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Review article

Creatine Supplementation and Exercise Performance: A Brief Review

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ABSTRACT

During the past decade, the nutritional supplement creatine monohydrate has been gaining popularity exponentially. Introduced to the general public in the early 1990s, shortly after the Barcelona Olympic Games, creatine (Cr) has become one of the most widely used nutritional supplements or ergogenic aids, with loading doses as high as 20-30 g·day⁻¹ for 5-7 days typical among athletes. This paper reviews the available research that has examined the potential ergogenic value of creatine supplementation (CrS) on exercise performance and training adaptations. Short-term CrS has been reported to improve maximal power/strength, work performed during sets of maximal effort muscle contractions, single-effort sprint performance, and work performed during repetitive sprint performance. During training CrS has been reported to promote significantly greater gains in strength, fat free mass, and exercise performance primarily of high intensity tasks. However, not all studies demonstrate a beneficial effect on exercise performance, as CrS does not appear to be effective in improving running and swimming performance. CrS appears to pose no serious health risks when taken at doses described in the literature and may enhance exercise performance in individuals that require maximal single effort and/or repetitive sprint bouts.

Key words: Creatine supplementation, ergogenic aid, exercise performance

Key Points

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