

Comparison of the effects of two commonly used taping techniques (Low-dye and Kinesiotaping) on gait parameters in normal subjects using the GAITRite system

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Foot pain, particularly in the areas of the heel and hind foot is a somewhat common occurrence and is seen in both the athletic and nonathletic populations. Untreated, heel and hind foot pain can lead to compensatory changes in gait, persistent pain, and plantar fasciitis. There are several underlying factors that may contribute to heel and hind foot pain, including a lack of ankle dorsiflexion range of motion, decreased strength of the intrinsic foot muscles, and a lower longitudinal arch. The clinical management of pain associated with the lack of arch support in the foot (also referred to as over-pronation) often includes taping. Published clinical practice guidelines for the management of plantar fasciitis recommend taping for anti-pronation support.¹ A variety of taping techniques may be used to correct for over-pronation. The low dye taping technique uses a somewhat stiff tape on the plantar surface of the foot to reduce over pronation and support the longitudinal arch. Comparatively, kinesiotaping uses a more flexible tape that extends from the plantar surface of the foot to the musculotendinous junction of the gastrocnemius.

The purpose of this study was to examine the effects of these two taping techniques on select gait parameters in participants without heel and/or hind foot pain.

Methods: Twenty-five healthy subjects, average age of 20 yrs., who did not have a history of foot pain, orthotic or shoe insert use, and who did not ambulate with an assistive device were recruited from Ithaca College for the study. Subjects walked along a 3.2-meter walkway as part of the GAITRite gait analysis system, which collects data on a variety of gait parameters. Each subject completed 9 trials of walking along the walkway: 3 barefoot with no tape, 3 barefoot with Low-Dye taping applied to the right foot, and 3 barefoot with kinesiotape applied to the right foot. The order of the taping technique used will be randomized.

Results: Data analysis is currently underway and results of the study will be available by the time of the presentation.

Conclusion: The results of this study may provide useful information regarding the effects of these two commonly used taping techniques (Low-dye and Kinesiotaping) on gait parameters in normal participants, and will be helpful for future studies when examining the effects of taping on people with symptoms resulting from foot over-pronation.

¹ Martin RL et.al. *Journal of Orthopaedic & Sports Physical Therapy*, 2014.
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