmental group in California, known as the Mateel Environmental Justice Foundation, sued certain fish oil companies because they broke California law (Proposition 65) which states that any food containing trace amounts of these harmful chemicals must be labeled. California is currently the only state that requires labeling to warn consumers that a product contains PCBs.

The lawyers in this suit stated that "People buy fish oil products to improve their health, not put it at risk..."

The initial defendants named were CVS Pharmacy, Inc., General Nutrition Corp. (GNC), Now Health Group, Inc., Omega Protein, Inc., Pharmavite LLC (Nature Made brand), Rite Aid Corp., Solgar, Inc., and TwinLab Corp.

The goal of this lawsuit was not just to warn consumers, but to force these companies to reduce PCB levels in their products.

Since this lawsuit, independent testing agencies, such as Consumer Lab, have looked into other brands and suppliers of fish oil and tested them for both safety/purity and freshness. They looked at freshness because rancid fish oils have an extremely unpleasant odor and may have undesirable side effects. They also examined the content of EPA and DHA to see if the product actually contained what it claimed.

In a test of 54 products, as far as purity goes, all supplements were found to contain at least trace levels of PCBs, and some had lead. However, all products, except one, did not exceed contamination "limits" set by the EPA.

Therefore, if a fish oil supplement claims to be "free of," "void of," or have "no detectable PCBs," they might not be being truthful.

None of the products tested by CL contained mercury levels over 10 ppb (parts per billion). By comparison, levels in fish range from 10 to 1,000 ppb, depending on the type.

Rancid Oils Are Not Fresh

A common complaint of fish oil supplementation is getting "fish burps" - when you experience fishy reflux after taking certain fish oil supplements.

But, that's not your only concern.

Excuse me!

Fish oil supplements that come back up on you are often spoiled, or rancid. While spoilage does not necessarily indicate lower amounts of omega-3s, it does indicate that the oils have gone from being healthful to being potentially harmful.

Rancid, spoiled oils contain oxidized fats, called lipid peroxides.

The measurement of rancidity/spoilage is called the TOTOX value, meaning Total Oxidative value, and evaluates the content of peroxides. Rancid oils have high TOTOX values and high amounts of lipid peroxides.

These oxidized fats (peroxides) start free radical cascades (the pathways of aging and disease) that can damage the fat-containing membranes of your cells. They also deplete your body's stores of antioxidants, because this is how your body tries to defend itself from the free radicals.

Misleading Labeling

Another problem identified by Consumer Labs in its investigation of fish oil supplements, is that some companies do not contain the amount of EPA and DHA stated on the label.

This is also the case with other types of dietary supplements, and fish oils are not immune to this problem.

Concentrations of EPA and DHA in fish oil can vary as much as tenfold - from as little as 8% to 80% of the fish oil content. Concentration depends on what fish the oil came from, how the oil from the fish was processed, and other ingredients added to the product.

Also problematic were certain claims on supplements, which are not FDA-defined terms and, therefore, not regulated. Also, "Tested in FDA Approved Laboratories" is false, because the FDA does not approve any analytical labs, so these claims are not correct.

More Fish Oil is Not Always Better

Since fish oils have been discovered to be beneficial for health, some people think that if a little bit is good, a lot must be better.

But, that's not the case, especially with fish oil.

Fish oils containing omega-3 fatty acids, work in the body like blood thinners and blood pressure reducers. They're also polyunsaturated fats, which are highly unstable and susceptible to oxidation.

Adults (usually those over 40) often make the mistake of taking too much fish oil along with blood thinners such as aspirin, or sometimes prescription thinners, like Coumadin. In these people, even the slightest cut can result in a bleeding event that takes several minutes to clot. In worse cases, internal bleeding can occur (Bays HE, 2007).

Or, they take too much fish oil and end up with drastically low blood pressure. Upon standing up quickly, they become very dizzy, or might even pass out momentarily.

Excessive fish oil also may raise your blood level of polyunsaturates so high, that your cells become extremely susceptible to free radical damage (Sidhu KS et al, 2003).

You see, your cell membranes need to contain a certain balance of unsaturated and saturated fatty acids for them to resist attack from dangerous free radicals. If your cells are mostly unsaturated from taking high doses of fish oil, you increase the chance that they can become damaged from oxidative stress, which increases your likelihood of cancer (Cejas P et al, 2004) and advanced aging (Lui D et al, 2010).

