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ABOUT US



Orthopedic surgery is one of the most competitive specialties to apply as a medical student. In Match 2024, 1,492 applicants applied for 916 orthopedic surgery residency spots, resulting in a 61.4% acceptance rate. With more medical schools transitioning to an integrated or accelerated pre-clinical model, education regarding orthopedic surgery is limited.

It is of paramount importance to provide medical students with educational resources to enrich their orthopedic surgery experience, find mentors, develop research skills, and obtain guidance on the residency application process.

The aim of the Medical Student Orthopedic Society (MSOS) is to provide students with equal access to resources to help them navigate the field of orthopedic surgery.



WELCOME

Welcome to the 2024 Medical Student Orthopedic Society (MSOS) Research Symposium, hosted by the Johns Hopkins University. The symposium committee, chairs, and advisors have worked diligently to prepare the best program for medical students.

Our annual research symposium is unlike any other orthopaedic surgery meeting in the country – providing a comprehensive and free program aiming to encourage medical student research, create opportunities for students to present and publish their works, and learn more about the journey to matching into orthopaedic surgery.

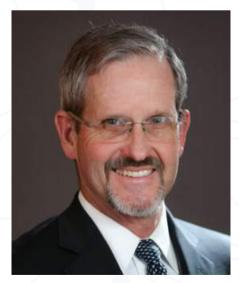
The annual research symposium would not be possible without our sponsors and volunteers – thank you for your continued support this year!



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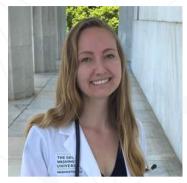
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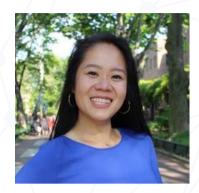
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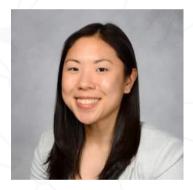
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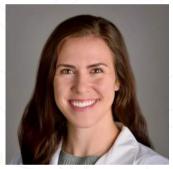
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CONFERENCE SCHEDULE

10:00AM-10:15AM **Opening Remarks**Amy Zhao

James Ficke, MD

10:15AM - 11:30AM Poster Presentations

11:30AM-12:15PM **Panel - Tips to Match**Moderated by Samantha Ferraro
Amil Agarwal
Anthony Chiu
Cristina DelPrete
Sophia Mavrommatis
Desiree Ojo
Christopher Saker

12:15PM-1:00PM Panel - Day in the Life of an Orthopaedic Surgery Resident

Moderated by Krupa Patel
Sennay Ghenbot, MD
Mary Hennekes, MD
Kevin Lehane, DO
Julia Mastracci, MD
Claire McDaniel, MD, MBA
Sarah Pirkle, MD

1:00PM-2:00PM **Podium Presentations**Moderated by Marc Swiontkowski, MD and James Ficke, MD

2:00PM-3:00PM Panel - Program Directors

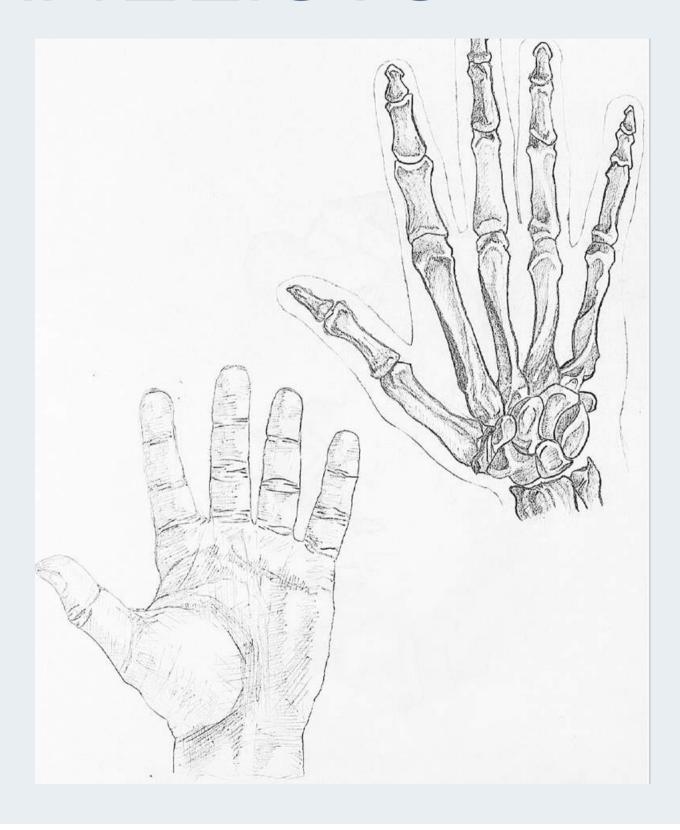
Moderated by Victoria Bergstein Raffi Avedian, MD Karen Bovid, MD Melvyn Harrington, MD Jeffrey Junko, MD Dawn LaPorte, MD Joel Rush, DO

3:00-3:15PM Closing Remarks and Awards

Sean Tabaie, MD



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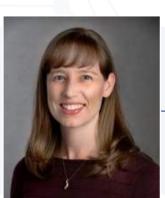




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The Clinical Impact of Initiating Anti-Osteoporosis Therapy Following a Distal Radius Fracture

CHENÉE ARMANDO, BA; EDWARD FOX, MD; KENNETH TAYLOR, MD

PENN STATE UNIVERSITY, HERSHEY, PA

Introduction: The presence of osteoporosis and other bone density pathologies poses a significant risk for life-altering fragility fractures. Distal radius fractures (DRF) are often among the first injuries associated with osteoporosis, accounting for 18% of fractures in patients over 65 years old. This presents a glaring opportunity to prevent a future cascade of events. This study aims to determine the extent to which the risk of subsequent fragility fractures can be reduced by initiating anti-osteoporotic therapy after an initial presentation of a DRF.

