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**OREF MIDWEST REGION
RESIDENT RESEARCH SYMPOSIUM**
Monday, April 20, 2026

Washington University School of Medicine
Eric P. Newman Center (EPNEC)
320 S. Euclid Avenue
St. Louis, MO 63110

Hosted by:

Regis J. O'Keefe, MD, PhD
Fred C. Reynolds Professor and Chair
Department of Orthopaedic Surgery
Washington University School of Medicine

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About OREF:

The Orthopaedic Research and Education Foundation (OREF) is a charitable 501(c)(3) organization committed to improving lives by supporting excellence in orthopaedic research through its grant funding and research education programs. As an independent nonprofit, OREF strives to improve clinical care and patient outcomes by advancing innovative research, developing new investigators and uniting the orthopaedic community in promoting musculoskeletal health. Visit oref.org or follow OREF on LinkedIn (Orthopaedic Research and Education Foundation) YouTube (@OREFfoundation), Facebook (OREFtoday) and X (@OREFtoday).

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**OREF MIDWEST REGION RESIDENT RESEARCH SYMPOSIUM
SUMMARY AGENDA
Monday, April 20, 2026**

7:00 a.m. – 7:45 a.m.	Registration and Breakfast Washington University School of Medicine Eric P. Newman Center (EPNEC) 320 S. Euclid Avenue St. Louis, MO 63110
7:45 a.m. – 7:50 a.m.	Welcome and Introductions Regis J. O’Keefe, MD, PhD Fred C. Reynolds Professor and Chair, Department of Orthopaedic Surgery Washington University School of Medicine
7:50 a.m. – 7:57 a.m.	OREF Welcome Lee Grossman, MBA, ML, CAE Chief Executive Officer Orthopaedic Research and Education Foundation
7:57 a.m. – 8:00 a.m.	Introduction of Keynote Speaker
8:00 a.m. – 8:30 a.m.	Keynote Speaker <i>Unraveling the Mechanism of Hip Arthritis: From Molecular Insights to Modern Treatment</i> Cecilia Pascual-Garrido, MD, PhD Associate Professor Department of Orthopaedic Surgery Washington University School of Medicine
8:30 a.m. – 8:45 a.m.	Keynote Question & Answer
8:45 a.m. – 9:15 a.m.	Session I – Resident Research Presentations & Discussion Moderators: Alexander Aleem, MD, MSc and Katherine Gerull, MD Shoulder and Elbow
9:15 a.m. – 9:45 a.m.	Session II – Resident Research Presentations & Discussion Moderators: David Clever, MD, PhD and Kate Hajdu, MD Trauma
9:45 a.m. – 9:55 a.m.	<i>Break – please submit your scores from Sessions I and II to OREF Staff</i>
9:55 a.m. – 10:25 a.m.	Session III – Resident Research Presentations & Discussion Moderators: David Brogan, MD, MSc, and Helena Barber, MD Hand and Elbow
10:25 a.m. – 10:55 a.m.	Session IV – Resident Research Presentations and Discussion Moderators: Matthew Silva, PhD, Ryan Wilbur, MD and Nisha Kale, MD Potpourri
10:55 a.m. – 11:05 a.m.	<i>Break – please submit your scores from Sessions III and IV to OREF staff</i>
11:05 a.m. – 11:29 a.m.	Session V – Resident Research Presentations and Discussion Moderators: Robert Brophy, MD and John O’Malley, MD Joints
11:29 a.m. – 11:39 a.m.	<i>Break – please submit your scores from session V to OREF staff</i>
11:39 a.m.- 12:00 p.m.	Closing Remarks and Awards Presentation
12:00 p.m. – 1:00 p.m.	Lunch

KEYNOTE SPEAKER



Cecilia Pascual-Garrido, MD, PhD

**Associate Professor
Department of Orthopaedic Surgery
Washington University School of Medicine**

For the past decade, Cecilia Pascual-Garrido, MD, PhD, has been a faculty member at Washington University Orthopaedics, currently serving as Associate Professor. She is an accomplished complex hip surgeon who treats young and adult patients with hip pre-osteoarthritic and advanced osteoarthritis, performing adult hip reconstruction and hip preservation procedures, including open and arthroscopic complex hip procedures, direct anterior and posterior total hip replacement, revision arthroplasty, PAO, hip arthroscopy, core decompression, proximal femoral osteotomies and hip surgical dislocation.

Dr. Pascual-Garrido leads a basic science lab and has developed a small animal model of FAI that she will use as a platform to study progression of hip OA. She has secured extramural funding from the NIH, as well as multiple OREF and AOSSM grants. She is a nationally recognized leader in the field of hip preservation and has been awarded by the AAOS for Award of Excellence, Department of Orthopaedic Surgery the Lee T. Ford Academic Award, the William Harris Career Development Award in Hip Preservation from the ANCHOR Group, the AOSSM Cabaud Memorial Award and the Dean's Impact Award. She is also a two-time recipient of The Hip Society's Otto Aufranc Award. Her vision is to utilize her research findings to improve clinical practice and better patients' outcomes.

Judges and Moderators

Judges

Alexander Aleem, MD, MSc
Washington University School of Medicine

David Brogan, MD, MSc
Washington University School of Medicine

Regis O'Keefe, MD, PhD
Washington University School of Medicine

Moderators

Helena Barber, MD
Washington University School of Medicine

Robert Brophy, MD
Washington University School of Medicine

David Clever, MD, PhD
Washington University School of Medicine

Katherine Gerull, MD
Washington University School of Medicine

Kate Hajdu, MD
Washington University School of Medicine

Nisha Kale, MD
Washington University School of Medicine

John O'Malley, MD
Washington University School of Medicine

Matthew Silva, PhD
Washington University School of Medicine

Ryan Wilbur, MD
Washington University School of Medicine

**OREF Midwest Region Resident Research Symposium
DETAILED AGENDA
Monday, April 20, 2026**

- 7:00 a.m. – 7:45 a.m. **Registration/Breakfast**
Washington University School of Medicine
Eric P. Newman Center (EPNEC)
320 S. Euclid Avenue
St. Louis, MO 63110
- 7:45 a.m. – 7:50 a.m. **Welcome**
Regis J. O’Keefe, MD, PhD
Fred C. Reynolds Professor and Chair
Department of orthopaedic Surgery
Washington University School of Medicine
- 7:50 a.m. – 7:57 a.m. **OREF Welcome**
Lee Grossman, MBA, ML, CAE
Chief Executive Officer
Orthopaedic Research and Education Foundation
- 7:57 a.m. – 8:00 a.m. **Introduction of Keynote Speaker**
- 8:00 a.m. -8:30 a.m. **Keynote Speaker**
Unraveling the Mechanism of Hip Arthritis: From Molecular Insights to Modern Treatment
Cecilia Pascual-Garrido, MD, PhD
Associate Professor, Department of Orthopaedic Surgery
Washington University School of Medicine
- 8:30 a.m. – 8:45 a.m. **Keynote Question & Answer**
- Session I – Resident Research Presentations and Discussion**
Moderators: Alexander Aleem, MD, MSc and Katherine Gerull, MD
Shoulder and Elbow
- 8:45 a.m. – 8:49 a.m. *Elbow Arthrodesis Continues To Be Associated With Poor Outcomes and a High Reoperation Rate*
Sean Clark, MD, Mayo Clinic
- 8:49 a.m. – 8:53 a.m. *Assessing the Usefulness of Diagnostic Shoulder Arthroscopy in Evaluating Painful Shoulder Replacement*
Joseph Lazzara, MD, St. Louis University
- 8:53 a.m. – 8:57 a.m. *Declining Use of Multiple Preoperative Corticosteroid Injections Prior to Shoulder Surgery: A National Trends Analysis*
Nikhil B. Patel, MD, University of Michigan
- 8:57 a.m. – 9:01 a.m. *Reverse Shoulder Arthroplasty for Proximal Humerus Fractures and Reverse Shoulder Arthroplasty for Elective Indications Should Have Separate Current Procedural Terminology (CPT) Codes*
Michael Scheidt, MD, Loyola University Medical Center
- 9:01 a.m. – 9:05 a.m. *Revision Total Elbow Arthroplasty: Rate and Predictors of Reoperation at a Single Institution*
Nisha Kale, MD, Washington University School of Medicine
- 9:05 a.m. – 9:15 a.m. **Question and Answer**

