The Research-Proven Benefits of OMEGA-3s
SHOULD YOU REALLY ADD FAT TO YOUR DIET?

If you’re like most people, you equate “fat-free” with healthy. But modern research is showing that not all fats are equal. In fact, some types of fat can actually help reduce the risk of disease and improve health.

The key is recognizing which fats are bad, which are good, and adding healthy fats while reducing or eliminating the unhealthy fat.

GOOD FAT VS. BAD FAT
While there are dozens of types of fat, it’s easiest to break them down into three major types—unsaturated, saturated, and trans fats. Trans fats elevate LDL (bad) cholesterol while lowering HDL (good) cholesterol and should be avoided. Saturated fats also raise LDL cholesterol, and it’s recommended that you limit your consumption of these fats.

Unsaturated fats, especially polyunsaturated fats, are essential to your good health and are the ones you should be including in your diet. Polyunsaturated fats provide the greatest benefits, and some of the most crucial polyunsaturated fats are known as omega-3s.

WHAT ARE OMEGA-3s?
Omega-3s are a group of long-chain polyunsaturated fatty acids. While there are roughly a dozen different varieties, two long-chain forms are particularly important to human health—DHA and EPA. They are so important, they are considered “essential” because they are required for optimal health, but cannot be manufactured by the body. They must be obtained from your diet.

| TRANS FAT as artificially hydrogenated shortenings | SATURATED FAT as butyric, lauric, myristic, palmitic, and stearic acids | UNSATURATED FAT as monounsaturated and polyunsaturated fats including omega-3s, 6s, and 9s |
| Foods | Effects | Effects |
| cookies, donuts, cakes | Increases LDL cholesterol while lowering HDL cholesterol | almonds, vegetables, olive oil, fish |
| french fries | | |
| hydrogenated oil | beef, butter, lard | Can increase LDL cholesterol |
| | pizza | |
| | ice cream | An essential nutrient to the body, it helps raise good cholesterol levels |
NOT ALL OMEGA-3s ARE CREATED EQUAL

When it comes to omega-3s, there are about a dozen different varieties, but the ones that provide the greatest health benefits are DHA and EPA omega-3s.

Almost all omega-3s begin as polyunsaturated fatty acids in plant sources such as flaxseed, chia seed, walnuts, and soy. In this form, they are known as ALA omega-3s.

Most animals, as well as humans, have the ability to convert ALA into the beneficial DHA and EPA, but the rate of conversion differs greatly.

Humans have a difficult time converting ALA into usable DHA and EPA omega-3s. Depending on age and gender, only 0.1%–12% of the ALA humans consume can be converted into DHA and EPA.¹,² Deep sea fish, on the other hand, are extremely efficient at converting ALA into DHA and EPA, making them one of the richest sources of precious omega-3s on the planet.

Since humans have a difficult time converting ALA omega-3s to the beneficial DHA and EPA forms, the most efficient way to get the health benefits is to consume DHA and EPA directly from the appropriate animal sources. As consumers, it is also helpful to be aware that just because a food or supplement contains omega-3s, that does not mean it contains DHA and EPA omega-3s.

¹ Holub B, “Differentiation of ALA (Plant Sources) from DHA + EPA (Marine Sources) as Dietary Omega-3 Fatty Acids for Human Health,” University of Guelph, Canada, 2006.
WHO NEEDS OMEGA-3s?

The unique chemical structure of omega-3s makes them strong yet flexible, so they provide the ideal building blocks for critical cells and organs throughout the body.

DHA omega-3s help give red blood cells their flexibility, which improves circulation. They are a primary structural component of the brain. They are one of the few nutrients that can cross the blood-brain barrier for use in the brain. And they are critical to nerve and eye development and function. In fact, omega-3s are essential at every stage of life.

PRENATAL
Fetal development is dependent on omega-3s. DHA is the building block that the brain and eyes are built from. It is also believed that DHA and EPA play a role in determining length of gestation and in reducing risk of perinatal depression.

INFANCY/CHILDHOOD
The majority of growth and development occurs during this time of life, and omega-3s are critical to proper brain, eye, and nerve development. Deficiencies at this stage can result in compromised function later in life.

