HOSPITAL FOR SPECIAL SURGERY

2017 Academic Presentations from the Annual Meetings of the American Academy of Orthopaedic Surgeons & Orthopaedic Research Society
Dear Colleague,

I am pleased to inform you of Hospital for Special Surgery’s participation at this year’s annual AAOS and ORS meetings, where HSS faculty showcased important research in today’s orthopaedic field. The following pages show the diversity of moderated panels, and numerous oral and poster presentations.

At the meeting, we officially launched our exciting Medscape editorial collaboration on our dedicated webpage medscape.com/hss. This partnership joins HSS leadership and clinical expertise in orthopaedics and musculoskeletal medicine with Medscape’s award-winning journalism.

You are invited to sign up to receive updates from HSS eAcademy®, our online professional education platform, which has over 600 courses available including onsite, live streaming and an unparalleled portfolio of on-demand musculoskeletal offerings; and news and information from Education & Academic Affairs at hss.edu/hss-education-mailing-list.

This is an age of transformation in healthcare. I am proud of the work we do at HSS and our presence at these meetings underscores the valuable contributions HSS makes to patients around the world. Please reach out to professionaleducation@hss.edu should you want more information on these academic presentations.

Todd J. Albert, MD
Surgeon-in-Chief
CASE PRESENTATIONS

How to Do a Complex Total Knee Arthroplasty: Case-Based Presentation
Moderator(s): Arthur Malkani, MD, and Bryan Springer, MD
Douglas Padgett, MD, Wael Barsoum, MD, Michael Bolognesi, MD, Brian Curtin, MD, Kirby Hitt, MD, Courtland Lewis, MD, Michael Mont, MD

The Scary Total Knee Arthroplasty—A Case-Based Approach to Complex Knees
Moderator: Giles Scuderi, MD
Steven Haas, MD, Keith R. Berend, MD, Antonia Chen, MD, Henry D. Clarke, MD, Michael Kelly, MD, Adolph Lombardi, Jr., MD, William Long, MD, David Mayman, MD, Jose Rodriguez, MD, Geoffrey Westrich, MD

INSTRUCTIONAL COURSES

Personalized Approach to the Painful Aseptic Total Knee Arthroplasty
Moderator: Khaled Saleh, MD
Mathias Bostrom, MD, David Backstein, MD, Michael Berend, MD, Stuart Goodman, MD, William Griffin, MD, William Jiranek, MD, William Macaulay, MD, William Mihalko, MD, Mark Pagnano, MD, Wayne Paprosky, MD

PAPER PRESENTATIONS

Acetabular Coverage Correction and Clinical Outcomes After Periacetabular Osteotomy in Developmental Dysplasia of the Adult Hip Associated With Coxa Valga
Robert Buly, MD, Lazaros Poultsides, MD, Ernest Sink, MD, Graeme Whyte, MD, MSc, FRSCSC

Alternative Payment Models Should Risk-Adjust for Conversion Total Hip Arthroplasty: A Propensity Score-Matched Study
Douglas Padgett, MD, David Halsey, MD, Richard Iorio, MD, Alexander McLawhorn, MD, MBA, William Schairer, MD, Ran Schwarzkopf, MD

Continued Inpatient Care After Primary Total Knee Arthroplasty Increases 30-Day Post-Discharge Complications: A Propensity Score-Adjusted Analysis
Peter Sculco, MD, Michael Fu, MD, Catherine MacLean, MD, PhD, Alexander McLawhorn, MD, MBA, Douglas Padgett, MD, William Schairer, MD

Cost Effectiveness of Staphylococcus Aureus Decolonization Strategies in High-Risk Arthroplasty Patients
Geoffrey Westrich, MD, Hassan Ghomrawi, PhD, Michael Henry, MD, Andy Miller, MD, Devin Williams, MPH

Culture Negative Periprosthetic Joint Infections Have a Higher Rate of Revision Surgery
Michael Cross, MD, Douglas Padgett, MD, Jason Blevins, MD, Kaitlin Carroll, BS

Discharge to Continued Inpatient Care After Total Hip Arthroplasty Is Associated With Increased Post-Discharge Morbidity: A Propensity-Adjusted Cohort Study
Alexander McLawhorn, MD, MBA, Douglas Padgett, MD, Peter Sculco, MD, Michael Fu, MD, Catherine MacLean, MD, PhD, Andre Samuel, MD

Dissatisfied Total Knee Arthroplasty Patients Have High Expectations of Kneeling and Recreation Participation and Higher Revision Rate
Douglas Padgett, MD, Timothy Wright, PhD, Stephen Lyman, PhD, Kevin Bozic, MD, MBA, Hassan Ghomrawi, PhD, Deeptee Jain, MD, Yuo-Yu Lee, MS

Dual-Mobility Constructs in Revision Total Hip Arthroplasty Reduced Dislocation, Reoperation, and Rerevision Compared to Large Femoral Heads
Peter Sculco, MD, Molly Hartzler, MD, Matthew Abdel, MD, Michael Taunton, MD, Mark Pagnano, MD, Arlen Hanssen, MD

Geniculate Artery Embolization for Management of Recurrent Spontaneous Hemarthrosis After Knee Arthroplasty
Geoffrey Westrich, MD, Bradford Waddell, MD, Joshua Cornman-Homonoff, MD, Hollis Potter, MD, Theresa Salerno, FNP-C, David Trost, MD, Benjamin Yam, MD

Outcomes of Extensor Mechanism Allograft After Total Knee Replacement
Alejandro Gonzalez Della Valle, MD, Geoffrey Westrich, MD, Yuo-Yu Lee, MS, Kathryn Oi, BA, Benjamin Ricciardi, MD, Myra Trivellas, BS
Patient-Reported Outcome Measures in Severe and Super Obese Patients Following Primary Total Knee Arthroplasty
Geoffrey Westrich, MD, Susan Goodman, MD, Yuo-Yu Lee, MS, Michael Parks, MD, T. D. Tarity, MD

Patient Satisfaction Reporting After Total Hip Arthroplasty: A Systematic Review
Michael Cross, MD, Cynthia Kahlenberg, MD, Benedict Nwachukwu, MD, William Schairer, MD, Michael Steinhaus, MD

Patients With Multi-Level Degenerative Disc Disease in the Lumbar Spine Have Decreased Sit to Stand Pelvic Mobility and Increased Risk for Postoperative Dislocation After Primary Total Hip Arthroplasty
Seth Jerabek, MD, David Mayman, MD, Peter Sculco, MD, Kaitlin Carroll, BS, Christina Esposito, PhD, Han Jo Kim, MD, Theodore Miller, MD, FACR

Risk-Based Hospital and Surgeon Volume Categories for Total Hip Arthroplasty
Alexander McLawhorn, MD, MBA, Jayme Burket-Kolts, PhD, Stephen Lyman, PhD, Robert Marx, MD, MSc, FRCSC

Two-Year Outcomes of Retained Hip and Knee Arthroplasty: Impact of Staphylococci and of Rifampin Use
Geoffrey Westrich, MD, Barry Brause, MD, Eileen Finerty, RN, Michael Henry, MD, Andy Miller, MD, Allina Nocon, MPH, Scott Nodzo, MD, Devin Williams, MPH

Variability Exists in Progressive Elongation and Failure of the Medial Collateral Ligament With Pie-Crusting Using 16- and 18-Gauge Needles
Geoffrey Westrich, MD, Spencer Amundsen, MD, Kathleen Meyers, MS, Timothy Wright, PhD

POSTERS

Acetabular Depth: A Valuable Radiographic Measurement for the Diagnosis of Adult Hip Dysplasia
Robert Buly, MD, Lazaros Poultsides, MD, Ernest Sink, MD, Graeme Whyte, MD, MSc, FRCSC

Bariatric Surgery Improves Outcomes After Lower Extremity, Arthroplasty in the Morbidly Obese: A Propensity Score-Matched Study
Alexander McLawhorn, MD, MBA, Huong Do, MA, Emily Dodwell, MD, MPH, FRCSC, Yile Ge, MS, Yuo-Yu Lee, MS, Ashley Levack, MD, Stephen Lyman, PhD

Bone Ingrowth in Retrieved Porous Coated Acetabular Components
Douglas Padgett, MD, Elexis Baral, BS, Christina Esposito, PhD, Myra Trivellas, BS, Timothy Wright, PhD

Comparison of Revision Rates of Non-Modular Constrained Versus Posterior Stabilized Total Knee Arthroplasty: A Propensity Score-Matched Cohort Study
Geoffrey Westrich, MD, Yuo-Yu Lee, MS, Stephen Lyman, PhD, Robert Marx, MD, MSc, FRCSC, Nabil Mehta, Mohamed Moussa, MD

Have Large Femoral Heads Fixed the Impingement Problem in Total Hip Arthroplasty?
Douglas Padgett, MD, Chelsea Koch, BS, Myra Trivellas, BS, Bradford Waddell, MD, Timothy Wright, PhD

Metabolic Syndrome: Readmission and Mortality Following Primary Total Knee Arthroplasty
Alejandro Gonzalez Della Valle, MD, Yuo-Yu Lee, MS, Stephen Lyman, PhD, T. D. Tarity, MD

Modular Cobalt Chromium Acetabular Inserts: A Retrieval Analysis
Geoffrey Westrich, MD, Chelsea Koch, BS, T. D. Tarity, MD, Timothy Wright, PhD

Pelvic Incidence, Pelvic Tilt, and Sacral Slope in Adult Patients Undergoing Periacetabular Osteotomy to Treat Hip Dysplasia: Effects on Clinical Outcomes and Associations With Hip Anatomy as Measured by Multiplanar CT
Robert Buly, MD, Aaron Buckland, FRACS, Struan Coleman, MD, PhD, Douglas Mintz, MD, Ernest Sink, MD, Graeme Whyte, MD, MSc, FRCSC

