

April 23, 2023 9am-2pm EST

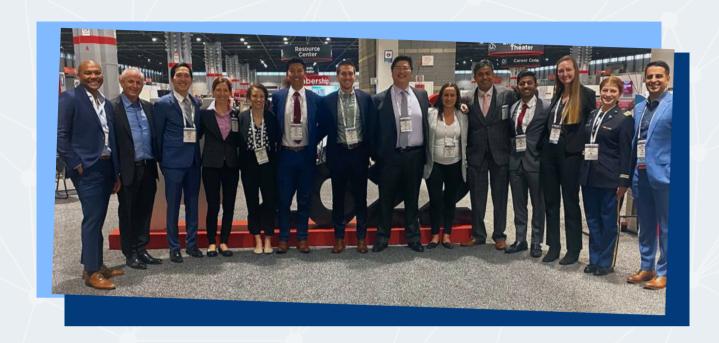
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# **ABOUT US**



Orthopedic surgery is one of the most competitive specialties to apply as a medical student. In Match 2023, 1,425 applicants applied for 899 orthopedic surgery residency spots, resulting in a 63.1% 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 mission of MSOS is to provide medical students equal access to resources to help them navigate the field of orthopedic surgery.



# WELCOME



Amil Agarwal President and Co-Founder

I am thrilled to welcome you to the second annual MSOS Symposium. The symposium committee, chairs, and advisors have worked diligently to prepare the best conference program for medical students.

Thank you to our sponsors for supporting us this year! Also, thank you to all the residents and faculty volunteers who have joined us today to help moderate the sessions.



Robert Sterling, MD Chair of Orthopaedic Surgery at George Washington University

Welcome to the Medical Student Orthopaedic Society 2023 Annual Virtual Symposium hosted by George Washington University. The MSOS Virtual Symposium is unlike any other meeting in the country – providing a forum specifically for medical students to present their research to peers and nationally renowned orthopaedic surgeons.

Building on the success of the inaugural MSOS Virtual Symposium, the leadership team has put together an outstanding program for you including research presentations, this year's program features a Program Directors Panel, a Panel on Tips to Match, and a Residents Panel. This year, there were more than 900 abstracts submitted with 5 award-winning presentations and 300 visual abstracts scheduled for this year's symposium from students representing more than 50 institutions. I look forward to seeing you all for this exceptional event.





# OUR SYMPOSIUM HOST





### Fast Facts about GW

- Located in the heart of Washington, DC
- 4 residents per class
- 4 rotation sites (GW, Washington Hospital Center, Sibley Memorial, Childrens National)



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# SYMPOSIUM AWARDS

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# CONFERENCE SCHEDULE

### Sunday, April 23, 2023: 9am-2:15pm EST

#### 9:00AM-9:15AM Opening Remarks

Amil Agarwal Robert Sterling, MD

#### 9:15AM-10:15AM Panel - Program Directors

Moderated by Amy Zhao
Tessa Balach, MD
George Dyer, MD
Albert Lin, MD
Sam Moghtaderi, MD
Ryan Rose, MD
Brian Scannell, MD

#### 10:15AM-11:15AM Award Winning Presentations

Moderated by Marc Swiontkowski, MD & Robert Sterling, MD

#### 11:15-12:00PM Panel - Tips to Match

Moderated by Brandon Gettleman
Christopher Bellaire
Ayobami Ogunsola, MD
Tiffany Smith
Clay Townsend, MD
Tyler Williamson
Sara Winfrey



#### 12:00-1:15PM Poster Presentations

#### 1:15-2:00PM Panel - Residents

Moderated by Alisa Malyavko, MS
Avilash Das, MD
Suzanne Kent, MD
Jody Law, MD
Danny Lee, MD
Tucker Peabody, DO
Kevin Wang, MD

2:00-2:15PM Closing Remarks and Awards

Lisa Cannada, MD





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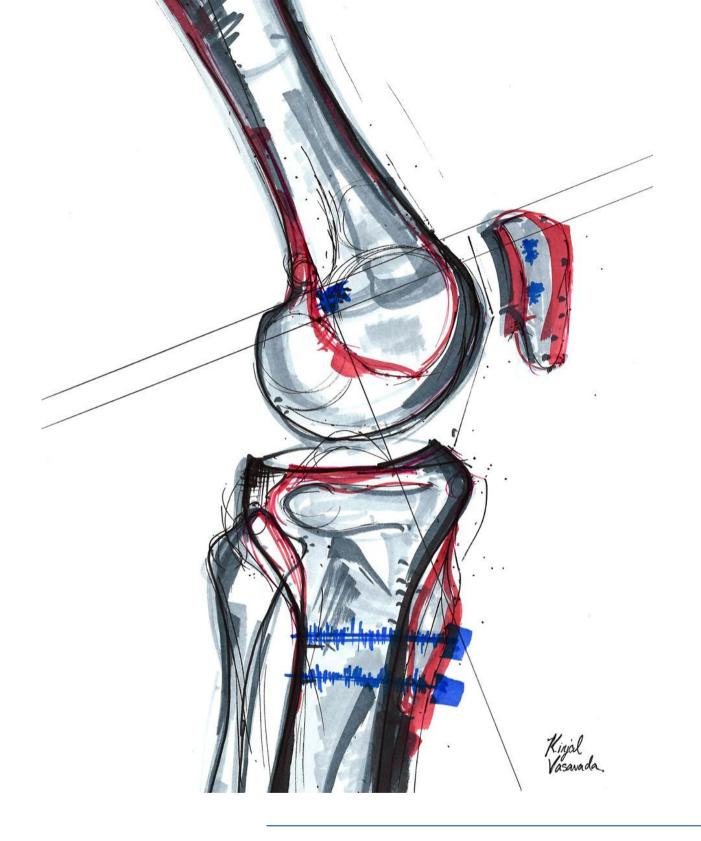
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# Non-infectious Variation of Knee Surface Temperature Following Total Knee Arthroplasty

PRESENTING AUTHOR: JAMISON WALKER, BS

Jamison Walker B.S., Brock Browning B.S., William Huff M.D.

Campbell University School of Osteopathic Medicine, Lillington, NC

Introduction: Increased pain, swelling, and surface temperature following total knee arthroplasty (TKA) can be sources of concern for patients and providers as potential indications of post-operative infection. Patients are commonly told to expect an elevated knee surface temperature following TKA. The research behind this principle is controversial, with seven previously performed studies reporting different results over the past 20 years. This study aims to evaluate the variation in knee surface temperature following an uncomplicated TKA and set a baseline of the normal inflammatory response following a non-complicated TKA.

Methods: In a retrospective case-control study, 39 patients who underwent uncomplicated TKA between 2017-2021 had operative and contralateral non-operative knee surface temperatures taken using a digital thermometer at three weeks, two months, and one year postoperatively. Inclusion criteria included patients attending all postoperative visits, having surface temperatures measured in both knees, and no complications following TKA. Paired t-test, repeated measures ANOVA, and a minimal clinically important difference (MCID) were calculated to determine statistical and clinical significance.

Results: Knee surface temperatures following TKA increased an average of 3.7 $\pm$ 1.6 °C (p<0.001), 3.4 $\pm$ 1.2 °C (p<0.001), and 1.2 $\pm$ 2.3 °C (p<0.002) after three weeks, two months and one year, respectively when compared to the non-operative knee. Repeated measure ANOVA of the operative knee noted a statistical significance between time periods (p<0.001) but no difference between subjects (p=0.26). The calculated MCID temperature was 1.4 °C

Conclusion: Following TKA, a patient's normal inflammatory response will result in an elevated knee surface temperature, between approximately 2-5°C, that can be felt by the patient. After a few months, this starts to decrease until around 1 year when temperatures fall into a range that will no longer be felt by most patients. By providing a set range of normal values, patients can record their knee temperature at home and be assured that, without other signs of infection, the increased temperature they are feeling falls within the normal range of what is expected after a TKA. This knowledge will help relieve both a psychological and financial burden to patients that would otherwise seek unnecessary care for a normal inflammatory response in their knee.



Surgical Technique for Glenoid Bone Defect in Revision Shoulder Arthroplasty: Distal Clavicle Excision and Grafting for 1-Stage Reverse Total Shoulder Prosthesis

#### PRESENTING AUTHOR: RYAN BIALASZEWKI, MS

Ryan Bialaszewski MS<sup>1</sup>, Ross Chapel MD<sup>2</sup>, Frank Gerold MD<sup>3</sup>

<sup>1</sup>University of Texas Rio Grande Valley School of Medicine, Edinburg, TX. <sup>2</sup>Rio Grande Bone and Joint, Rio Grande Regional Hospital, McAllen, TX. <sup>3</sup>University of Texas Rio Grande Valley, Department of Orthopedics and Sports Medicine, School of Medicine, Edinburg, TX

Introduction: Reverse shoulder arthroplasty (RSA) has expanded its indications and use in North America since the early 1990s. Because of this, the prevalence of revision reverse total shoulder arthroplasty cases has continued to rise. On occasion, the need for revision of RSA can be due to and is complicated by glenoid bone loss defects, making this one of the most challenging cases for arthroplasty surgeons to perform. Historically, iliac crest or tibial grafts are most commonly used for these defects, although this comes with the disadvantage of requiring two surgical sites to be prepped and draped. The purpose of this article is to present a 1-stage technique and demonstrate the viability of distal clavicle resection for autologous grafting of large central glenoid bone loss defects in revision total shoulder arthroplasty.

