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Neuromuscular Fatigue According to Injury History in the Acceleration Phase of a Repeat Sprint Ability Test: Preliminary Results

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INTRODUCTION:

Sprinting is a fundamental component of the professional soccer player's ability to achieve the highest performance in the sport (1) and the hamstrings muscles are crucial in sprint acceleration performance and maximal sprinting (2). The aim of this preliminary study was to analyze the influence of hamstring injury history on the neuromuscular fatigue in the acceleration phase produced by an RSA test in elite female football players.

METHODS:

Ten female elite soccer players of the Second Spanish Soccer Division participated in the study. The participants were divided into: (1) a Control group who have not suffered previous muscular injuries and (2) a Hamstring group with previous hamstring injury at least one season prior to the protocol. The players performed a protocol consisting of a Repeat Sprint Ability Test (RSA) (6 × 40 m; 30 s rest). The different variables of the study were compared between groups with a two-way ANOVA for repeated measures.

RESULTS:

The main findings from the present study were that, in subjects with previous hamstring injury, the performance was impaired compared with the control group in the initial meters of the sprint during an RSA, there was a higher percentage difference between SplitTT and ideal Split in 0–10 m compared to 0–20 m in the hamstring group ($p = 0.04$; $ES = 0.48$).

CONCLUSION:

It seems that in elite female soccer players with previous hamstring injury, RSA-induced fatigue produces a greater decrease in the performance in the first 10 m of the sprint compared to the control uninjured players.

Topic: Biomechanics

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