

**Excerpted chapter from their forthcoming new book:**

## **7 - FISH OIL FALLACIES: DEBUNKING THE FISH OIL MYTH**

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### **From Professor Peskin:**

Some years ago, one of my earliest professional supporters, Abram Ber, M.D., a renowned homeopathic and preventive medicine physician, contacted me. He told me that for 25 years he recommended various EFA supplements, including fish oil, obtaining only mediocre clinical results.<sup>1</sup> He went on to say that when he implemented the Peskin (PEO) protocol, he experienced clinical success in over 100 of his patients. This chapter is about the common misconception that fish oil supplements are “the answer” to health issues, and that the more fish you have in your diet, the healthier you are. **WRONG!**

After reading this chapter and the next, you will understand precisely why fish oil not only fails, but also why fish oil supplements are very harmful to humans. Once we make the scientific case against fish oil, we will then explain what is required for the correct EFA supplementation in your diet in chapter 8.

**Note to the reader: This chapter has a separate section, “Scientific Support.” Those who want the essential science that supports the premises in this chapter will find it at the end of the chapter. You will see footnotes at the bottom of these pages, but for your convenience, you can find further supporting references in the “Scientific Support” section for the eighteen “Inconvenient Truths” about fish oil you will be reading about in this chapter.**

This chapter will present the side of fish oil supplements that you have likely never seen. These consistent negative findings about fish oil are known. Those recommending fish oil have chosen to ignore them.

Much of what we present here is verified through independently confirmed experiments—not open to interpretation or discussion. They show failure, failure, and more failure. It’s your health and you have the right to be fully informed in your health choices.

I want to make it clear that I started with no bias for or against fish oil. As all honest scientists should, I let the science lead me to the appropriate conclusion. It was only after many years of studying the physiologic causes of cancer and heart disease, utilizing the seminal work of the Nobel Prize-winning giant in medicine/physiology, Otto Warburg, MD, PhD, that I gained sufficient insight to know that fish oil could not possibly work as claimed. There are no known metabolic pathways in the body capable of performing its supposed “miracles.” What is a metabolic pathway? It is a series of chemical reactions that have to happen, either by breaking down or building up specific raw materials to enable a specific result. If there is no metabolic pathway provided by nature for fish oil, the body cannot possibly be benefitted by it, and potentially can be harmed.

Most physicians have been fooled into the fish oil fallacy with so-called “evidence-based” medicine and *group consensus statements*, in which medical associations agree on what should be used to treat certain ailments, regardless of scientific basis. In the early chapters you saw how most physicians and their patients are misled by the use of pseudo-scientific statistics. Orthopedic spine surgeon Lee D. Hieb, MD, is president of the Association of American Physicians and Surgeons. She has written a superb article entitled, “Why your doctor is out of date”<sup>2</sup> that has a lot to say about the disreputable turn that science has taken recently in the direction of using consensus instead of the scientific method. The scientific method requires objective, reproducible results. Consensus requires nothing more than agreement between people for any reason whatsoever. The better we understand this, the better we can protect our health:

- “Few things in life are as powerful as peer pressure. **Physicians**, like football players, stockbrokers, and many others, tend to slap each other on the back (at least figuratively) and **aspire to be part of the “in**

crowd,” *reinforcing current beliefs* at professional meetings and in publications *while ignoring the unpopular guys*—whose ideas may ultimately prove correct.

- “Adding insult to injury is the creeping odium [disrepute] of consensus in science—the notion that truth is discovered by majority vote among investigators, *not* by careful application of testing and *scientific method*.”
- “...As Michael Crichton, MD, stated, ‘Let’s be clear: the work of **science has nothing to do whatever with consensus**. Consensus is the business of politics [and finance]. **Science**, on the contrary, **requires only one investigator who happens to be right**, which means that he or she has **results that are verifiable by reference to the real world.**’
- “The greatest scientists in history are great precisely because they broke with the consensus. In science consensus is *irrelevant*. What is relevant are reproducible results.
- “There is no such thing as consensus science. **If it’s consensus, it isn’t science...**’
- “Best practice is essentially consensus applied to medicine [and the health field in general]. University clinicians decide on the best way to treat something; then this is codified and disseminated to all practitioners. **What was first sold as a ‘suggestion’ has now become writ [‘medical law’]**.”
- “**Evidence-based medicine (EBM) only makes this problem worse.** It sounds good. Evidence. What’s not to like? But EBM is an upside-down approach to medical progress: In the past, clinicians faced with novel problems were able to offer treatments they thought might be effective—based not only on the literature, but on their *understanding of basic science*, their **clinical experience**, and their **judgment**—as long as the treatment would ‘first do no harm.’ With EBM, on the other hand, we are prohibited from offering treatment unless we can show, preferably with ‘high powered,’ long-term **studies**, that the treatment is effective.... This has led to incredible **statistical gymnastics being applied to collections of studies generating meta-analysis papers** [analysis of collections of studies] that **resemble numerology more than clinical medicine.**” (Emphasis added.)

***Life-Systems Engineering Science Commentary:*** Tragically today, physicians can’t use science and experience alone for their patients. For hundreds of years everyone thought the earth was flat, yet everyone was, indeed, WRONG. “Everyone agreeing” never makes it automatically correct. With respect to analyzing the efficacy of fish oil we have *physiology and biochemistry* that inexplicably *aren’t being utilized*. Regardless of who makes the fish oil suggestion, please think clearly BEFORE taking the medical recommendation.

Never forget that “studies” aren’t science. Study after study shout fish oil’s miraculous claims but frequently end with the nebulous “we don’t know how it works.” This should give you pause. Despite brilliant researchers, countless money, and extremely dedicated physicians, the medical profession gets virtually nowhere because its fundamental approach with respect to fish oil is seriously flawed, as Dr. Hieb’s enlightened article explains.

Widespread mistakes are nothing new in the science field or medical fields, as the brilliant Galileo stated back in the 1600s:

**In questions of science, the authority of a thousand is not worth the humble reasoning of a single individual.**

**Galileo Galilei, 1564-1642**

You may have read that there are some 15,000+ “studies” on fish oil. That immense number alone begs the question: why so many? If something works, very few confirmations are required. Delving deeper, we find what you haven’t been told: that many of those studies show failure, failure, and more failure.

Nobel Prize-winner in physics and one of my idols, Richard Feynman, laid these ground rules for true science:

“It does not make any difference how smart you are, who made the guess, or what his name is—if it **disagrees with real-life results, it is wrong. That is all there is to it.**”

He also said:

“Details that could throw doubt on your interpretation must be given, if you know them. If you make a theory, for example, and advertise it, or put it out, then you must also put down all the facts that disagree with it.”

Here’s a simple test regarding fish oil. Look in the mirror. Do you see a gilled creature looking back? Hardly. Okay, I’m being facetious, but take a look at the facts. Cold-water fish (the type we are told is best) live in temperatures as low as 32° degrees F and even warm water fish live in 70° degree F waters. However, humans live with body temperatures close to 100° F (98.6°F). At that temperature, fish oil quickly becomes rancid (spoiled).

If you were thrown into ice-cold, frigid waters, you’d suffer hyperthermia and likely die. You would essentially freeze like a human ice cube. Fish don’t freeze because they have increased amounts of the essential fatty acid derivatives EPA and DHA compared to what naturally occurs in humans. In a fish, the EPA/DHA acts as “biological antifreeze.” The only other way to prevent a fish from becoming a block of solid ice in these frigid waters would be to incorporate cellular alcohol, but then the fish would be constantly drunk. Don’t laugh. This is a correct analogy. So with just a bit of insight, you can see that something “smells fishy” with the medical profession’s claim, coming “out of the blue,” that we need fish oil.

The much more accurate, 21<sup>st</sup> century information that you will be reading here paints a very different picture of fish oil and its hazards than the out-dated information still being used by much of the health care community. The popular press often goes out of its way to hide these failures but if you can identify them as red flags, you can protect yourself.

I want you to take you through a small sampling of the medical journal articles detailing fish oil’s failures, which I will introduce with what I like to call “Inconvenient Truths.”

Let’s start by examining a brain disease that should be an obvious prime beneficiary of supplemental fish oil, Alzheimer’s....

### ***Inconvenient Truth #1: DHA and fish oil are shown as completely worthless in treatment for Alzheimer’s.***

All marine-based (from the sea) oils like krill, squid, mussels, and algae have only the derivatives of essential fatty acids (EFAs)—EPA and DHA—as their “active ingredients.” Many of the studies that tout the “wonderful properties” of fish oil and other marine oils cite the brain and nervous system as major beneficiaries. But that simply doesn’t prove to be the case.

