

DIET AND SUPPLEMENTATION · 14.2

Omega-3 Fatty Acids for ADHD: EPA, DHA and the Evidence Base

Omega-3 fatty acid supplementation is the most-studied nutritional intervention for ADHD. The evidence base is real, the effect size is small, and the marketing is significantly ahead of the data. This summary covers what the meta-analyses show, EPA versus DHA, and where omega-3 fits.

FOR

Parents and adults considering fish oil or omega-3 supplements alongside ADHD treatment

AUDIENCE AGE

REVIEWED

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PART OF

The NeuroFX resource library

IN SUMMARY

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What omega-3 is and the rationale

- **Three nutritionally relevant omega-3s.** Alpha-linolenic acid from plants converts only modestly to EPA and DHA in the body. EPA and DHA come from oily fish and algae and are the forms studied in ADHD trials.
- **The biological rationale is plausible.** EPA and DHA are major structural components of neuronal membranes, modulate dopamine and serotonin signalling, and have anti-inflammatory effects. The hypothesis is biologically plausible; whether the clinical effect is large enough to matter at the individual level is the actual evidence question.
- **Three meta-analyses anchor the picture.** Bloch & Qawasmi 2011 pooled ten paediatric trials and found a small effect. Sonuga-Barke 2013 showed the effect shrinks further with blinded raters. Chang 2018 found larger effects in children with lower baseline omega-3 status.

What it does and does not do

- **Real but small effect at population level.** Standardised mean difference around 0.31 in the largest meta-analysis. Substantially smaller than stimulant medication. Individual response varies.
- **EPA-weighted formulations show slightly better effects.** Subgroup analyses suggest higher-EPA products outperform higher-DHA ones for ADHD specifically. The advantage is modest; choosing one over the other will not turn a small effect into a large one.
- **It does not replace stimulant medication.** Marketing that positions omega-3 as an alternative to harsh stimulants is not supported by head-to-head evidence. Where the medication route is appropriate, omega-3 is at best adjunct.
- **It does not act quickly or in everyone.** Trials run eight to sixteen weeks before effects emerge. A two-week home trial gives no useful information. The improvement, where it occurs, is usually subtle rather than dramatic.

How to think about using it

- **Discuss source and ratio with a clinician or pharmacist.** Fish oil, krill oil or algal oil for vegetarians; ALA-based plant sources convert poorly. EPA-to-DHA ratio matters slightly; reputable manufacturers test for oxidation and heavy metal contamination.
- **Disclose to the prescriber and any cardiology team.** Omega-3 has mild antiplatelet effects. Patients on warfarin, DOACs or other anticoagulants should not start omega-3 without clinical discussion. Adults with planned surgery typically pause it.
- **NICE NG87 does not recommend it routinely.** The Faraone consensus is similar: small evidence base, may help some, not a substitute for first-line treatment. The pragmatic position is as adjunct rather than primary treatment.

WHEN TO SPEAK TO A PROFESSIONAL

Speak to your GP, prescribing clinician, pharmacist, or a registered dietitian before starting omega-3 supplementation for ADHD, particularly if you or your child are on prescribed medication or anticoagulants. NeuroFX assessment includes a review of current supplements alongside prescribed medication. The pharmacist is often the most accessible source of practical advice on supplement choice and interactions in the UK.

SOURCES

Bloch & Qawasmi 2011 JAACAP; Chang 2018 Neuropsychopharmacology; Cooper 2015 J Psychopharmacol; Sonuga-Barke 2013 Am J Psychiatry; NICE NG87; Faraone consensus 2021

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