GNYACSM Abstract

Hip Strength Disparities in College Soccer Players: Implications for Injury Risk and Conditioning Practices

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ABSTRACT

The Y-balance Test (YBT) has been used to identify potential risk factors associated with lower extremity injuries (LEI), while mobility and strength assessments are often used to monitor progress following an injury. **PURPOSE:** This study aimed to explore differences in YBT scores along with lower body mobility and strength in Division I male soccer players who have reported a LEI in the last 12 months (LEI-Y) compared those without reported injuries (LEI-N). **METHODS:** Twenty-eight male soccer players (age: 20.7 ± 1.8 y; height: 183.8 ± 7.1 cm; mass: 78.5 ± 6.7 kg) completed pre-season evaluations which included YBT, hip strength, hamstring flexibility, and hip and ankle range of motion (ROM). All players were cleared for testing by the head athletic trainer and team physician and had no current LEI precluding them from participating. However, players self-reported if they had experienced a lower extremity injury or surgery in the prior twelve months. Hip adduction and abduction strength was evaluated using a dynamometer and calculated relative to body weight. Hip and ankle ROM were measured using a goniometer, and hamstring flexibility was measured using the sit-and-reach test. The YBT scores and leg length were used to determine a composite score for each leg. Data was presented as means ± standard deviations. **RESULTS:** For LEI-N, there were no notable imbalances in right to left side comparisons for hip adduction strength (44.8 ± 6.8 vs 43.5 ± 7.5 %) or hip abduction strength (49.2 ± 5.3 vs 49.0 ± 9.1 %). In the LEI-Y group, there was a discernible difference between the right and left side for hip adduction strength (43.7 ± 7.8 vs 41.4 ± 6.1 %) and hip abduction strength (48.4 ± 8.3 vs 45.1 ± 6.3 %). Relative hip strength and ankle ROM scores were also lower overall in the LEI-Y group compared to the LEI-N group, but no such trends were observed for YBT composite scores, hip ROM, or hamstring flexibility. **CONCLUSION:** The findings of this study indicate that the LEI-Y group had greater bilateral imbalance in lower limb strength, lower hip strength, and lower ankle ROM scores compared with those without injury history. Future research is recommended to evaluate the impact of injury on these markers and examine their associations with future injury risk.