Case Presentation: Our patient was a 67-year-old female who presented with concerns of left shoulder pain and limited left upper extremity range of motion in the setting of prior total shoulder arthroplasty. Despite conservative management, her symptoms persisted, and her activities of daily living were severely limited. Computed tomography (CT) and magnetic resonance imaging (MRI) were obtained and significant for aseptic hardware loosening of the glenoid baseplate. The decision was made to perform a revision RSA with distal clavicle autologous grafting for the glenoid defect.

Conclusion: For revision total shoulder arthroplasty complicated by large glenoid bone loss defects requiring grafting, distal clavicle resection for autologous grafting appears to be a viable option. At two months post-operatively, our patient had adequate glenoid baseplate fixation and healing of her humeral tuberosities. Additionally, her pain had resolved, and the range of motion in the left upper extremity had significantly improved. Although these preliminary findings are promising, further clinical studies are needed to determine the long-term outcomes and utility of the distal clavicle graft in glenoid bone loss for revision shoulder arthroplasty.

**Keywords:** glenoid bone loss, glenoid defect, revision shoulder arthroplasty, bone graft, reverse total shoulder arthroplasty, distal clavicle



Why are we giving additional parenteral antibiotics to non-ambulatory cerebral palsy patients with isolated acute post-operative fevers following posterior spinal fusion?

PRESENTING AUTHOR: DANIEL RAFTIS, BS

Kenneth Shaw MD¹, Hilary Harris BS², Numera Sachwani Masters of Science², Nicholas Fletcher MD², Robert Bruce MD², Daniel Raftis BS³, Dennis Devito MD², Michael Schmitz MD², Jorge Fabregas MD², Joshua Murphy MD²

<sup>1</sup>Dwight D Eisenhower Army Medical Center. <sup>2</sup>Children's Healthcare of Atlanta. <sup>3</sup>The George Washington University School of Medicine and Health Sciences

Introduction: Children with neuromuscular scoliosis secondary to cerebral palsy (CP) are at a heightened risk for complications following surgical treatment. The purpose of this study is to evaluate post-operative fevers in non-ambulatory (GMFCS IV and V) CP patients after posterior spinal fusion (PSF) for scoliosis.

Methods: A retrospective review in a single-center was performed for children with non-ambulatory CP (GMFCS IV and V) undergoing PSF for scoliosis. Independent chart review was performed to characterize maximal temperatures recorded during the hospital stay. Postoperative fever was defined as temperature >38°C. Patient, surgical, and postoperative variables were collected including additional imaging studies, labs, antibiotics, and antibiotic related complications prescribed as result of a documented fever. Univariate and multivariate analyses were performed.

Results: 122 non-ambulatory (GMFCS IV and V) CP children were included in the study (82% GMFCS V, mean 14.3 years (+/- 3.4 years) at time of surgery). Post-operative fever was documented in 92 patients (75.4%) reaching a mean 38.5°C on post-operative day 1.67 (+/- 1.3 days). A fever resulted in 138 additional CBC panels, 88 chest radiographs, 47 CRP panels, 28 blood cultures, and 6 urine cultures. Of the added culture studies, 100% reported negative results. Twelve children were administered additional or new parental antibiotic therapy for a mean of 7 days after completion of peri-operative antibiotics. One patient sustained an acute renal injury from Vancomycin toxicity. GMFCS V patients experienced post-operative fevers at a higher rate than GMFCS IV patients (83.2% vs 61.9%, p=0.03). The presence of a post-operative fever resulted in longer length of hospital stay but not statistically significant (4.8 days vs 7.3 days, p=0.08). Readmission within 90 days of surgery occurred in 15.6%, at a mean 27.6 days and was statistically associated a pulmonary complication (47.4% vs 24.3%, P=0.039), which was independently predictive of readmission (odd's ratio 2.8, P=0.044).

Conclusion: GMFCS IV and V CP patients undergoing PSF have a 75% rate of developing fevers in the acute post-operative period. In the setting of an immediate post-operative fever in isolation, reflexive work-up and empiric antibiotics provide limited utility but can expose the patient to antibiotic related complications.



# Mark-Up Trends in Primary and Revision Total Joint Arthroplasty: A Medicare Analysis from 2014 to 2019

PRESENTING AUTHOR: ADAM RIZK, BA

Adam Rizk BA, Andrew Kim BA, Zachary Bernhard DO MBA, Andrew Moyal MD, Alexander Acuna MD, Christian Hecht BS, Atul Kamath MD

Cleveland Clinic Foundation, Cleveland, Ohio, USA

Introduction: Understanding mark-up ratios (MRs), the ratio between the provider's submitted charge and the Medicare payment received, for high-volume orthopaedic procedures is imperative to inform policy about price transparency and reducing surprise billing. For instance, a MR of 5 signifies that the provider submitted charge for a particular service was 5 times greater than the actual Medicare payment provided for that service (e.g., 400% excess charge). The aim of our study was to analyze the MRs for primary and revision total joint arthroplasty services to Medicare beneficiaries from 2013 to 2019. Additionally, we further examined MRs for these procedures across healthcare settings and geographic regions.

Methods: The Medicare Physicians and Other Practitioners dataset was queried for all TJA procedures performed by orthopaedic surgeons between 2013 to 2019, using HCPCS codes for the most frequently used TJA services. Yearly MRs, service counts, average provider submitted charges, average allowed payments, and average Medicare payments were analyzed. Trends in MRs were assessed between 2013-2019.

Results: Our analysis evaluated 15 TJA HCPCS codes, averaging 449,541 procedures a year provided by a mean of 8,070 surgeons. Median (IQR) MRs in 2019 ranged from 3.83 (3.19-4.86) to 5.06 (3.22-7.43) for primary hip procedures, and they ranged from 3.79 (3.04-4.77) to 6.10 (5.36-6.84) for revision hip procedures(Table 1). For knee arthroplasty procedures, a decrease was noted for HCPCS code 27438 over the study period (8.30 to 6.62; p=0.016), and HCPCS code 27447 had the highest median (IQR) MR ratio (4.73 (3.64 to 6.30)). For revision knee procedures, the highest median (IQR) MR was for HCPCS code 27488 (6.12 (3.83-8.22))(Table 2). The median MRs of Wisconsin were >9 for primary and revision TJA procedures

Conclusion: The MRs for primary and revision TJA procedures were strikingly high, representing high levels of excess charges billed, which may pose serious financial burdens to patients. These findings encourage continued efforts in implementing strategies to lower MRs and reduce surprise billing such as adjusting Medicare's algorithm to determine work relative value units, cost containment with implant selection, and setting values for the maximally allowed MR per procedure nationwide.



#### Differences in Joint Space Width During Hip Arthroscopy Predict Conversion to THA

#### PRESENTING AUTHOR: ZACHARY LAPORTE, BA

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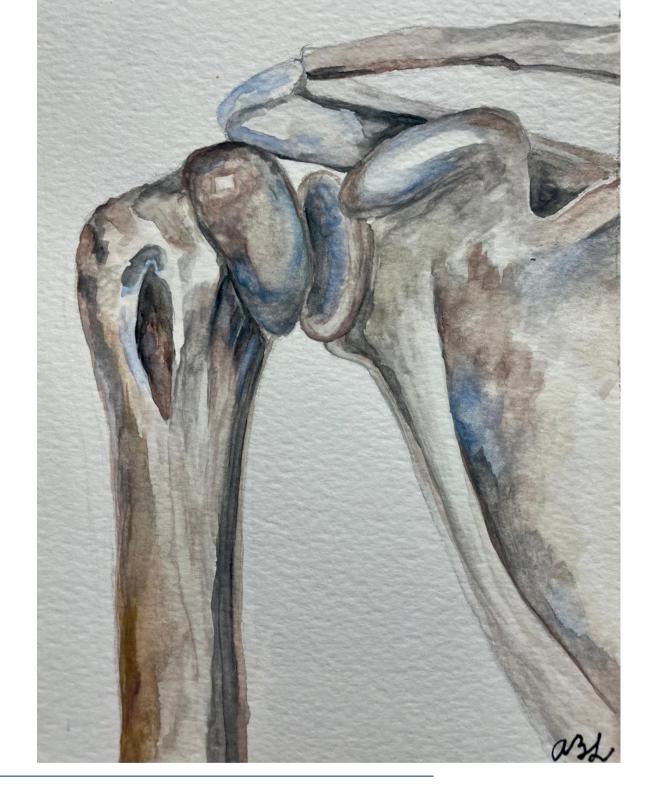
Introduction: Reduced joint space at the time of joint-preserving hip arthroscopy has been shown to be correlated with higher rates of eventual conversion to total hip arthroplasty (THA). This study sought to determine if differences in joint space width (JSW) between the operative and non-operative hip predicted the likelihood of conversion to THA following hip arthroscopy.

Methods: A retrospective review identified 105 patients undergoing arthroscopic labral repair by a single-surgeon with a minimum of 5-year follow-up. Patients were stratified into cohorts based on whether they received a subsequent THA. Preoperative, anteroposterior pelvic radiographs were obtained for each patient and semi-automated, quantitative JSW measurements were performed at 3 fixed locations per hip by an independent, blinded assessor. Differences in JSW at each prefixed angle were calculated by subtracting the width of each patient's operative hip from that of their non-operative hip. Baseline and intraoperative variables were analyzed using chi-square, Fisher exact, Student t, or Mann-Whitney U tests as appropriate, followed by adjusted, multivariable logistic regression to determine independent predictors of conversion to THA.