Risk Factors for Periprosthetic Joint Infection Following 36,494 Primary Total Hip Arthroplasties
Thomas P. Sculco, MD, Huong Do, MA, Stavros Memtsoudis, MD, Lazaros Poultsides, MD, Vasileios Soranoglou, MD, Georgios Triantafyllopoulos, MD

Satisfaction Rates and Quality of Life Changes Following Total Knee Arthroplasty in Age-Differentiated Cohorts
Steven Haas, MD, Jeffrey Lange, MD, Yuo-Yu Lee, MS, Sara Spiro, BS

The Influence of Irrigation and Debridement on Two-Stage Revision Total Knee Arthroplasty
Geoffrey Westrich, MD, Kathleen Boyle, MD, Michael Henry, MD, Allina Nocon, MPH, Scott Nodzo, MD, Sara Spiro, BS

The Short Form KOOS, Jr. Is Valid for Revision Knee Arthroplasty
Michael Cross, MD, Steven Haas, MD, Alexander McLawhorn, MD, MBA, Yuo-Yu Lee, MS, Stephen Lyman, PhD
### SYMPOSIA

**Current Controversies in Total Knee Arthroplasty: Is There a Place for Patient Specific Instrumentation in a Bundled Environment?**  
Steven Haas, MD

**Great Debates in Total Hip Arthroplasty Dual Mobility Liners: A Primary Solution in THR**  
Douglas Padgett, MD

**Trunnions, Tapers, and Corrosion in Total Hip Arthroplasty: What’s All the Fuss About? What Every Surgeon Should Know**  
Moderator(s): Daniel Berry, MD, and John Callaghan, MD
Mathias Bostrom, MD, Douglas Padgett, MD, Peter Sculco, MD, Robert Barrack, MD, James Browne, MD, A. Seth Greenwald, MD, Joshua Jacobs, MD, Atul Kamath, MD, Arthur Malkani, MD, Christopher Peters, MD, Michael Taunton, MD, Thomas Vail, MD

### POSTERS

**Backside Wear of Metal Acetabular Liners: Retrieval Study**  
David Tarity, MD, Chelsea Koch, BS, Timothy Wright, PhD, Douglas Padgett, MD

**Bone Ingrowth in Retrieved Porous Coated Acetabular Components**  
Elexis Baral, BS, Myra Trivellas, BS, Benjamin Ricciardi, MD, Christina Esposito, PhD, Timothy Wright, PhD, Douglas Padgett, MD

**Large Heads Solving Impingement Issue in Arthroplasty (Impingement in THA: Retrieval Study)**  
Brad Waddell, MD, Chelsea Koch, BS, Timothy Wright, PhD, Douglas Padgett, MD

### Department of Biomechanics

### MODERATOR

**Foot and Ankle I: Total Ankle Arthroplasty**  
Mark Drakos, MD, Timothy Charlton, MD

### PAPER PRESENTATION

**Reoperation Rates Following Bone Marrow Stimulation for Osteochondral Lesions of Talus: A Large Healthcare Database**  
Chun Wai Hung, John Kennedy, MD, Christopher Murawski, Youichi Yasui, MD

### SCIENTIFIC EXHIBITS

**Platelet-Rich Plasma in Orthopaedic Surgery: Where Do We Stand in 2017?**  
Nikolas Baksh, MD, Jacqueline Brady, MD, Brian Cole, MD, MBA, Rachel Frank, MD, Charles Hannon, MD, John Kennedy, MD, Scott Rodeo, MD

**Stem Cells in Orthopaedic Surgery: Definitions, Regulations, and Bench to Bedside Evidence**  
Brian Cole, MD, MBA, Eric Cotter, BS, Rachel Frank, MD, Charles Hannon, MD, John Kennedy, MD, Scott Rodeo, MD

### SPECIALTY DAY

**American Orthopaedic Foot & Ankle Society (AOFAS)**  
Problem Stress Fractures of the Foot and Ankle—More Than Meets the Eye?  
Martin O’Malley, MD

Scott Ellis, MD

**Should We Be Adding Biologics to Everything We Do?**  
John Kennedy, MD

**Patients’ Expectations From Foot and Ankle Surgery: Relationships With Demographic and Clinical Characteristics**  
Elizabeth Cody, MD, Carol Mancuso, MD, Jayme Burket, PhD, Anca Marinescu, BA, Aoife MacMahon, BA, Constantine Demetracopoulos, MD, David Levine, MD, Jonathan Deland, MD, Mark Drakos, MD, Matthew Roberts, MD, Scott Ellis, MD

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**Foot & Ankle Service**

### 2-HOUR INSTRUCTIONAL COURSES

**The Land of Ligaments: Navigating Sprains, Strains, and Ruptures About the Foot and Ankle**  
Moderator: Robert Anderson, MD
James Nunley, MD, Martin O’Malley, MD, David Porter, MD

**Osteotomy and Arthrodesis of the Forefoot and Hindfoot**  
Samuel Adams, MD, Scott Ellis, MD, Andrew Hsu, MD

**Osteochondral Lesions of the Talus: Current Treatment Dilemmas**  
Eric Giza, MD, John Kennedy, MD, James Stone, MD
Hand & Upper Extremity Service

AWARD

Kappa Delta Award Paper Presentation
Combined AAOS/ORS Session
Kinematics of the Normal and Injured Wrist:
The Importance of the Midcarpal Joint
Scott Wolfe, MD, Co-Author: Joseph Crisco III, PhD

CASE PRESENTATION

Rescuing the Elbow
Neal Chen, MD, Douglas Hanel, MD, Robert Hotchkiss, MD,
Graham King, MD, Michael McKee, MD, Jorge Orbay, MD,
Joaquin Sanchez-Sotelo, MD

INSTRUCTIONAL COURSE

Common Conditions Affecting the Ulnar Side of the Wrist
Ryan Caffee, MD, Abhinav Chhabra, MD, Greg Couzens,
William Geissler, MD, Guillaume Herzberg, MD, Peter Jetson, MD,
Robin Kamal, MD, Steve Lee, MD, Marc Richard, MD,
Michael Sandow, MD

PAPER PRESENTATIONS

Comparison Between Two Collagen Nerve Conduits and
Nerve Autograft for Motor Nerve Regeneration in a Rat
Model
Joseph Feinberg, MD, Steve Lee, MD, Eliana Saltzman,
Jordan Villa, MD, Scott Wolfe, MD

Nerve Repair Following Open versus Endoscopic Carpal
Tunnel Release in New York State
Aaron Daluiski, MD, Huong Do, MA, Yile Ge, MS,
Stephen Lyman, PhD, Samir Trehan, MD

POSTER

Success of Scaphoid Nonunion Is Independent of Proximal Pole Vascularity
Manjula Bansal, MD, Edward DiCarlo, MD, Steve Lee, MD,
Hollis Potter, MD, Schneider Rancy, BA, Darryl Sneag, MD,
Morgan Swanstrom, MD, Scott Wolfe, MD

SPECIALTY DAY

American Society for Surgery of the Hand (ASSH)/
American Association for Hand Surgery (AAHS)
Delayed Presentation: When Are Vascular Grafts Necessary?
Manjula Bansal, MD, Edward DiCarlo, MD, Steve Lee, MD,
Hollis Potter, MD, Schneider Rancy, BA, Darryl Sneag, MD,
Morgan Swanstrom, MD, Scott Wolfe, MD

Scientific Session VI—FOOSH
Brunelli Procedure (Video)
Steve Lee, MD

Hip Preservation Service

CASE PRESENTATION

Adolescent Hip Pain: A Frequent Complaint
Ernest Sink, MD

ORTHOPAEDIC VIDEO THEATER

All-Arthroscopic Superior Shoulder Capsule
Reconstruction With Partial Rotator Cuff Repair
Edward Sutter, MD, Jonathan Godin, MD, Grant Garrigues, MD

Trauma—Posterior Ankle Approach Strategies
(For Fracture Fixation)
Elliot Row, MD, Stephen Kottmeier, MD, Paul Tornetta III, MD,
Camden Burns, MD, Dean Lorich, MD

PAPER PRESENTATIONS

Acetabular Coverage Correction and Clinical Outcomes
After Periacetabular Osteotomy in Developmental
Dysplasia of the Adult Hip Associated With Coxa Valga
Graeme Whyte, MD, MSc, FRCSC, Lazaros Poultsides, MD,
Robert Buly, MD, Ernest Sink, MD

Decreased Shoulder External Rotation and Flexion are
Greater Predictors of Injury Than Internal Rotation
Deficits: Analysis of 132 Pitcher-Seasons in Professional Baseball
Christopher Camp, MD, John Zajac, DPT, David Pearson, ATC,
Andrea Spiker, MD, Alec Sinatro, BA, Brian Werner, MD,
David Altchek, MD, Struan Coleman, MD, PhD, Joshua Dines, MD

Does Hip Arthroscopy Provide Meaningful Outcome Improvement
for Adolescent Femoracetabular Impingement?
Benedict Nwachukwu, MD, Brenda Chang, MPH, Cynthia Kahlenberg, MD, Kara Fields, MS, Danyal Nawabi, MD,
Bryan Kelly, MD, Anil Ranawat, MD
Decreased Hip Internal Rotation Increases the Risk of Back and Abdominal Injuries in Professional Baseball Players: Analysis of 262 Player-Seasons
Christopher Camp, MD, John Zajac, DPT, David Pearson, ATC, Andrea Spiker, MD, Alec Sinatro, BA, Anil Ranawat, MD, David Altchek, MD, Joshua Dines, MD, Struan Coleman, MD, PhD

