



To determine the effectiveness of Non-steroidal Anti-inflammatory Drugs on the recovery from Exercise-induced muscle damage

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Relevant discipline	Physiotherapy, doctors, exercise physiologists, Strength and conditioning coaches
Sources searched	Cochrane Library, Embase, Medline, Scopus, SportDiscus, Australian New Zealand Clinical Trials Registry (ANZCTR), ClinicalTrials.gov (March 2021-April 2021)
Highest level of Evidence found	Randomised control trial
Quality appraisal of the body of Evidence	Strength of Evidence: High
	Quality of Evidence: High
	Statistical significance: High
	Clinical significance: Intermediate
	External validity/applicability: Low
Summary of Evidence findings	Most studies found that NSAIDS had an effect on reducing muscle soreness, although they had minimal effect on muscle damage.
Conclusions	From our findings we conclude that NSAIDS is effective in the reduction of muscle soreness, but minimal effect on recovery from Exercise-induced muscle damage.
Implications for clinical practice	There is potential benefit in taking NSAIDS to reduce muscle soreness for post exercise recovery, however this should only be for short term usage as long term usage may lead to side effects. The use of NSAIDS in improving muscle function or muscle damage is not indicated.

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2. Khoshkhahesh, F., Siahkuhain, M., Fisher, G. & Nakhostin-Rooh, B. (2013). Influence of a low-dose cox-2 inhibitor drug on exercise-induced inflammation, muscle damage and lipid peroxidation, *Biology of Sport*, 30(1), 61-65.
3. Paulsen, G., Egner, I.M., Drange, M., Langberg, H., Benestad, H.B., Fjeld, J.G., Hallen, J & Raastad, T. (2010). A COX-2 inhibitor reduces muscle soreness, but does not influence recovery and adaptation after eccentric exercise, *Scandinavian Journal of Medicine and Science in Sports*, 20(1), e195-e207.
4. Tokmakdis, S.P., Kokkinidis, E.A., Smilios, I. & Douda, H. (2003). The effects of ibuprofen on delayed muscle soreness and muscular performance after eccentric exercise, *Journal of Strength and Conditioning Research*, 30(2), 320-325.
5. Semark, A., Noakes, T.D., Gibson, A. & Lambert, M.I. (1999). The effect of a prophylactic dose of flurbiprofen on muscle soreness and sprinting performance in trained subjects, *Journal of Sports Sciences*, 17(3), 197-203.

This evidence summary has been prepared by undergraduate students as part of the HLTH 3057 Advanced Evidence Based Practice course. Due to limitations of assignment requirements reviews are limited to a maximum of 8 evidence sources. Conclusions and implications for clinical practice reported are provisional based on the evidence identified in this review and should be contextualized to local practice, clinical expertise and patient values. For further information on the review process please contact steve.milanese@unisa.edu.au