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# Anterior Cruciate Ligament Reconstruction Associated With Lateral Extra-articular Tenodesis in Adolescents: Clinical and Functional Evaluation With At Least 1-year Follow-up

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# Faculty Disclosure Information

- Nothing to disclosure



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# Introduction

ACL injuries have been on the rise in the pediatric/adolescent population

ACL reconstruction is the treatment of choice

Higher failure rates are described in this population

Adding an lateral extra-articular tenodesis could decrease rotational instability and treatment failure rates<sup>1,2</sup>

The Tegner-Lysholm and IKDC scales allow the analysis of patient perception and the subjective efficacy of surgical treatment



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1. Firth ADAm J Sports Med. 2022 Feb;50(2):384-395
2. Foissey C. Arthrosc Sports Med Rehabil. 2022 Oct 9;4(6):e1941-e1951



# Objective

The objective of this study was to evaluate the results through functional scales reported by patients and failure rate in adolescents with ACL reconstruction associated with lateral extra-articular tenodesis (LET) with a minimum follow-up of 1 year



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# Methods

Prospective Study

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The surgery was performed by pediatric and adolescent knee surgeons

## Inclusion criteria

- Age equal to or less than 18 years
- ACL Reconstruction + LET
- Follow-up of at least 1 year

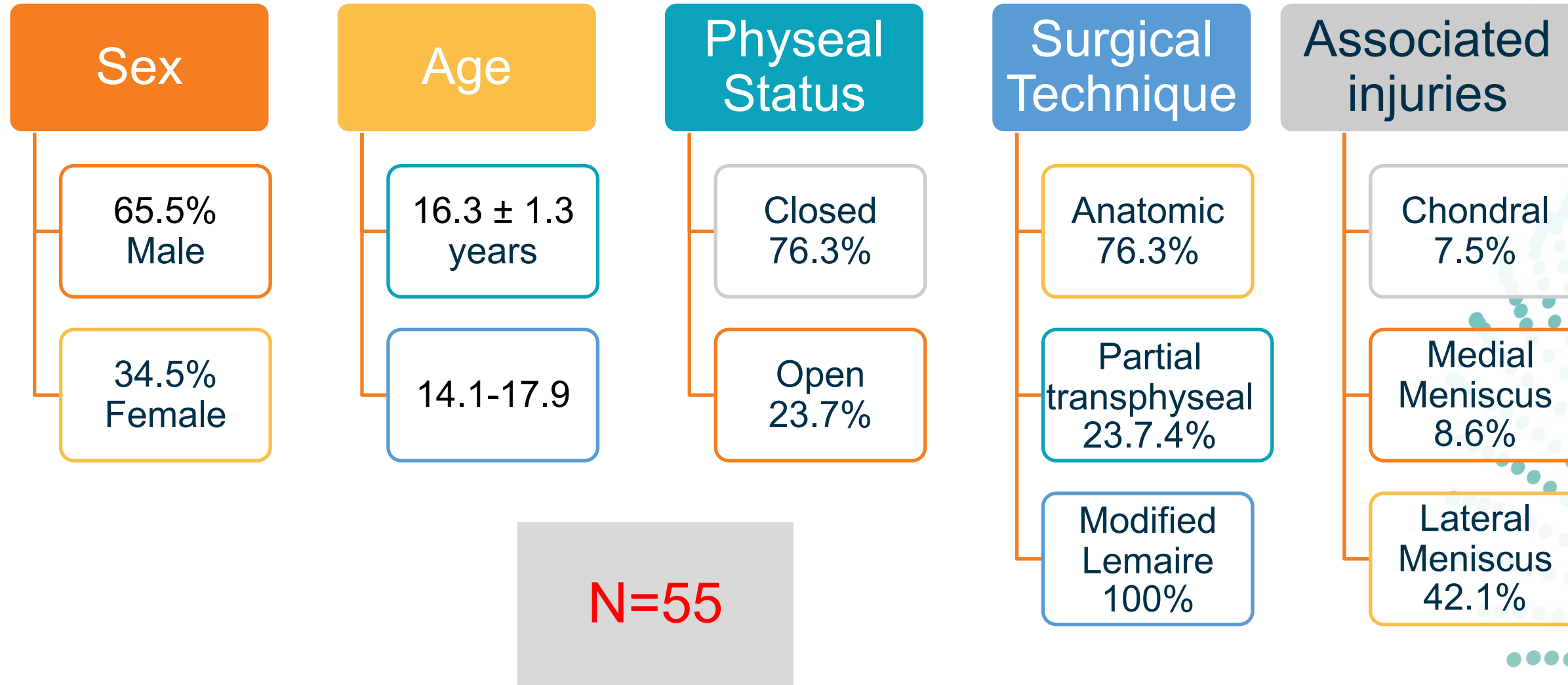
## Outcomes

- Tegner-Lysholm functional scales
- Subjective IKDC
- Failure rates
- Re-interventions
- Return to sport rate/time



