

## **Sonographic Changes in Iliotibial Band Thickness Pre and Post Instrument Aided Myofascial Therapy: A Case Series**

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**BACKGROUND:** Iliotibial band (ITB) pain caused by a friction syndrome is a common overuse injury seen in athletes [1]. With the increased availability of sonography in musculoskeletal medicine the ability to monitor changes in tissues throughout treatment has significantly improved. This ability allows us to improve our understanding of the physiologic and structural changes that occur in tissues in response to manual therapy treatments. Sonography has not been previously used to evaluate ITB thickness in a symptomatic volunteer who is treated with manual therapy, and who is then re-evaluated when asymptomatic after manual therapy.

**METHODS:** Case 1, a 30 year old male, and case 2, a 24 year old female, both runners averaging 30-40 miles per week. These cases were diagnosed with ITB syndrome based on a physical examination with confirmation utilizing sonography. They were then treated using a stainless steel myofascial tool through the distal half of the ITB. Sonographic images were obtained again when the patient's symptoms had resolved. Both measurements for thickness of the ITB were taken at the level of the femoral epicondyle.

**RESULTS:** An ITB thickness of 1.2 mm up to 1.9 mm is what has been found in asymptomatic volunteers at the femoral epicondyle [2,3]. For cases the pretreatment thickness of the ITB was found to be 2.7 and 3 mm respectively. Following 4 treatments for the male, and 5 treatments for the female, both had full resolved symptoms. The post treatment sonography found ITB thickness to be 1.7 in the male, and 1.9 in the female, which is a 37% and a 36% reduction in thickness respectively. These measurements are within the range of what has been found in asymptomatic individuals. Neither subject had a recurrence of their pain when follow up occurred 6 months post therapy.

**CONCLUSIONS:** Instrument aided myofascial release techniques appear to be a valid therapy to reverse thickening of fascia that has become thickened through a pathological process involving inflammatory changes caused by friction. Further research should be done to assess a similar reduction in thickness of the ITB in a larger symptomatic population. Research should also focus on the efficacy of other myofascial therapies in decreasing fascial thickness in repetitive friction pathologies such as ITB syndrome.

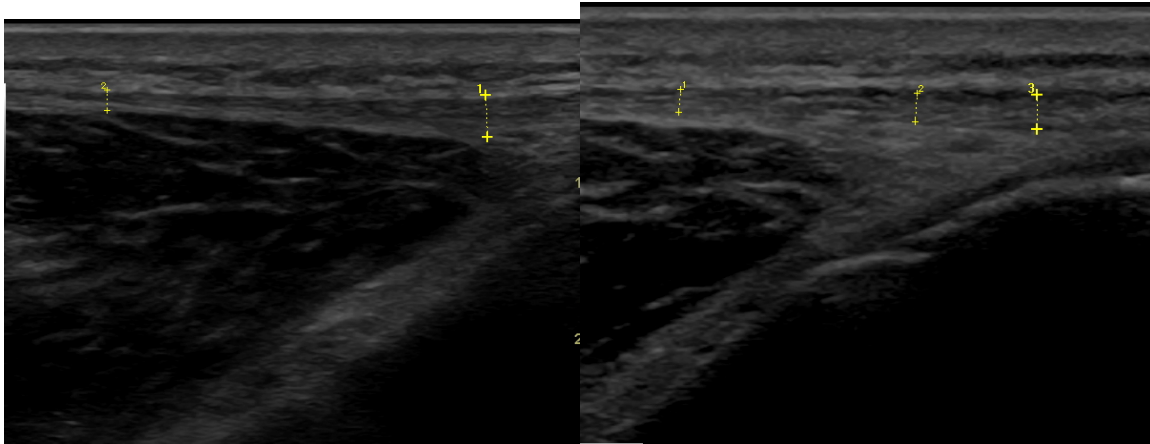


Figure 1 & 2: Case #1 Pre treatment measurement 2.7mm (left) and post treatment measurement 1.7mm (right)

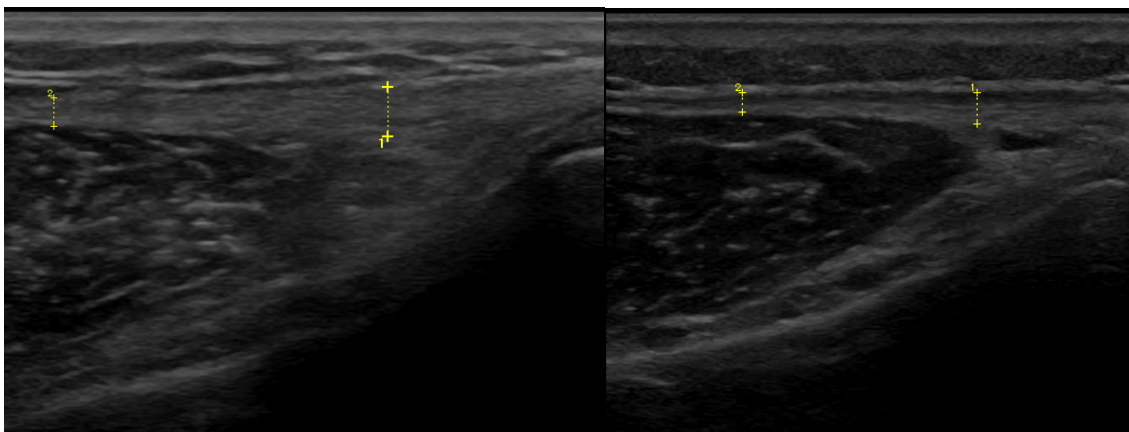


Figure 3 & 4: Case #2 Pre treatment measurement 3.0mm (left) and post treatment measurement 1.9mm (right)

#### References:

[1] Foch, E; Reinbolt, JA; Zhang, S; Fitzhugh, EC; Milner, CE. Associations between Iliotibial Band Injury Status and Running Biomechanics in Women. *Gait Posture*, 2015.

[2] Goh, LA; Chhem, RK; Wang, SC; Chee, T. Iliotibial Band Thickness: Sonographic Measurements in Asymptomatic Volunteers. *J Clin Ultrasound*, 2003. 31(5). 239-44

[3] Gyaran, IA; Spezia, F; Hudson, Z; Maffulli, N. Sonographic Measurement of Iliotibial Band Thickness: an Observational Study in Healthy Adult Volunteers. *Knee Surg Sports Traumatol Arthrosc*, 2011. 19(3). 458-61.