A current, very well-designed study published in *Journal of the American Medical Association (JAMA)*,<sup>3</sup> dispels the naïve notion that DHA and therefore fish oil is beneficial in cognitive disorders. Researchers recently concluded that DHA failed to slow the cognitive and functional decline in the population of Alzheimer disease victims studied—those with mild to moderate impairment with low DHA levels (in other words, those who could have and should have seen a significant improvement).

The medical community should have embraced this 2010 *JAMA* article and its findings should have immediately *called into question* the use of fish oil among health care providers. It didn’t get the headlines that it deserved. On the contrary, at an anti-aging conference, a prominent physician attempted to “explain away the failure” by stating, “fish oil prevents Alzheimer’s but once you have Alzheimer’s it can’t help.”

If the disease could have been prevented by fish oil, it would also have been reversed by fish oil, since it would require the same metabolic pathways. But no one said a word, and the topic was quickly changed.

If you examine the science at the back of this chapter, you will see that, even when the levels of these derivatives are measured as low in the subjects, increasing them **fails to help a group that should clearly benefit—Alzheimer’s patients**. This is noteworthy because if fish oil were to be of any benefit, it should be with respect to maladies in the brain.

***Life-Systems Engineering Science Commentary:*** Once again, a carefully controlled study shows that the active ingredient in fish oil (DHA) has no benefit for a human being as a remedy for Alzheimer's—it is a failure. The EFA derivative docosahexaenoic acid (DHA) is the most abundant long-chain polyunsaturated fatty acid in the brain. Alzheimer sufferers were given the DHA supplement (algae-based) for 18 months. If a marine-based oil were beneficial we should certainly see a positive result in Alzheimer's patients. This length of time is more than sufficient to see an improvement. However, there wasn't any improvement whatsoever. This is a seminal experiment and its importance cannot and should not be overlooked.

Next we will look at the claim that fish oil offers protection against cancer, and the lack of **sufficient *real-life* corroboration of this claim**, as the following clearly shows...

### ***Inconvenient Truth #2: Fish oil actually increases risk of colon cancer.***

A 2010 article published in *Medical News Today* and a top medical journal, *Cancer Research*,<sup>4</sup> revealed some startling information. A group of researchers at Michigan State University, led by Jenifer Fenton, a food science and human nutrition researcher, hypothesized that if they fed fish oil enriched with DHA to mice, their cancer risk would decrease. *But they found just the opposite.* When the mice were given high doses of fish oil, they developed severe colitis (inflammation) and then deadly, late-stage cancer of the lining of the colon (adenocarcinoma), in only four weeks following inflammation. Fenton said, “The findings support a ***growing body of literature implicating harmful effects of high doses of fish oil consumption in relation to certain diseases.***”

***Life-Systems Engineering Science Commentary:*** As always, we caution that one should be wary of animal studies, as they often do not translate consistently to results in humans. However, while mice are herbivores, if challenged, they will eat anything (omnivore physiology). Additionally, EFA metabolism is considered to be comparable in both humans and mice.<sup>5</sup> Therefore, we agree that this result showing increased colon cancer from fish oil needs to be taken very seriously.

Once again we see confirmation of failure and even horrific effects reported from fish oil supplementation. Of significant note is the fact that Fenton and her fellow researchers *fully expected the fish oil to have the opposite and extremely positive effect of reducing cancer risk—not to increase the risk of contracting cancer.*

From my prior work, I discovered there is no omega-3 component to epithelial tissue—those cells that line glands and hollow organs, and comprise the skin. Therefore there is no omega-3 deficiency in this tissue, and it cannot possibly benefit from omega-3 supplementation. *Quite the opposite: a pharmacological overdose (discussed shortly) of omega-3 derivatives is predicted to harm such tissue.* This study has now demonstrated that to be correct: pharmacological overdoses of omega-3 derivatives from fish oil actually do harm such tissue by causing an *increase* of cancer, and particularly, adenocarcinoma, which occurs in epithelial-based tissue (such as the lining of the colon).

**WARNING: Fish oil supplement manufacturers often recommend “high dose” amounts. The prevalent pharmacological overdoses of DHA and EPA from fish oil supplements range from 20-fold overdoses of DHA to 250- to 500-fold overdoses of EPA—far more than your body would ever produce on its own. Even so-called “low dose” fish oil supplementation approaches these overdose values.**

In her seminal experiment, Fenton comments, “Currently, there is a call by academics and the food industry to establish dietary guidelines for omega-3 consumption....” We agree. ***This researcher is to be commended for questioning such arbitrary, haphazardly dangerous amounts.***

This extremely negative finding is hardly uncommon. It is good that finally an increasing number of negatives about fish oil supplementation are being exposed and published in the medical journals. The truth is slowly being recognized by more of the medical and nutritional community.

### **Inconvenient Truth #3: Fish oil decreases proper immune system responses.**

In fact, *the negative results of fish oil supplementation and its increased risk of cancer were already discussed and published back in June of 2000* at the 4th Congress of The International Society for the Study of Fatty Acids and Lipids (ISSFAL), which met in Tsukuba, Japan. At that meeting of scientists, an article was presented showing that a wide range of immune cell responses were decreased by the consumption of fish oil (omega-3 derivatives), thus increasing cellular bacteria (infection) and impairing the body's ability to kill tumor cells.<sup>6</sup>

**This 2000 warning was confirmed in 2005, a fact brought to my attention by** renowned interventional cardiologist David Sim, MD. The label for a triglyceride-reducing drug called Omacor®, which consists of approximately 90% active fish oil (EPA/DHA), warned that **the number of people who developed infections (reduced immunity) while taking the drug was double** compared with those not taking the drug. Additionally, users suffered more flu syndrome, **also indicating a lowered immune system**, and were four times more likely to suffer a skin rash **while taking the drug.**<sup>7</sup>

The above clearly confirms the decreased immunity associated with fish oil, which no cancer victim wants.

In 2006, we got a warning from the National Cancer Institute that fish oil would fail to protect against cancer.<sup>8</sup> In their study of more than 700,000 individuals, published in the January 25, 2006, issue of the *Journal of the American Medical Association*, it was reported that there was nothing to link omega-3 fatty acids with reduced risk of overall occurrence of cancer, or reduced risk of any single type of cancer — no metabolic pathways.

**Life-Systems Engineering Science Commentary: Again, fish fails to enhance the immune system and therefore offer protection against cancer. In fact, it decreases immune system response. The only reason researchers ever said it was a help to the immune system is by using tortured logic following from the naïve notion that anything related to omega-6 series EFAs is harmful. Chapter 8, The Power of PEOs—Parent Essential Oils: The Essential Difference, will turn this notion on its head.**

### **Inconvenient Truth #4: Cod liver oil significantly increases risk of skin cancer.**

Even back in 1997, the negative relationship between fish oil and skin cancer was known. A study of cod liver oil intake by over 50,000 Norwegian men and women over a 12-year period found a strong, increased risk for melanoma, the most dangerous type of skin cancer.<sup>9</sup> In fact there was approximately *three times the incidence of skin cancer in the cod liver oil users*. The study was particularly strong, based on its unbiased approach, high participation and response rate, the fact that dietary data was collected prior to the onset of cancer, and that each participant had a complete follow-up regarding occurrences of cancer, death and emigration. In fact, all physicians and medical professionals in Norway have to report malignant diseases to the Cancer Registry, and 98% of these cases are confirmed with microscopic tissue analysis. This guarantees superb tracking and confirmation of cancer cases.

**Life-Systems Engineering Science Commentary: This article came from Norway; they didn't want to see a negative finding like this! They were compelled to publish it but they certainly didn't publicize it. This deplorable result of cod liver oil can't be ignored, and you were never told. Once again, fish oil causes or is associated with an increase in cancer, not prevention of cancer.**

After seeing this shocking article, I knew that even in spite of rampant sunscreen protection, and persistent warnings to stay out of the sun, increased skin cancer cases had to accompany the dazzling rise in fish oil sales. And they do.

What about skin cancer rates in the United States? Here are four studies showing that the relationship between increase in fish oil use and skin cancer incidence is widespread.

**Skin cancer doubled.** According to a 2006 study, published in the *Archives of Dermatology* in 2010, the incidence of skin cancer almost doubled from 1994 (little fish oil use) to 2006. It described nonmelanoma skin can-

cer (NMSC) as the most common malignancy in the United States. In the Medicare fee-for-service population, in particular, procedures for skin cancer increased 76.9% in this time period, from 1.15 million to 2 million.<sup>10</sup>

**Skin cancer continues to increase.** Is the incidence of cutaneous (skin) melanoma, the most lethal of the skin cancers, continuing to increase? It is, and especially in women. A 2008 study<sup>11</sup> published in the *Journal of Investigative Dermatology* reported that, among U.S. Caucasian women, there was an increase from 1973 (no fish oil use) to 2004 of from 5.5 to 13.9 per 100,000.