One way to combat this pro-oxidative state is by taking very high doses of anti-oxidants, but a smarter move would be to take less fish oil.

According to omega-3 fatty acid experts, healthy individuals need only take up to 1 gram of EPA + DHA (combined) per day to achieve the multitude of health benefits (Jordan RG, 2010; Martin JM and Stapleton RD, 2010; Saravanan P et al, 2010). Individuals with heart disease, cognitive decline, or who consume a higher-fat diet, may benefit from additional doses of omega-3s (Forsythe CE et al, 2010).

Choose Fish Oil Carefully

By now we know that we need omega-3 fatty acids in our bodies for optimal health and wellness. However, if we eat fish, we increase our exposures to mercury, PCBs, dioxins, and other dangerous chemicals. Alternatively, if we decide to supplement with fish oil, we can't be assured that the pills are contaminate-free or actually provide what they say they provide.

It's unnerving to not know if you can trust certain brands of fish oil; and, if you do choose the wrong one, are you doing more harm than good?

Isn't it time we look at other options for omega-3s?

Choosing the Right Omega-3 Source

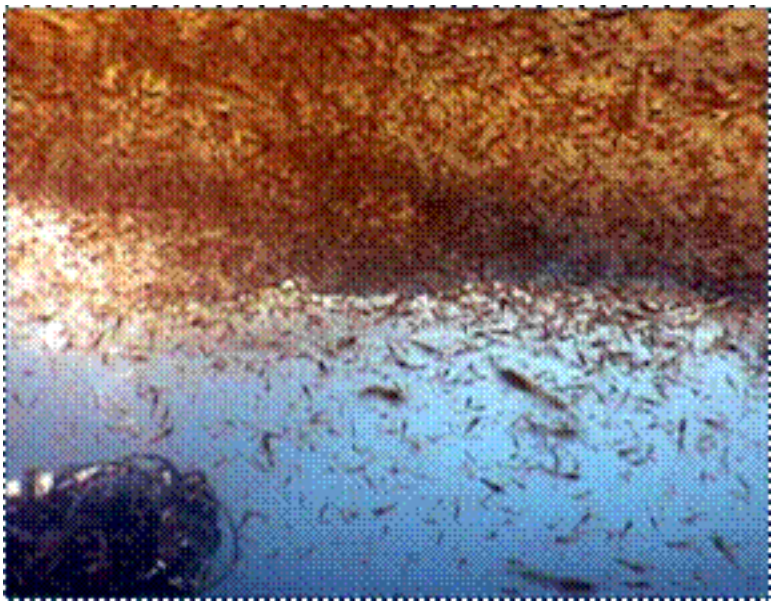
If you've read this entire report up to this section, you're probably saying to yourself,

"I need to get omega-3s in my diet for the health of my heart, mind, and body, but I can't eat fish everyday (to reduce mercury exposure) and fish oils are not reliable enough (contain PCBs and might be rancid). Plus, omega-3 fish, such as salmon, are over-consumed and are becoming endangered! What other options do I have!"?

Well, you have every right to be concerned, but, thankfully, there is another option that is going to help you meet your body's essential omega-3 requirements.

Better Options for Omega-3s

Another way to get good doses of EPA and DHA is with krill oil.



Krill oil comes from krill, which are tiny shrimp-like creatures that make up the lion's share of the oceanic biomass. The shrimp-like krill may only be a couple of inches long, but they make up for it in numbers. So large is their collective weight, or "biomass," that it's measured in the billions of tons.

The EPA and DHA in krill oil are shown to be just as effective as those in fish oil - even despite the fact that krill oil contains less total EPA and DHA per gram.

Despite the term "krill oil," krill aren't oily at all, consisting of over 65% protein.

The small amount of fat they do carry on their tiny lean frames is approximately 20% omega-3s, including plenty of EPA and DHA.

Another attractive feature with krill is their natural content of powerful antioxidants such as the carotenoid, astaxanthin, which is responsible for also giving salmon its bright red color.

Astaxanthin **is a *powerful* antioxidant that is more effective than other natural antioxidants like beta-carotene, alpha-tocopherol, lycopene and lutein, which makes it even more beneficial for fighting diseases influenced by oxidative damage, like diabetes and heart disease.**

But, before we go on to discuss their health benefits, let's first talk about the sustainability and safety of krill.