Results: THA patients were found to have higher mean [SD] age 41.8 [13.4; p=0.003], BMI 29.3 [4.2; p<0.001], Tönnis grade (p<0.001), Outerbridge grade (p=0.002) and higher percentage of males (p=0.014). THA patients were also found to have a significantly greater difference in JSW at 30° (0.566 ± 0.883mm versus 0.038 ± 0.499mm, p=0.035). When adjusting for covariates, the difference in JSW at 30° was correlated with an increased likelihood of conversion to THA (Adjusted Odds Ratio [AOR]: 4.00; 95% Confidence Interval [CI]: 1.06 to 15.13; p =0.041). Finally, adjusted analysis controlling for differences in JSW at all predefined angles found that narrowing at 30° was significantly associated with increased odds of conversion ([AOR]: 3.88; [CI]: 1.06 to 14.22; p=0.041), while 10° (p=0.630) and 50° (p=0.995) were not.

Conclusion: To best educate patients on the risk of THA following hip arthroscopy, identifying objective predictors of early failure is imperative during preoperative evaluation. This study identified that differences in JSW at 30° were significantly associated with increased risk of conversion after controlling for demographic and intraoperative factors.





# LUNCHTIME PANEL TIPS TO MATCH



# TIPS TO MATCH PANEL

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# POSTERS



# **BASIC SCIENCE**

#### MODERATED BY DRS. RACHEL THOMPSON, STEVEN GARCIA & MICHAEL DAVIES

Synovium production of kynurenine in arthritic knee joints: implications for treating comorbid pain and depression in osteoarthritis
Kian Bagheri
Campbell University School of Osteopathic

Medicine

The Future of Bone Regeneration: Histological Analysis of Biomimetic Composite Scaffolds in a Rat Model Robert Childers University of Arizona College of Medicine Tucson

Applying Cyclical Loading Parameters for In-Vitro Neo-Tendon Development Kylee Darden Indiana University School of Medicine

Mitigation of I/R Injury with Inhibition of PKC Beta-II/p66Shc Pathway in Murine Myoblasts Maria De los Santos Noorda College of Osteopathic Medicine

Conditional Deletion of MUSTN1 Results in Skeletal Muscle Functional Deficits Kevin DiMagno New York Institute of Technology College of Osteopathic Medicine

Mapping cartilage, synovium, and subchondral bone pathology in murine knees across perimenopause and menopause Gabrielle Gilmer University of Pittsburgh

Bacterial peptidoglycan in synovial tissue at time of TKA is associated with inflammatory synovitis and younger patient age Meaghan Holub Central Michigan University College of Medicine The Response of Human Osteoblasts to Biaxial Biomimetic Patterns of Load Megan Irby University of Arizona College of Medicine Tucson

Dalbavancin is Thermally Stable in Clinically Relevant In Vitro Polymethylmethacrylate Bone Cement Models Against Methicillin-Sensitive Staphylococcus Aureus Patrick Lawler Loyola University Chicago Stritch School of Medicine

A preliminary investigation of the role of DNA methylation in the characterization of pain scores in patients with chronic lower back pain Roosha Mandal University of Illinois College of Medicine

The Potential of Suspended Chitosan Nanoparticles as a Surgical Irrigation Fluid Analisa Narro McGovern Medical School at University of Texas Health Houston

The Comparative Effect of Opioid and NSAID Administration on Spinal Fusion: A Rodent Model Goutham Yalla Sidney Kimmel Medical College at Thomas Jefferson University



# DIVERSITY, EQUITY, AND INCLUSION (DEI) MODERATED BY DRS. DAWN LAPORTE & XI CHEN

A 5-Year update and Comparison of Factors Related to the Sex Diversity of Orthopaedic Residency Programs in the United States Malini Anand Vanderbilt University School of Medicine

Academic, Leadership, and Demographic Characteristics of Orthopaedic Arthroplasty Leadership in the United States Maksym Bartashevskyy Boston University Chobanian & Avedisian School of Medicine

Women in Orthopedics: An Assessment of Medical Student Percepti Kaitlin Burge University of Alabama at Birmingham Heersink School of Medicine

Systematic Review of the Impact of Mentoring on Academic Career Success in Surgical Subspecialties Madeline Case Tulane University School of Medicine

Publication and Career Trends of Ruth Jackson Orthopedic Society Grant Winners Over the Past Decade Natalia Czerwonka New York Medical College

Orthopaedic Surgery Mentorship Can Help Increase Diversity of Residency Applicants: A Multivariable Analysis Jared Easterling UT Health San Antonio Long School of Medicine

Trends in Female Authorship in Orthopaedic Literature from 2002 to 2021. An Analysis of 168,451 Authors Yasmine Ghattas UCF College of Medicine Racial Disparities in Arthroscopic Rotator Cuff Repair Jacob Linker *Geisinger Commonwealth School of Medicine* 

Social Determinants of Health: Upper Extremity Fractures Olivia Lodise Emory School of Medicine

Loss to Follow-up in Adult vs Pediatric Orthopaedic Conditions: a Scoping Review Nathaniel Loyd Baylor College of Medicine

Racial and Ethnic Utilization Differences in Navigated Total Knee Arthroplasty: Examining Overall Utilization and Length of Stay Sasha Narain The George Washington University School of Medicine and Health Sciences

Impact of Social Determinants of Health on Rotator Cuff Repair Alexandra Nigro Eastern Virginia Medical School

Orthopaedic Surgery DEI Research: Who is Pioneering the Authorship of these Articles? Desiree Ojo University of Incarnate Word School of Osteopathic Medicine

Diversity Related Positions in Orthopaedic Residency Programs Preston Terle Tulane University School of Medicine

The Impact of Investigators' Sex on Reporting and Analyzing Sex in the Orthopaedic Sports Medicine Literature: A Systematic Review Jordan Windsor Hackensack Meridian School of Medicine



## FOOT AND ANKLE 1

#### MODERATED BY DRS. MARC CHODOS & PATRICK CONNORS

Impact of Diabetes on Postoperative Outcomes of Syndesmotic Fixation: An ACS NSQIP Analysis 2008-2016 Luanna Chan SUNY Downstate Health Sciences University

Polyvinyl Alcohol Hydrogel Hemiarthroplasty of First Metatarsophalangeal Joint Hallux Rigidus: Single Surgeon 5-Year Experience Aman Chopra Georgetown University School of Medicine

Biomechanical Comparison of Nitinol Compression Staples Versus Fully Threaded Lag Screws for Talonavicular Arthrodesis Ashwin Garlapaty University of Missouri Columbia

Weight Changes After Ankle Fracture Garrett Gordon University of Cincinnati College of Medicine

Direct Comparisons of the Primary Surgical Corrections of Pediatric Clubfoot in Cerebral Palsy Aedan Hanna New Jersey Medical School

Sex Differences in Biomechanical Properties of the Achilles Tendon May Predispose Men to Higher Risk of Injury Hayden Hartman Lincoln Memorial University - DeBusk College of Osteopathic Medicine

Achilles Tendon Rupture Treated with Open Versus Percutaneous Repair: A Narrative Review Anderson Lee University of Toledo College of Medicine and Life Sciences

A Case Series Evaluating Complications of Foot and Ankle Surgeries in Adult Patients with Neuromuscular Disease Joshua Levine University of Minnesota Degenerated extensor hallucis brevisaccessorius: A case report Mahant Malempati Tulane University School of Medicine

Risk of All-Cause Mortality Elevated Among Charcot Neuroarthropathy Patients Undergoing Below The Knee Amputation Relative To Those Undergoing Other Operative Interventions Kirsten Mansfield Pennsylvania State University College of Medicine

Longer Operative Time Increases the Risk of a Prolonged Length of Stay Following Primary Total Ankle Arthroplasty Apoorva Mehta Columbia University Vagelos College of Physicians and Surgeons

How Does Alcohol Use Disorder Impact Morbidity, Readmission Rates, and HealthCare Expenditures Following Open Reduction and Internal Fixation of Bimalleolar Fractures? Arie Monas SUNY Downstate College of Medicine

Metabolic Syndrome Increases Risk of Readmission and Complications in Operative Fixation of Pilon Fractures: Results from the ACS-NSQIP Database Zach Panton Geisel School of Medicine at Dartmouth

The Fragility of Statistical Findings in Calcaneus Fractures: A Systematic Review of Randomized Controlled Trials Sulabh Singhal Drexel University College of Medicine



## FOOT AND ANKLE 2

#### MODERATED BY DRS. ADAM BITTERMAN & CANON CORNELIUS

A Systematic Review analyzing Re-rupture Rates After Achilles Tendon Repair in Geriatric Populations

Daniel Acevedo Nova Southeastern University Dr. Kiran C. Patel College of Allopathic Medicine

Are body mass Index (BMI) cutoffs creating racial, ethnic, gender, or age disparities in patient eligibility for total ankle arthorplasty? Myra Chao

Emory University School of Medicine

Tranexamic acid in foot and ankle surgery: A systematic review and meta-analysis Nicholas Dombrowski Kansas University School of Medicine

Who Gets What? Demographics of Patients with Charcot Neuroarthropathy Who Undergo Below-the-knee Amputation, Arthrodesis, or Exostectomy Kelly Dopke Pennsylvania State College of Medicine

Association of radiographic alignment, degree of ankle instability, concomitant pathology, and VAS pain scores after the Broström-Gould procedure for chronic ankle instability Lauren Ellis Medical College of Georgia

Diagnosis of Lisfranc Instability using 3D Measurements in Weightbearing Computed Tomography Imaging Alexandra Flaherty University of Texas Medical Branch

