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Do omega-3 fish oil supplements have a proven health benefit?

If your granny insisted on fish on Fridays, she was on to something. Studies over the years have confirmed a host of health benefits linked to eating fish, particularly so-called 'oily' fish such as salmon, mackerel and sardines. These foods are rich in special types of fat called omega-3s which are important for your heart and brain. But how do you know if you're getting enough? And is it better to take a supplement?

How much fish should we be eating?

While the government has advised us all to [eat two portions of fish a week](#), including one of oily fish, the fact is most of us just don't get enough. Nutrition surveys show that [two thirds of us rarely have oily fish](#) and average intakes are half the recommended portion of 140 g. Teenagers do even worse with fewer than one in ten eating oily fish regularly. So, what can we do to get more omega-3s into our diets and how can these fats support our well-being?

Omega-3s unwrapped

The omega-3s are unsaturated fats which are found in olive oils, nuts, seeds, oily fish and related food supplements such as cod liver or algae oils. The omega-3s which have been specifically linked with health benefits are docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA).

According to Philip Calder, professor of nutritional immunology, at the University of Southampton: "Omega-3 fats work across the body influencing metabolism, blood clotting, immune function, inflammation, organ function, blood vessel performance and cell protection from stress. This means that they have a vital role in most areas of health."

Heart health

[Studies show](#) that people who eat oily fish or take fish oil supplements have a lower chance of developing heart conditions, such as [atherosclerosis](#). In [one review](#) of 14 studies, people were 25% less likely to have [heart disease](#) when their diets were rich in DHA and EPA. Omega-3s appear to offer benefits for heart disease prevention as well as protection for those with existing heart conditions, such as stroke or myocardial infarction.

The [British Heart Foundation](#) encourages the general public to up its fish consumption. Their senior dietician, Tracy Parker, says: "The benefits of omega-3s seem to come from eating fish rather than taking supplements. Non-fish options do contain some omega-3s, such as flaxseed, flaxseed oil, walnuts, canola oil, soybeans and soybean oil. However, similar to supplements, the evidence of heart-health benefits from eating these foods isn't as strong as it is from eating fish."

The UK doesn't yet have specific advice for patients – just that we should all eat fish twice a week. However, the American Heart Association published [new guidelines](#) in 2017 for different groups of people.

Brain function

Omega-3s play several roles in the brain such as being part of the protective covering of nerve cells, helping electrical messages to pass freely across the nervous system and keeping blood vessels healthy so that nutrients and oxygen can get to all parts of the brain. There's even some [evidence](#) that regular fish eaters have a lower risk of [depression](#), dementia and Alzheimer's disease.

Omega-3s in pregnancy

Omega-3s also support normal development in early life. As Calder comments: "A supply of omega-3 fats, especially DHA, is vital for eye function and brain development in the growing fetus as well as in newborns."

In the UK, there are no specific recommendations for pregnancy. However, dietician Dr Frankie Phillips notes: "Pregnant women should aim to eat one portion of oily fish a week. If this isn't possible, a daily fish oil supplement specifically formulated for pregnancy can be used. Regular fish oil supplements are not recommended for pregnant women as they are too high in vitamin A, which may harm the unborn child. When complementary foods are introduced after six months, babies can be offered boneless fish, or given a daily liquid fish oil supplement."

Inflammatory conditions

Omega-3s are anti-inflammatory which means that they have a calming effect on immune function. Omega-3 supplements have been shown to manage symptoms in inflammatory conditions such as [rheumatoid arthritis](#), [asthma](#) and [psoriasis](#). There are no official recommendations to boost omega-3s to combat inflammation. However, a [SIGN guideline](#) notes that clinical trials in rheumatoid arthritis show that fish oils can help reduce tender joints and morning stiffness after three months.

"Evidence suggests that fish body oil can improve the symptoms of rheumatoid arthritis," says the charity, [Arthritis Research UK](#). "Unconfirmed evidence also suggests a combination of fish body and liver oils might also be useful in the long term, particularly in reducing the use of non-steroidal anti-inflammatory drugs."

George Black, 79, who lives in a rural area of Fife, takes a fish oil supplement every day to keep joint pain at bay. "My joints started getting stiff and painful in the mornings when I hit my sixties. I like to run and cycle so I've found that a daily spoon of cod liver oil helps with the discomfort and keeps me active. I still eat fish but I feel at my age that I need the extra omega-3 oils that I get in a supplement."

Fish or supplements?

The best option to ensure you're getting enough omega-3s is to eat fish twice a week, including one 140 g portion of oily fish (just less than the size of two packs of cards). Children can be offered small portions of oily fish from 6 months when weaning is established. Try mashing salmon with potato and carrots, and check for bones.

If you prefer to take a supplement (for example, if you don't like fish), check the label for the amount of DHA and EPA. This should be at least 200 mg so that it makes a decent contribution to the recommended 450 mg per day. People trying to reduce blood fats (lipids) or who have pre-existing heart disease should aim for 1000 mg per day. Vegan and vegetarian options are available which are made from algae rather than fish. These also contain DHA and EPA.

If you intend on taking a supplement because you have been diagnosed with a heart condition, always consult your doctor first, especially if you're taking prescription medicines for clotting.

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