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**OREF Midwest Region Resident Research Symposium
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**Session II – Resident Research Presentations and Discussion
Moderators: David Clever, MD, PhD and Kate Hajdu, MD
Trauma**

- 9:15 a.m. – 9:19 a.m. *Outcome of Radial Nerve Palsy in Closed Humeral Shaft Fractures Treated Operatively and Expectantly*
Kareme D. Alder, MD, Mayo Clinic
- 9:19 a.m. – 9:23 a.m. *Subcutaneous Fat Overlying the Knee Joint Versus BMI To Predict Wound Complications After Total Knee Arthroplasty*
Steven Kurapaty, MD, University of Illinois at Chicago
- 9:23 a.m. – 9:27 a.m. Disparities Beyond Healing: A Prospective Study Evaluating Ballistic Femur and Tibia Shaft Fractures
Ndeye Guisse, MD, Washington University School of Medicine
- 9:27 a.m. – 9:31 a.m. *Does Suprapatellar Nailing of Ballistic Tibia Fractures Cause a Risk for Septic Arthritis?*
Patrick Ward, MD, University of Chicago
- 9:31 a.m. – 9:35 a.m. *Does Preoperative Intravenous Iron Improve Outcomes After Femur Fracture Surgery?*
Arch Topouzian, MD, University of Illinois at Chicago
- 9:35 a.m. – 9:45 a.m. **Question and Answer**
- 9:45 a.m. – 9:55 a.m. **Break - please submit your scores from Sessions I & II to OREF Staff**

**Session III – Resident Research Presentations & Discussion
Moderators: David Brogan, MD, MSc and Helena Barber, MD
Hand and Elbow**

- 9:55 a.m. – 9:59 a.m. *Preliminary Outcomes of Scapholunate Interosseous Ligament Reconstruction Using the Button Assisted Internal Brace Technique*
Kyleen Jan, MD, Rush University Medical Center
- 9:59 a.m. – 10:03 a.m. *Osteochondritis Dissecans Lesions of the Elbow in Adolescent Athletes: Public Health-Directed Education Via Point-of-Care Ultrasound Screening*
Kristin Yu, MD, Mayo Clinic
- 10:03 a.m. – 10:07 a.m. *The Pitch Timer Is Not Associated With Increased Upper Extremity Injury in Major League Baseball Pitchers, A 4-Year Analysis*
Charles Poff, MD, University of Chicago
- 10:07 a.m. – 10:11 a.m. *Differential Wrist and Elbow Outcomes of Radial Head Fractures Classified by Fracture and Surgical Type*
James Oosten, MD, University of Illinois at Chicago
- 10:11 a.m. – 10:15 a.m. *The Effects of Isolated Zone V Extensor Tendon Fight Bite Injuries on Finger Range of Motion: Should We Repair Partial Lacerations?*
Heather Keolani Yee, MD, Loyola University Medical Center
- 10:15 a.m. – 10:25 a.m. **Question and Answer**

**OREF Midwest Region Resident Research Symposium
DETAILED AGENDA (continued)
Monday, April 20, 2026**

Session IV – Resident Research Presentations & Discussion

**Moderators: Matthew Silva, PhD, Ryan Wilbur, MD and Nisha Kale, MD
Potpourri**

- 10:25 a.m. – 10:29 a.m. *Methylene Blue as a Biofilm-Disclosing Agent for Fracture-Related Infection: An In-Vitro Evaluation*
Elizabeth Cho, MD, Loyola University Medical Center
- 10:29 a.m. – 10:33 a.m. *The Impact of Spine Trauma Registries: A Systematic Review*
Nithya Lingampalli, MD, Loyola University Medical Center
- 10:33 a.m. – 10:37 a.m. *What Matters Most for Orthopaedic Residency Interviews? A Program-Level Analysis of Preference Signaling and Geographic Ties*
Majd Mzeihem, MD, University of Illinois at Chicago
- 10:37 a.m. – 10:41 a.m. *Arthroscopic Labral Repair Versus Reconstruction for Femoroacetabular Impingement: A Systematic Review and Meta-Analysis*
Brian Kim, MD, University of Illinois at Chicago
- 10:41 a.m. – 10:45 a.m. *Olympic Participation and Subsequent-Season Injury Occurrence in NBA Athletes: A Within-Player Paired Analysis*
Lauren C. Okafor, MD, Loyola University Medical Center
- 10:45 a.m. – 10:55 a.m. **Question and Answer**
- 10:55 a.m. 11:05 a.m. **Break – please submit your scores from Sessions III & IV to OREF Staff**

Session V – Resident Research Presentations & Discussion

**Moderators: Robert Brophy, MD and John O'Malley, MD
Joints**

- 11:05 a.m. – 11:09 a.m. *Preoperative Psychiatric Diagnosis Predicts Worse Patient-Reported Outcome Measures, Higher Dissatisfaction, and Increased Health Care Utilization Following Total Knee Arthroplasty: Analysis of Over 13,000 Patients*
Lori Jia, MD, Cleveland Clinic
- 11:09 a.m. – 11:13 a.m. *Early Postoperative Periprosthetic Fractures After Total Hip Arthroplasty Are Associated With Higher Complication and Revision Risk Than Intraoperative Fractures*
Emily Reeson, MD, Rush University Medical Center
- 11:13 a.m. – 11:17 a.m. *Increased Force and Contact Area in the Lateral Compartment May Predispose to Arthritis Progression After Balanced Unicompartmental Knee Arthroplasty: A Cadaveric Comparison*
Nirav Mungalpara, MD, University of Illinois at Chicago
- 11:17 a.m. – 11:21 a.m. *Is Inflammatory Arthritis an Absolute Indication for Patellar Resurfacing in Total Knee Arthroplasty?*
Brian Song, MD, Washington University School of Medicine
- 11:21 a.m. – 11:25 a.m. *GLP-1 Agonists Versus Bariatric Surgery Prior to Total Hip Arthroplasty: Which Management Option Carries Heavier Weight?*
Samuel P. Alfonsi III, MD, Rush University Medical Center
- 11:25 a.m. – 11:29 a.m. **Question and Answer**
- 11:29 a.m. – 11:39 a.m. **Break – please submit your scores from Session V to OREF Staff**
- 11:39 a.m. – 12:00 p.m. **Closing Remarks and Awards Presentation**
- 12:00 p.m. – 1:00 p.m. **Lunch**

Elbow Arthrodesis Continues To Be Associated With Poor Outcomes and a High Reoperation Rate

Sean Clark, MD
Mayo Clinic

Purpose: The purpose was to determine the outcomes of patients who underwent elbow arthrodesis and whether this is a worthwhile salvage procedure for elbows not amendable to surgical reconstruction or arthroplasty.

Significance: The reported complication rates and limited implant longevity of total elbow arthroplasty raise concerns in young patients. Elbow arthrodesis is oftentimes cited as an alternative procedure in these young individuals but seldom performed.

Methods: A total of 13 patients (13 elbows) underwent elbow arthrodesis with the mean follow-up of 6 years. At final follow-up, outcomes, complications, and revisions were recorded.