**Increase in severity of skin cancer.** A study published in the *Journal of Investigative Dermatology* in 2009<sup>12</sup> reported a 3.1% increase every year from 1992 (little fish oil use) through 2004, making malignant melanoma one of the fastest growing cancers in the world. This has been true both for men and for women. The researchers were careful to observe that this increase was not due to better reporting, but to a true increase in severity.

**Worldwide epidemic.** A 2010 study the journal *Actas Dermosifiliogr* reported that the incidence of skin cancer continues to increase and can now be considered a worldwide epidemic.<sup>13</sup>

**Life-Systems Engineering Science Commentary: What a tragic picture for skin cancer. With the current emphasis on everyone to use sunscreen, skin cancer rates should be expected to highly decrease, not increase. But, as you can see, the opposite is true.**

**Isn't it interesting to correlate the enormous rise in fish oil, becoming America's #1 supplement, right along with the astronomical growth rate of melanoma, the opposite of what was expected! Chapter 8 will present the solution to the skin cancer risk, and as you've likely guessed, the solution has absolutely nothing to do with taking fish oil. But ceasing its use is a significant step in the right direction.**

We will now turn our attention to fish oil and diabetes, and the prevention of cardiovascular disease....

### **Inconvenient Truth #5: Fish oil is WORTHLESS in preventing heart disease in Type I diabetic women.**

That fish and fish oil can help to prevent cardiovascular disease (CVD) has been shouted from every mountain-top. However, few well-controlled human experiments have examined whether fish oil supplements actually did decrease heart disease risk. As you will discover, when true scientific experiments are correctly conducted, the results show that fish oil is worthless at best and harmful at worst.

A study done at the University of Pittsburgh Graduate School of Public Health on the relationship between omega-3 fatty acids, type 1 diabetes, and CVD<sup>14</sup> reported that the consumption of higher amounts of omega-3 fatty acids (such as found in fish oil) did not lower the risk of heart disease for women with Type 1 diabetes—the population having the greatest cardiovascular disease risk.

**Life-Systems Engineering Science Commentary: We see how fish oil fails in preventing cardiovascular disease in the case of Type I diabetic women—a treatment group that needs as much assistance as possible because diabetics have a significantly increased risk of CVD. This an ideal population to see if the fish oil stops heart disease because there is such a high propensity of heart disease risk in the group.**

If the above information wasn't shocking enough, there is more bad news regarding fish oil supplements. Diabetes is the #1 epidemic in America and now the world. And fish oil makes the diabetic condition worse, not better....

### **Inconvenient Truth #6: Glycemic (blood sugar) control WORSENS during fish oil administration.**<sup>15</sup>

Consistent with fish oil's utter failure to help diabetic women's coronary heart disease as detailed above, is its effect in raising blood sugars, thereby accelerating diabetes.

This 1989 study administered fish oil to four insulin-dependent diabetic patients for six months. Though their body weights did not change, a key measure of their blood sugar levels increased 16%. Thus their blood sugar control worsened, and they all had to increase their insulin dosage throughout the six-month period in order to maintain a constant blood sugar level. The study concluded the fish oil consumption worsens glycemic tolerance. This is an awful effect for a diabetic.

Retired ophthalmic surgeon Ira Goodman, MD, conveyed to me a few years ago that none of the physicians he knew understood that fish oil inherently raises fasting blood sugar levels.

**“I had been taking high-dose fish oil for many years in an attempt to prevent cardiovascular disease and retard inflammation. However, I noticed that my *fasting blood sugars (FBS) were always in the high range (100-115)* and measurements of oxidative stress also reflected high levels. *No one could explain it since my hemoglobin A1c always stayed low. Since switching to the parent EFAs (PEOs), my FBS came down to 84 (21% decrease). My lipids also looked better than ever. I think many of our colleagues do not appreciate the dangers of high dose fish oil...*”**

**—Ira L Goodman, MD**

**Ophthalmic Surgeon (retired), Holistic Medicine**

There is additional confirmation. A 2003 study showed that fish oil significantly reduced the rate of glucose metabolic clearance.<sup>16</sup> Insulin response to an oral glucose challenge, after three weeks of supplementation, decreased by 40%. To make matters worse, it was noted that the composition of the membranes in the body remained altered for 18 weeks after the fish oil was stopped.

***Life-Systems Engineering Science Commentary:* Although technical, here’s what you need to know: For any diabetic, glycemic / blood glucose control is critical, especially for Type 1s (non-insulin producing). A1c is a term every diabetic knows well. It is a measure used to calculate the average blood glucose level of the patient. Unless you are diabetic, the body normally tightly regulates this automatically. LOWER IS BETTER.**

It takes a full 18 weeks to reverse the negative effect of the incorporation of EPA/DHA from fish oil into the cell membrane. This four-month time frame is important, as it coincides precisely with the time frame of significant vascular improvement in the exciting IOWA experiment you’ll be reading about later in this book.

You already learned about the dangers of carbohydrates in chapter 5, and the advantage of getting it out of the bloodstream so it can’t overload tissues like the eyes and nervous system. Insulin is the substance that treats the glucose created from carbohydrates. “Blunting” or minimizing the insulin response means that the insulin a diabetic takes won’t work as efficiently, or alternatively, their body’s natural production of insulin won’t work as efficiently.

When insulin’s action is compromised, a person can develop retinopathy, leading to blindness. Kidney damage is another common concern of physicians for their diabetic patients. Too frequently diabetics also suffer nerve damage, called neuropathy, to their feet, significantly impairing their balance and ability to walk. No one wants this harmful blunting effect that fish oil causes, which allows blood glucose levels to increase and remain higher than they should.

Fish oil’s negative effect is both very consistent and significant in patients. What was startling in the research was the fact that even *in healthy patients, the insulin response also decreased 40%*.

Why does fish oil have such a dreadful effect? Simple. As you shall discover in the next chapter, fish oil overloads your 100 trillion cell membranes with DHA/EPA, which is something that nature never intended. It significantly impairs the effectiveness of the insulin your pancreas produces. With the diabetes

**epidemic ever increasing, do you really want to unnecessarily add an additional concern? I don't and now you don't have to.**

### ***Inconvenient Truth #7: Consumption of "fatty fish" decreases insulin levels.***

What about the effect of fish oil on Type II diabetic patients? In 2011, researchers looked at the effects on Type II diabetic patients of eating more fish. Those results were consistent with the results on Type I diabetics. A study published in the *American Journal of Clinical Nutrition* showed that blood sugars decreased significantly with omega-6 from non-fatty fish, as opposed to the levels of those eating the higher concentrations of omega-3 from fatty fish.<sup>17</sup> "Fatty fish" caused the problem!

It is important to note that the fatty fish consumed by diabetic patients contained approximately 14 times more omega-3 series, which includes lots of EPA/DHA—the type found in fish oil—than parent omega-6 from lower fat fish. The fatty fish given to the diabetics caused a net 21% decrease from baseline (admission) level in insulin output compared to those not eating the fatty fish! And, as we will be discussing in greater detail later in the book, the higher parent omega-6/low fatty fish diet successfully LOWERED blood glucose.

When will nutritionists and physicians start connecting the dots with science so their patients get the best treatment? We've got to stop re-creating the wheel. It's been 23 years where the only change is the ever-increasing number of CREATED diabetics!

Warning —A note to athletes: When exercising, your muscles utilize glucose. Muscle's GLUT 4 receptor requires plenty of glucose as muscle's #1 fuel during training. GLUT4 is a protein responsible for transporting glucose into cells, and is regulated by insulin. Fish oil raises blood sugar levels and makes insulin requirements increase, too, but it doesn't quite keep up. The high blood sugar stays in the bloodstream, not the tissue. Therefore, fish oil STARVES your muscle of the fuel needed for maximum performance.

Now that you have a more accurate picture of the hazards of fish oil, let's go into more depth about the problems with marine oils.

### **Krill Oil Quickly Decomposes**

Krill is a shrimp-like crustacean about a half-inch long. It tastes awful and is not normally human food but is still promoted by supplement manufacturers. No human would ever naturally eat krill, as it is a food for whales, seals, penguins, squid, various fish, and sea birds, not humans. Most of the krill catch is used for aquaculture and aquarium feeds, as bait in sport fishing, or in the pharmaceutical industry.

So why is krill oil the current "oil du jour?" Could it possibly be because it is cheap and plentiful? Unfortunately, it has little to do with what a human being actually requires for good health.

And there is the problem with krill quickly going bad. A presentation delivered at the 99th American Oil Chemists' Society (AOCS—the authoritative group in the field) stated, "***Krill decompose very quickly***, so the current thinking is either to dry them aboard the vessel and bring the powder back to a land-based plant for oil extraction or to enzymatically digest the krill and then separate the oil."<sup>18</sup> Regardless of its inherent level of supposed antioxidants, krill rapidly becomes rancid, which is a tremendous issue.

