This marked an exciting year for Duke Orthopaedics as our department gave a record number of presentations at both the American Academy of Orthopaedic Surgery (AAOS) and Orthopaedic Research Society (ORS) annual meetings in Orlando, FL. Several of the residents and faculty attended, joined by dozens of Piedmont members from across the country. Excellent talks and posters were presented by all, with special recognition given to Benjamin Alman’s paper on “Improving Bone Healing in Neurofibromatosis: A Study in Mice” and Louis DeFrates’ work on “The Effects of ACL Graft Placement on in vivo Knee Function and Cartilage Thickness Distribution,” for which he was awarded the Kappa Delta Young Investigator Award on March 3. The Piedmont Orthopaedic Society Mid-Winter Reception was held at the Hilton Orlando with transportation provided by a full-size bus decorated with the Duke Orthopaedics logo. Everyone had a great time, celebrated in classic Piedmont fashion.

Instructional Course Talks

Ensuring a Winner: The A, B, Cs of Primary Total Knee Arthroplasty—Michael Bolognesi
Stress Management and Balance for the Orthopaedic Surgeon—CT Moorman
Skeletal Dysplasia: Evaluation and Management—Ben Alman
The Land of Ligaments: Navigating Sprains, Strains, and Ruptures about the Foot and Ankle—James Nunley
Primary Anterior Cruciate Ligament Failure: How do I Get it Right the Second Time!—Annunziato Amendola and CT Moorman
Management of Common Complications of Total Knee Arthroplasty: A Case-based Discussion—Michael Bolognesi
Recurrent Dislocation after Total Hip Arthroplasty: Controversies and Solutions—Samuel Wellman
Osteotomy and Arthrodesis of the Forefoot and Hindfoot—Samuel Adams
Arthritis of the Ankle Joint: Refining and Expanding Options in Management—Mark Easley
Multiple Ligament Knee Injuries: What Would You do?—Annunziato Amendola and CT Moorman
Complications of Common Hand Surgery Procedures—Fraser Leversedge
Management of Common Complications of Foot and Ankle Surgery—Selene Parekh
Cost Effectiveness Research in Orthopedics: What You Need to Know?—Chad Mather
Managing Problems and Complications during and after Primary Total Knee Arthroplasty—Michael Bolognesi

Symposium Talks

Preoperative Optimization of Total Joint Arthroplasty Surgical Risk—Michael Bolognesi

Podium Presentations

Psychiatric Disorders Increase Complication Rate after Primary Total Knee Arthroplasty—Mitchell Klement, Brian Nickel, Samuel Wellman, Michael Bolognesi, and Thorsten Seyler
Comparing Complications of Metal-on-Metal Total Hip Arthroplasty with Other Hip Bearings—Lindsay Kleeman, Thorsten Seyler, Samuel Wellman, and Michael Bolognesi (*Southern Orthopaedic Association President Award paper)
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<td>Should We Think Twice About Psychiatric Disease in Total Hip Arthroplasty?</td>
<td>Mitchell Klement, Daniel Blizzard, Samuel Wellman, Michael Bolognesi, and Thorsten Seyler</td>
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<td>Comparing Acute with Delayed Total Hip Arthroplasty for Medicare Patients with Acetabular Fractures</td>
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<td>Performance of PROMIS in Healthy Patients Undergoing Meniscal Surgery</td>
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<td>Meniscus Allograft Transplantation: Clinical Outcomes and Survivorship at Mean 5-Year Follow-Up</td>
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<td>Meniscal Allograft Transplantation in the Pediatric and Adolescent Population</td>
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<td>Utilization and Cost of Reverse Shoulder Arthroplasty vs Hemiarthroplasty for Proximal Humerus Fractures</td>
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<td>Outcomes following Total Hip Arthroplasty in Sickle Cell Hemoglobinopathy: Targets for Improvement</td>
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<td>Lingering Risk: Bariatric Surgery Prior to Total Knee Arthroplasty</td>
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<td>Interposition Porcine Dermal Matrix Xenografts: An Alternative to Traditional Treatment of Massive Cuff Tears</td>
<td>Julie Neumann, Kathleen Reay, Blake Boggess, and Alison Toth</td>
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<td>Outcomes after Total Hip Arthroplasty for Post-traumatic Arthritis</td>
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<td>Prospective Evaluation of Structural Allograft Transplantation for Osteochondral Lesions of the Talar Shoulder</td>
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<td>Improving Bone Healing in Neurofibromatosis: A Study in Mice</td>
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<td>Simple Neurectomy vs Intramuscular Implantation for Interdigital Neuroma: A Comparative Study</td>
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<td>Ankle Injury Prevention Programs for Soccer Athletes: A Level 1 Systematic Review and Meta-Analysis</td>
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<td>Predictors for Readmission following Primary Total Joint Arthroplasty in Lower Extremity</td>
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<td>Quantifying the Length of the Electronic Medical Record Implementation Period</td>
<td>Daniel Scott, Michael Bolognesi, Samuel Wellman, and Chad Mather</td>
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### Poster Presentations

