

Abstrakt

Title (Thema works):

Monitoring of the foot reaction on different declination of treadmill

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Thesis' objectives:

Main objective of this thesis was monitoring of the running technique of casual runners while changing the declination of the running belt and recording of selected values in part of the straight leg using new Pedar – X technology.

Methods:

Tested runners were examined on treadmill HP KOSMOS in specialized laboratory CASRI. Runners did approximately 100 steps by each – left and right leg, running constantly 12 km/h in four different declinations of 0, 5, 10 and 15%. Runners were wearing Pedar – X arch supporters in their shoes. These recorded individual pressures of foot during tread. Foot was divided into 7 segments; in each segment was different amount of sensors. Results of monitoring were recorded on the memory card which is integral part of the Pedar - X measurement system. Measured values were transferred by infraport to the PC accordingly.

Results:

The strain of the forefoot was changing while increasing the treadmill declination, maximum amounts of pressure raised. Maximum amount of pressure were allocated equally in case that runner had functional transverse foot arch. One segment of foot was overstrained in case that transverse or longitudinal arch was downfallen. The runners were using so called “running cradle “ with active take off in forefoot during lower declinations of treadmill. Forefoot started to be more strained in case that the declination of belt was increased, total area of used part of foot decreased. One runner used the same technique of run for all declinations of treadmill, he used only forefoot in all times. The total strained area of foot did not change in any declination.

Key words:

running pace, running technice, test in laboratory, Pedar - X