Increased rate of re-operation for limited range of motion when performing a lateral extraarticular procedure in primary ACL reconstruction with quadriceps tendon compared to hamstring tendon grafts

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Disclosures

- Smith & Nephew
  - Paid presentations
  - Fellowship funding
- Arthrex
  - Consultancy
- Associate Editor
  - Orthopaedic Journal of Sports Medicine

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Previous study

KSSTA Knee Surgery Sports Traumatology Arthroscopy
THE OFFICIAL CLINICAL JOURNAL OF ESSKA

The addition of a lateral extra-articular procedure to a primary anterior cruciate ligament reconstruction is associated with an increased rate of further surgery for cyclops lesions and restricted range of motion

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- Primary ACLR, 2016-2020
- 17.3% patients had a LEAT
- Further surgery for restricted motion or a cyclops lesion in first 12 months:
  - LEAT: 8.1%
  - No-LEAT: 3.8% (RR 2.1, p=0.012)
- But a number of limitations

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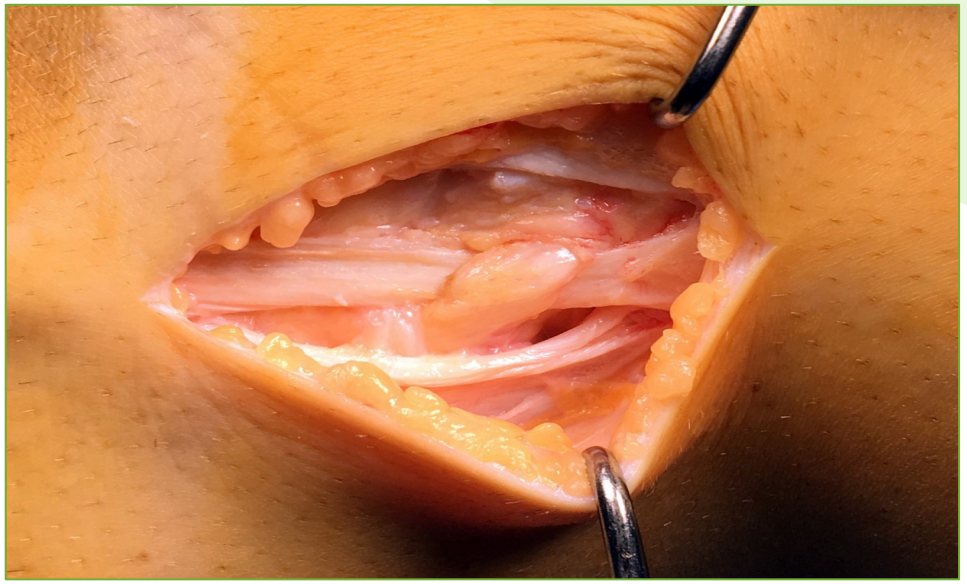
Current study

- Addresses many of those limitations

- Single surgeon series
- 1 January 2021 to 31 August 2023
- 672 patients had primary ACLR with either a HS or QT graft
- 205 (31%) **considered to be at higher risk of re-injury** had an additional LET using a modified Ellison technique



- Young age, especially <20 yo
- Family history
- Previous c/l ACL injury
- Return to pivoting sports

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Methods

- 633/672 (94 %) had 2-year follow-up
  - (73% HS, 27% QT)

OUTCOMES

- Reoperation rates for ROM problems
  - (predominantly symptomatic Cyclops lesions)
- Rates of graft rupture

COMPARISONS

- LEAT vs No LEAT
- HS vs QT

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Further surgery for ROM issue: Overall

- LEAT 20/193 (10.4%)
- No LEAT: 13/440 (3.0%)
  - p<0.001, Risk Ratio (RR)=3.5, 95%CI 1.8-6.9

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Further surgery for ROM issue: Graft type

- LEAT + QT graft: 14/65 (21.5%)
- LEAT + HS graft: 6/128 (4.7%)
  - p<=0.001, Risk Ratio (RR)=4.6, 95%CI 1.9-11

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Graft rupture rate

- No LEAT (lower risk group): 13/440 (3%)
- LEAT (higher risk group): 8/193 (4.1%)
- p=0.05

- Probably getting it about right

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STABILITY study, 2020

- HS grafts, modified Lemaire
- Reduced graft rupture rate at 2 years
  - 11% in No LEAT group
  - 4% in LEAT group
- Current study
  - 3% in No LEAT group (lower risk group)
  - 4.1% in LEAT group (higher risk group, so Ellison seems effective)

Lateral Extra-articular Tenodesis Reduces Failure of Hamstring Tendon Autograft Anterior Cruciate Ligament Reconstruction

PODCAST 5-in-5

2-Year Outcomes From the STABILITY Study Randomized Clinical Trial

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Investigation performed at The Fowler Kennedy Sport Medicine Clinic, Western University, London, Ontario, Canada

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STABILITY reoperation rate

No increase in adverse events with lateral extra-articular tenodesis augmentation of anterior cruciate ligament reconstruction – Results from the stability randomized trial

JISAKOS, 2023

M. Heard [f,g], H. Marmura [a,c], D. Bryant [a,c], R. Litchfield [a,b], R. McCormack [d,e], P. MacDonald [h,i], T. Spalding [j], P. Verdonk [k,l], D. Peterson [m], D. Bardana [n], A. Rezansoff [f,o], STABILITY Study Group, A. Getgood, MD, FRCS(Tr&Orth) [a,b,*]

- LEAT: 2%, No LEAT: <1%
- Current study: 10.4% and 3.0% (HS and QT)
  - HS only: 4.9%
- Lemaire vs Ellison? (“Fixed” vs “Dynamic” more pain??)
- Threshold for intervention: RCT vs no study

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Conclusion

- The addition of an Ellison LEAT to a primary ACLR was associated with an increased risk of re-operation for ROM issues
  - Particularly with QT grafts.
- Caution should be used when extrapolating the findings of the use of a LEAT in combination with a HS graft (STABILITY study) to other graft types

Thank you

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