Methods: This study utilized TriNetX, an online database with de-identified patient data. We identified females above the age of 50 reporting DRF incidents. They were categorized based on receiving initial anti-osteoporotic treatment within a year of the DRF. After propensity matching, the risk of a subsequent DRF from 2003 to 2023 was explored as well as subsequent DEXA scans.

Results: Baseline differences included higher rates of bone density disorders, inflammatory polyarthropathies, spondylopathies, metabolic disorders, obesity, malnutrition, and neoplasm in the Medication (M) group. Notably, 38.9% of the M group had a prior DEXA scan compared to 7.2% of the No Medication (NM) group. The most frequently prescribed anti-osteoporotic medication in the M group was Alendronate (48.9%). After propensity matching each group (n=8,853), the risk analysis revealed the M group had a decreased risk of subsequent DRF (Risk Ratio= 0.817, CI= 0.766, 0.872) p < 0.0001 and a higher rate of bone density evaluations (Risk Ratio=1.436, (1.358, 1.519), p < 0.0001.

Conclusion: The results showed the M group had 84.05% more DEXA scans and were 21.7% less likely to have a subsequent DRF fracture compared to the NM group. These findings demonstrate timely assessment and proper medical intervention can avert future DRF in women over 70. However, post-DRF bone density evaluations remain infrequent.



5-Year Fracture Rate Among Transgender Patients Using Gender-Affirming Hormone Therapy

ALICIA JACOBSON, BS; DANIEL WHITNEY, PHD; MAMDOUHI TANIA, MD; CAROL JANNEY, PHD; JULIE BLASZCZAK, MD, MEHP; JAIMO AHN, MD, PHD

UNIVERSITY OF MICHIGAN, ANN ARBOR, MI

Introduction: Transgender and gender diverse (TGD) people have unique health care needs related to the use of gender-affirming hormone therapy (GAHT) based on either estrogen (17-B estradiol with anti-androgen therapy) or testosterone. Given the importance of estrogen and testosterone in bone health maintenance, population-level fracture data is required to guide appropriate patient counseling throughout the lifespan. A paucity of data, however, describes resultant fracture risk associated with GAHT. The primary objective was to assess if GAHT was associated with 5-year fracture rate.

Methods: Using the Truven MarketScan Commercial Claims database, we conducted a retrospective cohort analysis of de-identified TGD patients aged 18 – 65 years old with and without use of GAHT. The incidence rate of 5-year fracture was estimated for each cohort and adjusted for age using cox proportional hazards regression.

Results: Among TGD patients (n=11,953), the IR of fracture was 14.3 (95% CI 10.9 – 17.7) for EGAHT, 17.3 (95% CI 13.4 – 21.2) for TGAHT and 20.8 (95% CI 18.9 – 22.3) for non-GAHT. Most fractures occurred at the foot (28%), hand (26%) and ankle (13%). Compared to non-GAHT, the age-adjusted HR was 0.83 (95%CI=0.63-1.10) for TGAHT and 0.72 (95%CI=0.54-0.95) for EGAHT.

Discussion: EGAHT and TGAHT was associated with a lower 5-year rate all-cause fracture compared to TGD patients not on GAHT, although, only EGAHT reached statistical significance. The study also found no evidence of effect modification by age, suggesting that the strength of the associations were similar across the 18–65-year-old age range. A major strength of this study was the relatively long 5-year follow-up period, which allowed us to capture incident fracture rates within a clinically meaningful period.

Conclusion: Long term use of GAHT is safe for TGD patients, and EGAHT is protective against all-cause 5-year fracture rate.



Burying the White Blood Cell Count: Using the Neutrophil-to-Lymphocyte to Determine the Severity of Pediatric Musculoskeletal Infection

BRIAN HOU, BA; ANOOP CHANDRASHEKAR, BA; STEPHEN CHENARD, MSC; **NAADIR JAMAL, BS;** HUI NIAN, PHD; JACQUELYN PENNINGS, PHD; RYAN SELTZER, MD; STEPHANIE MOORELOTRIDGE, PHD; JONATHAN SCHOENECKER, MD, PHD

VANDERBILT UNIVERSITY, NASHVILLE, TN

Introduction: Pediatric orthopedic surgeons face the challenge of rapidly triaging musculoskeletal infections (MSKI) to determine which children are at most risk for adverse outcomes. Tools such as the Kocher criteria have demonstrated validity in predicting the likelihood of an infection, however, few predict the severity. Although CRP is the gold standard for determining severity, front-line clinicians may only order a CBC, erroneously interpreting WBC count which is less sensitive and specific than CRP. The neutrophil-to-lymphocyte ratio (NLR), derived from a CBC with differential, has previously shown promise as a marker of severity. Thus, we hypothesized that NLR, like CRP, is predictive of both infection and disease severity in pediatric MSKI.

Methods: A single-center retrospective cohort study was conducted using a database of pediatric orthopedic consultations for MSKI between January 2011 and July 2022. Diagnoses were categorized as MSKI, or no infection (e.g. transient synovitis) based on chart review. The degree of infection was stratified as no infection, local, disseminated, or disseminated with complications infections. NLR was calculated as absolute neutrophil count divided by absolute lymphocyte count.