While krill oil often has lower amounts of EPA (approximately 130 mg) and DHA (70 mg) *per capsule* than fish oil, that dosage is still excessive and potentially harmful. (And how many people take just one a day?) Given these facts, is it any wonder that fish oil categorically fails in experimental medical tests? Recommending derivative EFA overloads without compensating PEOs (or omega-6-based derivatives) is even worse. There is a critical omega-6 and omega-3 series derivative balance that is needed, as will be explained fully in chapter 8. There is an insurmountable disparity between the correct balance and what fish oil has to offer, making it harmful to most patients. The *IOWA experiment presented in chapter 8 confirms fish oil's enormous negative effect.*

### What are the Required EPA/DHA Levels?

The next section regarding EPA and DHA levels is complicated and technical. There is simply no way around this. Its inherent complication is one reason why so few physicians and so few health professionals understand it. However, it is important that you see for yourself exactly what is published in the medical journals and available to physicians, healthcare professionals, and the fish oil supplement manufacturers. Don't worry; the *Life-Systems Engineering Science Commentary* section will make understanding it easy.

Most physicians do not understand that derivatives are already made in the body from the parent EFAs on an “*as-needed basis*” in *extremely limited quantities*. Consumption of derivatives from food is therefore unnecessary. Fish oil's “active ingredients” consist entirely of the derivatives DHA and EPA in supraphysiologic amounts (amounts far greater than the body needs), thereby overdosing the patient and causing damage instead of health.

Contrary to what physicians have been told, the enzymes that produce these derivatives (the elongating delta-6 and delta-5 desaturase enzymes) are not impaired in the vast majority of patients. Furthermore, the naturally occurring physiologic amounts of EFA derivatives are extremely small. In fact, over 95%–99% of parent EFAs stay in parent form. *There is a maximum of less than 2% natural conversion of alpha linolenic acid (ALA), which is an omega-3 fatty acid, to the derivatives EPA and DHA, and this conversion is easily achieved in the general population. You shall soon see that even babies adequately convert these parent essential oils (PEOs) into derivatives.* With the great fish oil fallacy, these significant physiologic facts have been obscured.

**The key point is that fish oil supplements overdose the body with from 20 times to 400 times more DHA/EPA than your body would ever produce on its own. This is a supraphysiologic amount or what I would term a *pharmaceutical overdose*.**

The next question to answer is how well does the body actually make use of these supplemented derivatives?

### ***Inconvenient Truth #8: Amount of supplemented DHA incorporated into the brain is insignificant.***

From researchers affiliated with America's prestigious National Institutes of Health comes the next bombshell. In a meticulous experiment, published in the prestigious *Journal of Lipid Research* in 2009,<sup>19</sup> ***14 healthy humans were given DHA, the active ingredient*** in fish oil, krill oil, squid oil, and all marine-based oils. Then the incorporation into their brains of the DHA was measured using positron emission tomography (PET). The entire net DHA incorporation was less than 3.8 mg/day (less than 0.005 gram), which is nearly insignificant considering there are 454 grams in a pound. What amazes me is that the standard deviation is extremely small ( $\pm 1.7$  mg/day).  $3.8 \pm 1.7$  mg/day shows the entire range of DHA incorporation in all patients varies by just a factor of 2! We are all much more alike than we are different, as I like to say. Even with the variations in brain size among subjects, there *isn't a factor of 20Xs, 10Xs, or 5xs* among subjects but a mere 2Xs variation. It is “case closed for DHA requirements. DHA is considered the active ingredient in fish oil, krill oil, squid oil, and all marine-based oils.

***Life-Systems Engineering Science Commentary: This highly technical experiment is seminal and is absolutely necessary for you to understand. Following are the essentials that you need to know.***

**ALA, the parent omega-3, is metabolized in mammals into the derivative EPA. EPA is further metabolized to the derivative DHA. Outdated 20<sup>th</sup> century studies carried out on the rates of these conversions mistakenly reported excessively high conversion rates. Therefore, ALA (parent omega-3) supplementation was criticized by the medical community as inadequate, leading to “low formation” or “slow conversion” of DHA as being insufficient to meet the requirement of the main target organ, the brain.**

**In this more current experiment discussed above, *the incorporation of circulating DHA in the human brain was evaluated using highly accurate positron emission tomography.* The researchers did a superb**

analysis. The results were shocking. We have been misled with outdated information even more than I had previously imagined.

The scientists note that the amount of DHA in the brain is from 1992 brain analysis but the brain's DHA level is very easy to measure via high-resolution chromatography. The main concern in the evaluation of low formation rate of DHA is the *naturally long* half-life of DHA in brain tissue. *Half-life* refers to the amount of time required for half of the amount to degrade and require replacement. The half-life of DHA in the human brain is two and a half years. The daily incorporation of supplemented DHA into the human brain is a mere  $3.8 \pm 1.7$  mg/day!

Understand that this small amount is what the body needs. Overdosing your body with huge supplemental amounts of derivatives isn't positive—only harmful. Fish oil won't solve problems, as clearly demonstrated by the experiment whereby Alzheimer's victims weren't helped by extra DHA!

Dr. Rowen showed me a superb experiment he'll discuss in his section later in this chapter, where monkeys were given DHA. Because it becomes rancid immediately, liver damage resulted. The researchers warned that no amount of antioxidants could fix the damage!

Your body's antioxidants are forced to combat the areas first receiving the overdose of fish oil that users receive, like the liver. But guess what? The precious anti-oxidants your brain requires are diverted to this overdosed area, where they are overwhelmed and can't do the job. Severe damage is the result in both the overloaded tissue and areas where antioxidants are now in short supply.

Is the fish oil experiment another explanation for the recent massive Alzheimer's rates, as fish oil becomes America's #1 supplement? The question has to be asked.

### ***Inconvenient Truth #9: EFA derivatives are made by the body "as needed."***

I thank my esteemed colleague Soram Khalsa, MD, an extraordinary Beverly Hills, California-based, board-certified internist utilizing complementary medicine, for sending me a recent article (2008) about an experiment which independently confirms that PEOs allow creation of plenty of omega-3 derivatives.<sup>20</sup>

Background: An increase in omega-3 fatty acids in plasma (particularly EPA and DHA) is observed after the consumption of fish oil-enriched supplements. It was hypothesized that because ALA was a direct precursor of EPA and DHA, then ALA-enriched supplements such as flax might have a similar effect. But this is challenged because of the *supposedly abnormally low conversion rate* of ALA into DHA by the body.

The study concluded that the consumption of ALA-enriched supplements over a 12-week period elevated two derivatives: erythrocyte (red blood cell) EPA, and docosapentaeic acid (DPA). DPA is a third derivative of ALA—having a slightly different molecular structure—with its own importance in membrane structure and interaction with cholesterol. This experiment *showed the effectiveness of ALA conversion*, resulting in the building of red blood cells. It further stated that the general population could achieve the amounts of ALA required to obtain these effects easily by modifying their diet.

When it comes to medical science, I am extremely hard to satisfy, but I'm now thoroughly convinced, and you should be, too.

Twenty-first century analytic methods are superior to the old, outdated analyses. I'll conclude this section with another confirmation from 2005, bringing the total to four. Have you or your physician seen any of these? Not likely.

An experiment published in the *Journal of Lipid Research* in 2005<sup>21</sup> reported that an increase of dietary ALA did not result in an increase of ALA conversion—meaning, after a certain level is reached, your body does not need or want more derivatives regardless of how much can easily be made. It also discussed the fact that unless the experiment includes the use of radioactive isotopes that will directly appear in specific tissue, true conversion

rates will be overestimated and will provide only approximate relative rates of transfer. The absence of this more accurate method of experimentation in the past has misled many health professionals into thinking that the conversion rate of PEOs to derivatives is much higher than it actually is.

***Inconvenient Truth #10: The body only uses extremely small amounts of ALA to make DHA.***

Research at the United States Department of Agriculture's USDA food composition laboratory reported that only 0.2% of the ALA was synthesized into EPA, 63% of the EPA was available to make DPA, and 37% of that EPA was available to make DHA. *This translates to a mere natural net conversion rate of 0.046% of ALA to DHA!* Again, unlike what you are told by sellers of fish oil supplements, the body only uses extremely small amounts of ALA (0.2%) to ultimately convert to DHA.<sup>22</sup> Chapter 8 will detail the PEO amounts required to fully ensure adequate EFA compliance.

