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Non-drug therapies for the secondary prevention of lower limb muscle cramps

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Abstract

Background: Lower limb muscle cramps are common and painful. They can limit exercise participation, and reduce quality of sleep, and quality of life. Many interventions are available for lower limb cramps; some are controversial or could cause harm, and often, people experience no benefit from the interventions used. This is an update of a Cochrane Review first published in 2012. We updated the review to incorporate new evidence.

Objectives: To assess the effects of non-drug, non-invasive therapies for lower limb muscle cramps.

Search methods: In August 2018 and May 2020, we searched the Cochrane Neuromuscular Specialised Register, CENTRAL, MEDLINE, Embase, the World Health Organization International Clinical Trials Registry Platform, ClinicalTrials.gov, and reference lists of included studies. We imposed no restrictions by language or publication date.

pain and 10 cm = worst pain imaginable) in people aged 55 years and older, compared to no intervention (mean difference (MD) -1.30, 95% confidence interval (CI) -1.74 to -0.86; 1 RCT, 80 participants; low-certainty evidence). The certainty of evidence was very low for cramp frequency (change in number of cramps per night from week zero to week six) comparing the stretching group and the no intervention group (MD -1.2, 95% CI -1.8 to -0.6; 80 participants; very low-certainty evidence). Calf stretching alone for 12 weeks may make little to no difference to the frequency of night-time lower limb muscle cramps in people aged 60 years and older (stretching group median number of cramps in the last four weeks (Md) 4, interquartile range (IQR) 8; N = 48; sham stretching group Md 3, IQR 7.63; N = 46) (U = 973.5, z = -0.995, P = 0.32, r = 0.10; 1 RCT, 94 participants; low-certainty evidence). This trial did not report cramp severity. The evidence is very uncertain about the effects of a combination of daily calf, quadriceps, and hamstring stretching on the frequency and severity of leg cramps in 50- to 60-year-old women with metabolic syndrome (N = 24). It was not possible to fully analyse the frequency data and the scale used to measure cramp severity is not validated. No study reported health-related quality of life, quality of sleep, or participation in activities of daily living. No participant in these three studies reported adverse events. The evidence for adverse events was of moderate certainty as the studies were too small to detect uncommon events. In two of the three studies, outcomes were at risk of recall bias, and tools used to measure outcomes were not validated. Due to limitations in study designs that led to risks of bias, and imprecise findings with wide CIs, we cannot be certain that findings of future studies will be similar to those presented in this review.

Authors' conclusions: A combination of daily calf and hamstring stretching for six weeks may reduce the severity of night-time lower limb muscle cramps in people aged 55 years and older, but the effect on cramp frequency is uncertain. Calf stretching alone compared to sham stretching for 12 weeks may make little or no difference to the frequency of night-time lower limb muscle cramps in people aged 60 years and older. The evidence is very uncertain about the effects of a combination of daily calf, quadriceps, and hamstring stretching on the frequency and severity of leg cramps in 50- to 60-year-old women with metabolic syndrome. Overall, use of unvalidated outcome measures and inconsistent diagnostic criteria make it difficult to compare the studies and apply findings to clinical practice. Given the prevalence and impact of lower limb muscle cramps, there is a pressing need to carefully evaluate many of the commonly recommended and emerging non-drug therapies in well-designed RCTs across all types of lower limb muscle cramps. A specific cramp outcome tool should be developed and validated for use in future research.

Trial registration: ClinicalTrials.gov [NCT03864770](https://clinicaltrials.gov/ct2/show/study/NCT03864770).

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