

Treatment of Periprosthetic Infection after Total Knee Arthroplasty using an Ultrastatic Spacer

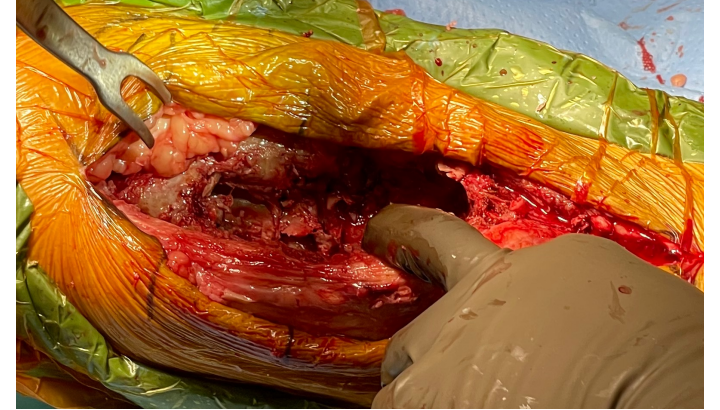
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Introduction

- Prosthetic Joint Infection (PJI) is a Devastating Complication after Total Knee Arthroplasty (TKA)¹
- Static Antibiotic Spacer is Crucial in the setting of:¹
 - Significant Bone Loss
 - Ligament Laxity
 - Failure of Extensor Mechanism
- Single Nail Constructs may cause Stress Risers and Fracture²⁻³
 - Especially in Poor Bone Quality
- **Goal:** Describe our Technique and Evaluate Outcomes when using an Ultrastatic Spacer to treat PJI after TKA



