

12 Health Benefits of DHA (Docosahexaenoic Acid)

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Docosahexaenoic acid, or DHA, is a type of omega-3 fat.

Like the omega-3 fat eicosapentaenoic acid (EPA), DHA is plentiful in oily fish, such as salmon and anchovies (1).

Your body can only make a small amount of DHA from other fatty acids, so you need to consume it directly from food or a supplement (2).

Together, DHA and EPA may help reduce inflammation and your risk of chronic diseases, such as heart disease. On its own, DHA supports brain function and eye health.

Here are 12 science-backed health benefits of DHA.

1. Reduces Heart Disease Risk

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[Omega-3 fats](#) are commonly recommended for heart health.

The majority of studies test DHA and EPA combined rather than individually (3).

The few studies that test DHA alone suggest that it may be more effective than EPA for improving several markers of heart health (3, 4, 5, 6).

In one study in 154 obese adults, daily doses of 2,700 mg of DHA for 10 weeks increased the omega-3 index — a blood marker of omega-3 levels that's linked to a reduced risk of sudden heart-related death — by 5.6% (4, 7).

The same daily dose of EPA increased the omega-3 index of the same participants by only 3.3%.

DHA also decreased blood triglycerides more than EPA — 13.3% versus 11.9% — and increased “good” HDL cholesterol by 7.6% compared to a slight decrease for EPA (3, 8).

Notably, DHA tends to increase “bad” LDL cholesterol levels but mainly the number of large, fluffy LDL particles, which — unlike small, dense LDL particles — aren't linked to increased heart disease risk (8, 9).

Summary Though both DHA and EPA support heart health, DHA may be more effective at increasing your omega-3 index, decreasing triglycerides and improving your cholesterol profile.

2. May Improve ADHD

Attention deficit hyperactivity disorder (ADHD) — characterized by impulsive behaviors and difficulty concentrating — generally starts in childhood but often continues into adulthood ([10](#)).

As the main omega-3 fat in your brain, DHA helps increase blood flow during mental tasks. Research has shown that children and adults with [ADHD](#) commonly have lower blood levels of DHA ([10](#), [11](#), [12](#), [13](#)).

In a recent review, seven of nine studies that tested the effects of DHA supplements in children with ADHD showed some improvement — such as with regard to attention or behavior ([14](#)).

For example, in a large 16-week study in 362 children, those taking 600 mg of DHA daily had an 8% decrease in impulsive behaviors as rated by their parents — which was twice the decrease observed in the placebo group ([15](#)).

In another 16-week study in 40 boys with ADHD, 650 mg each of DHA and EPA daily alongside the children's usual ADHD medication resulted in a 15% decrease in attention problems, compared to a 15% increase in the placebo group ([16](#)).

Summary Children and adults with ADHD commonly have lower blood levels of DHA, which plays a key role in brain function. The majority of studies testing the effects of DHA supplements in children with ADHD have shown benefits to behavior or attention.

3. Reduces the Risk of Early Preterm Births

Delivering a baby before 34 weeks of pregnancy is considered an early preterm birth and increases the baby's risk of health problems ([17](#)).

An analysis of two large studies found that women consuming 600–800 mg of DHA daily during pregnancy reduced their risk of early preterm birth by more than 40% in the US and 64% in Australia, compared to those taking a placebo ([18](#)).

Therefore, it's especially important to make sure you're getting sufficient amounts of DHA when you're pregnant — either through diet, supplements or both.

To achieve these levels, pregnant women are advised to eat 8 ounces (226 grams) of low-mercury, omega-3-rich [fish](#) weekly. While many women take prenatal vitamins, keep in mind that some products lack DHA, so be sure to read the label carefully ([19](#), [20](#)).

Summary Taking 600–800 mg of DHA daily during pregnancy could significantly reduce your risk of early preterm birth. Bear in mind that some prenatal vitamins don't contain DHA.

4. Fights Inflammation

Omega-3 fats such as DHA have anti-inflammatory effects.

Increasing your DHA intake can help balance the excess of inflammatory [omega-6 fats](#) that is typical of Western diets rich in soybean and corn oil ([21](#)).

DHA's anti-inflammatory properties may reduce your risk of chronic diseases that are common with age, such as heart and gum disease, and improve autoimmune conditions like rheumatoid arthritis, which causes joint pain ([22](#)).

For example, in a 10-week study in 38 people with rheumatoid arthritis, 2,100 mg of DHA daily decreased the number of swollen joints by 28%, compared to a placebo. ([23](#)).

Though previous studies had shown supplements combining DHA and EPA helped improve rheumatoid arthritis symptoms, this study was the first to indicate that DHA alone could reduce inflammation and ease symptoms.