Results: Among 712 patients, 257 had no infection and 455 were diagnosed with an MSKI. The infected group had significantly increased mean CRP, WBC count, and NLR compared to the non-infected group (p<.0001). Admission CRP was also stratified by severity with significant increases between patients in each infection category (8.3 vs 39.25 vs 107.0 vs. 256.9, p<0.0001). Admission WBC count was a poor predictor of infection severity with limited ability to discriminate between infection categories (11.0 vs. 12.6 vs. 12.6 vs. 11.7, p<0.05). NLR was able to differentiate severity between no infection, local, and disseminated infections (p<.0001).

Discussion: Clinical tools to pragmatically determine MSKI severity are needed for appropriate management. NLR should be considered alongside CRP as an efficient triaging tool for pediatric MSKI.



Cephalomedullary Nail Fixation of Subtrochanteric Femur Fractures: Is One Distal Locking Screw Enough?

MANASA KADIYALA, BS; LAUREN MERRELL, BA; ABHISHEK GANTA, MD; SANJIT KONDA, MD; STEVEN RIVERO, MD; KENNETH EGOL, MD

NEW YORK UNIVERSITY, NEW YORK, NY

Introduction: Subtrochanteric (ST) fractures are proximal femur fractures with strong deforming muscular forces, which complicate anatomical reduction and treatment. These fractures are fixed with intramedullary nails with two distal locking screws, although the need for both screws has never been researched. This study's purpose was to investigate the use of one versus two distal locking screws on clinical and radiographic outcomes and complication rates.

Methods: An IRB-approved retrospective review of a consecutive series of subtrochanteric femoral fractures was performed. Each patient's medical record was reviewed for demographics, injury and treatment information, perioperative details, radiographic parameters, hospital quality measures, and outcomes. Patients were divided into 2 cohorts: one distal locking screw (1-screw Cohort) and two distal locking screws (2-screw Cohort). Comparative analyses were conducted.

Results: 232 patients met inclusion criteria with a mean age of 71.18±19.05 years and average follow-up time of 11 months. All fractures were treated with an antegrade, reamed cephalomedullary nail (CMN). 50 (21.6%) patients were fixed with one 5 mm distal locking screw and 182 (78.4%) patients had two screws. Patients with 1 screw had a shorter operative time in minutes (156.64± 47.06 vs 176.06± 41.32, p=0.005), but there were no further differences perioperatively. Both cohorts experienced similar rates of fracture healing, medical and mechanical complications, mortality, and readmission.

Discussion: Clinically, a single distal locking bolt is sufficient for ST femur fractures fixed with a CMN. A second distal locking screw may be reserved for situations in which the surgeon feels that the first screw has not achieved adequate fixation.



Minimum Two-Year Follow-Up Outcomes Following Anatomic Acetabular Labral Tear Repair with Knotless All-Suture Anchors in Primary Hip Arthroscopy. A Prospective Analysis of 200 Consecutive Patients

DAVID MALDONADO, MD; RACHEL BRUNING, BS; **JULIO NERYS-FIGUEROA, BS**; BENJAMIN DOMB, MD

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Introduction: The purpose of this study is to report minimum 2-year follow-up patient-reported outcome score measures (PROMs) for patients who underwent primary hip arthroscopy with labral repair using all-suture knotless tensionable anchors (KTAs) and the controlled-tension anatomic technique (CTA) in the setting of femoroacetabular impingement syndrome (FAIS).

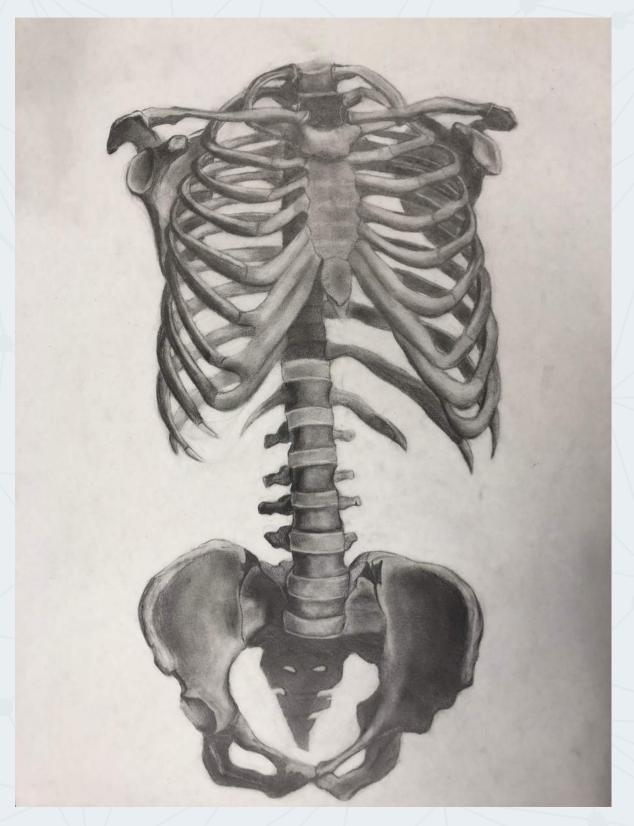
Methods: Patients who underwent primary hip arthroscopy for the treatment of FAIS and labral tear repair using KTAs CTA between April 2019 and February 2021 were included. Baseline and minimum 2-year follow-up for the modified Harris Hip Score (mHHS), Non-Arthritic Hip Score (NAHS), Hip Outcome Score-Sports Specific Subscale (HOS-SSS), Visual Analog Scale for Pain (VAS), International Hip Outcome Tool-12 (iHOT-12) and Patient Satisfaction scores were collected. Rates of achieving the minimal clinically important difference (MCID), the patient acceptable symptomatic state (PASS), and the maximum outcome improvement (MOI) score threshold.