ADULTHOOD
Extensive research indicates that omega-3s help reduce inflammation, reducing the risk of inflammatory diseases like heart disease and arthritis. Omega-3s are also a powerful heart health protector.

OLD AGE
Omega-3s have been shown to slow age-related memory loss. They’ve also been shown to help slow brain shrinkage in the region responsible for memory and cognitive function.
WHY AREN’T WE GETTING ENOUGH OMEGA-3s?

Omega-3s are a do-it-all nutrient that can benefit people at every stage of life, but statistics show that even the most healthy lifestyles are still lacking in this crucial nutrient. To understand why we aren’t getting enough, you first have to understand that it’s not just about quantity, it’s also about proportions.

If you turn back the clock about 150 years, you’ll find that our ancestors consumed a diet that included about the same amounts of omega-6s and omega-3s. This is the ideal balance for optimal health, because while some omega-6 fatty acids are essential for health, they can also create health problems when eaten in excess.

Move forward in time, and instead of getting a few omega-6s from poultry, eggs, nuts, and seeds, we began consuming large quantities of canola oil, corn oil, and products like margarine, which drastically increase the amount of omega-6s in our diet. Modern practices of feeding cattle and chickens grain instead of grasses and insects also reduced the amount of omega-3s in the food we eat. Fatty coldwater seafood—the primary source of DHA and EPA—also became more scarce at the dinner table. The result is a startling imbalance between omega-6s and omega-3s.

In fact, the typical American diet now tends to contain 20 times more omega-6s than omega-3s. Why is that such a problem?

Both omega-3s and omega-6s rely on the same enzymes to convert them into their most useful forms. And while the enzymes prefer omega-3s, when there are over 20 times more omega-6s than omega-3s, the omega-6s win!
INCREDIBLE BRAIN BOOSTER

Approximately two-thirds of the brain is composed of fats, and DHA omega-3s are a major structural component.

When you consider that DHA accounts for over 90% of the omega-3s in the brain, it’s little wonder that research has shown that omega-3s are essential in promoting optimal brain health. In fact, omega-3s have been shown to help in almost every area of brain function and development for people of all ages, including:

- Slowing the progression of age-related memory loss³
- Reducing the risk of dementia⁴
- Supporting healthy brain function⁵
- Supporting memory⁶
- Supporting focus and attention
- Safeguarding against depression⁷
- Protecting nerve and brain cells from oxidative stress and damage

ADDED PROTECTION AGAINST ALZHEIMER’S

Alzheimer’s disease causes brain cells to shrink or disappear, replacing them with dense spots known as plaque. According to a report published in the January 24, 2012 issue of Neurology, researchers believe that brain shrinkage can help predict Alzheimer’s disease years before it can be diagnosed. More importantly, they also found that those with diets high in omega-3s are less likely to have brain shrinkage. In fact, low blood levels of DHA is a risk factor for Alzheimer’s disease. As lead researcher, Gene Bowman stated, “It is very exciting to think that people could potentially stop their brains from shrinking and keep them sharp by adjusting their diet.”

And while Alzheimer’s and dementia are primarily associated with the elderly, it’s worth noting that the brain reaches its largest size at about age 20, and begins shrinking shortly thereafter. By age 45, the average brain has already decreased by 11% from its maximum weight in early adulthood.

as early as the 1930s, omega-3s were recognized for their importance for normal prenatal growth and health, but more recent studies have confirmed that from infancy to adolescence, omega-3s can have a powerful effect on healthy physical and mental development.

Prenatal Benefits

- Omega-3s taken during pregnancy improve cognitive ability and IQ through adolescence
- Omega-3s promote the healthy development of the fetal brain, eyes, and nervous system
- Omega-3s taken during pregnancy improve childhood vision

Childhood Benefits

While prenatal development is crucial, the vast majority of brain development continues until about age 5, making omega-3s incredibly valuable to children. Omega-3s also provide additional benefits for teenagers. A study conducted at the University of Pittsburgh found that teens who regularly supplemented with omega-3s scored higher on cognitive tests.

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Heart health is one of the most researched areas when it comes to omega-3s.

Hundreds of studies have clearly linked DHA and EPA consumption with improved heart health. One of the largest studies was the GISSI, an Italian study that included over 11,000 men who had survived a heart attack. It found that regular intake of omega-3s significantly decreased their risk of nonfatal heart attack and stroke, and decreased the overall rate of death.

