

The effect of sensory feedback on sense of force in the knee joint Bahram Amirshakeri, Abbas Soltani Someh

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Background: Sensory information is essential for controlling and modulating force. The aim of this study was to examine the effect of the lower leg sensory feedback on sense of force of the extensor muscles of the knee joint.

Methods: Twenty-two healthy young people participated in this cross-sectional study. A simple randomized method was used. Average error of three times the production and reproduction of the target force of the knee extensor muscles was measured before and immediately after the intervention. Sense of force of the knee extensor muscles at an angle of 60 degrees of flexion was measured. The test modes include (1) normal or control mode, (2) after using a thick sponge on the lower end of the dominant leg, and (3) after placing a bag of small ice blocks on the lower end of the dominant leg for 20 minutes. Results: By manipulating the sensory information of the leg, no significant change was observed in the amount of reproduced force error in the same limb (p>0/05). However, a significant change was observed in the amount of reproduced force error in the opposite limb (p0/05).

Conclusion: The results showed that sensory information sent from the leg is necessary to accurately understand the force in the knee joint.