AOSSM gratefully acknowledges Stryker for an educational grant in support of the Preliminary Program.
The 2017 AOSSM Annual Meeting, taking place July 20-23rd in Toronto, Canada will be the premier sports medicine educational event of the year! Brian Wolf, MD, MS, 2017 Program Chair, and his committee have created a program that will keep you engaged with your colleagues on the latest research, prevention and treatment developments and leave you prepared to return to practice with new information to improve patient care. A few key program highlights include:

- Live surgery featuring knee and shoulder procedures
- 18 breakouts that delve in-depth into hot topics
- Video-based sessions focusing on shoulder, hip and knee
- Team Physician sessions focusing on foot/ankle & hand, muscle injury, biologics and sideline management
- Symposia on the business of sports medicine
- Additional round table discussions giving you the chance to learn from the experts in a small group setting
- 32 instructional courses, even some you don’t have to wake up early for on Saturday afternoon
- Sports specialization and return to play research workshop
- Presidential Guest Speaker, Duke University, Men’s Basketball Coach, Mike Krzyzewski

You are in for a true Canadian treat in Toronto with unique sites, culture and food, several of which are within walking distance or a short trolley ride from the meetings’ hotels. If you are bringing your family, you won’t want to miss the Royal Ontario Museum, Toronto Zoo, and Casa Loma – Toronto’s very own castle! Not to mention Niagara Falls which is just a mere 90 minutes away! For all our sports fans, the Saturday family-friendly event will be held at the Hockey Hall of Fame, where you can snap a picture with the Stanley Cup!

Get your passport ready and meet us in Toronto!

Annunziato (Ned) Amendola, MD
President

Brian Wolf, MD
Annual Meeting Program Committee Chair

www.sportsmed.org/aossminis/annualmeeting
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Brian R. Wolf MD, MS – Chair
David R. Diduch MD
Augustus D. Mazzocca MD, MS
Matthew T. Provencher MD
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Nikhil N. Verma MD

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as of March 20, 2017
CONFERENCE AGENDA
**THURSDAY, JULY 20**

**Instructional Courses** 6:45 am – 8:15 am  
**Exhibits** 7:30 am – 12:30 pm  
**General Session** 8:30 am – 5:00 pm  
**Medical Publishing Group Reviewers Workshop** 12:45 pm – 2:15 pm  
**Industry Symposia** 12:30 pm – 2:00 pm

**MORNING GENERAL SESSION**
8:30 am – 9:45 am

**BICEPS**
My Approach to Biceps Tendon and SLAP Pathology in the Overhead Athlete  
Tenodesis vs. Tenotomy: Does it Even Matter? How I Decide.  
Case-based Panel Discussion

**CONCURRENT SESSION A**
9:45 am – 10:45 am

**PATELLOFEMORAL**
When is MPFL Reconstruction not Enough?  
Managing the Dysplastic Trochlea

**CONCURRENT SESSION B**
9:45 am – 10:45 am

**OVERHEAD ATHLETE**
UCL Injury Risk and Prevention  
Technique Spotlight: Valgus Extension Overload  
Evaluation and Managing the “Partial” UCL Tear in a Thrower

**CONCURRENT SESSION C**
9:45 am – 10:45 am

**TEAM PHYSICIAN: FOOT/ANKLE AND HAND**
Managing Midfoot Injuries in the Athlete  
How to Diagnose and Manage the “Bad” Syndesmosis Ankle Sprain  
Hand Trauma in the Athlete: Getting Them Back to Action Quickly

**CONCURRENT SESSION A**
11:30 am – 12:30 pm

**SHOULDER TECHNIQUES VIDEO SESSION**
Superior Rotator Cuff Repair  
Subscapularis Repair  
Supraspinatus Nerve Decompression  
Biceps Tendonosis  
Posterior Instability — Getting it Right  
Latarjet — Pearls to Avoid Problems  
Bankart — Achieving the Perfect Repair  
Open Bankart — Don’t Forget this Surgery!

**CONCURRENT SESSION B**
11:30 am – 12:30 pm

**CARTILAGE AND BIOLOGICS**
Microfracture “Plus” — What Do We Know?  
Injectables and Adjuvants in Cartilage Repair Surgery  
Have We Made Progress in Cartilage Repair, and What’s on the Frontier?

**CONCURRENT SESSION C**
11:30 am – 12:30 pm

**HIP I**
The Role of Arthroscopy in the Dysplastic Hip  
What Should We Do with the Hip Capsule?  
Helping the Trauma Surgeon: Hip Arthroscopy for Fractures  
Hip Abductor Tears: Patient Evaluation and Treatment Options

**AFTERNOON GENERAL SESSION**
2:00 pm – 3:45 pm

**CARTILAGE AND MENISCUS**
The Competitive Athlete with Full Thickness Cartilage Defect — My Algorithm  
Managing the Unstable OCD in Active Youth Athlete: My Bag of Tricks  
What’s the Threshold for Osteotomy in Cartilage Surgery?  
The “Hidden Lesion” — Don’t Miss It!  
The Meniscal Root Repair — When and How?

**CONCURRENT SESSION A**
4:00 pm – 5:00 pm

**HIP VIDEO SESSION**
Labrum Repair  
Labrum Reconstruction  
Femoral Osteochondroplasty  
Bony Acetabular Rim Disorder  
Snapping Hip  
Hip Abductor Repair  
Ligamentum Teres Treatment  
Femoral Head Articular Cartilage Treatment

**CONCURRENT SESSION B**
4:00 pm – 5:00 pm

**BUSINESS OF SPORTS MEDICINE**
Utilizing Physician Extenders: Cost Benefit  
Partnering with Your Hospital: Service Line Agreements, Shared Savings  
Alternate Payment Models  
Management of Practice Ancillaries: How We Do It

**CONCURRENT SESSION C**
4:00 pm – 5:00 pm

**TEAM PHYSICIAN – MUSCLE INJURY**
Evaluation and Treatment of Athletic Pubalgia  
Pearls for Pectorallis Major Repair  
Treating the Spectrum of Hamstring Injuries

**FRIDAY, JULY 21**

**Instructional Courses** 6:45 am – 8:15 am  
**Exhibits** 7:30 am – 5:00 pm  
**General Session** 8:30 am – 4:00 pm  
**Guided Poster Tours** 4:00 pm – 5:00 pm

**MORNING GENERAL SESSION**
8:30 am – 10:45 am

**ACL**
Live Surgery  
Presidential Address  
Hall of Fame

**CONCURRENT SESSION A**
11:30 am – 12:30 pm

**SHOULDER INSTABILITY**
Treating the Anterior and Posterior Hagl  
Managing the Acute Bony Bankart

**CONCURRENT SESSION B**
11:30 am – 12:30 pm

**OUTCOME MEASURES – LOGISTICS**
Outcome and Performance Measures: How Will They Be Used in the Future?  
Update on Use of Outcome Measures in Sports Medicine  
Outcome Collection – Academic Practice  
Outcome Collection – Private Practice

**CONCURRENT SESSION C**
11:30 am – 12:30 pm

**HIP (FAI)**
Debridement vs. Repair vs. Reconstruction of the Labrum  
Technique Update: What I Am Doing Different in FAI Surgery in 2017 Compared to 5 Years Ago  
Getting the Competitive Athlete Back to Action after Hip Surgery

**AFTERNOON GENERAL SESSION**
1:30 pm – 2:45 pm

**SHOULDER**
Live Surgery  
Business Meeting
**SATURDAY, JULY 22**

**CONCURRENT SESSION A**
3:05 pm – 4:00 pm

**KNEE LIGAMENT**
Extra-Articular Augmentation: What is the Evidence?

Extra-Articular Augmentation: The Technique

**CONCURRENT SESSION B**
3:05 pm – 4:00 pm

**BUSINESS OF SPORTS MEDICINE – MODERNIZING YOUR SPORTS MEDICINE PRACTICE**

Branding and Web Pages

How to Effectively Use “Other” Social Media

Enhancing the Patient Experience: Apps for Practice and Patients

Advertising Your Clinical Expertise on the Internet

Athletic Team Coverage 2017

**CONCURRENT SESSION C**
3:05 pm – 4:00 pm

**TEAM PHYSICIAN – SIDELINE MANAGEMENT**

Panel Discussion: Go/No Go Game

Day Decisions

Emerging Fads – Restricted Blood Flow, Cupping, Cryotherapy

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**MORNING GENERAL SESSION**
8:30 am – 10:45 am

**ROTATOR CUFF AND SHOULDER INSTABILITY**

Traveling Fellows

Panel Discussion: RSA is the Gold Standard for the Irreparable Cuff Tear in the Middle Age Patient: Can the “Sports Guy” Match the Results?

RSA: Here’s the Data

Superior Capsule Reconstruction is the Best Option!

Partial Repair is the Choice!

Span the Defect with Graft!

How to Understand and Use the Congruent Arc Concept in Practice

REMPILLIAGE vs. LTJ vs. DTA: How to Choose OREF

President: Robert E. Leach, Sports Medicine Leadership Award

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**CONCURRENT SESSION A**
11:30 am – 12:30 pm

**TEAM PHYSICIAN: BIOLOGICS IN THE ATHLETE – WHAT TO INJECT, WHEN AND WHERE**

Local Anesthetic

Use of Corticosteroids

Toradol – How to Use it in 2017

PRP

Semi Cells

Panel Discussion: Athlete Management/Game Day Cases

**CONCURRENT SESSION B**
11:30 am – 12:30 pm

**KNEE VIDEO SESSION**

ACL – Medial Portal

All Reconstruction

Pediatric ACL Reconstruction

PCL

PLC

Meniscus Transplant

Tibial Tubercle Osteotomy

HTO

**CONCURRENT SESSION C**
11:30 am – 12:30 pm

**MITIGATING NARCOTICS IN THE SPORTS MEDICINE PATIENT**

Multi-modal Anesthesia in ACL Surgery: Options in 2017

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**LEARN IMPLEMENT SUCCEED**

**PRESIDENTIAL GUEST SPEAKER**

**MIKE KRZYZEWSKI**
Head Coach, Men’s Basketball
Duke University

This year’s Presidential Guest Speaker is Mike Krzyzewski, better known as “Coach K.” During his 37 seasons as the head coach of the Duke University Men’s Basketball team, he has won five national titles, been named National Coach of the year 12 times, been honored as “America’s Best Coach” by CNN and Time and Sportsman of the Year by Sports Illustrated. In 2001, he was also inducted into the Naismith Memorial Basketball Hall of Fame. He is currently the winningest active coach in NCAA tournament play, while entering the 2016-17 season, with an overall 1,043-321 career record. Last summer, he added to his accolades by coaching the USA Men’s Basketball team to an unprecedented, third consecutive gold medal during the 2016 Rio Olympics. Born in Chicago, IL, Coach K also played basketball at West Point. Coach K will inspire all of us with his engaging style and life perspectives learned through coaching and basketball.

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**SUNDAY, JULY 23**

**CONCURRENT SESSION A**
11:30 am – 12:30 pm

**TEAM PHYSICIAN: BIOLOGICS IN THE ATHLETE – WHAT TO INJECT, WHEN AND WHERE**

Local Anesthetic

Use of Corticosteroids

Toradol – How to Use it in 2017

PRP

Semi Cells

Panel Discussion: Athlete Management/Game Day Cases

**CONCURRENT SESSION B**
11:30 am – 12:30 pm

**KNEE VIDEO SESSION**

ACL – Medial Portal

All Reconstruction

Pediatric ACL Reconstruction

PCL

PLC

Meniscus Transplant

Tibial Tubercle Osteotomy

HTO

**CONCURRENT SESSION C**
11:30 am – 12:30 pm

**MITIGATING NARCOTICS IN THE SPORTS MEDICINE PATIENT**

Multi-modal Anesthesia in ACL Surgery: Options in 2017

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**MORNING GENERAL SESSION**
8:30 am – 11:30 am

**YOUTH SPORTS**

Treating the Medial Epicondyle Fracture in Youth Thrower

Managing the Unstable Patella in the Adolescent Athlete

Technique Spotlight: The Quad Tendon Graft for Pediatric ACL Surgery

**STAYING ACTIVE WITH OSTEOARTHRITIS**

How to Counsel Hip and Knee Arthroplasty Regarding Return to Sports

Shoulder Arthroplasty and Return to Sports Activities

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**SUNDAY, JULY 23**

**CONCURRENT SESSION A**
11:30 am – 12:30 pm

**TEAM PHYSICIAN: BIOLOGICS IN THE ATHLETE – WHAT TO INJECT, WHEN AND WHERE**

Local Anesthetic

Use of Corticosteroids

Toradol – How to Use it in 2017

PRP

Semi Cells

Panel Discussion: Athlete Management/Game Day Cases

**CONCURRENT SESSION B**
11:30 am – 12:30 pm

**KNEE VIDEO SESSION**

ACL – Medial Portal

All Reconstruction

Pediatric ACL Reconstruction

PCL

PLC

Meniscus Transplant

Tibial Tubercle Osteotomy

HTO

**CONCURRENT SESSION C**
11:30 am – 12:30 pm

**MITIGATING NARCOTICS IN THE SPORTS MEDICINE PATIENT**

Multi-modal Anesthesia in ACL Surgery: Options in 2017

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**MORNING GENERAL SESSION**
8:30 am – 11:30 am

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8:25 am – 8:30 am Welcome
Annunziato Amendola MD
Duke Sports Science Institute, Durham, NC

GENERAL SESSION – BICEPS

8:30 am - 9:40 am  Moderators
E. Lyle Cain MD
Andrews Sports Medicine, Birmingham, AL
Augustus D. Mazzocca MD, MS
University of Connecticut Health Center, Farmington, CT

8:30 am - 8:35 am  Paper 101: Biceps Tenodesis vs. Tenotomy in Treatment of Lesions of Long Head of Biceps Brachii in Patients Undergoing Arthroscopic Shoulder Surgery
Peter B. MacDonald MD, FRCS,1 Sheila McRae PhD,1 Gregory A. Stranges MD,1 Jason Old MD, FRCS,1,2 James Dubberley MD, Randhir Mavcarenhas MD,2 Jeff Leiter MScPhD,1 Mark Nassar1, Peter Lapner MD4
1Panam Clinic, Winnipeg, MB, Canada
2University of Texas-Houston, Houston, TX
3University of Manitoba, Winnipeg, MB, Canada
4The Ottawa Hospital, Ottawa, ON, Canada

8:35 am - 8:40 am  Paper 102: randomized Prospective Analysis of Arthroscopic Suprapectoral and Open Subpectoral Biceps tenodesis: 1 Year Follow-up
Brian Forsythe MD1, William Zuke1, Beatrice G1, Adam B. Yanke MD1, Nikhil N. Verma MD1, Anthony A. Romeo MD1
1Midwest Orthopaedics at Rush, Chicago, IL

8:40 am - 8:45 am  Paper 103: Biceps Tenodesis in Pitchers
Chase D. Smith MD1, Jeffrey R. Dugas MD1, Benton A. Emblom MD1, E. Lyle Cain MD1, Anthony A. Romeo MD1
1Andrews Sports Medicine and Orthopaedic Center, Birmingham, AL

8:45 am - 9:00 am  Question and Answer

9:00 am - 9:10 am  Tenodesis vs. Tenotomy: Does it Even Matter?
How I Decide
Anthony A. Romeo MD
Midwest Orthopaedics at Rush, Chicago, IL

9:10 am - 9:35 am  Case-Based Panel Discussion
Moderators:
E. Lyle Cain MD
Andrews Sports Medicine, Birmingham, AL
Augustus D. Mazzocca MD, MS
University of Connecticut Health Center, Farmington, CT
Panelists:
James R. Andrews MD
Andrews Research and Education Foundation, Gulf Breeze, FL
Anthony A. Romeo MD
Midwest Orthopaedics at Rush, Chicago, IL
Mark S. Schickendantz MD
Cleveland Clinic Sports Health, Cleveland, OH

Question and Answer

CONCURRENT SESSION A – PATELLOFEMORAL

9:45 am - 10:45 am  Moderators
Matthew Bollier MD
University of Iowa, Iowa City, IA
Donald C. Fitihian MD
Kaiser Permanente, San Diego, CA

9:45 am - 9:50 am  Paper 104: What is the Natural History of Patellar Dislocation in Skeletally Immature Patients?
Thomas L. Sanders MD1, Ayoosh Pareek BS1, Timothy E. Hewett PhD, FACSM1, Michael J. Stuart MD, Diane L. Dahm MD1, Aaron J. Krych MD1
1Mayo Clinic, Rochester, MN

9:50 am - 9:55 am  Paper 105: Excellence in Research Award: The Static Distance between the tibial tubercle and trochlear groove is a Poor Predictor of Dynamic Lateral Tracking Patterns in Patients with Patellofemoral Pain
Victor Carlson MD1
1Jefferson University, Philadelphia, PA

9:55 am - 10:00 am  Question and Answer

10:00 am - 10:10 am  When is MPFL Reconstruction Not enough?
Elizabeth A. Arendt MD
University of Minnesota, Minneapolis, MN

10:10 am - 10:20 am  Managing the Dysplastic Trochlea
David DeJour MD
Lyons-Ortho-Clinic, Lyon, France

10:20 am - 10:25 am  Question and Answer

10:25 am - 10:30 am  Paper 106: Medial Patellofemoral Ligament Isometry in the Setting of Patella Alta
Nicole Belkin MD1, Andrea Spiker MD1, Kathleen N. Meyers MS1, Joseph Nguyen MPH1, Beth E. Shubin Stein MD1
1Hospital for Special Surgery, New York, NY

10:30 am - 10:35 am  Paper 107: “Pin the Tail on the MPPF” Identification by Palpation – Results
Jason L. Koh MD, Todd Zimmerman
1NorthShore University Health System, Evanston, IL

10:35 am - 10:40 am  Paper 108: Effect of Patellar Tunnel Placement on Fracture Risk After MPFL Reconstruction – A Cadaveric Study
Eric Lukosius MD1, Nicholas Bonassa MD1, Greg Lewis1, Evan Roush1, Kevin P. Black MD1, Aman Dhawan MD1
1Penn State Milton S. Hershey Medical Center Bone and Joint Institute, Hershey, PA

10:40 am - 10:45 am  Question and Answer
THURSDAY, JULY 20, 2017

CONCURRENT SESSION B – OVERHEAD ATHLETE

9:45 am - 10:45 am
Moderators:
Jeffrey R. Dugas MD
Andrews Sports Medicine and Orthopaedic Center, Birmingham, AL
John E. Kuhn MD
Vanderbilt Sports Medicine, Nashville, TN

9:45 am - 10:45 am
Paper 109: Forearm Flexor Injuries in Major League Baseball Players: Epidemiology, Performance, and Associate Injuries
Justin Lane Hodgins MD1, Steve Donohue ATC2, Mark Littlefield ATCS3, Michael Schuk PT/ATC2, Christopher S. Ahmad MD3
1Scarborough Centenary Hospital, Toronto, Canada
2New York Yankees, New York, NY
3Columbia University, New York, NY

9:50 am - 10:50 am
Paper 110: Comparison of Cyclic Fatigue Mechanics Between UCL Repair with Internal Bracing and UCL Reconstruction
Christopher M. Jones MD1, David P. Beason MS2, Jeffrey R. Dugas MD3
1University of South Alabama, Mobile, AL
2American Sports Medicine Institute, Birmingham, AL
3Andrews Sports Medicine and Orthopaedic Center, Birmingham, AL

9:55 am - 10:00 am
Paper 111: Osseous Vascularity of the Medial Elbow Following Ulnar Collateral Ligament Reconstruction: A Comparative Analysis of the Docking and Figure-of-Eight Techniques
Christopher L. Camp MD1, Craig E. Klinger BA1, Lionel E. Lazaro MD2, David W. Altchek MD3, Joshua S. Dines MD4
1Hospital for Special Surgery, New York, NY

10:05 am - 10:10 am
Question and Answer

10:10 am - 10:15 am
Paper 112: Ultra-long Toss vs Straight-line Throwing for Glenohumeral Range of Motion Recovery in Collegiate Baseball Pitchers
Tianyi D. Luo MD1, Gregory Lane Naugher MD2, Austin Stone MD, PhD3, Sandeep Mannava MD, PhD3, Jeff Strahm ATC4, Michael T. Freehill MD1
1Wake Forest Baptist Medical Center, Winston-Salem, NC
2The San Antonio Orthopaedic Group, San Antonio, TX
3Steadman Philippon Research Institute, Vail, CO
4Wake Forest University, Winston-Salem, NC

10:15 am - 10:20 am
Question and Answer

10:20 am - 10:28 am
UCL Injury Risk and Prevention
Steven B. Cohen MD
Rothman Institute, Media, PA

10:28 am - 10:35 am
Technique Spotlight: Valgus Extension Overload (video)
Christopher S. Ahmad MD
Columbia University, New York, NY

10:35 am - 10:45 am
Evaluation and Managing the “Partial” UCL Tear in a Thrower
Neal S. ElAttrache MD
Kerlan-Jobe Clinic, Los Angeles, CA

CONCURRENT SESSION C – TEAM PHYSICIAN: FOOT – ANKLE AND HAND

9:45 am - 10:45 am
Moderators:
Kenneth Hunt MD
University of Colorado, Denver, CO
Andrea Veljkovic MD
Vancouver Orthopaedic Physicians, Vancouver, BC, Canada

