

van de Water ATM & Speksnijder CM. Efficacy of taping for the treatment of plantar fasciosis: as systematic review of controlled trials. *J of Am Podiatric Medical Association*. 2010;100(1):41-51

Study Design: systematic review

Study Question: What is the efficacy of a taping construction as an intervention or as part of an intervention in patients with plantar fasciosis on pain and disability?

Population/Sample Size/Setting:

- Searched 5 databases through Oct 2007, and bibliographies of relevant studies
- Authors of studies meeting inclusion criteria were contacted for information about other potentially relevant studies not found previously.
- Detailed search strategy
- Study inclusion criteria
 - Randomized, quasi-randomized, and other controlled trials
 - Patients with plantar fasciosis with symptoms provoked by physical activity that increased stress to the plantar fascia.
 - Any type of taping intervention or taping combined with other non-surgical treatments vs. no treatment or any non-surgical treatment
 - At least one of the following outcomes
 - Pain
 - Functional disability
 - General improvement
 - Study exclusion criteria
 - Onset of symptoms related to trauma
 - Surgery as an intervention
- Studies identified in the initial search were assessed by 2 reviewers using inclusion criteria, and disagreements were resolved by consensus.
- Included studies were then assessed for methodological quality and clinical relevance by 2 reviewers, and disagreements were resolved by consensus.
 - PEDro score for methodological quality, with ≥ 5 indicating adequate/high quality
 - Clinical relevance as assessed determined by “yes” response for the first 3 of the following 5 questions:
 - Are the patients described in detail so that you can decide whether they are comparable with those you see in our own practice?
 - Are the intervention(s) and treatment setting(s) described well enough to allow you to provide the same to your own patients?
 - Were all clinically relevant outcomes measured and reported?
 - Is the size of effect clinically important?
 - Are the likely treatment benefits worth the potential harms?

Intervention and Comparisons:

- Intervention groups
 - Any type of taping either alone or in combination with other non-surgical treatments
 - No treatment, placebo, or any non-surgical treatment

Outcomes:

- Interrater agreement on methodological quality and clinical relevance calculated using Cohen K.
- Qualitative analysis of synthesized evidence using levels of evidence:
 - Strong: ≥ 2 high-quality RCTs
 - Moderate: 1 high-quality RCT and 1 low-quality RCT
 - Limited: 1 high-quality RCT or 2 high-quality non-randomized controlled trials
 - Indicative findings: 1 high-quality non-randomized controlled trial or low-quality RCTs or 2 studies of a nonexperimental nature with sufficient quality
 - Insufficient evidence
 - Insufficient
 - Conflicting
 - Inconclusive
- Pain as measured by VAS or questionnaire
- Functional disability
- General improvement
- 33 potentially relevant studies were identified, and 5 met inclusion criteria: 4 RCTs and one non-randomized controlled clinical trial.
- Results for taping vs. placebo or no treatment
 - For pain, limited evidence, based on 2 high-quality RCTs (Radford et al and Hyland et al, combined $n=134$) for greater efficacy of taping (low-Dye and calcaneal) in the short term (1 week follow-up)
 - For function and overall foot-health status, insufficient evidence
- Results for taping and stretching vs. stretching alone
 - For pain and patient satisfaction, indicative evidence, based on 1 high-quality non-randomized controlled trial (Landorf et al, $n=105$) for greater efficacy of taping (low-Dye) combined with stretching
- Results for other combined interventions including taping
 - No conclusion could be drawn due to 2 RCTs of low methodological quality and no clinical relevance (Lynch et al and Martin et al).

Authors' Conclusions:

- There is limited evidence that low-Dye and calcaneal taping can reduce short-term pain in patients with plantar fasciosis.
- Evidence for an effect of taping on function and foot health status is inconclusive.
- There is indicative evidence that low-Dye taping plus stretching reduces pain and increases satisfaction more stretching alone.

Comments:

- Clearly stated study question
- Multiple databases searched and extra efforts made to identify additional studies
- Search strategy described in detail
- Rigorous and well-defined methods for assessing study quality and relevance
- Flowchart depicts the study selection process.
- Studies of low methodological quality were included (PEDro scores 3-5 except one study that scored 9 - Radford et al)
- One clinically non-relevant, as determined by authors' own criteria, was included (Lynch et al), and this same study had a very low PEDro score (2).
- Attempted to limit publication bias by contacting authors of selected studies for information about potential unpublished studies and examining reference lists.
- Pooling of data could not be done because of heterogeneity of studies.
- Pain reduction effect sizes are small to moderate.

Overall Critique Impression: Adequate quality evidence for small to moderate short-term (1 week) pain reduction from calcaneal or low-Dye taping with or without stretching.