Racial Disparities in the Utilization of Lateral Ankle Ligament Reconstruction for Chronic Ankle Instability in the United States Britanny Hamama Central Michigan University College of Medicine

Comparison of Patient Demographics and Risks of Readmissions Following Open Reduction and Internal Fixation for Bimalleolar Ankle Fractures Julian Hylton Morehouse School of Medicine Complications and Radiographic Outcomes of Operatively Treated Navicular Fractures Thomas Johnston Medical College of Georgia

A Team Approach to Limb Salvage in a Patient with a Charcot Ankle Fracture: A Case Report Thea Lance

Total Ankle Arthroplasty for Posttraumatic Fracture versus Primary Osteoarthritis: An Analysis of Complications, Revisions, and Prosthesis Survival Mark Megerian

Wake Forest School of Medicine

Case Western Reserve University School of Medicine

Bilateral Anomalous Insertions of Fibularis Brevis: A Case Report Daniel Navid Texas College of Osteopathic Medicine

"Do all bunions need surgery?" An Investigation of Google Searches for Hallux Valgus Cole Phelps Oklahoma State University College of Osteopathic Medicine

Assessing Clinical Outcomes of Immediate Surgical versus Delayed Surgical Management of Trimalleolar Fractures in a Rural Setting Mackenzie Pargeon and Brandon Welborn Edward Via College of Osteopathic Medicine

Racial, Socioeconomic, and Payer Status Disparities in Utilization of Total Ankle Arthroplasty Compared with Ankle Arthrodesis Jessica Schmerler Johns Hopkins University School of Medicine



## HAND AND WRIST

#### MODERATED BY DRS. DANIEL LONDON & ANOOP GALIVANCHE

Effect of ultrasound-guided versus landmark-guided local corticosteroid injection for carpal tunnel syndrome: a systematic review and meta-analysis Jawaher Alsharif KSAU-HS

Development and Validation of a Novel Decision Aid for WALANT Hand Surgeries: Investigating Patient Preferences Shreya Balusu Wayne State University School of Medicine

Appropriateness of Self-Scheduled Office Visits in Outpatient Hand Surgery Jack Carfagno Philadelphia College of Osteopathic Medicine

Outcomes Following Surgical Denervation of the Thumb Carpometacarpal Joint for CMC Arthritis

Ryan Dopirak The Ohio State University College of Medicine

Intraoperative Assessment of Volar Lunate Facet Instability Associated with Distal Radius Fractures: The Teardrop Escape Test Arpam Dutta UNTHSC Texas College of Osteopathic Medicine

Impact of End Stage Renal Disease on Postoperative Outcomes of Upper Extremity Amputations: A Propensity Score-Matched Analysis Dario Fucich

SUNY Downstate Health Sciences University

The Fragility of Statistical Significance in Carpal Tunnel Syndrome: A Systematic Review of Randomized Controlled Trials Michael Megafu A.T. Still University Kirksville College of

Creation of a Thumb-Driven 3D Printed Prosthetic Hand: The Importance of Biomedical Innovations in Healthcare Osvaldo E. Rivera-Valentin San Juan Bautista School of Medicine Comparing Rates of Union Between Implant Brands and Osteotomy Methods in Patients Undergoing Ulnar Shortening Osteotomy Yashas Reddy Sidney Kimmel Medical College at Thomas Jefferson University

Surgical Management of Swan Neck Deformity From Chronic Mallet Finger: A Review of 25 Patients Over 20 Years. Matthew Rode Mayo Clinic Alix School of Medicine

Middle Finger Tenolysis Using WALANT Surgical Technique in a Pediatric Patient: A Case Report Raul Roura Rovira University of Puerto Rico School of Medicine

The Optimal Treatment for Distal Radius Fractures in the Elderly: A Systemic Review and Network Meta-analysis Oscar Shen Harvard Medical School

Antibiotic Prophylaxis in Soft Tissue Hand Procedures: Adherence to Practice Guidelines and Efficacy in Preventing Surgical Site Infections Robert Steinberg New York Institute of Technology College of Osteopathic Medicine

Location of distal PQ repair in distal radius fractures: A cadaveric biomechanical study Brendan Stewart UConn School of Medicine

Radial Styloid Approach Open Reduction and Internal Fixation for Complex Distal Radius Fractures Kaihui Zhu Washington State University Elson S. Floyd College of Medicine



Osteopathic Medicine

# HIP AND KNEE RECONSTRUCTION 1

#### MODERATED BY DRS. SAVYASACHI THAKKAR & JOSEF JOLISSAINT

Iron Deficiency Anemia Is Associated with Adverse Postoperative Outcomes Following Primary Total Knee Arthroplasty: Minimum 2-Year Follow-Up Joydeep Baidya SUNY Downstate Health Sciences University

Effect of Posterior Tibial Slope on Weight Bearing Range of Motion and Axial Rotation after Bicruciate-Retaining Total Knee Arthroplasty

Sawyer Bauer

University of Nevada, Reno School of Medicine

Validating The Use of 3-Dimensional Biplanar Radiography vs Computed Tomography When Measuring Femoral Anteversion After Total Hip Arthroplasty-A Comparative Study Zachary Brilliant

University of Maryland School of Medicine

Can you Pay your way to Readership? Free to Publish Open Access Formats Receive Greater Readership and Citations than Paid Open Access Formats in Total Knee Arthroplasty Literature

Timothy Buchanan University of Florida College of Medicine

The Impact of Ventricular Septal Defect on Outcomes and Complications Following Total Hip Arthroplasty: A Propensity Scored-Match Analysis

Shirley Chen

SUNY Downstate Health Sciences University

Atrial Septal Defect Increases Chances of Post-Operative Complications for Total Knee Arthroplasty

Benjamin Davelman

SUNY Downstate Health Sciences University

Six Well-Regarded Postoperative Radiographic Alignment Parameters Do Not Predict Clinical Outcome Scores After Unrestricted Kinematically Aligned TKA Anand Dhaliwal California Northstate University Better Outcomes with Medial-Stabilized vs Single-Radius Total Knee Arthroplasty with Kinematic Alignment: Two-Year Clinical Results Brett Jones

Brett Jones Elson S. Floyd College of Medicine

Comparison of Patient Reported Outcome Measures (PROMs) Against Mobile Device Physical Activity Data: A Prospective Cohort Study of 140 Primary Total Joint Arthroplasty Patients

Ankur Khanna LSUHSC School of Medicine

Predicting Outcomes in Two-Stage Exchange Arthroplasty for PJI: A Retrospective Review of Neutrophil-to-Lymphocyte Ratio and Creactive Protein

Dominic Lombardo West Virginia University School of Medicine

Intra-articular Injections of Mesenchymal Stem Cells for the Treatment of Knee Osteoarthritis: A Literature Review Jimmy Nguyen Mercer University School of Medicine

The Impact and Durability of Opioid Restrictive State Legislation for Total Knee Arthroplasty Kevin Salomon

University of South Florida Morsani College of Medicine

Does Powered Femoral Broaching Compromise Patient Safety in Total Hip Arthroplasty? Alexander Strait Georgetown University School of Medicine

Surgical Training and Dislocation after Total Hip Arthroplasty: Examining a Proficiency-Related Complication Jacob Tadje

University of Washington School of Medicine

Risk Factors associated with Osseointegrated Tibial Implant Removal in Adults Tristen Taylor Baylor College of Medicine



# HIP AND KNEE RECONSTRUCTION 2

#### MODERATED BY DRS. LEE ERIC RUBIN & MITCHELL HALLMAN

Similar Incidence of Postoperative Sciatic Nerve Palsy in Anterior and Posterior Total Hip Arthroplasty

Gloria Coden

Zucker School of Medicine at Hofstra/Northwell

Robotic-Assisted Arthroplasty with the Mako Surgical System: Rates of Adverse Events in the United States Food and Drug Administration Manufacturer and User Facility Device Experience database Joseph Costello University of Miami Miller School of Medicine

Urgent care visits sought after primary total hip arthroplasty: A potentially overlooked resource Meera Dhodapkar Yale University

A Comparison of Revision Rates Among Patients Undergoing One-Component TKA Revision and Two-Component TKA Revision Outcomes, Survivorship, and Complications Alexander Dobek The George Washington University School of Medicine and Health Sciences

Does Preoperative Frailty Index Screening Predict Postoperative Outcomes in Geriatric Total Knee and Hip Arthroplasty Patients? Daniel Gabriel Harvard Medical School

Effects of Clinically Diagnosed Psychiatric Illness on Total Joint Arthroplasty: A Systematic Review Evaluating Complications, Readmission, Healthcare Utilization and Disposition, and Patient Reported Christian Hecht

Christian Hecht Case Western Reserve University School of Medicine

Thromboprophylaxis in Patients Admitted to Inpatient Rehabilitation and Skilled Nursing Facilities Post Total Joint Arthroplasty Tiffany Ho Virginia Commonwealth University School of Medicine A Novel Modified Frailty Index Predicts Complication and Readmission following Revision Total Hip Arthroplasty Armando Martinez Baylor College of Medicine

Results of Limb Salvage: Gastrocnemius Muscle Flap for Complex Periprosthetic Knee Joint Infections: A Retrospective Case Series Rob Nayfa University of Oklahoma College of Medicine

Effects of Implantation Method on Biomechanical Alignment After Total Knee Arthroplasty: Data From A Southwest Ohio Orthopaedic Practice Michael Nichols University of Kentucky

Crohn's Disease Is Associated With Higher Rates of Implant-Related Complications Following Primary Total Knee Arthroplasty Radha Pandya SUNY Downstate Health Sciences University