Results: Two hundred patients were included for the prospective analysis with a minimum 2-year follow-up. Significant improvement in all PROMs from baseline to minimum 2-year follow-up was reported (P < 0.05). The cohort achieved high rates of MCID for the mHHS (91%), NAHS (92%), HOS-SSS (93.5%), and VAS (92.5%), high rates of PASS for the mHHS (89.4%), NAHS (73%), and HOS-SSS (77%), and high rates of MOI for NAHS (74.5%) and HOS-SSS (76.5%). 95.5 % of patients achieved MCID or PASS for at least 1 metric.

Conclusion: At a minimum 2-year follow-up, patients who underwent primary hip arthroscopic surgery for FAIS with labral tear repair using KTAs CTA demonstrated significant improvement for all the PROMs collected, VAS, and patient satisfaction. Moreover, high rates of achievement for the MCID, PASS, and MOI were also reported. Based on this prospective analysis, acetabular labral tear repair using KTAs CTA seems to be a safe and valid option.



POSTERS





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mRNA Activated Autologous Clots for Muscle and Bone Regeneration

Josh Choe University of Wisconsin-Madison

Patella morphology changes in neonatal mice using knee contracture dermodesis

Hannah Eng Touro University - Nevada

Menopause triggers adipogenesis of fibroadipogenic progenitor cells to impair skeletal muscle function in aged female mice

Gabrielle Gilmer University of Pittsburgh The Role of Sex Steroids in Mediating the Effects of Osteoblast-Lineage Glucocorticoid Receptor Signaling in Skeletal Health

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Female Geriatrics at Risk: A 10 year analysis of Foot & Ankle Fractures presenting to the Emergency Department (2013-2022)

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FOOT & ANKLE 2

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Trends in Prescribed Opioids Among Patients Presenting to Emergency Departments for ankle injuries; Analysis of Nationwide Emergency Department Data 2010-2020

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Additional Procedures at the Time of Total Ankle Replacement Do Not Increase Risk of Short-Term Complications: A Matched Cohort Analysis

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Complications, Readmissions, and Reoperations in Outpatient versus Inpatient Total Ankle Arthroplasty: A Systematic Review and Meta-analysis Daniel Razick Ohio State University

Complications Following Open Reduction and Internal Fixation for Ankle Fractures: Application of the Clavien-Dindo Classification Scale Caroline Rush

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ChatGPT May Benefit Patient
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Readmission Within 30-Days of Open Reduction and Internal Fixation for Ankle Fractures: NSQIP Analysis of 29,905 Patients Aadi Sharma Virginia Commonwealth University

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Low-Dose Enteric-Coated and Chewable Aspirin Are Not Equally Effective in Preventing Venous Thromboembolism in Total Knee and Hip Arthroplasty

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Use of Spinal Anesthesia in Surgical Repair of Intertrochanteric Fractures Has Lower Risk of Complications Compared to General Anesthesia

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Kinematic Alignment produces superior clinical results to mechanical alignment with primary medial-pivot knee arthroplasty

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Assessing Hospital Readmissions Following Primary Knee or Hip Arthroplasty: Comparing the ASA, Charlson Comorbidity Index, and Elixhauser Comorbidity Index. Torben Urdahl University of Minnesota

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Gastric Bypass in Total Knee Arthroplasty Patients is Associated with Increased Rates of Postoperative Outcomes

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A Novel Technique of Visible Light Navigation of S2AI screws

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Robyn Lipschultz New York University Radiographic angles after posterior medial lateral release are associated with increased rates of reoperation in neuromuscular clubfoot

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An Orthopaedic Assessment of Medical Malpractice Surrounding Compartment Syndrome

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A Technology-enabled Model to Define the Total Costs of Comprehensive Management of Hip and Knee Osteoarthritis: The Missing Link in Value Based Musculoskeletal Care George Sayegh University of Texas at Austin

Trends in Postoperative Oral Antibiotic Prophylaxis and Infection for Outpatient Total Hip and Knee Arthroplasty from 2015-

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Intraosseous Vancomycin Limits Systemic Effects of Vancomycin in Total Joint Arthroplasty

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SHOULDER & ELBOW 1

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The Role of Rotator Cuff Integrity: A Comparative Analysis of Reverse Total Shoulder Arthroplasty Outcomes in Glenohumeral Osteoarthritis

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Clinical Outcomes of Bilateral Total Shoulder Arthroplasty

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Allograft Prosthetic-Composite Versus Endoprosthesis Reconstruction for Massive Proximal Humerus Bone Loss: A Systematic Review and Meta-Analysis of Outcomes and Complications

Caroline Ğutowski Cooper Medical School

Sex-Based Differences in Postoperative Outcomes for Patients Undergoing Primary Arthroscopic Shoulder Surgery for Complete Rotator Cuff Repair: A Propensity Matched Analysis

Ronak Mahatme University of Connecticut

Outcomes of Ambulatory Versus Outpatient Hospital-based Surgical Center Shoulder Arthroplasty: Complications, Readmission, and Charges

Paul Mastrokostas SUNY Downstate Complications Following Platelet Rich Plasma Injections in Elbow Epicondylitis: A Systematic Review

Meghan Mulvey Tufts University

Two-Stage Glenohumeral Joint Fusion Using Temporary Percutaneous Pinning: A Case Series

Michael Navarro Northwestern University

Scapula to scapula tethering for treatment of scapulothoracic abnormal motion (STAM): A case series and technique

Argen Omurzakov Case Western Reserve University

Does Tranexamic Acid Improve Early Postoperative Shoulder Motion After Total Shoulder Arthroplasty?