Gait Analysis Following Intertrochanteric Hip Fracture: Does Shortening Result in Gait Impairment?
Elizabeth Gausden, MD, Ashley Levack, MD, Lauren Wessel, MD, Gele Moloney, MD, Andrew Nellestein, BS, Joseph Lane, MD, Dean Lorich, MD

Osseous Vascularity of the Medial Elbow Following Ulnar Collateral Ligament Reconstruction: A Comparative Analysis of the Docking and Figure of Eight Techniques
Christopher Camp, MD, Craig Klinger, BA, Lionel Lazaro, MD, Jordan Villa, MD, Andrew Nellestein, BS, David Altchek, MD, David Helfet, MD, Dean Lorich, MD, Joshua Dines, MD

Preoperative Outcome Scores Predict Minimal Clinically Important Difference Following Hip Arthroscopy
Benedict Nwachukwu, MD, Kara Fields, MS, Brenda Chang, MPH, Danyal Nawabi, MD, Bryan Kelly, MD, Anil Ranawat, MD

Psychometric Derivation of Patient Perceived Substantial Clinical Benefit Following Hip Arthroscopy
Benedict Nwachukwu, MD, Brenda Chang, MPH, Kara Fields, MS, Brian Rebolledo, MD, Danyal Nawabi, MD, Bryan Kelly, MD, Anil Ranawat, MD

Supination External Rotational Ankle Fracture Injury Pattern Correlates With Regional Bone Density
Stephen Warner, MD, Elizabeth Gausden, MD, Ashley Levack, MD, David Helfet, MD, Dean Lorich, MD

The Diagnostic Accuracy of Radiographs and MRI in Predicting Deltoid Ligament Ruptures in Ankle Fractures
Stephen Warner, MD, Matthew Garner, MD, Peter Fabricant, MD, MPH, Patrick Schottel, MD, Michael Loftus, MBA, Keith Hentel, David Helfet, MD, Dean Lorich, MD

The Effect of Soft Tissue Injuries on Clinical Outcomes Following Tibial Plateau Fracture Fixation
Stephen Warner, MD, Matthew Garner, MD, Patrick Schottel, MD, Peter Fabricant, MD, MPH, Ryan Thacher, BA, David Helfet, MD, Dean Lorich, MD

Analysis of Online Rating Websites for Sports Medicine Surgeon “Quality”
Benedict Nwachukwu, MD, Samir Trehan, MD, Kelms Amoo Achampong, BA, Brenda Chang, MPH, Joseph Nguyen, MPH, Samuel Taylor, MD, Frank McCormick, MD, Anil Ranawat, MD

Anteromedial Anchor Insertion Along the Acetabular Rim—The ‘Danger-Zone’ of Hip Arthroscopy
Ryan Degen, MD, MSc, FRCSC, Lazaros Poultsides, MD, Stephanie Mayer, MD, Struan Coleman, MD, PhD, Anil Ranawat, MD, Danyal Nawabi, MD, Bryan Kelly, MD

Clinical Outcomes of Periacetabular Acetabular Osteotomy Outcomes at Mid-term? A Prospective Multi-Center Cohort Study
John Clohisy, MD, Geneva Baca, Paul Beaule, MD, Young Jo Kim, MD, Michael Mills, MD, David Podeszwa, MD, Perry Schoenecker, MD, Rafael Sierra, MD, Ernest Sink, MD, Daniel Sucato, MD, Robert Trousdale, MD, Ira Zaltz, MD

Comparison of PROMIS to Legacy Patient-Reported Outcome Scores in Upper Extremity Trauma
Elizabeth Gausden, MD, Andrew Nellestein, BS, Peter Fabricant, MD, MPH, Ryan Thacher, BA, David Wellman, MD, Dean Lorich, MD

Nonunion after Clavicle Osteosynthesis: High Incidence of Propionibacterium Acnes
Elizabeth Gausden, MD, Jordan Villa, MD, Stephen Warner, MD, Mariya Redko, BS, Andrew Pearle, MD, Dean Lorich, MD, David Helfet, MD, David Wellman, MD

Pelvic Incidence, Pelvic Tilt, and Sacral Slope in Adult Patients Undergoing Periacetabular Osteotomy to Treat Hip Dysplasia: Effects on Clinical Outcomes and Associations With Hip Anatomy as Measured by Multiplanar CT
Graeme Whyte, MD, MSc, FRCSC, Aaron Buckland, MD, FRACS, Douglas Mintz, MD, Struan Coleman, MD, PhD, Robert Buly, MD, Ernest Sink, MD

Risk of Failure of Primary Hip Arthroscopy—A Population-Based Study
Ryan Degen, MD, MSc, FRCSC, Ting-Jung Pan, MPH, Brenda Chang, MPH, Nabil Mehta, Peter Chamberlin, Anil Ranawat, MD, Danyal Nawabi, MD, Bryan Kelly, MD, Stephen Lyman, PhD

The Hip Fracture Patient on Warfarin: Is Delay of Surgery Necessary?
Matthew Cohn, Nikunj Trivedi, MD, Ashley Levack, MD, Jordan Villa, MD, Joseph Koressel, David Wellman, MD, John Lyden, MD, Dean Lorich, MD, Joseph Lane, MD

POSTERS

Acetabular Depth: A Valuable Radiographic Measurement for the Diagnosis of Adult Hip Dysplasia
Graeme Whyte, MD, MSc, FRCSC, Lazaros Poultsides, MD, Robert Buly, MD, Ernest Sink, MD
SCIENTIFIC EXHIBIT

Trauma—The Use of Endosteal Fibular Strut Allograft in Fracture Reduction and Construct Augmentation
Elizabeth Gausden, MD, Ashley Levack, MD, Stephen Warner, MD, Alexander Christ, MD, Matthew Garner, MD, Dean Lorich, MD

SPECIALTY DAY

Arthroscopy Association of North America (AANA)
Hip—How I Use Imaging to Help Treat FAI
Bryan Kelly, MD

American Orthopaedic Society for Sports Medicine (AOSSM)
Scientific Session I: Hip
Benedict Nwachukwu, MD, Brenda Chang, MPH, Cynthia Kahlenberg, MD, Kara Fields, MS, Danyal Nawabi, MD, Bryan Kelly, MD, Anil Ranawat, MD

SYMPOSIUM

Slipped Capital Femoral Epiphysis in 2017: Scientific Advancements and Evolving Treatment Modalities
Ernest Sink, MD

TECHNICAL SKILLS

Issues of Alignment and Tibial Slope: When to Address and How?
Anil Ranawat, MD

Limb Lengthening & Complex Reconstruction Service

POSTERS

Ankle Distraction for End-Stage Ankle Arthritis: A Survival Analysis
Stephen Greenfield, MD, S. Robert Rozbruch, MD, Austin Fragomen, MD

Assessment of Bone Healing During Antegrade Intramedullary Rod Femur Lengthening Using Radiographic Pixel Density
Ettore Vulcano, MD, Shabaz Ali, Austin Fragomen, MD, S. Robert Rozbruch, MD

Cost Comparison of Femoral Distraction Osteogenesis With External Lengthening Over a Nail versus Internal Magnetic Lengthening Nail
Shawn Richardson, MD, William Schairer, MD, Austin Fragomen, MD, S. Robert Rozbruch, MD

SPECIALTY DAY

Limb Lengthening and Reconstruction Society
Best Papers from LLRS 25th Annual Scientific Meeting, July 2016: Oxygen Consumption Testing and Self-Reported Outcomes Following Limb Salvage With Tibiocalcaneal or Tibio-Talo-Calcaneal Fusion
S. Robert Rozbruch, MD, Polly de Mille, RN, MA, RCEP, Eugene Borst, BA, Joshua Buksbaum, Austin Fragomen, MD

Metabolic Bone Disease/Musculoskeletal Oncology Service

2-HOUR INSTRUCTIONAL COURSES

Owning Osteoporosis Care in Your Practice
Joseph Lane, MD

The Answer is Vitamin D! From Pediatrics to Geriatrics in Orthopaedics
Joseph Lane, MD

MODERATOR

Is Medical Clearance Enough? Understanding Medical Issues That Can Affect Your Patients' Outcomes
Joseph Lane, MD

ORTHOPAEDIC REVIEW COURSE

Update for Your Practice and Preparation for Your Test—Metabolic Bone Disease (Upper Extremity/Metabolic)
Joseph Lane, MD

SPECIALTY DAY

Hip Society/American Association of Hip and Knee Surgeons (AAHKS)
Prevention of Geriatric Hip Fractures
Joseph Lane, MD

SYMPOSIUM

Flash Five: What’s Coming Down the Pike—Fracture Healing
Joseph Lane, MD
Orthopaedic Trauma Service

ORTHOPAEDIC VIDEO LIBRARY
Posterior Ankle Approach Strategies (For Fracture Fixation)
Elliot Row, MD, Stephen Kottmeier, MD, Paul Tornetta, III, MD, Camden Burns, MD, Dean Lorich, MD

PAPER PRESENTATIONS
Gait Analysis Following Intertrochanteric Hip Fracture: Does Shortening Result in Gait Impairment?
Elizabeth Gausden, MD, Ashley Levack, MD, Lauren Wessel, MD, Gele Moloney, MD, Andrew Nellestein, BS, Joseph Lane, MD, Dean Lorich, MD

Hip Fracture Surgery Within 24 Hours is Independently Associated With Reduced Short-Term Postoperative Complications: A Propensity-Adjusted Analysis
Michael Fu, MD, Elizabeth Gausden, MD, Andre Samuel, MD, Joseph Lane, MD

Osseous Vascularity of the Medial Elbow following Ulnar Collateral Ligament Reconstruction: A Comparative Analysis of the Docking and Figure of Eight Techniques
Christopher Camp, MD, Craig Klinger, BA, Lionel Lazaro, MD, Jordan Villa, MD, Andrew Nellestein, BS, David Aitchek, MD, David Helfet, MD, Dean Lorich, MD, Joshua Dines, MD

