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Low back injuries in athletes are often hard to treat. Medicine still doesn't have a good test to find out what's causing back pain. There is no one proven way to treat low back injuries in athletes. Nor is there any way to know for sure when an injury is fully healed so that the athlete can get safely back to competition.

Back muscles work inefficiently in people with long-lasting back pain. Do athletes who've recovered from a back injury show similar muscle patterns?

The authors tested muscle response in 17 athletes who had fully recovered from a recent low back injury. These athletes reported no pain or problems competing because of their recent back injury. Their team doctors had even cleared them to return to play. However, their back muscles didn't respond the same way as 17 healthy athletes.

To test this, all the athletes had to use their low back muscles to adjust to sudden increases in weight loading to the back, the front, and each side. The researchers analyzed the speed at which certain muscles started or stopped working to adjust to the new load.

The results showed that the athletes with a recent back injury had a different muscle response than the healthy athletes. Muscles that worked to adjust the loads kept working longer in the athletes who'd been injured. And the muscle response was slower. This was similar to muscle patterns in earlier studies on people with chronic low back pain. Clearly, the athletes' injured backs were not "as good as new," no matter what the athletes thought.

The impaired muscle response may be the cause of back injury. This means that a change in the normal motor response pattern of back muscles may be the culprit. Scientists don't know if we are born with this tendency or develop it over time. Knowing that the pattern of muscle coordination may be part of back injury is helpful.

Doctors and therapists can include muscle coordination along with strength training during rehab. This may help athletes return to sports activity quicker and more safely. This approach may also help prevent injuries. The authors believe their findings apply to workers with back injuries who have to handle shifting loads. More studies are underway to look at these issues.

Jacek Cholewicki, PhD, et al. Neuromuscular Function in Athletes Following Recovery from a Recent Acute Low Back Injury. In *Journal of Orthopaedic & Sports Physical Therapy*. November 2002. Vol. 32. No. 11. Pp. 568-575.