Effect of Postoperative Thromboprophylaxis after Total Knee Arthroplasty: Likelihood of Arthrofibrosis in Patients on Aspirin and non-Aspirin Blood Thinners Nihir Parikh Wake Forest School of Medicine

A Retrospective Review of Hip Hemiarthroplasty Outcomes: Cemented Versus Uncemented Eric Pinkston University of Arizona College of Medicine Phoenix

Hip Resurfacing in the Setting of Retained Proximal Femoral Instrumentation or Complex Deformity Renee Ren Icahn School of Medicine at Mount Singi

Elevated Skin Surface Temperature Associated with Decreased Range of Motion After Total Knee Arthroplasty, A Prospective Study Ethan Taira

University of Illinois Chicago College of Medicine



# HIP AND KNEE RECONSTRUCTION 3

#### MODERATED BY DRS. GREGORY GOLLADAY & ROWN PAROLA

Effect of Erythropoietin on Perioperative Blood Transfusions in Primary Total Hip Arthroplasty: A Systematic Review David Abram Touro University Nevada College of Osteopathic Medicine

Unicompartmental Knee Arthroplasty is Cost Effective in an Outpatient Setting Nick Cozzarelli Hackensack Meridian School of Medicine

Success of Same Day Discharge for Total Joint Arthroplasty in an Ambulatory Surgical Center vs. Hospital Setting Miranda Czymek Rowan-Virtua SOM

The Impact of Prior Colectomy on Outcomes and Complications Following Total Hip Arthroplasty: A Propensity Scored-Match Analysis Md Fahim SUNY Downstate Health Sciences University

Weekend versus Weekday Procedures for Total Hip Arthroplasties (THA) Albert Han Baylor College of Medicine

One-year Complications in Osteonecrosis Patients Following Total Knee Arthroplasty: A Propensity-Matched Cohort Study Amir Karimi Case Western Reserve University School of Medicine

Outcomes of Concomitant Hip Arthroscopy and Periacetabular Osteotomy: a Systematic Review Michael Lee Medical College of Wisconsin

Radiographic and Patient Reported Outcomes in Total Knee Arthroplasty Utilizing a Novel Robotic Arm George Li Texas A&M School of Medicine Iron Deficiency in Primary Total Hip Arthroplasty Patients is Associated with Increased Rates of Postoperative Outcomes Paul Mastrokostas SUNY Downstate Health Sciences University

Cementless Metal-Backed Patellar Components in Primary TKA: An Average 10-Year Follow-Up Arun Nadar University of Louisville School of Medicine

The Cost-Effectiveness of Extended Oral Antibiotics in Preventing Periprosthetic Joint Infection following Aseptic Revision Total Joint Arthroplasty: A Break-Even Analysis Zach Pearson Johns Hopkins University School of Medicine

The Impacts of Kidney Functionality on Outcomes and Complications Following Total Hip Arthroplasty with Minimum 2-Year Surveillance Tanveer Singh SUNY Downstate Health Sciences University

The Relationship Between Hip Pain, Obesity, and Metabolic Syndrome Semran Thamer
Dartmouth Geisel School of Medicine

Total Hip Arthroplasty in Nonagenarians - a national in-patient sample-based study of perioperative complications Nikit Venishetty Paul L. Foster School of Medicine

The Association of Congestive Heart Failure on In-Hospital Lengths of Stay, Morbidity, and Financial Burden Following Primary Total Knee Arthroplasty Tatyana Young Morehouse School of Medicine



# MEDICAL EDUCATION MODERATED BY DRS. CARA CIPRIANO & KATHERINE DREXELIUS

Analysis of Research Productivity of Accepted Orthopedic Surgery Residency Applicants Bolatito Adeyeri Baylor College of Medicine

Can We All Agree? Predictors for High-Performance in Orthopaedic Surgery Residency Taylor Bradley University of Kentucky College of Medicine

Anki Usage and Perceived Efficacy Amongst LMU-DCOM Students Kyra Drobny Lincoln Memorial University DeBusk College of Osteopathic Medicine

Patient Preferences of Social Media Content by Sports Medicine Surgeons Christina Freiberger Tulane University School of Medicine

First-Year Medical Student Perspectives on Near-Peer Teaching of the Musculoskeletal (MSK) Examination Ethan Izu California University of Science and Medicine

Resident Involvement in Shoulder Stabilization Surgery is Not Associated with Increased Post-Operative Complications John Jovan Quinnipiac University

Orthopaedic Surgery Residency Applicant Trends from 2014 to 2021 Saijayanth Mosalakanti Tulane University School of Medicine

Accessibility of Global Health Information on Orthopedic Surgery Residency Program Websites: A Descriptive Analysis Logan Norris UAB Heersink School of Medicine Applicant Characteristics Influencing the Orthopaedic Surgery Residency Match Results from 2016-2022 Daniel O'Connell University of North Carolina School of Medicine

Program Director Survey Determining Effects of Single Accreditation and Pass/Fail Licensing Exams on Osteopathic Medical Students Applying for Surgical Residency Olivia Panchal Texas College of Osteopathic Medicine

Awareness of Hypermobility across Orthopaedic and Non-Orthopaedic Specialties using a Novel Model of Assessment Chris Papatheofanis Kansas City University of Medicine and Biosciences

Virtual Reality is an Effective Tool for Orthopaedic Surgery Trainees Learning Techniques in Arthroplasty: A Systematic Review Nicholas Pettinelli Kansas City University

Case series: What are they and how can you stop selling yourself short by mislabeling your study as one?
Chloe Savino
Tufts University School of Medicine

A Curricular Model for Simulation Within Orthopaedic Residency Training Robert Unger Oregon Health & Science University

Operating Through the Pain: Systematic Review and Meta-Analysis of Musculoskeletal Pain and Injury Epidemiology Among Orthopedic Surgeons and Trainees Nikhil Vasireddi Case Western Reserve University School of Medicine



### ONCOLOGY

#### MODERATED BY DRS. LAUREN WESSEL & SUZANNE KENT

Benign Neurofibroma/Schwannoma Hybrid Peripheral Nerve Sheath Tumor of the Ulnar Nerve Harboring a Metastatic Papillary Thyroid Carcinoma Deposit: A Case Report of Tumor-to-Tumor Metastasis Juan Colazo Vanderbilt University School of Medicine

Risk Factors for Recurrence of Upper Extremity Desmoid Tumors Hayley Denwood Boston University School of Medicine

Race-based differences in time to treatment initiation and assessment of survival outcomes in children with primary bone sarcoma

Alexander Didier University of Toledo College of Medicine and Life Sciences

Smaller Sarcomas at Higher Risk for Positive Surgical Margins: A Paradox of Prognostic Factors

Aaron Diederich University of Kansas School of Medicine

Primary Site and Survival in Pediatric Osteosarcoma: An NCDB Analysis Vincent Eaton Creighton University School of Medicine

Pathological Fractures in Patients with an Osteosarcoma: An analysis of 163 patients treated at our institution
Marcos R. Gonzalez
Harvard Medical School

Mental Health Disorders and Surgical Outcomes in Patients with Bone and Soft Tissue Sarcoma Caroline Gutowski Cooper Medical School of Rowan University

Bone-targeted combination therapy decreases tumor progression and restores bone mass by increasing bone formation in mice with established multiple myeloma Jillian Hackney New York Institute of Technology College of Osteopathic Medicine Efficacy and Risk of Osteonecrosis of the Jaw for Pamidronate, Zoledronic Acid, and Denosumab in Comparison to Alendronate in Multiple Myeloma Patients Nora Harmouch University of Texas Medical Branch

Leukocyte Cytosolic Protein 1 Increases the Metastatic Potential of Chondrosarcoma by the Promotion of Cell Invasion Alexandra Krez Duke University School of Medicine

Comparison of Post-Operative Outcomes Between Carbon Fiber with Reinforced Polyetheretherketone (CFR-PEEK) Nailing vs. Traditional Nailing for Femoral Tumor Resection Ryan Paul Hackensack Meridian School of Medicine

Adjunct Role for Ki-67 Index in Ambiguous Cartilage Tumor Grade Evaluation: A Pilot Study Benjamin Sanders Cooper Medical School of Rowan University

Comparing the Cost-Effectiveness in Treatment of Impending and Pathologic Fractures of the Long Bones: A Propensity-Score Matched Study Michelle Shimizu Loyola University Chicago Stritch School of Medicine

Comparing Surgical Subtypes for Osteosarcoma: A SEER Database Analysis Connor Tupper Creighton University School of Medicine

Does Perioperative Radiation affect Implant Survivorship of Primary Total Hip Arthroplasty in the setting of Metastatic Bone Disease? Gayathri Vijayakumar Drexel University College of Medicine



## **PEDIATRICS**

#### MODERATED BY DRS. SEAN TABAIE & JOSH TADLOCK

The Effect of Socioeconomic Deprivation on Radiographic Deformities in Children with Blount Disease

Greg Benes

Louisiana State University School of Medicine New Orleans

Pediatric Compliance of Lower Extremity Weight-Bearing Restrictions Following Injury Alexandria Case

Michigan State University College of Human Medicine

Area Deprivation Index and Age at Presentation to a Tertiary Referral Pediatric Orthopaedic Clinic in Massachusetts Alexis Gonzalez

Tufts University School of Medicine

Treatment of Idiopathic Clubfoot Using Botulinum Toxin Type A Injection: A Scoping Review Isabel Herzog New Jersey Medical School

