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REPORT

Slash Your Risk for Premature Death with Omega-3s

By Delia Wilder

For years, consumers have been learning of the benefits of reducing cardiovascular disease by ingesting **omega-3 fatty acids.** This message has made its way into the mainstream as cardiologists now prescribe omega-3 supplements to their patients.[1]

Far beyond the benefits of heart disease reduction, scientists have discovered startling new data that omega-3 fatty acids ***slash*** the **overall risk** of an early death.[1-4] That reduction is seen not only in people with known chronic diseases but even in those who are apparently healthy. Published studies show that you can ***reduce your risk of dying prematurely by as much as 85%*** by maintaining optimal levels of omega-3 fats in your body.[5]

A wealth of published studies has demonstrated a significant reduction in mortality with the use of fish oils. In one such report, scientists studying people who had lived through a heart attack were shocked to find that patients with the highest levels of omega-3s in their blood were prevented from dying of any cause, not just heart-related conditions.[6] In a similar study, people who'd had heart attacks were found to have a much lower likelihood of a dangerous cardiac arrhythmia called atrial fibrillation if they had high omega-3 levels—and had an incredible **85% lower risk** of dying from all causes in addition.[5]

Intrigued, scientists began looking at healthy people with no evident heart disease. Would the protection apply to those people as well? The answer is yes. When a large group of Norwegian men 64-76 years of age were supplemented with 2.4 g/day of omega-3s, they had a **47% reduction** in risk of dying from all causes compared with a placebo group.[7] Women can achieve similar levels of protection: a massive Australian dietary intake study found that women with the highest omega-3 consumption had a **44% reduction** in risk of mortality from inflammatory diseases.[4] The effect was dose-related: for each standard-deviation increase in omega-3 intake, women achieved a 17% reduction in their risk of dying.

What explains this remarkable and consistent reduction in "all-cause mortality?" There are many factors at work, but one of the most important is related to the ways in which your dietary fat intake affects your body's inflammatory status.[8,9] A high intake of omega-3s (from cold-water fish, from flax seed oil, and from fish oil supplements) can push your body from a dangerous pro-inflammatory condition to a healthier, lower-inflammation state.[10] And that has direct impact on your chances of living longer.

OMEGA-3 FATS AND INFLAMMATION: STEPS TOWARD A LONGER LIFE

The typical Western diet now contains a vast excess of omega-6 fats (largely derived from poultry products and certain vegetable oils). Other animal products are rich in saturated fats, not omega-6 fats and not nearly enough omega-3s (which we get from ocean fish and plant foods such as nuts and flax seeds).[11,12]

The optimum ratio of omega-6 to omega-3 fats in the diet is roughly 4 to 1, though some proponents claim the ratio should be two omega-6s for each one omega-3. Shockingly, those who follow unhealthy modern Western diets often consume these fats in ratios as high as 25 (omega-6) to only 1 (omega-3).[10,11]

The resulting increase in inflammatory cytokines from insufficient omega-3 intake creates chronic, low-grade inflammation that directly exacerbates aging and may contribute to early death from myriad chronic conditions.[9,13,14] In other words, inflammation is aging at a very fundamental level.[9]

That's why high consumption of omega-3s, particularly EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid) found in fish oil has such a dramatic impact on your risk of dying. By nudging your omega-6 to omega-3 ratio back toward the optimum, you can significantly reduce your body's inflammatory load. You should do that by reducing your intake of saturated fat (from

meat and dairy), reducing omega-6s (from poultry and certain vegetable oils), and increasing your intake of omega-3s (from fish, fish oil, and flax seed oil). By supplementing with omega-3s, you can increase your chances of living longer and better, by cutting your risk of a host of age-related, longevity-stealing chronic conditions that originate with inflammation. The evidence is detailed and compelling.