How do omega-3s do this? The primary method is by helping reduce inflammation in the artery walls. This inflammation is what allows cholesterol to accumulate in the wall of the blood vessel and can lead to heart disease and strokes.

**OMEGA-3s HAVE BEEN SHOWN TO HELP:**

- Support healthy heart rate, blood pressure, and arterial flexibility
- Reduce the risk of heart disease
- Promote healthy triglyceride levels
- Support normal inflammation levels

FULL-BODY BENEFITS

While omega-3s give a particular boost to specific parts of the body, the way they impact health can have benefits far beyond just the brain and heart.

As more research is done to discover how omega-3s are able to provide such incredible health benefits, scientists have discovered that the power of omega-3s lies in their ability to manage inflammation throughout the body.

Inflammation is the broad term for the body’s immune response to foreign invaders or damage. Initially it is beneficial, but inflammation can cause more inflammation and become self-perpetuating. Hyperinflammation of this type is at the root of a whole host of health problems.

“Omega-3 fatty acids may be both protective, so that inflammation doesn’t go up, as well as therapeutic by helping inflammation go down,” said Jan Kiecolt-Glaser, professor of psychiatry and psychology at Ohio State University and lead author of a recent study printed in Brain, Behavior, and Immunity. This link to inflammation helps explain the additional benefits of omega-3s.

OMEGA-3s HAVE BEEN SHOWN TO HELP:

• Promote healthy eyes and vision
• Promote joint mobility and flexibility
• Nourish skin, hair, and nails
• Promote healthy immune response
How do we get more omega-3s in our diet?

Adding more omega-3s to the daily diet is the only way to enjoy their health benefits, but it’s not that easy to do through diet alone. The best food source for omega-3s is coldwater fish such as salmon, mackerel, and sardines. The concentration of omega-3s is higher in coldwater fish than almost any other source, and it’s also in the ideal form for the body to readily use—DHA and EPA.

The problem is not everyone is a seafood lover, and even if you are, health specialists warn against eating fish more than 2–3 times a week because of the potential risk of mercury or PCB contamination.

For most people the easiest solution is to supplement, but not all supplements are the same. Here are a few things to look for when choosing an omega-3 supplement:

**DHA AND EPA LEVELS**
Just because it’s a fish oil supplement doesn’t mean it’s high in DHA and EPA. While the dosage may list 1,000–2,000 mg of fish oil, look closer to see how much of it is actually DHA and EPA.

**PURIFICATION**
Ideally, you want to find a supplement that’s sourced from pure coldwater fish, and then purified, distilled, and certified to contain no contaminants.
ARE YOU GETTING ENOUGH OMEGA-3s EVERY DAY?

To get the recommended levels of DHA and EPA for healthy adults (1,000 mg DHA and EPA) you would have to consume one of the following amounts of seafood every day:

- **Tilapia**: 84 oz.
- **Clams**: 31 oz.
- **Lobster**: 21 oz.
- **Scallops**: 21 oz.
- **Cod**: 18 oz.
- **Haddock**: 18 oz.
- **Catfish**: 12 oz.
- **Tuna**: 10 oz.
- **Trout**: 6 oz.
- **Sardines**: 6 oz.
- **Salmon**: 3 oz.

HOW MUCH DO YOU NEED?

While the FDA has yet to establish recommended daily values of DHA and EPA, numerous scientific studies have confirmed health benefits at the following daily guidelines:

- **<1,000 mg/day**
  - Children

- **1,400 mg/day**
  - Pregnant or nursing mothers

- **1,000–3,000 mg/day**
  - Healthy adults

- **2,000–4,000 mg/day**
  - Adults with heart health concerns

- **2,000–4,000 mg/day**
  - Adults with symptoms of Alzheimer’s

The simple act of adding omega-3s to your daily diet can result in a profound and lasting change that can benefit your health for the rest of your life.
“There’s very strong, medical-nutrition, literature-based evidence in humans suggesting that the average American would probably have a healthier life, a lower risk of dying from heart disease, and improved brain function by consuming more fish, more supplements, or more functional foods with DHA and EPA.”

Bruce Holub, Executive Director of the DHA/EPA Omega-3 Institute at the University of Guelph in Ontario