Summary Increasing DHA intake may help reduce inflammation and balance the excess of inflammatory omega-6 fats typical in Western diets. Therefore, DHA may help counteract symptoms of conditions like rheumatoid arthritis and heart disease.

5. Supports Muscle Recovery After Exercise

Strenuous exercise can trigger muscle inflammation and soreness. DHA — alone or in combination with EPA — may help reduce muscle soreness and limitations in range of motion after exercise, partly due to its [anti-inflammatory effects](#) ([24](#), [25](#)).

In one study, 27 women taking 3,000 mg of DHA daily for a week had 23% less muscle soreness after doing bicep curls than the placebo group ([24](#)).

Similarly, when 24 men supplemented with 260 mg of DHA and 600 mg of EPA daily for eight weeks, they had no decrease in their range of motion after an elbow-strengthening exercise, whereas men in the placebo group saw an 18% decrease ([26](#)).

Summary DHA — alone or combined with EPA — may help reduce muscle soreness and limitations in range of motion after exercise, partly due to its anti-inflammatory effects.

6. Helps Some Eye Conditions

It's uncertain whether DHA and other omega-3 fats help age-related macular degeneration (AMD) as once thought, but they may improve dry eyes and diabetic eye disease (retinopathy) ([27](#), [28](#), [29](#)).

What's more, two recent studies suggest that DHA may decrease contact lens discomfort and glaucoma risk.

In one 12-week study in contact lens wearers, 600 mg of DHA and 900 mg of EPA daily improved eye discomfort by 42% — which was similar to improvements noticed with corticosteroid eye drops ([30](#)).

Additionally, 500 mg of DHA and 1,000 mg of EPA daily for three months decreased eye pressure in healthy people by 8%. Elevated eye pressure is a risk factor for glaucoma, a disease that gradually erodes vision ([31](#)).

Summary DHA may improve certain eye conditions, including dry eyes and diabetic retinopathy. It may also decrease contact lens discomfort and reduce eye pressure, a risk factor for glaucoma.

7. May Reduce Your Risk of Certain Cancers

Chronic inflammation is a risk factor for cancer. Higher intake of omega-3 fats such as DHA has been linked to a lower risk of several cancers, including colorectal, pancreatic, breast and prostate cancer ([32](#), [33](#), [34](#)).

DHA may help reduce [cancer risk](#) through its anti-inflammatory effects. Cell studies also show that it may inhibit cancer cell growth ([33](#), [35](#), [36](#), [37](#)).

Additionally, a small number of studies suggest that DHA may improve chemotherapy benefits. However, these tests are experimental, and scientists are working to understand how DHA may help ([37](#)).

Studies indicate that DHA may improve the effectiveness of anticancer drugs and fight cancer cells, but further research is needed ([38](#)).

Summary Higher intake of fish oils such as DHA has been linked to a lower risk of several cancers, including colorectal, breast and prostate cancer. Preliminary studies suggest that DHA may improve chemotherapy benefits, but more research is needed.

8. May Help Prevent or Slow Alzheimer's Disease

DHA is the main omega-3 fat in your brain and essential for a functional nervous system, which includes [your brain](#).

Studies have shown that people with Alzheimer's disease have lower levels of DHA in their brains than older adults with good brain function ([39](#)).

Additionally, in a review of 20 observational studies, higher intake of omega-3 fats was linked to a reduced risk of declining mental ability — a characteristic of different types of dementia, including Alzheimer's disease — in all but three studies ([40](#)).

However, in 13 studies that tested the effects of omega-3 supplements in people with dementia, eight showed a benefit for mental ability while five didn't ([40](#)).

The evidence suggests that DHA and other omega-3 supplements may be most beneficial before brain function significantly declines and interferes with daily activities ([39](#), [40](#), [41](#)).

Summary DHA is important for brain function, and higher omega-3 intake may reduce your risk of types of dementia like Alzheimer's. It's unclear whether DHA can slow Alzheimer's progression, but success may be more likely if you begin supplementing early.

9. Lowers Blood Pressure and Supports Circulation

DHA supports good blood flow, or circulation, and may improve endothelial function — the ability of your blood vessels to dilate ([42](#)).

A review of 20 studies found that DHA and EPA may also help lower blood pressure, though each specific fat may affect different aspects.

DHA reduced diastolic blood pressure (the bottom number of a reading) an average of 3.1 mmHg, while EPA reduced systolic blood pressure (the top number of a reading) an average of 3.8 mmHg ([43](#)).

Though elevated systolic blood pressure is a greater risk factor for heart disease than diastolic pressure for people over 50, elevated diastolic blood pressure also increases your risk of heart attack and stroke ([44](#)).

Summary DHA may support the proper functioning of your arteries, improve blood flow and lower blood pressure. This may help reduce heart attack and stroke risk.

