

Revision Anterior Cruciate Ligament Reconstruction with All Soft Tissue Quadriceps Tendon Autograft and Quadriceps Tendon Autograft with Bone Block Have Similar Clinical Outcomes

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Disclosures

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AAOS: Board or committee member

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Background

- Quadriceps tendon (QT) autografts have gained popularity as a graft choice in ACL reconstruction¹⁻⁵
- May be harvested as full or partial thickness, with (bQT) or without (soft tissue, sQT) a bone block^{6,7}
- Minimal evidence supporting preferential use of sQT versus bQT for revision ACLR⁸

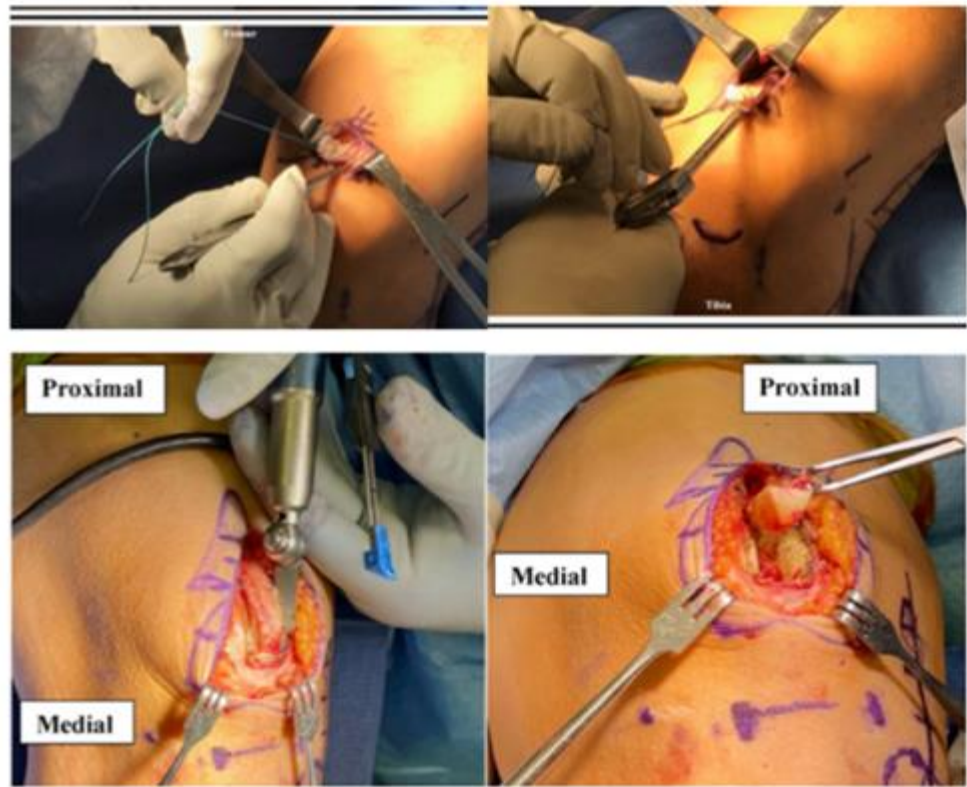


Figure 1. sQT (above) and bQT (below) graft harvest

Objective

- Evaluate use of soft tissue quadriceps tendon autograft versus bone block QT autograft for revision anterior cruciate ligament reconstruction (revision ACLR)

Hypothesis

- No differences in clinical outcomes when comparing sQT and bQT in revision ACLR

Methods

- Retrospective review of 727 primary QT ACLRs from 2010-2021
- Demographics collected: sex, age at surgery (years), BMI, injury acuity, mechanism of injury, and surgical laterality
- Primary outcomes: pre/post-operative IKDC score, mean difference between IKDC scores, and number of patients meeting MCID
- Secondary outcomes: Lachman, Pivot Shift, KT-1000, Return to Sport (RTS, ability to fully resume athletic endeavors following ACLR), and failure rate for each group

Results

- No differences in mean IKDC change, MCID
- Similar side-to-side KT-1000 differences postoperatively

Table 1. Differences in mean IKDC change and number of patients meeting MCID

Variable	bQT	sQT	p-value
IKDC	40.2±18.9	17.2±21.9	p>0.05
Patients meeting MCID	100%	67%	p>0.05

Table 2: Postoperative Lachman & pivot shift at final follow-up

Stability Test	bQT	sQT	p-value
Positive Lachman	13%	5%	p>0.05
Positive pivot shift	29%	17%	p>0.05

Results

- Similar RTS rate and time to RTS in both cohorts
- 10% sQT failed vs 25% bQT ($p>0.05$)

Table 3: RTS, Time to RTS, and Failure Rate

Measurement	bQT	sQT	p-value
RTS	69%	50%	$p>0.05$
Time to RTS (months)	11.4±3.2	11.8±3.1	$p>0.05$
Failure Rate	25%	10%	$p>0.05$

Conclusion

- No differences in clinical outcomes were observed between patients undergoing revision ACLR with sQT versus bQT
- Both sQT and bQT cohorts demonstrated excellent outcomes
- Both QT preparations are viable options in the revision setting

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