Supination External Rotational Ankle Fracture Injury Pattern Correlates With Regional Bone Density
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The Diagnostic Accuracy of Radiographs and MRI in Predicting Deltoid Ligament Ruptures in Ankle Fractures
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The Effect of Soft Tissue Injuries on Clinical Outcomes Following Tibial Plateau Fracture Fixation
Stephen Warner, MD, Matthew Garner, MD, Patrick Schottel, MD, Peter Fabricant, MD, MPH, Ryan Thacher, BA, David Helfet, MD, Dean Lorich, MD

POSTERS
Nonunion after Clavicle Osteosynthesis: High Incidence of Propionibacterium Acnes
Elizabeth Gausden, MD, Jordan Villa, MD, Stephen Warner, MD, Mariya Redko, BS, Andrew Pearle, MD, Dean Lorich, MD, David Helfet, MD, David Wellman, MD

Pediatric Orthopaedic Service

PAPER PRESENTATIONS
Integrating Social Media and Orthopaedics: A Prospective Analysis of Patient, Surgeon, and Hospital Utilization
Prem Ramkumar, MBA, Ton La, Jr., BS, Evan Fisch, Peter Fabricant, MD, MPH, Alex White, BA, Kristofer Jones, MD, Samuel Taylor, MD

The Diagnostic Accuracy of Radiographs and MRI in Predicting Deltoid Ligament Ruptures in Ankle Fractures
Stephen Warner, MD, Matthew Garner, MD, Peter Fabricant, MD, MPH, Patrick Schottel, MD, Michael Loftus, MBA, Keith Hentel, David Helfet, MD, Dean Lorich, MD

The Effect of Soft Tissue Injuries on Clinical Outcomes Following Tibial Plateau Fracture Fixation
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POSTERS
Bariatric Surgery Improves Outcomes After Lower Extremity Arthroplasty in the Morbidly Obese: A Propensity Score-Matched Study
Alexander McLawhorn, MD, MBA, Ashley Levack, MD, You-Yu Lee, MS, Yile Ge, MS, Huong Do, MA, Stephen Lyman, PhD, Emily Dodwell, MD, MPH, FRCSC
Bone Morphogenetic Proteins in Pediatric Spinal Arthrodesis: A Statewide Analysis of Trends in Utilization
Benedict Nwachukwu, MD, William Schairer, MD, Ting-Jung Pan, MPH, Roger Widmann, MD, John Blanco, MD, Daniel Green, MD, MS, FAAP, FACS, Stephen Lyman, PhD, Emily Dodwell, MD, MPH, FRCSC

Comparison of PROMIS to Legacy Patient-Reported Outcome Scores in Upper Extremity Trauma
Elizabeth Gausden, MD, Andrew Nellestein, BS, Peter Fabricant, MD, MPH, Ryan Thacher, BA, David Wellman, MD, Dean Lorich, MD

SCIENTIFIC EXHIBIT

The Diagnosis and Management of Articular Cartilage Lesions in the Adolescent Knee: Indications, Surgical Techniques and Clinical Outcomes
Kristofer Jones, MD, Natalie Leong, MD, Edward Cheung, MD, Armin Arshi, MD, Peter Fabricant, MD, MPH, Riley Williams, MD, David McAllister, MD

SYMPOSIUM

Getting (and Staying) Organized to Perform Efficient and Productive Clinical Research
Peter Fabricant, MD, MPH

Radiology & Imaging

2-HOUR INSTRUCTIONAL COURSE

MRI of the Spine: Essentials for the Orthopaedic Surgeon
Moderator: John Carrino, MD
Yoshimi Endo MD, William Morrison, MD, Brian Neuman, MD

CASE PRESENTATION

MRI-Arthroscopy Correlations of the Knee and Shoulder: A Case-Based Approach
Moderator: Stephen Brockmeier, MD
Steven Cohen, MD, F. Winston Gwathmey, MD, Darren Johnson, MD, Robert Marx, MD, MSc, FRCSC, Eric McCarty, MD, MSc, FRCSC, Mark Miller, MD, Michael O’Brien, MD, Frank Petrigliano, MD, Hollis Potter, MD, James Voos, MD

PAPER PRESENTATIONS

Geniculate Artery Embolization for Management of Recurrent Spontaneous Hemarthrosis After Knee Arthroplasty
Benjamin Yam, MD, Theresa Salerno, FNP-C, Joshua Cornman-Homonoff, MD, Bradford Waddell, MD, Geoffrey Westrich, MD, Hollis Potter, MD, David Trost, MD

Intra-Articular Saphenous Nerve Block for Total Knee Arthroplasty: MRI and Cadaveric Study
Joseph Kavolus, MD, David Soon Yiew Sia, MBBS, David Attarian, MD, Hollis Potter, MD, Paul Lachiewicz, MD

Patients With Multi-Level Degenerative Disc Disease in the Lumbar Spine Have Decreased Sit to Stand Pelvic Mobility and Increased Risk for Postoperative Dislocation After Primary Total Hip Arthroplasty
Peter Sculco, MD, Kaitlin Carroll, BS, Christina Esposito, PhD, Theodore Miller, MD, FACR, Han Jo Kim, MD, Seth Jerabek, MD, David Mayman, MD

POSTERS

Pelvic Incidence, Pelvic Tilt, and Sacral Slope in Adult Patients Undergoing Periacetabular Osteotomy to Treat Hip Dysplasia: Effects on Clinical Outcomes and Associations With Hip Anatomy as Measured by Multiplanar CT
Graeme Whyte, MD, MSc, FRCSC, Aaron Buckland, MD, FRAC, Douglas Mintz, MD, Struan Coleman, MD, PhD, Robert Buly, MD, Ernest Sink, MD

Success of Scaphoid Nonunion is Independent of Proximal Pole
Morgan Swanstrom, MD, Schneider Rancy, BA, Edward DiCarlo, MD, Manjula Bansal, MD, Darryl Sneag, MD, Hollis Potter, MD, Steve Lee, MD, Scott Wolfe, MD

SPECIALTY DAY

American Orthopaedic Society of Sports Medicine (AOSSM)
Scientific Session: Lower Extremity
Chondral Defect Repair With Particulated Juvenile Cartilage Allograft: Mid-term MRI and T2 Mapping Analysis
Nicole Belkin, MD, Alissa Burge, MD, Brenda Chang, MPH, Riley Williams, MD
Spine Service

CASE PRESENTATION

Managing Complex Problems in Lumbar Spinal Stenosis
Russel Huang, MD

ORTHOPAEDIC REVIEW COURSE

Update for Your Practice and Preparation for Your Test (Degenerative Spine Review)
Todd Albert, MD

PAPER PRESENTATIONS

Acetabular Component Orientation in the Setting of Spinal Deformity Correction
Aaron Buckland, MD, FRACS, Robert Hart, MD, Gregory Mundis, MD, Daniel Sciubba, MD, Renaud Lafage, Thomas Errico, MD, Robert Bess, MD, Jonathan Vigdorchik, MD, Ran Schwarzkopf, MD, Virginie Lafage, PhD

Despite Higher Risk Stratification Scores, Frail Patients Achieve Greater Two-Year Health Related Quality of Life Improvement From Baseline Compared to Non-Frail Patients Following Adult Spinal Deformity Surgery
Alan Daniels, MD, Tamir Ailon, FRCSC, Emily Miller, BA, Justin Smith, MD, Christopher Shaffrey, MD, Virginie Lafage, PhD, Frank Schwab, MD, Adam Eltorai, Douglas Burton, MD, Robert Hart, MD, Richard Hostin, MD, Robert Bess, MD, Christopher Ames, MD

Early Postoperative Surgical Site Infections in the Scoli-Risk 1 Cohort of Complex Spinal Deformity Patients Still Allowed For Improved Health Related Quality of Life Outcomes at Two-Year Follow-Up
Amit Jain, MD, Floreana Kebaish, MD, Lawrence Lenke, MD, Michael Fehlings, MD, Christopher Ames, MD, Christopher Shaffrey, MD, Frank Schwab, MD, Leah Carreon, MD, Benny Dahl, MD, Khaled Kebaish, MD

Full-Body Analysis of Age-Adjusted Alignment in Adult Spinal Deformity Patients and Lower-Limb Compensation
Peter Passias, MD, Cyrus Jalai, BA, Dana Cruz, MD, Bassel Diebo, MD, Gregory Poorman, BA, Renaud Lafage, Louis Day, BS, Frank Schwab, MD, Virginie Lafage, PhD

Incidence of Congenital Spinal Abnormalities Among Paediatric Patients and their Association With Scoliosis and Systemic Anomalies
Peter Passias, MD, Gregory Poorman, BA, Cyrus Jalai, MD, Bassel Diebo, MD, Shaleen Vira, MD, Joseph Baker, MD, Abiola Atanda, MD, Virginie LaFage, PhD, Thomas Errico, MD

Indications for Direct Laryngoscopic Examination of Vocal Cord Function Prior to Anterior Cervical Surgery
Ani Gowd, BS, Alireza Nazemi, MS, Jonathan Carmouche, MD, Todd Albert, MD, Caleb Behrend, MD

Location of Correction Within the Lumbar Spine Impacts Acute Adjacent Segment Kyphosis
Renaud Lafage, Ibrahim Obeid, Barthelemy Liabaud, MD, Robert Bess, MD, Cyrus Jalai, BA, Justin Smith, MD, Frank Schwab, MD, Virginie Lafage, PhD, International Spine Study Group

