

BACKGROUND

- Over seven million students participate in high school athletics annually with an estimated 2 million injuries annually¹
- There is little evidence-based research on return-to-play readiness following a lower extremity²
- Closest recommendation in the literature is near symmetrical performance compared to the contralateral limb³
- The single-leg hop for distance (SLHOP) is a commonly used functional performance measure to determine return-to-play readiness⁴
- It is unknown if functional performance at return-to-play can predict future patient outcomes
- **Purpose: Determine if SLHOP performance and symmetry at return-to-play following a lower extremity injury would predict lower extremity patient-reported outcomes six months post-injury**

METHODS

- Two-hundred thirty-six adolescent athletes (15.7±1.4 years, 171.1±7.6 cm, 70.3±15.3 kg) were recruited
- If an individual sustained a non-surgical lower extremity injury during their sports season and missed three days of sports participation they were eligible for follow-up functional and patient outcome assessment
- Thirty-two adolescent athletes sustained an eligible injury and completed follow-up testing (15.0±1.1 years, 166.5±4.9 cm, 67.3±10.4 kg; 14 American football, 8 volleyball, 4 girls' basketball, 6 boys' basketball athletes)

METHODS Cont.

- The SLHOP was completed at return-to-play on the injured and uninjured limb by using the procedures outlined by Noyes et al⁵ (**Figure 1**)
- The Pediatric Patient-Reported Outcomes Measurement Information System (PROMIS) Lower Extremity scale was completed six months after return-to-play as the patient-reported outcome measure⁶
- A stepwise multiple linear regression was conducted to predict PROMIS Lower Extremity scale score from SLHOP distance on the injured and uninjured leg (cm), and limb symmetry (%)



Figure 1. Single Leg Hop for Distance

RESULTS

- Injured limb SLHOP distance was entered into the regression equation and was significantly related to the PROMIS Lower Extremity scale $F_{(1,31)}=20.8, p<.001$
- The multiple correlation coefficient was 0.79, indicating approximately 62% of the variance of the PROMIS Lower Extremity scale scores could be accounted for by the injured limb SLHOP distance (**Figure 2**)
- Uninjured limb SLHOP distance and limb symmetry were not significant ($p>.05$)

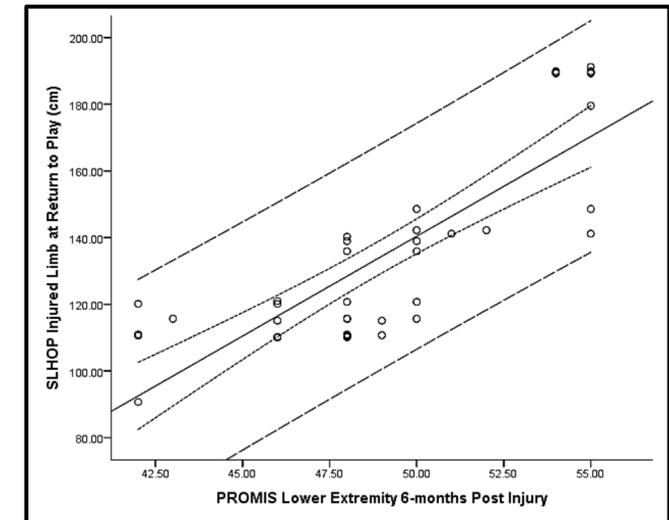


Figure 2. Relationship between PROMIS and SLHOP Distance

DISCUSSION

- SLHOP performance of the injured limb following an injury may help indicate a successful long-term outcome. SLHOP symmetry did not predict long-term outcomes indicating that symmetry may overestimate function
- Injured individuals have had satisfactory SLHOP limb symmetry (>80%) at return-to play but at a 6 month follow up, only 60% had acceptable outcomes (complaints of pain, functional limitations)⁷

REFERENCES

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