

Abstract

Title: The relationship of back pain in show jumping and dressage riders depending on the degree of stability

Objectives: The aim of this work is to determine the relationship between back pain in show jumping and dressage riders depending on the degree of stability. With the help of computer posturography Neurocom Smart Equitest System.

Methods: In my thesis, I used the NeuroCom Smart EquiTest computerized posturograph to record and measure dynamic postural stability. This machine is mainly used to examine functional disorders in the sensory, vestibular and neuromuscular apparatus. The research sample consisted of 20. 10 jumping and 10 dressage riders. They were selected on the basis of a questionnaire sent to riders ranked 100th in the Czech rankings in their discipline in 2022. If they met the criteria, they were included in the project. Proband's were aged 18-35 years, practicing horse riding every day for at least the last 10 years. The practical measurement took place in November 2023 in the Kinesiology Laboratory of the Department of Physiotherapy at FTVS UK. Each proband underwent seven consecutive tests. And only in the following order – Test of organization Sensors, Test of motor control, Test of adaptation, One-sided stance, Limits of stability, Rhythmic shift of weight, Test of squat under load. The measured data were recorded and processed by NeuroCom Balance Manager Software. Furthermore, the data were statistically evaluated.

Results: I found out that dressage riders had better results in static tests. At the same time, they had a better ability to use sensory systems to maintain postural stability. The distribution of weight symmetry was similar in both groups. Jumping riders did better in the distribution of force symmetry, as well as in the case of dynamic tests. Reaction times were again shorter for jumping riders.

Keywords: : horse riding, postural stability, horse rider, deep stabilization system of the spine, back pain, dressage, show jumping, NeuroCom Smart EquiTest, posture