9:45 am - 9:50 am
Paper 114: Autologous Conditioned Plasma (ACP) vs. Corticosteroid Injections for Plantar Fasciitis: A Randomized Trial
Kevin Willits MD, FRCS1, Nicole Kaniki MD2, Dianne Bryant PhD2, Lyndsay O’Brecht2, Aliiya Remtulla2
1Fowler Kennedy Sport Medicine Clinic, London, ON, Canada
2University of Western Ontario, London, ON, Canada

9:50 am - 9:55 am
Paper 115: Risk Factors for Reoperation and Performance-Based Outcomes Following Surgical Fixation of Foot Fractures in the Professional Athlete: A Cross-Sport Analysis
Sameer Kumar Singh BA1, Kevin Larkin MD2, Anish R. Kadakia MD2, Wellington Hsu MD1
1Northwestern University, Chicago, IL
2University of Arizona, Tucson, AZ

9:55 am - 10:00 am
Paper 116: Optimal Time to Return to Play and Performance after Jones Fracture Surgery in the National Football League
Jay Shah1, Selene G. Parekh MD, MBA2
1Rowan School of Osteopathic Medicine, Stratford, NJ
2Fuqua Business School, Durham, NC

10:00 am - 10:05 am
Question and Answer

10:05 am - 10:10 am
Paper 117: The Epidemiology of Lisfranc Injuries at the National Football League Combine and its Impact on an Athlete’s National Football League Career
Kevin Jude Mchale MD1, Bryan George Vopat MD2, George Sanchez3, William H. Rossy MD4, Catherine Logan MD, MBA, MSPT2, Matthew T. Provencer MD5
1University of Pennsylvania, Philadelphia, PA
2University of Kansas, Lawrence, KS
3Steadman Philippon Research Institute, Vail, CO
4University of Massachusetts General Hospital, Boston, MA
5The Steadman Clinic, Vail, CO

10:05 am - 11:00 am
Break

Topics, speakers and panelists are current at the time of publication and subject to change.
CONCURRENT SESSION A – SHOULDER TECHNIQUES (VIDEO SESSION)

11:30 am - 12:30 pm  Moderators
Stephen F. Brockmeier MD
University of Virginia, Charlottesville, VA
John D. Kelly MD
University of Pennsylvania, Philadelphia, PA

11:30 am - 11:36 am  Superior Rotator Cuff Repair
Pietro S. Randelli MD
Istituto Polliclinico San Donato,
San Donato Milanese, Italy

11:36 am - 11:42 am  Subscapularis Repair
Anthony A. Romeo MD
Midwest Orthopaedics at Rush, Chicago, IL

11:42 am - 11:48 am  Suprascapular Nerve Decompression
Michael T. Freehill MD
Wake Forest University Baptist Health Medical Center,
Winston Salem, NC

11:48 am - 11:54 am  Biceps Tenodesis
Kevin D. Plancher MD
The Orthopaedic Foundation, New York, NY

11:54 am - 12:00 pm  Question and Answer

12:00 pm - 12:06 pm  Posterior Instability – Getting It Right
James P. Bradley MD
University of Pittsburgh Medical Center, Pittsburgh, PA

12:06 pm - 12:12 pm  Latarjet – Pearls to Avoid Problems
Matthew T. Provencher MD
The Steadman Clinic, Vail, CO

12:12 pm - 12:18 pm  Bankart – Achieving the Perfect Repair
Felix H. Savoie MD
Tulane University, New Orleans, LA

12:18 pm - 12:24 pm  Open Bankart – Don’t Forget this Surgery!
Robert A. Arciero MD
University of Connecticut Health Center, Farmington, CT

12:24 pm - 12:30 pm  Question and Answer

CONCURRENT SESSION B – CARTILAGE AND BIOLOGICS

11:30 am - 12:30 pm  Moderators:
Chunbong Benjamin Ma MD
University of California, San Francisco Medical Center,
San Francisco, CA
Eric Jason Strauss MD
New York Hospital for Joint Diseases, New York, NY

11:30 am - 11:35 am  Paper 118: The Role of Platelet-Rich Plasma in Promoting Cartilage Integration and Chondrocyte Migration
Corey Sermer BMSc1, Rita Kandel MD1, Jesse Anderson MD1, Mark Hurtig DVM2, John S. Theodoropoulos MD, FRSC1
1Mt. Sinai Hospital, Toronto, ON, Canada
2University of Guelph, Guelph, ON, Canada

11:35 am - 11:40 am  Paper 119: Cabaud Memorial Award: Use of Platelet-Rich Plasma Immediately Post-injury to Accelerate Ligament Healing Was Not Successful in an In Vivo Animal Model
Robert F. LaPrade MD, PhD1
1The Steadman Clinic, Vail, CO

11:40 am - 11:45 am  Paper 120: Cartilage Repair with Mesenchymal Stem Cells (MScs) Delivered in a Novel Chondroitin Sulfate/Polyethylene Glycol Hydrogel in a Rabbit Animal Model
Cecilia Pascual-Garrido MD1, Francisco Rodriguez Fontan MD1, Jorge Chahla MD2, Karin Payne PhD3, Elizabeth Askenbrey7, Stephanie J. Bryant PhD3, Robert F. LaPrade MD, PhD4, John C. Clohisy MD5, Laurie R. Goodrich DVM, PhD6
1University of Colorado at Denver, Aurora, CO
2Steadman Philippon Research Institute, Vail, CO
3University of Colorado, Boulder, CO
4The Steadman Clinic, Vail, CO
5Washington University, St Louis, MO
6Colorado State University, Fort Collins, CO

11:45 am - 11:50 am  Paper 121: Re-Differentiated Chondrocytes for the Repair of Articular Cartilage Lesions
Vanessa Juliana Bianchi BSc1, John S. Theodoropoulos MD, FRSC2, Rita Kandel MD2, David Backstein MD, MEd, FRSC3
1Lunenfeld-Tanenbaum Research Institute, Toronto, ON, Canada
2Mount Sinai Hospital, Toronto, ON, Canada
3Sinai Health System, University of Toronto, Toronto, ON, Canada

Nicholas Zarkadis DO, CPT, MC1, Brian R. Waterman MD2, Michael A. Zacchilli MD2, Courtney Holland MD3, Alison Kinsler MD1, Michael S. Todd DO, MAJ4, Philip J. Belmont MD5, Mark P. Pallis DO6
1William Beaumont Army Medical Center, El Paso, TX
2NYU Hospital for Joint Diseases, New York, NY
3OSU Orthopaedics and Sports Medicine at Wooster Community Hospital, Wooster, OH

11:55 am - 12:02 pm  Question and Answer

12:02 pm - 12:09 pm  Microfracture “Plus” – What Do We Know?
Andreas H. Gomoll MD
Brigham and Women’s Health, Chestnut Hill, MA

12:09 pm - 12:17 pm  Injectables and Adjuvants in Cartilage Repair Surgery
Robert F. LaPrade MD, PhD
The Steadman Clinic, Vail, CO

12:17 pm - 12:25 pm  Have We Made Progress in Cartilage Repair, and What’s on the Frontier?
Christian Lattermann MD
University of Kentucky Medical Center, Lexington, KY

12:25 pm - 12:30 pm  Question and Answer

12:45pm - 2:00pm  AOSSM Medical Publishing Group Reviewers Workshop

Topics, speakers and panelists are current at the time of publication and subject to change.
CONCURRENT SESSION C – HIP I

11:30 am - 12:30 pm  Moderators:  
Charles A. Bush-Joseph MD  
Midwest Orthopaedics at Rush, Chicago, IL  
Marc R. Safran MD  
Stanford Sports Medicine Center, Redwood City, CA

11:30 am - 11:35 am  
**Paper 123: Hip Arthroscopy Failure in the Setting of Acetabular Dysplasia: A Concerning Trend?**  
John C. Clohisy MD 1, Tonya An BS1, Jacob Haynes MD1, Jeffrey J. Nepple MD1, Perry Schoenecker MD1, Geneva Baca BA1, ANCHOR Group1  
1Washington University, St. Louis, MO

11:35 am - 11:40 am  
**Paper 124: Magnetic Resonance Imaging Comparison of Repaired vs. Non-repaired Hip Capsule in Patients Undergoing Hip Arthroscopy for Femoroacetabular Impingement: A Double-Blind, Randomized Controlled Trial**  
Omer Y. Mei-Dan MD 1, Colin Strickland MD 2, Tigran Garabekyan MD 3, Vivek Chadayammuri BS 2, Matthew John Kraeutler MD1  
1University of Colorado, Boulder, CO  
2University of Colorado at Denver, Aurora, CO  
3Southern California Hip Institute, North Hollywood, CA

11:40 am - 11:45 am  
**Paper 125: Outcome for Arthroscopic Treatment of Anterior Inferior Iliac Spine/Subspine Related Hip Impingement**  
Benedict Uchenna Nwachukwu MD, MBA1, Brenda Chang MS, MPH1, William W. Schaier MD1, Kara G. Fields MS1, Danyal H. Nawabi MD1, Bryan T. Kelly MD 1, Anil S. Ranawat MD1  
1Hospital for Special Surgery, New York, NY

11:45 am - 11:50 am  
**Paper 126: Radiographic Risk Factors and Signs of Abductor Tears in the Hip**  
David Edward Hartigan MD 1, Itay Perets MD1, John P. Walsh MA1, Edwin Chaharbakhsi BS1, Mary Close BS1, Benjamin G. Domb MD1  
1Hinsdale Orthopaedics/American Hip Institute, Westmont, IL

11:50 am - 11:55 am  
**Question and Answer**

11:55 am - 12:03 pm  
**The Role of Arthroscopy in the Dysplastic Hip**  
John C. Clohisy MD  
Washington University, St. Louis, MO

12:03 pm - 12:11 pm  
**What Should We Do with the Hip Capsule?**  
Shane Jay Nho MD, MS  
Midwest Orthopaedics at Rush, Chicago, IL

12:11 pm - 12:18 pm  
**Helping the Trauma Surgeon: Hip Arthroscopy for Fractures**  
Olufemi Ayeni MD, FRSCSC  
McMaster University, Hamilton, ON, Canada

12:18 pm - 12:25 pm  
**Hip Abductor Tears: Patient Evaluation and Treatment Options**  
Asheesh Bedi MD  
University of Michigan, Ann Arbor, MI

12:25 pm - 12:30 pm  
**Question and Answer**

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GENERAL SESSION – CARTILAGE AND MENISCUS

2:00 pm - 3:45 pm  Moderators:  
Matteo Deniti MD  
Clinica Luganese, Monza, Italy  
Jason L. Dragoo MD  
Stanford University, Redwood City, CA

2:00 pm - 2:05 pm  
**Paper 127: Operative Management of Osteochondritis Dissecans: Progression to Osteoarthritis and Arthroplasty in a Population-Based Cohort**  
James L. Carey MD, MPH 1, Aaron J. Krych MD 2, Thomas L. Sanders MD 2, Ayoosh Pareek BS3, Nick R. Johnson BS2, Rohith Mohan BA2, Michael J. Stuart MD 2  
1Penn Sports Medicine Center, Philadelphia, PA  
2Mayo Clinic, Rochester, MN

2:05 pm - 2:10 pm  
**Paper 128: Moderate Return to High Impact Function After Fresh Osteochondral Allograft Transplantation for Chondral Defects of the Knee**  
Brian R. Waterman MD 1, Dimitri Thomas MD 2  
1Rush University Medical Center, Chicago, IL  
2Humeros Army Health Center, Fort Leavenworth, KS

2:10 pm - 2:15 pm  
**Paper 129: Performance-Based Outcomes Among American Professional Athletes Following Microfracture of the Knee: A Cross-Sport Analysis**  
Michael S. Schallmo BS 1, Sameer Kumar Singh BA2, Ryan Freshman BS2, Kathryn Barth BA2, Harry Mai MD 3, Wellington Hu MD 2  
1Wake Forest University, Winston-Salem, NC  
2Northwestern University, Chicago, IL  
3Harbor-UCLA Medical Center, Los Angeles, CA

2:15 pm - 2:20 pm  
**Question and Answer**

2:20 pm - 2:25 pm  
**Paper 130: Outcomes of Osteochondral Allograft Transplantation With vs. Without Comcomitant Meniscus Allograft Transplantation: A Comparative Matched Group Analysis**  
Rachel M. Frank MD 1, Simon Lee MD 1, Sarah Glen Poland BS 1, Timothy Sean Leroux MD, ME 2, Brian J. Cole MD, MBA 1  
1Midwest Orthopaedics at Rush, Chicago, IL

2:25 pm - 2:30 pm  
**Paper 131: OCA transplantation Outcomes for replacing large Bipolar Defects in the Knee Using Novel Techniques**  
James L. Cook DVM, PhD 1, James P. Stannard MD 2, Mauricio Kluwi MD, PhD 1, Brett D. Crist MD 1, Matthew Jared Smith MD 1  
1University of Missouri, Columbia, MO  
2Missouri Orthopaedic Institute, Columbia, MO

2:30 pm - 2:35 pm  
**Question and Answer**

Topics, speakers and panelists are current at the time of publication and subject to change.
2:35 pm - 2:45 pm  The Competitive Athlete with Full-Thickness Cartilage Defect – My Algorithm  
Brian J. Cole MD, MBA  
Midwest Orthopaedics at Rush, Chicago, IL

2:45 pm - 2:55 pm  Managing the Unstable OCD in Active Youth Athlete: My Bag of Tricks  
Mininder S. Kocher MD, MPH  
Boston Children’s Hospital, Boston, MA

2:55 pm - 3:05 pm  What’s the Threshold for Osteotomy in Cartilage Surgery?  
Scott A. Rodeo MD  
Hospital for Special Surgery, New York, NY

3:05 pm - 3:10 pm  Paper 132: Meniscal Repair Outcomes in Revision ACL Reconstructions  
Brett D. Owens MD  
University of Orthopedics, Providence, RI

3:10 pm - 3:15 pm  Paper 133: Subsequent Surgery and Prevalence of Osteoarthritis Following Arthroscopic Meniscus Posterior Root Repair: Association with Patient Age and Body Mass Index  
Joseph D. Lamplot MD1, Olivia Lillegren BA1, Robert D. Wojahn MD1, Robert H. Brophy MD1  
1Washington University, St. Louis, MO

3:15 pm - 3:20 pm  Paper 134: Partial Meniscectomy Provides No Benefit for Symptomatic Degenerative Medial Meniscus Posterior Root Tears  
Aaron J. Krych MD1, Nick R. Johnson BS1, Rohith Mohan BA1, Diane L. Dahm MD1, Bruce A. Levy MD1, Michael J. Stuart MD1  
1Mayo Clinic, Rochester, MN

3:20 pm - 3:25 pm  Question and Answer

3:25 pm - 3:32 pm  The “Hidden Lesion” - Don’t Miss It!  
Bertrand Sonnery Cottet MD  
Centre Orthopedique Santy, Lyon, France

3:32 pm - 3:40 pm  The Meniscal Root Repair - When and How?  
Christopher D. Hamer MD  
University of Texas at Houston, Houston, TX

3:40 pm - 3:45 pm  Question and Answer

4:00 pm - 5:00 pm  NIH Reviewers Workshop

### CONCURRENT SESSION A – HIP (VIDEO SESSION)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenters</th>
</tr>
</thead>
</table>
| 4:00 pm - 5:00 pm | Moderators:  
Asheesh Bedi MD  
University of Michigan, Ann Arbor, MI  
Graeme Whyte MD, MSC, FRCSC  
New York University, Hospital for Joint Diseases, New York, NY |  
Labrum Repair  
Stephen Kenji Aoki MD  
University of Utah, Salt Lake City, UT

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<tr>
<th>Time</th>
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<th>Presenters</th>
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</thead>
</table>
| 4:06 pm - 4:12 pm | Labrum Reconstruction  
Marc J. Philippon MD  
Steadman Clinic, Vail, CO | Femoral Osteochondroplasty  
J. W. Thomas Byrd MD  
Nashville Sports Medicine Foundation, Nashville, TN

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenters</th>
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</thead>
</table>
| 4:18 pm - 4:24 pm | Bony Acetabular Rim Disorders  
Christopher M. Larson MD  
Minnesota Orthopaedic Sports Medicine Institute at Twin Cities Orthopedics, Edina, MN |  
Femoral Head Articular Cartilage Treatment  
Bryan T. Kelly MD  
Hospital for Special Surgery, New York, NY

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<th>Time</th>
<th>Session</th>
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</thead>
</table>
| 4:42 pm - 4:48 pm | Ligamentum Teres Treatment  
Omer Y. Mei-Dan MD  
University of Colorado, Boulder, CO |  
Snapping Hip  
Allston J. Stubbs MD, MBA  
Wake Forest University, Winston Salem, NC

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<tr>
<th>Time</th>
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<th>Presenters</th>
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</thead>
</table>
| 4:48 pm - 5:04 pm | Hip Abductor Repair  
Benjamin G. Domb MD  
Hinsdale Orthopaedics/American Hip Institute, Westmont, IL |  
Snapping Hip  
Allston J. Stubbs MD, MBA  
Wake Forest University, Winston Salem, NC

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenters</th>
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</thead>
</table>
| 4:54 pm - 5:00 pm | Question and Answer  
Brenda J. Kelly MD  
Hospital for Special Surgery, New York, NY |  
Question and Answer  
Brenda J. Kelly MD  
Hospital for Special Surgery, New York, NY

**Topics, speakers and panelists are current at the time of publication and subject to change.**
CONCURRENT SESSION B – BUSINESS OF SPORTS MEDICINE – PART I

4:00 pm - 5:00 pm  Moderators:
Michael D. Maloney MD
University of Rochester Medical Center, Rochester, NY
Nikhil N. Verma MD
Midwest Orthopaedics at Rush, Chicago, IL

4:00 pm - 4:05 pm  Introduction
Nikhil N. Verma MD
Midwest Orthopaedics at Rush, Chicago, IL

4:05 pm - 4:15 pm  Utilizing Physician Extenders: Cost Benefit
Brian J. Cole MD, MBA
Midwest Orthopaedics at Rush, Chicago, IL

4:15 pm - 4:25 pm  Alternate Payment Models
Michael G. Cicotti MD
Rothman Institute at Jefferson, Philadelphia, PA

4:25 pm - 4:35 pm  Partnering with Your Hospital: Service Line Agreements, Shared Savings
TBD
TBD

4:35 pm - 4:45 pm  Management of Practice Ancillaries: How We Do It
Charles A. Bush-Joseph MD
Midwest Orthopaedics at Rush, Chicago, IL

CONCURRENT SESSION C – TEAM PHYSICIAN: MUSCLE INJURY

4:00 pm - 5:00 pm  Moderators
William E. Garrett MD, PhD
Duke Sport Sciences Institute, Durham, NC
Michelle Lora Wolcott MD
CU Sports Medicine Center, Denver, CO

4:00 pm - 4:05 pm  Paper 135: Surgical treatment of Pectoralis Major tendon ruptures: A retrospective review of 134 Patients Tendon Ruptures
Michelle Sugi MD, MPH¹, Daniel Acevedo MD², Raffy Mirzayan MD³
¹Kaiser Permanente, Baldwin Park, CA
²Kaiser Permanente, Panorama City, CA

4:05 pm - 4:10 pm  Paper 136: Performance-Based Outcomes After Operative Management of Athletic Pubalgia/Core Muscle Injury in National Football League Players
Thomas Sean Lynch MD¹, Radomir Kosanovic², Daniel Bradley Gibbs MD³, Caroline Park, BA¹, Ashleigh Bedi MD³, Christopher M. Larson MD⁴, Christopher S. Ahmad MD⁵
¹Columbia University Medical Center, New York, NY
²New York Medical College, New York, NY
³Northwestern University, Chicago, IL
⁴University of Michigan, Ann Arbor, MI
⁵Minnesota Orthopaedic Sports Medicine Institute at Twin Cities Orthopedics, Edina, MN

4:10 pm - 4:15 pm  Paper 137: Sports Hernia: Diagnosis, Management, and Operative Treatment
Benton A. Emblom MD¹
¹Andrews Sports Medicine and Orthopaedic Center, Birmingham, AL

4:15 pm - 4:20 pm  Paper 138: Accelerated Rehabilitation Following Repair of Proximal Hamstring Avulsion: 4 Year Outcomes
Christopher C. Kaeding MD¹, Benjamin Leger-St-Jean MD¹, Zyllytar Gorica¹, Robert A. Magnussen MD, MPH¹, William Kelton Vasileff MD¹
¹The Ohio State University, Columbus, OH

4:20 pm - 4:25 pm  Question and Answer

4:25 pm - 4:35 pm  Evaluation and Treatment of Athletic Pubalgia
Brian D. Busconi MD
UMass Memorial Health Care, Worcester, MA

4:35 pm - 4:45 pm  Pearls for Pectoralis Major Repair
Lance E. LeClere MD, LCDR, MC, USN
US Naval Academy, Annapolis, MD

4:45 pm - 4:55 pm  Treating the Spectrum of Hamstring Injuries
Christopher M. Larson MD
Minnesota Orthopaedic Sports Medicine Institute at Twin Cities Orthopedics, Edina, MN

4:55 pm - 5:00 pm  Question and Answer
GENERAL SESSION – ACL

8:30 am - 9:55 am  Moderators
Bernard R. Bach Jr, MD
Midwest Orthopaedics at Rush, Chicago, IL
Jo A. Hannafin MD, PhD
Hospital for Special Surgery, New York, NY