Krill Are More Eco-Friendly

Since krill are quite low on the food chain compared to most other fish and seafood, they contain fewer environmental toxins. This means less risk of mercury, PCBs, dioxins, and other chemicals related to nervous system disorders, cancer and other diseases.

Their large biomass, furthermore, means that they can be harvested fairly easily with lower risk of depleting their populations. From this perspective, you could argue that the use of krill supplements is more "eco-friendly."

An argument against krill use for their oil is that they're the primary food source for certain whales, seals, penguins and other animals. Its harvesting has been a subject of environmental debate.

In defense, the krill population is plentiful and only a small percentage of total krill biomass is being harvested, most of which is used in fish meal and not for direct human consumption.

There are also catch limits for sustainable exploitation established by a conservation commission known as CCAMLR, and registration and monitoring is required of harvesting vessels. According to the CCAMLR, only 18% or less of the current krill allowable catch limit is used today. If the krill allowable catch reaches a certain threshold, all fishing must stop until the catch is reallocated.

Also, only 2% of the total global catch of krill oil is used for supplements - the remaining 88% goes to feeding fish and fishing.

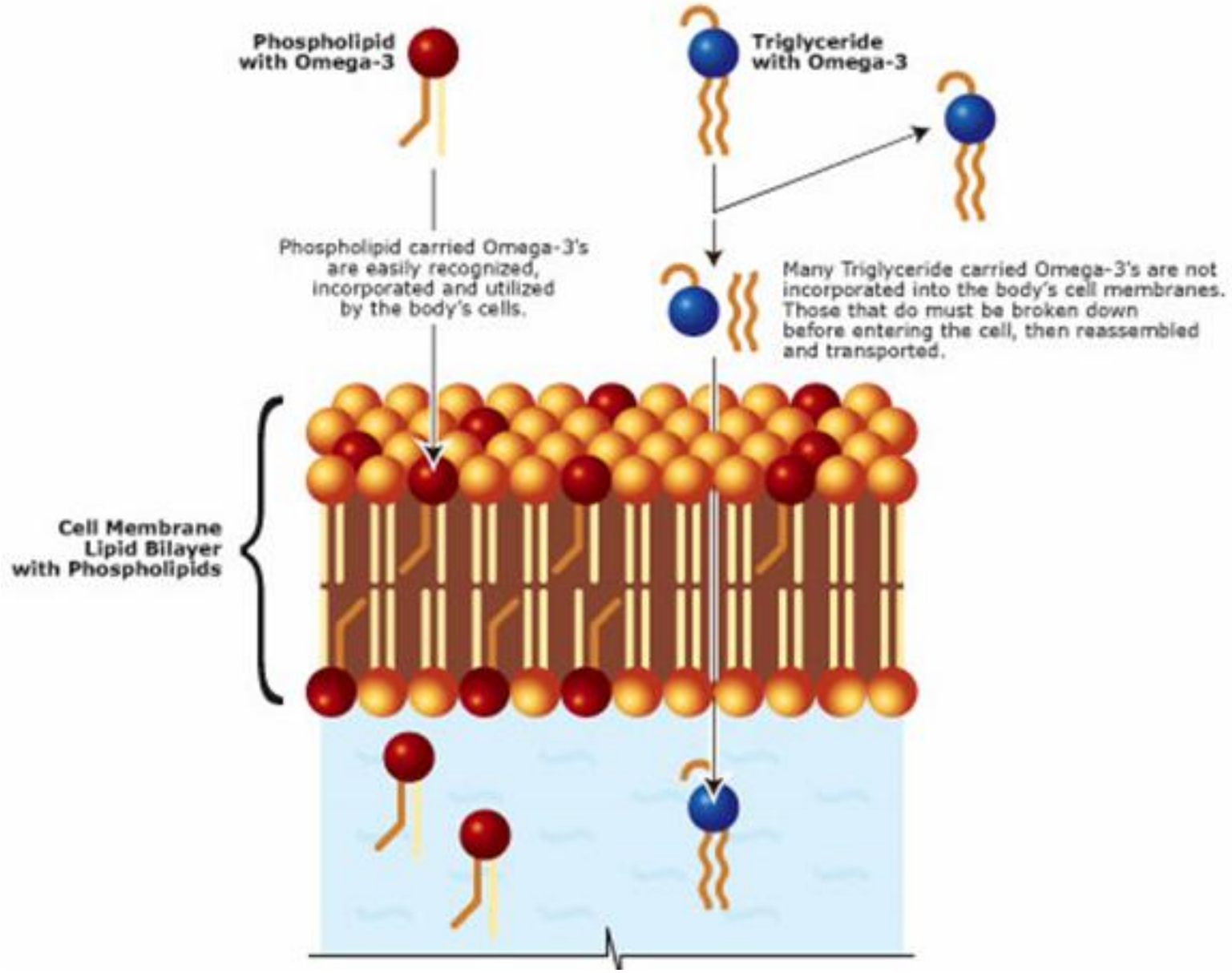
The key thing here is that krill do present a safer, more sustainable option to meet our omega-3 fatty acid requirements, and there are limits and monitoring in place to protect their populations for other animals.