Results: Every patient had functional limitations postoperatively. At final follow-up, VAS at rest and with use were 2 and 5, respectively. The mean MEPS, SANE, and satisfaction scores were 53, 36, and 8 respectively. Sixty percent of patients reported being much better or slightly better than before surgery. Complications occurred in 5 (38%) elbows, all of which led to revision surgery.

Conclusion: In the largest reported case series, elbow arthrodesis demonstrated reasonable pain relief despite modest patient reported outcomes. The rate of nonunion or postoperative fracture approached 40%. Efforts should be made to optimize total elbow arthroplasty for younger individuals so that arthrodesis can be avoided.

Assessing the Usefulness of Diagnostic Shoulder Arthroscopy in Evaluating Painful Shoulder Replacement

Joseph Lazzara, MD
St. Louis University

Purpose: We hypothesized that a stepwise diagnostic algorithm culminating in shoulder arthroscopy meaningfully alters clinical management in patients with painful shoulder arthroplasty and equivocal conventional evaluations.

Significance: Persistent pain after total or reverse shoulder arthroplasty remains difficult to diagnose when radiographs, computed tomography, laboratory studies, and aspiration are nondiagnostic. Current periprosthetic joint infection criteria and imaging modalities have limited sensitivity in the shoulder, particularly for low-virulence organisms and subtle mechanical failure, creating a diagnostic gap.

Methods: A retrospective Level IV case series was performed of 29 adults undergoing diagnostic arthroscopy for painful arthroplasty after nondiagnostic standard workup. Arthroscopy included systematic intra-articular evaluation and targeted tissue sampling with cultures held 14 days. Descriptive statistics reported clinically meaningful outcomes.

Results: Arthroscopy identified mechanical pathology in 51.7% of patients and positive cultures in 17.2%, most commonly *Cutibacterium acnes*, with overlap in several cases. No intra-articular abnormality was found in 41.4%. Arthroscopy-guided revision surgery was performed in 44.8%, while the remainder were managed nonoperatively.

Conclusion: Within a structured diagnostic algorithm, arthroscopy provided actionable information by identifying occult infection, mechanical pathology, or confirming absence of intra-articular disease. These findings demonstrate that diagnostic arthroscopy meaningfully influences management decisions in select patients with unresolved pain after shoulder arthroplasty.

Declining Use of Multiple Preoperative Corticosteroid Injections Prior to Shoulder Surgery: A National Trends Analysis

Nikhil B. Patel, MD
University of Michigan

Purpose: We hypothesized that preoperative corticosteroid injection (CSI) utilization declined over time prior to rotator cuff repair (RCR) and shoulder arthroplasty (SA).

Significance: Concerns have emerged regarding the potential adverse effects of CSIs on tendon integrity, infection risk, and surgical outcomes, yet limited attention has been given to the quantity of preoperative injections.

Methods: We performed a retrospective analysis of adults who underwent RCR or SA between 2011-2022 using a random Medicare sample and a national Commercial Database. Joinpoint regression assessed annual trends in the proportion of patients receiving 0, 1, or ≥ 2 CSIs before surgery.

Results: Among RCR patients ($n=365,013$), the annual rate of patients receiving 1 CSI decreased by 1.94% and ≥ 2 CSIs by 3.80% from 2014–2022. Similarly, in the SA cohort ($n=123,552$), those receiving 1 CSI decreased by 0.91% and ≥ 2 CSIs by 3.86% annually over the same period. Conversely, the proportion of patients receiving no CSIs increased significantly (RCR: +1.83%/year, 2013–2022; SA: +4.41%/year, 2014–2017, and +1.78%/year, 2017–2022).

Conclusion: After an initial rise from 2011–2013, preoperative CSI use—particularly multiple injections—declined from 2014 onward, with more patients proceeding directly to surgery, suggesting a shift in practice aligned with growing safety concerns.

Reverse Shoulder Arthroplasty for Proximal Humerus Fractures and Reverse Shoulder Arthroplasty for Elective Indications Should Have Separate Current Procedural Terminology (CPT) Codes

Michael Scheidt, MD
Loyola University Medical Center

Purpose: We hypothesized patients undergoing reverse shoulder arthroplasty (RSA) for fracture would have worse outcomes, longer operative times, and higher health care costs than those treated for rotator cuff arthropathy.

Background: RSA for fracture shares a Current Procedural Terminology code with RSA for arthropathy despite likely differences in patient factors, operative demands, postoperative needs, and hospital resource utilization.

Methods: We retrospectively reviewed 383 RSAs performed from 2011–2020. Demographics, comorbidities, operative time, financial charges and costs, length of stay, discharge disposition, revisions, visual analog scale pain, and active range of motion at 2, 6, and 12 months were analyzed.

Results: After exclusions, 197 RSAs were included: 28 fractures and 169 arthropathy. Operative time was longer for fractures. Mean cost was \$2489 higher albeit not significant, with longer hospital stays and more skilled nursing discharges. Forward flexion at 2 and 6 months and external rotation at 6 and 12 months were worse after fracture RSA, while pain scores and revision rates were similar.

Conclusion: RSA for fracture differs from arthropathy in patient characteristics, surgical complexity, early motion, and resource utilization. A single CPT code may inadequately reflect care intensity, reimbursement, and hospital costs when indications are not distinguished.

Revision Total Elbow Arthroplasty: Rate and Predictors of Reoperation at a Single Institution

Nisha Kale, MD

Washington University School of Medicine

Purpose: Total elbow arthroplasty (TEA) carries high complication and revision rates with poorly defined long-term outcomes. This study reports survival and predictors of re-operation after revision TEA at a tertiary referral center.

Significance: Despite advances, TEA survivorship lags other arthroplasties (10-year primary 79.7%; revision rate 18.3%). Increasing TEA volumes require better understanding of failure mechanisms and risk factors in revision cases.

Methodology: After IRB approval, we retrospectively reviewed first-revision TEAs (humeral and/or ulnar component) performed between 1999–2022 at a tertiary center. Data included demographics, surgical details, and re-operation.

Results: In 49 elbows in 47 patients (mean 58 years, 29% male, mean follow-up 12.8 years), indications were aseptic loosening (81.6%) and infection sequelae (18.6%). 59.2% required 80 subsequent re-operations. Re-revision occurred in 42.9%; definitive explantation in 18.3%. Indications for re-revision were infection (54.2%) or aseptic loosening (45.8%). Revision-free survival was 63.8% at 5 years and 56.7% at 10 years (vs primary TEA: 86.1% and 79.7%; $p < 0.001$). Predictors for re-operation included younger age ($p = 0.01$), smoking ($p < 0.001$), and allograft use ($p = 0.001$).

Conclusion: Revision TEA demonstrates markedly higher re-operation and re-revision rates than primary TEA. Key predictors highlight the need to optimize implant design, surgical technique, and patient selection to improve long-term outcomes.

Outcome of Radial Nerve Palsy in Closed Humeral Shaft Fractures Treated Operatively and Expectantly

Kareme D. Alder, MD
Mayo Clinic

Purpose: The aim of this study was to evaluate whether the recovery timing of radial nerve palsy differs in expectantly and operatively treated patients.

Significance: Radial nerve palsies in closed humeral shaft fractures are traditionally managed conservatively. However, recent trends favor earlier surgical intervention for humeral shaft fractures, based on the idea that operatively treated humerus fractures may result in an earlier return of nerve function.

Methods: Retrospective review of closed humeral shaft fractures with associated radial nerve palsy over a 12-year period was conducted. Analysis focused on the time to onset of radial nerve recovery.

Results: A total of 15 patients with humeral fractures and radial nerve palsy were included. Of these patients, 8 were treated with expectant management and 7 underwent acute surgical fixation. All patients exhibited complete radial nerve recovery within 53 weeks. Statistical analysis demonstrated no significant difference in the onset of (6.4 vs. 10.8 weeks; $p = 0.28$) and full (35.7 vs. 29.9 weeks; $p=0.6$) recovery between patients treated conservatively and those treated operatively.

