



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8-11

Zero Incidence of Culture-Positive Septic Arthritis and Low Infection Rate Following ACLR with All-Soft Tissue Quadriceps Tendon Autograft: An Analysis of 1053 Cases.

Jesse Seilern und Aspang, MD
Emory University, Department of
Orthopaedics, GA, USA



Faculty Disclosure Information

- Nothing to disclose



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8–11

Background

- ~200,000 ACLRs performed yearly in the U.S.
- Septic arthritis is rare but serious.
- Infection risk varies by graft type.
- Limited data for All-Soft Tissue Quadriceps Tendon Autograft (ASTQT).



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8–11

Purpose & Hypothesis

Purpose: Evaluate infection rate following primary ACLR using ASTQT autograft.

Hypothesis: ASTQT autografts have low infection rates, comparable or superior to other autografts.



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8–11

Methods – Study Design

- Retrospective review (2011–2021)
- Single surgeon
- **Inclusion:** Primary ASTQT ACLR
- **Exclusion:** Multiligament injuries, cartilage procedures



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8–11

Methods – Infection Protocol

- No graft soaking or topical antibiotics
- Only IV prophylactic antibiotics (cefazolin/clindamycin)
- Infection defined as requiring surgical I&D



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8–11

Methods – Data Collection

- 1053 included cases from 1398
- **Data:** demographics, culture results, I&D, antibiotics, outcomes



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8–11

Results – Overview

- Infection Requiring I&D: 4 patients (0.38%)
- Culture-Positive Septic Arthritis: 0 cases (0%)
- One wound culture positive for MSSA
- All ACL grafts retained



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8–11

Table – Infection Case Summaries

- Summary of 4 I&D cases
- Procedures: arthroscopic or graft site I&D
- Antibiotics varied
- 3 returned to sport; 1 lost to follow-up



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8–11

Table 2. Description of Infections Requiring Return to Operating Room

Patient	Sex	Age (years)	Synovial Fluid Culture	Wound Culture	Procedure	Time to I&D after diagnosis	Time to I&D after ACLR (days)	Antibiotic Treatment	Return to Sport
1	Male	18	Negative	N/A	Arthroscopic I&D	4	22	PO Bactrim DS BID x 2 weeks	Yes (11m)
2	Male	16	N/A	Negative	Graft harvest site I&D	3	27	PO Bactrim DS BID x10 days	Yes (10m)
3	Male	23	Negative	+MSSA	Graft harvest site I&D and Arthroscopic knee I&D	2	20	Zosyn 3.375g IV q8 + Vancomycin 2000mg IV q12 x3 days Cefazolin 2g IV q8 + Rifampin 600mg qDay x28 days	Lost to follow up
4	Female	17	Negative	N/A	Tibial wound I&D and Arthroscopic knee I&D	2	18	PO Bactrim DS BID x10 days	Yes (12m)
	Legend: I&D: Irrigation and Debridement; PO: Oral; BID: Two times daily; IV: Intravenous; ABX: Antibiotics GAS: Group A Streptococcus; MSSA: Methicillin-susceptible Staphylococcus Aureus m: time to return to sport in months								

Discussion – Key Findings

- 0% culture-positive septic arthritis
- Very low I&D rate (0.38%)
- Lower than rates for HT and BTB grafts
- ASTQT may reduce infection risk

Table 1. Patient Demographics

Characteristic	I&D (n=4)	No I&D (n=1049)	p-value
Age (years) ¹	18.5±4.0	20.2±6.3	0.82
Sex ²			
Male	3 (0.70)	581 (99.3)	0.39
Female	1 (0.20)	468 (99.8)	
Body Mass Index (BMI) ¹	29.0±4.7	24.0±3.8	0.07
Operative Time (min) ¹	87.4±17.0	84.3±13.2	0.70
Meniscectomy ²	1 (25.0)	306 (29.2)	1.0
Meniscal Repair ²	2 (50.0)	141 (13.4)	0.14

Legend:

1: Data presented as mean ± standard deviation; 2: Data presented as n (% of total); Statistically significant p-values (p<0.05) are in bold; min=minutes; I&D=Irrigation and Debridement



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8–11

Conclusion

- 0% septic arthritis rate with ASTQT
- Low I&D rate (0.38%)
- ASTQT is safe and reliable



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8–11

Limitations

- Single surgeon & center
- Retrospective design
- No comparison graft group
- Potential underestimation of infection



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8–11

References

- Abdel-Aziz A, Radwan YA, Rizk A (2014) Multiple arthroscopic debridement and graft retention in septic knee arthritis after ACL reconstruction: a prospective case-control study. *Int Orthop* 38:73-82; 10.1007/s00264-013-2123-y
2. Barker JU, Drakos MC, Maak TG, Warren RF, Williams RJ, 3rd, Allen AA (2010) Effect of graft selection on the incidence of postoperative infection in anterior cruciate ligament reconstruction. *Am J Sports Med* 38:281-286; 10.1177/0363546509346414
3. Bergstein VE, Ahiarakwe U, Haft M, Fox H, Best MJ (2024) Decreasing Incidence of Anterior Cruciate Ligament Tears and Increasing Utilization of Anterior Cruciate Ligament Reconstruction in the United States From 2010 to 2020. *Arthroscopy*;10.1016/j.arthro.2024.08.01810.1016/j.arthro.2024.08.018
4. Bratzler DW, Dellinger EP, Olsen KM, Perl TM, Auwaerter PG, Bolon MK, et al. (2013) Clinical practice guidelines for antimicrobial prophylaxis in surgery. *Surg Infect (Larchmt)* 14:73-156; 10.1089/sur.2013.9999
5. Cassano GD, Moretti L, Vicenti G, Buono C, Albano F, Ladogana T, et al. (2024) Infection after Anterior Cruciate Ligament Reconstruction: A Narrative Review of the Literature. *Healthcare (Basel)* 12:10.3390/healthcare12090894
6. Figueroa F, Figueroa D, Calvo R, Vaisman A, Nuñez M, Putnis S (2022) Vancomycin Presoaking of the Graft Appears to Prevent Infection After Anterior Cruciate Ligament Reconstruction: A Systematic Review and Meta-analysis. *Hss j* 18:138-144; 10.1177/15563316211011682
7. Fong SY, Tan JL (2004) Septic arthritis after arthroscopic anterior cruciate ligament reconstruction. *Ann Acad Med Singap* 33:228-234;
8. Judd D, Bottoni C, Kim D, Burke M, Hooker S (2006) Infections following arthroscopic anterior cruciate ligament reconstruction. *Arthroscopy* 22:375-384; 10.1016/j.arthro.2005.12.002
9. Katz LM, Battaglia TC, Patino P, Reichmann W, Hunter DJ, Richmond JC (2008) A retrospective comparison of the incidence of bacterial infection following anterior cruciate ligament reconstruction with autograft versus allograft. *Arthroscopy* 24:1330-1335; 10.1016/j.arthro.2008.07.015
10. Kim SJ, Postigo R, Koo S, Kim JH (2014) Infection after arthroscopic anterior cruciate ligament reconstruction. *Orthopedics* 37:477-484; 10.3928/01477447-20140626-06



ISAKOS
CONGRESS
2025



MUNICH
GERMANY
June 8-11