OMEGA-3S COMBAT STRESS AND CORTISOL DAMAGE

Chronic stress and the resulting elevation in stress hormones (cortisol, epinephrine, norepinephrine) accelerate aging.[15] They are ***major contributors to premature death*** from a variety of causes, mostly related to increased risk of chronic cardiovascular, infectious, and metabolic disorders.[15-17] There's also evidence that chronic stress itself lowers your blood levels of omega-3s.[18]

Supplemental omega-3s can inhibit the excessive adrenal gland stimulation that triggers stress effects.[19,20] Studies of healthy adults subjected to biological and emotional stress demonstrate that omega-3 supplementation from fish oil prevents cortisol, epinephrine, and norepinephrine elevations.[20-23] Plant-derived omega-3 supplements in animal studies not only blocked cortisol elevations, but countered stress-induced learning deficits.[24]

OMEGA-3S BATTLE DEPRESSION, ANXIETY

Victims of chronic mental illness, particularly ***depression and anxiety,*** have a shockingly ***high rate of premature death*** from "natural causes."[25,26] These illnesses can cost men nearly 15 years of life expectancy and women nearly 18 years.[27] Depression, the most common mental illness, affects more than 5% of the US population during any given 2-week period, and is strongly correlated with dying early.[28]

Scientific discoveries in the past decade demonstrate roles for omega-3s in the management of mental illness, especially depression and anxiety. Omega-3s are *essential* components of brain cell membranes and may help increase nerve cell transmission of signals with serotonin, levels of which can be abnormal in depression.[29,30] Their anti-inflammatory effects also show promise in preventing depression-related loss of brain cells.[31]

People with major depressive disorder and bipolar disorder have low brain levels of omega-3s.[32,33] Those low levels are closely associated with worsening depression and even predict an increased risk of suicide.[34] Conversely, higher dietary intake of omega-3s is associated with as much as a **34% reduction** in risk of symptomatic depression, compared with people having the lowest rate of consumption.[35]

Omega-3 supplementation has by now become much more accepted because of its dramatic effectiveness in managing depression. Studies show that daily doses of 1 gram or more of EPA and DHA significantly reduce scores on standard depression rating scales, especially in older adults.[36-38]

Anxiety can be a crippling short-term problem that also contributes directly to ***premature death;*** one study found a 77% increase in mortality risk among anxious women at midlife.[39-41] Omega-3 supplementation may be important in managing symptoms of anxiety as well as depression. An omega-3-rich mixture of essential fatty acids lowered test anxiety in one early human study.40 Later studies demonstrated reduction of anxious feelings in populations of substance abusers treated with 3 grams/day of EPA plus DHA.[42]

WHAT YOU NEED TO KNOW: SLASH YOUR RISK FOR PREMATURE DEATH WITH OMEGA-3S

- Omega-3 fatty acids have a well-established role in preventing cardiovascular disease and death.
- Recent studies are revealing a role for these beneficial fats in reducing your risk of premature death from numerous causes.
- By reducing your total body level of inflammation, omega-3s can slash the risk of many conditions that cause us to die early.
- Keeping your omega-3 levels high, and your omega-6 levels low, can help prevent the metabolic syndrome, symptoms of depression and anxiety, a variety of forms of cancer, and many forms of liver and kidney diseases, all of which are associated with premature death.
- Omega-3s also contribute to reducing the deadly effects of chronic stress and high cortisol levels.
- If you aren't supplementing with at least 2 grams/day of a high-quality omega-3 product, you may be unnecessarily courting an early death.

OMEGA-3S: POWERFUL WEAPONS AGAINST METABOLIC SYNDROME

The ***metabolic syndrome*** is a clustering of risk factors including abdominal obesity, elevated fasting glucose (also called insulin resistance or "pre-diabetes"), hypertension, elevated triglycerides, and lowered high-density lipoprotein (HDL). This syndrome contributes to disease risk that may increase the chances of an early death from multiples causes.[43-47] Epidemiological evidence suggests that people with low levels of omega-3s in their blood have as much as a **2.4-fold** higher risk of having metabolic syndrome.[52] On the other hand, people with the highest intakes of omega-3s have as much as a **46% lower** risk of metabolic syndrome.[49,50]

Supplementation with omega-3s at doses ranging from 1-3.7 grams per day has now been shown to improve all 5 parameters of the metabolic syndrome:

