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Title: Do athletic participants with medial tibial shin splints have weaker Plantarflexors compared to healthy controls?

Introduction: Medial tibial shin splints (MTSS) is one of the most common lower limb injuries amongst athletes, however a definitive cause has not yet been established. The lack of conclusive evidence on the risk factors and causes of MTSS hinders a physiotherapist's ability to establish an effective and realistic rehabilitation programme.

Aim: To establish if there is a link between weakness of the Plantarflexor muscles and MTSS.

Methodology: A purposive sample of 12 participants with a confirmed diagnosis of MTSS and a convenience sample of 12 healthy control participants were recruited. All participants were members of the University of Leicester and a university sports club. The concentric and eccentric isokinetic Plantarflexor strength of all participants was measured using the Cybex Humac Norm isokinetic dynamometer. Three tests were completed to measure the isokinetic Plantarflexor strength of each participant and the peak result from each set was recorded as a percentage of body weight (%BW).

Results: An independent samples t-test was conducted using the Statistical Package for Social Sciences (SPSS) software. Participants with MTSS displayed weaker Plantarflexors compared to a group of controls. The p-value for test 1 was $p < 0.002$, and the p-value for tests 2 and 3 was $p < 0.001$. As the significant level was set at $p < 0.05$, results from all 3 conditions were deemed as highly significant.

Conclusion: The study has highlighted a significant link between weakness of the Plantarflexor muscles and MTSS, therefore emphasising the need to conduct further research into the cause and effect relationship between weak Plantarflexor muscles and MTSS. Determining this may assist clinicians in their ability to clinically reason their treatment plans and goals in patients with MTSS.