Reed Popp University of Florida

Antimicrobial Effects of Blue Light Therapy Against Cutibacterium Acnes: Optimal Dosing and Impact of Serial Treatments

Aniekanabasi Ufot University of Wisconsin

The Efficacy of Intra-Articular Corticosteroid Injections for Elbow Arthritis: A Retrospective Cohort Study

Sara Ungerleider Northwestern University

Distal Clavicular Resection Worsens Outcomes in Rotator Cuff Repair: A National Database Study

Joshua Wiener Case Western Reserve University



SHOULDER & ELBOW 2

MODERATED BY DRS. ROBERT ORFALY & MAAROUF SAAD

The Effect of Tobacco Use on Survivorship and Clinical Outcomes of Primary Anatomic Total Shoulder Arthroplasty: A Single-Institution Study

Isabella Amador University of Florida

Analyzing Risk Factors for Postoperative Anemia and Blood Transfusion in Total Shoulder Arthroplasty

Avianna Arapovic Oakland University

Reverse Total Shoulder Arthroplasty with Latissimus Dorsi Transfer: A Retrospective Case Series

John Barnett Ohio State University

Inlay Total Shoulder Arthroplasty in the Weight-Bearing Shoulder of Wheelchair-Bound Paraplegic Patients

Zachary Blashinsky Florida International University

Predictors of Ability to Perform Internal Rotation-Dependent Activities of Daily Living and Favorable Satisfaction Despite Loss of Objective Internal Rotation After Reverse Shoulder Arthroplasty

Robert Cueto University of Florida

Surgical Treatment of Displaced Proximal Humerus Fractures Is Associated With Decreased 1-Year Mortality in Patients Aged 65 and Older: A Retrospective Study of Medicare Patients

Akiro Duey Icahn School of Medicine

Anatomic Versus Reverse Total Shoulder Arthroplasty for Primary Osteoarthritis with an Intact Rotator Cuff: A Mid-term Comparison of Early Top Performers

Kevin Hao University of Florida Anterior shoulder dysfunction and internal rotation deficiency after reverse versus anatomic shoulder arthroplasty

Ryan Lopez University of Pennsylvania

Defining the Tipping Point for Revision Reverse Shoulder Arthroplasty?

Daniel O'Keefe University of Florida

Insertion Sites of Latissimus Dorsi Tendon Transfer Performed During Reverse Shoulder Arthroplasty: A Systematic Review and Meta-Analysis

Taylor Rakauskas Florida Atlantic University

Total Elbow Arthroplasty versus Open Reduction and Internal Fixation for Distal Humerus Fractures: A Propensity Score Matched Analysis of 30-Day Postoperative Complications

Luke Sandoval Virginia Commonwealth University

Long-Term Outcomes Following Trabecular Metal Glenoids in Anatomic Total Shoulder Arthroplasty: A Follow-Up Study

Christoph Schrön Icahn School of Medicine

Evaluating the Outcomes and Longevity of Total Shoulder Arthroplasty in Patients Under 60: A Mid-Term Analysis

Collin Todd Ohio State University

The Arthroscopic Latarjet Procedure: Two Year Analysis of Learning Curve Proficiency and Complications

Jalen Warren Ohio University

Clinical Outcomes of Anatomic and Reverse Total Shoulder Arthroplasty for Patients Over the Age of 75

Seth Wilson Ohio State University



SPINE 1

MODERATED BY DR. HAO HUA WU, DR. IAN WELLINGTON, & DR. JEFFREY LU

The Advantage of a Right-Side Anterior Retroperitoneal Approach for Primary Lumbar Spine Surgery

Julia Balboni University of New England

Association between intraoperative TI tilt and postoperative shoulder height in AIS patients

. Claire Callan Florida International University

The Impact of COVID-19 on Postoperative Outcomes Following Lumbar Fusion Surgery

Frank Epitropoulos Ohio State University

Trends in Operative Timing for Acute Traumatic Central Cord Syndrome: NationalInpatient Sample Analysis 2013-2019

lan Fleisher New York Medical College

Spondylolysis, spondylolisthesis, and associated variables in pediatric patients with osteogenesis imperfecta: Follow-up from a 2011 study

Garrett Gloeb University of Nebraska

Using the Apple Watch to Monitor Real-Time, Continuous Physical Activity in Patients Undergoing Spine Surgery for Cervical Spondylosis.

Aneysis Gonzalez Stanford University

Splenic Rupture Following Prone Lateral Discectomy And Arthrodesis: Case Report

Benjamin Hershfeld New York Institute of Technology College of Osteopathic Medicine

Assessment of the Surgical Learning Curve for Operative Management of Adolescent Idiopathic Scoliosis by Procedure Type: A Systematic Review and Meta-Analysis

Nazanin Kermanshahi Arizona College of Osteopathic Medicine Number of Levels Fused: An Indicator of Hardware Failure Following the Minimally Invasive Antepsoas (MIS-ATP) Approach to Lumbosacral Fusions

Rehan Khan Boston University

Role of Topical Tranexamic Acid on perioperative blood loss and transfusion requirementsin patients with Neuromuscular Scoliosis.

