

Diploma thesis "Facilitation and inhibition of trunk and lower extremity muscles using different types of shoes -surface polyEMG assessment" describes basic knowledge about human gait. The work summarizes important facts about gait development, physiological patterns and about impact of shoe types on kinematics and muscle activity during walking. The aim of the study was to analyze activity of eight muscles of trunk and of lower extremities and also to assess basic temporal-spatial characteristics of gait using surface poly-EMG and forceplate during barefoot gait and while walking in different types of shoes. The analysis was carried out in a sample of 18 young healthy women during level walking. Outcomes indicate that every tested pair of shoes changes temporal-spatial characteristic as well as activity of trunk and lower extremities muscles compared to barefoot gait. In some cases outcomes showed statistically significant difference. According to our conclusions cause of it was especially the weight of shoes and the instability of ankle and foot while walking in high heels, toe post sandals and "tapky".