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Evidence-Based Practice

Medial Tibial Stress Syndrome: Evidence-Based Prevention

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Abstract

Reference: Thacker SB, Gilchrist J, Stroup DF, Kimsey CD. The prevention of shin splints in sports: a systematic review of literature. *Med Sci Sports Exerc.* 2002;34(1):32-40.

Clinical Question: Among physically active individuals, which medial tibial stress syndrome (MTSS) prevention methods are most effective to decrease injury rates?

Data Sources: Studies were identified by searching MEDLINE (1966-2000), Current Contents (1996-2000), Biomedical Collection (1993-1999), and Dissertation Abstracts. Reference lists of identified studies were searched manually until no further studies were identified. Experts in the field were contacted, including first authors of randomized controlled trials addressing prevention of MTSS. The Cochrane Collaboration (early stage of Cochrane Database of Systematic Reviews) was contacted.

Study Selection: Inclusion criteria included randomized controlled trials or clinical trials comparing different MTSS prevention methods with control groups. Excluded were studies that did not provide primary research data or that addressed treatment and rehabilitation rather than prevention of incident MTSS.

Data Extraction: A total of 199 citations were identified. Of these, 4 studies compared prevention methods for MTSS. Three reviewers independently scored the 4 studies. Reviewers were blinded to the authors' names and affiliations but not the results. Each study was evaluated independently for methodologic quality using a 100-point checklist. Final scores were averages of the 3 reviewers' scores.

Main Results: Prevention methods studied were shock-absorbent insoles, foam heel pads, Achilles tendon stretching, footwear, and graduated running programs. No statistically significant results were noted for any of the prevention methods. Median quality scores ranged from 29 to 47, revealing flaws in design, control for bias, and statistical methods.

Conclusions: No current evidence supports any single prevention method for MTSS. The most promising outcomes support the use of shock-absorbent insoles. Well-designed and controlled trials are critically needed to decrease the incidence

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Debbie I. Craig, PhD, LAT, ATC, provided conception and design; acquisition and analysis and interpretation of the data; and drafting, critical revision, and final approval of the article.

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