A Prospective, Multicenter Study of Developmental Dysplasia of the Hip: What Can Patients Expect After Open Reduction? Sara Kiani Icahn School of Medicine at Mount Sinai

Half-Pin Breakage in Multiplanar External Fixators used for Pediatric Deformity Correction
Tiffany Lee

Baylor College of Medicine

Impact of Preoperative and Demographic Risk Factors on Reoperation and Readmission on Slipped Capital Femoral Epiphysis Patients: A NSQIP-Pediatric Analysis between 2012 and 2016

Anna Lieberman SUNY Downstate Health Sciences University

Pathologic Vertebral Compression Fractures in Children: a Retrospective Review Beatrice Morrow Baylor College of Medicine Outcomes of Posterior Spinal Fusion in Rett Syndrome Luke Nordstrom Baylor College of Medicine

Arthrogryposis is Associated with an Increased Risk of Avascular Necrosis after Open Hip Reduction Nihar Pathare Baylor College of Medicine

Retrospective Review of 80 Patients with Chronic Recurrent Osteomyelitis Evaluated by Pediatric Orthopedic Surgeons Caitlin Perez-Stable Baylor College of Medicine

Does Axle Position Relative to the Shoulder Impact Biomechanics in Pediatric and Young Adult Manual Wheelchair Users with SCI? Ben Tietz

Chicago College of Osteopathic Medicine

Fate of Acetabular Dysplasia after Closed and Open Reduction of Hips in Children with Developmental Hip Dislocation Abhishek Tippabhatla Howard University College of Medicine

Assessing Baseball Injuries Among Pediatric Sports-Related Hospitalizations: Analysis of the Kid's Inpatient Database between 1997 and 2012 Olivia Tracev

Olivia Tracey SUNY Downstate Health Sciences University

Is Magnetic Resonance Imaging Reliable for Evaluation of the Anterolateral Ligament in Children and Adolescents? Natalia Wojnowski

Northwestern University Feinberg School of Medicine



### PRACTICE MANAGEMENT

#### MODERATED BY DRS. KATHRYN JURENOVICH & ANDREW HARRIS

When are radiographs not indicated? A systematic review with implications for orthopaedic telemedicine during pandemics and beyond.

Theodora Abah Morehouse School of Medicine

Medicare reimbursement trends for cervical spine decompression procedures from 2000 to 2019

Funmi Adeleye Mayo Clinic Alix School of Medicine

Publication Trends in Ligament Augmentation Techniques: A Systematic Review

Sergei Alexeev University of South Carolina School of Medicine - Columbia

The impact of differing physical demands on musculoskeletal pain in orthopedic surgery residents and attendings.

Matthew Ambalavanar *University of Buffalo* 

Do Medicaid Patients have Less Access to Orthopedic Care? Carlos Fernandez University of Miami

Effect of Dialysis on Postoperative Outcomes of Lower Extremity Amputations in CKD5/ESRD Patients: Should We Dialyze First?

Lennox Ksido SUNY Downstate Health Sciences University

How Does the Implementation of Hospital Total Joint Arthroplasty Implant Selection Strategies Affect Implant Cost, Patient Outcomes, and Physician Autonomy? A Systematic Review Monish Lavu

Case Western Reserve University School of Medicine

Does the Option to Keep Explanted Orthopaedic Hardware Influence Patient Satisfaction and Their Perception of Care? Sophia Mavrommatis University of Minnesota Medical School

Retrospective Review of the Efficiency of Specialized versus Non-Specialized OR Teams in Trochanteric Femoral Nail Fixation of Intertrochanteric Femur Fractures Richard Moore University of North Carolina at Chapel Hill School of Medicine

Systematic Review of Intra-Articular Use of Antibiotics and Antiseptic Irrigation and their Association with Chondrolysis Tucker Morey University of Kansas School of Medicine

A Pricing Analysis for Arthroplasty Surgeries at Three Major Hospitals in the Texas Medical Center Matthew Morones Baylor College of Medicine

The Joint Awareness Score: A Shortened, Simplified, Improved Alternative to the Forgotten Joint Score Matthew Porter Washington State University Elson S. Floyd College of Medicine

Forty-Five Years of Technological Innovation in Musculoskeletal Medicine: An Analysis of a Patent Database (1973 to 2018) Ajay Potluri Case Western Reserve University School of Medicine

Texas geographic trends in Medicare reimbursement rates for primary and revision total knee arthroplasties from 2000 to 2020 Sydney Vangeli University of the Incarnate Word School of Osteopathic Medicine



#### SHOULDER AND ELBOW 1

#### MODERATED BY DRS. UMA SRIKUMARAN & JARED NOWELL

Anatomic total shoulder arthroplasty with inlay glenoid component: A systematic review Alexander Berk

Case Western Reserve University School of

Medicine

Use of Custom Glenoid Components for Reverse Total Shoulder Arthroplasty Joel Bervell Washington State University Elson S. Floyd College of Medicine

What Are Patients Asking and Reading Online? An Analysis of Online Patient Searches for Rotator Cuff Repair Matthew Corsi Wayne State School of Medicine

Relationship Between the Prosthesis Scapular Neck Angle and Clinical Outcomes In Reverse Shoulder Arthroplasty Robert Cueto University of Florida College of Medicine

A Comparison of Pegged and Keeled Glenoid Clinical Outcomes at Long-Term Follow-Up After Total Shoulder Arthroplasty Akiro Duey Icahn School of Medicine at Mount Sinai

Influence of Acromioclavicular Joint Arthritis on Outcomes After Reverse Total Shoulder Arthroplasty Kevin Hao University of Florida College of Medicine

Comparison of functional post-operative outcomes in traumatic and nontraumatic arthroscopic rotator cuff repairs
Erryk Katayama
The Ohio State University College of Medicine

Comparative Study Evaluating Outcomes for Reverse Total Shoulder Arthroplasty For Proximal Humerus Fracture versus Elective Indications William Oetojo Loyola University Chicago Stritch School of Medicine

Comparison of Clinical Outcomes of Revision Reverse Total Shoulder Arthroplasty For Failed Primary Anatomic Versus Reverse Shoulder Arthroplasty Daniel O'Keefe University of Florida College of Medicine

Early Active Range of Motion vs. Conservative Initial Immobilization Following Reverse Total Shoulder Arthroplasty Ryan Sanii Michigan State University College of Human Medicine

The Use of Non-Opioid Multimodal Analgesia for Total Shoulder Arthroplasty: A Retrospective Study Despina Tsitlakidou St. George's University

The Impact of Smoking on Patient Outcomes following Arthroscopic Rotator Cuff Repair Susie Wager
Wayne State University School of Medicine

How are Patients Reviewing Shoulder and Elbow Surgeons Online? A Machine Learning Approach to Physician Review Websites Christopher White Icahn School of Medicine at Mount Sinai



#### SHOULDER AND ELBOW 2

#### MODERATED BY DRS. VANI SABESAN & HASSAN FAROOQ

Outcomes of total shoulder arthroplasty in patients with a history of solid organ transplant George Durisek SUNY Downstate Health Sciences University

Understanding Outcomes with Reverse Shoulder Arthroplasty for Proximal Humeral Malunions Clyde Fomunung Texas A&M College of Medicine

Similar Clinical Outcomes Between Double Cortical Button and Docking Techniques for Ulnar Collateral Ligament Reconstruction in Baseball Players Richa Gupta Perelman School of Medicine at the University of Pennsylvania

Humeral Lengthening and Clinical Outcomes After Reverse Shoulder Arthroplasty: A Systematic Review and Meta-analysis Brett Haeffner University of Florida College of Medicine

Outcomes of Biceps Tenodesis Variations with Concomitant Rotator Cuff Repair: A Multicenter Database Analysis Kevin Hao University of Florida College of Medicine

Deep Learning Accurately Predicts Supraspinatus Pathology on Shoulder Magnetic Resonance Imaging Ryan Ingebritsen University of Wisconsin School of Medicine and Public Health

The Role of Smoking Cessation in Improving Outcomes of Shoulder Arthroplasty: A Systematic Review Sai Kamma UTMB JSSOM

Patient reported outcomes in extensor carpi radialis brevis ruptures with surgical repair Brian Kim Georgetown University School of Medicine Cost Drivers in Arthroscopic Rotator Cuff Repair: A Time-Driven Activity-Based Costing (TDABC) Analysis Amy Lu Weill Cornell Medicine

Anatomy of the Lateral Antebrachial Cutaneous Nerve: Landmarks for Distal Biceps Repair James S. MacLeod *Medical College of Wisconsin* 

Investigation of Optimal Needle Length and Injection Site for Successful and Safe Intramuscular Deltoid Vaccine Administration Markos Mardourian University of Florida College of Medicine

Social Determinants of Health Influence Clinical Outcomes of Patients Undergoing Rotator Cuff Repair: A Systematic Review Krishna Mandalia Tufts University School of Medicine

Comparison of Baseline Demographics and Risk Factors for Aseptic Loosening Following Primary Total Elbow Arthroplasty Harriet Prior SUNY Downstate Health Sciences University

Contributing Factors to the Development of Glenohumeral Osteoarthritis in the Young Patient Tyler Radack Sidney Kimmel Medical College at Thomas Jefferson University

Abnormal Preoperative Leukocyte Counts And Postoperative Complications Following Total Shoulder Arthroplasty Emma Smolev Stony Brook Renaissance School of Medicine



#### SPINE 1

#### MODERATED BY DRS. SIGURD BERVEN & MICHAEL PATETTA

Peri-Operative Dexamethasone Does Not Reduce Post-Operative Opioid Use Following Anterior Cervical Discectomy and Fusion Eric DiDomenico Sidney Kimmel Medical College

