

Treatments for Nocturnal Leg Cramps

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Clinical Question

What is the best treatment for nocturnal leg cramps?

Evidence-Based Answer

Calcium channel blockers or B vitamins may lead to short-term improvement in nocturnal leg cramps. (Strength of Recommendation [SOR]: C, based on small, low-quality randomized controlled trials [RCTs].) Stretching has mixed results. (SOR: C, based on small, conflicting, low-quality RCTs.) Quinine is effective but is no longer recommended, and it is not approved for treatment of leg cramps because of potential toxicity. It should be considered only after discussion of potential severe adverse effects. (SOR: A, based on systematic reviews of RCTs.)

Evidence Summary

Four systematic reviews evaluated treatments for idiopathic nocturnal leg cramps. These include a 2014 review¹ of 16 RCTs and a 2010 review² of 24 prospective studies, including 18 RCTs. A 2012 Cochrane review³ included one trial of nondrug treatment, and a 2015 Cochrane review⁴ included 23 trials of quinine.

Three systematic reviews found that oral quinine (most common dosage: 300 mg at bedtime) significantly reduced the frequency, intensity, and number of cramps, and number of days with cramps.^{1,2,4} The most common minor adverse effects included tinnitus, headache, and gastrointestinal effects. Major adverse effects included thrombocytopenia, acute hypersensitivity reactions, and QT prolongation, which may lead to hemodialysis or death.⁴ Because of this, the U.S. Food and Drug Administration has not approved quinine for treatment or prevention of leg cramps.⁵ If

treatment with quinine is considered, physicians should inform patients of the potential adverse effects, discuss the warning signs of thrombocytopenia, and encourage patients to read the package insert.

A 2012 RCT evaluated the effect of stretching calves and hamstrings at bedtime in 80 adults older than 55 years who had leg cramps not treated with quinine.⁶ After six weeks, the frequency of cramps decreased more in the exercise group (mean difference = 1.2 cramps per night; 95% confidence interval, 0.6 to 1.8) compared with the control group.

Systematic reviews in 2010 and 2012 evaluated nonpharmacologic therapies, including calf stretching, for nocturnal leg cramps in 191 patients older than 60 years who were also taking quinine.^{2,3} Stretching three times per day for 12 weeks did not decrease the frequency of cramps or number of cramp-free nights compared with sham exercise.

A 12-week RCT of 28 older adults in Taiwan who were not known to be vitamin B deficient found that daily supplementation with vitamin B complex induced remission of muscle cramps in 86% of treated patients, compared with no improvement in the control group.⁷ However, key details, including allocation concealment and completion rates, were not reported.

The 2010 systematic review included a double-blind crossover study that evaluated the effects of 30 mg of diltiazem on the number and intensity of nocturnal leg cramps in 13 patients.² Compared with placebo, diltiazem reduced the number of cramps (from 5.8 to 0.16 cramps per two-week treatment phase; $P = .04$) but did not affect the intensity of cramps. This study was limited by a small sample size and lack of detailed methods (including baseline characteristics,

recruitment methods, and results beyond two weeks).

The 2014 systematic review found no evidence to support the use of analgesics, anti-epileptic drugs, magnesium, verapamil, or vitamin E to reduce the incidence of idiopathic nocturnal leg cramps.¹

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