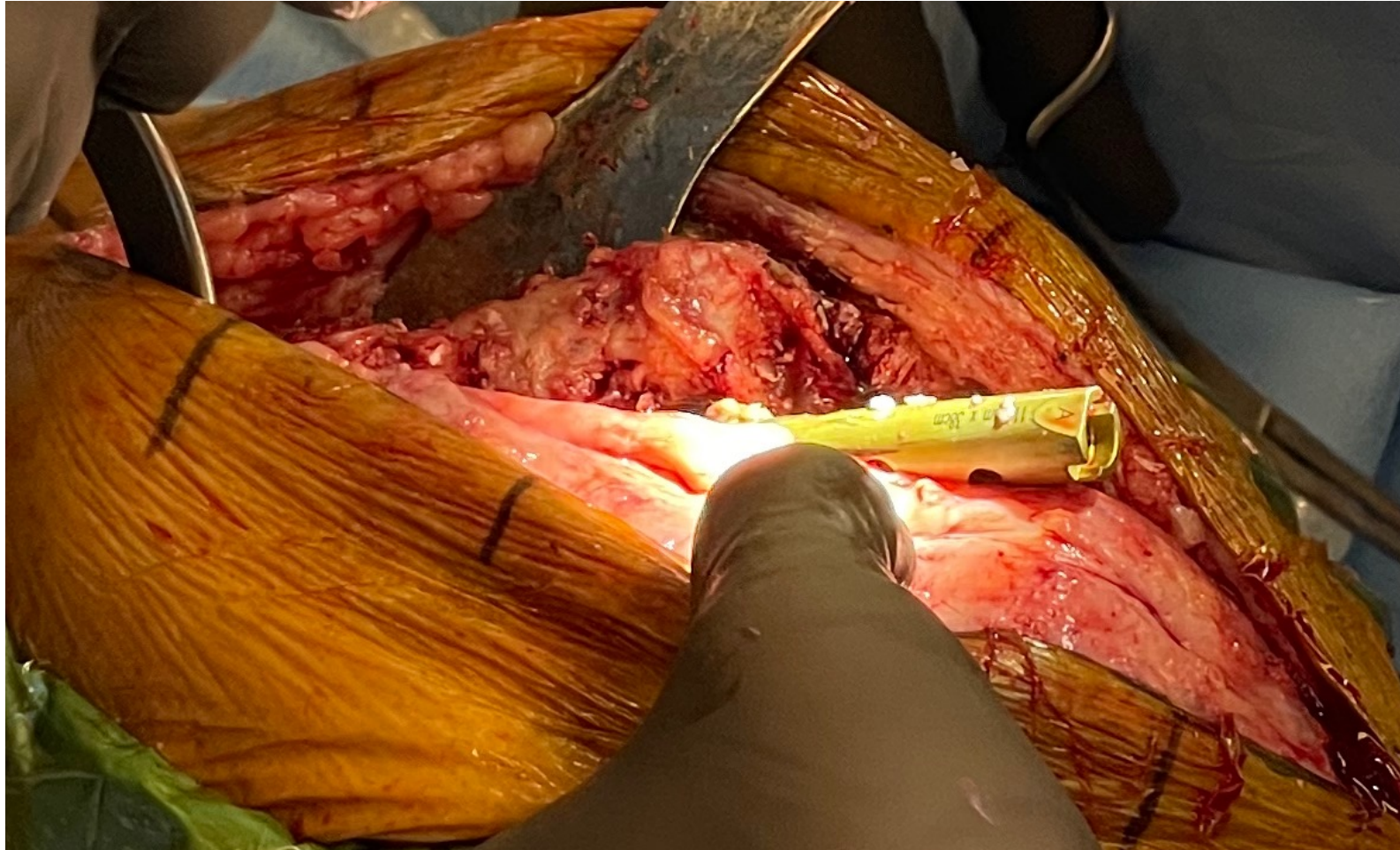
Methods

- Retrospectively Reviewed 11 patients who underwent placement of an Ultrastatic Spacer between 7/2/2020 and 10/3/2022 for PJI after TKA
- All Patients also received Organism-Specific Systemic Antibiotics
- Data collected included Demographics, Complications, and Outcomes