Osvaldo Conde Lorenzo San Juan Bautista School of Medicine

Atlantoaxial Subluxation and Down Syndrome: A Cross-Sectional AnalysisMatthew Merckling

New York Medical College

Health Care Disparities in Complication and Mortality Rates Following Surgical Management of Cauda Equina Syndrome: A Machine Learning Analysis

Anusha Patil University of Rochester

Cannabinoid Use Impact and Post-Lumbar Surgery Pain Management in Opioid Naïve Patients

Gerardo Rodriguez Ponce Health Sciences University

Reliability and Minimal Detectable Change in Vertebral Pelvic Angles in Adult Spinal Deformity

Chad Simon University of Illinois

Unilateral Biportal Endoscopy Discectomy improves surgical outcomes over Microscopic Discectomy for Lumbar Disc Herniation: A Meta-Analysis of 852 patients.

Diego Vazquez University of Mexico



SPINE 2

MODERATED BY DR. DIRK ALANDER, DR. STEPHEN LOCKEY, & DR. XI CHEN

More Screws, More OR Time, Same Failure Rates: Enabling Technology Use in Proximal Fixation of Growing Spine Constructs

Daniel Gabriel Harvard University

Prevalence of 6 lumbar segments in asymptomatic spines

Campbell Goldsmith Chicago Medical School

Ten-year Risk of Recall of Novel Spine Devices

Abbey Jin University of Missouri

Detection of spinal implants at airport security checkpoints: How do updated security measures affect patient experiences?

Sunny Korsapati SUNY Upstate

The Impact of the SARS-CoV2 Pandemic on Post-Operative Outcomes Following Elective Spine Surgery: A Case-Control Study Performed in a Large SARS-CSUNYoV2 Epicenter

Amy Lu Cornell University

Preoperative Opioid Use and Anxiety Are Independent Risk Factors for Failure to Respond to Erector Spinae Plane Block In Minimally Invasive Transforaminal Lumbar Interbody Fusion

Eric Mai Cornell University

Does BMI Play a Role in the Development of Lumbar Spinal Stenosis?

Arie Monas SUNY Downstate Lumbar Disc Arthroplasty Leads to Increased Subsequent Facet Injections Compared to Anterolateral Lumbar Interbody Fusions

Nakul Narendran University of Cincinnati

Reoperation Rate Depends on Surgical Approach in Spondylolisthesis in Young Patients in a Large National Cohort

Paal Nilssen Washington State University

A Rare Case of Extradural Migration of an Intrathecal Pain Pump Catheter in a Patient with Spinal Metastasis

Emma Pair Boston University

Perioperative Optimization for Pediatric Neuromuscular Scoliosis Patients: A Multi-Disciplinary Approach

Bryce Pember Northeast Ohio Medical University

Comparative Efficacy and Outcomes of Biportal Endoscopic versus MicroscopicTechniques in Spine Surgery: An Updated Meta-Analysis

Viren Sehgal City University of New York

Carbon Fiber Instrumentation for Spinal Tumors: A Systematic Review of The Literature and Case Series

Marcus Selles Howard University

Adjacent Segment Disease Prevalence in Patients with Cervical Block Vertebrae: A Meta-Analytic Review

Bryan Ubanwa University of Texas San Antonio



SPORTS MEDICINE 1

MODERATED BY DR. ROBERT PARISIEN & DR. ANDREW COLLINS

Posterior Tibial Slope and Sagittal Correction for ACL Injury Risk Reduction: Anatomic Feasibility of Guided Growth Correction in Pediatric Patients Amin Majed Alayleh

Amin Majed Alayleh Chicago Medical School

Epidemiology and Sex-Specific Patterns of Basketball-Related Patellar Dislocations: A 20-Year Analysis of National Injury Data Adriano Cuadros

Adriano Cuadros Icahn School of Medicine

Manipulation Under Anesthesia after Hip Arthroscopy for Pericapsular Scarring: Patient Outcomes

Anchal Dhawan University of Wisconsin

Impact of Anterior Cruciate Ligament Reconstruction Surgery on Player Efficiency Ratings and Salary in The National Basketball Association over the Past 20 Years

William Elnemer Johns Hopkins University

A Narrative Review of Osteoporosis Drugs in the Treatment of Stress Fractures in Athletes

Mo Hadaya Rowan-Virtua School of Osteopathic Medicine

Investigating the Association Between Hormonal Contraceptive Use, Menstruation, and the Occurrence of Musculoskeletal Injuries in Female Collegiate Athletes

Olivia Jackson Dartmouth University

Comparison of Graft Type and Fixation Method in Anterior Cruciate Ligament Reconstruction: A Systemic Review and Meta-Analysis Based on Randomized Control Studies

Ryan Jones University of Toledo

Flag Football Injuries Frequently Arise from Contact Mechanisms: A 10-year Analysis of National Injury Distribution and Trends

Auston Locke Icahn School of Medicine

Assessing the Risk Factors for Surgical Site and Deep Wound Infections Following Hip Arthroscopy: A Nationwide Study of 75,577 Patients

Patrick Nian SUNY Downstate

Does Collegiate Baseball Experience Reduce the Likelihood of Undergoing Ulnar Collateral Ligament Reconstruction Among Major League Baseball Pitchers?

David Painter Brown University

Non-inferior short-term outcomes and low complications following post-market bridge-enhanced ACL repair (BEAR)

Aakash Shah Case Western Reserve University

Decreasing Youth Wrestling Concussions and Musculoskeletal Injuries Presenting to United States Emergency Departments: A 10-Year Analysis

Eli Snyder University of Hawaii

Perspectives from Orthopaedic Sports Medicine Fellowship Program Directors and Applicants: Virtual Interviews are Not Adequate Replacements for In-Person Interviews

Grace Tanguilig Tulane University

Lower Extremity Injuries and Impact on Return to Play in Professional Soccer Players from 2018-2022

Marcela Trevino Kansas College of Osteopathic Medicine

Sports-Related Concussions in Women's Lacrosse: A 15-year Analysis of National Injury Data

Avanish Yendluri Icahn School of Medicine



SPORTS MEDICINE 2

MODERATED BY DR. JOSEPH BERNSTEIN & DR. ZACH HERMAN

The New Age Gladiator: ACL Allograft Reconstruction Has Low Revision Rates in Patients in Patients Over 40.