8:30 am - 8:35 am  Paper 139: A randomized trial comparing Patellar, Hamstring and Double-Bundle ACL reconstruction at 5 Years
Nicholas GH Mohtadi MD, MSc, FRCS,1
Denise S. Chan MSc, MBTi
1University of Calgary Sports Medicine Centre, Calgary, AB, Canada

8:35 am - 8:40 am  Paper 140: O'Donoghue Sports Injury Award
10-Year Outcomes and Risk Factors After ACL Reconstruction: A Multicenter Cohort Study
Kurt P. Spindler MD1, Laura J. Huston MS2,
1Cleveland Clinic Sports Health Center, Garfield Heights, OH
2Vanderbilt Orthopaedic Institute, Nashville, TN

8:40 am - 8:45 am  Paper 141: Comparison of Clinical Outcomes Following Anatomic Single vs. Double-Bundle ACL Reconstruction: A Randomized Clinical Trial
James J. Irrgang PT, PhD, ATC1, Scott Tashman PhD2,
1University of Pittsburgh Medical Center, Pittsburgh, PA
2University of Texas - Houston, Houston, TX

8:45 am - 8:50 am  Paper 142: Anatomic Anterior Cruciate Ligament Reconstruction - A Prospective Evaluation Using Three-Dimensional Magnetic Resonance Imaging
Adam Hart MD1, Thiru Sivakumaran1,
1McGill University Health Centre, Montréal, QC, Canada

8:50 am - 8:55 am  Question and Answer

LIVE SURGERY - KNEE

8:55 am - 9:55 am  Moderators
Eric C. McCarty, MD
CU Sports Medicine, Boulder, CO
Mark D. Miller MD
University of Virginia, Charlottesville, VA

Topics, speakers and panelists are current at the time of publication and subject to change.
### Paper 145: Arthroscopic Treatment of Shoulder Instability with Glenoid Bone Loss Using Distal Tibia Allograft Augmentation

*Authors:* Ivan Wong MD, MACM, Eya Lamar MD, Catherine M. Coady MD, Ben Smith MD, Mark Glazebrook MD, George Konstantinidis, Daryl B. Dillman MD

1. Dalhousie University, Halifax, NS, Canada
2. Ontario, Burlington, ON, Canada
3. Queen Elizabeth Health Sciences Center, Halifax, NS, Canada
4. Nova Scotia Health Authority, Halifax, NS, Canada

### Paper 146: Medial Posterior Capsular Plication Reduces Anterior Shoulder Instability Similar to Remplissage Without Restricting Motion in the Setting of an Engaging Hill Sachs Defect

*Authors:* Brian C. Werner MD, Xiao Chen, Christopher L. Campbell MD, Andreas Kontaxis, Joshua S. Dines MD, Lawrence Vincent Gulotta MD

1. University of Virginia, Charlottesville, VA
2. Hospital for Special Surgery, New York, NY

### Paper 147: The Frequency of Glenohumeral Cartilage Lesions at the Time of Shoulder Instability Surgery: A Multicenter Comparison of Primary and Revision Surgery Patients

*Authors:* Kyle R. Duchman MD, Carolyn M. Hettrich MD, MPH, Robert W. Westermann MD, Natalie Glass PhD, John E. Kuhn MD, Brian R. Wolf MD, MS

1. University of Iowa Hospitals and Clinics, Iowa City, IA
2. Cleveland Clinic, Cleveland, OH
3. Vanderbilt Sports Medicine, Nashville, TN

### Paper 148: Establishing Time to Maximal Medical Improvement in Arthroscopic Rotator Cuff Repairs


1. Midwest Orthopaedics at Rush, Chicago, IL

### Paper 149: Validity and Responsiveness of the Single Alpha-Numeric Evaluation (SANe) for Shoulder Patients

*Authors:* Charles A. Thigpen PT, PhD, ATC, Ellen Stanley PhD, John M. Tokish MD, Michael J. Kisselberth MD, Stefan John Tolan MD, Richard J. Hawkins MD, FRCS

1. ATI Physical Therapy, Greenville, SC
2. Steadman Hawkins Clinic of the Carolinas, Greenville, SC

### Paper 150: Equivalent Knee Injury and Osteoarthritis Outcome Score after 1 and 2 Years Following Anterior Cruciate Ligament Reconstruction—Results from The Swedish National Knee Ligament Register

*Authors:* Kristian Samuelsson MD, PhD, MSc, Robert A. Magnusson MD, Eduard Alentorn-Geli MD, PhD, MSc, Kurt P. Spindler MD, Magnus L. Forssblad MD, PhD, Jon Karlsson MD, PhD

1. Sahlgrenska University Hospital, Molndal, Sweden
2. The Ohio State University Sports Medicine Center, Columbus, OH
3. Duke University Medical Center, Durham, NC
4. Cleveland Clinic Sports Health Center, Garfield Heights, OH
5. Karolinska Institutet, Stockholm, Sweden

### Paper 151: No Clinically Relevant Change Between 1 and 2 Year Outcomes Following ACL Reconstruction

*Authors:* Joseph Nguyen MPH, Scott A. Rodeo MD

1. Hospital for Special Surgery, New York, NY

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**DEADLINE FOR EARLY REGISTRATION IS JUNE 23, 2017**

**FRIDAY, JULY 21, 2017**

**CONCURRENT SESSION B – OUTCOME MEASURES – LOGISTICS**

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<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
<th>Moderators</th>
<th>Authors</th>
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</thead>
<tbody>
<tr>
<td>11:30 am - 12:30 pm</td>
<td><strong>Moderators:</strong> Kurt P. Spindler MD, Cleveland Clinic Sports Health Center, Garfield Heights, OH, David Wasserstein MD, Sunnybrook Health Sciences Centre, North York, ON, Canada</td>
<td><strong>Outcome and Performance Measures:</strong> How Will It Be Used in the Future, Kevin G. Shea MD, Intermountain Orthopaedics, Boise, ID</td>
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<tr>
<td>11:30 am - 11:37 am</td>
<td><strong>Update on Use of Outcome Measures in Sports Medicine</strong></td>
<td>Warren R. Dunn MD, MPH, Reedsburg Area Medical Center, Madison, WI</td>
<td><strong>Outcomes Collection - Academic Setting:</strong> Morgan H. Jones MD, Cleveland Clinic Sports Health Center, Cleveland, OH</td>
</tr>
<tr>
<td>11:37 am - 11:44 am</td>
<td><strong>Outcomes Collection - Private Practice</strong></td>
<td>Keith M. Baumgarten MD</td>
<td><strong>Outcomes Collection - Private Practice:</strong> Charles A. Thigpen PT, PhD, ATC, Greenville, SC</td>
</tr>
<tr>
<td>12:05 pm - 12:10 pm</td>
<td><strong>Paper 148:</strong> Establishing Time to Maximal Medical Improvement in Arthroscopic Rotator Cuff Repairs</td>
<td>Bonnie Gregory MD, William Zuke, Timmy Sean Leroux MD, Med, Austin Black, Brian Forsythe MD, Anthony A. Romeo MD, Brian J. Cole MD, MBA, Nikhil N. Verma MD</td>
<td><strong>Midwest Orthopaedics at Rush, Chicago, IL</strong></td>
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<td>Kristian Samuelsson MD, PhD, MSc, Robert A. Magnusson MD, Eduard Alentorn-Geli MD, PhD, MSc, Kurt P. Spindler MD, Magnus L. Forssblad MD, PhD, Jon Karlsson MD, PhD</td>
<td><strong>Sahlgrenska University Hospital, Molndal, Sweden</strong></td>
</tr>
<tr>
<td>12:20 pm - 12:25 pm</td>
<td><strong>Paper 151:</strong> No Clinically Relevant Change Between 1 and 2 Year Outcomes Following ACL Reconstruction</td>
<td>Joseph Nguyen MPH, Scott A. Rodeo MD</td>
<td><strong>Hospital for Special Surgery, New York, NY</strong></td>
</tr>
</tbody>
</table>
CONCURRENT SESSION C – HIP (FAI)

11:30am - 12:30pm  Moderators:  
Struan H. Coleman MD  
Hospital for Special Surgery, New York, NY  
Bryan A. Warne MD  
Iowa State University, Ames, IA

11:30 am - 11:35 am  
**Paper 152: Surgery for Femoroacetabular Impingement in Skeletally Immature Patients: Radiographic and Clinical Analysis**  
James R. Ross MD, Rebecca M. Stone MS, ATC, Nicole M. Ramos BS, Ashesh Bedi MD, Christopher M. Larson MD  
1Boca Care Orthopedics, Deerfield Beach, FL  
2Minnesota Orthopaedic Sports Medicine Institute at Twin Cities Orthopedics, Edina, MN  
3University of Michigan, Ann Arbor, MI

11:35 am - 11:40 am  
**Paper 153: Long-term Osseous remodeling after Femoral Head-neck Junction Osteochondroplasty**  
Michael Hellman MD, Jeffrey J. Nepple MD, John C. Clohisy MD  
1Washington University, St. Louis, MO

11:40 am - 11:45 am  
**Paper 154: Predictors of Hip Pain and Function in Femoroacetabular Impingement: A Prospective Cohort Analysis**  
1Cleveland Clinic, Cleveland, OH  
2Columbia University Medical Center, New York, NY

11:45 am - 12:00 pm  
**Question and Answer**

12:00 pm - 12:08 pm  
**Debridement vs. Repair vs. Reconstruction of the Labrum**  
Marc J. Philippon MD  
Steadman Hawkins Clinic, Vail, CO

12:08 pm - 12:16 pm  
**Technique Update: What I Am Doing Different in FAI Surgery in 2017 Compared to 5 Years Ago**  
J. W. Thomas Byrd MD  
Nashville Sports Medicine Foundation, Nashville, TN

12:16 pm - 12:25 pm  
**Getting the Competitive Athlete Back to Action After Hip Surgery**  
Bryan T. Kelly MD  
Hospital for Special Surgery, New York, NY

12:25 pm - 12:30 pm  
**Question and Answer**

GENERAL SESSION – LIVE SURGERY – SHOULDER

1:30 pm - 2:30 pm  
Moderators:  
Peter B. MacDonald MD, FRC  
PanAm Clinic, Winnipeg, MB, Canada  
Nikhil N. Verma MD  
Midwest Orthopaedics at Rush, Chicago, IL

2:30 pm - 2:45 pm  
**Business Meeting**

2:45 pm - 3:05 pm  
**Break**

CONCURRENT SESSION A – KNEE LIGAMENT

3:05 pm - 4:00 pm  
Moderators:  
David E. Bonasia MD  
University of Torino, Torino, Italy  
Freddie H. Fu MD  
University of Pittsburgh Medical Center, Pittsburgh, PA

3:05 pm - 3:10 pm  
**Paper 156: The Use of Allograft Tissue for Primary ACL reconstruction is Associated with Increased Odds of Progression of Patellofemoral Cartilage Damage Between Primary and Revision Surgery**  
Robert A. Magnussen MD  
The Ohio State University, Columbus, OH

3:10 pm - 3:15 pm  
**Paper 157: Testosterone Supplementation Increases Lean Mass in Men Undergoing Anterior Cruciate Ligament Reconstruction: A Randomized Controlled Trial**  
Ido Badash BA, Brian Wu PhD, Max Berger MD, Dan Lorenzana MPH, Christian Lane PhD, Jonathan C. Sum DPT, George F. Rick Hatch III, MD, E. Todd Schroeder PhD  
1University of Southern California, Los Angeles, CA  
2University of Michigan, Ann Arbor, MI  
3Little Rock, AR

3:15 pm - 3:20 pm  
**Paper 158: Predictors of Patient-reported Outcomes at Two Years Following revision ACL Reconstruction**  
Rick W. Wright, MD  
Washington University, St. Louis, MO

3:20 pm - 3:25 pm  
**Question and Answer**

3:25 pm - 3:32 pm  
**Extra-articular Augmentation: What is the Evidence?**  
Stefano Zaffagnini MD  
Lab Di Biomechanica, Bologna, Italy

3:32 pm - 3:40 pm  
**Extra-articular Augmentation: The Technique**  
Lee D. Kaplan MD  
University of Miami, Miami, FL

3:40 pm - 3:45 pm  
**Paper 159: Return to Play After Multi-ligament Knee Injuries in National Football League (NFL) Athletes**  
Neil K. Bakshi MD, Moin Khan MD, Fred Tolbert Finney, Jeffrey Stotts, Robby Singh Sikka MD, Ashesh Bedi MD  
1University of Michigan, Ann Arbor, MI  
2Little Rock, AR  
3Tria Orthopaedic Center, Bloomington, MN
3:45 pm - 3:50 pm  Paper 160: A Biomechanical Comparison of Knee Stability after Posterolateral Corner Reconstruction: Arciero vs. LaPrade
Gehron Treme MD1, Gabriel Ortiz1, George K. Gill1, Heather Marie Menzer MD2, Paul J. Johnson1, Christina Salas PhD3, Fares Qaedan1, Robert C. Schenck MD1, Dustin L. Richter MD1, Daniel C. Wascher MD1
1University of New Mexico, Albuquerque, NM
2University of Virginia, Charlottesville, VA

3:50 pm - 3:55 pm  Paper 161: Posterolateral corner repair vs. reconstruction: 6-Year Outcomes from a Prospective Multicenter Cohort
Richard D. Parker MD1, Robert W. Westermann MD1, Kurt P. Spindler MD1, Laura J. Huston MS2, Brian R. Wolff MD, MS3
1Cleveland Clinic, Cleveland, OH
2Cleveland Browns, Berea, OH
3Vanderbilt Orthopaedic Institute, Nashville, TN

3:55 pm - 4:00 pm  Question and Answer

CONCURRENT SESSION B – BUSINESS OF SPORTS MEDICINE – MODERNIZING YOUR SPORTS MEDICINE PRACTICE

3:05 pm - 4:00 pm  Moderators
C. David Geier Jr, MD
Sports Medicine Specialists of Charleston, Mt. Pleasant, SC
Robert A. Stanton MD
Orthopaedic Specialty Group, Fairfield, CT

3:05 pm - 3:14 pm  Branding and Web Pages
C. David Geier Jr, MD
Sports Medicine Specialists of Charleston, Mt. Pleasant, SC

3:14 pm - 3:23 pm  How to Effectively Use “Other” Social Media
Brian J. Cole MD, MBA
Midwest Orthopaedics at Rush, Chicago, IL

3:23 pm - 3:32 pm  Enhancing the Patient Experience; Apps for Practice and Patients
Richard Mather III, MD
Duke University Sports Science Institute, Durham, NC

3:32 pm - 3:41 pm  Advertising Your Clinical Expertise on the Internet
L. Pearce McCarty III, MD
Sports and Orthopaedic Specialists, Edina, MN

3:41 pm - 3:50 pm  Athletic Team Coverage 2017
Jeffrey R. Dugas MD
Andrews Sports Medicine and Orthopaedic Center, Birmingham, AL

3:50 pm - 4:00 pm  Question and Answer/Panel Discussion

CONCURRENT SESSION C – TEAM PHYSICIAN: SIDELINE MANAGEMENT

3:05 pm - 4:00 pm  Paper 162: Does Overexertion correlate with Increased Injury? Determining the relationship Between training load and Soft tissue Injury in NFL Players using Wearable Technology
Ryan Tianran Li MD1, Sagar Rambha1, Joe Sheehan ATC2, Michael Jonathan Salata MD1, James Everett Voos MD1
1University Hospitals Case Medical Center, Cleveland, OH
2Cleveland Browns, Berea, OH

3:10 pm - 3:15 pm  Paper 163: Economic Impact of Community Sports Coverage by Outreach Athletic Trainers on a Health System: Implications for Program Growth and Sustainability
Jeannie Buckner1, Kirstie Hewson1, Michael Barr PT, DPT1, Shane K. Woolf MD1, Thomas Crawford PhD, MBA, FACHE1, Harris Slone MD1
1Medical University of South Carolina, Charleston, SC

Eric C. McCarty MD1, Dustin Currie MPH1, John B. Schrock BA1, Dawn Comstock PhD2, Matthew J. Kraeutler MD1
1University of Colorado at Denver, Aurora, CO
2Colorado School of Public Health, Aurora, CO

3:20 pm - 3:25 pm  Question and Answer

3:25 pm - 3:34 pm  NATA Exchange Lecture: Integration of Recovery Science into Rehabilitation and Return to Play Following ACL Injury
Darin A. Padua PhD, ATC
University of North Carolina, Chapel Hill, NC.

3:34 pm - 3:50 pm  Go/No Go Game Day Decisions – Panel Discussion
Moderators:
Christopher C. Kaeding MD
The Ohio State University, Columbus, OH
Rick W. Wright MD
Washington University, St. Louis, MO

Panelists:
Bruce S. Miller MD, MS
MedSport, University of Michigan, Ann Arbor, MI
Robin Vereeke West MD
Inova Sports Medicine, Great Falls, VA

3:50 pm - 4:00 pm  ACSM Exchange Lecture: Emerging Fads – Restricted Blood Flow, Cupping, Cryotherapy
Jeffrey M. Mjaanes MD, FACSM
Northwestern University, Chicago, IL

4:00 pm - 5:00 pm  Guided Poster Tours

Topics, speakers and panelists are current at the time of publication and subject to change.
GENERAL SESSION - ROTATOR CUFF AND SHOULDER INSTABILITY

8:30 am - 8:55 am

Moderators:
Paul M. Sethi MD
Orthopaedic & Neurosurgery Specialists, Greenwich, CT
Russell F. Warren MD
Hospital for Special Surgery, New York, NY

8:30 am - 8:40 am

Traveling Fellows Presentation
Daniel C. Wascher MD
University of New Mexico, Albuquerque, NM

8:40 am - 8:45 am

Paper 165: Return to Sports and Work After Arthroscopic Superior Capsule Reconstruction in Patients with Irreparable Rotator Cuff Tears
Teruhisa Mihata MD¹, Thay Q. Lee PhD²,
Kunimoto Fukunishi MD³, Yukitaka Fujisawa MD⁴,
Takeshi Kawakami MD, PhD⁵, Yasuo Itami MD⁶,
Mutsumi Ohue MD⁷, Masashi Neo MD, PhD⁷
¹Osaka Medical College and Katsuragi Hospital, Osaka, Japan
²VA Long Beach HCS and University of CA, Long Beach, CA
³Towakai Hospital, Takatsuki, Japan
⁴Katsuragi Hospital, Kishiwada, Japan

8:45 am - 9:17 am

Panel Discussion: RSA is the gold Standard for the Irreparable Cuff Tear in the Middle Age Patient: Can the “Sports guy” Match the Results?

