

## Orthopedic Evidence Annotation: Knee/ Patellofemoral

Gunter P, Schwellnus MP. Local corticosteroid injection in iliotibial band friction syndrome in runners: a randomized controlled trial. *Br J Sports Med.* 2004;38:269-272.

Does the use of corticosteroid injections in club runners reduce pain, using the visual analogue scale, when compared to a placebo injection for the treatment of iliotibial band friction syndrome during the first 2 weeks of initial injury?

Iliotibial band friction syndrome (ITBFS) is an inflammatory condition occurring from repetitive flexion and extension of the knee, an increase in training, poor biomechanics of the lower extremity, or intrinsic factors. There are several treatment options to relieve the symptoms of ITBFS, but there have been few published randomized controlled trials to support the use of these treatments. The purpose of this study was to research whether a local injection of a corticosteroid was an effective modality in decreasing the pain of runners with ITBFS over a 2 week period. Eighteen runners were randomly placed into either an experimental (n=9) or a control group (n=9). Baseline testing was done using the treadmill running test to measure the amount of pain that subjects experienced during normal running. Pain was assessed at the end of every minute using the 10 point visual analogue scale. This test was also done at on the 7<sup>th</sup> day and the 14<sup>th</sup> day from receiving the injection. The experimental group was injected with a corticosteroid while the control group received a placebo injection. Subjects were instructed not to run for a period of 14 days and were only allowed to use ice. All runners reported no pain over the 14 day testing period. Results suggested a significantly greater decrease in total pain while running in the experimental group from day 7 to day 14 (p=0.01). There was also a tendency to decrease total pain in the experimental group from day 0 to day 7 (p=0.07).

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 small sample size, short duration, and single blind randomized control trial. Levels of evidence are as follows: AAOS: Therapeutic Level 2

The bottom line of this study is that the use of corticosteroid injections, in the early (first 14 days) stages of treatment, will be effective and safe in treating runners with recent onset of ITBFS. This study cannot make any conclusions for the long term effects of corticosteroid injections.

This study is very useful to the profession of athletic training because of the 1.6-12% prevalence of ITBFS in runners alone. There are a number of treatment options available to treat ITBFS; including pool running, reducing intensity of training, icing, stretching, massaging, and oral NSAIDS. Selecting a treatment that will be most effective is often difficult because ITBFS often becomes chronic or recurrent, making treatments unresponsive. This study, even though positive, has some limitations that make this study not as valid. First of all there were only a small number of subjects tested that ranged in age from 20 to 50 years old. Most of the subjects that dropped out of the initial study declined because they were unwilling to stop training for the 14 day study period. Another limitation was that this study only lasted 14 days. There is indication that corticosteroids reduce pain after 14 days of rest and treatment, but it is unsure if this treatment has lasting benefits. More research should be conducted to compare the benefits over a longer time period.

This is a good study for runners to look over because they should have an opinion in their treatment goals. Even though they can not prescribe corticosteroid injections, they should know what studies are saying in regards to effectiveness of different treatment options. Patients should take from this study the message that corticosteroid injections have a good chance of decreasing pain in the short term, but there is no evidence of long term effects.