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<td>Abnormally High Dislocation Rates of Total Hip Replacement Following Contemporary Low Back Surgery</td>
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<td>Tranexamic Acid in Total Hip Arthroplasty: Do Drug Formulation and Dosage Determine Efficacy and Safety?</td>
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<td>What is the Role of Dual Diagnosis in Primary Total Knee Arthroplasty?</td>
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<td>Decreased Range of Motion following Total Knee Arthroplasty is Predicted by the Tampa Scale of Kinesiophobia (TSK)</td>
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<td>Outcomes and Complications of Four Total Ankle Replacement: A Comparative Study</td>
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Comparison Outcomes and Complications of Patients Who Underwent Haglund’s Deformity Correction—Ned Amendola
Electronic Medical Record Implementation Results in Decreased Patient-Physician Interaction—Daniel Scott, Michael Bolognesi, Samuel Wellman and Chad Mather
Is the SRS Membership Accurately Reporting MandM Data?: A Comparison of the SRS and NSQIP Databases—Sergio Mendoza
All-Inside vs Inside-Out Meniscal Repair with Concurrent ACL Reconstruction: A Meta-Regression Analysis—Ned Amendola

Exhibits
Anatomic Layers of the Hip—Chad Mather
Arthroscopic Treatment of Impingement after Total Ankle Arthroplasty—Julie Neumann and James DeOrio

American Orthopaedic Foot and Ankle Society Specialty Day
Mark Easley—President
Selene Parekh—Program Chair
Symposium I: Wow, That is a Bunion—How do I Get That into a Shoe? Biplanar Chevron—James DeOrio
Symposium II: Do You Believe in This Pixie Dust? What to do with that Posterior Tibial Tendon—Annunziato Amendola
Moderator: Karl Schewitzer
Symposium III: What Else Can I do with My MD: Presidential Address—Mark Easley
Symposium V: To Operate or Not . . . That Is the Question: Operative Intervention of Jones Fractures—James Nunley
Symposium VI: Controversies: 3D Printed Implants—Sam Adams

American Orthopaedic Society for Sports Medicine Specialty Day
Scientific Session V: Team Physician Update: Unintended Consequences of Concussion Prevention in NCAA Football—Annunziato Amendola
Interposition Porcine Acellular Dermal Matrix Xenograft Successful Alternative in Treatment for Massive Rotator Cuff—Julie Neumann, Kathleen Reay, Blake Boggess and Alison Toth

American Society for Surgery of the Hand and American Association for Hand Surgery Specialty Day
Session III—Soft Tissue: Recurrent ganglion—Fraser Leversedge

Arthroscopy Association of North America Specialty Day
Session VII: Case Based Approaches
Panelist: Dean Taylor

Orthopaedic Trauma Association Specialty Day
ORIF vs Acute Arthroplasty for Common Fractures: What is The Evidence? Radial Head—David Ruch
Syndesmotic Injuries: Semi-Rigid Fixation is the New Gold Standard—Annunziato Amendola
Moderator: Steven Olson

