

## Evaluation and Early Treatment of Acute Low Back Pain in a Collegiate Volleyball Player

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**Objective:** To describe the evaluation and early treatment of a volleyball player with acute low back pain in the lumbar spine to facilitate return to competition.

**Background:** Low back pain is a common complaint among a majority of people. The complex anatomical structure and function of the low back often makes accurate diagnosis of the problem difficult. The subject of this case study was an 18 year-old collegiate volleyball setter. She had no previous history of back injury, but did possess poor posture. Volleyball players must endure prolonged trunk flexion during competition, as well as rotation and side flexion. Setters must also oscillate rapidly and repeatedly between full flexion and hyperextension. These repetitive motions, combined with poor supporting posture, increase the mechanical stresses placed upon the low back and increase susceptibility to low back pain.

**Differential Diagnosis:** Lumbar strain, lumbar sprain, facet syndrome, sacroiliac joint dysfunction, herniated nucleus pulposus

**Treatment:** The athlete participated in a rehabilitation program consisting of McKenzie's extension exercises and trunk stabilization exercises. The McKenzie program of active mobilization included sustained prone lying, sustained prone lying in extension, prone press-ups, and standing extension exercises. The trunk stabilization program combined active arm, leg, and trunk extension exercises. The athlete returned to volleyball activities in 2 weeks. She competed for the remainder of the season with no recurring instances of severe pain or disability.

**Uniqueness:** The time to return to function was rapid, and the athlete maintained a consistent level of function using McKenzie's extension program. The athlete has since been followed for a complete volleyball season and has competed fully while demonstrating only one reoccurrence of pain as serious as the first episode. She experienced radiating lower extremity pain attributed to a small left-sided L3-L4 and a right-sided L4-L5 herniated nucleus pulposus. While it is possible that these herniations were present at the initial onset of her low back pain and before MRI confirmation, it is believed that compliance with the McKenzie extension program helped to centralize and control the pain in both separate instances.

**Conclusions:** A thorough examination takes precedence when dealing with low back pain, but it must be accompanied by a specific treatment plan. In this case, both the examination and the treatment followed methods outlined by McKenzie. Implementation of a McKenzie extension program minimized the athlete's pain and returned her to full activity within an acceptable amount of time. The goal of rehabilitation, however, is not only return to function but also maintenance of function. When this athlete did not maintain the exercise regimen, her symptoms re-appeared at an increased level. This emphasized the importance of the continuation of the McKenzie program to minimize reoccurrences of pain. Continuing with the McKenzie extension program did return this athlete to a tolerable pain level and full participation at the Division I level.