

Abstract

Title: Evaluation of dynamic stability of the lower limb in horse riders using the Y-balance test

Objectives: The aim of this thesis is to map the level of lower limbs stability in show jumping and eventing horse riders by using the Y-balance test and to describe whether common signs of variations in range of motion of lower limb joints will be present. At the same time supplement the thesis with a short summary of movement problems and the use of physiotherapy in horse riders using a short questionnaire. By writing this thesis I would like to raise the awareness of riders about the effect of asymmetries and imbalances on the musculoskeletal system of both the rider and the horse, and about the possible achievement of better harmony between the rider and the horse when trying to correct these changes with the help of physiotherapy or other additional movement activities.

Methods: The key part of the research section of the thesis is an examination using the Y-balance test evaluating the dynamic stability of the lower limb and also the examination of range of motion of the lower limb joints using a goniometer. At the same time, a questionnaire is part of the work, which has the task of providing a brief overview of the issue of physiotherapy in horse riding. Testing is performed on 25 probands, 14 of them are woman and 11 are men with an average age of 30,6 years. All the gained data were processed by Microsoft Office 2019, analysis was conducted using descriptive statistics, One sample t-test, Chi-square test of independence, Chi-square goodness of fit test. The level of significance is set at 5%.

Results: The results of this thesis assess the lower limb stability in the tested group of riders as sufficient and there is no increased risk of injury at the limit of the composite score of 89,6%. In the measurement of the range of motion, deviations were noticeable especially in the hip joint where rotations and active flexion were the most limited. In this tested group no significant influence was found when determining the influence of the limitation of the range of motion on dynamic stability. As a next, the questionnaire shows that riders use physiotherapy more often by their horses and it is still not commonly used by the riders themselves. When identifying the areas with the most frequent problems, it was not proven that the frequency of occurrence of individual chronic problems among the riders of this study differed statistically significantly.

Keywords: postural stability, dynamic stabilization, eventing, show jumping, Y-balance test