Lumbar Stenosis Severity Predicts Worsening Sagittal Malalignment on Full-Body Standing Stereoradiographs
Aaron Buckland, MD, FRACS, Subaraman Ramchandran, MBBS, Louis Day, BS, Robert Bess, MD, Themistocles Protopsaltis, MD, Peter Passias, MD, Renaud Lafage, Virginie Lafage, PhD, Thomas Errico, MD

Moving Beyond Radiographs: Dynamic, Three-Dimension Analysis of Gait Patterns After Adolescent Idiopathic Scoliosis Realignment Surgery
Ashish Patel, MD, Jeffrey Varghese, BS, Bassel Diebo, MD, Robert Pivec, MD, Ellen Godwin, PT, Dipal Chatterjee, MD, Virginie Lafage, PhD, Qais Naziri, MBA, Carl Paulino, MD

Patients With Multi-Level Degenerative Disc Disease in the Lumbar Spine Have Decreased Sit to Stand Pelvic Mobility and Increased Risk for Postoperative Dislocation After Primary Total Hip Arthroplasty
Peter Sculco, MD, Kaitlin Carroll, BS, Bassel Diebo, MD, Theodore Miller, MD, FACP, Han Jo Kim, MD, Seth Jerabek, MD, David Mayman, MD

Perioperative Medical Complications and Mortality Rate Among 3,519 Elderly Patients Undergoing Surgery for Spinal Deformity
Amit Jain, MD, Hamid Hassanzadeh, MD, Varun Puvanesarajah, MD, Eric Klineberg, MD, Daniel Sciubba, MD, Michael Kelly, MD, Virginie Lafage, PhD, Aaron Buckland, FRACS, Peter Passias, MD, Renaud Lafage, Justin Smith, MD, Christopher Shaffrey, MD, David Mayman, MD

Propensity-Matched Cost-Effectiveness of Bone Morphogenetic Protein in Adult Spinal Deformity Surgery Using Direct Costs
Jeffrey Gum, MD, Richard Hostin, MD, Chessie Robinson, MA, Steven Glassman, MD, Douglas Burton, MD, Frank Schwab, MD, Robert Bess, MD, International Spine Study Group

Rates of Recovery and Outcomes After Neuromotor Complications in Adult Spinal Deformity Surgery
Srivasht Iyer, MD, Han Jo Kim, MD, Frank Schwab, MD, Themistocles Protopsaltis, MD, Peter Passias, MD, Richard Hostin, MD, Gregory Mundis, MD, Vedat Deviren, MD, Christopher Shaffrey, MD, Khaled Kebaish, MD, Justin Smith, MD, Christopher Ames, MD, Eric Klineberg, MD, International Spine Study Group
Serious Adverse Events Significantly Reduce Patient-Reported Outcomes at Two-Year Follow Up: Nonoperative Multicenter Prospective NIH Study of 105 Patients
Andrew Pugely, MD, Keith Bridwell, MD, Christine Baldus, RN, Lukas Zebala, MD, Christopher Shaffrey, MD, Steven Glassman, MD, Charles Edwards, II, MD, Frank Schwab, MD, Michael Kelly, MD

Surgery for Adolescent Idiopathic Scoliosis Patients After Skeletal Maturity: Now or Later?
Baron Lonner, MD, Yuan Ren, PhD, Robert Bess, MD, Michael Kelly, MD, Han Jo Kim, MD, Burt Yaszay, MD, Virginie Lafage, PhD, Firoz Miyanji, MD, Peter Newton, MD

The Impact of Obesity on Compensatory Mechanisms in Response to Progressive Sagittal Malalignment
Peter Passias, MD, Cyrus Jalai, BA, Bassel Diebo, MD, Dana Cruz, MD, Aaron Buckland, MD, FRACS, Renaud Lafage, Robert Bess, MD, Thomas Errico, MD, Virginie Lafage, PhD

The Posterior Use of rhBMP-2 in Cervical Deformity Surgery Does Not Result in Increased Complications: A Prospective Multicenter Study
Han Jo Kim, MD, Sravisht Iyer, MD, Hongda Bao, MD, Justin Smith, MD, Munish Gupta, MD, Todd Albert, MD, Themistocles Protopsaltis, MD, Gregory Mundis, MD, Peter Passias, MD, Brian Neuman, MD, Eric Klineberg, MD, Virginie Lafage, PhD, Christopher Ames, MD

Thoracolumbar Realignment Surgery Results in Reciprocal Changes in Lower Extremities and Cervical Spine
Louis Day, BS, Subaraman Ramchandran, MBBS, Robert Bess, MD, Frank Schwab, MD, Themistocles Protopsaltis, MD, Peter Passias, MD, Thomas Errico, MD, Virginie Lafage, PhD, Aaron Buckland, MD, FRACS

Thromboembolic Disease in Adult Spinal Deformity Surgery: Incidence and Risk Factors in 737 Patients
Han Jo Kim, MD, Bassel Diebo, MD, Sravisht Iyer, MD, Michael Kelly, MD, Daniel Sciubba, MD, Frank Schwab, MD, Virginie Lafage, PhD, Gregory Mundis, MD, Christopher Shaffrey, MD, Justin Smith, MD, Robert Hart, MD, Douglas Burton, MD, Robert Bess, MD, Christopher Ames, MD, Eric Klineberg, MD, International Spine Study Group

POSTERS
Impact of Depression on Health Related Quality of Life Outcomes in Surgically Treated Adult Spinal Deformity Patients
Amit Jain, MD, Floreana Kebaish, MD, Lawrence Lenke, MD, Leah Carreon, MD, Christopher Ames, MD, Christopher Shaffrey, MD, Michael Fehlings, MD, Benny Dahl, MD, Frank Schwab, MD, Khaled Kebaish, MD

Posters
Serotonergic Antidepressants are Associated With Increased Blood Transfusion Rates in Lumbar Fusion
Alexander Hughes, MD, Paul Schadler, Jennifer Shue, MS, Mohamed Moawad, BA, Federico Girardi, MD, Frank Cammisa,Jr., MD, Russel Huang, MD, Darren Lebl, MD, Andrew Sama, MD

Sagittal Spinal Alignment in Adult Spinal Deformity: An Overview of Current Concepts
Sravisht Iyer, MD, Michael Fu, MD, Evan Sheha, MD, Jeffrey Varghese, BS, Matthew Cunningham, MD, PhD, Frank Schwab, MD, Todd Albert, MD, Virginie Lafage, PhD, Han Jo Kim, MD

SCIENTIFIC EXHIBIT
Sagittal Spinal Alignment in Adult Spinal Deformity: An Overview of Current Concepts
Sravisht Iyer, MD, Michael Fu, MD, Evan Sheha, MD, Jeffrey Varghese, BS, Matthew Cunningham, MD, PhD, Frank Schwab, MD, Todd Albert, MD, Virginie Lafage, PhD, Han Jo Kim, MD

SPECIALTY DAY
Cervical Spine Research Society (CSRS)
Adjacent Level Disease in Cervical Spine: Predictors of Adjacent Segment Disease in the Cervical Spine
Todd Albert, MD
Sports Medicine Service

CASE PRESENTATION

Unrecognized FCL/Posterolateral Deficiency in the Setting of Failed ACL Reconstruction
Robert Marx, MD, MSc, FRCSC

MODERATOR

How-To Videos: Management of Glenoid Bone Loss in RTSA-ASES
Russell Warren, MD

PAPER PRESENTATIONS

Ambulatory Total Shoulder Arthroplasty: A Comprehensive Analysis of Current Trends, Complications, Readmission, and Costs
Jourdan Cancienne, MD, Stephen Brockmeier, MD, Lawrence Gulotta, MD, David Dines, MD, Brian Werner, MD

Bariatric Surgery Following Total Shoulder Arthroplasty Increases the Risk for Mechanical Complications Including Instability and Prosthetic Loosening
Jourdan Cancienne, MD, Christopher Camp, MD, Stephen Brockmeier, MD, Lawrence Gulotta, MD, David Dines, MD, Brian Werner, MD

Clinical Outcomes After Isolated Medial Patellofemoral Ligament Reconstruction for Patellar Instability
Joseph Liu, MD, Jacqueline Brady, MD, Claire Ryan, Irene Kalbien, BA, Sabrina Strickland, MD, Joseph Nguyen, MPH, Beth Shubin Stein, MD

Clinical Outcomes After Reverse Shoulder Arthroplasty With and Without Subscapularis Repair: The Importance of Considering Glenosphere Lateralization
Brian Werner, MD, Alexandra Wong, BA, Gregory Mahony, BA, Edward Craig, MD, David Dines, MD, Russell Warren, MD, Lawrence Gulotta, MD

Decreased Hip Internal Rotation Increases the Risk of Back and Abdominal Injuries in Professional Baseball Players: Analysis of 262 Player-Seasons
Christopher Camp, MD, John Zajac, DPT, David Pearson, ATC, Andrea Spiker, MD, Alec Sinatro, BA, Anil Ranawat, MD, David Altchek, MD, Joshua Dines, MD, Struan Coleman, MD, PhD

Decreased Shoulder External Rotation and Flexion are Greater Predictors of Injury than Internal Rotation Deficits: Analysis of 132 Pitcher-Seasons in Professional Baseball
Christopher Camp, MD, John Zajac, DPT, David Pearson, ATC, Andrea Spiker, MD, Alec Sinatro, BA, Brian Werner, MD, David Altchek, MD, Struan Coleman, MD, PhD, Joshua Dines, MD

Does Hip Arthroscopy Provide Meaningful Outcome Improvement for Adolescent Femoroacetabular Impingement?
Benedict Nwachukwu, MD, Brenda Chang, MPH, Cynthia Kahlenberg, MD, Kara Fields, MS, Danyal Nawabi, MD, Bryan Kelly, MD, Anil Ranawat, MD

