Abstract

Name: The impact of tennis on the musculoskeletal system

Context: Due to the characteristics of tennis as a unilateral loading of the musculoskeletal system, it is likely that numerous muscle imbalances appear.

Aim: The aim of my bachelor thesis was to determine the impact of tennis on the musculoskeletal system. Due to the characteristics and style of tennis and therefore the unilateral loading of the locomotive apparatus my thesis was primarily based on muscular dysbalance which I detected by the TMG measuring device.

Methods of the research: This bachelor thesis was implemented as a qualitative research in the form of six case studies. The tensiomyograf TMG 100 was used to diagnose muscle imbalance in the selected muscle groups.

Results: In five participants out of the total of six there was a shortening of the muscle biceps brachii on the dominant side and a slackening of the muscle biceps brachii on the contralateral side. Moreover in five of the six participants there was a slackening found in the muscle deltoideus anterior and in all six of the participants there was a slackening found in the muscle deltoideus posterior on the dominant side, and in five out of six participants there was a shortening detected in the muscle deltoideus anterior on the contralateral side, and in all the six participants there was a shortening detected in the muscle deltoideus posterior.

Conclusion: Based on the six case studies, five hypotheses were formulated and to verify or disproof them it would be necessary to carry out a quantitative research on a wider sample.

Key words: musculoskeletal system, compensation exercises, imbalance, TMG