

Functional Screening for Atraumatic Low Back Pain in Baseball Players

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When evaluating a baseball player with atraumatic, insidious low back pain (LBP), consider lumbar truncal muscle dynamic strength deficits as a mechanism underlying the problem. A simple functional screen can be used to determine specific dynamic strength and control weaknesses along the kinematic chain. Muscle weaknesses contribute to poor mechanics and resultant high forces at the lumbar spine (1,7). Abdominal, gluteal, hip girdle, paraspinal, and other muscles work together to provide spinal stability.

Four potential screening tests include single-legged squats (A), in-line lunges (B), hip drops (C) and alternating quadruped tests (D) (Fig.) (5,7). Failure to control single-legged motion, dynamic stability and rotational stability may transfer high,

elements of these approaches include proper progression of core exercises with appropriate muscle activation and cuing (2,3). This can be followed by supine or quadruped exercises, progressing into standing and weight-bearing positions.

The final stage of core training could be to reach sport-specific activities. The therapeutic intervention should improve muscle strength and dynamic stability, both of which improve lumbar stability during baseball motions such as swinging a bat or throwing. With initial injury, certain exercises should be avoided, such as Roman chair back extensions (1) and traditional sit-ups (4), because the resultant muscular forces can exacerbate back pain and, without pelvic restraint, may not optimally activate the lumbar musculature (6).

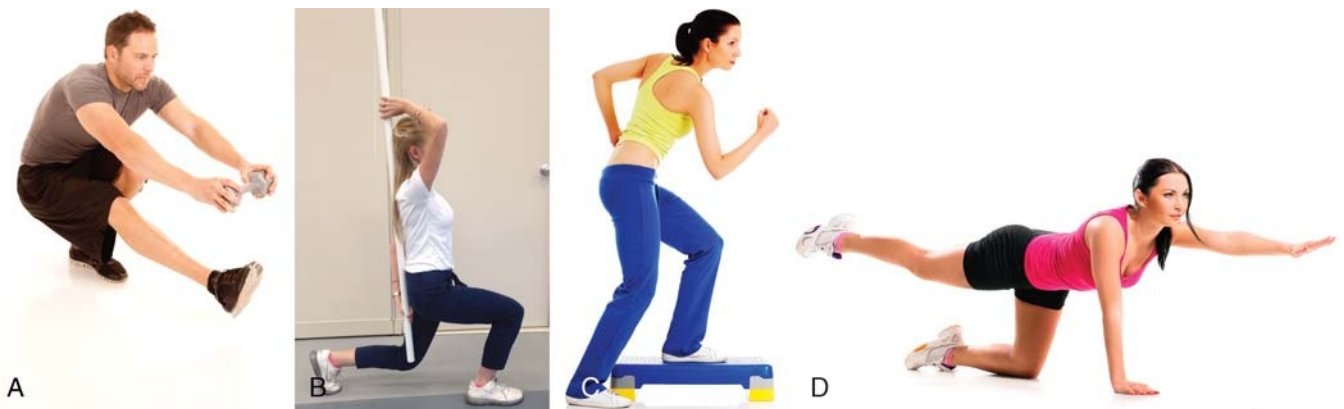


Figure: A. Single-legged squats. B. In-line lunges. C. Hip drops. D. Alternating quadruped.

aberrant forces on the lumbar spine during sport-specific motions. Treatment of LBP includes lumbar stabilization (core strengthening) as a therapeutic exercise. Although several effective low back therapy approaches are available, common

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