Conclusion: Radial nerve palsies associated with closed humeral shaft fractures have a high rate of spontaneous nerve recovery, with similar onset and full recovery of nerve function despite the treatment chosen.

Subcutaneous Fat Overlying the Knee Joint Versus BMI To Predict Wound Complications After Total Knee Arthroplasty

Steven Kurapaty, MD
University of Illinois at Chicago

Purpose: Compare subcutaneous thickness (STT) versus BMI as risk factors for infection following primary elective TKA.

Significance: Higher BMI is associated with infection. It is unclear whether this is due to systemic effects of obesity or STT.

Methods: Electronic Health Record was reviewed for TKA at University of Illinois Chicago (n=534; 69.10% Female). Demographic information, radiographic measurements, SSI, PJI, wound dehiscence were recorded.

Knee Adipose Index (KAI) was recorded by dividing skin-to-skin thickness (STS) over the tibial plateau by bone-to-bone thickness (BTB), prepatellar fat thickness ratio (PFTR) by dividing STS above the midpoint of the patella over BTB, femoral and tibial periarticular soft tissue index (fPASTI, tPASTI) by dividing STS by BTB above the femoral condyles and tibial plateau. Multivariable regression calculated odds ratios (OR). $P < 0.05$ denoted statistical significance.

Results: The prevalence of PJI was 9/534 (1.69%). While no soft tissue indices were associated with PJI, a higher BMI was (OR 1.21; $p=0.049$). Non-operative wound dehiscence was associated with a higher tPASTI (OR 5.62; $p=0.017$), a lower fPASTI (OR 0.17; $p=0.018$), and morbid obesity (OR 16.84; $p=0.044$)

Conclusion: Obesity is more of a risk factor than STT for PJI. Obesity and STT predispose to while muscle mass over the femur protects against minor wound problems.

Disparities Beyond Healing: A Prospective Study Evaluating Ballistic Femur and Tibia Shaft Fractures

Ndeye Guisse, MD

Washington University School of Medicine

Purpose: Compare patient-reported following ballistic versus non-ballistic femoral and tibial shaft fractures and evaluate follow-up rates in a prospective cohort provided transportation assistance.

Significance: Patient-reported outcomes in socially vulnerable ballistic patients is understudied despite long-term effects on quality of life.

Methods: Adults with isolated, operatively treated femoral or tibial shaft fractures presenting to a level-one trauma center (2022–2025) were prospectively enrolled and grouped by injury mechanism (ballistic vs non-ballistic). PROMIS domains were collected for one year. Complications, readmissions, reoperations, emergency department utilization, and mortality were recorded. Longitudinal comparisons used linear mixed-effects models. Transportation costs for follow-up visits were reimbursed.

Results: Seventy-six patients were included (24 ballistic, 52 non-ballistic). Ballistic patients were younger, more frequently Black, and had higher Area Deprivation Index scores. At 3 months, they reported worse mental health, higher pain intensity, and poorer social participation ($p < 0.05$); differences in mental health and pain persisted at 6 months but resolved by 12 months. Non-ballistic patients demonstrated greater improvement across PROMIS domains, whereas ballistic patients showed no significant longitudinal mental health improvement. Clinical outcomes and mean follow-up (5.5 vs 6.5 months) were similar.

Conclusions: Ballistic fractures are associated with worse early psychosocial recovery despite comparable clinical outcomes. Targeted multidisciplinary support and financial assistance may improve

Does Suprapatellar Nailing of Ballistic Tibia Fractures Cause a Risk for Septic Arthritis?

Patrick Ward, MD
University of Chicago

Purpose: To determine if there are increased rates of septic arthritis (SA) after suprapatellar intramedullary nailing (IMN) compared to infrapatellar IMN for ballistic tibia fractures.

Significance: There is theoretical risk of seeding the knee joint with the suprapatellar approach for IMN in open tibia fractures. Previous literature has reported a 1.4% rate of postoperative SA. However, there have been no comparable reports in ballistic tibia fractures.

Methods: The hospital electronic medical record (EMR) was searched using Current Procedural Terminology (CPT) 27759. Patients aged 18 and greater who sustained a ballistic fracture were eligible for inclusion. Patient demographics were collected in addition to radiographic characteristics of the fracture, additional injuries and management, and postoperative course. Postoperative SSIs including SA were tabulated

Results: Records were obtained for 62 patients (mean age 29.7, 88% male) who sustained ballistic tibial shaft fractures managed with IMN and minimum 1 month follow-up. There were 45 suprapatellar approaches, 10 infrapatellar approaches, and 7 parapatellar approaches. There was 1 case of SA which occurred with the infrapatellar approach. 12 patients (18%) developed an SSI at a mean 6.2 months after injury

Conclusion: There is no increased risk of SA with the suprapatellar approach for IMN of ballistic tibia fractures.

Does Preoperative Intravenous Iron Improve Outcomes After Femur Fracture Surgery?

Arch Topouzian, MD
University of Illinois at Chicago

Purpose: To evaluate whether preoperative intravenous iron therapy (IVIT) is associated with improved postoperative outcomes in geriatric patients undergoing surgical treatment for femur fractures.

Significance: Iron deficiency anemia is common among hip fracture patients and has been linked to worse outcomes. IVIT has been proposed to reduce transfusion requirements and improve recovery, but existing evidence remains conflicting.

Methods: A retrospective review of patients aged ≥ 50 years undergoing surgical treatment for femur fractures at a single health system (2021–2022) was performed. Outcomes included 90-day emergency department visits, readmissions, mortality, blood transfusion, and length of stay (LOS). Patients were stratified by iron deficiency and IVIT use, with associations assessed using chi-square and multivariable logistic regression analyses.

Results: A total of 667 observations were analyzed, including 190 iron-deficient patients. Among iron-deficient patients, IVIT was not significantly associated with 90-day ED visits, readmissions, mortality, transfusion, or LOS. Across the entire cohort, IVIT was associated with reduced odds of prolonged LOS.

Conclusion: Preoperative IVIT was not associated with improved short-term clinical outcomes in iron-deficient femur fracture patients but may reduce hospital LOS overall. Patient-specific factors appear to play a larger role in postoperative outcomes than IVIT alone.

Preliminary Outcomes of Scapholunate Interosseous Ligament Reconstruction Using the Button Assisted Internal Brace Technique

Kyleen Jan, MD
Rush University Medical Center

Purpose: Evaluate functional and radiographic outcomes following scapholunate interosseous ligament (SLIL) reconstruction using the Button Assisted Internal Brace (BAIB) technique.

Background: Numerous SLIL reconstruction techniques demonstrate variable success in restoring carpal alignment. We describe the performance of a novel technique that augments a flexor carpi radialis tendon slip with suture tape and cortical button fixation to reinforce the proximal carpal row.

Methods: Patients undergoing BAIB reconstruction were followed for ≥ 6 months. Functional outcomes (DASH, PRWHE, VAS pain, range of motion, grip strength) and radiographic parameters (scapholunate gap [SLG], scapholunate angle [SLA], radiolunate angle [RLA], radioscapoid angle, dorsal scaphoid translation) were compared using paired t-tests or Wilcoxon signed-rank tests ($p < 0.05$).

Results: 22 patients (mean age 38.6 years; 90.9% male) were followed for a mean of 21.4 months. Median DASH and PRWHE scores were 10.7 and 11.8, with low pain at final follow-up. Wrist flexion and extension decreased by 2.5° and 5.7° ($p > 0.05$). Grip strength was 14.6% lower than the contralateral side. SLG improved from 5.6 mm to 3.9 mm ($p = 0.003$). SLA and RLA decreased by 10.2° ($p = 0.006$) and 7.6° ($p = 0.03$). No major complications or revisions occurred.

