Abstract

The bachelor's thesis deals with the issue of hyperpronation syndrome of recreational runners, whose frequency is 15-20 % in the running community. The aim of this work is to evaluate the effect of footwear on the degree of hyperpronation and related parameters of the running step. The theoretical part of the thesis deals with the kinesiology of the foot with emphasis on the functional issues of hyperpronation, biomechanics of the running step and the connection of the running step with running injuries. In the practical part, running in footwear and running barefoot are compared using images from 2D kinematic analysis and data from the Zebris FDM-T System. The clinical examination of the modified Trendelenburg and Véle test is also evaluated. The monitored group consists of 13 recreational runners (7 men and 6 women, average age 26,5 years). The measured parameters are the degree of hyperpronation (objectified by the eversion of the heel and the progressive angle of the foot), the loading time of the functional sections of the foot, the inclination angle of the foot, the frequency and the length of the stride. The results of the thesis show that the change in afferentation and the associated change in the biomechanics of foot strike in footwear have a statistically significant effect on the degree of hyperpronation of recreational runners at the level of significance $p < 0.001$. The average values of the heel eversion when running in shoes were higher in all probands than when running barefoot. The effect of the footwear was also proved for other monitored parameters.