8:50 am - 8:56 am

RSA: Here’s the Data
Joseph Abboud MD
3B Orthopaedics, The Rothman Institute, Philadelphia, PA

8:56 am - 9:03 am

Superior Capsule Reconstruction is the Best Option!
Stephen S. Burkhart MD
San Antonio Orthopedic Group, San Antonio, TX

9:03 am - 9:10 am

Partial Repair is the Choice!
John D. Kelly MD
University of Pennsylvania, Philadelphia, PA

9:10 am - 9:17 am

Panel Discussion: How to Choose Remplissage vs. LRJ vs. DTA
Matthew T. Provencher MD
The Steadman Clinic, Vail, CO

9:24 am - 9:29 am

Paper 167: Remplissage vs. Modified Latarjet for Off-Track Hill-Sachs Lesions with Subcritical Glenoid Bone Loss
Justin Shu Yang MD¹, Augustus D. Mazzocca MD, MS²,
Robert A. Arciero MD²
¹Kaiser Permanente, Los Angeles, CA
²University of Connecticut Health Center, Farmington, CT

9:29 am - 9:34 am

Paper 168: Outcomes of Latarjet vs. Distal Tibial Allograft for Anterior Shoulder Instability Repair: A Prospective Matched Cohort Analysis
Rachel M. Frank MD¹, Jae kim Ma1,
Patrick Joseph O’donnell Ma1, Michael O’Brien MA¹,
Jonathan Newgren MA, Nikhil N. Verma MD²,
Gregory P. Nicholson MD², Brian J. Cole MD, MBA²,
Anthony A. Romeo MD², Matthew T. Provencher MD³
¹Rush University Medical Center, Chicago, IL
²Midwest Orthopaedics at Rush, Chicago, IL
³The Steadman Clinic, Vail, CO

9:34 am - 9:42 am

How to Understand and Use the Congruent Arc Concept in Practice
John M. Tokish MD
Steadman Hawkins Clinic of the Carolinas, Greenville, SC

9:42 am - 9:50 am

Remplissage vs. LRJ vs. DTA: How to Choose
Matthew T. Provencher MD
The Steadman Clinic, Vail, CO

9:50 am - 9:55 am

OREF Presentation

9:55 am - 10:00 am

Introduction of Presidential Guest Speaker
Annunziato Amendola MD
Duke Sports Science Institute, Durham, NC

10:00 am - 10:30 am

Presidential Guest Speaker
Mike Krzyzewski, Head Coach, Duke University, Men’s Basketball Team

10:30 am - 10:40 am

Robert E. Leach Sports Medicine Leadership Award

10:40 am - 10:45 am

Presidential Medallion Exchange

10:45 am - 11:30 am

Break
## CONCURRENT SESSION A – TEAM PHYSICIAN: BIOLOGICS IN THE ATHLETE - WHAT TO INJECT, WHEN, AND WHERE

**11:30 am - 12:30 pm**

**Moderators:**
- Darren L. Johnson MD  
  University of Kentucky Sports Medicine, Lexington, KY  
- Matthew J. Matava MD  
  Washington University Orthopedics, Chesterfield, MO

**11:30 am - 11:38 am**

**Local Anesthetic**
- Geoffrey Scott Baer MD, PhD  
  University of Wisconsin Hospitals and Clinics, Madison, WI

**11:38 am - 11:46 am**

**Use of Corticosteroids**
- Robert A. Creighton MD  
  University of North Carolina, Chapel Hill, NC

**11:46 am - 11:54 am**

**Toradol – How to Use it in 2017**
- Seth C. Gamradt MD  
  University of Southern California, Los Angeles, CA

**11:54 am - 12:02 pm**

**PRP**
- James P. Bradley MD  
  University of Pittsburgh Medical Center, Pittsburgh, PA

**12:02 pm - 12:10 pm**

**Semit Cells**
- Claude T. Moorman III, MD  
  Duke Sports Medicine Center, Durham, NC

**12:10 pm - 12:15 pm**

**Question and Answer**

**12:15 pm - 12:30 pm**

**Athlete Management – Game Day Cases – Panel Discussion**

**Moderators:**
- Darren L. Johnson MD  
  University of Kentucky Sports Medicine, Lexington, KY  
- Matthew J. Matava MD  
  Washington University Orthopedics, Chesterfield, MO

**Panelists:**
- Geoffrey Scott Baer MD, PhD  
  University of Wisconsin Hospitals and Clinics, Madison, WI  
- James P. Bradley MD  
  University of Pittsburgh Medical Center, Pittsburgh, PA  
- Robert A. Creighton MD  
  University of North Carolina, Chapel Hill, NC  
- Seth C. Gamradt MD  
  University of Southern California, Los Angeles, CA  
- Claude T. Moorman III, MD  
  Duke Sports Medicine Center, Durham, NC

## CONCURRENT SESSION B – KNEE (VIDEO SESSION)

**11:30 am - 12:30 pm**

**Moderators**
- Andrew J. Cosgarea MD  
  Johns Hopkins Sports Medicine, Lutherville, MD  
- Robert G. Marx MD, MSc, FRCS  
  Hospital for Special Surgery, New York, NY

**11:30 am - 11:36 am**

**ACL Medial Portal**
- Robert H. Brophy IV, MD  
  Washington University Orthopedics, Chesterfield, MO

**11:36 am - 11:42 am**

**ALL Reconstruction**
- Volker Musahl MD  
  University of Pittsburgh Medical Center, Pittsburgh, PA

**11:42 am - 11:48 am**

**Pediatric ACL Reconstruction**
- Allen F. Anderson MD  
  Tennessee Orthopaedic Alliance, Nashville, TN

**11:48 am - 11:54 am**

**PCL**
- Rodrigo Maestu MD  
  Center of Study and Treatment of Joint Disease, Buenos Aires, Argentina

**11:54 am - 12:00 pm**

**Question and Answer**

**12:00 pm - 12:06 pm**

**PLC**
- Robert F. LaPrade MD, PhD  
  The Steadman Clinic, Vail, CO

**12:06 pm - 12:12 pm**

**Meniscus Transplant**
- Thomas R. Carter MD  
  The Orthopedic Clinic Association, Phoenix, AZ

**12:12 pm - 12:18 pm**

**Tibial Tubercle Osteotomy**
- David R. Diduch MD  
  University of Virginia, Charlottesville, VA

**12:18 pm - 12:24 pm**

**HTO**
- Romain Seil MD  
  Centre Hospitalier du Luxembourg, Luxembourg, Luxembourg

**12:24 pm - 12:30 pm**

**Question and Answer**
### CONCURRENT SESSION C – MITIGATING NARCOTICS IN THE SPORTS MEDICINE PATIENT

**11:30 am - 12:30 pm**  
**Moderators**  
Carolyn M. Hettrich MD, MPH  
University of Iowa Hospitals and Clinics, Iowa City, IA  
Scott G. Kaar, MD  
St. Louis University, St. Louis, MO

**11:30 am - 11:35 am**  
**Paper 169: Femoral Nerve Blockade vs. Adductor Canal Nerve Blockade with Anterior Cruciate Ligament Reconstruction: A Prospective, Randomized Clinical Trial**  
Joshua Griffin MD, Lane Brooks Bailey PhD, DPT1, Christopher D. Harner MD2, Russell M. Paine PT3, Walter R. Lowe MD4  
1University of Texas Health Science Center, Houston, TX  
2Ironman Sports Medicine Institute, Houston, TX  
3University of Texas at Houston, Houston, TX  
4Memorial Hermann, Houston, TX

**11:35 am - 11:40 am**  
**Paper 170: Adductor Canal vs. Femoral Nerve Block in Anterior Cruciate Ligament Reconstruction: A Randomized Controlled Trial**  
John W. Xerogeanes MD1, Ajay Premkumar MD2, William Godfrey MS3, Heather Samady MD4, Michael Brandon Gottschalk MD5, Poonam Dalwadi6, Spero G. Karas MD1  
1Emory University, Atlanta, GA  
2Hospital for Special Surgery, New York, NY

**11:40 am - 11:45 am**  
**Paper 171: Opioid Demand after Anterior Cruciate Ligament Reconstruction**  
Chris Anthony MD1, Robert W. Westermann MD2, Nicholas Bedard3, Natalie Glass PhD4, Matthew Bollier MD5, Carolyn M. Hettrich MD, MPH6, Brian R. Wolf MD, MS7  
1University of Iowa Hospitals and Clinics, Iowa City, IA  
2Cleveland Clinic, Cleveland, OH

**11:45 am - 11:50 am**  
**Paper 172: Chondrotoxicity of Injectable NSAIDs and Narcotics**  
Geoffrey D. Abrams MD1, Wenteh Chang1, Jason L. Dragoo MD1  
1Stanford University, Stanford, CA

**11:50 am - 11:55 am**  
**Question and Answer**

**11:55 am - 12:00 pm**  
**Paper 173: Does Patient Education Prior to Arthroscopic Rotator Cuff Repair Decrease Narcotic Consumption? A Randomized Prospective Study**  
Fotios P. Tjoumakaris MD1, Usman Ali Mohammed Syeed1, Alexander William Aleem MD1, Charles Dante Wowkanench1, Charles Getz1, Danielle Weekes MD1, Matthew D. Pepe MD1, Bradford S. Tucker MD1, Joseph A. Abboud MD1, Luke Austin1  
1The Rothman Institute, Philadelphia, PA

**12:00 pm - 12:05 pm**  
**Paper 174: The Influence of a Single Preoperative Ketorolac Dose on Postoperative Opiate Consumption for Ambulatory Knee Arthroscopy: A Double-Blinded Placebo-Controlled Study**  
Harris Stone MD1, Thomas Opperson MD1, Cory Furse MD2, Bethany Wolf PhD2, Sylvia Wilson MD3  
1Medical University of South Carolina, Charleston, SC

**12:05 pm - 12:10 pm**  
**Paper 175: Risk Factors for Prolonged Narcotic Use Following Arthroscopic Rotator Cuff Repair**  
Jourdan M. Cancienne MD1, F. Winston Gwathmey MD1, Brian C. Werner MD1  
1University of Virginia, Charlottesville, VA

**12:10 pm - 12:15 pm**  
**Paper 176: Intra-articular “Cocktail” Offers Clinical Advantages Over Femoral Nerve Block for Postoperative Analgesia in Patients Undergoing Arthroscopic Hip Surgery**  
Sean Childs MD1, Sonia Pyne MD1, Kirtpal Nandra MD1, A. Atif Mustafa BS1, Wajeesh Baksh MD1, Amy Lalone MD1, Derick Peterson PhD1, Brian D. Giordano MD1  
1University of Rochester, Rochester, NY

**12:15 pm - 12:20 pm**  
**Question and Answer**

**12:20 pm - 12:30 pm**  
**Paper 177: Multi-Modal Anesthesia in ACL Surgery: Options in 2017**  
John W. Xerogeanes MD  
Emory University, Atlanta, GA

### ROUND TABLE DISCUSSIONS

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<td>2:45 pm</td>
<td>Round Table Discussions – Session 2</td>
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### INSTRUCTIONAL COURSES

**1:00 pm - 2:30 pm**  
**Five Instructional Courses – Various Topics**  
(see page 22)

### RESEARCH WORKSHOP

**1:00 pm - 4:30 pm**  
**Early Sports Specialization and Return to Play**
GENERAL SESSION – YOUTH SPORTS

8:30 am - 9:55 am  Moderators:
Allen F. Anderson MD
Tennessee Orthopaedic Alliance, Nashville, TN
James L. Carey MD, MPH
University of Pennsylvania, Philadelphia, PA

8:30 am - 8:35 am  Paper 177: Return to Sport as Outcome Measure for Shoulder Instability: Surprising Findings in Non-operative Management in a High School Athlete Population
Ellen Shanley PhD, John M. Tokish MD, Charles A. Thigpen PT, Michael J. Kissenberth MD
1ATI Physical Therapy, Greenville, SC
2Steadman Hawkins Clinic of the Carolinas, Greenville, SC

8:35 am - 8:40 am  Paper 178: Rotator Cuff Repair in Adolescent Athletes
1Andrews Sports Medicine and Orthopaedic Center, Birmingham, AL
2Andrews Research and Education Foundation, Gulf Breeze, FL

8:40 am - 8:45 am  Paper 179: Mid-to-Long Term Outcome After Arthroscopic Fragment Resection for Capitellar Osteochondritis Dissecans in Adolescent Athlete
Yusuke Ueda MD, Hiroaki Inui MD, Norimasa Takahashi MD, Morihito Tokai MD
1Funabashi Orthopaedic Hospital, Funabashi, Japan
2Chosei Public Hospital, Chiba, Japan

8:45 am - 8:50 am  Paper 180: Estimation of the Optimal Shoulder Orientation from the Viewpoint of Minimal Shoulder Joint Load in 183 Adolescent Baseball Pitchers
Hiroshi Tanaka PhD, Toyohiko Hayashi PhD, Hiroki Inui MD, Tomoyuki Muto MD, Hiroki Ninomiya MD
1Nobuhara Hospital and Institute of Biomechanics, Tatsuno, Japan
2Niigata University, Niigata, Japan

8:50 am - 8:55 am  Question and Answer

8:55 am - 9:05 am  Treating the Medial Epicondyle Fracture in the Youth Thrower
John Todd R. Lawrence MD, PhD
Children’s Hospital of Philadelphia, Philadelphia, PA

9:05 am - 9:15 am  Managing the Unstable Patella in the Adolescent Athlete
Jeffrey J. Nepple MD
Washington University, St. Louis, MO

9:15 am - 9:25 am  Technique Spotlight: The Quad Tendon Graft for Pediatric ACL Surgery
Jay C. Albright MD
Children’s Hospital of Colorado, Aurora, CO

9:25 am - 9:30 am  Question and Answer

Patrick S. Buckley MD, Meghan Bishop MD, Patrick Kane MD, Michael C. Ciccotti MD, Stephen Silverman BA, Dominique Exum BS, William D. Emper MD, Kevin B. Freedman MD, Sommer Hammond MD, Steven B. Cohen MD, Michael G. Ciccotti MD
1Rothman Institute, Philadelphia, PA

9:35 am - 9:40 am  Paper 182: The Effect of Sport Specialization on Lower Extremity Injury Rates in High School Athletes
Timothy A. McGuine PhD, David Bell PhD, Margaret Alison Brooks MD, Scott Hetzel MS, Adam Pfaller BS, Eric Post
1University of Wisconsin, Madison, WI

9:40 am - 9:45 am  Paper 183: Biomechanical Evaluation of Pediatric Anterior Cruciate Ligament Reconstruction Techniques With and Without the Anterolateral Ligament
James Lee Pace MD, Natasha E. Trentacosta MD, Melodie MetzgerPhD, Trevor Nelson, Max Michalski, Landon S. Polakof, Bert R. Mandelbaum MD
1Children’s Hospital Los Angeles, Los Angeles, CA
2Children’s Hospital, Boston, MA
3Cedars Sinai Medical Center, Los Angeles, CA
4Washington University, St. Louis, MO
5Santa Monica Orthopaedic and Sports Medicine, Santa Monica, CA

9:45 am - 9:50 am  Paper 184: Return to Sport Testing after Pediatric Anterior Cruciate Ligament Reconstruction Surgery
Richard Bowen MD, Jennifer J Beck MD, Jay Semel PT, Rebecka Serpa BS
1Orthopaedic Institute for Children, Los Angeles, CA

9:50 am - 9:55 am  Question and Answer

Topics, speakers and panelists are current at the time of publication and subject to change.
GENERAL SESSION – STAYING ACTIVE WITH OSTEARTHRITIS

9:55 am - 11:00 am  Moderators:
John J. Callaghan MD
University of Iowa Hospitals and Clinics, Iowa City, IA
Seth C. Garrad MD
University of Southern California, Los Angeles, CA

9:55 am - 10:00 am  Paper 185: Mid-term Outcomes of the Subchondroplasty Procedure for Patients with Osteoarthritis and Bone Marrow Edema
Jennifer Marie Byrd MD, Sam Akhavan MD, Darren A. Frank MD
1Allegheny General Hospital, Pittsburgh, PA
2Allegheny Orthopaedic Associates, Pittsburgh, PA

10:00 am - 10:05 am  Paper 186: Lateral Unicondylar Knee Arthroplasty with Lateral Parapatellar Incision Returns Athletes to Moderate and Vigorous Sports: 2-11 Year Follow-up
Kevin D. Plancher MD, Jeffrey T. Alwine DO, Stephanie C. Petterson PT, PhD
1Albert Einstein College of Medicine, New York, NY
2Orthopaedic Foundation, Stamford, CT

10:05 am - 10:10 am  Paper 187: Distal Femoral Osteotomy Survivorship: A Population-Based Study
K Soraya Heidari BA, Nathanael Heckmann MD, William C. Pannell MD, Jr, Braden M. McInerny BS, C. Thomas Vangsness MD, George F. Rick Hatch MD
1University of Southern California, Los Angeles, CA

10:10 am - 10:20 am  How to Counsel Hip and Knee Arthroplasty Regarding Return to Sports
John J. Callaghan MD
University of Iowa Hospitals and Clinics, Iowa City, IA

10:20 am - 10:30 am  Question and Answer

10:30 am - 10:35 am  Paper 188: Long-Term Clinical Outcomes after Microfracture of the Glenohumeral Joint: Minimum 7-Year Follow-up
Rachel M. Frank MD, Maximilian A. Meyer BS, Sarah Glen Poland BS, Timothy S. Leroux MD, MEd, Justin W. Griffin MD, Charles P. Hannon MD, Nikhil N. Verma MD, Anthony A. Romeo MD, Brian J. Cole MD, MBA
1Rush University Medical Center, Chicago, IL
2Midwest Orthopaedics at Rush, Chicago, IL

10:35 am - 10:40 am  Paper 189: High Return to Sports after TSA Under 55
Grant Garcia MD, Ryan Degen MD, Joseph N. Liu MD, David M. Dines MD, Lawrence Vincent Giulotta MD
1Hospital for Special Surgery, New York, NY

10:40 am - 10:45 am  Paper 190: Return to Recreational Sporting Activities Following Total Shoulder Arthroplasty
Sandeep Mannava MD, PhD, Marilee P. Horan MPH, Salvatore Joseph Frangiamore MD, Erik M. Fritz MD, Jonathan Alexander Godin MD, Jonas Pogorzelski MD, Peter J. Millett MD, MSc
1Steadman Philippon Research Institute, Vail, CO
2Steadman Clinic, Vail, CO

10:45 am - 10:55 am  Shoulder Arthroplasty and Return to Sports Activities
Stephen F. Brockmeier MD
University of Virginia, Charlottesville, VA

10:55 am - 11:00 am  Question and Answer

11:00 am  Meeting Adjourns
INSTRUCTIONAL COURSES
THURSDAY, JULY 20, 2017
6:45 am – 8:15 am

IC101
The Baseball Thrower: What Can Non-Surgeons Teach Us?

IC102
CASE-BASED
Articular Cartilage Repair in the High Demand Patient

IC103
Approach to the Patient with Failed Hip Arthroscopy

IC104
CASE-BASED
From Cradle to Grave: How to Deal with a Symptomatic Patellofemoral Joint

IC105
Five Disruptive Trends in the Business and Practice of Sports Medicine

IC106
CASE-BASED
Shoulder Arthritis in the Aging Athlete – Management Strategies for 2017

IC107
Managing Our Growing Athletes in 2017

IC108
CASE-BASED
Unicompartmental Knee Arthritis in the Athletic Patient – Return to Sport: A Case-Based Approach

FRIDAY, JULY 21, 2017
6:45 am – 8:15 am

IC201
CASE-BASED
Biologics Treatments for Orthopedic Injuries

IC202
CASE-BASED
Osteochondritis Dissecans and Chondral Injuries of the Knee, Elbow, and Ankle: Treatment in Adolescent Athletes

IC203
CASE-BASED
The Baseball Athlete: From the Hip to the Finger Tips

IC204
CASE-BASED
Complex Knee Ligament Surgery

IC205
State of the Art, Grafts and Patches in Rotator Cuff Surgery; Augmentation, Interpositions, Superior Capsular Reconstruction, and Bio-Inductive Implant

IC206
CASE-BASED
Hip and Groin Pain in the Athlete

IC207
CASE-BASED
Controversies in Rotator Cuff Surgery

IC208
CASE-BASED
Revision Treatment Options for Recurrent Instability Following Failed Anterior Arthroscopic Stabilization

SATURDAY, JULY 22, 2017
6:45 am – 8:15 am

IC301
CASE-BASED
UCL Reconstruction: Epidemiology, Surgical Technique, and Return to Play

IC302
CASE-BASED
Failed Cartilage Repair: Why and What’s the Next Step?

IC303
Tendinous Conditions of the Hip and Pelvis

IC304
CASE-BASED
Recurrent Patellar Instability: How and When to Fix it and How to Avoid Complications

IC305
CASE-BASED
Problem Procedures in Sports Medicine – It’s Complicated

IC306
CASE-BASED
Management of the Failed ACL Reconstruction: International Perspective

IC307
CASE-BASED
Meniscal Tears Cases That Beg The Question: To Repair, To Leave, To Enhance, To Resect, To Transplant?

IC308
CASE-BASED
Shoulder Instability in the Athlete and Weekend Warrior – From Principles to Practice – How to Get this Right

SATURDAY, JULY 22, 2017
1:00 pm – 2:30 pm

IC309
CASE-BASED
Shoulder Instability: Dilemmas in the Elite and In-Season Athlete

IC310
CASE-BASED
Complex and Multi-Ligamentous Injuries of the Knee: MCL, PCL, PLC

IC311
CASE-BASED
Strategies to Diagnose and Address Rotational Laxity of the Knee

IC312
CASE-BASED
Fixing the Shoulder’s “Suspension” – Update on AC/Clavicle/SC

IC313
Return to Play Criteria after ACL Reconstruction: From Basic Science to Clinical Outcome

SUNDAY, JULY 23, 2017
6:45 am – 8:15 am

IC401
The Specificity of the ACL Injury in the Young Athlete: Prevention, Surgical Care and Return to Sport 2017

IC402
The Use of Osteotomy in the Management of Complex Knee Disorders

IC403
CASE-BASED
Sports Medicine Shoulder Ultrasound – Tips on How to Use, When to Use, and Its Uses
IC 103  CASE-BASED

Approach to the Patient with Failed Hip Arthroscopy
Shane J. Nho MD, MS, Eric C. Makhni MD, Christopher M. Larson MD, Bryan T. Kelly MD

Hip arthroscopy for femoroacetabular impingement (FAI) is becoming increasingly common. With this growth is a rise in the number of patients requiring revision surgery for persistent symptoms or inadequate relief from primary surgery. Therefore, clinicians performing hip arthroscopy must be able to accurately diagnose and manage conditions related to failed hip arthroscopy. The goal of this course is to provide a case-based guide on successfully diagnosing and managing (both operatively and non-operatively) this challenging patient population. Traditionally, failed hip arthroscopy has been attributed to under-resection of bony deformity. However, recent evidence has identified numerous additional causes of failure following initial arthroscopy, including those related to inadequate rehabilitation, persistence of bony deformities, iatrogenic damage, over-resection of labral tissue, and capsular deficiency with resultant hip instability. Therefore, the goal of this course is to not only review these scenarios but also to provide technical pearls in successful patient management.

Objectives:
- Describe how to approach the patient with failed hip arthroscopy in a systematic manner, successfully diagnosing the cause of failure through appropriate patient history, physical exam findings, and imaging findings (plain film and advanced imaging).
- Discuss the role of physical therapy and rehabilitation after primary hip arthroscopy. Specifically, how to determine the role of inadequate or inappropriate therapy in contributing to persistent pain and disability following initial hip arthroscopy. Moreover, how to determine whether continued or modified therapy and modalities will be therapeutic in these patients.
- Determine which patients require revision surgery for unsuccessful primary hip arthroscopy and what that procedure entails.
- Describe technical pearls and strategies for performing revision hip arthroscopy.

IC102  CASE-BASED

Articular Cartilage Repair in the High-Demand Patient
Riley J. Williams III, MD, Deryk G. Jones MD, Aaron J. Krych MD, Chubong Benjamin Ma MD

This course will update attendees on the current state of knee articular cartilage repair in the United States. Moreover, athletic return to sport as an endpoint will be the focus of this course. Clinical indications, surgical techniques, postoperative rehabilitation strategies, and functional outcomes, as these relate to knee cartilage repair methods, will be presented. This is a case-based course designed to encourage interaction and discussion between the faculty and audience.