Branden Brooks University of California Davis

Sports-Related Concussions in High School and College Rugby Players: A 15-year Analysis of National Injury Trends

Rohit Chari University of Maryland

Return to Sport and Return to Previous Level of Play Rates Do Not Differ Significantly Between Primary Arthrodesis and Open Reduction and Internal Fixation for Lisfranc Injuries: A Systematic Review and Meta-Analysis

Matthew Feldman Tufts University

The Fastest Growing Sport in America: Injury Patterns in Pickleball between 2013 and 2022

Rishi Jain Brown University

Hip Arthroscopy in Patients with Lower Back Pain Shows Delayed Clinical Improvement and Inferior Survivorship: A Propensity Matched Study at Minimum 4.5-Year Follow-Up

Omair Kazi Rosalind Franklin University

Patients Undergoing Hip Arthroscopy with Either Periportal or Puncture Capsulotomy Demonstrate Favorable Outcomes: A Systematic Review

Trevan Klug Yale University

Public Perception of Ulnar Collateral Ligament Reconstruction

Gabriel Lane Meharry Medical College

Educational materials and Implications of Cutting Weight for Female and Male Wrestlers

Andrew Marten Loyola University Return to Play to Pre-Injury Level of Competitive Play after ACL Reconstruction in NCAA Division II and III Student-Athletes

Albert Mousad Tufts University

The Statistical Fragility of Arthroscopic
Partial Meniscectomy in the Management of
Meniscal Tears: A Systematic Review of
Randomized Controlled Trials

Katrina Nietsch Icahn School of Medicine

Semiautomated Patellar Tilt Calculation Utilizing Artificial Intelligence on Knee Imaging Landmarks

Nancy Park Yale University

Residual Patellar Tendon Defect Following ACL Reconstruction: Does it Correlate with Anterior Knee Symptoms?

Emily Pilc Eastern Virginia Medical School

Bridging the Gap: A Systematic Review of Bridge Enhanced Anterior Cruciate Ligament Repair

Kevin Posner Hackensack Meridian School of Medicine

Anterior Cruciate Ligament Hybrid Remnant Preservation Reconstruction Demonstrates Similar Outcomes as Traditional Reconstruction after 6 Months: A Randomized Control Trial

Brittaney Pratt George Washington University

Primary and Revision Hip Arthroscopy in Borderline Hip Dysplasia Show Comparable Functional Outcomes at Mid-Term Follow-Up

Michael Vogel Saint Louis University



SPORTS MEDICINE 3

MODERATED BY DR. ANTHONY JOHNSON & DR. KRISHNA VANGIPURAM-SURESH

How Do Prior Hip, Knee, and Ankle Injuries Affect Risk of Intra-seasonal Re-Injury in NBA Basketball? An Analysis of Ten-Years of Professional Basketball Player Data

Matthew Aceto University of Central Florida

Unilateral Double Bucket Handle Meniscus Tear in a Patient with a Chronic Partial Anterior Cruciate Ligament Tear

David Dallas-Orr Autonomous University of Guadalajara

Utilization of Point of Care Ultrasound for Anterior Cruciate Ligament Tear Diagnosis: A Systematic Review and Meta-Analysis Stephen Fucaloro Tufts University

Chondrolabral Junction Breakdown Predicts Inferior Functional Outcomes at Minimum Two Years after Hip Arthroscopy for Symptomatic Acetabular Labral Tears Stephen Gillinov Yale University

Outcomes of Secondary Osteochondral Allograft Transplantation After Failed Index Cartilage Surgery of the Knee: A Systematic Review and Meta-Analysis

Varun Gopinatth
St. Louis University

A Retrospective Observational Study of Ice-Skating Fractures in the United States from 2013-2022 Using the NEISS Database

Saumya Kapoor University of Central Florida

Auditing the Representation of Female Athletes in Sports Medicine Research: Rotator Cuff Repair

Peter Klug University of Kansas

"Connecting the Dots: Exploring the Interplay of Calcium, Delayed Onset Muscle Soreness, and the Myofascial System"

Charles J. Middleton Rowan-Virtua School of Osteopathic Medicine The Clinical Significance of Utilizing PASS
Thresholds when Administering IKDC and
KOOS Patient-Reported Outcomes Post
Anterior Cruciate Ligament Reconstruction
Julian Mobley
University of North Carolina

Implantation of the MLB Pitch Clock and its effect on Pitcher Injuries.

