

This thesis focuses on measurement of anatomical parameters of lower limb in patients with non-traumatical anterior knee pain.

Theoretical part of this work describes basic anatomical, kinesiological and biomechanical knowledge about lower limb. Also there are described basic non-traumatical pathologies of knee and how to assess them.

Methodology: in experimental part there were examined and measured these parameters: Q angel, foot pronation and range of hip rotation of 28 sportsmen, of which 7 had unilateral anterior knee pain and 4 had bilateral anterior knee with no previous traumatic experience of the knee. Assessing of angles was made through photographic goniometry using Adobe Illustrator to measure angles on digital pictures.

Results: the work did not confirm any of hypothesis, that a statistically significant deviation would be found in patients with anterior knee pain compared to heathy population in at least one of the measured parameters. However further analysis of measured data showed statistically significant correlations between foot pronation and range of internal hip rotation and Q angle and range of external hip rotation both in patients with anterior knee pain compared to healthy population where no such correlation was found.

Conclusion: This work suggests existence of connection between different parameters of lower limb in relationship with anterior knee pain. Methods used in this work are commonly used in general physiotherapy and widen by contemporary theoretical knowledge and practical methods.