Objectives:
- Discuss the current standards of care in the treatment of articular cartilage defects of the knee.
- Describe the appropriate use of imaging studies in the preoperative and postoperative management of patients with articular cartilage defects of the knee.
- Explain which surgical strategies and technical approaches work best for a return to athletics in high-demand individuals.
- Explain which postoperative rehabilitation strategies work best for a timely return to sport following articular cartilage repair surgery.

IC101

The Baseball Thrower: What Can Non-Surgeons Teach Us?
Michael T. Freehill MD, Kevin E. Wilk PT, DPT, Thomas F. Walter, Matthew Hobbs, Asheesh Bedi MD

This course will be a very unique experience diving deeper into the baseball thrower. Orthopaedic surgeons will be able to learn a non-surgeon’s perspective of the throwing athlete. Two of the most common thrower pathologies will be reviewed (one elbow and one shoulder). Treatment, timing issues, and road blocks will be covered, and orthopaedic surgeons from all communities and all levels would benefit from attending. Further discussions about throwing protocols and critical knowledge that are available to patients and also the shortcomings of what has actually been proven scientifically will be identified. In addition, expert physical therapy discussions will take place for these common diagnoses both in the non-operative and operative setting and what to expect with realistic timetable expectations. Common questions from a Division 1A head coach—what they want to know, what you can give them, how we all stay on same page—will be identified.

Objectives:
- Discuss what coaches are using for pitchers’ arm strengthening and maintenance.
- Discuss the implications of throwing arm pathology and timing of surgery as it pertains to a college scholarship.
- Describe the personalization of rehabilitation for a thrower as it pertains to specific throwing arm injury and degree of treatment.
- Discuss pitching mechanics and the aid of coaches and ATCs with prescribing a focused treatment plan.

Topics, speakers and panelists are current at the time of publication and subject to change.
IC104  CASE-BASED

From Cradle to Grave: How to Deal with a Symptomatic Patellofemoral Joint

Christian Lattermann MD, Elizabeth A. Arendt MD, David DeJour MD, Daniel W. Green MD

This case-based course is designed to cover the most common patellofemoral pathologies in children, adolescents, and adults. Concepts ranging from non-surgical to surgical options in patients of all age groups, including techniques such as guided growth, pediatric MPFL reconstruction, tibial tubercle transfer, rotational deformity correction, and non-arthroplasty treatment of the unstable arthritic patellofemoral joint, will be covered. The format of this course is based on brief introductory talks outlining the basic theoretical and diagnostic concepts for different age groups followed by specific case discussions. Great emphasis is put on the differences between pediatric and adult therapeutic options as well as the distinction between the “painful” patella and the “unstable” patella. During this course, audience participation will be encouraged for every case discussion.

Objectives:
- Recognize specific treatment challenges of patellofemoral instability in skeletally immature individuals.
- Evaluate simple and complex patellofemoral instabilities and design appropriate treatment plans.
- Discuss the concept of patellofemoral risk factors and the major factors that need to be considered when evaluating patellofemoral instability or patellofemoral pain.
- Approach new patients presenting with complex patellofemoral pathologies in a structured and scientific manner based on evidence-based concepts.

IC 105

Five Disruptive Trends in the Business and Practice of Sports Medicine

Geoffrey S. Van Thiel MD, MBA, Richard C. Mather III, MD, Nikhil N. Verma MD, Charles A. Bush-Joseph MD

The business of medicine impacts daily practice. Understanding current and potential disruptive trends that have the ability to change how sports medicine is practiced is essential. Challenges encountered, pathways to success, and reasons for failure will be explored. The course will be a structured discussion around real-life examples from each of the five categories of disruptive trends, including:
- Bundled payments/package pricing and how these present challenges from a practice perspective but also significant opportunity.
- Outcomes data and what it means to different audiences (ie, government, payer, surgeon). It is important to understand the different metrics and the goals behind any outcome program.
- Technology and how it can be disruptive, costly, and omnipresent in how practitioners do their jobs and how patients view us.
- Surgery center dynamics and how they allow for vertical integration and represent an excellent vehicle for cost efficiencies, including ownership, cost containment, and regulatory issues.
- Hospital/health system alignment and how consolidation is allowing health systems’ “providers” to become “payers.” Understanding the different vehicles for alignment is important, including co-management agreements, employment, and shared decision making.

Objectives:
- Define bundle payment programs and components of each program.
- Evaluate outcomes and their application to practice.
- Identify technology that benefits attendees in their daily practice.
- Discuss how surgery centers fit into their practice.
- Evaluate opportunities to collaborate with health system.
IC106 **CASE-BASED**

**Shoulder Arthritis in the Aging Athlete - Management Strategies for 2017**

Lawrence V. Gulotta MD, Frank A. Petrigiano MD, Seth C. Gamradt MD, Stephen C. Brockmeier MD

As the population ages and continues to be active, incidence of degenerative conditions such as shoulder arthritis will continue to rise. A significant portion of these patients will be treated by sports medicine specialists. The purpose of this course is to outline the management options for the aging athlete with shoulder arthritis. The talks will be case-based, when applicable, and will address the work-up, non-operative options, including rehabilitation and biologics, surgical options and techniques, and expectations on return to sports. The specific areas to be addressed include:

- Non-arthroplasty options of the athlete with shoulder osteoarthritis ranging from rehab, injections, and arthroscopy.
- Partial shoulder replacement: hemiarthroplasty with and without biologic glenoid resurfacing and shoulder resurfacing.
- Total shoulder arthroplasty: technique considerations in athletes and expectation on return to sports.
- Reverse shoulder arthroplasty: indications and technique for the procedure, the rehabilitation and expectations for return to sports, and pearls and pitfalls.

**Objectives:**

- Discuss viable non-arthroplasty options for the management of shoulder arthritis.
- Discuss the indications and expected results for partial resurfacing of the shoulder.
- Discuss the indications for total shoulder replacement, technical considerations when performed on athletes, and their expected return to sports following the procedure.
- Discuss the role for reverse shoulder arthroplasty, techniques that may improve functional outcomes, and expectations on return to sports.

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IC107

**Managing Our Growing Athletes in 2017**

Joseph H. Guettler MD, Dean C. Taylor MD, Felix H. Savoie III, MD, James Bicos MD

Early sport specialization has both orthopaedic and socioeconomic implications. This course is designed to not only explore injuries and conditions unique to this growing population but also identify broader issues and trends related to early sport specialization. The course will examine the diagnosis and treatment of commonly encountered conditions of the knee including ACL injury, acute patellar instability, osteochondritis dissecans, and meniscal pathology unique to this immature population of athletes. It will explore the latest treatment options for shoulder and elbow injuries in young overhead athletes. The recognition and treatment of unique sports fractures in adolescent athletes will also be highlighted. Perhaps most importantly, all of these entities will be explored with an emphasis on injury prevention.

**Objectives:**

- Gain true insight into the impact of early sport specialization on not only the physical but also the social and economic aspects of our growing athletes and their families.
- Recognize and treat “sports fractures” unique to adolescent athletes.
- Describe the basis for emerging trends – as well as controversies – in the treatment of ACL injury, patellar instability, osteochondritis dissecans, and meniscal pathology in growing athletes.
- Apply injury prevention and treatment concepts to the shoulders and elbows of developing overhead athletes.

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IC108 **CASE-BASED**

**Unicompartmental Knee Arthritis in the Athletic Patient: Return to Sport**

Kevin D. Plancher MD, C. Thomas Vangsness MD, Jack Farr II, MD, Alan M. Getgood MD, FRCS (Tr&Orth), Brian J. Cole MD, MBA

Unicompartmental knee arthritis (cartilage loss) is a challenging disease entity in the athletic patient to successfully return patients to sporting activities. Experts will present five cases and discuss the best operative treatment regimens, including the utilization of stem cells, cartilage implantation for femoral condyles and the patella, malalignment, and unicompartmental arthroplasty for patients with unicompartmental knee arthritis to enhance the knowledge of the participant to enable them to treat the athletic, arthritic knee successfully. Topics to be discussed:

- Orthobiologics Are the Future: HA, PRP, and Autologous and Allogeneic Stem Cells—What to Inject and When? What Is the Cost and Is It Worth It?
- Osteochondral Autograft and Allograft Made Simple: Newest Techniques and Complications
- Cartilage Techniques to Avoid Patellofemoral Resurfacing: Clinical Pearls and Outcomes
- HTO Yields Success: Immediate Weightbearing, Postoperative Rehabilitation, and Return to Sport
- Clinical Applications of Lateral UKA: Patient Expectations, Complications, and Facts

**Objectives:**

- Discuss the indications for operative management of unicompartmental arthritis in the active patient.
- Discuss the advantages and disadvantages of surgical treatment outcomes and discuss surgical tips and tricks to yield successful outcomes.
- Analyze and discuss the current literature surrounding the different treatment options for the athletic, arthritic knee to assist surgeons in making evidence-based decisions when treating their patients and how to avoid and address complications when they arise.
IC201  CASE-BASED

Biologics Treatments for Orthopedic Injuries
Jason L. Dragoo MD, Jorge Chahla MD, Robert F. LaPrade MD, PhD, Constance R. Chu MD
This course will provide an up-to-date synopsis of the biologic treatments in the field of orthopedics. Significant advances in biologics have been accompanied by parallel challenges, including indications, implications of FDA regulation, and the complexity of translating basic sciences into clinical practice. The use of minimally manipulated progenitor cells, including regeneration, augmentation in soft tissue repair, and the future of novel scaffolds and bioprinting in the field of orthopaedics, will be discussed. Discussion of where we are now and what we need to do to improve biologic treatments will be discussed as well. A case-based approach will introduce the presentations and guide the audience through the different treatment options.

Objectives:
- Explain the challenges of translating basic science into clinical practice. Clinician and industry perspective will be discussed. How do we need to work with the FDA to advance the clinical use of stem cells?
- Describe the role of PRP, growth factor concentrate, and hematocrit as a therapy for different orthopaedic injuries. How to prepare it, in which cases, and how to evaluate clinical outcomes.
- Describe the role of bone marrow aspirate concentrate and progenitor cells. Where we are now, what we can use, and how do we move forward.
- Describe the role of biologics as an augmentation of soft tissue repair. New frontiers of ligaments, cartilage, and muscle repair. Describe novel animal models and the applications in translational medicine.
- Explain novel scaffolds and the future of bioprinting. A case demonstration of clinical and animal work will be presented.

IC202  CASE-BASED

Osteochondritis Dissecans and Chondral Injuries of the Knee, Elbow, and Ankle: Treatment in Adolescent Athletes
Matthew D. Milewski MD, Kevin G. Shea MD, John Polousky MD, Carl W. Nissen MD
Articular cartilage injuries in pediatric and adolescent athletes provide challenges to the sports medicine provider in both the acute setting and due to their potential long-term consequences. This course is designed to use evidence-based medicine in a case-based review to examine diagnostic and treatment strategies for articular cartilage injuries in young athletes. Knee, elbow, and ankle pathology will be discussed. This course will be focused on discussing the treatment of these injuries specifically in adolescent and skeletally immature athletes. A focus will include but not be limited to a discussion of the treatment of osteochondritis dissecans (OCD) in each of these anatomic areas, with the experience from the Research on Osteochondritis Dissecans of the Knee (ROCK) group highlighted. This course is designed to give all sports medicine providers evidence-based treatment strategies for articular cartilage injuries in the young athlete and to get these athletes back to their activities and to minimize future degenerative issues.

Objectives:
- Describe the potential etiologies, pathoanatomy, and diagnostic criteria of articular cartilage injuries, particularly osteochondritis dissecans of the knee.
- Discuss the implications and different treatment options for patellar instability in the setting of articular cartilage injuries about the knee.
- Describe the potential etiologies and natural history of capitellar osteochondral injuries along with treatment options particularly in the setting of young overhead athletes.
- Describe the potential etiologies and treatment options for talar osteochondral and OCD lesions and the implications of ankle instability in the setting of young athletes.

IC203  CASE-BASED

The Baseball Athlete: From the Hip to the Finger Tips
T. Sean Lynch MD, Christopher S. Ahmad MD, Thomas J. Graham MD, Mark S. Schickendantz MD
Shoulder and elbow injuries in baseball are often publicized in the mass media; however, little attention is given to the hip and the hand, which play an important role in the baseball athlete and are often at risk for injury. The purpose of this course is to aid both the new as well as the seasoned baseball physician. Emphasis will be on case presentations to help the audience understand basic principles of baseball injuries and how to manage these conditions in order to help get your player back on the diamond.

Objectives:
- Discuss what every baseball doctor should know regarding athletic hip injuries.
- Discuss what is normal and what is not in the throwing athlete, when to fix a SLAP and when to tenodese, and whether GIRD really is a problem.
- Explain the relationship between the olecranon, the ulnar collateral ligament, and the forearm muscles in elbow injuries.
- Describe why batting and throwing cause so many injuries to fingers and how to fix them.
- Define operative and non-operative management and rehabilitation protocols for the care of musculoskeletal baseball conditions.

IC204  CASE-BASED

Complex Knee Ligament Surgery
Robert G. Marx MD, MSc, FRCSc, Mark D. Miller MD, Darren L. Johnson MD
Three presenters share complex knee cases, including multiple-ligament injuries, revision ACL reconstruction, and pediatric knee injuries, in an alternating fashion. At periodic intervals, the presenter will stop and ask the other faculty and the audience to weigh-in on treatment choices. Different treatment options and critical decision-making options are discussed.

Objectives:
- Discuss the rationale for timing, surgical options, and acute and chronic management of multiple-ligament knee injuries.
- Describe operative treatment options for pediatric knee injuries.
- Detail key factors that contribute to ACL graft failure and how to avoid repeating these mistakes in revision ACL surgery.
- Discuss post-operative management options in the treatment of complex knee injuries.

Topics, speakers and panelists are current at the time of publication and subject to change.
IC205
State of the Art, Grafts, and Patches in Rotator Cuff Surgery; Augmentation, Interpositions, Superior Capsular Reconstruction, and Bio-Inductive Implant
Kevin D. Plancher MD, John M. Tokish MD, F. Alan Barber MD, Mark H. Getelman MD
This course will familiarize the participants with the biology and mechanics of rotator cuff patches and grafts; indications for augmentation, interpositions, superior capsule reconstruction, and bio-inductive ingrowth using graft materials and surgical technique for graft implantation.

Objectives:
- Describe the role of grafts and patches in rotator cuff surgery.
- Discuss the clinical indications for graft usage.
- Explain the surgical technique and potential complications.

IC206
Hip and Groin Pain in the Athlete
Marc R. Safran MD, J. W. Thomas Byrd MD, Christopher M. Larson MD, Brian D. Busconi MD
Hip and groin injuries are being seen more frequently in the sports medicine practice. This course will use a case-based approach, with team physicians who are hip and groin experts, to discuss the evaluation and treatment of injuries in athletes. Real cases will be introduced and include radiographs, 3D CT scans, and MRI. Videos of the pertinent physical examination will also be included. Each panel member will provide their input into the diagnosis, treatment, and pearls for evaluation and management. Diagnoses discussed include femoroacetabular impingement (FAI), hip instability, labral tears, hamstring avulsions, ischial tuberosity avulsions, sports hernia/athletic pubalgia, adductor injuries, and other musculotendinous injuries about the hip, time permitting. Operative and non-operative approaches will be discussed, including surgical technique. Further, the panelists will provide their experience and discuss return-to-play considerations for these diagnoses. Opportunity for attendee participation is encouraged throughout the case discussions.

Objectives:
- Diagnose femoroacetabular impingement and discuss the treatment options.
- Diagnose hip instability and discuss the treatment options.
- Describe the pathology of athletic pubalgia, make the diagnosis, and discuss the treatment options.

IC207
Controversies in Rotator Cuff Surgery
William N. Levine MD, Anthony A. Romeo MD, Neal S. ElAttrache MD, Stephen S. Burkhart MD
The goals of this course are to encourage registrants to interact in a lively, case-based style with minimal didactics and significant interaction with the faculty. Controversial topics, including management of massive rotator cuff tears (primary repair vs SCR vs graft vs RTSA), decision making on management of the biceps tendon, and how to manage partial thickness rotator cuff tears, will be discussed.

Objectives:
- Review current trends in rotator cuff surgery and highlight controversies.
- Review indications and pearls of superior capsular reconstruction for irreparable tears.
- Review current trends with management of the biceps tendon during rotator cuff surgery.
- Review latest principles on management of partial-thickness rotator cuff tears.

IC208
Revision Treatment Options for Recurrent Instability Following Failed Anterior Arthroscopic Stabilization
Albert Lin MD, Laurence D. Higgins MD, Michael T. Freehill MD, Aman Dhawan MD
The optimal revision surgical treatment following a failed arthroscopic anterior stabilization is controversial, particularly in cases without significant bone loss of the glenoid or humeral head. Management options include revision open versus arthroscopic stabilization with particular considerations based on age, status of soft tissue, level of activity, type of sport, and expectations of the patient and surgeon. Open options for revision surgery include open Bankart, open Latarjet, or other bone augmentation procedures including newer arthroscopic-assisted approaches. Arthroscopic revision options include revision arthroscopic stabilization with or without remplissage. In this instructional course lecture, we discuss in a case-based, point/counterpoint format the pros and cons of open versus arthroscopic approaches with particular attention on long-term follow-up, risk of recurrence, return to sport, and surgical technique, including pearls and pitfalls.

Objectives:
- Gain a better understanding of the treatment spectrum available in this challenging scenario.
- Develop a detailed appreciation of risks and benefits associated with each revision anterior approach.
- Gain an understanding of the technical pearls and pitfalls with each stabilization method.
- Develop an individualized treatment algorithm for the patient depending on the clinical scenario, which will guide discussion regarding postoperative expectations.
Objectives:

- Describe why there are so many Tommy John surgeries occurring and determine a practical approach to reducing this epidemic in your community.
- Define the risk factors for UCL tears.
- Review the current technique available for UCL reconstruction.
- Discuss the return to play considerations and rates after UCL reconstruction.

IC302

Failed Cartilage Repair: Why and What’s the Next Step?

Andreas H. Gomoll MD, Christian Lattermann MD, Brian J. Cole MD, MBA, Jack Farr II, MD

Cartilage repair is becoming increasingly popular, and discussion of primary cartilage repair has had acceptable exposure in plenary and instructional course lectures. Even under the best of circumstances, however, cartilage repair fails in approximately 20 percent of patients. There has been a relative lack of discussion of what constitutes failure and how to evaluate and treat the patient with persistent pain after cartilage repair. This course will present strategies on how to reduce the risk of failure during the index procedure. We will provide algorithms to evaluate failed cartilage repair patients to improve outcomes of revision, including revision meniscal allograft transplantation. This will include a discussion of the importance of joint co-morbidities such as malalignment, meniscal deficiency, and instability. Discussion will use case vignettes and panel discussion of clinical cases to demonstrate decision-making algorithms.

Objectives:

- Identify technical aspects of primary cartilage repair that have been found to correlate with failure rates.
- Employ the appropriate diagnostic tests to evaluate the painful cartilage repair patient for failure of the repair itself, as well as to assess concurrent joint pathology such as malalignment, instability, and meniscal insufficiency.
- Devise a treatment plan on conservative versus surgical management of the cartilage defect and potential concurrent joint pathology.

IC303

Tendinous Conditions of the Hip and Pelvis

Anthony J. Scillia MD, J. W. Thomas Byrd MD, Benton A. Emblov MD

Surgical management of intra-articular hip pathology continues to be a focal interest of sports medicine. However, there are a multitude of soft tissue conditions surrounding the hip joint that can imitate intra-articular conditions. These diagnoses include, but are not limited to, sports hernias, gluteal muscle tears, hamstring injuries, piriformis syndrome, and snapping hip. As improvements have been made in recognizing these conditions, the need for an evidence-based diagnostic algorithm along with clear surgical indications and technical guides becomes paramount. We present a review of diagnostic criteria and surgical methods for extra-articular soft tissue pathologies of the hip and pelvis.

Objectives:

- Describe the surgical indications for a variety of tendinous pathologies of the hip and pelvis.
- Evaluate the most recent literature regarding operative and non-operative management.
- Describe surgical techniques for each condition.

IC304

Recurrent Patellar Instability: How and When to Fix It and How to Avoid Complications

Beth E. Shubin Stein MD, Sabrina M. Strickland MD, Robin V. West MD

Through a mix of literature, personal experience, and illustrative cases, attendees will fine tune their treatment algorithm for recurrent patellar instability. Surgical techniques and specific pearls will be discussed to gain confidence in treating these challenging problems. Specific topics that will be covered:

- MPFL reconstruction: How and when to do it and how to avoid disasters.
- The tibial tubercle: When and how much to move it and what happens when it doesn’t work.
- Resulting cartilage injury: The black hole. What to do when instability is no longer the only problem.

Other sub-topics to be covered include how treatment changes in the setting of a skeletally immature patient, as well as rehabilitation and return to play.

Objectives:

- Identify those patients who are candidates for isolated MPFL reconstruction vs those patients who would benefit from a tibial tubercle transfer in addition to the MPFL.
- Recognize and treat common complications relating to patellar instability surgery.
- Identify and treat cartilage defects resulting from patellar instability.
- Describe appropriate post-operative rehab guidelines and return-to-play parameters.
InstructIonal courses (cont.)

