

## Interventions for Prevention and Treatment of Medial Tibial Stress Syndrome : A Narrative Review

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### Abstract

**Background:** Medial tibial stress syndrome (MTSS) is a common cause of exercise-related leg pain in the athletes and military personals therefore they are frequently addressed by physiotherapists. **Objective:** To review the quality of current published evidence regarding the preventive and treatment strategies for MTSS. **Data source:** Systemic search was carried out in PubMed, PubMed Central and PEDro from January 2022 to May 2022. **Study Design:** The design was chosen to give an overview of previous research about treatment strategies and prevention of MTSS. This review is not a fully comprehensive review as it did not include aggressive treatment protocols such as surgery or drug therapy. **Data Extraction:** Participant's characteristics and other relevant data was extracted from the articles and then tabulated. A 10 item scale was applied to all articles and quality was assessed. **Data Synthesis:** Initial search of the electronic databases produced records: PubMed 48 ; PMC 207; PEDro 62. A total of 317 articles were identified. After review of the title and abstract and removal of duplicates, 117 records were warranted for retrieval. After text review, 13 records met the inclusion criteria and were included in the review. **Limitation:** It was difficult to group studies and quantitatively evaluate outcomes due to the variance in protocols, participant features and outcome measures. **Conclusion:** Several treatment and one preventive strategy were identified for MTSS. A significant reduction in various outcome measures was observed in majority of studies.

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### Introduction

Among exercise-induced leg injuries, medial tibial stress syndrome (MTSS) is seen most frequently, it was first described in 1958 (Devas MB., 1958). Peoples who usually perform any activity that puts a repetitive strain on their legs are likely to have lower leg pain (Cymet TC & Sinkov V., 2006). Lower extremity injuries are a very common problem of athletic population, therefore they are frequently addressed by physiotherapists. Along with MTSS these include injuries like chronic compartment syndrome and stress fractures (Yates & White 2004). MTSS is frequently diagnosed as shin splints, shin pain, periostitis, and exercise related lower leg pain (Sharma J et al., 2011). The formal definition of MTSS differ throughout the existent literature. But In 1966, the American Medical Association (AMA) defined shin splints as a "pain or discomfort in the leg from repetitive running on hard surfaces or forcible, excessive use of the foot flexors; diagnosis should be limited to musculotendinous inflammations, excluding fracture or ischemic