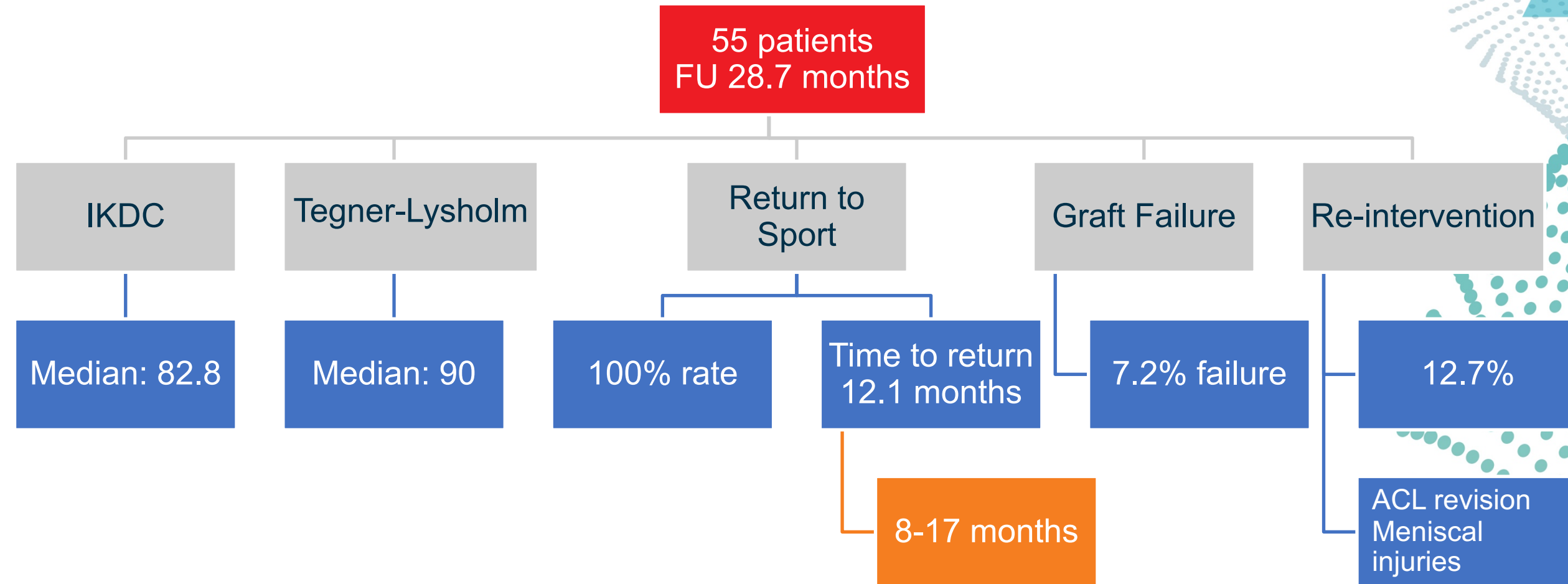
# Results

## Clinical and Demographic Data





# Results



# Results

Physcal Status or the Surgical Technique used does not alter

**Time to return to sport**

**IKDC / Tegner-Lysholm**

Multiple linear regression **did not show a statistical association** between the presence of associated injuries with worse functional scores or lower rate of return to sport



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# Discussion

- Functional scales similar to those published in the literature<sup>1,2</sup>
- Re-tear rate is lower than reported in the literature<sup>2</sup> (Low “n” and FU)
- High rate of return to sports
  - But return time is longer than reported (adolescent population)
- ACLR + LET<sup>3</sup>
  - improved pivot-shift tests
  - patient-reported outcome measures
  - reduced graft failure rates



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1. Koizumi H. Knee Surg Sports Traumatol Arthrosc. 2013 Apr;21(4):950-6.
2. Mouarbes D. Am J Sports Med. 2019 Dec;47(14):3531-3540
3. Bosco. Am J Sports Med. 2024 Jul;52(8):2129-2147



# Conclusion

Associating an extra-articular lateral **procedure** with **ACL reconstruction** in **adolescents** is safe and could improve functional outcomes and decrease failure rates



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# References

- 1.- Firth AD et al; STABILITY Study Group; Predictors of Graft Failure in Young Active Patients Undergoing Hamstring Autograft Anterior Cruciate Ligament Reconstruction With or Without a Lateral Extra-articular Tenodesis: The Stability Experience. Am J Sports Med. 2022 Feb;50(2):384-395
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- 3.- Koizumi H et al. The outcomes after anterior cruciate ligament reconstruction in adolescents with open physes. Knee Surg Sports Traumatol Arthrosc. 2013 Apr;21(4):950-6
- 4.- Mouarbes D et al. Anterior Cruciate Ligament Reconstruction: A Systematic Review and Meta-analysis of Outcomes for Quadriceps Tendon Autograft Versus Bone-Patellar Tendon-Bone and Hamstring-Tendon Autografts. Am J Sports Med. 2019 Dec;47(14):3531-3540
- 5.- Bosco F et al. Combining an Anterolateral Complex Procedure With Anterior Cruciate Ligament Reconstruction Reduces the Graft Reinjury Rate and Improves Clinical Outcomes: A Systematic Review and Meta-analysis of Randomized Controlled Trials. Am J Sports Med. 2024 Jul;52(8):2129-2147



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