

Abstract

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Neuroprotection for the warrior: dietary supplementation with omega-3 fatty acids.

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BACKGROUND: Nutrition has traditionally involved in supplying energy and hydration. An emerging concept developed by the authors is the concept of using omega-3 fatty acids (n-3 FAs) to increase the resilience of the brain. The n-3 FAs have numerous proven benefits including support of cardiovascular and psychiatric health. Docosahexaenoic acid in particular, is found in high concentrations in the brain.

FINDINGS: N-3 FAs provide benefits by exerting a protective mechanism at the cellular and neuronal levels including the modulation of inflammatory cascade following traumatic brain injury. Promising research and evolving clinical experience now indicate that n-3 FA is useful and effective for recovery following traumatic brain injury. More exciting is that new laboratory research shows the beneficial effects extend to when n-3 FA is given before injury.

CONCLUSION: Given the safety profile, availability, and affordability of n-3 FA, Generally Recognized As Safe amounts of eicosapentaenoic acid and docosahexaenoic acid (up to 3,000 mg daily) should be considered for the athlete and soldier, not only for its general health benefits, but particularly also for those at risk or high exposure to brain impacts. A comprehensive, coordinated research program to evaluate the multiple uses of n-3 FA should be a high priority for the Department of Defense.

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