

Omega-3 Fatty Acids Fact Sheet for Consumers



Omega-3s are found in foods such as fatty fish and plant oils.

What are omega-3 fatty acids and what do they do?

Omega-3 fatty acids are found in foods, such as fish and flaxseed, and in dietary supplements, such as fish oil.

The three main omega-3 fatty acids are alpha-linolenic acid (ALA), eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA). ALA is found mainly in plant oils such as flaxseed, soybean, and canola oils. DHA and EPA are found in fish and other seafood.

ALA is an essential fatty acid, meaning that your body can't make it, so you must get it from the foods and beverages you consume. Your body can convert some ALA into EPA and then to DHA, but only in very small amounts. Therefore, getting EPA and DHA from foods (and dietary supplements if you take them) is the only practical way to increase levels of these omega-3 fatty acids in your body.

Omega-3s are important components of the membranes that surround each cell in your body. DHA levels are especially high in retina (eye), brain, and sperm cells. Omega-3s also provide calories to give your body energy and have many functions in your heart, blood vessels, lungs, immune system, and endocrine system (the network of hormone-producing glands).

How much omega-3s do I need?

Experts have not established recommended amounts for omega-3 fatty acids, except for ALA. Average daily recommended amounts for ALA are listed below in grams (g). The amount you need depends on your age and sex.

Life Stage	Recommended Amount
Birth to 12 months*	0.5 g
Children 1–3 years	0.7 g
Children 4–8 years	0.9 g
Boys 9–13 years	1.2 g
Girls 9–13 years	1.0 g
Teen boys 14–18 years	1.6 g
Teen girls 14–18 years	1.1 g
Men	1.6 g
Women	1.1 g
Pregnant teens and women	1.4 g
Breastfeeding teens and women	1.3 g

*As total omega-3s. All other values are for ALA alone.

What foods provide omega-3s?

Omega-3s are found naturally in some foods and are added to some fortified foods. You can get adequate amounts of omega-3s by eating a variety of foods, including the following:

- Fish and other seafood (especially cold-water fatty fish, such as salmon, mackerel, tuna, herring, and sardines)
- Nuts and seeds (such as flaxseed, chia seeds, and walnuts)
- Plant oils (such as flaxseed oil, soybean oil, and canola oil)
- Fortified foods (such as certain brands of eggs, yogurt, juices, milk, soy beverages, and infant formulas)

What kinds of omega-3 dietary supplements are available?

Omega-3 dietary supplements include fish oil, krill oil, cod liver oil, and algal oil (a vegetarian source that comes from algae). They provide a wide range of doses and forms of omega-3s.

Am I getting enough omega-3s?

Most people in the United States get enough ALA from the foods they eat. They also get small amounts of EPA and DHA. Recommended amounts of EPA and DHA have not been established.

What happens if I don't get enough omega-3s?

A deficiency of omega-3s can cause rough, scaly skin and a red, swollen, itchy rash. Omega-3 deficiency is very rare in the United States.

What are some effects of omega-3s?

Scientists are studying omega-3s to understand how they affect health. People who eat fish and other seafood have a lower risk of several chronic diseases. But it is not clear whether these health benefits come from simply eating these foods or from the omega-3s in these foods. Here are some examples of what the research has shown.

Cardiovascular disease

Many studies show that eating fatty fish and other types of seafood as part of a healthy eating pattern helps keep your heart healthy and helps protect you from some heart problems. Getting more EPA and DHA from foods or dietary supplements lowers triglyceride levels, for example.

The American Heart Association (AHA) recommends eating one to two servings of seafood per week to reduce your risk of some heart problems, especially if you consume the seafood in place of less healthy foods. For people with heart disease, the AHA recommends consuming about 1 g per day EPA plus

DHA, preferably from oily fish, but supplements are an option under the guidance of a healthcare provider. The AHA does not recommend omega-3 supplements for people who do not have a high risk of cardiovascular disease.

Infant health and development

During pregnancy and breastfeeding, eating 8 to 12 ounces per week of fish and other seafood may improve your baby's health. However, it is important to choose fish that are higher in EPA and DHA and lower in mercury. Examples are salmon, herring, sardines, and trout. It is not clear whether taking dietary supplements containing EPA and DHA during pregnancy or breastfeeding affects a baby's health or development. However, some studies show that taking these supplements may slightly increase a baby's weight at birth and the length of time the baby is in the womb, both of which may be beneficial. Breast milk contains DHA. Most commercial infant formulas also contain DHA.