10. Aids Normal Brain and Eye Development in Babies

DHA is essential for brain and eye development in babies. These organs grow rapidly during a woman's last trimester of pregnancy and the first few years of life ([45](#), [46](#), [47](#)).

Therefore, it's important for women to get enough DHA during pregnancy and while breastfeeding ([48](#), [49](#)).

In a study in 82 babies, the mothers' DHA levels before childbirth accounted for 33% of the difference in the child's problem-solving ability at age one, suggesting a link between higher DHA levels in mothers and better problem-solving in their children (46).

Notably, preterm babies have higher DHA needs since the majority of this fat is attained during the third trimester (47).

In a study in 31 preterm babies, daily doses of 55 mg per pound (120 mg per kg) of DHA for one month after birth prevented the drop in DHA typically seen after preterm birth, compared to a placebo (50).

Summary DHA is important for a baby's brain and visual development. A mom's DHA is passed to her infant during pregnancy — especially during the third trimester — as well as through breast milk. Babies born preterm may benefit from supplemental DHA.

11. Supports Men's Reproductive Health

Almost 50% of infertility cases are due to factors in [men's reproductive health](#), and dietary fat intake has been shown to affect sperm health (51).

In fact, low DHA status is the most common cause of low-quality sperm and frequently found in men with subfertility or infertility problems (51, 52, 53).

Getting adequate DHA supports both the vitality (percentage of live, healthy sperm in semen) and motility of sperm, which impacts fertility (51).

Summary Without enough DHA, sperm health and motility are compromised, which can reduce a man's fertility.

12. May Help Protect Mental Health

Up to 20% of Americans live with mild depression while 2–7% have major depression (54).

Getting adequate amounts of DHA and EPA is associated with a reduced risk of depression (55).

In a study in about 22,000 adults in Norway, those who reported taking cod liver oil daily — which supplied 300–600 mg each of DHA and EPA — were 30% less likely to have symptoms of depression than those who didn't (55).

While this study does not prove cause and effect, other research suggests ways in which DHA and EPA may reduce depression risk.

DHA and EPA aid serotonin, a nerve messenger which can help balance your mood. The anti-inflammatory effects of these omega-3 fats on nerve cells may reduce depression risk as well ([55](#), [56](#), [57](#), [58](#)).

Summary Adequate DHA and EPA levels are linked to a reduced risk of depression. These fats support serotonin — a nerve messenger that helps balance your mood. Plus, they have anti-inflammatory effects on nerve cells, which may reduce depression risk as well.

What Dose of DHA Do You Need?

Experts have not set a Reference Daily Intake (RDI) for DHA, but 200–500 mg of DHA plus EPA per day are generally advised for good health. This can come from fish, supplements or a combination of both ([59](#)).

There isn't an upper limit on how much DHA you can take, but the FDA has advised limiting total DHA and EPA intake from all sources to 3,000 mg daily, with only 2,000 mg of this limit coming from supplements ([60](#)).

Still, doses used in some studies are higher, and the European Food Safety Authority claims that up to 5,000 mg daily of EPA plus DHA in supplements appear safe ([60](#)).

It's best to discuss omega-3 supplement doses with your doctor for specific health concerns or if you plan to take high doses.

Summary For general good health, aim for 250–500 mg daily of DHA plus EPA from fish, supplements or both. For specific health concerns, higher doses may be used with your doctor's guidance.

Precautions and Potential Side Effects

If you have a health condition or are taking any medications, check with your doctor before taking DHA supplements.

Large doses of DHA and EPA can thin your blood, so if you're taking a blood-thinning drug or have surgery planned, your doctor may advise you to avoid [fish oil supplements](#) or may need to monitor you more closely ([61](#)).

If you have a fish allergy, your doctor may advise you to avoid fish oil supplements, though very pure fish oils may not cause a problem. Algae is a non-fish source of DHA used in some supplements ([62](#)).

Other potential side effects of DHA include a fishy taste in your mouth and burping. Choosing highly-purified supplements and freezing the capsules may help minimize these side effects ([61](#)).

Summary Take DHA and other fish oil supplements under a doctor's guidance if you have a health condition, are taking certain medications or have fish allergies. Freezing fish oil capsules may reduce fishy tastes and burps.

The Bottom Line

DHA is an omega-3 fat that you should consume from food, supplements or both, as your body doesn't produce much of it.

It may help prevent or improve chronic conditions, such as heart disease, certain cancers, Alzheimer's disease, depression and inflammatory conditions like rheumatoid arthritis.

[DHA](#) is also essential for sperm health and a healthy pregnancy, including a reduced risk of preterm births and the proper development of babies' brains and eyes. In children, it may improve ADHD symptoms.

For general good health, aim for 200–500 mg daily of DHA plus EPA from food, supplements or both.