Overall, the krill fishery is managed much better, and more rigorously, than most other fisheries in the world.

Krill Super Phospholipids

Unlike typical fish oil lipids, which carry all of their EPA and DHA in triglycerides, most of the EPA and DHA in krill is linked to phospholipids, particularly phosphatidylcholine (PC).

The benefits of carrying EPA and DHA in this phospholipid form, is that they are efficiently taken up by your body upon ingestion.



This is in contrast to triglycerides, which is what fish oils are made up of, whose absorption can be affected by other dietary factors, such as calcium and fiber.

To prove the enhanced uptake, consider this study:

In a randomized, double-blind trial, researchers gave healthy subjects 2 g/day (two 500-mg capsules with each of two meals) of krill oil, fish oil or olive oil (serving as the control). Subjects taking the krill oil supplement received 212 mg of EPA and 90 mg DHA per day, whereas those taking the fish oil got 216 mg EPA and 178 mg DHA (Maki KC et al, 2009).

After 4 weeks, the krill oil group showed an increase in plasma EPA levels of about 90% over baseline, whereas subjects in the fish oil group showed an increase in EPA levels of about 82%, which was considered equivalent.

Despite similar levels of EPA in the two oils, plasma levels of EPA rose more with krill oil (an increase of 178 Ã?Âµmol/L) than fish oil (an increase of 131 Ã?Âµmol/L).

Also, even though krill provided half the amount of DHA as fish oil, plasma levels of DHA were the same for both groups at the end of the study (476 Ã?Âµmol/L for the krill group and 478 for the fish group).

As you can see, this small crustacean packs a big punch; for less DHA in krill, you get the same improvements in blood fatty acid composition as you do with fish oil.

What the study described above suggests is that krill oil can raise EPA and DHA levels just as effectively as fish oil likely due to its phospholipid form.

This study is supported by another very recent investigation that also shows that krill oil is just as effective as fish oil, but at lower levels (Ulven SM et al, 2010).

A total of 113 people with normal or slightly elevated total blood cholesterol were randomized into three groups:

- 36 were given 6 capsules of 3g krill oil a day, with 543mg of EHA + DHA
- 40 were given 3 capsules of 1.8g fish oil a day, with 864mg of EPA + DHA
- 37 received no supplementation and acted as controls

After 7 weeks, the researchers found that there was a significant increase in plasma EPA, DHA, and DPA in both the krill oil and fish oil groups compared to the control group, and no significant differences were seen between the fish oil and the krill oil groups.

Again, this study confirms that a lower dose of EPA and DHA is required when taking krill phospholipids, compared to the triglyceride form of fish oil.

Krill May Reduce Your Risk for Heart Disease

Elevated blood LDL cholesterol, triglycerides, and low HDL are well-known risk factors for heart disease. In a recent double-blind trial, krill oil was compared to fish oil in men and women with high LDL cholesterol and triglycerides.

For 90 days, these people either took 1-1.5 grams per day or 2-3 grams per day krill oil (depending on BMI), 3g of fish oil, or a placebo.

At its lowest dose (1-1.5 g/day), krill oil significantly lowered LDL cholesterol and increased HDL, compared to fish oil and placebo groups.

At 2 g/day, krill also significantly lowered triglycerides, while the highest krill intake (3 g/day) did not produce any additional benefit.

