

COMPARISON OF HIP INTERNAL AND EXTERNAL ROTATION BETWEEN INTERCOLLEGIATE DISTANCE RUNNERS AND NON-RUNNING COLLEGE STUDENTS

Andrew Cannon, PT, SCS, MHS, CSCS¹

Kevin Finn, EdD, ATC, CSCS, FACSM¹

Zi Yan, PhD, MPH, M.Ed¹

ABSTRACT

Background: The increased incidence of lower extremity injury in runners compared to the general population is well documented. The amount of passive hip rotation and the position of hip flexion or extension at which it occurs may be factors related to injury incidence.

Purpose: The purpose of the current study was to measure and compare hip rotation passive range of motion in male and female runners and non-runners at 0 and 90 degrees (°) of hip flexion.

Study Design: Descriptive Laboratory Study.

Methods: Eighteen Division II collegiate distance runners (9 female, 9 male, mean age = 19.1, +/- 1.1 years) who had run for an average of 7.1 (SD=1.7) years participated in the study. Twenty non-runners (10 female, 10 male, mean age = 19.6, +/- 1.1 years) from the same institution were also recruited. Passive hip internal rotation (IR) and external rotation (ER) were measured with a universal goniometer in 90° of hip flexion in a seated position, and in 0° of hip flexion in prone position.

Results: There was a significant difference in IR measured in 0° of hip flexion, between runners and non-runners ($F(1,37)=8.04, p=.007$). Additionally, the difference in IR between males (36.68 +/-9.19 degrees) and females (45.99 +/- 9.12) was significantly different ($F(1,37)=20.79, p=.001$). There were no other statistically significant differences in measurements between groups.

Conclusions: Collegiate runners had significantly greater passive hip IR when measured at 0° of hip flexion compared to the non-runners. Female runners had significantly greater passive hip IR compared to the male participants across both runners and non-runners.

Level of Evidence: 3

Key Words: Hip rotation, injury, lower extremity, running

CORRESPONDING AUTHOR

Andrew Cannon, PT, SCS, MHS, CSCS

Associate Clinical Professor

Merrimack College, School of Health Sciences

O'Reilly Hall, Office 423

315 Turnpike Street

North Andover, MA 01845

(978) 837-5789

E-mail: cannona@merrimack.edu

¹ Merrimack College, School of Health Sciences, North Andover, MA, USA

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