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Omega-3s

Those of you who have heard me speak and read my messages know that I'm a big proponent of omega-3 fatty acids whether from fish, flaxseed, nuts, or supplements. This past week, an interesting study was published in the *Journal of the American Medical Association* about the benefits of omega-3s from marine sources (1). What hit the headlines were that omega-3s may help delay aging in people with heart disease. I'll review that, but it's what didn't hit the headlines that was cool as it relates to your body weight and overall health.

The Study

Researchers recruited over 1,000 subjects who all had some form of cardiovascular disease. That's important because often when these types of studies are done, they recruit the healthiest subjects and wonder why they didn't see any differences. If you had a heart attack, an abnormal EKG on a treadmill test, an angiogram that showed over 50% blockage, or you'd had a stent, you were asked to join. The researchers drew blood and checked many variables. Two of the primary variables were baseline levels of the omega-3 fatty acids EPA and DHA which are found only in seafood. The other thing they measured was the length of the telomeres in white blood cells. Telomeres are found at the end of the strands of DNA; the longer they are, the more times the cell can reproduce, and that means you might live longer. The reason I say might is that there are other factors related to aging, but this is a big one.

It's important to note a couple of things. They measured the omega-3 fatty acid levels only at the beginning of the study. This was strictly an observational study; they did not track what the subjects ate nor whether they supplemented their diet with fish-oil capsules. You might say, "Why not do the other measures?" The cost of assessing the telomere length cost plenty so while I agree with you, as a former researcher, I understand their problem—sometimes the funding will stretch only so far, and better half a loaf than none.

The Results

The subjects with the highest amount of omega-3 fatty acids from seafood in their blood had longer telomeres. Simply put, their DNA was healthier five years after the study started and was better in those subjects with the highest omega-3 fatty acids levels compared with the lowest. Looking at a graph of the data, it was clear: more omega-3s in your blood, the better looking your DNA. But that wasn't all.

Body Weight and Fitness

Those subjects who had the highest levels of omega-3s had the lowest waist-hip ratio. Simply put, they had the lowest amount of fat around their waist. They were also fitter as assessed by a treadmill test—almost 22% fitter. Their blood pressure was lower, and their HDL-cholesterol was higher, all signs of better cardiovascular fitness.

Inflammation

The subjects with the highest omega-3 levels also had the lowest C-reactive protein levels as well as reduced levels of interleukin-6. Together, those measurements mean that they were in a lower state of inflammation.

Don't Get Too Excited, But...

This was an observational study. They measured the omega-3 fatty acid levels in the beginning and tracked the people for five years. We know nothing about what happened to the subjects' diets or their supplementation during that time period, because it wasn't measured. But remember, these subjects all had coronary artery

disease before they were asked to be in the study—that means they most likely had changed their lifestyle before they got into the study. That's probably why the subjects with the highest omega-3 fatty acid levels also had much less type 2 diabetes than the lowest group. They probably maintained those healthier lifestyles for those five years between DNA tests. We don't know it, but it's a reasonable assumption.

The analyses the researchers did examined every potential interaction and didn't find anything different other than the initial omega-3 fatty acid levels to explain the benefits. I'm not a fan of handling things statistically but looking at the raw numbers, it's pretty clear that omega-3 fatty acids from seafood have some benefits to weight, cardiovascular disease, and diabetes.

The Bottom Line

You can wait for another five or ten years, and someone may actually do an interventional study—that means they will give a group of subjects fish oil and the control group a placebo. Then we'll know whether the omega-3s were one of the causes of the health benefits or were just along for the ride as cardiac patients adopted healthier lifestyles all around. Five years later you'll have an answer—if they actually do the study correctly.

Personally, I can't wait that long and I don't think you should either. To me, this is the cherry on top of the health sundae. When you're constructing your new lifestyle, make sure that omega-3 fatty acids from fish oil are a part of it. Either eat several servings of cold-water fish every week—I try, but I don't often get there—or take 3 to 6 grams of a quality fish-oil supplement as backup like I do. You still have to adopt those other healthy habits, like eating a better diet and exercising, but the net effect might be you get to hang out in this world a little longer and be a little healthier in the process. What a deal!

What are you prepared to do today?

Dr. Chet

Reference: JAMA. 2010. 303(3):250-7.



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