**Double-Bundle versus Single-Bundle ACL reconstruction: Effects on Stability**

**Author:** Ian Shields  
**Project Sponsor:** Nora Kraemer, Ph.D., LAT, ATC, CSCS  
**Health, Exercise and Rehabilitative Sciences Department, Winona State University**

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**ABSTRACT**

Clinical Scenario: Anterior cruciate ligament injuries are common in the active population. Two common surgical reconstruction techniques include double-bundle and single-bundle ACL reconstruction. Focused Clinical Question: In patients with ACL injuries, what is the effect of single-bundle reconstruction compared to double-bundle reconstruction on stability? The pivot shift test and IKDC index scores showed more stability in the double-bundle ACL reconstruction.

**SEARCH STRATEGY**

- **Databases:** PubMed, CINAHL Plus, ProQuest Nursing Collection, and Cochrane Library.
- **Search terms included:** single bundle, double bundle, reconstruction, repair, ACL, anterior cruciate ligament, surgery.
- **Inclusion Criteria:** Peer reviewed research studies on patients with complete ACL ruptures. Nine total studies were critiqued for this critical appraisal.

**EVIDENCE QUALITY ASSESSMENT**

- The PEDro scales scores ranged between 6 and 8/10. All studies were Level 2 on the PEDro scale.

**RESULTS AND SUMMARY OF SEARCH**

- Four of the nine studies found double-bundle reconstruction is superior in terms of stability, and showed significant differences between SB and DB ACL stability after reconstruction.

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**CLINICAL SCENARIO**

- ACL injuries are a common cause of knee instability, particularly as a result of sports activities.
- ACL injuries typically occur as a result of a quick deceleration, hyperextension, or rotation. It is atypical for an ACL injury to involve contact with another person.
- The signs and symptoms of an ACL injury could include feeling/hearing a “pop”, severe swelling, the feeling of instability, and decreased range of motion.
- Patients who sustain complete ACL ruptures may need surgery to regain knee stability.
- The type of surgical technique and effectiveness of it can affect the rehabilitation protocol and function of the joint.
- Double-bundle and single-bundle ACL reconstructions are surgeries performed to repair ACL tears and decrease the signs and symptoms.
- The pivot shift test evaluates the integrity of the MCL and ACL, the ligaments most responsible for rotatory stability.
- The IKDC index is a subjective scale that provides an overall functional score based on three categories; symptoms, sports activity, and knee function. The overall score is out of ranges between 0 to 100, with a higher score indicating better function.

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**REFERENCES**


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**FUTURE CLINICAL QUESTIONS**

In patients with ACL injuries, what is the effectiveness of single-bundle (SB) compared to double-bundle (DB) ACL reconstruction on stability?