- Treatment with omega-3s has an ***anti-obesity*** effect.[51] It reduces total fat mass, abdominal fat mass, the size of individual fat cells, and raises levels of the beneficial cytokine adiponectin.[52,53]
- Higher plasma omega-3 levels correlate with ***improved insulin sensitivity*** and glucose tolerance.[50,54] Supplementation both prevents and reverses insulin resistance, especially in the face of a high-fat diet.[55,56]
- Average doses of 3.7 grams/day of fish oil ***reduce both systolic and diastolic blood pressure.***[57] Additional studies with doses as low as 1 gram/day also showed decreases in systolic blood pressure.[58]
- Omega-3 supplementation dramatically ***lowers triglycerides*** and other risk factors for athero-sclerosis.[52,58-60] One gram per day of fish oil was shown to normalize triglyceride levels in elderly people and protect them from rising levels.[61]
- Higher omega-3 plasma levels are correlated with ***higher HDL*** levels.[50] Supplementation with omega-3s resulted in a reduction in the ratio of triglycerides to HDL level, a beneficial change.[52]

OMEGA-3S FIGHT CANCER AT ITS EARLIEST STAGES

Cancers of all kinds are common ***causes of untimely death.*** Diet has long been known to be an important factor in the development of many kinds of cancer. The Mediterranean dietary pattern, abundant in vegetables, fruits, and omega-3-rich fish, is associated with low cancer rates.[62] One study comparing the Mediterranean diet with an American Heart Association-recommended diet found a **56% reduction** in risk of developing cancer and a **61% reduction** in risk of dying from cancer.[62] The Mediterranean diet group's intake of omega-3 fats was also significantly higher than in the control group.

Cancers of the digestive tract are common and also the most susceptible to prevention with omega-3 fats. These cancers have a strong inflammatory component, which may explain at least part of the benefits of omega-3 fatty acids.[63] Laboratory and human clinical studies demonstrate that omega-3 treatment causes decreased proliferation and increased cell death (apoptosis) of cancer-prone colon cells, while healthy tissue is unaffected.[64,65] Effective doses range from 2.5 to 7.7 grams/day of fish oil.[64,66] Two grams/day of EPA alone can reduce the number of precancerous rectal polyps in patients at high risk for colorectal cancer.[67]

Inflammation also plays a major role in skin cancer development following exposure to ultraviolet (UV) rays from the sun.[68] Not surprisingly, studies show that omega-3s have a role in protecting skin cells from the cancer-causing effects of the sun.[68,69] Four grams per day of purified omega-3s protected a group of healthy subjects from sunburn, UV-induced precancerous changes in skin, and DNA damage in circulating blood cells.[70]

Cancers of the breast and prostate are also responsive to omega-3 prevention. Men with the highest blood levels of EPA and DHA have a **38-41% reduced** risk of prostate cancer, compared with those having the lowest levels.[71] Treatment with omega-3s reduced the rate at which prostate cancers progress to the dangerous state of independence from hormonal control; that progression is typically the harbinger of an untreatable cancer and early death.[72]

In a group of premenopausal women at high risk of breast cancer, those consuming the highest ratio of omega-3:omega-6 fats had a **50% reduction** in their risk of developing cancer.[73] Women who had been diagnosed and treated for early breast cancer, and whose diet contained the largest amount of omega-3s, had a **25% reduction** in the risk of cancer recurrence.[74] High-risk women who supplemented with 2.5-7.6 grams/day of DHA/EPA achieved excellent levels of these omega-3s in their breast tissue and had no side effects.[75]

STILL MORE WAYS OMEGA-3S CAN KEEP YOU FROM DYING TOO EARLY

There's compelling evidence that omega-3s play a role in some less-than-obvious causes of early death. For example, osteoporosis, which affects more than 4.5 million American women and an additional 800,000 men,[95] causes fractures that are major contributors to premature death, often ending an otherwise productive life in a prolonged and painful fashion.[96-98] Keeping

omega-3 levels optimum may help to prevent osteoporotic fractures and thus reduce your risk of early death.[95-105]

Chronic lung diseases such as asthma and COPD (chronic obstructive pulmonary disease) also significantly shorten life span.[106] Again, there's a wealth of evidence supporting a role for omega-3s in mitigating the inflammatory state that triggers these conditions and contributes to early death.[106-116]

Given the role of inflammation in the aging process, it just makes sense to ensure that our omega-3 levels are as high as possible.

