

Do we really have evidence that Kinesio taping improves ankle functional performance?

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Guilherme S Nunes^{1,2} and Marcos de Noronha³

Wang et al.¹ have published in the journal *Clinical Rehabilitation* the systematic review with meta-analysis entitled “Kinesio taping is superior to other taping methods in ankle functional performance improvement: a systematic review and meta-analysis.” We congratulate the authors for their job in combining studies regarding the effects of Kinesio taping (KT), a technique widely used despite the lack of evidence supporting its clinical use.²

We have published a study a few years ago which aimed at verifying the effect of KT applied to the triceps surae of athletes on jumping performance and balance³ and we have read the review with special curiosity because the systematic review’s title suggests contrasting results compared to our study. Surprisingly, our study was not included in the systematic review performed by Wang et al.¹ Our randomized crossover trial is a well-powered and high-quality study (8/10 Physiotherapy Evidence Database (PEDro) scale) with 20 athletes from different sports. The participants were assessed regarding jump (height and distance) and balance performance (star excursion balance test) under two conditions: with KT and with inelastic tape on the triceps surae. We found no difference in performance between the groups.

One main problem we found in the systematic review by Wang et al.¹ is that, according to their own inclusion and exclusion criteria, studies that used placebo KT as the comparison should not have been included in the review (inclusion criteria

clearly states in Table 1, “Comparison/control—Comparison between KT and other non-elastic taping”¹); however, the authors decided to include five studies comparing KT and KT applied as placebo.^{4–8} We would agree that any type of placebo (rigid or elastic tape) should have been included; therefore, all studies with that same design should have been included. After a quick search we know at least another three studies could have been included.^{9–11} Overall, this lack of consistency between the criteria presented and the studies included creates doubts in whether the results presented should be trusted. These three extra papers referenced here were easily found at Medline when using the search strategy presented in the systematic review by Wang et al.;¹ therefore, the authors should have clearly included more studies in their systematic review and meta-analysis,¹ which could have had an impact in the main results.

In a simple simulation including our study to the meta-analysis, we observed that the inclusion

¹Department of Physiotherapy, Santa Catarina State University, Florianópolis, Brazil

²Sport and Exercise Medicine Research Centre, School of Allied Health, La Trobe University, Melbourne, Australia

³Department of Community and Allied Health, La Trobe University, Bendigo, Victoria, Australia

Corresponding author:

Guilherme S Nunes, Department of Physiotherapy, Santa Catarina State University, R. Pascoal Simone 358, 88080-350 Florianópolis/SC, Brazil.

Email: nunesguilherme@live.com

of our data does not change the results presented by Wang et al.¹ using the same statistical analysis approach. However, if the analysis is run using random effect estimate, positive effect of KT is not observed. In addition, Bicici et al.¹² assessed individuals with ankle instability, and for the study by Nakajima and Baldrige,⁴ only the results that presented the largest difference between KT and placebo were included in the meta-analysis (healthy males), with no justification for the exclusion of other data that presented less favorable results toward KT (healthy females). For the meta-analysis regarding vertical jump height, the included studies used different instruments to assess the jump height; therefore, other approaches to the meta-analysis could have been more appropriate.

In our opinion, another main problem presented in the systematic review was the lack of consideration of the quality of the included studies in the conclusions. The authors assessed the methodological quality using “12-item Cochrane scale and Consolidated Standards of Reporting Trials 2010 checklist”; however, the CONSORT checklist was not designed to analyze internal validity of randomized controlled trials, but to ensure adequate reporting of randomized controlled trials. Again, as an exercise, we have scored the included papers using the PEDro scale considering studies above 6/10 points as high methodological quality and studies below 5/10 points as low quality.¹³ All of the included studies in the meta-analysis regarding balance were considered of low methodological quality (PEDro <5 points) and only one study in the meta-analysis of vertical jump height was considered of high quality (6/10).¹⁰

Considering the lack of studies with high methodological quality included in the analysis, it is not possible to affirm that KT improves ankle functional performance. Therefore, the systematic review by Wang et al.¹ has some issues which may lead readers to incorrect conclusions as the results are not supported by strong evidence,¹⁴ not even supported by current available evidence. It is our view that further well-performed

analysis is needed to answer the questioned posed by Wang et al.¹

Declaration of Conflicting Interests

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