

Healthy Fats

Understanding the Omega-3 and
Omega-6 Connection

And More



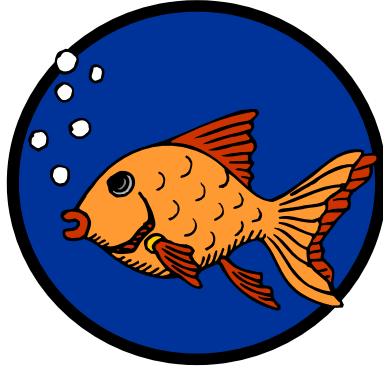
by Kathy Nichols, The Healthy Habits Coach
Registered Dietitian, Life Coach
www.HealthyHabitsCoach.com

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1. Can Changing Fats Change How You Feel?

The *new* final frontier is us. Every day we learn exciting new things about how our body works and the impact of what we eat. It is predicted that in only 10 years time we will be faced with choices and options that are unimaginable to us now. Genetic profiling will be common, and we'll be able to design diets, supplements and medications tailored specifically to us.

In the meantime, the advances in research are fascinating to watch. This short book shares what we know so far about fats. The research is not complete or final, but at the time of this writing the implications are impressive. The fats we choose really could affect how we feel!

You may have already heard about the benefits of omega-3 fatty acids; we know we need more of those. Do you know about omega-6 fats? Research suggests that the Standard American Diet (SAD) contains such high levels of omega-6 fatty acids that even though they are essential, the excess is causing havoc with our health.

As the research continues recommendations could change, but there does not appear to be much risk involved with making changes in our habits now, *and* there could be substantial health benefits. What appeals to me is that these changes are compatible with other health recommendations and are also healthy for our planet.

I find that there is a lot of confusion about the different sources of omega-3 fats. The idea of limiting omega-6 fats is new to many people, and can have a positive impact even if you already have a healthy diet. There is always something new to learn.

When I wrote the first edition in June of 2007, I predicted that there would be more articles about omega-6 fats in the news soon. So far I haven't seen as many as I expected, but there *are* more articles in the professional literature. The way we eat is making us sick, and we can do something about it. Here is a good start towards a better diet and a healthier life.

2. How to Use This Book

This book will give you the current information so that you can make your own decisions. It will also help position you so that as you read future articles and hear about new research, you will understand more fully what it means.

We'll start with an explanation of how omega-3 and omega-6 fats are in competition and how that impacts our health. Then there is a section on omega-3: what it is, the benefits and risks, the recommendations and how you can get more in your diet. You'll learn about the difference between different forms of fish oil and the difference between the omega-3s found in fish versus those found in plant sources. Next there is a section on Omega-6 fatty acids with the same basic format, then a section on other kinds of fats.

Each page has a footer to help you remember what the abbreviations mean. The final section helps you put it all together, with a summary called "What You Can Do" at the back of the book. As you read, don't worry too much about remembering the details, because that is the purpose of the summary.

The emphasis of this book is on fats, and the surprising impact that fat makes on our health. The other food choices we make are important too – especially getting lots of fruits, vegetables and whole grains. Choose a variety of whole foods to maximize your good health and vitality.

Wishing you health and happiness,

Kathy Nichols
June 2007
Updated and expanded June 2009



Note: The information in this book is not intended to replace professional medical advice. As research continues, our understanding will continue to evolve. It is always wise to educate yourself, to be proactive in the decisions and choices that impact your good health, and to work collaboratively with your medical team.



3. Why it Matters: Facts and Theories

Our original diet is believed to have been rich in fish and plant foods. The animals we ate grazed on natural grasses. As time passed we ate less fish, fattened our animals with surplus grains, and developed processes for extracting fats from vegetable sources. This provides a concentration of these fats higher than would normally be found in nature. Some scientists believe that these changes mean we are no longer eating the fuels our body was designed for. It has even been suggested that we have an omega-3 fatty acid deficiency.

Both omega-3 and omega-6 fatty acids are essential, meaning we need to get them from our diet. We'll get into much more detail about both of these types of fat later on. For now, a rough introduction is that omega-3 fats are found in fish and in some plant foods like flax seeds and walnuts. Omega-6 fats are found in nuts and seeds, most vegetable oils, processed foods and grain fed meats.

Both omega-3 and omega-6 fatty acids are good – in the right proportions. Omega-6 fats are important for body functions, but research indicates that we get *too* much and that could be hurting us. Extensive research indicates that omega-3s have many beneficial effects, and an important question is: Are we getting enough?

Both omega-3 and omega-6 fatty acids produce a hormone-like structure called an **eicosanoid**. Eicosanoids regulate fundamental body processes such as cell division and growth, blood clotting, muscle activity, secretion of digestive juices and hormones, and the movement of substances like calcium into and out of cells. So this is important stuff. However omega-3 and omega-6s produce different types of eicosanoids which have opposing effects.

The eicosanoids formed from omega-6 fatty acids are released in the body in response to injury, infection, stress or certain diseases. They stop blood flow by causing the blood to clot and the arteries to narrow – which is good news if you are injured and in danger of bleeding to death. The inflammatory process is important as a response to injury, but is detrimental when it continues on a day-to-day basis.

In contrast, the eicosanoids formed from the omega-3 fatty acid EPA have an anti-inflammatory effect and may help protect us against heart attacks and strokes, as well as inflammatory diseases like arthritis, lupus and asthma. So the eicosanoids formed by omega-3 fats are beneficial.

Another form of omega-3 is called DHA, which plays a key role in brain and eye development, mental health and maybe even intelligence.

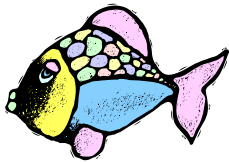
There is competition between omega-3 and omega-6 fats. The ratio of these in the diet directly affects the type of eicosanoids that are produced. Omega-6 fats are used preferentially over the omega-3 fats. **This means it is not enough to just get more omega-3s – we also need to reduce omega-6s to restore balance.**

It appears that some of the side effects of excessive amounts of 6-eicosanoids could include heart attacks, strokes, thrombosis (bleeding), arrhythmia (irregular heart beats), arthritis, asthma, menstrual cramps, headaches, inflammation, depression and osteoporosis. It has even been hypothesized that the conditions we take pain and anti-inflammatory medications for are caused by too much omega-6s in our diet!

We know that omega-3 fatty acids have a protective effect. We don't really know how much we need or what the long term impact is of taking them as supplements. We know a lot about the biochemistry and impact of the omega-6 and their eicosanoids. Not everyone agrees with the idea of limiting omega-6 fats (although it is becoming increasingly accepted). I think it makes sense – see what you think as you read these pages.

Here are some of the unanswered questions:

- Can we get enough omega-3 fats from diet or do we need to add more with supplements?
- Would everyone benefit from fish oil supplementation, or just people with known heart disease or other inflammatory conditions?
- What doses of fish oil/omega-3 should we use if we do supplement? (Are the common recommendations *enough*? *Too much*?)
- Does the balance of EPA and DHA matter?



As you might expect, there are a range of opinions. I tend towards the middle ground. Personally I think there is enough benefit and small enough risk to change my own eating and purchasing patterns. I also advocate focusing on whole foods as much as possible.

The recommendations I make in this book represent a cautiously proactive approach, based on the current evidence. You can do more or less depending on what feels right to you. I don't recommend taking large doses of anything without discussing it with your physician.