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**EVOLIUCINĖ MEDICINA:
ŽMOGAUS RAIDOS PERSPEKTYVOS IR SVEIKATA
BESIKEIČIANČIOJE APLINKOJE**

**EVOLUTIONARY MEDICINE:
PERSPECTIVES ON HUMAN DEVELOPMENT AND HEALTH
CONSEQUENCES IN A CHANGING ENVIRONMENT**

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ASSOCIATIONS OF SOMATOTYPE AND ANTHROPOMETRIC CHARACTERISTICS WITH SPORTS INJURY HISTORY AMONG ATHLETES: A PILOT STUDY

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Background and Aim: From an evolutionary medicine perspective, sport-specific somatotypes may reflect morphological adaptations that optimise mechanical load distribution and reduce injury susceptibility. Sport-related injuries remain a major concern among athletes. One of the ongoing uncertainties is whether certain body parameters are linked to higher injury rates. Current results in the literature are contradictory and lack measurable outcomes. The aim of the study was to investigate potential associations between somatotype scores, anthropometric values, and frequency and severity of injuries among athletes of different levels.

Materials and Methods: A cross-sectional pilot study with retrospective assessment of sports injuries was conducted. 40 athletes of different levels and sports disciplines were questioned and evaluated. Heath-Carter method of somatotyping and anthropometric measurements were performed using a stadiometer, a scale, calipers, flexible tape.

Results: In the last two years, athletes have been injured on average 1,98 times, missed more than 21,42 training sessions. Due to injury 6 athletes missed more than 50 sessions. Throughout the career 9 surgeries were performed in total. Males presented with a body fat of 17,7%, females 23,6%. Median somatotype scores: endomorphy 2,93; mesomorphy 3,00; ectomorphy 2,47. No relationship between gender, bodyfat and the number of injuries or missed trainings was found. Ectomorphy increase was found to be the only protective covariate regarding the amount of missed training sessions ($p = 0,004$) but not the amount of injuries ($p = 0,817$).

Conclusions: In the subject of anthropometry and injuries, the possibility of a type II error cannot be excluded. Further research with a larger sample size is required in order to prove the lack of anthropometric factors influencing a significant number of injuries. Ectomorphy as a protective covariate could be explained by the large number of endurance athletes in the study. Our findings could suggest that the optimal somatotype for any particular sport provides a stress-shielding effect as well.

Keywords: anthropometry, athlete, injury, somatotype, trauma