Conclusion: BAIB reconstruction improves carpal alignment with favorable functional outcomes and minimal morbidity at short- to mid-term follow-up.

Osteochondritis Dissecans Lesions of the Elbow in Adolescent Athletes: Public Health-Directed Education Via Point-Of-Care Ultrasound Screening

Kristin Yu, MD
Mayo Clinic

Purpose: To educate at-risk athletes about elbow pain and assess ultrasound as a screening tool for capitellum osteochondritis dissecans (OCD).

Significance: Capitellum OCD affects adolescents exposed to repetitive valgus stress at the elbow, especially overhead throwers. No formal early screening program currently exists.

Methods: This cross-sectional observational study was conducted at a youth baseball tournament. English-speaking throwing athletes aged 10–18 participated with parental consent. Athletes completed a questionnaire on demographics, play volume, and pain history. Bilateral upper-extremity exams assessed range of motion and provocative maneuvers (arm bar, moving valgus stress, and capitellar shear tests). Elbow ultrasound was performed. Descriptive statistics were calculated.

Results: Among 104 males (mean age 13 ± 1.3 years), 91% were multi-sport athletes and 89% pitchers/catchers. Players averaged 3.7 days/week and 42 maximum-effort pitches/day. Prior elbow pain was reported by 82% (mean=16 months), with 81% reporting current pain (mean=6 months); 20% described mechanical symptoms. 72% informed a parent/coach, and 42% modified play. Range of motion was similar bilaterally and moving valgus stress and capitellar shear tests were positive in 30% and 16%, respectively. Ultrasound identified OCD lesions in 4 elbows (three stage II and one stage I).

Conclusion: Ultrasound detected previously unrecognized capitellum OCD lesions, supporting education and ultrasound screening for earlier diagnosis.

The Pitch Timer Is Not Associated With Increased Upper Extremity Injury in Major League Baseball Pitchers, A 4-Year Analysis

Charles Poff, MD
University of Chicago

Purpose: To assess the rate of upper extremity injury (UEI) in Major League Baseball (MLB) Pitchers after the initiation of the league's Pitch-Timer.

Significance: UEI in MLB has significant implications for player longevity, team performance, and the increasing economic burden of professional sports medicine.

Methods: A retrospective cohort study was performed consisting of MLB Pitchers with UEI and uninjured controls from 2021-2024. The incidence of UEI, total time spent on designated injury lists, and games-missed-per-injury were calculated before and after the initiation of the Pitch Timer. Average Pitching Tempo was also assessed in pitchers with UEI versus uninjured pitchers.

Results: There were no significant differences in the incidence of shoulder injuries ($p=0.94$) or elbow injuries ($p=0.24$) in MLB pitchers between any year from 2021-2024. Post-Timer, pitchers with shoulder injury missed significantly greater games-per-injury ($p=0.007$). The same trend did not exist in the elbow ($p=0.57$). Pitch Tempo was similar between pitchers with UEI versus control ($p=0.20$).

Conclusion: The incidence of UEI did not increase in MLB Pitchers following the initiation of the Pitch Timer for the 2023 MLB season. MLB Pitchers averaged significantly greater games-missed per shoulder injury after the Timer. Pitching Tempo was not associated with UEI.

Differential Wrist and Elbow Outcomes of Radial Head Fractures Classified by Fracture and Surgical Type

James Oosten, MD
University of Illinois at Chicago

Purpose: This study determined if radial head arthroplasty (RHA), ORIF, or excision (RHE) for radial head fractures result in favorable wrist or elbow postoperative outcomes.

Significance: Mismanagement of complicated radial head fractures contributes to posttraumatic forearm instability, including the Essex-Lopresti lesion, but clear surgical indications do not exist.

Methods: A retrospective study using the PearlDiver administrative claims database stratified patients with radial head fractures by ORIF, RHA, or RHE. Outcomes included wrist pathologies and surgeries (DRUJ or TFCC; lesions or surgeries, ulnar shortening osteotomy) and wrist or elbow instability, arthritis, derangements). Statistical analysis employed multivariate logistic regression, reported as odds ratios (OR).

Results: Following matching, all groups had 225 patients. ORIF had lower odds of wrist surgery or pathology (OR 0.21; $P < 0.05$) and elbow arthritis (OR 0.18; $P < 0.001$), while RHE had higher odds of wrist surgery or pathology (OR 2.43; $P < 0.05$) and elbow arthritis (OR 7.93; $P < 0.001$).

Conclusion: The surgical goals of anatomic reduction and initiation of early motion are pivotal for preserving objective and subjective elbow and wrist function. Increased wrist pathology seen in RHE is possibly because native radial head integrity stabilizes the proximal radioulnar joint, decreasing the load required of the DRUJ, intraosseous membrane, and TFCC.

The Effects of Isolated Zone V Extensor Tendon Fight Bite Injuries on Finger Range of Motion: Should We Repair Partial Lacerations?

Heather Keolani Yee, MD
Loyola University Medical Center

Purpose: To characterize loss of finger motion caused by varying widths of incomplete Zone V extensor tendon laceration.

Significance: The extensor tendons are superficial and vulnerable to injury in Zone V. There is no Level I evidence guiding treatment of incomplete extensor tendon injuries.

Methods: 24 cadaveric hands were divided into 3 groups. A Zone V extensor tendon laceration was made to the index finger (Group 1), ring finger (Group 2), small finger (Group 3). Specimens were tested intact, then with increasing laceration width (25%, 50%, 75%, 100%) through 50 cycles of flexion/extension. Metacarpophalangeal (**MCP**) joint motion was measured using accelerometers on the proximal phalanx.

Results: Significant loss of MCP extension of the injured digit occurred in all groups. This extensor lag did not increase with laceration width beyond 25%. Ring finger tendon laceration caused significant extension deficits in the uninvolved index finger (25% ring finger tendon laceration), middle finger (25% and 50% ring finger laceration), and small finger (all laceration widths).

Conclusion: Zone V extensor tendon lacerations cause MCP loss of motion in involved and uninvolved digits. Though the clinical long-term significance is unknown, surgeons may consider repairing incomplete Zone V extensor tendon injuries regardless of laceration width.

Methylene Blue as a Biofilm-Disclosing Agent for Fracture-Related Infection: An In-Vitro Evaluation

Elizabeth Cho, MD
Loyola University Medical Center

Purpose: Methylene blue (MB) is a nontoxic dye with biofilm-staining and antimicrobial properties, which has previously been studied for prosthetic joint infection, but not yet in the setting of fracture-related infection. This study sought to (1) examine whether MB can visibly disclose biofilm on common orthopaedic implant materials and (2) correlate staining intensity of MB with quantitative biofilm burden.

Significance: Fracture-related infection remains a major challenge in orthopaedic trauma and can be complicated by bacterial biofilms. Early intraoperative identification of biofilm could improve infection management.

Methods: Biofilms of *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Escherichia coli*, and *Acinetobacter baumannii* were cultured on titanium, stainless steel, and polymethylmethacrylate (PMMA) coupons in a CDC Biofilm Reactor. Coupons were immersed in MB solution for 5 minutes. Digital photographs quantified mean blue-channel pixel intensity. Biofilm burden was determined from sonicated coupons plated in triplicate to calculate colony-forming units (CFU). Stained versus unstained samples were compared, and correlations between staining intensity and log CFU were analyzed.

Results: MB produced visible, organism-dependent staining. *E. coli* and *S. aureus* exhibited the greatest blueness across all materials, while *A. baumannii* and *S. epidermidis* showed minimal discoloration. Titanium demonstrated slightly higher staining intensity than stainless steel or PMMA. Staining intensity correlated positively with log CFU when all organisms were analyzed together ($p=0.025$). Stained coupons showed significantly reduced CFU counts for *A. baumannii*, *E. coli*, and *S. epidermidis* ($p < 0.001$), indicating partial antimicrobial or detachment effects.

