

Omega-3, Omega-6, Omega-9—What's the Difference?

Fats, particularly mono- and polyunsaturated fatty acids, are important components of a healthy diet. In particular, omega-3 and omega-6 have been noted for how they benefit the body. But what about omega-9? All of these unsaturated fatty acids are necessary within the body, so what makes them special, and how are they different from one another?

Breaking down the alphabet soup

You may have heard of EPA and DHA, but what about ALA and LA?

Alpha linolenic acid (ALA) is an essential omega-3 fat, and linoleic acid (LA) is an essential omega-6 fat. Both must be obtained through diet or supplements.¹ However, they must be balanced in intake for optimal health, because their biological activities can compete in the body.² Furthermore, they share the same enzymes required to produce long-chain polyunsaturated fatty acids like arachidonic acid (AA) from LA and eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) from ALA.² A predominance of LA in the diet from foods like vegetable oils and processed foods can lead to less production in the body of important omega-3 fatty acids.

Meet the omega-3 fats

Omega-3s are found in both marine and plant sources. While ALA is found in plants (e.g. flaxseeds, chia, walnuts), oily fish like salmon, herring, tuna, and sardines are good sources of EPA and DHA.³ DHA is particularly important for visual and neurological development,² while EPA is known to support cardiovascular health.³

The American Heart Association recommends that healthy adults eat a variety of oily fish, at least two servings per week, for ~500 mg/day of combined EPA and DHA.⁴ Although EPA and DHA can technically be made in the body from ALA, that conversion is very inefficient, so it is prudent to consume EPA and DHA directly² from seafood and high-quality supplements.

Eicosanoids are signaling molecules produced by various polyunsaturated acids. Eicosanoids produced from EPA have differing properties than those produced by AA.⁵ Resolvins and protectins are molecules that have been discovered recently and are derived from EPA and DHA and contain anti-inflammatory properties.⁵



Meet the omega-6 fats

The standard American diet is typically rich in omega-6 fatty acids, so meeting the daily recommended intake for LA (11-17 g/day for adults)¹ is not a challenge. In fact, the typical intake for omega-6 to omega-3 is around 15:1 and up to 20:1,⁶ whereas a healthy ratio of omega-6 to omega-3 fatty acids should be 1:1 up to 4:1.⁶

Eicosanoids produced by AA contain proinflammatory properties, and a high intake of LA and AA may increase the risk of certain inflammatory conditions.⁵

Sources include safflower, sunflower, sesame, soybean, and corn oil, as well as Brazil nuts and pine nuts.² Evening primrose and borage seed oil are examples of supplements that feature omega-6 fats.

According to the American Heart Association, 5% to 15% of daily calories should come from omega-6 fatty acids.⁷



Finally, the omega-9 fats

Omega-9 fatty acids (e.g. oleic and mead acids) can be made by the body, but the conversion enzymes required for synthesis prefer omega-3 and omega-6 over omega-9 fatty acids, so synthesis of omega-9 fatty acids only occurs when intake of omega-3 and -6 fats is very low.² Omega-9 is from a family of monounsaturated fats found in vegetables and animal fats.

Often associated with Mediterranean dietary patterns, sources of omega-9 fats include avocados, cashews, almonds, olives, and pecans.⁸



Adding it up

If you're not sure whether you're getting the right amounts of each of these omegas, talk to your healthcare practitioner. You'll soon be on the road to realizing the many health benefits that each fat provides.

References:

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