Paramedian approach for coccygectomy David Frolov Washington State University, Elson S. Floyd College of Medicine

The Effect of Cage Dimensions on Subsidence Following Anterior Cervical Discectomy And Fusion

Christopher Gonzalez

Christopher Gonzalez Icahn School of Medicine at Mount Sinai

Lumbar laminotomy: Variables affecting 90day overall reimbursement Scott Halperin Yale School of Medicine

Effect of Having an Atrial Septal Defect on Postoperative Outcomes of Laminectomy in Adult Patients Joshua Harounian SUNY Downstate Health Sciences University

The Effect of Disc Height Over-Distraction on Subsidence Following Anterior Cervical Discectomy and Fusion Timothy Hoang Icahn School of Medicine at Mount Sinai

Comparing Short Term Outcomes in XLIF Patients with Approach Performed by Spine Surgeon versus Approach Surgeon Eleanor Jenkins Sidney Kimmel Medical College at Thomas Jefferson University

Research Productivity Trends Among Residents Applying for Orthopaedic Spine Fellowships in the United States Andrew Kim Penn State College of Medicine Postoperative Radiculitis in Patients with Preoperative Radicular Symptoms Following Single-Level Anterior Lumbar Interbody Fusion Omri Maayan Weill Cornell Medical College

Variations in Surgical Appropriateness for Spine Surgery New Patient Consultations: Analysis of Referral Patterns and Patient Characteristics Omri Maayan Weill Cornell Medical College

Up to 10-Year Surveillance Comparison of Survivability in Single-Level Cervical Disc Replacement vs. Anterior Cervical Discectomy and Fusion in New York Samuel Paek Geisinger Commonwealth School of Medicine

ISpine Surgeon Assessments of Patient Psychological Distress are Inaccurate and Bias Treatment Recommendations Joshua Proal Tufts University School of Medicine

Patient Reported Outcomes Following Surgical Treatment for Multilevel Cervical Myelopathy Amit Syal Sidney Kimmel Medical College at Thomas Jefferson University

Should You Transplant the Kidney Before or After Laminectomy Surgery in Adult Patients with End Stage Renal Disease? Nicolas Valentino SUNY Downstate Health Sciences University

The Impact of Posterior Foraminal Osteophytes on PROMs Following L5S1 ALIF and TLIF Eric Zhao Weill Cornell Medicine College



#### SPINE 2

#### MODERATED BY DRS. AMIT JAIN & KEVIN WANG

Finite Element Analysis of Thoracic Spine Compression Fractures Rana Ahmad University of Illinois College of Medicine

Analysis of Risk Factors for Medical Malpractice Litigation due to Anterior Cervical Discectomy and Fusion Haad Arif University of California Riverside School of Medicine

The Cost Effectiveness of Smoking Cessation Program in Patients Undergoing Spinal Deformity Surgery Miguel Cartagena Reyes Johns Hopkins University School of Medicine

Characterizing Cervical Spine Injuries in the National Football League Bobby Dow Texas A&M School of Medicine

The Influence of Cage Type on Subsidence following Anterior Cervical Discectomy and Fusion (ACDF) Surgery Pierce Ferriter Icahn School of Medicine at Mount Sinai

Total Cervical Disc Replacement: A 10-year Single-Center Experience Roberto Gonzalez The Ohio State University College of Medicine

An Investigation of Google Searches for Lumbar Spine Interventions Jessica Hardin Oklahoma State University Center for Health Sciences

A Matched-Control Study on the Impact of Depressive Disorders Following Lumbar Fusion for Adult Spinal Deformity: An Analysis of a Nationwide Administrative Database Zenab Jamil SUNY Downstate Health Sciences University Effects of critical lumbar spinal stenosis on sexual activity, what do our patients experience? A prospective randomized cohort study of pre-operative findings Sunny Korsapati SUNY Upstate Medical University

Where is the Point of Inflection from Thoracic Kyphosis to Lumbar Lordosis in a Multi-ethnic Population of Asymptomatic Volunteers Matan Malka Columbia University Vagelos College of Physicians and Surgeons

Static and Expandable Spacers and Supplemental Fixation in Lumbar Fusion: An In-Vitro Biomechanics Study Samantha Panich Lewis Katz School of Medicine

Anterior Cervical Discectomy and Fusion Improves Clinical Outcomes Regardless of the Degree of Neuroforaminal Compression in Cervical Stenosis Caroline Purtill Sidney Kimmel Medical College at Thomas Jefferson University

Cervical Myelopathy secondary to Hirayama Disease in 16-year-old male Abigail Rodgers Texas College of Osteopathic Medicine

Performance and Financial Impact of Cervical and Lumbar Disc Herniation in NHL Players Thomas Sprys-Tellner Wayne State University School of Medicine



#### SPORTS MEDICINE 1

#### MODERATED BY DRS. MARY MULCAHEY & ALEXIS SANDLER

Rehabilitation and functional outcomes in internally braced and standard ACL reconstructions
Nicholas Aksu
Georgetown University School of Medicine

Association of Long Distance Running with Hip and Knee Arthritis Hunter Angileri Northwestern University Feinberg School of Medicine

Return to Sport and Patient Satisfaction in Weightlifters Following Inlay Total Shoulder Arthroplasty Zachary Blashinsky Florida International University Herbert Wertheim College of Medicine

Extraarticular Core Tunnelling and Local Autogenous Bone Grafting for Osteochondritis Dissecans Lesion of the Capitellum with Intact Articular Cartilage and Subchondral Bone Deficiency Jared Bukowski Midwestern University Chicago College of Osteopathic Medicine

Comparison of skeletal maturity in outcomes of loose trochlear osteochondral defects following operative fixation Galo Bustamante The Ohio State University College of Medicine

How resilient are patients undergoing knee and shoulder arthroscopy procedures? Connor Crutchfield Sidney Kimmel Medical College at Thomas Jefferson University

Outcomes After Operative and Nonoperative Treatment of Anterior Cruciate Ligament Ruptures in Patients Aged 40 and Older: A 2:1 Propensity Score Matched Analysis Madison Hayes-Lattin Tufts University School of Medicine The Impact of Hip Arthroscopy on Pregnancy-Related Decision-Making and Outcomes among Female Patients: A Single Surgeon's Experience Zachary Li
NYU Grossman School of Medicine

Socioeconomic Deprivation Is Associated with Delays in Anterior Cruciate Ligament Reconstruction Leanne Ludwick Tufts University School of Medicine

Decreased concussion incidence following revised contact rules; An updated epidemiology of NFL concussions from 2017-2022 Jared May Northwestern University Feinberg School of Medicine

The Association Between Hamstring Flexibility and Throwing Shoulder Total Range of Motion in Adolescent Baseball Players David Phrathep Lake Erie College of Medicine

MRI Findings of Core Muscle Injuries: A Systematic Review Cooper Root University of Kansas School of Medicine

Outcomes of Medial Patellofemoral Ligament Reconstruction with and without Concomitant Tibial Tubercle Osteotomy for Treatment of Patellar Instability Patrick Ryan Tulane University School of Medicine

Return-to-sport following operative management of Lisfranc injuries in competitive athletes. Torben Urdahl University of Minnesota Medical School

It's a Slippery Slope: Is Increased Posterior Tibial Slope Associated with Tibial Spine Fls the Use of a Postoperative Hip Orthosis Beneficial Following Routine Arthroscopy of the Hip? A Retrospective Cohort Study Dylan Wentzel University of Kansas School of Medicine



### **SPORTS MEDICINE 2**

#### MODERATED BY DRS. TERESA DOERRE & CODY HANSEN

The Effect of an Eight-Week Neuromuscular Training Program on Preadolescent Female Elite Soccer Player Strength, Dynamic Stability, and Agility Lucila Beuses

Texas A&M School of Medicine

Watchful Waiting Provides Higher Value Than Physical Therapy for the Treatment of Adhesive Capsulitis of the Shoulder: Preliminary Findings from a Randomized Controlled Trial Nathan Cherian University of Missouri - Columbia

NCAA Division I Football At-Risk Tackling Techniques and Effectiveness Dakota Doucet Texas A&M School of Medicine

Complications following Bone Marrow Aspirate Concentrate Injections in Orthopaedics: A Systematic Review Matthew Feldman Tufts University School of Medicine

Anterior Electronic Hip Pain Drawings are Helpful for Diagnosis of Intra-articular Sources of Pain: Lateral or Posterior Drawings are Unreliable Richard Feng Texas A&M School of Medicine

Body mass index does not affect outcomes following medial patellofemoral ligament reconstruction David Gibbs The Ohio State University College of Medicine

Outcomes following Open Surgery, Arthroscopic Surgery, and Conservative Treatment for Posterior Cruciate Ligament Tibial Avulsion Fractures: A Systematic Review and Meta-Analysis Varun Gopinatth Saint Louis University School of Medicine Cross-Platform Social Media Analysis Regarding ACL Injury and Surgery Hunter Hasley Hackensack Meridian School of Medicine

Epidemiology of NFL Injuries From 2017-2022: The Current NFL Schedule is not a Risk Factor for Musculoskeletal Injuries Daniel McLoughlin Northwestern University Feinberg School of Medicine

The Onset and Development of Patella Alta in Children Nik Patel University of Michigan Medical School

Clinical outcomes after anterior cruciate ligament reconstruction in patients over 40 years old: a systematic review John Roberts *Tufts University School of Medicine* 

