

# Abstract

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## The Oxford-Durham study: a randomized, controlled trial of dietary supplementation with fatty acids in children with developmental coordination disorder.

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**BACKGROUND:** Developmental coordination disorder (DCD) affects approximately 5% of school-aged children. In addition to the core deficits in motor function, this condition is associated commonly with difficulties in learning, behavior, and psychosocial adjustment that persist into adulthood. Mounting evidence suggests that a relative lack of certain polyunsaturated fatty acids may contribute to related neurodevelopmental and psychiatric disorders such as dyslexia and attention-deficit/hyperactivity disorder. Given the current lack of effective, evidence-based treatment options for DCD, the use of fatty acid supplements merits investigation.

**METHODS:** A randomized, controlled trial of dietary supplementation with omega-3 and omega-6 fatty acids, compared with placebo, was conducted with 117 children with DCD (5-12 years of age). Treatment for 3 months in parallel groups was followed by a 1-way crossover from placebo to active treatment for an additional 3 months.

**RESULTS:** No effect of treatment on motor skills was apparent, but significant improvements for active treatment versus placebo were found in reading, spelling, and behavior over 3 months of treatment in parallel groups. After the crossover, similar changes were seen in the placebo-active group, whereas children continuing with active treatment maintained or improved their progress.

**CONCLUSIONS:** Fatty acid supplementation may offer a safe efficacious treatment option for educational and behavioral problems among children with DCD. Additional work is needed to investigate whether our inability to detect any improvement in motor skills reflects the measures used and to assess the durability of treatment effects on behavior and academic progress.

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