**As verified by the US Department of Agriculture and National Institutes of Health, the amounts of EPA/DHA naturally produced and needed by the body are much less than you are being told.**

***Inconvenient Truth #11: Amounts of EPA/DHA in fish oil are pharmacological plasma overdoses.***

One average 1,000 mg, health-food-grade fish oil capsule contains, on the low end, approximately 180 mg EPA and 120 mg DHA. Pharmaceutical-grade versions contain higher doses. Therefore, compared to naturally working with the body instead of force-feeding it what it doesn't want, fish oil supplements can still cause significant potential overdose compared to a parent omega-3 solution (consuming a reasonable 600 mg ALA), on the order of:

**This equates to the following *plasma overdoses*: EPA = 180 mg/1.5 mg = 120 times overdose; DHA = 120 mg/0.35 mg = 340 times overdose.**

A typical capsule of fish oil may contain 325 mg of EPA and 225 mg of DHA, with insignificant amounts of other omega-3 derivatives. Two capsules a day are recommended. This now totals 650 mg EPA and 450 mg DHA each day. Fish oil supplement manufacturers often recommend "high dose" amounts.

**Prevalent pharmacological overdoses of DHA and EPA from fish oil supplements range from 20-fold overdoses of DHA to 250- to 500-fold overdoses of EPA—far more than your body would ever produce on its own.**

Even so-called "low dose" fish oil supplementation approaches these overdose values. These overdoses alarm me, as they should you.

***Life-Systems Engineering Science Commentary: The above independently performed experiments in the 21<sup>st</sup> century are extremely well done with very sophisticated instrumentation. Using radioisotope tagging, the researchers specifically track where in the tissue the DHA/EPA from fish oil goes. Their results are not open to interpretation. When you compare what is naturally produced in your body when given adequate parent omegs-3 it is miniscule as compared to the common doses of EPA/DHA found in fish oil supplements. Overdoses of 20X–500X are easily possible on a daily basis. This doesn't even consider the fact that regardless of the amount of fish oil consumed, it still fails to solve virtually every condition that it is supposed to improve; we have never been more misled when it comes to the effectiveness and the safety of a nutritional supplement.***

Unfortunately, the world blindly follows America's lead even when we are wrong. There were other published warnings about the overestimation of "parent to derivative" amounts of EPA/DHA. In December of 2001, a European medical publication was unable to stop the great "fish oil fallacy," either. In the *European Journal of Clinical Investigations*, an article reported that the simple, standard method of analysis overestimates the conversion of ALA to EPA/DHA.<sup>23</sup>

***Inconvenient Truth #12: Babies DO produce the omega-6 derivative, arachidonic acid (AA), and the omega-3 derivative, DHA.***<sup>24</sup>

For decades, we have been told that adults and especially infants cannot produce longer-chain EFA derivatives like EPA/DHA. The conclusion, therefore, was that they needed derivative supplementation. But the data was incorrect with the truth available back in 1996.

In a study published in *Pediatric Research*, infants were given "parent" PEOs (LA and ALA). Isotope marking was utilized to see if infants at one month of age could produce these long-chain derivatives. The result was that they certainly can and do.

***Life-Systems Engineering Science Commentary: Once again, we see superb science overlooked. They even duplicated the natural LA/ALA (parent omega-6/-3 ratio) in mother's milk. When I came across this experiment in 2010, I intuitively knew the argument that claimed babies would suffer lack of a brain-building /neurologic system-building substance had to be incorrect; otherwise, a non-breast-fed baby would be both visually, neurologically, and mentally impaired. Because of extensive non-breast-milk feeding, we already know this is not the case. Hence, the supposition had to be wrong. And it is. Researchers not knowing of this finding continue to wrongly believe that most PEOs become derivatives and that babies can't produce them. This was an excellent long-term experiment.***

***Inconvenient Truth #13: Fish oil increases platelet aggregation.***<sup>25</sup>

America's #1 medical journal reported back in 1986 that, in patients with existing vascular heart disease, fish oil caused platelets to stick together (aggregate) and adhere to an artery wall.

***Life-Systems Engineering Science Commentary: Prostacyclin (PGI<sub>2</sub>) is the body's natural platelet anti-aggregatory/natural platelet anti-adhesive. The last thing a CVD patient needs is a reduction in this critical substance. CVD patients require more, NOT less PGI<sub>2</sub>. Decreased PGI<sub>2</sub> significantly increases, not decreases, the severity of heart attack—the opposite effect.***

***Inconvenient Truth #14: Fish were found to be worthless in decreasing abnormal heart rhythm (called atrial fibrillation, or AF).***

The Women's Health Initiative of 44,720 older women to determine what association, if any, there was between fish oil and atrial fibrillation did a study. As reported in *The American Journal of Cardiology* in 2010, eating fish did nothing to help an abnormal heartbeat.<sup>26</sup>

Here's more negative news of the incorrectness of the widespread omega-3 supplement overdose recommendations by physicians and nutritionists....

***Inconvenient Truth #15: Fish oil supplements increased sudden cardiac death in those with coronary heart disease.***

As published in the *European Journal of Clinical Nutrition* in 2003, a study was done which looked at patients with angina (severe heart pain caused by restricted blood flow) to see if their mortality could be reduced with changes in diet. The participants were divided into four groups. The first group was advised to eat two servings of oily fish weekly, or to take three capsules of fish oil daily. Another group was advised to eat fruit, veg-

etables and oats. The third group was given both suggestions, and the fourth group was a control. In no group was mortality reduced. But in the group that ate oily fish or fish oil capsules, mortality from cardiac death was increased. The subgroup taking the fish oil capsules had an even greater risk of sudden cardiac arrest.<sup>27</sup>

### ***Inconvenient Truth #16: Fish oil does not slow atherosclerosis.***

The following experiment, published in *Cardiovascular Research*, details the results of a randomized trial undertaken with the primary objective to clarify the effect of omega-3 polyunsaturated fatty acids on cerebral arteries or stroke.<sup>28</sup> Supplements were given to a selected group of participants who had coronary artery disease. After two years, there was no positive effect on the progression of atherosclerosis, determined by measuring the carotid arteries by ultrasound.

Contrary to what you are told about the supposed benefits of fish, fish oil supplements, and omega-3, the findings were that both **fish oil** groups, plus the control groups showed almost equal atherosclerotic progression. Fish oil **did not stop thickening of the artery**. On the contrary, the artery wall got thicker with fish oil ingestion!

Another experiment, this one by Harvard Medical School, showed similar results. As published in the *Journal of the American College of Cardiology* in 1995,<sup>29</sup> patients with coronary heart disease were either given six grams of fish oil or six grams of olive oil daily on a random basis. Coronary atherosclerosis progression was measured over a two-year period. The trial results were that fish oil treatment didn't result in any positive changes in the diameter of the arteries of the study subjects. This means that clogging was not decreased with the fish oil supplement.

**Life-Systems Engineering Science Commentary: These consistent FAILURES were published in 2003, 2002 and 1995, all showing the failure of fish oil to help reverse arterial occlusions (clogs) or arterial thickness, or prevent strokes (lack of oxygen to the brain). The 2003 result was that the group taking fish oil had the most deaths—the opposite of the desired result. If fish oil supplements worked, they should have been able to at least stop a preexisting arterial clog from worsening. If they couldn't, then there is no reason to assume that the fish oil could possibly prevent a clog from *beginning*. There would be no causal mechanism—no metabolic pathway that would allow that protective effect. Examining an existing clog's growth rate is a very good test, similar to examining the growth of an existing cancer tumor. When actual science, instead of merely consensus, was used, the results were predictable: Fish oil supplements alone were found worthless or hazardous.**

Let's continue by reviewing fish oil's failure in preventing inflammation. When the word "healthy" is used, it is merely observational; specifically, we are unaware of an existing health issue. It doesn't mean health issues don't exist. Therefore, in a population taken as "healthy," there are plenty of people who are truly unhealthy. Those unhealthy people must be helped if the treatment works. Keep that in mind.

### ***Inconvenient Truth #17: Fish oil does not decrease inflammation.***

**Maybe you've been told that consuming fish protects you against arterial inflammation. This is not the case**, as confirmed in an experiment published in the *European Journal of Clinical Nutrition* in 2009. In a 12-week, randomized, double-blind trial administered to healthy, middle-aged individuals, each received 3.5 grams per day of either fish oil or a placebo. The effect of fish oil was measured by monitoring 19 serum inflammatory markers—substances which increase in blood plasma when inflammation is present. The result was that the participants did not benefit from fish oil as an anti-inflammatory agent. In fact, fish oil supplementation was followed by a slight increase in all serum inflammatory markers, though the increases were not considered to be statistically significant.<sup>30</sup>

In the medical field C-reactive protein (CRP) is known to be a strong marker indicative of vascular problems. But guess what? A fish oil experiment published in a 2004 issue of *Current Atherosclerosis Reports* stated that

“...within the timeframe of this study, there was no evidence for an anti-inflammatory effect as judged by CRP levels...” **Fish oil did absolutely nothing significant to decrease the inflammation** as evidenced by the failure of CRP to decrease.<sup>31</sup>

***Life-Systems Engineering Science Commentary:* Quite simply, fish oil is worthless against inflammation. In the first experiment mentioned above, nineteen markers of inflammation were measured; all were worse! The 2009 failure was predicted back in the study from 2004. More dreadful performance.**

### ***Inconvenient Truth #18: Fish oil adversely affects chemotherapy.***

One last warning... If you are undergoing chemotherapy for cancer, researchers at the University Medical Centre Utrecht in the Netherlands issued a major new warning in September 2011 of *Cancer Cell* to stop taking fish oil because it can make chemotherapy drugs ineffective.<sup>32</sup> As you will discover in the next chapter, unlike fish oil, oxygenation is increased with PEOs so they help chemotherapy effectiveness.

