

Abstract

- Title:** EMG analysis of the hip joint muscles in runners with iliotibial band syndrome
- Objectives:** The main aim of this thesis was to analyse bilateral difference in activity of the hip joint muscles in runners with iliotibial band syndrome. Second aim was also to determine the role of limb dominance in the formation of ITBS.
- Methods:** Twenty-two runners with ITBS underwent EMG muscle testing. *M. tensor fasciae latae*, *m. gluteus medius* and *m. gluteus maximus* were tested during dynamic movements on one lower limb. These included squat, vertical jump and jump off the box. Results were expressed as a percentage of maximal voluntary isometric contraction (MVIC).
- Results:** The results indicate a significantly higher activity of the *gluteus maximus* muscle on the affected lower limb (41.55%) compared to the unaffected (27.50%) during the box jump exercise ($p=0.00926$). The *m. tensor fasciae latae* and *m. gluteus medius* muscles did not show significant bilateral asymmetrical activity. The results did not show a connection between the dominant lower limb and the side of the ITBS formation.
- Keywords:** iliotibial band syndrome, ITBS, running biomechanics, electromyography, EMG, *m. gluteus medius*, *m. tensor fasciae latae*, *m. gluteus maximus*, lateral knee pain, tractus iliotibialis, long distance runners