High Satisfaction and Return to Sports After Total Shoulder Arthroplasty: Age 55 and Younger
Grant Garcia, MD, Joseph Liu, MD, Hao-Hua Wu, BA, Alec Sinatro, BA, Alexandra Wong, BA, David Dines, MD, Russell Warren, MD, Lawrence Gulotta, MD

Integrating Social Media and Orthopaedics: A Prospective Analysis of Patient, Surgeon, and Hospital Utilization
Prem Ramkumar, MBA, Ton La Jr, BS, Evan Fisch, Peter Fabricant, MD, MPH, Alex White, BA, Kristofer Jones, MD, Samuel Taylor, MD

Murine Supraspinatus Tendon Detachment and Repair Model Augmented With Tendon-Derived, Activated Endothelial Cells: A New Concept in Biologic Enhancement of Tendon-to-Bone Healing
Amir Lebaschi, MD, Camila Carballo, MSc, Christopher Camp, MD, Guang-Ting Cong, Zoe Album BS, Lilly Ying, Xiang-Hua Deng, MD, Scott Rodeo, MD

Osseous Vascularity of the Medial Elbow Following Ulnar Collateral Ligament Reconstruction: A Comparative Analysis of the Docking and Figure of Eight Techniques
Christopher Camp, MD, Craig Klinger, BA, Lionel Lazaro, MD, Jordan Villa, MD, Andrew Nellestein, BS, David Altchek, MD, David Heffet, MD, Dean Lorich, MD, Joshua Dines, MD

Preoperative Outcome Scores Predict Minimal Clinically Important Difference Following Hip Arthroscopy
Benedict Nwachukwu, MD, Kara Fields, MS, Brenda Chang, MPH, Danyal Nawabi, MD, Bryan Kelly, MD, Anil Ranawat, MD

Preoperative Patient Expectations Predict Outcomes Following Total Shoulder Arthroplasty
Ishaan Swarup, MD, Curtis Henn, MD, Joseph Nguyen, MPH, Lawrence Gulotta, MD, R. Henn, III, MD

Psychometric Derivation of Patient Perceived Substantial Clinical Benefit Following Hip Arthroscopy
Benedict Nwachukwu, MD, Brenda Chang, MPH, Kara Fields, MS, Brian Rebolledo, MD, Danyal Nawabi, MD, Bryan Kelly, MD, Anil Ranawat, MD
Race and Insurance Status Affect Utilization of Meniscus Surgery
William Schairer, MD, Benedict Nwachukwu, MD, Stephen Lyman, PhD, Answorth Allen, MD

Risk Factors for Failure of SLAP Repair Requiring Revision Surgery: A National Perspective
Samuel Taylor, MD, Ryan Degen, MD, MSc, FRCSC, Stephen O’Brien, MD, MBA, Alex White, BA, Brian Werner, MD

Risk-Based Hospital and Surgeon Volume Categories for Total Hip Arthroplasty
Jayme Burket-Koltsov, PhD, Robert Marx, MD, MSc, FRCSC, Alexander McLawhorn, MD, MBA, Stephen Lyman, PhD

The Risk of Infection Following Elbow Arthroscopy: Analysis of Patient Demographics, Medical Comorbidities, and Steroid Injections in 2,704 Patients Following Surgery
Christopher Camp, MD, Ryan Degen, MD, MSc, FRCSC, Jourdan Cancienne, MD, Joshua Dines, MD, David Altchek, MD, Brian Werner, MD

Perioperative Serum Lipid Status and Statin Use Affect Revision Surgery Rate After Arthroscopic Rotator Cuff Repair
Jourdan Cancienne, MD, Stephen Brockmeier, MD, Scott Rodeo, MD, Brian Werner, MD

The Role of Vitamin D in Lower Extremity Strains and Sports Hernia Injuries in NFL Combine Athletes
Brian Rebolledo, MD, Johnathan Bernard, MD, Brian Werner, MD, Benedict Nwachukwu, MD, David Dare, MD, Russell Warren, MD, Scott Rodeo, MD

The “Safe Zone” Technique Improves Suture Placement and Accuracy During Arthroscopic Remplissage: A Cadaveric Validation of a Novel Technique
Grant Garcia, MD, Ryan Degen, MD, MSc, FRCSC, Joseph Liu, MD, Cynthia Kahlenberg, MD, Daniel Hurwit, MD, Joshua Dines, MD

Ulnar Collateral Ligament Reconstruction in Professional Baseball Position Players: A Report of 157 Cases With Comparative Analysis to Outcomes in Pitchers
Christopher Camp, MD, Stan Conte, ATC, John D’Angelo, BA, Stephen Fealy, MD

What is the Quality of Minimum Clinically Important Outcome Reporting in Sports Medicine?
Benedict Nwachukwu, MD, Robert Runyon, Cynthia Kahlenberg, MD, Elizabeth Gausden, MD, William Schairer, MD, Answorth Allen, MD

POSTERS

Analysis of Online Rating Websites for Sports Medicine Surgeon “Quality”
Benedict Nwachukwu, MD, Samir Trehan, MD, Kelms Amoo-Achampong, BA, Brenda Chang, MPH, Joseph Nguyen, MPH, Samuel Taylor, MD, Frank McCormick, MD, Anil Ranawat, MD

Anteromedial Anchor Insertion Along the Acetabular Rim—The ‘Danger-Zone’ of Hip Arthroscopy
Ryan Degen, MD, MSc, FRCSC, Lazaros Poultsides, MD, Stephanie Mayer, MD, Struan Coleman, MD, PhD, Anil Ranawat, MD, Danyal Nawabi, MD, Bryan Kelly, MD

Comparison of Revision Rates of Non-Modular Constrained Versus Posterior Stabilized Total Knee Arthroplasty: A Propensity Score-Matched Cohort Study
Mohamed Moussa, MD, Yuo-Yu Lee, MS, Geoffrey Westrich, MD, Nabil Mehta, Stephen Lyman, PhD, Robert Marx, MD, MSc, FRCSC

Early Postoperative Fluoroquinolone Use is Associated With Increased Revision Rate After Arthroscopic Rotator Cuff Repair
Jourdan Cancienne, MD, Scott Rodeo, MD, Stephen Brockmeier, MD, Dale Young, MD, Brian Werner, MD

Fresh Osteochondral Allograft Transplantation for Failed Microfracture in the Knee
Shawn Anthony, MD, Ryan Degen, MD, MSc, FRCSC, Christopher Camp, MD, Andrea Spiker, MD, Riley Williams, MD

Modifiable Factors that Affect Elbow Torque: Analysis of Over 32,000 Throws From Professional Baseball Players
Christopher Camp, MD, Brittany Dowling, MS, Travis Tubbs, MS, David Dines, MD, David Altchek, MD, Joshua Dines, MD

Nonunion after Clavicle Osteosynthesis: High Incidence of Propionibacterium Acnes
Elizabeth Gausden, MD, Jordan Villa, MD, Stephen Warner, MD, Mariya Redko, BS, Andrew Pearle, MD, Dean Lorich, MD, David Heffet, MD, David Wellman, MD

Orthopaedic In-Training Exam: A Performance Review Based on Program and Resident Specific Factors
Christopher Camp, MD, Ryan Degen, MD, MSc, FRCSC, Norman Turner, III, MD, Arlen Hanssen, MD, Matthew Karam, MD, Joshua Dines, MD

Pelvic Incidence, Pelvic Tilt, and Sacral Slope in Adult Patients Undergoing Periacetabular Osteotomy to Treat Hip Dysplasia: Effects on Clinical Outcomes and Associations With Hip Anatomy as Measured by Multiplanar CT
Graeme Whyte, MD, MSc, FRCSC, Aaron Buckland, MD, FRACS, Douglas Mintz, MD, Struan Coleman, MD, PhD, Robert Buly, MD, Ernest Sink, MD
Residents and Program Director Perspectives Often Differ on the Value of the Orthopaedic In-Training Exam
Christopher Camp, MD, Ryan Degen, MD, MSc, FRCSC, Joshua Dines, MD, Arlen Hanssen, MD, Matthew Karam, MD, Norman Turner, III, MD

Return to Play and Patient Satisfaction after Anterior Cruciate Ligament Reconstruction at Minimum Two-Year Follow Up
Benedict Nwachukwu, MD, Pramod Voleti, MD, Patricia Berkanish, Brenda Chang, MPH, Matthew Cohn, Riley Williams, MD, Answorth Allen, MD

Risk of Failure of Primary Hip Arthroscopy—A Population-Based Study
Ryan Degen, MD, MSc, FRCSC, Ting-Jung Pan, MPH, Brenda Chang, MPH, Nabil Mehta, Peter Chamberlin, Anil Ranawat, MD, Danyal Nawabi, MD, Bryan Kelly, MD, Stephen Lyman, PhD

SCIENTIFIC EXHIBITS

Platelet-Rich Plasma in Orthopaedic Surgery: Where Do We Stand in 2017?
Nikolas Baksh, MD, Charles Hannon, MD, Rachel Frank, MD, Jacqueline Brady, MD, John Kennedy, MD, Scott Rodeo, MD, Brian Cole, MD, MBA

Stem Cells in Orthopaedic Surgery: Definitions, Regulations, and Bench to Bedside Evidence
Charles Hannon, MD, Rachel Frank, MD, Eric Cotter, BS, John Kennedy, MD, Scott Rodeo, MD, Brian Cole, MD, MBA

The Diagnosis and Management of Articular Cartilage Lesions in the Adolescent Knee: Indications, Surgical Techniques and Clinical Outcomes
Kristofer Jones, MD, Natalie Leong, MD, Edward Cheung, MD, Armin Arshi, MD, Peter Fabricant, MD, MPH, Riley Williams, MD, David McAllister, MD

