

Orthopedic Evidence Annotation: Ankle/Foot

Radford JA, Landorf KB, Buchbinder R, Cook C. Effectiveness of low-Dye taping for the short-term treatment of plantar heel pain: a randomized trial. *BMC Musculoskelet Disord.* 2006; 7:64-70.

Does the use of low-Dye taping and sham ultrasound for one week, on middle aged individuals, reduce pain using the visual analogue scale and the foot health status questionnaire as measures, compared to the use of sham ultrasound for the treatment of plantar heel pain?

Plantar fasciitis is a painful condition affecting millions of patients in both an athletic and a sedentary population. There are several conservative treatment options that help relieve the symptoms of plantar fasciitis. The use of foot orthotics, night splints, heel pads, steroid injections have all been tested under randomization, but this is the first study that has looked at low-Dye taping under randomization. The purpose of this study was to investigate the use of low-Dye taping as an intervention and to see if it was effective at decreasing pain in patients suffering from plantar fasciitis. Ninety-two patients were randomly placed into either an experimental (n=46) or a control group (n=46). The experimental group consisted of patients being taped using the low-Dye method with the use of sham ultrasound and the control group consisted of patients being treated with sham ultrasound. Outcome measures were assessed at baseline and after one week. A visual analogue scale was used to assess first pain experience when getting out of bed in the morning and the foot health status questionnaire was used to assess foot pain, foot function, footwear and general foot health. The results of this study found that patients being treated with low-Dye tape showed a small improvement in first step pain after one week (P=0.017). No other significant differences were found from this study.

Level of evidence was determined with the *AAOS Levels of Evidence for Primary Research Question*. This study is a lesser quality prospective study because of the short duration and single blind randomized trial. Levels of evidence are as follows: AAOS: Therapeutic Level 2

The bottom line of this study is that the use of low-Dye taping for a week, results in only a small decrease in pain perception when compared to placebo. This study cannot make any conclusions on the effectiveness of low-Dye taping as an intervention in the long term.

This study is somewhat useful to the profession of athletic training because plantar fasciitis is a common occurrence in athletes participating in several sports. When heel pain is first noticed, lower extremity biomechanics are often observed by the clinician. Foot orthoses are often used to correct faulty alignment, but they often take a few weeks for fitting, manufacturing and distributing. In the mean time, athletic trainers are controlling pain that the patient is experiencing with the use of a corrective taping method, rehabilitation, and modalities. In this study, the low-Dye method was used for corrective taping, but there are numerous modifications in technique used by clinicians. Some clinicians use more tape to pull up the on the longitudinal arch to decrease strain on the plantar fascia, while some use to totally different technique.

Athletes may be interested in this study because if they are in need of orthoses, they will most likely be anxious to begin activity as soon as possible. They may be interested in the various treatments available to them and how the treatments have affected other patients. Also, they should be aware of any adverse effects of the various treatments. In this particular study, 28% of patients in the taping group experienced adverse effects that consisted of allergic reactions to the tape, a new pain in lower limb and the tape being too tight around the foot. Athletes are constantly active during their practices and competitions, so comfort may be a big factor in the treatment they are most compliant with.