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Anti-obesity effects of long-chain omega-3 polyunsaturated fatty acids.

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Abstract

Animal studies suggest that increased consumption of the long-chain omega-3 polyunsaturated fatty acids, eicosapentaenoic acid and docosahexaenoic acid, can protect against the development of obesity in animals exposed to an obesogenic diet and reduce body fat when already obese. There is also evidence that increased intakes of these fatty acids can reduce body fat in humans, but human studies are relatively few and have generally been conducted over short time periods with small sample sizes, making it difficult to draw definitive conclusions. Reported reductions in body fat may result from appetite-suppressing effects, adipocyte apoptosis and changes of gene expression in skeletal muscle, heart, liver, intestine and adipose tissues that suppress fat deposition and increase fat oxidation and energy expenditure. We conclude that increased intakes of long-chain omega-3 fatty acids may improve body composition, but longer-term human studies are needed to confirm efficacy and determine whether increasing omega-3 intakes might be an effective strategy to combat obesity.

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