What is the Role for Computer-Assisted 3D Modeling for Preoperative Planning of Shoulder Arthroplasty?
Jacob Kirsch, MD, Ryan Mlynarek, MD, Amit Nathani, MD, Joshua Dines, MD, Gilles Waich, MD, Jon Warner, MD, Asheesh Bedi, MD

ORTHOPAEDIC VIDEO LIBRARY

Gait Analysis Following Intertrochanteric Hip Fracture: Does Shortening Result in Gait Impairment?
Elizabeth Gausden, MD, Ashley Levack, MD, Lauren Wessel, MD, Gele Moloney, MD, Andrew Nellestein, BS, Joseph Lane, MD, Dean Lorich, MD

PAPER PRESENTATION

Hip Fracture Surgery Within 24 Hours is Independently Associated With Reduced Short-Term Postoperative Complications: A Propensity-Adjusted Analysis
Michael Fu, MD, Elizabeth Gausden, MD, Andre Samuel, MD, Joseph Lane, MD
Osseous Vascularity of the Medial Elbow following Ulnar Collateral Ligament Reconstruction: A Comparative Analysis of the Docking and Figure of Eight Techniques
Christopher Camp, MD, Craig Klinger, BA, Lionel Lazaro, MD, Jordan Villa, MD, Andrew Nellestein, BS, David Altchek, MD, David Helfet, MD, Dean Lorich, MD, Joshua Dines, MD

Supination External Rotational Ankle Fracture Injury Pattern Correlates With Regional Bone Density
Stephen Warner, MD, Elizabeth Gausden, MD, Ashley Levack, MD, David Helfet, MD, Dean Lorich, MD

The Diagnostic Accuracy of Radiographs and MRI in Predicting Deltoid Ligament Ruptures in Ankle Fractures
Stephen Warner, MD, Matthew Garner, MD, Peter Fabricant, MD, MPH, Patrick Schottel, MD, Michael Loftus, MBA, Keith Hentel, David Helfet, MD, Dean Lorich, MD

The Effect of Soft Tissue Injuries on Clinical Outcomes Following Tibial Plateau Fracture Fixation
Stephen Warner, MD, Matthew Garner, MD, Patrick Schottel, MD, Peter Fabricant, MD, MPH, Ryan Thacher, BA, David Helfet, MD, Dean Lorich, MD

Nonunion After Clavicle Osteosynthesis: High Incidence of Propionibacterium Acnes
Elizabeth Gausden, MD, Jordan Villa, MD, Stephen Warner, MD, Mariya Redko, BS, Andrew Pearle, MD, Dean Lorich, MD, David Helfet, MD, David Wellman, MD

Comparison of PROMIS to Legacy Patient-Reported Outcome Scores in Upper Extremity Trauma
Elizabeth Gausden, MD, Andrew Nellestein, BS, Peter Fabricant, MD, MPH, Ryan Thacher, BA, David Wellman, MD, Dean Lorich, MD

The Hip Fracture Patient on Warfarin: Is Delay of Surgery Necessary?
Matthew Cohn, Nikunj Trivedi, MD, Ashley Levack, MD, Jordan Villa, MD, Joseph Koressel, David Wellman, MD, John Lyden, MD, Dean Lorich, MD, Joseph Lane, MD

The Use of Endosteal Fibular Strut Allograft in Fracture Reduction and Construct Augmentation
Elizabeth Gausden, MD, Ashley Levack, MD, Stephen Warner, MD, Alexander Christ, MD, Matthew Garner, MD, Dean Lorich, MD

ORS Annual Meeting

CLINICAL RESEARCH FORUM

Mitigating Bias in Clinical Studies
Stephen Lyman, PhD

MEET THE PROFESSOR

Meet the Professor
Adele Boskey, PhD

Tendon Poster Tour
Scott Rodeo, MD

MODERATOR

Orthopaedic Implants Section: Total Knee Replacement
Co-Moderator: Timothy Wright, PhD

ORS AWARDS SESSION

New Investigator Award Nominee
Voxel-based Relaxometry Reveals Local Patterns in T1ρ, T2 and R2-R1 Longitudinal Progression 12 Months After ACL Reconstruction in Both Injured and Contralateral Knees: A Multicenter Pilot Study
Valentina Pedoia, PhD, Colin Russell, BS, Xiaojuan Li, PhD, Benjamin Ma, MD, Matthew Koff, PhD, Hollis Potter, MD, Kimberly Amrami, MD, Aaron Krych, MD, Scott Rodeo, MD, Sharmila Majumdar, PhD

ORS Excellence in Orthopaedics Award Session
Featuring Kappa Delta, Orthopaedic Research & Education Foundation, and CORR® ORS Richard A. Brand for Outstanding Orthopaedic Research
2017 Kappa Delta Elizabeth Winston Lanier Award
Kinematics of the Normal and Injured Wrist: The Importance of the Midcarpal Joint
Scott Wolfe, MD, Co-Author: Joseph Crisco III, PhD

ORS/OREF GRANT WRITING WORKSHOP

Grant Writing Session
Adele Boskey, PhD
### PAPER PRESENTATIONS

**An In Vivo Model of Load Induced Bone Marrow Lesions**  
Jonathan Matheny, PhD, Matthew Goff, PhD,  
Sarah Pownder, DVM, Matthew Koff, PhD,  
Kei Hayashi, DVM, PhD, Marjolein Van der Meulen, PhD,  
Christopher J. Hernandez, PhD

**Diagnostic Accuracy of Zero Echo Time Magnetic Resonance Imaging for Cervical Spine Neuroforaminal Stenosis**  
Darryl Sneag, MD, Parina Shah, MS, Ryan Breighner, PhD,  
Matthew Koff, PhD

**Effects of Ankle Arthroplasty Versus Fusion on Hindfoot Kinematics During Simulated Gait**  
Daniel Sturnick, MD, Josh Baxter, PhD,  
Constantine Demetracopoulos, MD, Robin Queen, PhD,  
Scott Ellis, MD, Jonathan Deland, MD

**Osseous Shoulder Imaging Using Zero Echo Time MRI**  
Ryan Breighner, PhD, Lawrence Gulotta, MD, Yoshimi Endo, MD,  
Gabrielle Konin, MD, Matthew Koff, PhD, Hollis Potter, MD

**Relative Engagement of the Anterior Cruciate Ligament and the Surrounding Soft Tissue Envelope**  
Robert Kent, BSE, Mark Amirtharaj, BS,  
Thomas Wickiewicz, MD, Andrew Pearle, MD, Carl Imhauser, PhD

**PODIUM**

**Bone Architecture is a Marker of Successful Cancellous Osseointegration in Compromised Murine Bone**  
Arvinth Sethuraman, MSc, Xu Yang, MD, Benjamin Ricciardi, MD,  
Aleksy Dworzynski, MD, Yoo-yu Lee, MS, Joseph Koressell, MS,  
Joseph Choi, BS, Zachary Lane, MD, Kevin Nishida, BS,  
Matthew Shirley, BS, Zhiwei Wang, MD, Caroline Brial, MEng,  
Amanda Wach, BS, Marjolein van der Meulen, PhD,  
Mathias Bostrom, MD

**Chondral Injury Associated With ACL Injury: Monitoring Disease Progression**  
Caroline Figgie, BS, Matthew Koff, PhD, Parina Shah, MS,  
Hollis Potter, MD, Scott Rodeo, MD, Kimberly Amrami, MD,  
Aaron Krych, MD, Valentina Pedaola, PhD, Keiko Amano, MD,  
Xiaojuan Li, PhD, Benjamin Ma, MD, Sharmila Majumdar, PhD,  
AF-ACL Consortium

**Clinical Outcomes After Isolated Medial Patellofemoral Ligament Reconstruction for Patellar Instability in Patients With Trochlear Dysplasia**  
Joseph Liu, MD, Joseph Nguyen, MPH, Claire Ryan, BA,  
Jacqueline Brady-Munch, MD, Irene Kalbian BA, Sabrina Strickland, MD, Beth Shubin Stein, MD

**CTGF and TGF-β3 Enhanced Meniscus Regeneration Using Polymeric Meniscus Scaffolds in an Ovine Model**  
Yusuke Nakagawa, MD, Lisa Fortier, DVM, PhD, Jeremy Mao, DDS, PhD, Chang Lee, PhD, Tyler Uppstrom, BS, Colin Dannaher, BS, Margaret Goodale, BS, Matthew Koff, PhD,  
Lebaschi Amir, MD, Camila Carballo, MSc, Liang Ying, BS,  
Hollis Potter, MD, Scott Rodeo, MD

**Current Status of PRP Use in Sports Medicine**  
Scott Rodeo, MD

**The Effect of Humeral Tray Placement on the Reverse Shoulder Arthroplasty Impingement**  
Jonathan Glenday, BS, Sudesh Sivarasu, PhD, Lawrence Gulotta, MD, Stephen Roche, MD, Andreas Kontaxis, PhD

**Vancomycin-Loaded Polymethylmethacrylate Spacers Fail to Eradicate Periprosthetic Joint Infection in an Innovative, Clinically-Representative Mouse Model of PJI Treatment**  
Alberto Carli, MD, MSc, FRCS, Samrath Bhimani, MS,  
Xu Yang, MD, Karen de Mesy Bentley, MS, Patrick Ross, PhD,  
Mathias Bostrom, MD

### POSTERS

**Bilateral Differences in Patellar Tendon T2* Values Correlate With Differences in Morphologic Grade of Patellar Tendinosis Within Collegiate Basketball Players**  
Erin C. Argentieri, BS, Parina Shah, MS, Ogonna Nwawka, MD,  
Matthew F. Koff, PhD