**IC305**  CASE-BASED

Problem Procedures in Sports Medicine – It’s Complicated

Mark D. Miller MD, William N. Levine MD, Felix H. Savoie III, MD, F. Winston Gwathmey MD

Complications happen—even to the best surgeons. In this course we will discuss common complications in sports medicine surgery. Using actual cases from their own clinical practices, orthopaedic sports medicine experts will share their complications, insights on how to avoid them, what they did to resolve them, and lessons learned. Shoulder, elbow, hip, and knee cases will be discussed, and audience participation will be encouraged. Complications will include the following procedures: Shoulder: rotator cuff repair, instability surgery, C-C reconstruction; Elbow: UCL reconstruction, epicondylitis, arthroscopic procedures; Hip: FAI surgery, soft tissue procedures, arthroscopic procedures; Knee: ACL reconstruction, articular cartilage surgery, meniscal repair. Come join us as we “air our dirty laundry” and learn how to avoid problem procedures.

Objectives:
- Describe complications in sports medicine shoulder surgery and how to avoid them.
- Discuss common complications in sports medicine elbow surgery and how to best manage them.
- Identify problem procedures in sports medicine hip arthroscopy.
- Explain how to treat failed sports medicine knee procedures.
- Describe common errors in sports medicine procedures, how to avoid them, and how to correct them.

**IC306**  CASE-BASED

Management of the Failed ACL Reconstruction: International Perspective

Volker Musahl MD, David DeJour MD, John W. Xerogeanes MD, Stefano Zaffagnini MD

This course will outline a systematic approach to managing a patient with failed ACL reconstruction. Course highlights include preoperative workup, including quantitative assessment of knee laxity. Complex knee ligament reconstruction cases will be presented, including revision ACL reconstruction with quadriceps tendon, management of extra-articular surgery, meniscus reconstruction, and osteotomy.

Objectives:
- Describe the utility of quadriceps tendon autograft in revision ACL surgery.
- Discuss quantitative assessment of rotatory knee instability and indication/use of extra-articular surgery.
- Explain the utility of additional procedures in the setting of revision ACL reconstruction, such as meniscus reconstruction or osteotomy.

**IC307**  CASE-BASED

Meniscal Tears Cases That Beg the Question: To Repair, To Leave, To Enhance, To Resect, To Transplant?

Mary Lloyd Ireland MD, Darren L. Johnson MD, Scott A. Rodeo MD, Jeremy M. Burnham MD

The most common procedure for an orthopaedic surgeon involves the meniscus. However, there are very few case-based courses with panel discussions on how and what to do with the torn meniscus. Cases that the faculty have personally done will be presented with emphasis on the tear pattern, what is fixable, and how to perform the procedure. Saving the meniscus is the goal when arthroscopy is performed. From repair techniques to indications for transplantation, cases will be presented by the faculty.

The literature that best supports the case will be presented. The patient must understand the procedure and postoperative course. We must communicate expected time to return to full activities, potential complications, and rehabilitation protocol with the patient. Safety and education of the patient undergoing meniscus surgery should be the goal always. The attendees will see cases of what works and what doesn’t and how to make healing occur in repairable meniscal tears. There will be a lively and candid discussion of each case by panelists. With many different ways to repair or resect, the attendee will see what works best in the hands of the faculty. This course will prepare the attendees for the routine or more challenging meniscal case.

Objectives:
- Describe how to make good decisions and perform the correct procedure when doing meniscal surgery based on cases the faculty has done themselves.
- Explain how to perform meniscectomy and repair for specific tear patterns: posterior root, radial split, discoid, and bucket-handle.
- Discuss the basic science, cost, and indications for additional arthroscopic techniques and injectables to improve healing rates.
- Discuss the indications for meniscal transplantation and emerging scaffold materials.
- Discuss the potential complications that can occur in the operating room and with post-operative protocols and return to play.

Topics, speakers and panelists are current at the time of publication and subject to change.
IC308 CASE-BASED
Shoulder Instability in the Athlete and Weekend Warrior: From Principles to Practice – How to Get this Right

John M. Tokish MD, Matthew T. Provencher MD, Robert A. Arciero MD, Anthony A. Romeo MD, Kevin E. Wilk PT, DPT

This case-based course will span the clinical evaluation, radiographic assessment, clinical decision making, and non-operative and operative treatment of shoulder instability in the athlete and weekend warrior. In order to provide a thorough overview capable of implementation into the participant’s practice, complex cases will be comprehensively reviewed with a focus on relevant anatomy, biomechanics, clinical evaluation, imaging, objective and subjective clinical outcomes, and potential complications. The presenters will discuss indications and contraindications for the latest surgical techniques with a particular focus on bony augmentation procedures via bone grafts. Case presentations will highlight the differences in clinical decision making and factors contributing to the eventual treatment plan. Ultimately, participants will learn fundamental practical information that will be immediately transferrable to clinical practice.

Objectives:

- Recognize recurrent anterior shoulder instability with concomitant bone loss at initial clinical presentation in a case-based format
- Determine how best to treat a variety of shoulder instability conditions and how to recognize what to do from a thorough history, examination, and imaging through case-based learning.
- Describe the range of factors, including age, sport participation, chronicity of injury, and extent of bone loss, which ultimately guide clinical decision making, as well as how to add in outcomes collection for your practice.
- Describe the various treatment possibilities, including non-operative and postoperative management, as well as principles of therapy for success.
IC309  CASE-BASED
Shoulder Instability: Dilemmas in the Elite and In-Season Athlete
C. Dain Allred MD, Jonathan F. Dickens MD, Lance E. LeClerc MD, LCDR, MC, USN, Steven J. Svoboda MD
This course will focus on shoulder instability in the athlete. Cases will be taken from NCAA athletes at the US Air Force Academy, the US Naval Academy, and the US Military Academy. Emphasis will be placed on decision making in the in-season athlete with shoulder instability. Cases will also illustrate teaching points and generate discussion regarding recurrent instability, ALPSA lesions, pan-labral injuries, glenoid bone loss, and Hill-Sachs lesions. Case solutions will include illustrations of arthroscopic and open surgical techniques for soft tissue and bony reconstructions. Strategies for non-operative and post-operative rehabilitation of shoulder instability will be presented.

Objectives:
• Discuss and understand the appropriate treatment of shoulder instability in in-season athletes.
• Discuss treatment algorithms for athletes with shoulder instability, including first-time dislocations, recurrent instability, and instability with bone loss.
• Discuss the state-of-the-art surgical techniques for shoulder instability, including arthroscopic and open procedures. Current rehabilitation strategies will also be discussed.

IC310  CASE-BASED
Complex and Multi-Ligamentous Injuries of the Knee: MCL, PCL, PLC
Robert F. LaPrade MD, PhD, Matthew T. Provencher MD, Scott C. Faucett MD, Lars Engebretsen MD, PhD
This case-based course will provide an evidence-based overview of the evaluation and management of complex and multi-ligament injuries of the knee, specifically of the medial collateral ligament (MCL), posterior cruciate ligament (PCL), and posterolateral corner (PLC). Comprehensive cases will be presented, which will allow participants to focus on current and relevant basic science, anatomy, biomechanics, clinical evaluation, complications, imaging, and objective and subjective clinical outcomes. Additionally, as part of the review of the cases, the presenters will compare and contrast indications and contraindications for repair and reconstruction using the most up-to-date surgical techniques, including indications for primary repairs or anatomic reconstructions of the superficial MCL, PCL, and PLC. Case presentations will highlight the latest controversies in multi-ligament injuries focusing on the history, examination, imaging findings, and treatment strategies. Attendees will receive essential practical information that will be immediately transferable to clinical practice.

Objectives:
• Discuss current and relevant concepts in MCL, PCL, and PLC anatomy and biomechanics.
• Determine the extent of an acute or chronic multi-ligament injury of the knee using appropriate clinical and radiographic evaluations to form a strategic treatment plan.
• Recognize the indications and contraindications for and understand the techniques of surgical repair and reconstruction of complex ligamentous injuries to the knee.
• Identify factors that may influence treatment outcomes from history, examination, and imaging findings during the workup of a knee injury.

IC311  CASE-BASED
Strategies to Diagnose and Address Rotational Laxity of the Knee
Alan M. Getgood MD, FRCS (Tr&Orth), Volker Musahl MD, Andrew Pearle MD, Asheesh Bedi MD
The patient with the high-grade rotationally unstable ACL-deficient knee is a challenge that we all face in our practice. There may be a number of causes why this high-grade rotational laxity is present, which include: concomitant peripheral corner injury such as posterolateral, anterolateral, posteromedial, or anteromedial laxity; meniscus deficiency; and generalized ligament laxity/ genu recurvatum. There is controversy surrounding the best way to treat these patients, with certain surgical techniques being promoted over others. The aim of this course is to break the high-grade rotationally unstable knee into its component parts, giving surgeons a clear and concise pragmatic approach of how to address this difficult problem. Talks will be delivered with case examples used throughout to illustrate the key principals.

Objectives:
• Interpret the examination of the grossly rotationally unstable ACL-deficient knee, relating the clinical findings to biomechanical deficiencies and diagnostic tests.
• Describe a reproducible ACL reconstruction with current concepts based on up-to-date evidence base.
• Recognize and diagnose specific meniscal lesions, including posterior root tears and “ramp” lesions of the posteromedial meniscus. Repair techniques will be demonstrated.
• Diagnose and appropriately surgically address medial- and lateral-sided injuries.

IC312  CASE-BASED
Fixing the Shoulder’s “Suspension”: Update on AC/Clavicle/SC
Joseph H. Guettler MD, Claude T. Mooreman III, MD, Augustus D. Mazzocca MD, MS, James Bicos MD
The treatment of clavicle fractures and AC joint injuries continues to evolve. This course will explore current trends and controversies in the treatment of these common athletic injuries. Operative criteria and the latest options for the treatment of clavicle fractures will be discussed, and the debate will continue relating to the latest “pin” vs “plate” concepts for midshaft clavicle fractures. Emerging concepts in the treatment of acute and chronic AC joint injuries will also be explored, with a special emphasis on selecting the appropriate treatment for the controversial grade III AC separation. Case presentations will be included in this didactic session to help demonstrate contemporary treatment algorithms for these injuries, as well as uncommon clavicle fractures and SC joint injuries.

Objectives:
• Implement an algorithm in clinical practice for the treatment of clavicle fractures, AC joint, and SC joint injuries in an athletic population.
• Discuss the latest trends in the management of acute AC injuries – especially grade III separation – as well as minimally invasive and anatomic reconstructive techniques.
• Recognize which clavicle fractures should be managed operatively and apply the latest techniques (“pin” or “plate”) to appropriately fix these fractures.
• Discuss the latest treatments for uncommon clavicle fractures and SC joint injuries.
Return-to-Play Criteria After ACL Reconstruction: From Basic Science to Clinical Outcome

Fotios P. Tjoumakaris MD, Christopher D. Harner MD, Bernard R. Bach MD, Kevin B. Freedman MD

The decision to return an athlete to the athletic field of play after ACL reconstruction is complex. Currently, there are no validated guidelines with regard to returning high-demand athletes to play after a successful ACL surgery. Clinicians are often left with their clinical exam skills, limited functional assessment tools, and anecdotal experience with regard to assessing when an athlete can return to play. Patient factors such as concomitant injury, sport, position on the field, and training demands as well as surgical factors such as graft choice, graft incorporation, and anatomic tunnel placement can all influence the rehabilitation and outcome of ACL-reconstructed athletes. The purpose of this IC is threefold: discuss the basic science of ACL graft incorporation, biomechanics, and surgical principles that may influence successful graft incorporation and how this relates to returning an athlete to play; discuss and outline clinical parameters such as graft type, anatomic tunnel placement, and rehabilitation protocols as they may influence success of surgery and return to play of the ACL-reconstructed athlete; and discuss the functional outcome tools and assessments that are currently available to help develop a functional return-to-play checklist that can be used as a precursor to returning an athlete to competition.

Objectives:
- Identify the basic science and biomechanical principles of ACL reconstruction that influence graft healing and successful return to play.
- Describe the surgical and rehabilitation principles of graft fixation, graft and tunnel placement, and graft type as they relate to return to play after ACL reconstruction.
- Review the most current evidence-based principles of functional assessments and use this knowledge to develop a checklist that allows athletes a safe return to play after ACL reconstruction.

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IC401

The Specificity of the ACL Injury in the Young Athlete: Prevention, Surgical Care, and Return to Sport 2017

Bert R. Mandelbaum MD, Christopher S. Ahmad MD, Robert H. Brophy IV, MD, Mininder S. Kocher MD, MPH, Holly J. Silvers MPT

ACL injury in the pediatric adolescent athlete is a challenge to understand the mechanisms of injury and prevention. Once injured, it requires a multidisciplinary team that can decipher the mechanism of injury, pre-rehabilitation, specific type of surgical procedure that relates to the specificity of the particular athlete, and development of a post-operative return to sport program that is reflective of sex and level of participation in a specific sport. The purpose of this course lecture is to address the progressive detail and level of specificity in this population to optimize care and result.

Objectives:

- Discuss that the risk of ACL injury and re-injury in the 14- to 18-year-old athlete is significantly high and increases with level of participation and types of sport participation.
- Explain that there are specific mechanisms of injury in this age group that are biomechanically and neuromuscularly based.
- Explain that in this age group surgical options are very specific and vary with respect to degree of physeal closure, sex, age, type of sport participation, and long-term goals.
- Discuss that post-operative programs must include understanding of initial mechanisms of injury, rehabilitation, preventative approaches that include biomechanical and neuromuscular strategies and specific return-to-sport progressions, and criteria for success and prevention of re-injury.
- Introduce the concepts of orthobiological interventions as disease-modifying to minimize the potential of osteoarthritis.

IC402

The Use of Osteotomy in the Management of Complex Knee Disorders

Scott A. Rodeo MD, Thomas L. Wickiewicz MD, Thomas M. DeBerardino MD, Annunziato Amendola MD

This course will review indications and techniques for tibial osteotomy and femoral osteotomy to treat various conditions in the knee. The goal is to highlight how knee realignment techniques can be helpful for conditions other than the typical indication of unicompartmental arthritis. Faculty will provide a comprehensive overview of the various scenarios where osteotomy is used, including: unicompartmental arthritis, cartilage resurfacing, in conjunction with meniscus transplantation, in conjunction with surgery for knee instability, treatment of patellofemoral instability, and patellofemoral arthrosis. Faculty will discuss the various types of osteotomy (femoral tubial, tubial tubercle, trochlear) and the specific indications for each. Surgical techniques for both coronal plane and sagittal plane correction, in addition to various approaches for patellofemoral arthritis and instability, including both tubial tubercle osteotomy and trochlear osteotomy, will also be discussed. For each type of osteotomy and indication, faculty will discuss pre-operative planning and X-ray templating, including the use of computer navigation. Surgical technique will be reviewed with use of surgical video and presentation of illustrative cases. The post-operative rehabilitation and complications specific to each type of osteotomy will be reviewed.

Objectives:

- Identify the indications and techniques for tibial osteotomy and femoral osteotomy. The participant will know how to carry out pre-operative templating of radiographs for surgical planning and the basic surgical techniques for standard tibial and femoral osteotomies. The participant will also understand the role of computer navigation in planning and execution of osteotomy.
- Describe indications and techniques for the use of osteotomy in conjunction with surgery for knee instability, cartilage resurfacing, and meniscus transplantation. The participant will understand how to perform both sagittal plane and coronal plane corrections.
- Describe indications and techniques for the use of osteotomy in the treatment of patellofemoral instability, for focal chondral lesions of the patella and trochlea, and for patellofemoral arthrosis.
- Plan post-operative rehabilitation for each specific type of osteotomy and be able to discuss potential complications specific to various types of osteotomy.

IC403

Sports Medicine Shoulder Ultrasound: Tips on How to Use, When to Use, and Its Uses

Henry T. Goitz MD, Tony Bouffard MD

This course provides the participant with a clear understanding of diagnostic and therapeutic shoulder ultrasound through an understanding of normal and pathologic clinical cases. Surgical anatomy, live demonstration, pathology simple and complex, case scenarios, techniques of therapeutic shoulder ultrasound using case scenarios, and question and answer will be included.

Objectives:

- Describe how to perform shoulder ultrasound with live demonstration.
- Explain the appropriate use of diagnostic ultrasound with clinical correlations via clinical case studies.
- Describe normal and pathologic shoulder anatomy and the clinical value of diagnostic and guided therapeutic ultrasound.
Take a guided tour of posters and interact directly with the authors. Expert moderators will lead attendees on tours that include question and answer sessions with the authors.

Tours will be held concurrently on Friday from 4:00 pm – 5:00 pm and will take place in the Exhibit Hall. To attend a tour, please proceed to the first listed in each section below.

**ACL 1**

_Moderator:_ Daniel C. Wascher MD  
University of New Mexico, Albuquerque, NM

**201** Risk of Revision for Various Hamstring Fixation Methods After ACLR  
_Rick P. Csintalan_ 1, Heather A. Prentice PhD 2,  
Tadashi Ted Funahashi MD 3, Gregory B. Maletis MD 4  
1Kaiser Permanente Southern California (Orange County), Irvine, CA  
2Kaiser Permanente, San Diego, CA  
3Kaiser Permanente Hospital, Baldwin Park, CA

**202** The Relation Between Volume of ACL Reconstruction and Future Knee Surgery  
_William W. Schairer MD_ 1, Robert G. Marx MD, MSc, FRCSC 1,  
Brendan Dempsey 2, Yile Ge 3, Stephen Lyman PhD 4  
1Hospital for Special Surgery, New York, NY  
2Dartmouth University, Hanover, NH

**203** Outcomes Following Single-Stage Revision Anterior Cruciate Ligament Reconstruction vs. Two-Stage Revision with Tunnel Bone Grafting  
_Mark Cinque_ 1, Justin J. Mitchell MD 1, Jorge Chahla MD 1,  
Chase S. Dean MD 1, Lauren M. Matheny MPH 1,  
Robert F. LaPrade MD, PhD 2  
1Steadman Philippon Research Institute, Vail, CO  
2The Steadman Clinic, Vail, CO

**204** Change in KOOS and WOMAC Scores from Pre-injury Baseline in a Young Athletic Population With and Without ACL Injury Over Four Years of Follow-up  
_Ivan J. Antosh MD_ 1, Steven J. Svoboda MD 3, Karen Y. Peck MEd, ATC 2,  
Estephan J. Garcia MD 3, Kenneth L. Cameron PhD, MPH, ATC 1  
1Keller Army Hospital, West Point, NY  
2John A. Feagin Jr. Sports Medicine, West Point, NY  
3William Beaumont Army Medical Center, El Paso, TX

**205** Increased Risk of Graft Failure After ACL Reconstruction in Young Female Athletes with Hamstring Grafts  
_Mark V. Paterno PhD, PT_ 3, Staci Thomas MS 3,  
Timothy E. Hewett PhD, FACSM 4, Robert A. Magnusson MD 1,  
Laura Schmitt PhD, PT 4  
3Sports Medicine Biodynamics Center, Cincinnati, OH  
4Cincinnati Children’s Hospital, Milford, OH  
5Mayo Clinic, Rochester, MN  
6The Ohio State University, Columbus, OH

**206** Femoral Tunnel Drilling Method: Revision Risk After Anterior Cruciate Ligament Reconstruction  
_Samir Tejwani MD_ 1, Heather A. Prentice 2, Ronald Wyatt MD 3,  
Gregory B. Maletis MD 1  
1Kaiser Permanente, Fontana, CA  
2Kaiser Permanente, San Diego, CA  
3Kaiser Permanente, Walnut Creek, CA  
4Kaiser Permanente Hospital, Baldwin Park, CA

