

AT521

Annotated Bibliography

Fredericson M, White JJ, Macmahon JM, Andriacchi TP. Quantitative analysis of the relative effectiveness of 3 iliotibial band stretches. *Arch Phys Med Rehabil.* 2002;83:589-92.

P-5 collegiate male distance runners

I-IT band stretch with hands on hip

C-IT band stretch with arms extended overhead

C-IT band stretch with arms extended downward

O-IT band stretch with arms extended overhead showed the most change in length of the IT band

The purpose of the article was to find what Iliotibial(IT) Band stretch was the most effective for stretching and lengthening the IT band. The problem addressed by the article was the difficulty in stretching the IT Band, which is one of the most common causes of lateral knee pain. The 3 stretches all had similar leg positions with one leg crossed behind the other, but had different arm positions. In stretch A the hands were at the patients hips, in B the arms were extended diagonally upward, and in stretch C the arms were extended diagonally downward. 5 patients were tested for all 3 stretches, all of which were male collegiate distance runners. The order that the stretches were performed was randomized for all the patients, but all patients performed the stretches at the same time of the day in the afternoon before their practice. Reflective markers were placed in 5 spots; the iliac crest, greater trochanter, lateral midline of the knee, lateral malleolus, lateral calcaneus and 5th metatarsal. Force plates and a 4 camera system measured the change in the tissue length corresponding to the reflective markers. The results found that the average tissue length improvement for stretch A was 9.84%, Stretch B was 11.15%, and Stretch C was 10.52%. The average adduction movement at the hip for stretch A was 6.80%, stretch B was 8.25%, and stretch C was 7.16%. There was a statistically significant difference between only stretch B and C. The average adduction movement at the knee for stretch A was 4.86%, stretch B was 5.62%, and stretch C was 4.75%. Again only a statistically significant difference was found between stretch B and C.

The article was considered a therapeutic article. Using the AAOS levels of evidence grading system this article is a level 1 because it had a 0% drop out rate, found a statistical difference and randomized the order of the stretches for the patients.

The bottom line is that stretch B was found to show the most change in tissue length for the IT band. Stretch A did not have a statistically significant difference when compared to B, so only stretch C should not be used when stretching a patient's IT Band. When a clinician is choosing a stretch for the IT Band one should choose the stretch with 1 leg crossed behind the other while extending the arms diagonally upward. The relevance to athletic training is that most athletic trainers try to stretch the IT Band in patients with IT Band syndrome and this study found that stretch B was the best stretch for the IT Band. For the patient this stretch is easy to perform. The patient just needs to be taught the proper positioning of the legs and arms and the amount of time the stretch needs to be held. This stretch in no way should harm the patient.