

Evidence for Reliability and Validity of Functional Performance Testing in the Evaluation of Nonarthritic Hip Pain.

[McGovern RP](#)^{1,2}, [Christoforetti JJ](#)^{2,3,4}, [Martin RL](#)^{4,5}, [Phelps AL](#)⁴, [Kivlan BR](#)⁴.

Author information

- 1 Rangos School of Health Sciences, Duquesne University, Pittsburgh, PA.
- 2 Allegheny Health Network, Pittsburgh, PA.
- 3 Drexel University School of Medicine, Philadelphia, PA.
- 4 Duquesne University, Pittsburgh, PA.
- 5 University of Pittsburgh Center for Sports Medicine, PA.

Abstract

CONTEXT:

The single-legged-squat test (SLST) and step-down test (SDT) are 2 functional performance tests commonly used to evaluate active people with nonarthritic hip pain and dysfunction. However, evidence to support the use of the SLST and SDT in this population is lacking.

OBJECTIVE:

To offer evidence of reliability and validity for the SLST and SDT in evaluating patients with nonarthritic hip pain.

DESIGN:

Cross-sectional study.

SETTING:

Orthopaedic surgeon's clinical office.

PATIENTS OR OTHER PARTICIPANTS:

Forty-five patients (27 female and 18 male participants; age = 28.5 ± 10 years, height = 171.6 ± 10.1 cm, weight = 73.9 ± 15.2 kg, and body mass index = 25 ± 4.1) diagnosed with nonarthritic hip pain.

MAIN OUTCOME MEASURE(S):

Participants performed the SLST and SDT. Interrater reliability and validity of passive internal rotation of the hip, visual analog scale (VAS) scores, and hip outcome scores (HOSs) for limitations in activities of daily living and sport-related activities (SRAs) were collected.

RESULTS:

Interrater reliability was moderate to excellent for both the SLST (0.603-0.939) and SDT (0.745-0.943). Participants who passed or failed the SLST and SDT differed on the following measures: VAS for the SLST ($F_{1,43} = 16.21, P < .001$); VAS for the SDT ($F_{1,43} = 13.41, P = .001$); HOS-activities of daily living for the SLST ($F_{1,40} = 5.15, P = .029$); HOS-SRAs for the SLST ($F_{1,40} = 7.48, P = .009$); and HOS-SRAs for the SDT ($F_{1,40} = 6.42, P = .015$).

CONCLUSIONS:

Our study offers evidence for the use of the SLST and SDT as reliable and valid functional performance tests in the evaluation of physical function for patients with nonarthritic hip pain.

KEYWORDS:

hip outcome score; single-legged-squat test; step-down test; visual analog scale

PMID:

30829535

PMCID:

[PMC6485845](#)

[Available on 2020-03-01]

DOI:

[10.4085/1062-6050-33-18](#)