Topics, speakers, and panelists are current at the time of publication and subject to change.
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<th>Poster Title</th>
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<td><strong>Guided Poster Tours</strong></td>
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<td>207 Does Knee Hyperextension Affect Dynamic In Vivo Kinematics and Clinical Outcomes After Anterior Cruciate Ligament Reconstruction?</td>
<td>Kanto Nagai MD, PhD1, Tom Gale MS1, Yasutaka Tashiro MD, PhD1, Elmar Herbst MD1, James J. Irngang PT, PhD, ATC1, William Anderst PhD1, Freddie H. Fu MD1, Scott Tashman PhD1</td>
<td>1University of Pittsburgh Medical Center, Pittsburgh, PA  2University of Texas Health Science Center, Houston, TX</td>
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<tr>
<td>208 Effect of Hamstring Harvest in the Setting of ACL and MCL Concurrent Injury</td>
<td>Trevor Nelson BS1, Thomas J. Kremen MD1, Landon S. Polakof BS1, Sean Rajaee MD1, Melodie Metzger PhD1</td>
<td>1Cedars-Sinai Medical Center, Los Angeles, CA  2University of Pittsburgh Medical Center, Pittsburgh, PA  3University of Texas Health Science Center, Houston, TX</td>
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<td>209 Bridge-Enhanced ACL Repair: Mid-term Results of the First-in-Human Study</td>
<td>Lyle J. Micheli MD1, Brett Flutie1, Braden C. Fleming PhD2, Martha M. Murray MD1</td>
<td>1Children's Hospital Boston, Boston, MA  2Bioengineering Labs, Providence, RI  3University of Texas, Southwestern Medical Center, Dallas, TX  4Bioengineering Labs, Providence, RI</td>
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<tr>
<td>210 Anterior Cruciate Ligament Tears: Impact of Delayed Presentation on Intra-articular Injuries</td>
<td>Katherine J. Coyner MD1, Dietrich Walker Riepen MS1, Audrie Aliza Cheve MPH1, Benjamin Schell MD1, Michael S. Khazzam MD1</td>
<td>1Children's Hospital Boston, Boston, MA  2University of California, Los Angeles, CA  3Brown University, Providence, RI</td>
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<td>211 Posterior Tibial Subchondral Bone and Meniscal Slope Correlate with In Vivo Internal Tibial Rotation</td>
<td>Elmar Herbst MD1, Tom Gale BS1, Kanto Nagai MD, PhD1, Yasutaka Tashiro1, James J. Irngang PT, PhD, ATC1, William Anderst PhD1, Scott Tashman PhD1, Freddie H. Fu MD1</td>
<td>1University of Pittsburgh Medical Center, Pittsburgh, PA  2University of Texas Health Science Center, Houston, TX</td>
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<td>212 ACL Force and Knee Kinematics After Posterior Tibial Slope-Reducing Osteotomy</td>
<td>Kent T. Yamaguchi MD1, Edward Cheung MD1, Justin Mathew1, Daniel V. Buguszewski MD1, Keith Markolf PhD1, David R. McAllister MD1, Frank A. Petrigiano MD1</td>
<td>1University of California Los Angeles, Los Angeles, CA  2University of California, Los Angeles, CA</td>
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<td>213 WOMAC Pain Scores at the Time of ACL Injury Are Associated with Concentrations of Serum and Urine Biomarkers of Type 2 Collagen Degradation at the Time of ACL Reconstruction</td>
<td>Steven J. Svoboda MD1, Jesse R. Trump1, James Reilly1, Kenneth Wikiser1, Kenneth L. Cameron MD, MPH, ATC1</td>
<td>1Keller Army Hospital, West Point, NY  2United States Military Academy, West Point, NY  3University of Arizona, Tucson, AZ</td>
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<td>214 Clinical Outcomes of All Soft Tissue Quadriceps Tendon Autograft in ACL Reconstruction</td>
<td>John W. Xerogeanes MD1, William Godfrey MS1, Aaron Getreuil MD1, Ayaj Premkumar MD1, Danielle Miguneli1, Michael Brandon Gottschalk MD1, Poonam Dalwadi1, Harris Stole MD1</td>
<td>1Emory University, Atlanta, GA  2University of Texas Southwestern, Dallas, TX  3Hospital for Special Surgery, New York, NY  4Medical University of South Carolina, Charleston, SC</td>
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<td><strong>ACL 2</strong></td>
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<td><strong>Moderator:</strong> Diane L. Dahm MD</td>
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<td>Mayo Clinic, Rochester, MN  2University of Rochester, Rochester, NY</td>
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<td>216 Indicators of Bacterial Colonization in Failed Anterior Cruciate Ligament Reconstructions</td>
<td>David C. Flanigan MD1, Joshua Scott Everhart MD, MPH1, Alex DiBartola BS1</td>
<td>1The Ohio State University, Columbus, OH  2University of Rochester, Rochester, NY</td>
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<td>217 The Psychosocial Trauma of ACL Ruptures in Young Athletes</td>
<td>Ajay Shridar Padaki MD1, Charles Aaron Popkin MD1, Manish Suresh Nelligala MD1, Christopher S. Ahmad MD1</td>
<td>1Columbia University, New York, NY  2University of Rochester, Rochester, NY</td>
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<td>218 Is Lateral Femoral Notch Depth Associated with Rotatory Instability in ACL Deficient Knees: A Quantitative Pivot Shift Analysis</td>
<td>Jeremy M. Burnham MD1, Thomas Rudolf Pfeiffer1, Ajay C. Kanakamedala1, Elmar Herbst MD1, Jason Zlotnicki MD1, Amir Ata Rahmehi-Azar MD1, Marcin Kowalczyk MD1, Adam Popchak DPT, MS, SCS, CSCS1, Richard Debak PhD1, Volker Musahl MD1</td>
<td>1University of Pittsburgh Medical Center, Pittsburgh, PA  2University of Texas Health Science Center, Houston, TX  3University of Texas Health Science Center, Houston, TX  4University of Pittsburgh Medical Center, Pittsburgh, PA</td>
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<td>219 Knee Kinematics Following Anatomic Single- vs. Double-Bundle ACL Reconstruction: A Randomized Clinical Trial</td>
<td>Scott Tashman PhD1, James J. Irngang PT, PhD, ATC1, Charity Moore PhD, MSPH1, Volker Musahl MD1, Robin Vereeke West MD1, Freddie H. Fu MD1</td>
<td>1University of Texas Health Science Center, Houston, TX  2University of Pittsburgh Medical Center, Pittsburgh, PA  3Inova Sports Medicine, Fairfax, VA</td>
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<td>220 Concomitant Lateral Meniscus Injury Aggravates Rotational Laxity of the Anterior Cruciate Ligament Injured Knees</td>
<td>Yuichi Hoshino MD, PhD1, Nobuaki Miyaji1, Yuichiro Nishizawa1, Daisuke Araki MD1, Takehiko Matsuhashi1, Ryosuke Kuroda MD1</td>
<td>1Kobe Hospital, Kobe, Japan  2Kobe University, Kobe, Japan</td>
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<td>221 Predictors of a Symptomatic Knee Following ACL Reconstruction: 84-Month Follow-Up</td>
<td>J. Kristopher Ware MD1, Matthew Axelman1, Brett D. Owens MD2, Paul D. Fadle MD1, Michael J. Hulstyn MD1, Braden C. Fleming PhD4</td>
<td>1Brown University, Providence, RI  2Rhode Island Hospital, Providence, RI  3University Orthopedics, Providence, RI  4Bioengineering Labs, Providence, RI</td>
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<td>222 Enhanced ACL Graft Incorporation by Novel Minimally Invasive Activation of Endogenous Stem Cells</td>
<td>Thomas J. Kremen MD1, Maxim Bez1, Joseph C. Gionco MD1, Wafa Tawakolki PhD1, Pablo Avalos1, Dmitriy Sheyn PhD1, Jess G. Sneedek PhD2, Zulma Gatz PhD1, Gadi Pelled DMD, PhD1, Dan Gatz MD, PhD1</td>
<td>1Cedars-Sinai Medical Center, Los Angeles, CA  2University of Chicago, Chicago, IL  3University of Zurich, Zurich, Switzerland</td>
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<td>223 Primary Anterolateral Ligament Rupture in Patients Requiring Revision Anterior Cruciate Ligament Reconstruction: A Retrospective Magnetic Resonance Imaging Review</td>
<td>James Bradley Carr MD1, Baris Yildirim1, Dustin L. Richter MD1, Brian Edward Eler MD1, David R. Diduch MD1, Mark W. Anderson MD1, Jennifer Pierce1</td>
<td>1University of Virginia, Charlottesville, VA  2University of Virginia, Charlottesville, VA  3Institute for Clinical and Translational Research, Charlottesville, VA</td>
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Topics, speakers and panelists are current at the time of publication and subject to change.
224 High Body Mass Index and Hip Abductor Muscle Strength Were Risk Factors for Non-contact ACL Injury in Female High School Basketball Players: A Prospective Three-Year Cohort Study
Junsuke Nakase MD, PhD1, Katsuhiko Kitaoka MD, PhD2, Youseke Shima MD, PhD3, Takeshi Oshima MD, Yasushi Takata MD1, Hiroyuki Tsuchiya MD, PhD1
1Kanazawa University, Kanazawa, Japan
2Kijima Hospital, Kanazawa, Japan
3Hokuriku Hospital, Kanazawa, Japan

225 Early Objective Clinical Testing Predicts Jump Landing Mechanics Following an ACL Reconstruction: Impact for the Clinician and Return to Play Testing
Mary Lloyd Ireland MD1, Brian Noehren1, Paul Kline1, Darren L. Johnson MD1
1UK Healthcare, Lexington, KY

226 Factors Contributing to Pelvis Instability in Female Adolescent Athletes During Unilateral Repeated Partial Squat Activity
Donna Moxley Scarborough MS, PT, Shannon Linderman MA, MS1, Eric M. Berkson MD1, Luke S. Oh MD1
1Massachusetts General Hospital, Boston, MA

227 Pre-operative Short Form Survey is Predictive of Return to Play and Minimal Clinically Important Difference After Anterior Cruciate Ligament Reconstruction
Benedict U. Nwachukwu MD, MBA1, Brenda Chang MS, MPH1, Pramod Babu Voreti MD2, Patricia Berkani BA1, Matthew Cohn BA1, David W. Aitken MD1, Anawort A. Allen MD1, Riley J. Williams MD1
1Hospital for Special Surgery, New York, NY
2Montefiore Medical Center, Bronx, NY

228 Kinesiophobia is Strongly Associated with Altered Loading After an ACL Reconstruction: Implications for Re-injury Risk.
Brian Noehren1, Paul Kline1, Mary Lloyd Ireland MD1, Darren L. Johnson MD1
1University of Kentucky, Lexington, KY

229 Athletes with a Positive Psychological Response to Return to Sport Training Have Better Outcomes One and Two Years After ACL Reconstruction
Ryan Zarzycki1, Mathew Failla PT, PhD, SCS1, Amelia J.H. Arundale PT, DPT, SCS1, Jacob John Capin DPT1, Lynn Snyder-Mackler PT, ScD, FAPTA1
1University of Delaware, Newark, DE
2University of Vermont, Burlington, VT

230 Hop Test Symmetry Scores Early After Rehab Predict Successful 2 Year Outcomes of ACLR
Mathew Failla PT, PhD, SCS1, Ryan Zarzycki1, David Loperstedt PT, PhD2, Elizabeth Weisands1, Michael J. Axe MD1, Lynn Snyder-Mackler PhD1
1University of Vermont, Burlington, VT
2University of Delaware, Newark, DE
3University of the Sciences, Philadelphia, PA
4University of Nebraska Medical Center, Omaha, NE
5First State Orthopedics, Newark, DE

CARTILAGE 1
Moderator: Riley J. Williams III, MD
Hospital for Special Surgery, New York, NY

231 Labral Width is Associated with Increased Risk of Severe Cartilage Damage on the Femoral Head
Renato Locks1, Karen K. Briggs MPH, MBA1, Ioanna Boila1, Marc J. Philippot MD2, Jorge Ghahri MD1
1Steadman Phillipson Research Institute, Vail, CO
2Steadman Clinic, Vail, CO

232 Hemoglobin Stimulates the Expression of Adamts-5 and -9 by Synovial Cells: A Possible Cause of Cartilage Damage after Intra-Articular Bleeding
Takuya Tajima MD, PhD1, Etsuo Chosa MD, PhD1, Noboru Taniguchi MD, PhD1, Nami Yamaguchi MD, PhD1
University of Miyazaki, Miyazaki, Japan

233 Early Rates of Revision of Knee Cartilage Restoration Surgery and Conversion to Arthroplasty Within Five Years
Aravind Athiviraham MD1, Haroutoun Boyajan1, Kevin Lindsay-Rivera1, Lewis Shi MD1, Ravind Khazai MD1
1University of Chicago, Chicago, IL

234 Does Treatment of the Tibia Matter in Bipolar Chondral Defects of the Knee? Clinical Outcomes with Greater Than Two Years Follow-Up
Alexander E. Weber MD1, Charles P. Hannon MD2
1University of Southern California, Los Angeles, CA
2Rush University Medical Center, Chicago, IL

235 Effects of Bone Marrow Aspirate Concentrate on Radiographic Integration of Femoral Condylar Osteochondral Allografts
James P. Stannard MD1, Lasun O. Oladeji MD2, Cristi Cook DVM, MS3, Mauricio Kfuri MD, PhD2, Brett D. Crist MD2, Matthew J. Smith MD2, James L. Cook DVM, PhD2
1University of Missouri, Columbia, MO
2Midwest Orthopaedics at Rush, Chicago, IL

236 Mid-Term Results of Particulated Juvenile Articular Cartilage Allograft Transplantation to the Knee
Diana C. Patterson MD1, James Douglas Dieterich1, Meredith K. Bartelstein1, Sheena Ranade MD1, Christopher M. Prezzano PA1, Alex Maderazo MD1, Darren Fitzpatrick1, Jonathan L. Glashow MD1, Alexis Chiang Colvin MD1, James N. Gladstone MD1
1Mount Sinai Health System, New York, NY

237 Do Outcomes of Osteochondral Allograft Transplantation Differ Based on Patient Sex: A Comparative Matched Group Analysis of Male and Female Patients
Rachel M. Frank MD1, Simon Lee MD2, Sarah Glen Poland BS3, Brian J. Cole MD, MBA3
1Rush University Medical Center, Chicago, IL
2University of Michigan Health System, Ann Arbor, MI
3Midwest Orthopaedics at Rush, Chicago, IL
238 **Medial and Lateral Distal Femoral Condyle Osseous and Articular Cartilage Topography to Determine Graft Matching**

Adam B. Yanke MD, Atsushi Urita MD, PhD, Maximilian A. Meyer BS, Nozomu Inoue MD, PhD, Brian J. Cole MD, MBA
1Midwest Orthopaedics at Rush, Chicago, IL

239 **Can Competitive Athletes Sustain High-Level Play Following Osteochondral Allograft Transplantation of the Knee?**

Mark A. McCarthy MD, Maximilian A. Meyer BS, Alexander E. Weber MD, David Levy MD, Annemarie K. Tilton BS, Adam B. Yanke MD, Brian J. Cole MD, MBA
1Mayo Clinic, Rochester, MN
2Midwest Orthopaedics at Rush, Chicago, IL
3University of Southern California, Los Angeles, CA

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**CARTILAGE 2**

*Moderator:* Deryk G. Jones MD

Ochsner Clinic Foundation, Jefferson, LA

240 **Unique Biology of Shoulder Cartilage in Comparison to the Cartilage Obtained from the Knee and Ankle Joints**

Susan Chubinskaya PhD, Maximilian A. Meyer BS, Atsushi Urita MD, PhD, Nikhil N. Verma MD, Anthony A. Romeo MD, Adam B. Yanke MD, Brian J. Cole MD, MBA
1Midwest Orthopaedics at Rush, Chicago, IL

241 **High Kinesiophobia and Pain Catastrophizing in People with Articular Cartilage Defects in the Knee**

Louise M. Thoma PhD, DPT, David C. Flanagan MD, Thomas M. Best MD, PhD, FACSM, Laura Schmitt PhD, PT
1University of Delaware, Newark, DE
2The Ohio State University, Columbus, OH
3University of Miami, Miami, FL

242 **Protective Effect of Normal Synovium on Damaged Cartilage**

Adam B. Yanke MD, Atsushi Urita MD, PhD, Maximilian A. Meyer BS, Brett Madden BS, Susan Chubinskaya PhD, Brian J. Cole MD, MBA
1Rush University Medical Center, Chicago, IL
2Midwest Orthopaedics at Rush, Chicago, IL

243 **Ossification Variants in the Femoral Condyles and Trochleae Are Caused by Lesions of Osteochondrosis Manifesta in Children**

Kevin G. Shea MD, Cathy Sue Carlson DVM, PhD, Ferenc Toth DVM, PhD, Bjørnar Ytrehus DVM, PhD, Peter C. Cannamela, John Poloukys MD, Kristin Olstad PhD
1St. Luke’s Health System, Boise, ID
2University of Minnesota, Saint Paul, MN
3Norwegian Institute for Nature Research, Sluppen, Norway
4Children’s Health Andrews Institute, Piano, TX
5Norwegian University of Life Sciences, Oslo, Norway

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244 **Clinical Outcomes of Patellofemoral Osteochondral Allograft Transplantation: A Prospective Analysis**

Eric J. Cotter BS, Dillen Wischmeier BS, Rachel M. Frank MD, Adam B. Yanke MD, Jack Farr MD, Brian J. Cole MD, MBA
1Midwest Orthopaedics at Rush, Chicago, IL
2OrthoIndy South, Greenwood, IN

245 **Lower Limb Symmetry: Comparison of Muscular Power Between the Dominant and Non-dominant Leg in Healthy Young Adults Associated to One-legged Dominant Professional Soccer Players**

Brandon J. Erickson MD, Philip H. Locker, Gregory L. Cvetanovich MD, Annemarie K. Tilton BS, Matthew E. Gitells BS, Alexander E. Weber MD, Adam B. Yanke MD, Brian J. Cole MD, MBA
1Midwest Orthopaedics at Rush, Chicago, IL
2University of Southern California, Los Angeles, CA

246 **Midterm CT and MRI Appearance of Osteobiologic Plugs in the Knee**

Preston M. Wolin MD
1Center for Athletic Medicine, Chicago, IL

247 **Non-operative Management of Osteochondritis Dissecans: Progression to Osteoarthritis and Arthroplasty Over a 35-Year Period in a Geographic Population**

Aaron John Krych MD, Thomas L. Sanders MD, Ayoosh Pareek BS, Nick R. Johnson BS, James L. Carey MD, MPH, Travis Maak MD, Michael J. Stuart MD
1Mayo Clinic, Rochester, MN
2University of Pennsylvania, Philadelphia, PA
3University of Utah, Salt Lake City, UT

248 **Lower Mental Component Scores Are Associated with Lower Return-to-Work Rates After Patellofemoral Autologous Chondrocyte Implantation**

Cale A. Jacobs PhD, Caitlin Whale, Patrick M. King, Kate N. Jochimsen, Jennifer S. Howard PhD, Chaitu S. Malempati DO, Carl G. Mattacola PhD, ATC, Jeremy M. Burnham MD, Christian Lattermann MD
1University of Kentucky, Lexington, KY
2Appalachian State University, Boone, NC
3University of Pittsburgh, Pittsburgh, PA

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MENISCUS

**Moderator:** Morgan H. Jones MD
Cleveland Clinic, Cleveland, OH

249 The Influence of Preoperative Full-Thickness Chondral Defects on Outcomes Following Meniscal Allograft Transplantation

**Bryan M. Saltzman MD**, Maximilian A. Meyer BS², Timothy S. Leroux MD, Med¹, Matthew E. Gittelis BS², Margaret Debolt BS², Adam B. Yanke MD², Brian J. Cole MD, MBA²
¹Rush University Medical Center, Chicago, IL
²Midwest Orthopaedics at Rush, Chicago, IL

250 Tibiofemoral Contact Mechanics with Horizontal Cleavage Tears and Resection of the Lateral Meniscus in the Human Knee

**Jason L. Koh MD³**, Todd A. Zimmerman¹, Savan Patel MD², Yupeng Ren¹, Jongsang Son¹, Li-Qun Zhang PhD⁰
¹NorthShore University Health System, Evanston, IL
²Northwestern University, Chicago, IL

251 Meniscus Radial Repair with the Transtibial Two-Tunnel Technique: A Non-inferiority Study with Vertical Meniscal Tears Repair Comparison

**Jorge Chahla MD¹**, Mark Cinque¹, Andrew Geeslin MD¹, Grant Dorman², Robert F. LaPrade MD, PhD²
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252 Bone Plug vs. Suture-Only Fixation of Medial Meniscus Allograft Transplantation: Biomechanical Study

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253 Inside-out Meniscal Repairs in the Setting of Multi-ligament Reconstruction in the Knee: Does Meniscal Repair Affect Outcomes and Failure Rates?

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254 The LM Posterior Root Stabilizes the ACL-Deficient Knee

**Gilbert Motshe MD¹**, Jonathan M. Frank MD¹, Grant Dorman¹, Alex Brady MS², Erik Slette BA¹, Robert F. LaPrade MD, PhD²
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255 Quality and Variability of Online Physical Therapy Protocols for Isolated Meniscal Repairs

**David P. Trofa MD¹**, Robert L. Parisien MD², Manish Suresh Noticewala MD¹, Peter C. Noback BA¹, Christopher S. Ahmad MD¹, William N. Levine MD¹, Vasilios Moutzouros MD¹, Eric C. Makhni MD⁴
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256 A Biomechanical Comparison of All-Inside Anterior and Posterior Cruciate Ligament Graft Preparation Techniques

**Jacqueline Munch Brady MD¹**, Kathryn C. Skoglund¹, Colter R. Wichern MS¹, Joseph G. O’Sullivan¹, Anora K. Burwell MS, DPT¹, Joseph T. Nguyen MPH², Andrea Herzka MD¹
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257 Second Fracture: A Risk Factor for Anterior Cruciate Ligament Reconstruction Failure?

