Context: Hip strength, muscle activation, and fatigue affect lower extremity alignment. Foot type may influence hip biomechanics and landing force attenuation and contribute to non-contact ACL injury risk. **Objective:** To determine the effect of foot type and fatigue on hip neuromuscular control and lower extremity kinetics during a functional landing task. **Design:** Cross-sectional design. **Setting:** Research laboratory. **Patients or Other Participants:** Twenty-four healthy, National Collegiate Athletic Association Division I male and female athletes, with either a rectus or planus foot type (14 rectus 19.5 ± 1.7 years, height = 166.1 ± 6.7 cm, mass = 64.1 ± 4.9 kg, navicular drop = 7.1 ± 0.92 mm; and 10 planus 20.1 ± 1.3 years, height = 169.2 ± 7.3 cm, mass = 68.4 ± 8.4 kg, navicular drop = 11.9 ± 2.0 mm), volunteered to participate. **Interventions:** Independent variables were foot type (planus and rectus) and fatigue (pre and post). Vernier calipers were used for the navicular drop test to measure arch height. A MicroFET Hand-Held Dynamometer was used to measure hip strength, a Noraxon Telemyo Electromyography (EMG) system was used to measure muscle activation, and a Kistler 9287-BA Force Plate was used to measure lower extremity kinetics during a standing broad jump-to-vertical jump maneuver in both pre- and post-fatigue conditions. Statistical analyses consisted of multiple analyses of variance (ANOVA) and t-tests. Alpha level was set at p < .05. **Main Outcome Measures:** Dependent variables were hip extensor, abductor, and external rotator strength (lbs); EMG activation for the gluteus maximus, gluteus medius, and biceps femoris (reactive area by %MVC); and peak vertical, anterior shear, medial shear, and lateral shear ground reaction forces; and rate of loading at ground contact. **Results:** ANOVA tests revealed the following significance: Post-fatigue, the planus group showed a 49% decrease in biceps femoris EMG area (F = 4.53, p = .045, pre = 22.67 ± 18.94, post = 11.45 ± 9.78), a 35% decrease in co-agonist gluteus maximus and biceps femoris EMG area (F = 5.47, p = .029, pre = 41.26 ± 27.83, post = 26.77 ± 20.42), and a 31% increase in medial shear force (F = 50.72, p = .001, pre = .174 ± .030, post = .228 ± .030). Rate of lower extremity loading decreased 24% post-fatigue (F = 16.97, p = .001, pre = 56.83 ± 21.81, post = 43.43 ± 23.35) for both groups. No other significant differences were noted between foot types or pre- and post-fatigue. **Conclusions:** Under fatigue, athletes with a planus foot type have a reduced capacity to attenuate medial shear force. This may influence hip muscle activation strategies and lower extremity force attenuation, potentially increasing the risk of knee valgus and non-contact ACL injury.

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