Conclusion: Methylene blue selectively stained bacterial biofilms and correlated with biofilm burden, suggesting utility as a visual marker for biofilm detection. Differences among organisms likely reflect biofilm structure and matrix composition. Limitations include the in-vitro design, small sample size, single species strains, and reliance on photographic quantification.

The Impact of Spine Trauma Registries: A Systematic Review

Nithya Lingampalli, MD
Loyola University Medical Center

Purpose: The purpose of this study is to assess the publication impact of spine trauma registries.

Significance: Large scale registries are common in orthopedic surgery, however there is little known about data impact.

Methods: A systematic database search was conducted to identify published articles from a comprehensive list of registries. 48148 abstracts were screened, 511 articles reviewed, and data abstracted from 494 articles. Review/meta-analysis articles and institutional or state-wide databases were excluded. 46 registries were identified. Data was collected at the paper and registry level.

Results: Of the 46 registries analyzed, only 6 registries had more than 5 articles published. The Rick Hansen Spinal Cord Injury (Canada) had the highest publication count of 55 articles. The next most utilized were the National Spinal Cord Injury Model System (SCIMS) with 33 articles and the National Spinal Cord Injury with 27 articles. The Rick Hansen database had an average of 4 papers published per year, while the remainder of the registries had less than 1 paper per year.

Conclusion: With the exception of a few registries, the majority of spine trauma registries have low yearly publication rates. Researchers must consider the utility of resources needed to sustain a registry in the context of the impact of data.

What Matters Most for Orthopaedic Residency Interviews? A Program-Level Analysis of Preference Signaling and Geographic Ties

Majd Mzeihem, MD
University of Illinois at Chicago

Purpose: To quantitatively assess the relative influence of preference signaling, geographic hometown, and medical school affiliation on interview invitation patterns in orthopaedic surgery residency programs.

Significance: Preference signaling was introduced to improve efficiency and transparency in residency selection, yet its impact relative to traditional geographic and institutional ties remains poorly defined.

Methods: A retrospective program-level analysis was conducted using publicly available Residency Explorer data from all ACGME-accredited orthopaedic surgery residency programs with available interview information. Odds ratios and absolute differences in interview invitation rates were calculated for applicants who signaled a program, shared a state hometown, or attended medical school in the same state. Programs were ranked using composite metrics: Orthopaedic Signaling Rank (OSR), Orthopaedic Hometown Rank (OHR), and Orthopaedic Medical School Rank (OMSR). Correlations with Doximity rank, program size, and geographic region were analyzed.

Results: Among 121 programs, 44% interviewed only applicants who signaled them, and 93% interviewed fewer than 10% of non-signaling applicants. Preference signaling showed a consistent association with interview invitations across programs, independent of reputation rank or geography. The effects of hometown and medical school affiliation varied widely by program and region.

Conclusion: Preference signaling is the most consistent predictor of interview selection in orthopaedic surgery. OSR, OHR, and OMSR offer objective tools to characterize program behavior and enhance transparency in the residency application process.

Arthroscopic Labral Repair Versus Reconstruction for Femoroacetabular Impingement: A Systematic Review and Meta-Analysis

Brian Kim, MD

University of Illinois at Chicago

Purpose: To systematically review and meta-analyze clinical outcomes of arthroscopic labral repair versus labral reconstruction for femoroacetabular impingement (FAI)-related labral tears.

Significance: Labral repair is preferred when tissue quality allows, whereas reconstruction is used in cases of advanced labral degeneration. Comparative effectiveness of these strategies remains controversial, particularly regarding patient-reported outcomes and failure rates.

Methods: Three libraries were searched for comparative studies evaluating arthroscopic labral repair versus reconstruction for FAI with a minimum 2-year follow-up. Outcomes included patient-reported outcome measures (PROMs), achievement of minimal clinically important difference (MCID) and patient acceptable symptom state (PASS), and failure outcomes, including revision arthroscopy and conversion to total hip arthroplasty (THA). Random-effects meta-analyses were performed.

Results: Twelve studies encompassing 2,664 patients (1,828 repair; 778 reconstruction) were included. No significant differences were found between groups in preoperative, postoperative, or change scores for mHHS, NAHS, VAS pain, HOS-SS, iHOT-12, or SF-12 scores. Two studies reported greater improvement in LEFS following reconstruction. Rates of achieving MCID and PASS and overall failure or revision did not differ. Reconstruction was associated with higher odds of conversion to THA.

Conclusion: Labral repair and reconstruction provide comparable short- to mid-term clinical outcomes for FAI-related labral pathology. Similar outcomes despite worse baseline pathology in reconstruction cohorts support its role in advanced disease, while higher THA rates likely reflect underlying degeneration rather than technique failure.

Olympic Participation and Subsequent-Season Injury Occurrence in NBA Athletes: A Within-Player Paired Analysis

Lauren C. Okafor, MD
Loyola University Medical Center

Purpose: To evaluate within-player differences in time-loss injury occurrence, availability, and performance metrics before and after Olympic participation among NBA athletes. We hypothesized that Olympic participation would not significantly alter subsequent-season injury occurrence or performance.

Significance: Olympic competition introduces additional high-intensity exposure during the NBA offseason. The effect of this discrete workload period on subsequent injury burden and availability remains incompletely defined in elite basketball populations.

Methods: Publicly available data were reviewed for Team USA NBA athletes participating in the Olympic Games between 1992 and 2016 with complete pre- and post-Olympic regular-season data. Paired analyses compared injury occurrence (≥ 1 time-loss injury), games played, and performance metrics using McNemar and Wilcoxon signed-rank testing.

Results: Seventy-nine Olympic participations among 61 players were analyzed. Injury occurrence increased from 43.0% pre-Olympics to 58.2% post-Olympics (absolute risk difference 15.2%; paired OR 2.0; 95% CI 0.95–4.21; $P=0.067$). Availability and per-game performance metrics were not significantly different between seasons.

Conclusion: Olympic participation was associated with a numerically higher proportion of subsequent-season time-loss injuries without measurable decline in per-game productivity, suggesting a potential workload-related vulnerability in elite athletes.

Preoperative Psychiatric Diagnosis Predicts Worse Patient-Reported Outcome Measures, Higher Dissatisfaction, and Increased Health Care Utilization Following Total Knee Arthroplasty: Analysis of Over 13,000 Patients

Lori Jia, MD
Cleveland Clinic

Purpose: To evaluate (1) clinically meaningful improvements in patient-reported outcome measures (PROMs), (2) self-reported satisfaction, and (3) health care utilization among patients undergoing total knee arthroplasty (TKA) with and without a psychiatric diagnosis.

Significance: To examine the impact of preoperative mental health conditions on postoperative outcomes after TKA.

Methods: Patients undergoing primary, unilateral TKA at a single academic center in the U.S. between 2016 and 2022 were included. Psychiatric diagnoses included anxiety, bipolar disorder, depression, PTSD, psychosis, substance abuse, and multiple diagnoses. PROMs included the Knee Injury and Osteoarthritis Outcome Score Pain Subscale (KOOS-Pain), Physical Function Shortform (KOOS-PS), and Joint Replacement (KOOS-JR).

Results: 13,894 patients who had 14,900 TKAs were included, of which 3,830 patients (28%) had a psychiatric diagnosis. Psychiatric disease predicted failure to achieve MCID and PASS in KOOS-Pain, KOOS-PS, and KOOS-JR ($p=0.01$). Patients with multiple psychiatric diagnoses had even higher odds of failing to achieve clinically meaningful improvements. Psychiatric disease also predicted prolonged length of stay, non-home discharge, and 90-day hospital readmission ($p<0.01$).

