



Registration and Evaluation of Effects of Hippotherapy with Patients Suffering from Multiple Sclerosis by Means of Electromyography and Acceleration Measurement

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Abstract

Electromyograms of disturbed muscle groups and acceleration measured near to the centre of gravity of the human body were recorded from 10 healthy people and 9 patients suffering from multiple sclerosis. Recordings were taken during locomotion before riding, while on the horse and one hour after hippotherapy.

Special software was developed for the evaluation, and graphing, of the effects of therapy on the rhythm and regularity of gait, and on co-ordination parameters in the registered signals. Several calculated parameters were tested statistically (SPSS). Variability of step phases during gait and co-activation factors of muscle groups were found to be good parameters for evaluating the effects of hippotherapy on spasticity and ataxia.

The results show that it is obviously not possible to get uniform outcomes valid for all patients. An important reason for the lack of unity in the outcome results is the variance in the pattern of symptoms as presented by patients.

Looking at single cases, we found positive effects of hippotherapy subject to individual symptoms in 6 of 9 cases. These effects occurred with short latency after therapy sessions. Single cases will be discussed in this paper.