### **When is fish oil beneficial?**

You may be asking the question, “Is there anyone who will benefit from taking fish oil supplements for any reason?” Yes, those not getting enough of the parent essential oils. PEOs will be fully detailed in the following chapter. If you **don’t** have sufficient, fully functional “parents,” it is **impossible** to get sufficient “derivatives.” It really is that simple. Concentrate on the parents and the derivatives—the offspring—take care of themselves.

Never forget that when it comes to experiments, FAILURES are 100 times stronger than “successes.” The simple reason is that often times, as Dr. Ioannidis, MD, PhD, warned in chapter 2, the heralded “successes” in medical journals are sometimes caused from something the patient is taking or doing other than the assumed treatment causing the effect. Additionally, the sheer number of studies can lead to failures being called successes because the 95% confidence level used inherently allows for 5% of the failures to be termed successes. But if the experiment fails, the failure is complete—it doesn’t suffer from the 5% inherent flaw.

### ***A Summary of Fish Oil Failures***

#### **Fish oil either fails to help and/or makes worse:**

1. Alzheimer’s
2. Colon cancer
3. Immune system
4. Skin cancer
5. Cardiovascular disease
6. Blood sugar levels—increasing insulin resistance
7. Athletic performance
8. Platelet movement in patients with existing vascular disease
9. Abnormal heart rhythm—atrial fibrillation (AF)
10. Inflammation
11. Chemotherapy effectiveness

... to name a few ...

The most compelling argument against fish oil supplementation is not even on the abovementioned list. It is the IOWA experiment—Investing Oils With respect to Arterial health, an experiment that you will learn all about in chapter 8.

Fortunately for fish oil advocates they are playing in a baseball game where three strikes isn’t all you get. Since even the eleven strikes mentioned above are not enough to end fish oil’s time in the batter’s box, the smart consumer will stop playing this rigged game.

**The fish oil myth is out.**

### *Answering the critics*

I believe in a strong offense so I will respond to a couple of the criticisms that will most surely be leveled against me for compiling this list of Inconvenient Truths.

**Question:** Fish oil proponents will claim you “pick and choose” studies and experiments that support your position.

**Answer:** Absolutely correct. With over 15,000 claimed “studies” to review and select from, anything else would be idiotic. I choose highly controlled experiments first, followed by well-controlled “studies,” preferably controlling variables upfront. Throughout this chapter, researchers make note that many of these “studies” aren’t worth the paper they are printed on.

**Question:** Peskin’s examples are no more convincing than other studies. Fish oil has many studies that show success, and Peskin has just a few that support his position. Therefore, fish oil prevails because it has more studies on its side.

**Answer:** Peskin’s examples are far more convincing; he relies on discerning only well-conducted studies and experiments. Furthermore, Prof. Peskin looks at the failures surrounding the incorporation of fish oil into the diet and the scientifically based cause of the failure, as chapter 8 will detail. Recall, Nobel Prize-winner Richard Feynman’s brilliant quote: “It does not make any difference how smart you are, who made the guess, or what his name is—if it disagrees with *real-life* results, it is wrong. That is all there is to it.” A “success” can easily be attributed to a variable that the researchers haven’t taken into account in advance, and this variable may be the true cause of the so-called success, or simply due to the inherent error in the sheer number of studies, but the fish oil is wrongly given the credit. This happens all the time in medical trials; BEWARE!

For this reason, I consider a failure 100 Xs stronger than a success, and so should you. Above, we have listed eighteen Inconvenient Truths about fish oil, and eleven categories of where fish oil fails to help or makes things worse. Some categories, such as cardiovascular disease failing to be helped with fish oil, have multiple experiments confirming its failure.

We’ve discussed how fish oil doesn’t work because it can’t work—there are no known metabolic pathways that would ever lead to such miraculous claims. The next chapter about Parent Essential Oils tells you precisely what does work, and why they do work.

**Never let finance masquerade as science—The fish oil myth is debunked.**

### **From Dr. Rowen**

Fish oil has become medical lore in the last 15 years. It’s promised to treat everything you have, from vascular disease to arthritis, to autism, and perhaps prevent cancer. Now as you know, at 62 years young, I am an organic, raw food vegetarian (I’m nearly vegan, but I do eat small amounts of organic raw cheese). But I was eating fish until 2001, having lived in Alaska for 22 years. In fact, I went out and got my own fresh wild salmon, eating it once a week, at most. So, don’t think that I am biased against fish. When it comes to fish, I am totally biased towards Alaska wild salmon as the cleanest fish available in America.

Now, that said, I am also a clinician. As a clinician, my greatest role is to observe what works and what does not work in patients, and to learn/discover what most likely will work. I’ve only become vegetarian in recent years. I can’t impose it on my patients, since I do it for spiritual reasons. However, my medical readings, clinical experience and personal experience have overwhelmingly proven to me that moving your diet in my direction will give a better chance at real health than anything else available on the planet. Let’s look at some logic first.

It is universally agreed that humans arose in Africa and migrated out. We are land animals. Our digestive systems and teeth are quite similar to the great apes: gorilla, baboon, and chimpanzee. These are mighty strong animals. And guess what? The first two are vegetarian. And the chimp does not eat a lot of meat. And guess what? They don't eat ANY fish. All their food is eaten raw. Finally, I've not read of any researcher who has found our primate cousins roasting their food over a fire.

Assuming our ancestors were not vegetarians (that they were hunter-gatherers, as most seem to believe), where does fish come in to the human diet? Certainly our diets did not have fish as a staple a million years ago. And, I assure you that our digestive systems have not changed much in the last million years. And, if we were catching fish way back then, on lakes in the African plains, it surely wasn't omega-3-loaded, arctic, cold-water fish.

It would have been fish from warmer waters, which don't have long chain polyunsaturated fatty acids (PUFAs) since they simply don't need them. Instead, warm water fish are rich in saturated fats!<sup>33</sup> They don't need or want the long chain PUFAs because, as Prof. Peskin made clear at the beginning of this chapter, they don't need the "anti-freeze." In fact, long chain PUFAs in a warm climate might be a real danger. They would be far more susceptible to oxidative damage than the saturated fatty acids found in warm water fish.

Hence, logic tells us that rich, omega-3-bearing fish cannot be a required part of the human diet. If they were, the human species would not have made it this far. This begs the question, how much damage is fish oil doing to those who take it as a supplement? How many people are in doctor's offices who are there because they supplement with fish oil? These are frightening questions that I have been forced to ask because of the knowledge I now have about fish oil. When I ponder this question I know about the difference in cold water versus warm water fish, and how a warm-blooded human being processes these cold water fish oil supplements.

In my research writing my newsletter, *Second Opinion*, I found myself entering a nearly pitched battle between meat pushers in my own field and those without the medical degrees urging a more vegetarian approach. Which group is correct? Science actually has observational answers:

Consider the societies with the greatest longevity on the planet. Of five of the longest living societies on earth, only one diet has regular animal protein. Their animal protein is, in fact, mostly fish, but, according to studies, perhaps only twice a week (Okinawa). The other four are: the Hunza in Pakistan, the Vicambamba high in the Andes in Ecuador, the Abhasia of the Caucasus Mountains, and in the United States—fully vegetarian 7th Day Adventists. Whatever "the secret" of four of these groups has absolutely nothing to do with fish or fish oil supplements because they don't eat any of them, ever! The group populations are slender. Excepting American Adventists, they get exercise laboring in their fields. These people not only live the longest, but seemingly are the healthiest as well, not experiencing the ravages of degenerative diseases many years before they die like we do. The vegetarian Adventists have similar lives to non-vegetarian Adventists. The difference is lack of meat, fish, poultry, etc. And, the vegetarian Adventists live on average seven years longer than their meat-eating cohorts and use the medical system far less. The tribal people are nowhere near fish, let alone commercial cattle. So, we can easily conclude that fish (and therefore fish oil) is NOT necessary for a long and healthy life.

Now from my own experience. I have eaten no fish in 11 years since coming to California. (No animal food at all except dairy). My blood pressure, on a "bad day," is 100/70. On a regular day it is less than 90/60. Is that too low? Dr. Brian Clement of the famous Hippocrates Clinic in south Florida confirms his observations in himself, his wife, and his patients that "raw fooders" usually have blood pressures lower than 100/70. So the "normal" BP at 120/80 might just be another myth.

