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Determining the Effectiveness of Core Strengthening Exercise Therapies in Treating Nonspecific Low Back Pain: A Critically Appraised Topic

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Determining the Effectiveness of Core Strengthening Exercise Therapies in Treating Nonspecific Low Back Pain: A Critically Appraised Topic

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CLINICAL SCENARIO

Nonspecific low back pain is a condition which impacts athletes of all calibers and sports[1]. Clinicians have discussed that tight hamstrings and weak core muscles are a major cause of nonspecific low back pain[1]. The rehabilitation for increasing hamstring flexibility to reduce nonspecific low back pain is standardized and a myriad of programs exist in order to accomplish this, however the rehabilitation for strengthening the core muscles to reduce nonspecific low back pain is not as well established.[1]

FOCUSED CLINICAL QUESTION

Is there evidence to suggest which type of core strengthening rehabilitation would best reduce pain and increase function in high-level athletes?

SUMMARY of Search, "Best Evidence" appraised and Key Findings:

- A review of three randomized control trials[2-4] and one comparative study,[5] was performed in order to create a summary of current and prevalent evidence to determine which type of core strengthening would best reduce pain and increase function among high-level athletes with nonspecific low back pain.
- This review of the literature resulted in a wide variety of exercise programs that were found to be effective in treating nonspecific low back pain.
- The exercises found to be the most effective in treating nonspecific low back pain include motor control exercises, graded activities, sling exercises, segmental stabilization, and spinal manipulative therapy.

One of the studies found that motor control exercises targeting the strengthening of the Transverse Abdominis and Lumbar Multifidus and spinal manipulative therapy over an eight-week period produced a greater reduction in pain, and an increase in overall function.[3] The other two studies found that no significant differences in pain reduction or increased function resulted from implementing a specific exercise program over another, but rather individual factors that each athlete possess should be the determining factor when deciding which exercise program to implement.[2, 4]

One comparative (cohort) study found that segmental stabilization exercises that focus on targeting the strengthening of the Transverse Abdominis and Lumbar Multifidus produce a greater reduction in pain and increase in function.[5]

CLINICAL BOTTOM LINE

To best reduce pain and increase overall function caused by nonspecific low back pain, a combination of motor control exercises, graded activities, sling exercises, segmental stabilization, and spinal manipulative therapy should be utilized.[2-5]

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STRENGTH OF RECOMMENDATION

There is moderate evidence, level 2b and higher, suggesting that an exercise program should be created that is tailored to the individual athlete's flaws.[4]

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