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### Original Research

## Functional Performance Testing in Participants With Functional Ankle Instability and in a Healthy Control Group

Amanda S. Buchanan, MS, ATC, Carrie L. Docherty, PhD, LAT, ATC, and John Schrader, HSD, LAT, ATC

Indiana University, Bloomington, IN

### Abstract

**Context:** Functional ankle instability (FAI) affects a large part of the population. Inconsistent findings have been reported regarding the existence of functional performance deficits in individuals with FAI.

**Objective:** To examine functional performance in participants with FAI compared with participants in a control group during 2 hopping tests.

**Design:** Case-control study.

**Settings:** Athletic training research laboratory.

**Patients or Other Participants:** There were 40 college-aged individuals who participated in our study: 20 with FAI and 20 without FAI. We defined *FAI* as history of an ankle sprain and residual episodes of "giving way."

**Intervention(s):** Participants completed 2 functional performance tests (FPTs): the single-limb hopping and the single-limb hurdle tests.

**Main Outcome Measure(s):** Time to complete each test was recorded. Following each FPT, participants were asked if their ankles felt unstable during the test.

**Results:** We found no difference between participants in the FAI and control groups for the hopping or hurdle tests ( $P > .05$ ). When asked if their ankles felt unstable during the FPTs, approximately half of the participants in the FAI group and none of the participants in the control group reported a feeling of instability. Subsequently, a secondary analysis of variance was calculated with participants grouped into 3 categories: control participants, FAI participants reporting instability symptoms during FPT (FAI-S), and FAI participants not reporting instability symptoms during FPT (FAI-NS). Results revealed a difference among the 3 groups for the single-limb hopping test ( $P < .01$ ). Post hoc analysis revealed a difference between the FAI-S participants and both the control and the FAI-NS participants. No difference was identified for the single-limb hurdle test ( $P = .41$ ).

### Volume 43, Issue 4 (July/August 2008)

< [Previous](#) [Next](#) >



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**Conclusions:** The FAI-S participants had performance deficits during the single-limb hopping test. Therefore, clinicians could use this simple hopping test as an additional method to determine the presence of FAI.

**Keywords:** [agility](#), [assessment](#), [ankle injuries](#)

Amanda S. Buchanan, MS, ATC, contributed to conception and design; acquisition and analysis and interpretation of the data; and drafting, critical revision, and final approval of the article. Carrie L. Docherty, PhD, LAT, ATC, and John Schrader, HSD, LAT, ATC, contributed to conception and design; analysis and interpretation of the data; and drafting, critical revision, and final approval of the article.

Address correspondence to Carrie L. Docherty, PhD, LAT, ATC, University Gymnasium, 2805 East 10th Street, Indiana University, Bloomington, Bloomington, IN 47408. Address e-mail to [cdochert@indiana.edu](mailto:cdochert@indiana.edu).

[top](#) ▲

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