The fish oil lowered cholesterol only marginally and failed to lower triglycerides at all.

In the most recent study by researchers in Norway (Ulven SM et al, 2010), there was a clinically significant improvement in the HDL/TG ratio in subjects taking either the fish oil or the krill oil.

Therefore, even at low doses, and doses of EPA and DHA less than fish oil, krill oil may reduce your risk factors for heart disease and keep your blood lipid profile healthy.

Krill Oil May Reduce PMS

PMS is one of those things that women fear each month. Not only does it make you crabby and crampy, it often makes you crave foods you'd never eat any other time.

However, krill oil has been shown to provide some relief:

Seventy women with diagnosed PMS were treated with either 2 grams of krill oil or fish oil for three months. Both oils provided 600 mg of EPA and DHA.

Although both oils reduced abdominal discomfort and swelling, dose for dose, krill oil outperformed fish oil for minimizing joint pain, irritability, depression, stress, and bloating.

The women receiving krill also took less analgesic pain medication during the peri-menstrual days than the fish oil group (Sampalis F et al, 2003).

Therefore, krill oil supplementation may help you feel much better around that dreaded "TOM."

Krill May Calm Arthritis Symptoms

Men and women with arthritis battle fires in the joints of their hands, knees, elbows, and any area meant to move more fluidly than it does now.

In a recent study, 90 people with high CRP and either heart disease, rheumatoid arthritis or osteoarthritis, were given 300 mg/day krill oil or a placebo.

After just 7 days, krill oil significantly reduced CRP by 19% in all subjects compared to the placebo, while also significantly reducing pain scores, stiffness, and improving functional movement (Deutsch L, 2007).

If you're suffering from arthritic symptoms, krill oil may be the answer to your pain in just a very short time.

Antioxidant Astaxanthin

As mentioned, krill oil is a rich source of the super-antioxidant astaxanthin, found within the phospholipids.

Recently, this powerhouse has been shown to protect DNA from damage and boost immune response in humans.

In one investigation, 42 young women were given 2 mg of astaxanthin for eight weeks. The astaxanthin lowered their blood markers of DNA destruction and increased activity of their natural killer cells, indicating increased immune function.

In another study, astaxanthin was shown to protect body cells from the damaging effects of high glucose, as occurs with diabetes.

Thus, supplementing with krill oil for a source of astaxanthin may keep your cells and DNA healthy and young, while protecting you from the dangerous effects of hyperglycemia.

Astaxanthin Protects Against Spoilage

Also, because of this naturally occurring antioxidant, krill oil is MUCH less likely to go rancid or spoil because the astaxanthin is fighting off oxidative damage within the oil.

To ensure your oil doesn't go rancid, even with the astaxanthin, store your oil in a cool, dark place, away from heat and light.

Choosing the Best Krill Oil

Just like choosing any other dietary supplement, you want to ensure you're getting one that is tested for purity and quality. Just because a company is using krill oil doesn't mean that they using the proper processes to ensure the TOTOX levels are low and that the krill oil doesn't turn rancid. So don't buy just any krill oil because you may still be getting a poorly processed krill oil that will turn rancid much quicker than a hiqh quality krill oil.

With Jaylab Pro Omega Icon, you can be assured that you're getting what you want - a product that doesn't contain environmental contaminants, with purity testing to prove it, and it contains the stated amounts of omega-3 fatty acids claimed on the label (backed by independent analysis).

Also, ensure your krill oil comes from an environmentally sustainable supplier. At Jaylab Pro, we only use an eco-friendly source of krill oil - one that adheres to the rules of the CCAMLR and one that has the environment's best interests at heart.

*** Special Limited Time Offer ***

With its safer nutritional profile, its sustainability index and its powerful EPA and DHA content, along with astaxanthin, krill oil is a superior source for your omega-3 needs.

So to thank you for taking the time to educate yourself on the benefits of Krill Oil, and the dangers of Fish Oil, by clicking the link below you will have the chance to not only receive FREE US SHIPPING on your order of Jaylab Pro Omega Icon, but you can also save over $70.00 as well!

But you must act immediately because we only have a limited number of bottles of Jaylab Pro Omega Icon available at this special pricing.

Click here to save over $70.00 and receive FREE US SHIPPING >>

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