

Comparison of Knee Proprioception Between Blind and Healthy Sportsmen

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Objectives: Visual sense and proprioception have a big role in motion control. Visual communication ensures the data in proprioceptive period. The other senses of blind people are improved because of the lack of the visual ability but there are not enough data for the proprioceptive quality. The purpose of this study is to compare the knee joint proprioception of the blind and normal sportsmen and figure out the proprioceptive quality.

Methods: 16 visually-challenged sportsmen (12 males and 4 females) with an average age 23.6 ± 3.1 (ranging from 20 to 30), and 16 healthy sportsmen (12 males and 4 females) with an average age 23.5 ± 3.5 (ranging from 20 to 29) from the same sport branches were included in the study. Knee joint proprioception of the subjects in the target angle was measured. Angle repeating test was used via digital goniometer which was sensitive to 1 degree. For the statistical analyses of the data Mann-Whitney U, Wilcoxon Signed Ranks tests were used.

Results: There were no differences between knee proprioceptions of dominant and non-dominant extremities in both groups. When dominant extremities were compared, blind athletes got less wrong in 15 degrees measurements statistically ($p < 0.05$). All other comparisons revealed no statistically significant difference in both groups.

Conclusion: It has been determined that the knee joint proprioception of the visually-challenged sportsmen are better than the normal sportsmen. If the normal sportsmen do the training with their eyes closed, the quality of their knee joint proprioception may improve.

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