

How do ACL special tests compare in terms of ruling in and/or out acute ACL lesions in young adults?

Benjaminse A, Gokeler A, van der Schans CP. Clinical Diagnosis of an Anterior Cruciate Ligament Rupture: A Meta-analysis. *J Orthop Sports Phys Ther.* 2006;36(5):267-288.

In recent years, it has been established that not only is the ACL one of the most commonly injured structures of the knee, but reconstructing a damaged ACL is superior to conservative treatment. Athletic trainers and clinicians with close ties to an athletic population must rely heavily on clinical tests to be able to properly manage and potentially refer an athlete for further imaging and possible surgery. The purpose of this meta-analysis was to evaluate the diagnostic accuracy of the anterior drawer, Lachman, and the pivot shift tests.

This study utilized a computerized literature search, conducting three independent searches in MEDLINE, EMBASE, and CINAHL. Of the potential studies identified for retrieval (n=7143), most were excluded for irrelevance (n=7095) or other reasons (n=21), leaving twenty-eight studies. Following was an assessment of these studies methods including a statistical analysis of the diagnostic values.

The anterior drawer, Lachman, and pivot shift tests showed pooled sensitivities of 62%, 85%, and 24% (95% CI) in acute conditions, respectively. The same tests showed pool specificities of 88%, 94%, and 98% (95% CI) in acute conditions, respectively.

As the study design was previously reported, the level of evidence was determined with the *AAOS Levels of Evidence for Primary Research Question*. This study used a meta-analysis study design, and investigated three diagnostic tests using previously developed diagnostic criteria with gold “reference” standards. Therefore, this article’s level of evidence has been determined to be a Level I, Diagnostic.

Based on these results, the Lachman test is the most sensitive, therefore best able to rule out an acute ACL lesion, whereas the pivot shift test is the most specific, therefore best able to rule in an acute ACL lesion.

These results are critical for athletic training practice. As mentioned earlier, it’s imperative that an athletic trainer be able to initially diagnose an acute ACL lesion, whether on the field or in the athletic training clinic. Once having developed the diagnosis, the athletic trainer will then be able to refer the athlete to the team physician for a more secure diagnosis via MRI, and determine whether or not the athlete will need surgery or conservative treatment.

There are not necessarily any patient implications for the diagnostic accuracies of ACL special tests, as it is not the responsibility of the athlete to attempt to perform any type of examination on themselves to determine a diagnosis.