

The thesis focuses on the effect of the bicycle setup, specifically the handlebar height, on the upper trapezius muscle tension. The aim of the theoretical part was to summarize the existing knowledge about the influence of individual bicycle parameters on the biomechanics of cycling and also to clarify the possible influence of local hypertonic changes in the trapezius muscle on musculoskeletal pain. The practical part of the thesis was to explore the influence of handlebar height adjustment on the musculus trapezius tension. The research included 8 male probands who underwent three loading protocols in the position established in the Retül bike fit and two modified positions – with handlebars moved down and up by 5% of the original value, respectively. During the last 30 seconds of the five-minute loading protocol, electromyographic activity of the aforementioned muscle was recorded. The measured tension values and their changes varied considerably between individuals, therefore no clear effect of handlebar position on the tension of the upper fibers of trapezius muscle was observed. Calculating only with the average recorded values of the individual probands, the lowest electromyographic signal was measured in the position with the highest handlebar position.