ABSTRACT

Background: Functional and structural asymmetries attributed to limb dominance are equivocal in soccer players. Previous authors hypothesize the existence of between-limb asymmetry secondary to the repetitive unilateral nature of kicking. However, symmetry is often present, particularly in measures of muscle strength.

Purpose: The purpose of the present study was to determine if lateral dominance is accompanied by corresponding between-limb asymmetries in a comprehensive assessment of body composition, muscle strength, and range of motion in healthy soccer players.

Study Design: Cross-sectional, observational.

Methods: 17 healthy male NCAA Division One collegiate soccer players participated (age 19.6±1.5 years; BMI 23.9±1.4 kg/m2). Footedness was attained via participant self-report. Lower limb muscle strength (hand held dynamometry), range of motion (goniometry), and body composition (dual energy x-ray absorptiometry scan) were measured. Lower-leg symmetry was analyzed comparing the dominant versus non-dominant limb using paired t-tests.

Results: Comparisons revealed no statistically different differences in outcomes, indicating remarkable symmetry in all measures of body composition, muscle strength, and range of motion (p>0.05) between the dominant and non-dominant lower limbs.

Conclusions: The authors speculate the prevalence of running versus kicking, the longitudinal effects of playing careers, and/or functional compensation attenuates the expected asymmetries in healthy male collegiate soccer players.

Level of Evidence: 2b

Key words: Bone density, footedness, lateral dominance, muscle strength, range of motion