Nikhil Nair Case Western Reserve University

Suture Tape Augmentation of Posterior Cruciate Ligament Reconstruction Shows Improved Biomechanical Stability with Equivalent Complication Rates: A Scoping Review

Cooper Root University of Kansas

Distraction Related Complications after Hip Arthroscopy: A Systematic Review of Distraction Techniques

Anisha Tyagi Rutgers University

Review of Rehabilitation Protocols for Ulnar Collateral Ligament (UCL) Reconstruction in Throwing Athletes

Joseph Vyskocil Central Michigan University

Utilization of Ultrasound for Preoperative Autograft Assessment in Anterior Cruciate Ligament Reconstruction: A Systematic Review and Meta-Analysis

Mark Ward Tufts University

Epidemiology of Pickleball Injuries
Presenting to US Emergency Departments:
A 10-year Analysis of Mechanisms and
Trends

Jennifer Yu Icahn School of Medicine



TRAUMA 1

MODERATED BY DR. LISA CANNADA & DR. RACHEL RANSON

Increased Efficiency with Use of a Mini C Arm in Emergency Department Closed Reductions

Mara Bajic Medical College of Wisconsin

Impact of Cannabinoid Use on Post-Operative Outcomes for THA and ORIF After Femoral Neck Fractures

Alexander Fischbach Ohio University

Perioperative and Postoperative Outcomes in Single-Surgeon versus Dual-Surgeon Acetabular Fracture Cases

Austin Gartner University of Kansas

Poorly Controlled Diabetic Hip Fracture
Patients with Hemoglobin Alc >8.0 Should
Not Undergo Arthroplasty Due to High
Short and Long-term Mortality Risk

Christopher Herbosa Washington University

Return to Work Following Treatment of Humeral Shaft Fractures: Comparing Operative and Non-operative Management in a Manual Laborer Population

Norvin Hernandez Baylor University

Low Rate of Teriparatide Supplementation for the Treatment of Osteoporotic Pelvic Fractures in Elderly Females

Mary Grace Kelley New York Medical College

Time to Surgical Intervention for Ankle Fractures as a Factor in Perioperative and Prolonged Opioid Use

Samira Perez West Virginia School of Osteopathic Medicine Patients Receiving Regional Anesthesia for Intertrochanteric Fractures May Have a Lower Risk of Complications and Mortality: A Retrospective Cohort Study

Samer Mahmoud SUNY Downstate

Characterizing the Antimicrobial Profile of Silver Carboxylate in Methicillin-Resistant S. aureus MW2/VRSI – Derived Persister Cells Josue Marquez

Brown University

Postoperative Outcomes Following Pelvic Fracture Among Patients Suffering from Alcohol Use Disorder: A Large Insurance Database Study

Seema Patel University of Connecticut

Retention of subchondral rafting wires reduces tibial plateau fracture subsidence Daniel Rusu

Boston University

CT Scanner Patient Table Curvature May Conceal Occult Posterior Pelvic Ring Injury in LC3 and APC2 Patterns

Vivek Satish University of Southern California

Payer Status and Racial Disparities in Time to Surgery for Emergent Orthopaedic Procedures

Jessica Schmerler Johns Hopkins University

Short-Term Complication Rates of Open Reduction and Plate Fixation and Intramedullary Nailing in the Treatment of Humeral Shaft Fractures: A Propensity Score Matched Analysis

Sarah Whitaker Virginia Commonwealth University



TRAUMA 2

MODERATED BY DR. BRIANNA FRAM & DR. OLIVIA RICE

Optimizing Nutrition Prior to Surgery: Implementation in Orthopedic Trauma

Oluwatoyosi Akande University of Connecticut

The Impact of the COVID-19 Pandemic Lockdown on the Delayed Presentation of Trauma Patients in a Limited Resource Setting: A Retrospective Analysis

Gabriel Alemayehu Washington State University

Trauma Patients Who Underwent Vascular and Orthopedic Surgery: What are the Possible Red Flags?

Anne Boeckmann Texas Christian University

Increased Return to the Operating Room Following the Treatment of Associated versus Elementary Acetabular Fractures: A Matched Analysis of Short-Term Complications

Sarah Cole Virginia Commonwealth University

Utilization of a Dermal Substitute (Hyalomatrix) in Pediatric Upper Extremity Procedures

Taylor Cunningham University of South Carolina

Geriatric Hip Fractures: Do Vitamin D Levels Matter?

Ashton Davis University of Texas Medical Branch

Epidemiology and Trends of Upper Extremity Rugby Injuries Among High School and College-Age Players: A 15-year Analysis of National Injury Data

Zachary Gallate Icahn School of Medicine

Metabolic Bone Disease is Common in Fracture Patients Presenting After High Energy Trauma

Garrett Gordon University of Cincinnati Variations in Greater Trochanter Height as a Relation to Patient Demographics

Jordan Haber Ohio State University

Clinical Considerations with Magnetic Resonance Imaging in the Presence of a Knee-spanning External Fixator

Aaron Marcel Quinnipiac University

Is pelvic arterial angioembolization associated with an increased rate of post-operative infection in patients with an operatively treated pelvic fracture?

David May Tulane University

Do patients with pre-existing psychiatric diagnoses experience increased rates of post-operative complications following pelvic fracture surgery?

Phillip McKegg Midwestern University

The Characterization of Risk Factors Associated with Complications Following Intertrochanteric Hip Fractures Surgery

Andrew Pierce Herbert Wertheim College of Medicine

Complications of collared press-fit femoral stems versus cemented stems for femoral neck fractures

Raisa Rauf Boston University

Quality of Initial Reduction of Tibial Plafond Fractures as Predictors of Trauma Injury Outcome

Jennie-Ann Wilson Morehouse School of Medicine



END OF YEAR RECAP



DEIA

- Creation of the DEIA Committee
- Organization of our Inaugural DEIA Summit



Education

- Organization of:
 - o Inaugural Sub-I Summit
 - Inaugural Interview Prep Panel
- Creation of OrthoNavigator



Mentorship + Society

- Coordination of 2nd year of the MSOS Mentorship Program
- Growth to 5000+ Members
- Creation of Away Rotation
 Scholarships
- Attainment of the AAOS IDEA Grant



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