**Biomechanical Analysis of RSA vs TSA for the Management of Biconcave (B2) Glenoids**  
Andreas Kontaxis, PhD, Jonathan Glenday, BS, Xiang Chen, MS,  
Russel Warren, MD, Lawrence Gulotta, MD

**Bone Robusticity in Osteogenesis Imperfecta Diverses From Established Patterns**  
Cathleen Raggio, MD, Kate Citron, BS, Cosmo Veneziale, BS,  
Josephine Marino, MPH, Erin Carter, MS CGC, Karl Jepsen, PhD

**Brief Hyperoxic Treatment for Improved Cartilage Viability and Joint-Dependent Cracking Patterns After Injury**  
Lisa Fortier, DVM, PhD, Sarah Poland, BS, Kira Novakowsk, PhD,  
Rebecca Williams, PhD, Michelle Delco, DVM, PhD,  
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**Collagen XI Mutation in Mice Results in Thinner, Less Dense Cortical Bone and Lower Susceptibility to Load-Induced Cartilage Damage**  
Derek Holyoak, BS, Miguel Otero, PhD, Naa Shidaa Armar, BS,  
Timothy Wright, PhD, Steven Goldring, MD, Mary Goldring, PhD,  
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Hyung Jin Sun, MS, Daniel Choi, MEng, Joseph Lipman, MS, Timothy Wright, PhD

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Chitra Dahia, PhD, Raffaella Bonavita, PhD, Sarthak Mohanty, Robert Pinelli, BA, Elfie De Jesus, BS

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Caroline Brial, MEng, Chelsea Koch, BS, Timothy Wright, PhD, Geoffrey Westrich, MD

Effect of Version Correction on Glenoid Fixation in Reverse Shoulder Arthroplasty on Bioconcave Glenoids
Xiang Chen, MS, Andreas Kontaxis, PhD, Jonathan Glenday, BS, Daniel Choi, MEng, Lawrence Gulotta, MD

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Gang Ji, MD, Andrew Sama, MD, Kevin Nishida BS, Zhiwei Wang, MD, Arvinth Sethuraman, MSc, Alberto Carli, MD, MSc, FRCSC, Samrath Bhimani, MS, Marjolein van der Meulen, PhD, Patrick Ross, PhD, Xu Yang, MD, Mathias Bostrom, MD

Engagement Patterns of the Anterolateral Ligament—A Computational Study
Hamidreza Jahandar, MS, Mohammad Kia, PhD, Robert Kent, BSE, Danyal Nawabi, MD, Thomas Wickiewicz, MD, Andrew Pearle, MD, Carl Imhauser, PhD

Finite Element Model of a Basal Joint Hemiarthroplasty Device
Darrick Lo, MEng

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L Ghazi Zadeh, Anik Chevrier, PhD, Mark Hurtig, DVM, MVSc, Jack Farr, MD, Scott Rodeo, MD, Caroline Hoemann, PhD, Michael Buschmann, PhD

Glenohumeral Laxity and the Effects of Elevation, Stretching, and Plication
Andrew Kraszewski, PhD, Andreas Kontaxis, PhD, Stephanie Mayer, MD, Russell Warren, MD

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Mohammad Kia, PhD, Timothy Wright, PhD, Peter Sculco, MD, Andrew Pearle, MD, Michael Cross, MD, David Mayman, MD, Geoffrey Westrich, MD, Carl Imhauser, PhD

Is Bone Composition Altered When Turnover is “Over Suppressed” by Bisphosphonate Treatment?
Adele Boskey, PhD, Lyudmila Spevak, MS, Yihe Huang, BS, Yan Ma, PhD, Mitchell Schaffler, PhD, Nicola Napoli, MD, Reina Villareal, MD, Debra Novack, MD, PhD

Knees Exhibit Two Distinct Patterns of Instability in Response to Pivoting Loads
Robert Kent, BSE, Brendan Hardy, Thomas Wickiewicz, MD, Andrew Pearle, MD, Carl Imhauser, PhD

Oliver Morgan, BS, Rajshree Mootanah, PhD, Franziska Reisse, PhD, Diagarajen Carpanen, PhD, David Lowe, BS, Howard Hillstrom, PhD

Medial Posterior Capsular Plication versus Remplissage for Anterior Shoulder Instability With a Large Hill Sachs Defect
Brian Werner, MD, Xiang Chen, MS, Christopher Camp, MD, Andreas Kontaxis, PhD, Joshua Dines, MD, Lawrence Gulotta, MD

Murine Supraspinatus Tendon Detachment and Repair Model Augmented With Tendon-Derived, Activated Endothelial Cells: A New Concept in Biologic Enhancement of Tendon-to-Bone Healing
Amir Lebaschi, MD, Christopher Camp, MD, Camila Carballo, MSc, Guang-Ting Cong, BS, Zoe Album, BA, Liang Ying, BS, Xiang-Hua Deng, MD, Scott Rodeo, MD

A New Murine Model of Subacromial Impingement: Biomechanical, Histologic, and Gene Expression Features
Amir Lebaschi, MD, Guang-Ting Cong, BS, Christopher Camp, MD, Camila Carballo, MSc, Zoe Album, BA, Liang Ying, BS, Xiang-Hua Deng, MD, Scott Rodeo, MD

A Prospective, Longitudinal Assessment of Adverse Local Tissue Reactions in Resurfacing Hip Arthroplasty versus Primary Total Hip Arthroplasty
Owen Drinkwater, BS, Matthew Koff, PhD, Danyal Nawabi, MD, Edwin Su, MD, Douglas Padgett, MD, Hollis Potter, MD

PTH Treatment Assessed By Nanoscale Infrared Spectroscopy
Laurianne Imbert, PhD, Eduardo Villarreal-Ramirez, PhD, Samuel Gourion-Arsiquaud, BS, Edward DiCarlo, MD, Elizabeth Pliuhar, DVM, PhD, Adele Boskey, PhD
Quantitative Ultrasound Assessment of the Achilles Tendon Under Varied Load
Daniel Sturnick, MS, Ogonna Nwawka, MD, Meghan Sahr, MD, Theodore Miller, MD, FACR

Role of Subchondral Bone Properties and Remodeling in Load-Induced Osteoarthritis in Mice
Olufunmilayo Adebayo, BS, Frank Ko, PhD, Philip Wan, MD, Steven Goldring, MD, Mary Goldring, PhD, Timothy Wright, PhD, Marjolein van der Meulen, PhD

Synovial Membrane Responses to CTGF/TGFβ3-Polymeric Meniscal Scaffold Transplantation in an Ovine Model
Tyler Uppstrom, BS, Yusuke Nagakawa, MD, Colin Danaher, BS, Margaret Goodale, BS, Amir Lebaschi, MD, Camila Carballo, MSc, Liang Ying, BS, Andrew Miller, DVM, Chang Hun Lee, PhD, Ling He, DVM, Xuguang Nie, PhD, Jeremy Mao, DDS, PhD, Scott Rodeo, MD, Lisa Fortier, DVM, PhD

T1ρ and T2 Mapping of Articular Cartilage in the Thumb Carpometacarpal Joint
Matthew Koff, PhD, Parina Shah, MS, Ryan Breighner, PhD, Darryl Sneag, MD, Ogonna Nwawka, MD, Hollis Potter, MD

The Effect of Vancomycin Soakage on the Material Properties of Patellar Tendon ACL Graft
Joseph Liu, MD, Ian Hutchinson, PhD, Tony Chen, PhD, Thomas Wickiewicz, MD, Scott Rodeo, MD, Russell Warren, MD

The Musculoskeletal Phenotype of the Aga2/+ Mutant Mouse Model of Osteogenesis Imperfecta
Tarek Taha, MD, Joan Marini, MD, PhD, Lyudmila Lukashova, MS, Lyudmila Spevak, MS, Hayat Taleb, MS, Adele Boskey, PhD

The Novel Antibiotic Dalbavancin Is Heat Stable, Elutes From Pmma Cement Spacers and Has Superior Antimicrobial Activity Than Vancomycin in an In-Vitro Killing Assay of Staphylococcus Aureus
Samrath Bhimani, MS, Alberto Carli, MD, MSc, FRCSC, Arvinth Sethuraman, MSc, Patrick Ross, PhD, Mathias Bostrom, MD

Version Correction Affects Glenoid Fixation in Total Shoulder Arthroplasty on Biconcave Glenoids
Xiang Chen, MS, Andreas Kontaxis, PhD, Jonathan Glenday, BS, Akhil Reddy, BSE, Daniel Choi, MEng, Timothy Wright, PhD, Lawrence Gulotta, MD

SCIENTIFIC WORKSHOP
Instability in Total Knee Arthroplasty: Where Are We Now and Where Do We Need to Go?
Timothy Wright, PhD, Guoan Li, PhD

SPECIALTY DAY
Basic Science Course – ORS Specialty Day
Osteoporosis/Metabolic Bone
Joseph Lane, MD

SPOTLIGHT SESSION
Stromal Cell-Derived Factor-1 Antibody Reduces Bone-Implant Interface Strength of a Murine Tibial Implant
Benjamin Ricciardi, MD, Kevin Nishida, BS, Zhiwei Wang, MD, Amanda Wach, BS, Arvinth Sethuraman, MSc, Sophia Ziemian, BS, Marjolein van der Meulen, PhD, Patrick Ross, PhD, Xu Yang, MD, Mathias Bostrom, MD

SYMPOSIA
Have You Got What it Takes to Start a Business? The Nitty Gritty of Being an Entrepreneur in Orthopaedics
Suzanne Maher, PhD

ORS Tendon Section: Current Strategies to Advance Treatment Options (Stem Cell Therapies, Biologics, Tissue Engineering)
Scott Rodeo, MD

Treasurer’s Report, Meniscus Section
Suzanne Maher, PhD