**Article Full Title**

Fascial therapy, strength exercises and taping in soccer players with recurrent ankle sprains: A randomized controlled trial

**Author Names**

Allois, R., Niglia, A., Pernice, A., & Cuesta-Barriuso, R

**Reviewer Name**

Marie-Adelaide Robinson, SPT

**Reviewer Affiliations**

Duke University School of Medicine, Doctor of Physical Therapy Division

**Paper Abstract**

Introduction: Recurrent ankle sprains are common in soccer players, characterized by restricted range of motion, pain, and decreased proprioception, strength, and postural control. The objective was to evaluate the effectiveness of a fascial therapy and strength training program, combined with kinesiotaping, in improving ankle range of motion, pain, strength and stability in footballers with recurrent sprains. Method: A simple blind randomized clinical trial was conducted on soccer players. Thirty-six federated footballers were recruited and randomized to the two study groups. The experimental group received an intervention using myofascial techniques applied to the subastragaline joint, eccentric training with an isoinertial device and neuromuscular taping. The control group was administered an intervention using myofascial techniques on the subastragaline joint and eccentric training with an isoinertial device. The results were recorded for all players at baseline, after 4 weeks of intervention, and at the end of the 4-week follow-up period. Results: Subsequent to intervention and follow-up, we found statistically significant improvements in the experimental group in ankle mobility, strength and stability. The control group exhibited improvements in all study variables. No differences in the improvement of variables were found based on the allocation of athletes to one group or another. Conclusion: The combination of fascial therapy and eccentric strength training with an isoinertial device improves ankle mobility, strength and stability in footballers with recurrent ankle sprains. The use of taping techniques failed to provide a greater improvement of the study variables when combined with manual therapy and strength techniques.

**NIH Risk of Bias Tool**

Quality Assessment of Controlled Intervention Studies

1. **Was the study described as randomized, a randomized trial, a randomized clinical trial, or an RCT**

Yes

1. **Was the method of randomization adequate (i.e., use of randomly generated assignment)?**

Yes

1. **Was the treatment allocation concealed (so that assignments could not be predicted)?**

Yes

1. **Were study participants and providers blinded to treatment group assignment?**

Yes

1. **Were the people assessing the outcomes blinded to the participants' group assignments?**

No

1. **Were the groups similar at baseline on important characteristics that could affect outcomes (e.g., demographics, risk factors, co-morbid conditions)?**

No

1. **Was the overall drop-out rate from the study at endpoint 20% or lower of the number allocated to treatment?**

Yes

1. **Was the differential drop-out rate (between treatment groups) at endpoint 15 percentage points or lower?**

Yes

1. **Was there high adherence to the intervention protocols for each treatment group?**

Cannot Determine, Not Reported, or Not Applicable

1. **Were other interventions avoided or similar in the groups (e.g., similar background treatments)?**

Yes

1. **Were outcomes assessed using valid and reliable measures, implemented consistently across all study participants?**

Yes

1. **Did the authors report that the sample size was sufficiently large to be able to detect a difference in the main outcome between groups with at least 80% power?**

No

1. **Were outcomes reported or subgroups analyzed prespecified (i.e., identified before analyses were conducted)?**

Cannot Determine, Not Reported, or Not Applicable

1. **Were all randomized participants analyzed in the group to which they were originally assigned, i.e., did they use an intention-to-treat analysis?**

Yes

**Key Finding #1**

With the use of fascial therapy to the subtalar joint and eccentric strength training with an isoinertial device, ankle mobility, stability, and strength in soccer players with recurrent ankle sprains improved.

**Key Finding #2**

Kinesiotaping in combination with fascial therapy and eccentric strength training can improve overall stability in the lower limbs, increase ankle range of motion and strength in ankle dorsiflexion and plantarflexion, and improve perceived pain.

**Key Finding #3**

With the goal of decreasing lost training time due to an ankle sprain from poor ankle stability or restricted ankle motion, the study suggests increasing balance training which would in turn decrease pain in the ankle by improving strength around the ankle joint.

**Key Finding #4**

Overall ankle function improved in both control and experimental group regardless of the use of kinesiotaping.

**Please provide your summary of the paper**

The aim of this study looked at increasing ankle range of motion and strength, while improving pain and ankle stability in male soccer players with recurrent ankle sprains through a combination of fascial therapy, eccentric strength training, and stabilizing taping. The study did not look at the techniques individually, instead it looked at fascial therapy and eccentric strength training as a collective as the control group and fascial therapy, eccentric strength training and kineseotaping as the experimental group. The taping did not show a statistical significance in improving ankle proprioception. The small sample size, n=36, proved to be a limitation of the study as well as the lack of information on the previous ankle sprains of each soccer player. Information regarding each soccer player’s exercise regime outside of this study was omitted as well. This could bias the study’s findings as it suggests that the participants could be participating in other exercise that would further strengthen the ankle joint and negate the effects of the study. Furthermore, the data only showed the total average of previous injuries, but it did not specify what kind of injury, to what body part, or the number of injuries per player. When describing the methods of data collection, the study had good intra- and interobserver reliability and the instructions were simple to follow. I found the study to be interesting, however, it would have been more beneficial to look at one technique, such as just fascial therapy compared to no facial therapy as the control group to have a clearer justification in the soccer players’ improvement in the four dependent variables of ankle range of motion, pain, strength, and stability. Further work would be beneficial in comparing the techniques separately with multiple experimental groups to indicate the efficacy of each technique.

**Please provide your clinical interpretation of this paper. Include how this study may impact clinical practice and how the results can be implemented.**

This study may impact clinical practice by increasing rehabilitation potential to recurrent ankle sprains in soccer players and decrease the time lost to rehabilitation after an ankle sprain. The results indicate that a combination of fascial therapy to the subtalar joint and eccentric strength training of the lower limbs improved the player’s ankle mobility, stability, and strength in an 8-week time period. The results also proved that the former plus kinesotaping of the ankle improved the soccer players stability in the lower limbs, perceived pain, and increased ankle range of motion and strength in ankle dorsiflexion and plantarflexion.