Conclusion: Over a quarter of individuals undergoing TKA have a preexisting mental health condition. A multidisciplinary approach to preoperative mental health optimization and postoperative surgical care may help improve outcomes for this key population.

Early Postoperative Periprosthetic Fractures After Total Hip Arthroplasty Are Associated With Higher Complication and Revision Risk Than Intraoperative Fractures

Emily Reeson, MD
Rush University Medical Center

Purpose: We compared outcomes between patients sustaining intra-operative periprosthetic fractures (PPFx) and those sustaining an early PPFx (within 30-days) following primary total hip arthroplasty (THA).

Significance: Early PPFxs often represent undetected intra-operative fractures and are associated with high rates of complications. Although intra-operative fractures are similarly associated with adverse events, no previous study has compared outcomes between these two populations.

Methods: A large national database was queried for patients undergoing primary THA between 2010-2023 who sustained an intra-operative PPFx or early post-operative PPFx. Cohorts were propensity score-matched based on various patient demographics and comorbidities (n=1,864 per cohort). Multivariate logistic regression was utilized to compare outcomes at 90-days and 2-years.

Results: Patients with an early PPFx had a higher incidence of various complications including periprosthetic joint infection (PJI), hematoma, transfusion, wound dehiscence, superficial surgical site infection, acute kidney injury, and emergency room visits (all p -values <0.05). At 2-years, these patients had an increased incidence of PJI, aseptic loosening, mechanical failure, dislocation, and revision THA (all p -values <0.05).

Conclusion: Relative to patients with intra-operative fractures, those sustaining an early postoperative PPFx had an increased risk of various complications at 90-days and 2-years. These findings underscore the importance of intra-operative fracture recognition perioperative prevention.

Increased Force and Contact Area in the Lateral Compartment May Predispose to Arthritis Progression After Balanced Unicompartmental Knee Arthroplasty: A Cadaveric Comparison

Nirav Mungalpara, MD
University of Illinois at Chicago

Purpose: We hypothesized that robotic-assisted unicompartmental knee arthroplasty (UKA) would demonstrate improved biomechanical load distribution compared to conventional UKA.

Significance: UKA altered compartmental loading may contribute to disease progression in the native compartment. Whether robotic assistance improves intra-articular biomechanics remains unclear.

Methodology: Sixteen fresh-frozen cadaveric lower limbs underwent medial UKA: eight conventional (standardized cutting jigs) and eight robotic-assisted (CORI system). FlexiForce (Tekscan) sensors measured contact pressure, force, and contact area in medial (replaced) and lateral (native) compartments during controlled extension from 90° to 0°. Biomechanical parameters were compared using statistical analysis.

Results: Medial contact pressure increased from 251.73 KPa at 90° to 1863.83 KPa at 0° ($p < 0.05$), whereas lateral pressures ranged from 319.83 KPa to 733.94 KPa ($p < 0.05$). The lateral compartment demonstrated greater contact area (81.46–134.38 mm²) than medial (43.91–44.65 mm²) ($p < 0.05$). Lateral forces were higher at all angles, peaking at 97.84 N versus 83.01 N medially at 0° ($p < 0.05$). No significant differences were observed between techniques.

Conclusion: Robotic-assisted and conventional UKA demonstrate comparable biomechanics. Persistent lateral load predominance highlights the importance of soft-tissue balancing to optimize load distribution and potentially mitigate lateral compartment degeneration after UKA.

Is Inflammatory Arthritis an Absolute Indication for Patellar Resurfacing in Total Knee Arthroplasty?

Brian Song, MD

Washington University School of Medicine

Background: Inflammatory arthritis (IA) has been considered an absolute indication for patellar resurfacing (PR) in total knee arthroplasty (TKA), yet limited contemporary data exists to support this. The purpose of this study was 1) to compare outcomes of TKA without PR for IA and osteoarthritis (OA) and 2) to compare outcomes of TKA for IA with and without PR.

Methods: A retrospective review of all primary TKAs at an academic institution between March 2017 to May 2024 was performed. We identified 348 TKAs without PR performed for IA. This cohort was matched by demographics to 348 TKAs without PR performed for OA. A secondary comparison of 38 TKAs for IA with PR (IA-PR) during the same period was performed. Outcomes included reoperation, revision, patella-related complications, and presence of anterior knee pain (AKP). Mean follow-up was 24-months. T-tests and Fisher's Exact tests were performed.

Results:

Among TKA without PR, 20 (5.7%) IA and 13 (3.7%) OA underwent reoperation ($P=0.28$); 2 (0.6%) in each group underwent revision ($P=1.0$). There were no differences in aseptic (3.4% IA vs. 2.6% OA; $P=0.66$), patella-related (1.4% IA vs 0.9% OA, $P=0.73$), or septic (2.3% IA vs. 1.1% OA; $P=0.38$) reoperations. Four (1.1%) IA vs. 0 OA TKAs underwent secondary PR ($P=0.12$). Among TKA without PR, there was no difference in AKP between IA (4.9%) and OA (7.8%) ($P=0.16$). Among TKA for IA with and without PR, there was no difference in AKP (4.9% IA vs. 5.3% IA-PR; $P=0.58$). The PR group had more aseptic reoperations (3.4% IA vs. 13.2% IA-PR; $P=0.02$) and revisions (0.6% IA vs. 13.2% IA-PR; $P< 0.01$), but similar patella-related complications (1.4% IA vs 2.6% IA-PR, $P=0.47$).

Conclusion: In TKA without PR for IA compared to OA, there were no differences in reoperations, revisions, patella-related complications

GLP-1 Agonists Versus Bariatric Surgery Prior to Total Hip Arthroplasty: Which Management Option Carries Heavier Weight?

Samuel P. Alfonsi III, MD
Rush University Medical Center

Purpose: To compare 90-day complication rates following THA in patients who underwent medical weight loss with GLP-1 agonists versus those who underwent bariatric surgery prior to THA.

Significance: Both GLP-1 agonists and bariatric surgery are interventions that result in weight loss prior to THA.

Methods: Retrospective cohort study using TriNetX Research Network to identify adults undergoing primary THA between 2005 and 2025. Patients undergoing bariatric surgery 6 months to 1 year before THA were matched 1:1 to those initiating GLP-1 therapy during the same time interval. Matching variables included various comorbidities and BMI six weeks before the weight-loss intervention. Each cohort comprised 748 patients with 90-day follow-up. Multivariate logistic regression was used to compare risk of PJI, mechanical complications, and composite medical and surgical complication rates between groups.

Results: Patients receiving GLP-1 agonists exhibited lower rates of PJI (1.5% vs. 3.9%; OR=0.37; $p=0.006$) compared to patients who underwent bariatric surgery. Although individual medical complication rates were similar between groups, GLP-1 patients exhibited lower odds of any complication (26.1% vs. 32.0%; OR=0.75; $p=0.012$) and any surgical complication (2.5% vs. 5.1%; OR = 0.49; $p=0.01$).

Conclusion: GLP-1 agonists may represent a safer alternative for preoperative THA weight management without increasing postoperative risk.

