

Abstract

Title:

The comparison of EMG activity of selected muscles during walking and skiing - group LW2

Aim:

The aim of this study is the analysis of the activity of selected muscles of an individual with one-sided, above-knee amputation during walk with an artificial limb, after the mobilisation of the sole, and the comparison with their activity during downhill skiing.

Method:

This is a case study of a descriptive character performed through surface EMG in conjunction with simultaneous video recording. The observation of the kinesiological content of the muscle movement was done through comparative analysis, with the aid of a qualitative analysis of the video recording and a qualitative comparison of the intensity of the electric potential of the selected muscles.

Results:

Different character of the working of the lower limb during walking with artificial limb and during the performance of a curve on inner and outer edge with one or both stabilisers was shown.

With caution, we can characterise skiing as a kinetic activity, predominantly of a postural character. Free „bipedal“ walk, on the other hand, is a locomotion with a predominant character of phasal muscle activity.

Key words: amputation, bipedal locomotion, downhill skiing, electromyography.