Benefits of using 3D-Printed Cutting Guides in Medial Closing-Wedge Distal Femoral Osteotomy Tanner Seibold The George Washington University School of Medicine and Health Sciences

A Retrospective Analysis of Primary ACL Reconstruction Outcomes Caroline Taber Columbia University Vagelos College of Physicians and Surgeons

Impact of Time Between Cartilage Biopsy and Second-Stage Implantation on Return to Sport and Clinical Outcomes Following Autologous Chondrocyte Implantation Jairo Triana NYU Grossman School of Medicine

Decreased Opioid Consumption and Post-Operative Pain Using an IPACK and Adductor Canal Nerve Block following ACL Reconstruction with Bone-Patellar Tendon-Bone Autograft: A Single-Blind, Randomized Controlled Study Jairo Triana NYU Grossman School of Medicine



### SPORTS MEDICINE 3

#### MODERATED BY DRS. BONNIE GREGORY AND ABHAY MATHUR

The relationship of passion to sport specialization, injury, and burnout in NCAA Division 1 College Athletes Johnathan Dallman University of Kansas School of Medicine

Predictors of Anterior Cruciate Ligament (ACL) Tears in Adolescents and Young Adults Christine Etzel Frank H. Netter, MD School of Medicine at Quinnipiac University

Thigh foot angle drives foot contact in pediatric and young adult running athletes Samantha Ferraro The George Washington University School of Medicine and Health Sciences

Medicaid Insurance Is Associated with More Complications and Emergency Department Visits but Equivalent Five-Year Secondary Surgery Rate after Primary Hip Arthroscopy Stephen Gillinov Yale School of Medicine

Association Between Knee Function and Psychological Readiness for Return to Sport Over the Course of Recovery from Anterior Cruciate Ligament Reconstruction Kyle Huber Michigan State University College of Osteopathic Medicine

Anterior Cruciate Ligament Repair Leads to Improved Patient Reported Outcome Measures Compared to Anterior Cruciate Ligament Reconstruction Elan Karlin Georgetown University School of Medicine

Complications Following Isolated Primary Medial Patellofemoral Ligament Reconstruction for Recurrent Patellar Dislocations: A Systematic Review Harkirat Jawanda Oakland University William Beaumont School of Medicine Femoral Fixation Strength as a Function of Bone Plug Length in Anterior Cruciate Ligament Reconstruction Utilizing Interference Screws Jonathan Light Eastern Virginia Medical School

Functional Outcomes of Primary Ulnar Collateral Ligament Repair with Internal Bracing in Athletes Benjamin Lynch Columbia University Vagelos College of Physicians and Surgeons

Mid- and Long-Term Outcomes and Survivorship of Borderline Dysplastic Patients Undergoing Primary Hip Arthroscopy: A Systematic Review Ronak Mahatme University of Connecticut School of Medicine

Surgeon-Performed Saphenous Nerve Block at the Medial Femoral Condyle for Arthroscopic Partial Meniscectomy and Meniscus Repair: A Randomized Control Trial Ruchir Nanavati Rowan University School of Osteopathic Medicine

Gender Differences in Prevalence, Outcomes, and Complications of Hip Arthroscopy for Femoroacetabular Impingement: A Systematic Review and Meta-Analysis Madeline Owen Northwestern University Feinberg School of Medicine

Indications For Lateral Extra-Articular Tenodesis: A Systematic Review Hunter Post University of Kansas School of Medicine

Accelerated Rehabilitation Following Fresh Osteochondral Allograft (FOCA)
Transplantation Surgery to the Femoral Condyle.
Brian Prigmore
Oregon Health & Science University

Publishing Characteristics of Sports Medicine Research Over a 15-Year Time Interval: A Review of the Journal of Bone and Joint Surgery from 2007-2021 Amanda Watters Tulane University School of Medicine



#### TRAUMA 1

#### MODERATED BY DRS. LISA CANNADA & RACHEL RANSON

Cortical Screw Tension Band Construct Outperforms Traditional K-Wire Based Model In The Surgical Repair Of A Transverse Patella Fracture Peter Ajayi

Warren Alpert Medical School of Brown University

General Anesthesia Versus Spinal Anesthesia in Tibial Shaft Repair: An ACS NSQIP Analysis 2008-2016 Jesse Chan

SUNY Downstate Health Sciences University

Effects of Gun Violence on Orthopedic Trauma Resource Allocation in the United States

Udit Dave

Tulane University School of Medicine

Do All Diabetic Patients Portend Worse Outcomes Following Hip Fracture? Garrett Esper SUNY Upstate

Gluteal Compartment Syndrome: Which Patient Population is at Risk? Diane Ghanem Johns Hopkins University School of Medicine

Pediatric Injuries Associated with Riding Electric Scooters from 2020 to 2021 Radhika Gupta Perelman School of Medicine at the University of Pennsylvania

Poor Pain Alleviation after Orthopaedic Trauma Surgery: How Well Are We Addressing It? Varun Mahadevan Creighton University School of Medicine

Utility of Prophylactic Closed Suction Drainage in Open Reduction and Internal Fixation for Tibial Plateau Fracture Noah Mallory The Ohio State University College of Medicine

Implications of Differing Open Tibia Fracture Antibiotic Prophylaxis Andrew Marten Loyola University Chicago Stritch School of Medicine Weight Based Dosing of Prophylactic Enoxaparin Does Not Reduce Venous Thromboembolism Events following Open Reduction and Internal Fixation of Acetabular Fractures – Data from a Single Institution Patrick Nian SUNY Downstate Health Sciences University

Evaluating the validity of a novel open fracture classification (OFC3) using post-fixation adverse events in open tibia fractures Patricia Rodarte

Warren Alpert Medical School of Brown University

Is Fasciotomy for Compartment Syndrome Associated with Increased Inpatient Mortality in Patients on Extracorporeal Cardiopulmonary Resuscitation? An Extracorporeal Life Support Organization Study Henry Shu Johns Hopkins University School of Medicine

The Effects of Vigabatrin in Hemorrhagic Shock Induced Endotheliopathy and Subsequent Glycocalyx Shedding in the Lung Could Provide an Explanation for the Sexually Dimorphic Outcomes in Trauma Aditya Vinjamuri Tulane School of Medicine

Clinical Outcomes Following Intermediate Versus Long Cephalomedullary Nailing for Fixation of Unstable Intertrochanteric Fractures: A Systematic Review and Meta-Analysis Kassidy Webber Lake Erie College of Osteopathic Medicine

Clinical and Radiographic Outcomes in Operative vs Nonoperative Treatment of Humeral Shaft Fractures Trevor Wolterink Wayne State University School of Medicine



#### TRAUMA 2

#### MODERATED BY DR. CASEY GIOLA AND BENJAMIN FARLEY

Global Disparities of Academic Productivity in Orthopaedic Trauma Surgery Jerome Andres David Geffen School of Medicine - UCLA

Impact of End Stage Renal Disease on Postoperative Outcomes of Intertrochanteric Femur Fracture: An ACS NSQIP Analysis 2008-2016

Rachel Baum SUNY Downstate Health Sciences University

The impact of referral from non-tertiary care hospitals on surgical outcomes for nonunion revision

Andrew Burcke Case Western Reserve University School of Medicine

High Value Tibial Nail Utilization Improves Cost Without Compromising Outcomes: Experience at a Level II Trauma Center Jordan Dobrich University of Nevada School of Medicine

Injuries Associated with Riding Electric Scooters: A Recent Analysis of National Injury Data

William Huffman Perelman School of Medicine at the University of Pennsylvania

Reliability of Proxy and Self-Assessed Pre-Injury Functional Status in Orthopaedic Trauma Robert Kelly Loyola University Chicago Stritch School of Medicine

Impact of Smoking on Postoperative Outcomes of Syndesmotic Fixations: An ACS NSQIP Analysis 2008-2016 Andrew Khan SUNY Downstate Health Sciences University

In-Hospital Mortality Risk and Discharge Disposition Following Femoral Neck Fractures and Intertrochanteric Fractures: A Statewide Analysis Victor Martinez

University of the Incarnate Word School of Osteopathic Medicine

Reoperation Risk Following Open Reduction Internal Fixation versus Total Hip Arthroplasty in Geriatric Acetabular Fractures: A Nationwide Study Paal Nilssen Washington State University

Anterior Cortical Overlap View in Evaluation of Anterior Femoral Cortical Perforation and Impingement during Cephalomedullary Nailing Marco Romo Tufts University School of Medicine

Trends And Risk Factors of Venous Thromboembolism In Lower Limb Fractures treated with Open Reduction and Internal Fixation: National inpatient sample analysis Kirellos Said Cairo University

Fat Embolism Syndrome Complicated by Diffuse Alveolar Hemorrhage after a Minimally Displaced Tibia Fracture: A Case Report Kevin Seely Rocky Vista University College of Osteopathic Medicine

Fascia Iliaca Blocks in Elderly with Hip Fractures: A Critical Evaluation Noah Thomas Meharry Medical College

Clostridium difficile Colitis Following Geriatric Hip Fracture Surgery: Incidence, Trends, and Risk Factors from 41,328 Patients Lucas Voyvodic SUNY Downstate Health Sciences University

A Retrospective Review Comparing Outcomes in Operatively versus NonoperativelyTreated Olecranon Fractures in Elderly Patients Linzie Wildenauer University of Minnesota Medical School





# PANELISTS



# **RESIDENTS**



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PGY-1 AT HARVARD



Tucker Peabody, DO

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Jody Law, MD PGY-1 AT STANFORD







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