may indicate a need for higher activation of core muscles. Therefore, GS-EE exercises could also develop core muscles that have protective mechanism on low back.

134 WHAT ARE THE MOVEMENT PATTERNS ASSOCIATED WITH GOOD AND POOR LUMBOPELVIC STABILITY?

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Background Poor lumbopelvic stability (LPS), defined as the lack of optimal alignment of the spine, pelvis, and thigh, is a risk factor for sports injury. Clinicians can validly assess LPS using rating criteria for two movement tests: single leg squat (SLS) and dip test (DT) to assess movement pattern errors. LPS is typically categorised as good, poor or neither but simplistic categories are not sensitive to change nor provide direction for management. Specific movement errors made in each test may be more sensitive to change after exercise interventions than the three-category rating and require investigation.

Objective To establish which movement errors and demographic factors are associated with LPS categories.

Design Observational study.

Setting Adult recreational athletes.

Participants Recreational athletes (n =122, 50 men, 73 women) 18–49 years, playing land-based sports, with no conditions preventing performance of movement tests.


Main Outcome Measurements Athletes were filmed performing SLS and DT on each leg. Two physiotherapists independently categorised their LPS, noting the presence of movement errors defined in the rating criteria. Dependent variable: movement errors, demographic factors.

Results Good LPS was associated with the absence of specific movement errors: trunk lateral flexion or rotation, hip adduction and jerk movement in SLS and pelvic obliquity and jerk movement in DT (sensitivity 0.97, specificity 0.94). Poor LPS was associated with hip abduction (non-trial leg) in SLS, jerk movement in DT (sensitivity 0.97, specificity 0.94). Poor LPS was associated with hip abduction (non-trial leg) in SLS, jerk movement in DT (sensitivity 0.97, specificity 0.94). Poor LPS was associated with hip abduction (non-trial leg) in SLS, jerk movement in DT (sensitivity 0.97, specificity 0.94).

Conclusions Specific movement errors, and limited dorsiflexion and increasing age are associated with sub-optimal LPS. Strength programs improving movement control and mobility exercises improving ankle dorsiflexion should be implemented. As athletes age they should give more attention to maintaining optimal LPS.

135 ABSTRACT WITHDRAWN