

## Original Article

# EFFECTIVENESS OF NEUROMUSCULAR TRAINING FOR BASKETBALL PLAYERS ON PERFORMANCE OF STAR EXCURSION BALANCE TEST

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## ABSTRACT

**Background and introduction:** To determine the effect of neuromuscular training program (NMTP) focused on core stability and lower extremity strength on performance of star excursion balance test (SEBT) in basketball players.

**Method:** Pre to post test experimental study design randomised thirty Basketball players each 15 into NMTP and control group. Players trained together as a team in which NMTP group participated 4 weeks of NMTP twice a week and Control group followed their regular protocol as guided by their coach.

**Results:** When means of post intervention compared using Independent 't' between NMTP and Control group there is no statistically significant difference ( $p < 0.05$ ) in anterior, posterior-medial and posterior-Lateral direction reach distance of star Excursion test but there is a statistically significant difference in means of anterior, posterior-medial and posterior-Lateral direction reach distance when analyzed within in groups using Paired 't' test and Wilcoxon signed rank test.

**Conclusion:** Neuromuscular Training program found to be effective for Basketball Players on Performance of Star Excursion Balance Test and this improvement can significantly predict the prevention of injury.

**KEYWORDS:** Neuromuscular Training Programme; Star Excursion Balance Test; Core Stability; Core Strengthening; Basketball Players.

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## Access this Article online

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International Journal of Physiotherapy and Research

ISSN 2321- 1822

[www.ijmhr.org/ijpr.html](http://www.ijmhr.org/ijpr.html)

Received: 10-11-2013

Accepted: 28-11-2013

Peer Review: 10-11-2013

Published: 11-12-2013

## INTRODUCTION

In athletic activities due to running, sudden changing directions, falling etc, soft tissue injuries are very common in which ligament tears and joint sprains are predominate. These injuries involve 68.71% of lower extremities, 29.79% of knee problems, 2.75% spine, 1.99% of head injuries and 9% of other injury with fractures. The injuries of lower extremities consists primarily of ligament tears and fractures which are most commonly occurs at upper extremity.<sup>1</sup>

Basketball players are more prone to get soft tissue injuries due to their athletic activities. Most common injuries in basketball players are

Ankle injuries <sup>2</sup> and Anterior cruciate ligament injury at knee.<sup>3</sup> Randall Dick et. al. state that in basketball players primary injury mechanisms are due to player contact, other contact (eg, contact with balls, standards, or the ground), and no contact in games and practices. Most game (52.3%) and practice (43.6%) injuries resulted from player contact. Few injuries were associated with contact with the standard or rim or with running into an out-of-bounds apparatus.<sup>4</sup> Oluwatoyosi Babatunde Alex Owoeye et. al. stated that Jumping or landing are the most common cause of injury among adolescent basketball players in Nigeria in which