

Electromyography Activity of the Rectus Femoris and Biceps Femoris Muscles during Prostration and Squat Exercise

Authors : M. K. Mohd Safee, W. A. B. Wan Abas, F. Ibrahim, N. A. Abu Osman, N. A. Abdul Malik

Abstract : This paper investigates the activity of the rectus femoris (RF) and biceps femoris (BF) in healthy subjects during salat (prostration) and specific exercise (squat exercise) using electromyography (EMG). A group of undergraduates aged between 19 to 25 years voluntarily participated in this study. The myoelectric activity of the muscles were recorded and analyzed. The finding indicated that there were contractions of the muscles during the salat and exercise with almost same EMG's level. From the result, Wilcoxon's Rank Sum test showed significant difference between prostration and squat exercise ($p < 0.05$) but the differences was very small; RF (8.63%MVC) and BF (11.43%MVC). Therefore, salat may be useful in strengthening exercise and also in rehabilitation programs for lower limb activities. This pilot study conducted initial research into the biomechanical responses of human muscles in various positions of salat.

Keywords : electromyography, exercise, muscle, salat

Conference Title : ICBT 2014 : International Conference on Bioengineering and Technology

Conference Location : Istanbul, Türkiye

Conference Dates : December 22-23, 2014