ORTHOPAEDIC RESEARCH SOCIETY 2016
Podium Presentations
Cartilage-Specific Knockout of the Mechanosensory Ion Channel TRPV4 Inhibits Age-Related Osteoarthritis—Dianne Little and Amy McNulty
In vivo Cartilage Strains in Regions of Cartilage-to-Cartilage Contact and Cartilage-to-Meniscus Contact—Louis DeFrate, William Garrett, Amy McNulty, and CT Moorman
FGFR3 Modulates Fracture Repair by Controlling the Balance of Intramembranous and Endochondral Ossification—Ben Alman (*International Combined Orthopaedic Research Society (ICORS) Best Posters)
Elevated Lipid Metabolites in Synovial Fluid after Intra-articular Ankle Fracture—Samuel Adams, Mark Easley, and Steven Olson
In vivo Characterization of Acute Localized Tibial Cartilage Strains as a Function of Walk Duration—Louis DeFrate and William Garrett
The Effect of Conditional Macrophage Depletion on the Development of Injury-Induced Knee OA in Obese Transgenic MAFIA Mice—Dianne Little and Virginia Kraus
Characterization of Meniscus-derived Matrix and Evaluation for Repair of the Meniscus—Amy McNulty
Macrophage Secreted Factors Rejuvenate Fracture Repair—Ben Alman
Intracellular Cholesterol Production is Required for Chondrocyte Differentiation: Analysis of Srebp Cleavage-activating Protein (scap) Deficient Mice—Ben Alman and Matthew Hilton
II-1α Enhances Piezo1-Mediated Mechanotransduction in Articular Chondrocytes—Amy McNulty
A Novel Treatment for Nfl-Associated Deficiencies in Fracture Repair—Ben Alman and Gurpreet Baht

Poster Presentations
Oral Type 1 Collagen Peptides Induce Chondroregeneration in Post-traumatic Osteoarthritis—Matthew
Quantitative MR Characterization of Knee Cartilage 1 year after Tibial Plateau Fracture Correlates with Functional Outcomes at 2 years—Rita Baumgartner
Abnormally High Dislocation Rates of THR Following Contemporary Low Back Surgery—Sergio Mendoza
Chondrocyte-Specific RUNX2 Overexpression Accelerates Cartilage Degeneration Following Traumatic Injury—Matthew Hilton
Differentiation of Human Induced Pluripotent Stem Cells (iPSs) to Nucleus Pulposus-like Cells in vitro—Jun Chen Evaluation of Tendon Derived Matrix (TDM) Crosslinking Techniques for Electrospun Multi-layered Scaffolds—Dianne Little
Apolipoprotein E in Hematopoietic Cells Regulates Fracture Repair—Ben Alman
Microrna-29 Suppresses Cell Proliferation, and is Regulated by Beta-catenin and Glucocorticoids in Desmoid Tumors—Ben Alman
Diurnal Variations of T1rho Relaxation Times in Tibial Cartilage—Louis DeFrate and William Garrett
Synovial Inflammation Results in Increased IL-1 mediated NF-κB Activity in Isolated Porcine Joint Capsule Cells—Amy McNulty and Steven Olson
NOTCH Modified Mesenchymal Stem Cell Sheets Enhance Bone Repair in a Mouse Femur Allograft Model—Matthew Hilton
Revision Total Ankle Arthroplasty Results in Similar Outcomes to Primary Total Ankle Arthroplasty—Sam Adams
Cholesterol Processing Genes Act Downstream of Hedgehog (Hh) Signaling in Chondrosarcoma: Implications for Therapy—Ben Alman
In vivo Measurement of Localized Patella Cartilage Strain in Response to Running—Louis DeFrate

Moderators
Louis DeFrate: Knee Ligament
Dianne Little: Tendon and Ligament: Progenitors and Stem Cells

ORS Awards
*Kappa Delta Young Investigator Award: Louis DeFrate for “The effects of ACL graft placement on in vivo knee function and cartilage thickness distribution”