Cancer prevention

Some studies suggest that people who get more omega-3s from foods and dietary supplements may have a lower risk of breast cancer and perhaps colorectal cancer. But a large clinical trial found that omega-3 supplements did not reduce the overall risk of cancer, or the risk of breast, prostate, or colorectal cancers. Other clinical trials in progress will help clarify whether omega-3s affect cancer risk.

Alzheimer's disease, dementia, cognitive function

Some—but not all—research shows that people who consume more omega-3s from food such as fish may have a lower risk of developing Alzheimer's disease, dementia, and other problems with cognitive function. More study of the effects of omega-3s on the brain is needed.

Age-related macular degeneration (AMD)

AMD is a major cause of vision loss among older adults. Studies suggest that people who get higher amounts of omega-3s from the foods they eat may have a lower risk of developing AMD. But once someone has AMD, taking omega-3 supplements does not keep the disease from getting worse or slow down vision loss.

Dry eye disease

Dry eye disease occurs when tears don't provide enough moisture, causing eye discomfort and vision problems. Some studies show that getting more omega-3s from foods or supplements—mainly EPA and DHA—helps relieve symptoms of dry eye disease. But a large, recent study found that the symptoms of people with dry eye disease who took fish oil

supplements of 2,000 mg EPA plus 1,000 mg DHA daily for 1 year did not improve any more than those who took a placebo (a dummy pill). More research on the effects of omega-3s on dry eye disease is needed.

Rheumatoid arthritis (RA)

RA causes chronic pain, swelling, stiffness, and loss of function in the joints. Some clinical trials have shown that taking omega-3 supplements may help manage RA when taken together with standard RA medications and other treatments. For example, people with RA who take omega-3 supplements may need less pain-relief medication, but it is not clear if the supplements reduce joint pain, swelling, or morning stiffness.

Other conditions

Researchers are studying whether taking omega-3 dietary supplements may help lessen some of the symptoms of attention-deficit/hyperactivity disorder, childhood allergies, and cystic fibrosis. But more research is needed to fully understand the potential benefits of omega-3s for these and other conditions.

Can omega-3s be harmful?

The U.S. Food and Drug Administration recommends consuming no more than 3 g/day of EPA and DHA combined, including up to 2 g/day from dietary supplements. Higher doses are sometimes used to lower triglycerides, but anyone taking omega-3s for this purpose should be under the care of a healthcare provider because these doses could cause bleeding problems and possibly affect immune function. Any side effects from taking omega-3 supplements in smaller amounts are usually mild. They include an unpleasant taste in the mouth, bad breath, heartburn, nausea, stomach discomfort, diarrhea, headache, and smelly sweat.

Are there any interactions with omega-3s that I should know about?

Omega-3 dietary supplements may interact with the medications you take. For example, high doses of omega-3s may cause bleeding problems when taken with warfarin (Coumadin®) or other anticoagulant medicines.

Talk with your healthcare provider about possible interactions between omega-3 supplements and your medications.

Omega-3s and healthful eating

People should get most of their nutrients from food, advises the federal government's *Dietary Guidelines for Americans*. Foods contain vitamins, minerals, dietary fiber, and other substances that benefit health. In some cases, fortified foods and dietary supplements may provide nutrients that otherwise may be consumed in less-than-recommended amounts. For more information about building your own healthy eating pattern, visit ChooseMyPlate.gov. MyPlate offers messages, resources, and tools to help you make the choices that are right for you, based on the Dietary Guidelines for Americans.

Where can I find out more about omega-3s?

For general information on omega-3 fatty acids:

- Office of Dietary Supplements Health Professional Fact Sheet on Omega-3 Fatty Acids
- Omega-3 Fatty Acids, MedlinePlus®

For more information on food sources of omega-3 fatty acids:

- U.S. Department of Agriculture's (USDA) National Nutrient Database
- Nutrient List for ALA (listed by food or by ALA content), USDA
- Nutrient List for DHA (listed by food or by DHA content), USDA
- Nutrient List for EPA (listed by food or by EPA content), USDA

For more advice on buying dietary supplements:

- Office of Dietary Supplements Frequently Asked Questions: Which brand(s) of dietary supplements should I purchase?

For information about building a healthy diet:

- MyPlate
- *Dietary Guidelines for Americans*

Disclaimer

This fact sheet by the Office of Dietary Supplements provides information that should not take the place of medical advice. We encourage you to talk to your healthcare providers (doctor, registered dietitian, pharmacist, etc.) about your interest in, questions about, or use of dietary supplements and what may be best for your overall health. Any mention in this publication of a specific brand name is not an endorsement of the product.



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