



Ten-Year Minimum Follow-Up Of Athletes Who Had One Compared To Two Anterior Cruciate Ligament Reconstruction Surgeries At A Young Age

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Mandatory Faculty Disclosure

<p>Kate E. Webster, PhD I have no financial conflicts to disclose.</p>
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Introduction



- The prevalence of anterior cruciate ligament (ACL) injury and reconstruction surgery continues to increase in adolescent athletes^{1,2}
- Younger age at surgery is also a significant risk factor for multiple ACL injuries^{3,4}
- Despite this growing concern, the long-term impact of having multiple ACL injuries at a young age has not been fully determined

PURPOSE

To follow a cohort of adolescent patients and compare long-term data on several important outcomes including sport participation, surgical satisfaction and quality of life, between those who had one compared to two ACL reconstruction surgeries at a young age.

Methods

Patients

Inclusion criteria

- Primary ACL reconstruction prior to 18 years of age
- Minimum 10 years post surgery follow-up

Exclusion criteria

- Second ACL surgery more than 5 years after the primary procedure
- Three ACL injuries during study period



Measures and analysis

- Bespoke survey which included questions regarding:
 - Return to sport
 - Satisfaction with surgery
 - Patient Acceptable Symptom State (PASS)
 - IKDC subjective knee assessment
 - Quality of Life (KOOS-QoL and SF-12)
 - Comparisons made between patients who had one compared to two ACL reconstruction surgeries
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Results

71 patients (39 female, 32 male)

Average age at surgery: 16 years

Average follow-up time: 13 years (range 10-17 years)

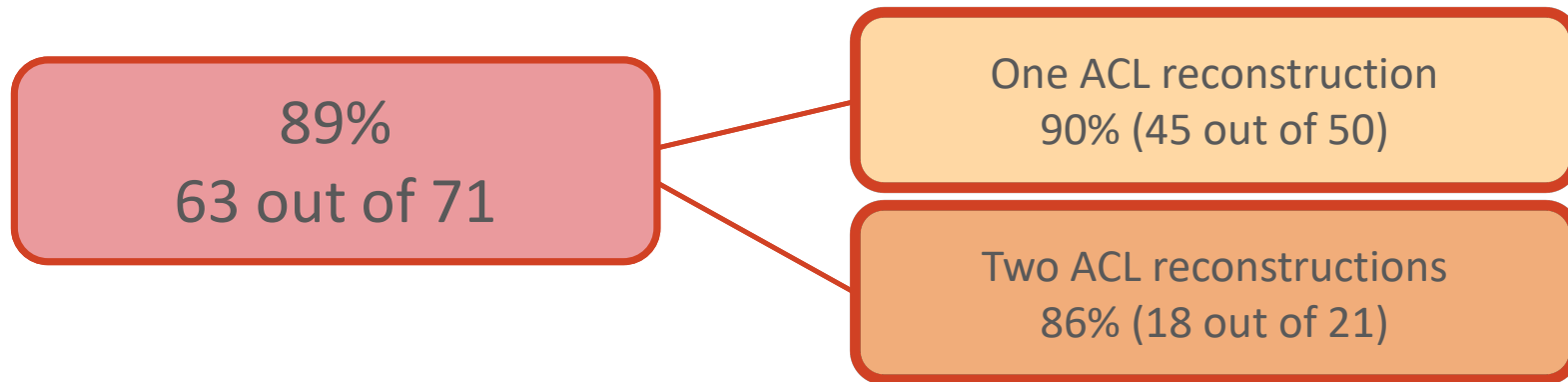
Average age at follow-up: 29 years single surgery group
30 years two surgery group

All patients competed in competition sport prior to injury

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Results: Return to sport

Return to competition sport



Current participation

One ACL reconstruction: 46% still playing

Two ACL reconstructions: 24% still playing


Patients who had one ACL reconstruction were twice as likely to be playing sport >10 years after surgery compared to patients who had two reconstruction surgeries

Results: Patient reported outcomes

	One ACL reconstruction	Two ACL reconstructions	P value
Overall Function (/100)	90	85	0.2
Satisfaction with surgery (/100)	93	90	0.5
IKDC (/100)	91	86	0.06
KOOS QOL (/100)	89	76	0.005
SF-12 (population avg=50)			
Physical Component Summary	56	55	0.4
Mental Component Summary	50	53	0.2

All but 2 patients (both had one ACLR) considered current state of their knee satisfactory (PASS=yes). No sig. difference in PROMs between one and two ACL reconstruction surgery groups except for KOOS QoL.

Conclusion

- Adolescent athletes who have two ACL reconstruction surgeries at a young age can have excellent outcomes with high levels of satisfaction at long term follow-up
 - However, they are less likely to be still participating in competition sport in the longer term and have poorer knee related quality of life compared to their single surgery counterparts.
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References

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