

Clinical Question: In athletes, is transcutaneous electrical nerve stimulation (TENS) more effective in treating pain associated with lateral epicondylitis as compared to therapeutic ultrasound?

Halle J, Franklin R, Karalfa B. Comparison of four treatment approaches for lateral epicondylitis of the elbow. *J Orthop Sports Phys Ther.* 1986;8:62-69

Lateral epicondylitis is one of many chronic conditions that the Army Medical Department has expended significant resources over the years to treat. Many conservative treatments have been utilized in various settings to control the pain associated with lateral epicondylitis, but there is no clear evidence that indicates which treatment method is the most effective. Therefore, this study examined several commonly used treatment techniques, as identified in the literature, in attempt to reveal which protocol, if any, is the most effective in reducing lateral elbow pain. 48 patients, who had been previously clinically diagnosed as having lateral epicondylitis, were used for the study. All of the patients filled out a McGill pain questionnaire that asked them to describe and rate their pain. Every patient was given the same home care prescription that included wearing a tennis elbow cuff, avoiding activity and receiving two ice massages a day. Each patient was also randomly assigned to one of four treatment groups that employed one of the following regimens: (1) ultrasound with a coupling agent, (2) ultrasound with a hydrocortisone coupling agent, (3) TENS or (4) injection with lidocaine and hydrocortisone. Therapist bias was reduced by using coupling mediums to disguise the hydrocortisone treatment. After 5 consecutive days of treatment, the patients reevaluated their pain by filling out the same McGill pain questionnaire. The results of the study showed that every treatment regimen caused a significant reduction in the pain caused by lateral epicondylitis. However, their statistical analysis did not reveal any significant differences between the four individual treatment regimens, meaning that one protocol was not found to be more effective than the others.

According to the AAOS Levels of Evidence, I believe that this study meets the criteria for a Level II rating. The absence of a control group disqualified this study as a randomized controlled trial, but I feel that it can be considered a prospective comparative study, which lies within the Level II parameters. Unfortunately, this study did not definitely answer my clinical question. First, this study didn't investigate an athletic population, and I don't know how these treatment regimens would hold if I had an athlete who refused to rest from competition. Also, I feel that the treatments should have been carried out over a longer period of time and that there should have been a longer follow-up time to determine if the results of the treatment lasted longer than 5 days. This study does pose some interesting ideas for clinical practice however. For instance, if all of these regimens are equally effective, then it would be in our best interest to analyze variables such as cost, numbers needed to treat or total treatment time to determine which treatment protocol would be most applicable in our particular setting. I also think it would be important to ask the patient which treatment they prefer or which one they feel is more effective in reducing their pain. I feel that patients should be educated about potential home treatments they can implement in order to aid in their pain management (e.g. ice massage). I think it would also be important for them to know how resting from their activity can potentially have a significant effect on reducing their pain.