

## Original Paper

# Effect of functional brace on threshold of motion sense in patients with Anterior Cruciate Ligament tear

Baghaei Roodsari R (MSc)\*<sup>1</sup>, Mousavi ME (MD)<sup>2</sup>, Salavati M (PhD)<sup>3</sup>, Ebrahimi I (PhD)<sup>4</sup>  
Keyhani S (MD)<sup>5</sup>, Kashani RV (MSc)<sup>1</sup>, Karimloo M (PhD)<sup>6</sup>

<sup>1</sup>MSc in Orthotics and Prosthetics, Department of Orthotics and Prosthetics, University of Social Welfare and Rehabilitation, Tehran, Iran. <sup>2</sup>Assistant Professor, Department of Orthotics and Prosthetics, University of Social Welfare and Rehabilitation, Tehran, Iran. <sup>3</sup>Associate Professor, Department of Physical Therapy, University of Social Welfare and Rehabilitation, Tehran, Iran. <sup>4</sup>Professor, Department of Physical Therapy, Tehran University of Medical Sciences, Tehran, Iran. <sup>5</sup>Assistant Professor, Department of Orthopedic Surgery, Shahid Beheshti University of Medical Sciences, Tehran, Iran. <sup>6</sup>Assistant Professor, Department of Statistical, University of Social Welfare and Rehabilitation, Tehran, Iran.

---

## Abstract

**Background and Objective:** Anterior Cruciate Ligament (ACL) tear is One of the most common injuries at knee joint. Threshold of motion sense included inputs that are received by mechanical receptors at dynamic position. The objection of present study was to find the effect of functional brace on the Kinesthesia motion sense in patients with ACL rupture.

**Materials and Methods:** In this Quasi- experimental study, 20 patients with ACL tear, with aging range between 18 to 44 years old were recruited. Patients were selected in a simple non probability sampling manner. Using Continuous passive motion for testing the Kinesthesia motion sense, as a dependent variable. Data was analyzed with Paired t-test and Colmogrof-Smirnof tests.

**Results:** Threshold of motion sense at affected knee before and after bracing was  $3.93 \pm 1.67$ ,  $4.45 \pm 1.86$  in open eyes and  $3.82 \pm 1.61$ ,  $4.13 \pm 1.96$  in closed eyes ( $P < 0.05$ ).

**Conclusion:** This study showed that the functional brace did not play in important role in the improvement of threshold of motion sense in patients with ACL tear.

**Keywords:** Functional brace, Threshold of motion sense, ACL, Knee

---

\* **Corresponding Author:** Baghaei Roodsari R (MSc), E-mail: r.baghaei@gmail.com

Received 15 August 2009

Revised 24 April 2011

Accepted 25 April 2011