OMEGA-3S: VITAL PROTECTION FOR KIDNEY AND LIVER FUNCTION

Kidney disease ***kills*** more than 46,000 Americans annually and is the ninth leading cause of death in the US; roughly 4.5 million of us suffer from kidney disease of one form or another.[76] Although there are many different types of kidney disease, most of them share a significant oxidative and inflammatory component that can be helped by high levels of omega-3s.77-80 In one large study, people consuming the highest amounts of omega-3s had a **31% reduction** in their risk of developing chronic kidney disease.[78] And kidney transplant recipients with higher levels of omega-3s in their blood had significantly lower risk of transplant rejection than did those with lower levels.[81]

Kidney disease (and its treatment) imposes massive metabolic and oxidative stress on the victim's body, accounting in part for a high mortality rate. Dialysis patients taking EPA/DHA 1.8 grams/day experienced significantly lower levels of harmful adrenal stimulation compared with controls, and 3.4 grams/day dropped their triglyceride levels significantly, thereby lowering their heart attack risk.[19,82]

Colon Cancer

Two grams/day of EPA/DHA significantly reduced markers of inflammation in patients with end-stage renal disease, while 2.1 grams/day of fish oil reduced markers of oxidative stress.[83,84] A dose of 4 grams/day of fish oil substantially improved renal function in diabetic patients, a group at major risk of early death from kidney disease.[85]

Non-alcoholic fatty liver disease (NAFLD) affects up to 35% of the world's population. Its dangerous consequence called ***non-alcoholic steatohepatitis*** (NASH) may lead to cirrhosis of the liver, a cause of premature death in the United States.[86-88] The massive liver accumulation of triglycerides in NAFLD is also strongly associated with diabetes and cardiovascular disease, further reducing longevity.[89] Mainstream medicine has proved impotent to date at slowing the progression of NAFLD to NASH, or at reducing its potentially deadly consequences.[90]

As with all of the other causes of early death, a high intake of omega-3s is strongly preventive of NAFLD: men with the greatest consumption of EPA/DHA had a **52-56% reduction** in their risk of having the condition.[89] Supplementation with omega-3s provides impressive protection and treatment for people with NAFLD. Studies show that doses of 1 gram/day and more result in marked improvements in serum markers of liver cell damage, reductions of circulating triglycerides, and visible improvement in liver texture and blood flow on Doppler ultrasound tests.[91-93]

SUMMARY

Americans die too young, despite the highest expenditures on prescription drugs in the world.[94] We succumb to a host of chronic conditions typically labeled "age-related," though aging is not the only inducing factor. Instead, we are falling victim to persistent inflammatory changes brought on in large part by poor dietary choices.

Compelling studies demonstrate that people with high omega-3 intakes live longer. We now have a clear understanding of why: they have lower rates of virtually every one of the "age-related" conditions that hasten death.

You should consume at least two grams (2,000 milligrams) of EPA/DHA daily to emulate studies showing reduction in risk of early death.

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.

"TRADITIONAL" RISK REDUCTION BY OMEGA-3 INTAKE

Condition	Outcome
Overall death from cardiac causes	20-29% fewer deaths in supplemented patients[1,2]

Risk of sudden cardiac death	13-57% lower risk in patients supplemented with 1.8 g/day EPA/DHA[2,3]
Risk of non-fatal cardiac events	8% lower risk in patients supplemented with 1.8 g/day EPA/DHA[3]
Risk of hospitalization for cardiac arrythmia (atrial fibrilation)	81% lower risk in supplemented patients[5]
Risk of depression, anxiety, or stress	28-35% lower risk in those with highest intake[117]

REDUCTION IN RISK OF ALL-CAUSE MORTALITY BY OMEGA-3 INTAKE

Study Population	Reduction in All-Cause Mortality
Heart attack survivors	71-85% reduction in supplemented patients or those with highest omega-3 levels[5,6]
Patients with stable coronary heart disease	27% reduction in supplemented patients or those with highest omega-3 levels[118]
Breast cancer survivors	41% reduction in those with highest EPA and DHA intake[74]
Hemodialysis patients	57% reduction in those with highest DHA levels[119]
Healthy women > 49 years old	44% reduction in inflammatory disease mortality in those with highest omega-3 intake[4]
Men without overt cardiovascular disease	47% reduction in patients supplemented with 2.4 g/day omega-3[7]

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