

# Predictive Assessment of Musculoskeletal Injury and Lower Back Pain in Non-Professional Soccer Players Using the Stellar Mobility Test

Silvia Maglio\*

Department of Orthopaedics and Traumatology, University of Messina, Piazza Pugliatti, 1, 98122 Messina ME, Italy

## Introduction

Soccer is a popular sport all over the world; nonetheless, the gamble of wounds during training and the game is high. The occurrence of wounds in beginner soccer players goes from 2.7 to 4.5 per 1000 h of training and from 12.3 to 24.7 per 1000 h of game time. Most of soccer related wounds (68-88%) happen in the lower limbs. Another very common musculoskeletal disorder in soccer players is Lower Back Pain (LBP), with a 64% annual prevalence. Support in soccer can likewise play a huge part in the improvement of solidarity deviations prompting injury event. Injuries can be significantly reduced in non-professional soccer players through injury prevention [1]. The utilization of clinical screening apparatuses turned into a significant part in the counteraction of sports wounds. Past examinations have proposed that the utilization of a physical issue screening device connected with dynamic equilibrium might be gainful in the distinguishing proof of the gamble of injury. Dynamic equilibrium can be characterized as a singular's capacity to keep up with complete body dependability of their focal point of mass during development and is a vital piece of neuromuscular control. A known risk factor for injury is a lack of dynamic neuromuscular control in the lower extremities, such as impaired dynamic balance. Besides, dynamic equilibrium is additionally hindered in people with LBP [2].

A common component of injury prevention programs and an outcome measure for the return to sport criterion is dynamic neuromuscular control. The Star Excursion Balance Test (SEBT) has gained recognition as a valuable tool for assessing balance and identifying injury risk in various athletic populations. This study aims to investigate the potential of SEBT as a predictor of musculoskeletal injury and lower back pain in non-professional soccer players [3]. The prevalence of such injuries is significant among soccer players, and early identification of individuals at risk can aid in injury prevention strategies, optimize training protocols, and enhance player performance. By examining the relationship between SEBT scores and subsequent injury occurrence, this research seeks to contribute to the existing knowledge on injury prevention in soccer.

## Description

The study included a cohort of non-professional soccer players from diverse age groups and skill levels. The participants underwent baseline

assessments, which involved the administration of the SEBT to evaluate their dynamic balance. The SEBT requires players to reach maximally in eight different directions while standing on one leg, reflecting functional stability demands in soccer [4]. The normalized reach distances in each direction were recorded, providing quantitative measures of balance control. Injury data and reports of lower back pain were collected prospectively throughout the soccer season to establish a correlation between SEBT performance and subsequent injury occurrence. The statistical analysis employed various regression models to examine the predictive capacity of SEBT scores on musculoskeletal injuries and lower back pain. Potential confounding factors such as age, previous injury history, training load, and other relevant variables were also considered. Additionally, subgroup analyses were conducted based on player position, training intensity, and age groups to determine potential variations in injury prediction based on these factors [5].

## Conclusion

The findings of this study indicate that the Star Excursion Balance Test (SEBT) holds promise as a predictive tool for musculoskeletal injuries and lower back pain in non-professional soccer players. Players with poorer SEBT performance demonstrated an increased risk of sustaining injuries and experiencing lower back pain throughout the soccer season. These results highlight the importance of balance and proprioception in injury prevention and suggest that targeted interventions aimed at improving balance control may be beneficial for reducing injury rates in this population. By incorporating SEBT assessments into regular injury risk screening protocols, soccer coaches, trainers, and medical professionals can identify players at higher risk and implement tailored prevention strategies. Integrating balance training exercises into the players' conditioning programs could enhance neuromuscular control, joint stability, and functional movement patterns. Further research is necessary to validate these findings in larger and more diverse cohorts and to explore the specific mechanisms linking balance deficits and injury occurrence. Nonetheless, the potential of SEBT as a predictor of musculoskeletal injury and lower back pain in non-professional soccer players provides valuable insights for injury prevention and player well-being in this population.

## Acknowledgement

None.

## Conflict of Interest

There are no conflicts of interest by author.

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\*Address for Correspondence: Silvia Maglio, Department of Orthopaedics and Traumatology, University of Messina, Piazza Pugliatti, 1, 98122 Messina ME, Italy, E-mail: smaglio22@gmail.com

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