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The effects of cocoa flavanols on indices of muscle recovery and exercise performance: a narrative review

Liam D Corr¹, Adam Field¹, Deborah Pufal¹, Tom Clifford², Liam D Harper¹, Robert J Naughton³

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Abstract

Exercise-induced muscle damage (EIMD) is associated with oxidative stress and inflammation, muscle soreness, and reductions in muscle function. Cocoa flavanols (CF) are (poly)phenols with antioxidant and anti-inflammatory effects and thus may attenuate symptoms of EIMD. The purpose of this narrative review was to collate and evaluate the current literature investigating the effect of CF supplementation on markers of exercise-induced oxidative stress and inflammation, as well as changes in muscle function, perceived soreness, and exercise performance. Acute and sub-chronic intake of CF reduces oxidative stress resulting from exercise. Evidence for the effect of CF on exercise-induced inflammation is lacking and the impact on muscle function, perceived soreness and exercise performance is inconsistent across studies. Supplementation of CF may reduce exercise-induced oxidative stress, with potential for delaying fatigue, but more evidence is required for any definitive conclusions on the impact of CF on markers of EIMD.

Keywords: Dark chocolate; Fatigue; Inflammation; Muscle damage; Muscle function; Oxidative stress.

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Conflict of interest statement

No conflicts of interest exist with any of the authors and no funding was received.

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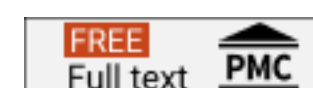
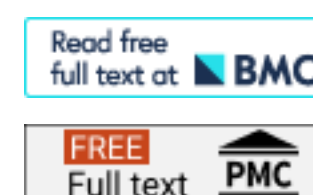
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