More numbers for me: cholesterol 170, triglycerides 100. Fatty acid profile (including EPA and DHA) in the lab reference range, absent ingestion of any EPA or DHA. A non-invasive angiogram that scored "zero" plaque in my coronaries. A digital pulse analysis showing arterial flexibility that of one 20 years younger (like Prof. Peskin's). A DNA telomere test, which measures the protective ending of chromosomes, showing my telomeres the average length of a 35 year old!

In September 2011, I completed the John Muir Trail in the High Sierras of California. Two hundred miles of the roughest, toughest trekking in America at average elevation of over 10,000 feet! I get EFAs (and protein) from eating a raw vegetarian diet which *naturally* contains *small amounts* of unadulterated parent oils (PEOs), which my body is amply converting to longer-chain EPA and DHA, “as needed.” While it is theoretically possible to obtain enough of your parent omega-6/-3 (PEO) requirements from a perfect diet (because you will eat absolutely no “junk whatsoever”), and you require less PEOs to overpower the adulterated ones as you learned in chapter 6, at times, even I play it safe by supplementing my diet with a blend of organic-6/-3 oils. In chapter 8, we will give more details on what a vegan needs to do to stay healthy in the EFA department.

So, let’s put human diet “evolution” from the long ago past in context with today’s observations in populations and my personal experience and with many people who eat mostly raw/living food. Humans were not created/evolved to have fish as a dietary requirement. We simply would not be here. Societies eating no fish are among the longest-living and healthiest people on the planet, Okinawans excepted.

This is NOT to say that you can’t eat fish. **Fish is a natural food; fish oil supplements are an *unnatural* food and this is the difference!**

Admittedly I did intermittently recommend fish oil until about five years ago when I met Prof. Peskin. After reviewing the science he provided, and his “connecting-the-dots,” as he likes to say, it became quite clear why I did not see clinical results in my patients with fish oil, and why many of my patients who took fish oil actually got worse or had bad “side effects,” such as gastrointestinal distress.

Prof. Peskin was the first to provide experiment after experiment and study after study of numerous fish oil failures. Like most physicians, I was brainwashed by the success only and never heard of the failures often swept under the rug.

And, I’ll be one of the first to tell you that research failures are often hard to publish, especially when there is a vested, prevailing paradigm/dogma. Hence, there are likely many times more findings of fish oil failures than the research shows.

Next, I began to research on my own. I found scientific papers showing that primates fed fish oil had spontaneous oxidizing (rusting) of their liver cell membranes that exhausted their vitamin E reserves. That’s quite dangerous. Then I saw the data Prof. Peskin sent me about the spontaneous auto-oxidation of marine oil. Turns out that DHA is a stunning 200 times more prone to auto-rancidity than monounsaturated olive oil or even parent omega-6. There’s just no way that fish oil companies can protect their oils from spontaneous oxidation, or perhaps worse, polymerization (cross linking) of unsaturated bonds. This immediate effect explains, to a large extent the outstanding health of real “raw fooders,” which I refer to as those who eat the “Living Foods Diet” I’ve repeatedly written about in *Second Opinion*. We are getting totally unadulterated parent oils, so critical for proper cell membrane functioning.

Then, I had to consider the conflicting human findings in fish oil studies. I found that most studies were really improperly performed. You learned all about this deception in chapter 1 and chapter 2. Furthermore, fish oil “studies” were almost never controlled against parent oils. So, considering that there are people seriously deficient in PEOs, many of them could have benefited from their associated derivatives such as those that marine oils contain. However, much more significant is that in the very few studies which actually compared marine oils head to head with plant-based PEOs as a control, PEOs always won hands down. Why? Chapter 8 details this science but I’ll give you a short preview here.

First, we are warm-blooded animals. Our body temperatures, and high arterial oxygen tensions (degree of oxygen concentration at a specified pressure) can spontaneously derange and ruin long chain derivatives like EPA/DHA almost immediately. As land animals, our source of EFAs has always been plants, with a conversion to long chain derivatives very tightly regulated by the Creator for good reason. Hence, it makes excellent sense that our bodies are going to better respond to what the Creator placed before us for our diet on the land.

Next, it is myth and simply wrong science that you don't get omega-3 from anything but fish. Consider beef. Grass-fed cattle contains PLENTY of parent omega 3-oils. Why? Grass makes parent omega-3. The cattle easily absorb it, and will convert the parent oil to the longer-chain derivatives "as needed." Green leafy veggies have omega-3 (my favorite source), too. There are limited amounts in many foods including: walnuts, flax seeds, hemp seeds and many other raw nuts/seeds, which have been clearly associated with reduction of heart disease. All of this will be detailed in the next chapter.

It took me many years to make a total break from fish oil. Even I had an extremely difficult time believing that Prof. Peskin could be so right, which would make everyone else so wrong. But it's true. Connecting all the dots, then seeing marine oil failures, then seeing marine oil dangers, and then considering the extreme heat/oxygen liability of marine oils, it became easy to break free of the Fish Oil Myth/Paradigm and climb onto Prof. Peskin's PEO bandwagon. Year after year, I've reviewed Prof. Peskin's work, and my own independent research confirms it. This is often very complicated and difficult physiology/biochemistry, so I can see why colleagues would rather just follow the crowd: even though it is dead wrong, it is easy and today, "easy wins."

I have always said that God does not make mistakes. The so-called "slow conversion" of PEOs to long chain derivatives is made-up nonsense. It is an incorrect characterization of a correct process. The parent-to-conversion amount is extremely limited for a reason called survival! God certainly didn't make six billion humans defective, as well as the apes, which don't eat ANY fish. And no one has been able to show me any other land mammal going fishing or taking fish oil supplements.

Are we to think that we are smarter than Nature itself? Or are we defeating the careful controls graciously given us by the Creator by our consumption of the oils needed only by cold-water fish in oxygen-poor environments?

From both Dr. Rowen and Prof. Peskin: The common keys to your success regarding fish oil:

Based on the articles and analyzes published in the world's leading medical journals and the world's leading medical textbooks:

- 1) Do not take fish oil supplements.
- 2) Do not take krill oil supplements.
- 3) Do not eat algae-based supplements.
- 4) Do not take squid oil supplements.
- 5) Eat wild, not "farmed" fish.

### ***For More Scientific Backup***

See my website at [www.brianpeskin.com](http://www.brianpeskin.com)



#### ABOUT THE AUTHORS

**Prof. Brian Peskin**, B.Sc., is the world's leading specialist in physiologic EFAs—termed *PEOs*—and their direct relationship to the prevention of both cancer and cardiovascular disease. He graduated from M.I.T. with a degree in electrical engineering, and received an appointment as an adjunct professor at Texas Southern University in the Department of Pharmacy and Health Sciences (1998-1999).

Prof. Peskin's current work, grounded strictly in state-of-the-art science—in particular, physiology—can be found in his seminal work *The Hidden Story of Cancer* and peer-reviewed medical journal articles. Clinical physicians throughout the world rely on and have validated Prof. Peskin's PEO recommendations.

While advancing the scientific understanding of the role of essential fatty acids in the body's metabolic pathways, he has concurrently developed a means for alleviating cancer's *prime* cause, as discovered by Nobel Prize winner Otto Warburg, M.D., Ph.D., by increasing cellular oxygenation. Amazingly, there is a fundamental cancer/heart disease connection, in which the same physiologic solution, parent essential oils, PEOs, solve both conditions. This information leads to a new understanding of how to treat and prevent both cancer and heart disease.

In the most exciting development to date, Brian's theoretical conclusions were recently completely validated in a physiological experiment by precise instrumentation capable of measuring arterial compliance. This experiment, Investigating Oils With respect to Arterial flexibility (IOWA experiment) provides the first conclusive clinical proof and validation of Prof. Peskin's theory. Peskin Pharmaceuticals has a patent pending on the medicament that embodies this development.

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**Dr. Robert Rowen** is editor-in-chief of the highly respected Second Opinion newsletter ([www.secondopinionnewsletter.com](http://www.secondopinionnewsletter.com)). He graduated Phi Beta Kappa from the Johns Hopkins University, and received his MD from the University of California, San Francisco School of Medicine in 1975. He began his career in non-conventional medicine in 1982.

He is affectionately known at the “Father of Medical Freedom” for pioneering North America's first statutory protection for unconventional medicine in Alaska in 1990, and was appointed for a term on the Alaska State Medical Board, both over bitter objections from the medical lobby.

He currently is in practice with his wife in Santa Rosa, California. He is internationally known for his clinical practice and teaching in oxidation medicine.