Table 1. Demographics

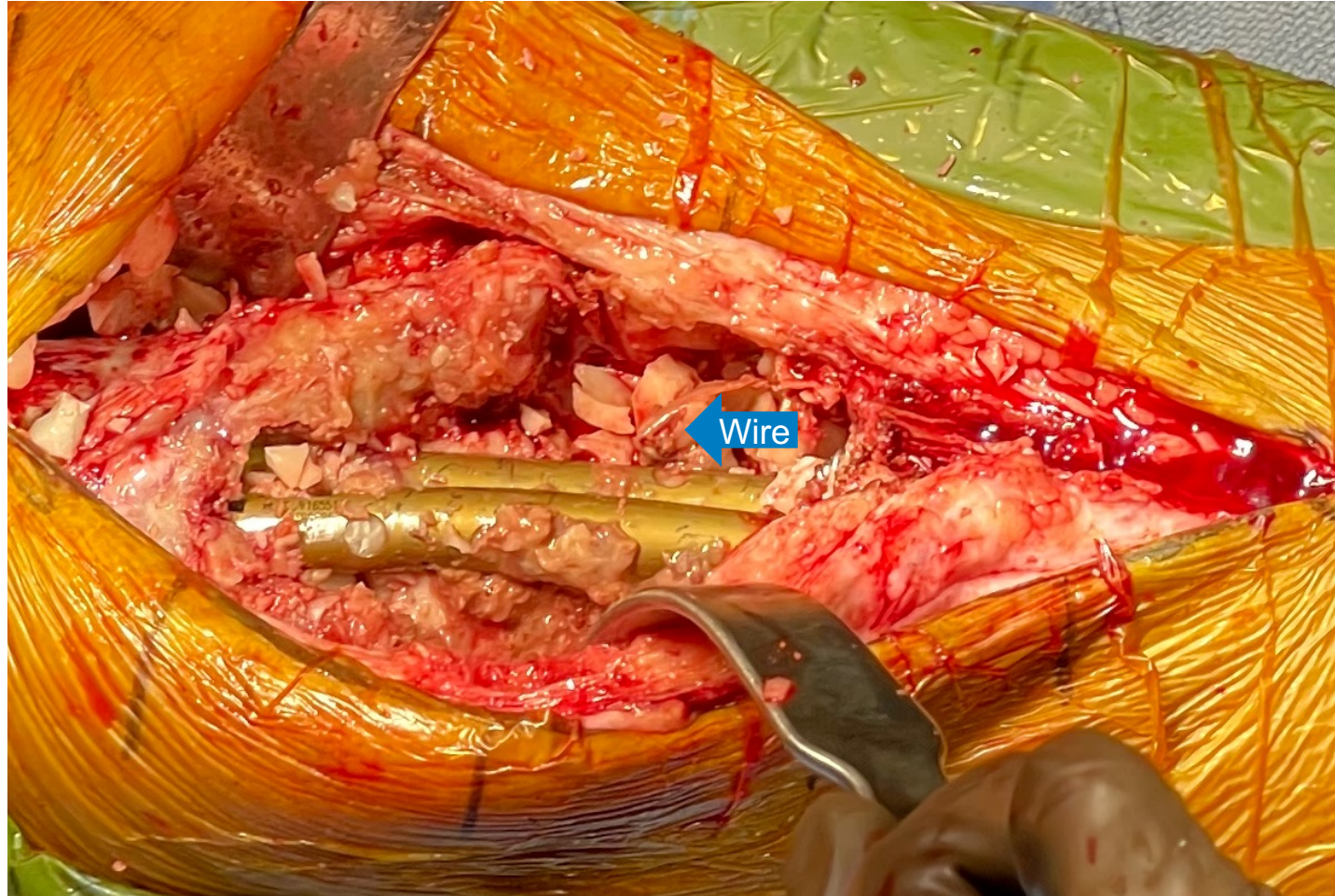
	n=11
Age (years), mean	62.8 (55-72)
Male, n (%)	9 (81.8%)
Indication, n (%)	
Positive Preoperative and/or Intraoperative Cultures	10 (90.9%)
Positive Indium-White Blood Cell Scan	1 (9.1%)
Operative Time (hours), mean (range)	3.3 (2.5-5.0)
Time Ultrastatic Spacer Implanted (days), mean (range)	212.5 (134-502)
Follow-Up From Placement of Ultrastatic Spacer (years), mean (range)	1.3 (0.3-2.3)

Technique



Retrograde Femoral and Antegrade Tibial Nail that Overlap to Span Knee

Technique



Nails Tied Together using 16-Gauge Wire

Technique



Antibiotic Cement Hand Impacted Into Bone Defects and to Span Knee

Postoperative Protocol

- Weight Bearing as Tolerated
- Knee Immobilizer until Proprioception Regained
- Routine Venous Thromboembolism Prophylaxis
- Culture-Specific Systemic Antibiotics per Board-Certified Infectious Disease Physician



Results

Table 2. Outcomes

	n=11
Outcomes, n (%)	
Cleared PJI and underwent revision TKA	3 (27.3%)
Permanent Fusion with Modular Arthrodesis	2 (18.2%)
Revised to Different Arthrodesis Construct for Persistent Infection	2 (18.2%)
Unable to Clear Infection and underwent Amputation	1 (9.1%)
Ultrastatic Spacer In Place at Most Recent Follow-Up	3 (27.3%)
Periprosthetic Fractures	0 (0.0%)



Conclusion

- Ultrastatic Spacers provide Stable Fixation for PJI after TKA
- No Periprosthetic Fractures
- Surgeons should be aware that Ultrastatic Spacers are Viable Option for Treatment of PJI with
 - Significant Bone Loss
 - Ligament Laxity
 - Failure of Extensor Mechanism
- Surgeons should be aware of Technique for Implantation



Thank You



Beth Israel Lahey Health 
New England Baptist Hospital


EXCEPTIONAL CARE. WITHOUT EXCEPTION.

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 3. Faschingbauer M, Bieger R, Reichel H, Weiner C, Kappe T. Complications associated with 133 static, antibiotic-laden spacers after TKA. Knee Surg Sports Traumatol Arthrosc. 2016;24(10):3096-3099.
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