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The Effects of Habitual Foot Strike Patterns on Achilles Tendon Loading in Female Runners

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Highlights

- This study compared habitual rearfoot and non-rearfoot strike runners
- Non-rearfoot strike runners demonstrated greater Achilles tendon stress
- Rearfoot and non-rearfoot runners had similar Achilles tendon cross-sectional area

Abstract:

Background: Female runners that habitually use a forefoot/midfoot strike pattern (non-rearfoot runners) may be at greater risk for Achilles tendinopathy compared to runners that habitually use a rearfoot strike pattern. Differences in Achilles tendon loading between non-rearfoot and rearfoot strike runners may be a contributing factor.

Research Question: Our purpose was to determine if there were differences in Achilles tendon loading and cross-sectional area between female habitual rearfoot and non-rearfoot strike runners.

Methods: Thirty-five female runners participated in this cross-sectional study (17 rearfoot strike runners, 18 non-rearfoot strike runners). Ultrasound images of the Achilles tendon were used to measure cross-sectional area. Kinematic and kinetic data were collected at a set running speed

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