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The Hospital for Special Surgery
Skeletal Age Assessment from Knee Radiographs Using Deep Learning

Bhargavi Maheshwer, MD

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Predictors of Anterior Cruciate Ligament Re-Injury and Return to Sports in Adolescent Athletes: Increased Risk in Younger Age and Earlier Time to Return to Sport

Katherine J. Montoya, MD

University of Arkansas for Medical Sciences
Ten Years of a Novel Telemedicine System for Management of Statewide Hand Trauma in Arkansas – A Decade in Review

Erik Nakken, MD

University of Michigan
Optimizing Contact Pressures of the Posterior Heel During Lower Extremity Immobilization: A Biomechanical Study

Sreetha Sidharthan, MD

The Hospital for Special Surgery
Reverse-Anatomical Front and Back Reconstruction for Volar Intercalated Segment Instability Non-Dissociative: A Biomechanical Study

Presenters' Choice

Alexander E. White, MD

The Hospital for Special Surgery
The Effect of Posterior Tibial Slope on Tibiofemoral Joint Biomechanics: An In-Vitro Analysis

MID-ATLANTIC

First Place

Julia Retzky, MD

The Hospital for Special Surgery
Early Anterior Cruciate Ligament Reconstruction Mitigates the Development of Post-Traumatic Osteoarthritis in a Murine Anterior Cruciate Ligament Rupture Model

Second Place

Zachary J. Herman, MD

University of Pittsburgh Medical Center
Overhead Athletes Have Comparable Intraoperative Injury Patterns and Clinical Outcomes to Non-Overhead Athletes Following Surgical Stabilization for First-Time Anterior Shoulder Instability at Average 6-year Follow-up

Alexander E. White, MD

The Hospital for Special Surgery
The Effect of Posterior Tibial Slope on Tibiofemoral Joint Biomechanics: An In-Vitro Analysis

Third Place

Alexander Berk, MD

University Hospitals/
Case Western Reserve University
Patients with Vitamin D Deficiency are More Likely to Develop Complex Regional Pain Syndrome After Extremity Fractures: A Large Database Propensity-Matched Cohort Study

Alexandra Baker Lutz, MD

University of Maryland
Impact of Obesity on Patient-Reported Outcomes Two Years After Multiple Ligament Knee Reconstruction

Margaret Sinkler, MD

Case Western Reserve University
To Fix or to Replace? An Analysis of Geriatric Periprosthetic Distal Femur Fractures Treated with Open Reduction Internal Fixation, Retrograde Intramedullary Nail, or Distal Femoral Replacement

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Alexander P. Hoffman, MD

University of Pittsburgh Medical Center
Intraoperative Evaluation of Sarcoma Surgical Margins with Indocyanine Green Fluorescence Imaging

MIDWEST

First Place

Katherine J. Montoya, MD

University of Arkansas for Medical Sciences
Ten Years of a Novel Telemedicine System for Management of Statewide Hand Trauma in Arkansas – A Decade in Review

Second Place

Bhargavi Maheshwer, MD

University Hospitals Cleveland Medical Center
Predictors of Anterior Cruciate Ligament Re-Injury and Return to Sports in Adolescent Athletes: Increased Risk in Younger Age and Earlier Time to Return to Sport

Erik Nakken, MD

University of Michigan
Optimizing Contact Pressures of the Posterior Heel During Lower Extremity Immobilization: A Biomechanical Study

Third Place

Apurva Choubey, MD

University of Illinois Chicago
Joint Arthroplasty in Breast Cancer: PE Risk and Thrombo-Prophylaxis Depend on Time Since Mastectomy

Kyleen Jan, MD

Rush University Medical Center
Midcarpal Stability Persists with ≤33% Distal Scaphoid Resection: A 3D Computational Analysis

Mark Plantz, MD

Northwestern University
Pre-Clinical Safety and Efficacy Assessment of a Novel 3D-Printed Hydroxyapatite Demineralized Bone Matrix (HA-DBM) Composite Scaffold Using a Rodent Posterolateral Fusion Model

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AI-Assisted MRI Interpretation Improves Surgeon Performance in Diagnosing Bankart Lesions

NORTHEAST

First Place

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The Hospital for Special Surgery
Skeletal Age Assessment from Knee Radiographs Using Deep Learning

Second Place

Sreetha Sidharthan, MD

The Hospital for Special Surgery
Reverse-Anatomical Front and Back Reconstruction for Volar Intercalated Segment Instability Non-Dissociative: A Biomechanical Study

Nathan Varady, MD

The Hospital for Special Surgery
Low Complication Rate Following Contemporary Pure Anteriorization Tibial Tubercle Osteotomy for Patellofemoral Overload

Third Place

Anonicha Burapachaisri, MD

Icahn School of Medicine at Mount Sinai Hospital
Does the Distal Tip Position of Long Cephalomedullary Nails Impact Mechanical Failure Rates?

Austin C. Kaidi, MD

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A Novel Clinical Calculator to Identify Patients at Risk for Ileus after Short-Segment Lumbar Fusion

Gergo B. Merkely, MD

Harvard Combined Orthopaedic Residency
AI-Driven Virtual Athlete Avatars for Injury Risk Stratification and Performance Analysis in Sports Medicine

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Rafa Rahman, MD, MPH

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Novel Scapholunate Bridge Augmentation to Treat Scapholunate Interosseous Ligament Injury

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Joseph Geller, MD

Jackson Memorial Hospital/University of Miami
Tracking Wearable Device Compliance in Total Knee Arthroplasty Recovery

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University of Miami
When the Robot Fails Us: A Comprehensive Analysis of a United States Food and Drug Administration Database of Technology-Assisted Arthroplasty

Olivia de Araujo, MD

Jackson Memorial Hospital/University of Miami
Consideration of Updated Breast Cancer Screening in Female Orthopaedic Surgeons: A Comprehensive Review

Third Place

James Frix, MD

Atrium Health Carolinas Medical Center
Early Implementation of Virtual Reality Therapy for Phantom Limb Pain: A Feasible and Effective Adjunct to Traditional Interventions

Aneesh V. Samineni, MD

Jackson Memorial Hospital/University of Miami
Prediabetes as an Unrecognizable Risk Factor for Inpatient Postoperative Complications After Total Knee Arthroplasty

Ryan Serbin, MD

Atrium Health Carolinas Medical Center
Targeted Brain Rehabilitation: A Novel Virtual Reality Protocol for Phantom Limb Pain Following Upper Extremity Amputation

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Blake H. Hodgens, MD

Atrium Health Carolinas Medical Center
Weightbearing After Distal Femur Fractures: Does the Surgeons' Postoperative Protocol Matter?

WESTERN

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Kyla Petrie, MD

University of California, San Francisco
Comparison of Retear Rates and All-Cause Reoperation Rates in Pediatric and Adolescent AL Reconstructions Using Bone Patellar Tendon and Quadriceps Tendon Grafts

Second Place

Grant Schroeder, MD

Stanford University
Shorter Relative Patellar Defect Length After Bone Patellar Tendon Bone Anterior Cruciate Ligament Reconstruction is Associated with Better Postoperative Patient-Reported Outcomes at 1-year Follow-up

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Predictive Factors of Having a Second UBC Related Pathologic Fracture

Third Place

Kelechi Nwachuku, MD

University of California, San Francisco
Osteoarthritis and Total Joint Arthroplasty in Housing Insecure Patients at a Safety-Net Hospital in a Major Urban City

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Stanford University
Navigated and Robotic Total Knee Arthroplasty (TKA) Do Not Confer Improved 5-Year Survivorship Compared to Conventional TKA: An Analysis from the American Joint Replacement Registry (AJRR)

Karch M. Smith, MD

University of California, San Diego
Combined Root and Body (CRAB) Lateral Meniscus Tears in the Adolescent Population: An Underrecognized and Underreported Tear Pattern

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San Francisco Orthopaedic Residency Program at University of California, San Francisco Health St. Mary's Hospital
Osteochondral Autograft from the Proximal Tibiofibular Joint for Reconstruction of Acute Tibial Plateau Fractures with Severe Chondral Defects

Nicole J. Newman-Hung, MD

University of California, Los Angeles
Characteristics and Recurrence Risk of Upper Extremity Soft Tissue Sarcoma

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Outcomes from a Prospective Randomized
Clinical Trial*

Chris Chermide-Scabbo, MD

University of Minnesota

*Better Functional Scores in Arthroscopic
Assisted Percutaneous Fixation Than Open
Reduction Internal Fixation of Lateral Tibial
Plateau Fractures*