#### ENDNOTES

<sup>1</sup> “Having implemented EFA supplementation for over 25 years, clinical results were mediocre until I began using your protocol. Dr. Rudin's work with flax oil was important but lacked clinical effectiveness; likewise with Horrobin regarding GLA [*Gamma-linolenic acid (GLA)* is a plant-based omega-6 fatty acid] from Borage, Black Currant, and Evening Primrose oils. **Unlike the studies suggested, fish oil, too, was disappointing. With the Peskin (PEO) Protocol I experienced clinical success.** I have seen positive results (dermatological, cardiovascular, pediatric, and neurological) in over 100 of my patients.” Abram Ber, MD.

<sup>2</sup> Hieb, MD, Lee, *Journal of Physicians and Surgeons*, Fall 2011, Vol. 16, No. 3, pages 69-70.

<sup>3</sup> Quinn, J, et al., “Docosahexaenoic Acid Supplementation and Cognitive Decline in Alzheimer Disease: A Randomized Trial,” *Journal of the American Medical Association*, November 3, 2010, Vol. 304, No. 17, pages 1903-1911.

<sup>4</sup> “Link Between Fish Oil And Increased Risk Of Colon Cancer In Mice,” J. Fenton, et al., *Medical News Today (Colorectal cancer)*, Article URL: [www.medicalnewstoday.com/articles/203683.php#post](http://www.medicalnewstoday.com/articles/203683.php#post), October 7, 2010; and Woodworth, Hillary, L., et al., “Dietary Fish Oil Alters T Lymphocyte Cell Populations and Exacerbates Disease in a Mouse Model of Inflammatory Colitis,” *Cancer Research*; 70(20); 7960–9; 0008-5472.CAN-10-1396; Published OnlineFirst August 26, 2010; doi:10.1158/0008-5472.CAN-10-1396.

<sup>5</sup> The metabolism of n-6 [omega-6] and n-3 [omega-3] PUFAs [polyunsaturated fatty acids] in rats and mice are similar to humans. Ref.: Lands, W.E., et al., “Quantitative Effects of Dietary Polyunsaturated Fats [EFAs] on the Composition of Fatty Acids in Rat Tissues,” *Lipids*, Vol. 25(9), 1990, pages 505-516.

<sup>6</sup> “Omega-3 Polyunsaturated Fatty Acids, Inflammation and Immunity,” by Philip C. Calder, Institute of Human Nutrition, University of Southampton, Bassett Crescent End, Southampton, UK.

<sup>7</sup> © 2005 “Introducing The Body of Evidence,” Reliant Pharmaceuticals, Inc. (September 2005), page 17.

<sup>8</sup> “Omega-3 Fatty Acids Unlikely to Prevent Cancer,” reported by the National Cancer Institute (NCI Cancer Bulletin, vol. 3/no. 5, Jan. 31, 2006).

<sup>9</sup> Veirord, MB, et al., “Diet and Risk of Cutaneous Malignant Melanoma: A Prospective Study of 50,757 Norwegian Men and Women,” *Int. J. Cancer*: 71,600-604 (1997).

<sup>10</sup> Rogers, HW, et al., “Incidence Estimate of Nonmelanoma Skin Cancer in the United States, 2006,” *Archives of Dermatology* Vol. 146 (No. 3), March 2010, pages 283-287.

<sup>11</sup> *Journal of Investigative Dermatology*, 2008 December; 128(12):2905-2908, “Recent trends in incidence of cutaneous melanoma among U.S. Caucasian young adults.

- <sup>12</sup> Linos, EL, et al., "Increasing burden of melanoma in the United States," *Journal of Investigative Dermatology*, **2009** July, 129(7): 1666-1674.
- <sup>13</sup> *Actas Dermosifiliogr.* **2010**;101(1) 39-46, "Changes in the incidence of skin cancer between 1978 and 2008."
- <sup>14</sup> "Women With Type 1 Diabetes Receive No Heart Benefit From Omega-3," *Medical News Today (Diabetes)*, Article URL: <http://www.medicalnewstoday.com/articles/193107.php>, June 28, **2010**.
- <sup>15</sup> Stacpoole, P, Alig, A., Ammon, L, and Crockett, E., "Dose-Response Effects of Dietary Marine Oil on Carbohydrate and Lipid Metabolism in Normal Subjects and Patients With Hypertriglyceridemia," *Metabolism*, Vol. 38, No 10 (October), 1989, pages 946-956.
- <sup>16</sup> "Fish-oil supplementation reduces stimulation of plasma glucose fluxes during exercise in untrained males," *British Medical Journal of Nutrition* (**2003**), 90, 777-786.
- <sup>17</sup> Karlström, BE, et al., "Fatty fish in the diet of patients with type 2 diabetes: comparison of the metabolic effects of foods rich in n23 and n26 fatty acids," *Am J Clin Nutr* **2011**;94:26-33.
- <sup>18</sup> Anthony P. Bimbo, "Raw material sources for the long-chain omega-3 market: Trends and sustainability. Part 2," April **2009**, [www.aocs.org/Membership/FreeCover.cfm?item-number=1085](http://www.aocs.org/Membership/FreeCover.cfm?item-number=1085), accessed 10.8.11
- <sup>19</sup> Umhau, JC, et al., "Imaging incorporation of circulating docosahexaenoic acid [DHA] into the human brain using positron emission tomography," *Journal of Lipid Research*, Vol. 50, **2009**, pages 1259-1268. **DHA incorporation is a mere 3.8 ± 1.7 mg/day.**
- <sup>20</sup> "Flaxseed oil and fish-oil capsule consumption alters human red blood cell n-3 fatty acid composition: a multiple-dosing trial comparing 2 sources of n-3 fatty acid," *American Journal of Clinical Nutrition*, Vol. 88, No. 3, 801-809, September **2008**.
- <sup>21</sup> Hussein, Nahed, et al., *Journal of Lipid Research*, Volume 46, 2005, pages 269-280.
- <sup>22</sup> Pawlosky, RJ, et al., "Physiological compartmental analysis of alpha-linolenic acid metabolism in adult humans," *Lipids Res* **2001** 42: 1257-65.
- <sup>23</sup> "Comparison of bolus versus fractionated oral applications of [13C]-linoleic acid in humans," *European Journal of Clinical Investigation*, Volume 29 Issue 7 (**2001**), Pages 603 - 609: "Using areas under the curve overestimates the conversion, because different residence times are *not considered*."
- <sup>24</sup> Carnielli, V.P, et al., "The very low birth weight premature infant is capable of synthesizing arachidonic and docosahexaenoic acids from linoleic and linolenic acids," *Pediatric Research*, Vol. 40, No. 1, 1996, pages 169-174.
- <sup>25</sup> Knapp, H, et al., "In vivo indexes of platelet and vascular function during fish-oil administration in patients with atherosclerosis," *The New England Journal of Medicine*, Vol. 314, April 10, 1986, No. 15, pages 937-942: In patients with atherosclerosis, prostacyclin biosynthesis **fell** by a mean [average] of 42% during the fish-oil period.
- <sup>26</sup> Jarrett D. Berry, MD, et al., "Dietary Fish Intake and Incident Atrial Fibrillation," 15 March **2010**, *The American Journal of Cardiology*, V. 105, I. 6, 844-848.
- <sup>27</sup> Burr, et al., "Lack of benefit of dietary advice to men with angina: results of a controlled trial," *Eur J Clin Nutr* **2003**, 57:193-200.
- <sup>28</sup> Angerer, P, et al., "Effect of dietary supplementation with omega-3 fatty acids on progression of atherosclerosis [plaque buildup in interior of arteries] in carotid [heart to brain] arteries," *Cardiovascular Research*, 54:183-190, **2002**.
- <sup>29</sup> "Sacks, Frank M., et al., "Controlled Trial of Fish Oil for Regression of Human Coronary Atherosclerosis," *Journal of the American College of Cardiology* Vol. 25, No. 7, June 1995: 1492-8.
- <sup>30</sup> Pot, GK, et al., "No effect of fish oil supplementation on serum inflammatory markers and their interrelationships: a randomized controlled trial in healthy, middle-aged individuals," *European Journal of Clinical Nutrition*, **2009** (62), 1353-1159.
- <sup>31</sup> Mori, Trevor, et al., "Omega-3 Fatty Acids and Inflammation," *Current Atherosclerosis Reports*, 6:461-467, **2004**.
- <sup>32</sup> [www.medicalnewstoday.com/articles/234263.php](http://www.medicalnewstoday.com/articles/234263.php); Ref.: Roodhart, Jeanine, M.L., et al., "Mesenchymal Stem Cells Induce "Resistance to Chemotherapy through the Release of Platinum-Induced Fatty Acids," *Cancer Cell*, 2011; 20 (3): 370 DOI: 10.1016/j.ccr.2011.08.010.
- <sup>33</sup> "Fatty acid composition of 8 species of Indian fish," *Journal of the Science of Food and Agriculture*, Volume 23, Issue 4, pages 493-496, April 1972.