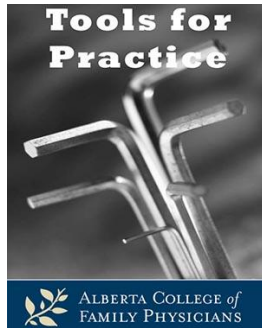


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Omega-3 Supplements for Dry Eye: Fishy evidence or a big catch?

Clinical Question: Does oral omega-3 supplementation improve symptoms of dry eye disease?

Bottom Line: The evidence for omega-3 is inconsistent. The best quality randomized control trial (RCT) found that omega-3 supplementation does not improve dry eye symptoms or function. Smaller RCTs suggest statistically significant benefits in symptom scores that are not always clinically relevant. At best, omega-3 will improve symptoms about 3.9 points more than placebo on an 18-point symptom score.

Evidence:

- Eleven RCTs of omega-3 [with both eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA)] reporting patient-oriented outcomes:
 - Best quality RCT, 535 patients, mean age 58, with moderate symptoms of dry eye disease. Outcomes at one year:¹
 - Omega-3 (2,000/1,000 mg EPA/DHA per day) versus placebo.
 - No difference in symptom scores, patient function, objective measures, or adverse events.
 - One RCT, 105 patients, mean age 57, with moderate Meibomian gland dysfunction. Outcomes at three months Omega-3 (1,680/560 mg EPA/DHA per day) versus placebo:²
 - Statistical improvement on the 100-point Ocular Surface Disease Index:
 - Attained score (lower better): 16 with omega-3 versus 22 with placebo.
 - Difference likely not clinically relevant (minimal clinically important difference 7-10).³
 - Ocular Surface Disease Index is the only assessment tool that includes symptoms, vision-related function and environmental triggers related to dry eye.
 - Limitations: Industry funded.
 - Four RCTs, 256-518 patients. At 1.5-6 months:⁴⁻⁷
 - Omega-3 used ranged 325-720 mg for EPA and 175-480 mg DHA.

- Statistically significant improvement of 2.0-4.6 versus 0.2-0.7 points (placebo) on 18-point symptom scale.
 - Maybe clinically relevant.
- Limitations: All written by the same lead author. Used a non-standard scale created by the authors that assesses symptoms but not patient function.
- Smaller RCTs report statistical but not clinically significant improvements with omega-3.⁸⁻¹²

Context:

- Guidelines suggest artificial tear lubricants (~\$11 per 30-day supply depending on usage), hot compresses, and environmental changes, such increasing humidity, for management of dry eyes.^{13,14}
- There are no omega-3 dose recommendations for dry eyes provided in the guidelines.^{13,14}
- Cost of omega-3 supplementation is ~\$60 per 90-day supply (based on a daily dose of 1,800/900 mg EPA/DHA).

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Disclosure:

Authors do not have any conflicts of interest to declare.

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