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THE LOWER EXTREMITY FUNCTIONAL TEST: NORMATIVE AND EPIDEMIOLOGIC DATA IN A COLLEGIATE FEMALE ATHLETE POPULATION

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PURPOSE/HYPOTHESIS: The lower extremity functional test (LEFT) test has been used to assess athletic readiness to return to sport after a lower extremity injury. Current recommendations suggest that females should complete the LEFT in 135 seconds (average) (range, 120-150 seconds); however, this estimate is based on limited data and may not be reflective of a collegiate athlete population. Further, the value of the LEFT as a screening tool of lower extremity injury risk has not been determined. The purpose of this study was to provide initial reference values for the LEFT among collegiate female athletes, as well as define the test's association to injury risk.
NUMBER OF SUBJECTS: One hundred six collegiate female athletes (mean ± SD age, 19.1 ± 1.1 years) participated in this study.
MATERIALS/METHODS: During the preseason, the athletes performed the LEFT and completed a questionnaire that inquired about their training habits during the prior 6 weeks. The university's athletic training team recorded injury location and time-loss from sport from athletes who sustained a low back or lower extremity (LQ) time-loss injury during the subsequent competitive athletic season.
RESULTS: The athlete's mean LEFT score was 117 ± 10 seconds, with no significant differences based on age, years in college, or prior history of LQ injury (P>.05). Athletes who reported greater than 3 to 5 h/wk of plyometric training during the off-season were significantly slower than females who performed 3 or fewer h/wk (P = .03). The overall incidence of a LQ time-loss injury was 4.5/1000 athletic exposures (AEs). Athletes with a slower LEFT (118 seconds or greater) experienced a higher rate of LQ time-loss injury (6.4/1000 AEs) than athletes with a faster LEFT (117 seconds or less) (3.0/1000 AEs): rate ratio (RR) = 2.1; 95% CI: 1.1, 4.4 (P = .03). Slower athletes experienced a higher rate (17.4/1000 AEs) of subsequent (ie,, LQ time-loss injuries that occurred after the initial injury) LQ time-loss injuries than faster athletes (2.7/1000 AEs): RR = 6.4; 95% CI: 0.8, 52.2 (P = .05). Athletes who had a slower LEFT score were 6 times more likely (OR = 6.4; 95% CI: 1.3, 31.7; P = .02) to experience a thigh or knee time-loss injury than athletes who had a faster LEFT score. Although athletes with faster scores were less likely to experience a LQ time-loss injury during the season, when injured, they were more apt to incur their injury earlier in the season. Forty-five percent (5/11) had experienced a LQ time-loss injury (mean AEs to injury, 25; 95% CI: 14.5, 35.5) within the first 20 AEs. Conversely, only 1 of 13 slower athletes had experienced a LQ time-loss injury by the 20th AE.
CONCLUSION: Slower LEFT scores are associated with a greater incidence and rate of low back or lower extremity time-loss injury in Division III collegiate female athletes.
CLINICAL RELEVANCE: The normative data may be used to assess aspects of athletic readiness. Performance of the LEFT during the preseason may help identify athletes who are at an increased risk for a thigh or knee time-loss injury.