

Abstract

Title: Comparative of muscle activity during the cycling step with the use of clipless and normal pedals.

Objectives: Diploma thesis objective is to compare muscle activity during pedaling cycle with/without clipless pedal. Using EMG we want to establish, if 6 chosen muscles are showing significant involvement difference for pedaling with/without clipless pedals.

Methods: It is combination of empirical – theoretical thesis. Our work consists of intra- and interindividual comparative analytical study. We used two comparative methods for EMG signal evaluation – Pearson correlation coefficient and comparison with use of signed area of the region bounded by its graph.

Results: The results of the correlation analysis show a high degree of compliance of the average normalized envelope diagrams for a cycling step with and without clipless. Based on the comparison of areas under the EMG curve, there is no higher muscle activation potential for the classic pedal.

Keywords: cyclist, pedal, cycling step, muscle activity, electromyography