**Christopher L. Gauder MD¹**, Tracey P. Bstrom MA², Andrew T. Pennock MD²
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258 Double-Bundle PCL Reconstruction: A Prospective Study of Two-Year Patient-Reported Outcomes with Stress Radiographs

**Andrew Geeslin MD¹**, Jorge Chahla MD¹, Mark Cinque¹, David Marc Civitarese BA¹, Robert F. LaPrade MD, PhD²
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259 Anterolateral Capsule Injury Did Not Aggravate Rotational Laxity of the Anterior Cruciate Ligament – Injured Knees Measured by Quantitative Pivot-Shift Evaluation

**Nobuaki Miyaji MD¹**, Yuichi Hoshino¹, Tanaka Toshikazu¹, Kyoei Nishida¹, Yuichiro Nishizawa¹, Daisuke Araki MD¹, Noryuki Kanzaki¹, Takehiko Matsushita¹, Ryosuke Kuroda¹
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²Kobe Kaisei Hospital, Kobe, Japan
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260 Lateral Extra-articular Tenodesis Does Not Influence Knee Abduction Moment During Drop Vertical Jump Following ACL Reconstruction

**Alan M. Getgood MD, FRCS (Tr&Orth)³**, Michal Daniluk¹, Christopher Hewison¹, Dianne Bryant PhD², Robert B. Litchfield MD, FRSC², Kevin Willits MD, FRCS¹, Trevor Birmingham PhD, PT³
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SHOULDER – INSTABILITY

Moderator: Joseph H. Guettler MD
Performance Orthopedics, Bloomfield Hills, MI

261 The Latarjet Procedure at the National Football League Scouting Combine: An Imaging and Outcome Analysis
Matthew T. Provencher MD, George Lebus MD, Jorge Chahla MD, George Sanchez MD, Marcio Balbinotti Ferrari MD, Gilbert Moatshe MD
1 The Steadman Clinic, Vail, CO
2 Steadman Philippon Research Institute, Vail, CO

262 Safe Zone Technique Improves Suture Placement During Rempillasse
Ryan Degen MD, Grant Garcia MD, Joseph N. Liu MD, Cynthia A. Kahlenberg MD, Joshua S. Dines MD
1 Western University Fowler Kennedy, Ontario, Canada
2 Hospital for Special Surgery, New York, NY

263 Arthroscopic Anatomic Glenoid Reconstruction: Analysis of the Learning Curve
Justin Moga, Ivan Wong MD, Catherine M. Coady MD
1 Dalhousie University, Halifax, NS, Canada

264 Increased Glenoid Index is a Risk Factor for Pediatric Anterior Glenohumeral Dislocation: An MRI-Based Case-Control Study
Peter D. Fabricant MD, MPH, Joseph L. Yellin MD, Jason Brett Anari MD, Alexander Neuwirth MD, Theodore J. Ganley MD, Nancy A. Chauvin MD, John Todd R. Lawrence MD, PhD
1 Hospital for Special Surgery, New York, NY
2 The Children’s Hospital of Philadelphia, Philadelphia, PA
3 University of Pennsylvania, Philadelphia, PA

265 Acute vs. Delayed MRI Imaging and Associated Pathology in Traumatic Shoulder Dislocations
Xinning Li MD, Nathan D. Orvets MD, Robert L. Parisien, Emily Joan Curry BA, Josef K. Eichinger MD, Akira Murakami MD
1 Boston University, Boston, MA
2 Boston University Medical Center, Boston, MA
3 Medical University of South Carolina, Charleston, SC

266 Quantification of Cartilage Strains in the Glenohumeral Articulation Immediately After Pushups
Hanci Zhang, Lauren Heckelman, Charles E. Spritzer MD, Kwadwo Owusu-Akaw MD, John T. Martin, Dean C. Taylor MD, Claude T. Moorman III, MD, Grant E. Garrigues MD, Louis E. DeFrate PhD
1 Duke University, Durham, NC

267 Patient-Related Risk Factors for Postoperative Infection Following Shoulder Arthroscopy: An Analysis of Over 420,000 Patients
Brian C. Werner MD, Stephen F. Brockmeier MD, Jourdan M. Cancienne MD
1 University of Virginia, Charlottesville, VA
2 University of Virginia, Charlottesville, VA

268 Shoulder Injuries in Collegiate Football Athletes: Impact on Draft Status and Professional Performance
Salvatore Joseph Frangiamore MD, Sandeep Mannava MD, PhD, George Sanchez MD, Marcio Balbinotti Ferrari MD, Rachel M. Frank MD, James P. Bradley MD, Matthew T. Provencher MD
1 Steadman Philippon Research Institute, Vail, CO
2 Rush University Medical Center, Chicago, IL
3 University of Pittsburgh Medical Center, Pittsburgh, PA
4 The Steadman Clinic, Vail, CO

269 Seeing the Future: Predicting a Patient’s Need for Shoulder Surgery Before the First Encounter
William Alexander Cantrell BS, Scott Galey BS, Justin Magnuson, Greg Strnad, William Messner, John E. Kuhn MD, Kurt P. Spindler MD
1 Cleveland Clinic Foundation, Cleveland, OH
2 Vanderbilt Sports Medicine, Nashville, TN
3 Cleveland Clinic, Garfield Heights, OH

270 Arthroscopic 360-Degree Capsular Release for Idiopathic Adhesive Capsulitis in the Lateral Decubitus Position
Anthony A. Romeo MD, Gregory L. Cvetanovich MD, Timothy Sean Leroux MD, ME, Eamon Bernardoni MS, Bryan M. Saltzman MD, Nikhil N. Verma MD
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2 Rush University Medical Center, Chicago, IL

Topics, speakers and panelists are current at the time of publication and subject to change.
ROTATOR CUFF – OVERHEAD ATHLETE 1

Moderator: Timothy Sean Leroux MD, MEd
Rush University Medical Center, Chicago, IL

271 Alterations in Glenohumeral Forces Following Rotator Cuff Injury and Repair
Elian J. Golan MD1, Ryan Krochak MD2, Garret Garofolo1, Maya Deza Culbertson1, Jack Choueka1
1Maimonides Medical Center, Brooklyn, NY

272 Development of Three-Dimensional Rotator Cuff Tendon Magnetic Resonance Imaging System
Tomoyuki Muto1, Hiroaki Inui1, Hiroshi Tanaka1
1Nobuhara Hospital and Institute of Biomechanics, Tatsuno-shi, Japan

273 Biodegradation of Biocomposite Suture Anchor Implants 2 Years After Rotator Cuff Repair
Mirco Sgroi1, Theresa Friesz1, Heiko Reichel1, Thomas Kappe1
1University of Ulm, Ulm, Germany

274 Epidemiology of Ulnar Collateral Ligament Reconstruction in Major and Minor League Baseball Pitchers: Comprehensive Report on 1,313 Cases
Christopher L. Camp MD1, Stan Conte PT2, John D’Angelo3, Stephen Fealy MD4
1Hospital for Special Surgery, New York, NY
2Los Angeles Dodgers/Conte Injury Analytics, Los Angeles, CA
3Major League Baseball, New York, NY

275 Forearm Rotation Moments Are Associated with Elbow Varus Moments
Carl W. Nissen MD1, Erin J. Garibay MS1, Matthew J. Solomito PhD1
1Connecticut Children’s Medical Center, Farmington, CT

276 Relationship Between Humeral Retroversion and Career of Pitcher in Elementary and Junior High Schools
Teruhisa Mihata MD1, Hiromichi Hira MD2, Akihiko Hasagawa MD3, Kunimoto Fukunishi MD4, Chisato Watanabe MD5, Yukitaka Fujisawa MD6, Takeshi Kawakami MD7, Kenji Yasui MD8, Yasuo Itami MD9, Muromoto Ohue MD10, Masashi Neo MD PhD11
1Osaka Medical College and Katsuragi Hospital, Osaka, Japan
2Towakai Hospital, Takatsuki, Japan
3Nishinomiya Kyoritsu Hospital, Nishinomiya, Japan

277 Arthroscopic Superior Capsule Reconstruction (ASCR) vs Latissimus Dorsi Transfer (LDT): A Comparison of Early Clinical Outcomes
Jonas Pogorzelski MD1, Marilee P. Horan MPH1, Erik M. Fritz MD2, Jan Christoph Kattahagen MD3, Jonathan Alexander Godin MD4, Peter J. Millett MD, MSc1
1Steadman Philippon Research Institute, Vail, CO
2Union Munster Hospital, Munster, Germany
3Steadman Clinic, Vail, CO

278 The Effects of Posterior Rotator Cuff Cable Tears on Glenohumeral Biomechanics in a Cadaveric Model of the Throwing Shoulder
Christos Demetris Photopoulous MD1, Neal S. ElAttrache MD1, Alex Doerrmann2, Masaki Akedma MD3, Michelle H. McGarry MS4, Thay Q. Lee PhD5
1Kerlan-Jobe Orthopaedic Clinic Program, Los Angeles, CA
2University of California at Irvine, Irvine, CA
3VA Long Beach Healthcare System, Long Beach, CA

ROTATOR CUFF – OVERHEAD ATHLETE 2

Moderator: Scott Trenhaile MD
Rockford Orthopedic Associates, Rockford, IL

280 The Effect of Adipose-Derived Mesenchymal Stem Cells on Healing of Massive Chronic Rotator Cuff Tear in Rodent Model
Thierry Payou MD1, Benjamin B. Rothrauff1, Tom Chao MD1, David Hirsch MD2, Mason Beaudry1, Richard Debski PhD1, Rocky S. Tuan1, Volker Musahl MD1
1University of Pittsburgh Medical Center, Pittsburgh, PA

281 The Relationship of Throwing Arm Mechanics and Elbow Varus Torque: Within-Subject Variation for Professional Baseball Pitchers Across 81,999 Throws
Christopher L. Camp MD1, Travis Tubbs MS2, Glenn S. Fleisig PhD2, Joshua S. Dines MD1, David M. Dines MD1, David W. Altchek PhD1, Brittany Dowling MS2
1Hospital for Special Surgery, New York, NY
2Metsus Global, Massapequa, NY

282 A Novel Surgical Management for SLAP Lesions in Throwners
Onishi Kazutomo MD1, Hiroyuki Sugaya MD1, Norimasa Takahashi MD1, Keisuki Matsu MD1, Morihito Tokai MD1, Yusuke Ueda MD1
1Funabashi Orthopaedic Sports Medicine & Joint Center, Funabashi, Japan

283 Electromyographic and Motion Capture Analysis of the Elbow and Forearm in the Overhead Football Throw
Jarrod Smith MD1, Scott Winnier AE, MS1, Lonnie Douglas MD1, Roger V. Ostrander MD1, Adam William Anz MD1, James R. Andrews MD1
1Andrews Research and Education Foundation, Gulf Breeze, FL
284 Increased Valgus Carrying Angle at the Elbow Correlates with Shoulder and Elbow Injuries in Professional Pitchers: A Prospective Study
Sarav S. Shah MD1, Jeffrey A. Goldstein MD1, Spencer Stein MD1, Isaac Gammal MD1, Roger Gerland MSPT, ATC1, Jean-Paul C. Lucke DO1, Steven Rokito MD1
1Northwell Health- Long Island Jewish Medical Center, New Hyde Park, NY
2Northwell Health Sports Therapy and Rehabilitation Services, East Meadow, NY
3Orthopaedic Specialty Group, Fairfield, CT

285 The Evaluation of Shoulder Abduction With and Without Rotation on the Supraspinatus Tendon and Labrum: A Finite Element Study
Anil Kumar Gupta MD, MBA1, Amin Joukar2, Ryan O’Connell2, Vijay K. Goel PhD2
1Toledo Orthopaedic Surgeons, Toledo, OH
2University of Toledo, Toledo, OH

286 A Novel Non-operative Protocol for the Acute Management of In-Season Acromioclavicular Separations
Wendell M.R. Heard MD1, Michael John O’Brien1, Daniel Taylor MED, ATC2, Andrew Massey MAT, ATC2, Gregory W. Stewart MD1, Felix H. Savoie MD1
1Tulane University, New Orleans, LA

287 Clavicle Fracture After Coracoclavicular Ligament Reconstruction: A Biomechanical and Finite Element Evaluation of Clavicle Fracture Risk
Peter Gustafson PhD1, Andrew Geeslin MD2, Mark Omwansa3, Mark J. Sytso MD3
1Western Michigan University, Kalamazoo, MI
2Steadman Philippon Research Institute, Vail, CO
3Bronson Orthopedics and Sports Medicine, Kalamazoo, MI

PATELLA

Moderator: Jeffery Macalena MD
University of Minnesota, Minneapolis, MN

288 The Anterior-Posterior Distance Between the Tibial Tuberosity and Trochlear Groove
Miho Jean Tanaka MD1, Taylor D’Amore2, John J. Elias PhD3, Gaurav Thawalt MD1, Shadpour Demehri MD1, Andrew J. Cosgarea MD1
1Johns Hopkins University, Baltimore, MD
2University of Rochester, Rochester, NY
3Akron General Medical Center, Akron, OH

289 Clinical Utility of Continuous Radial MRI Acquisition at 3T in Patellofemoral Kinematic Assessment
Daniel James Kaplan1, Kirk A. Campbell1 Michael Joseph Alaia MD1, Eric Jason Strauss MD1, Laith M. Jazrawi MD1, Gregory Chang MD1, Christopher Burke1
1NYU Hospital for Joint Diseases, New York, NY

290 Trochlear Development in Children from 1 Month to 10 Years of Age
Elizabeth A. Arendt MD1, Cathy Sue Carlson DVM, PhD1, Kevin G. Shea MD2
1University of Minnesota, Minneapolis, MN
2Intermountain Orthopaedics, Boise, ID

291 Can Tibial Tubercle Trochlear Groove (TT-TG) Distance be Measured Clinically?
Robert Wang MD1, Lisa Thain MD2, Lucinda Boyer3, Michael Rotondi PhD4, Robert Abtan MSc4, Stephanie van DiJck BHB, MBChB, FRACS5, Stewart John Walsh MBChB, FRACS5
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2Mackenzie Health, Richmond Hill, ON, Canada
3SRG Specialist Radiology & MRI, Auckland, New Zealand
4York University, Toronto, ON, Canada
5Starship Childrens Hospital, Auckland, New Zealand

292 Combined Reconstruction of the Medial Patellofemoral Ligament (MPFL) and Medial Quadriceps Tendon Femoral Ligament (MQTFL) for Patellar Instability in Children and Adolescents: Surgical Technique and Outcomes
Lauren H. Redler MD1, Robert C. Spang MD2, Frances Tepolt MD3, Eric A. Davis4, Mininder S. Kocher MD, MPH5
1Columbia University, New York, NY
2Harvard Medical School, Boston, MA
3Boston Children’s Hospital, Boston, MA
293 Equivalent Outcomes for Patients Following Trochleoplasty as a Primary or Revision Patellar Stabilizing Procedure
Matthew Tyrrell Burrus MD1, Jourdan M. Cancienne MD2, Gregory M. Kurkis BS3, Evan J. Conte MD2, Justin W. Griffin MD3, Brian C. Werner MD2, David R. Diduch MD2
1University of Michigan, Ann Arbor, MI
2University of Virginia, Charlottesville, VA
3Rush University Medical Center, Chicago, IL

294 Trochleoplasty is a Viable Option for Patellar Instability in Patients with Severe Trochlear Dysplasia: Early Outcomes Analysis of the U.S. Experience
David R. Diduch MD1, Matthew T. Burrus MD2, Jourdan M. Cancienne MD3, Gregory M. Kurkis BS4, S. Evan Carstensen MD1, Justin W. Griffin MD3, Brian C. Werner MD1
1University of Virginia, Charlottesville, VA
2University of Michigan, Ann Arbor, MI
3Rush University Medical Center, Chicago, IL

295 Not All Patients with Diabetes Have the Same Risks: The Association of Perioperative Glycemic Control with Deep Postoperative Infection Following Knee Arthroscopy in Patients with Diabetes
Jourdan M. Cancienne MD1, Mark D. Miller MD1, James A. Browne MD1, Brian C. Werner MD1
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ELBOW – BICEPS 1
Moderator: Steven B. Cohen MD
Rothman Institute, Media, PA

296 Youth Baseball Players with Elbow and Shoulder Pain Have Both Low Back and Knee Pain: A Cross-Sectional Study
Takuya Sekiguchi MD1, Yoshiihiro Hagiwara MD, PhD2, Haruki Momma3, Kenji Kanazawa MD, PhD3, Koaru Kurok3, Masahiro Tsuchiya4, Eiji Iito MD, PhD1
1University School of Medicine, Sendai, Japan
2Tohoku University Graduate School of Biomedical Engineering, Sendai, Japan
3Tohoku Fukushi University, Sendai, Japan

297 Comparison of Scapular Kinematics and Range of Motion Between Normal and Post-operative Shoulders Following Subpectoral Biceps Tenodesis
Mark Andrew Cairns MD1, Jonathan R. Helms MD2, Elizabeth Hibberd PhD, ATC3, Joseph Myers PhD, ATC4, Ganesh V. Karnath MD1, Jeffrey T. Spang MD1, Robert Alexander Creighton MD1
1University of North Carolina, Chapel Hill, NC
2University of Florida - Jacksonville, Jacksonville, FL
3University of Alabama, Tuscaloosa, AL

298 Open Subpectoral Biceps Tenodesis for Isolated Biceps Reflection Pulley Lesions: Minimum 2-Year Outcomes in a Young Patient Population
Alexander R. Vap MD1, Jan Christoph Katthagen MD2, Jonas Pogorzelski MD2, Dimitri S. Tahal MSc2, Marilee P. Horan MPH2, Erik M. Fritz MD2, Peter J. Millett MD, MSc3
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2Steadman Phillipson Research Institute, Vail, CO

299 Arthroscopic Treatment of Type II Superior Labral Anterior to Posterior (SLAP) Lesions in a Younger Population: Traditional Repair vs. Biceps Tenodesis with Accelerated Rehabilitation
Kevin F. Dunne BS1, Michael John Knesek MD2, Vehniah K. Tjong MD1, Brett D. Riederman BS2, Charles J. Cogan BA1, Hayden Patrick Baker BA1, Cynthia A. Kahlenberg MD2, Stephen Gryzlo MD1, Michael A. Terry MD1
1Northwestern University, Chicago, IL
2Bone & Joint Specialists PC, Merrillville, IN
3Hospital for Special Surgery, New York, NY

300 Biceps Tenodesis vs. Repair for Type II SLAP Tears in Patients Under 30 Years Old
Dominic Van Nielen MD1, Matthew Wilson1, James Hammond1, Patrick Wakefield Joyner MD1
1Naval Medical Center Portsmouth, Portsmouth, VA

301 Clinical Evaluation of an Arthroscopic, Knotless, Suprapectoral Biceps Tenodesis Technique
Robert Duerr MD1, Sam Akhavan MD1, Darin D. Nye MD2
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2Northwest Ohio Orthopedics & Sports Medicine, Inc, Findlay, OH

302 Nerve Injury with Long Head of the Biceps Tenodesis
Christopher L. McCrum MD1, Ram Kirin Alluri MD2, Raffy Mirzayan MD3
1University of Pittsburgh Medical Center, Pittsburgh, PA
2University of Southern California, Los Angeles, CA
3Kaiser Permanente Hospital, Baldwin Park, CA
ELBOW – BICEPS 2

**Moderator:** Jeffrey R. Dugas MD
Andrews Sports Medicine and Orthopaedic Center, Birmingham, AL

304 Quantification of Long Head of the Biceps Tendon Motion After Loop ‘N’ Tack Suprapectoral Biceps Tenodesis
Brian J. Kelly MD1, Patrick J. Schimoler MS2, Alexander Kharlamov MD, PhD2, Mark Carl Miller PhD2, Sam Akhavan MD2
1Mississippi Sports Medicine & Orthopaedic Center, Jackson, MS
2Allegheny General Hospital, Pittsburgh, PA

305 Treatment of Biceps Lesions in the Setting of the Rotator Cuff Repair: When is Tenodesis Superior to Tenotomy?
John M. Tokish MD1, Stefan John Tolan MD1, Julia Lee MD2, Christina Shelley MD2, S. Dane Swinehart3, Keith T. Lonergan MD4, Michael J. Kissenberth MD1, Richard J. Hawkins MD, FRCSC1, Charles A. Thigpen, PT, PhD, ATC4
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2Henry Ford Hospital, Royal Oak, MI
3Wayne State University, Royal Oak, MI
4Kerlan Jobe Orthopaedic Clinic, Los Angeles, CA

306 Strength Changes Associated with Elongation in Distal Biceps Tendon Repair
Vasilios Mourtzouros MD1, Nathan E. Marshall MD2, John-Michael Guest1, Kenichi Okoroha MD2, Stephanie Muh MD2, Eric C. Makhni MD, Robert A. Keller MD4
1Johns Hopkins University, Baltimore, MD
2University of Southern California, Los Angeles, CA
3University of Rochester, Rochester, NY
4University of Michigan, Ann Arbor, MI

307 Open Subpectoral Biceps Tenodesis: A Biomechanics Comparison of Interference Screw and Various Fixation Techniques
Miguel Diaz BS1, Brendan Shi1, Stephen Belkoff PhD1, Umasuthan Srikumaran MD2
1Johns Hopkins University, Baltimore, MD
2University of Rochester, Rochester, NY

308 Elbow Arthroscopy Complications in Pediatrics and Adults
Jessica Intravia MD1, Raffy Mirzayan MD2
1University of Southern California, Los Angeles, CA
2Kaiser Permanente Hospital, Baldwin Park, CA

309 Long-Term Results of Arthroscopic Debridement of Osteochondritis Dissecans in Adolescent Athletes
Tetsuya Matsuura MD1, Toshiyuki Iwame1, Koichi Saito1
1University of Tokushima, Tokushima, Japan

310 Intramedullary Cortical Button Fixation of Distal Biceps Tendon Rupture: Long-Term Patient Outcomes
Jake Ni MD1, David M. Auerbach MD2
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2University of Southern California, Los Angeles, CA

311 Augmentation of a Distal Biceps Repair with an Acellular Dermal Graft Restores Native Biomechanical Properties in a Tendon-Deficient Model
Paul M. Sethi MD1, Christine Conroy BS1, Craig Macken BS1, William Grant Franco BS1, David Wei MD1, Raffy Mirzayan MD2, Leo Paunzenberger MD1, Felix Dynna MD1, Eilish Obopilwe, MS2, Augustus D. Mazzocca MD, MS2
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2University of Rochester Medical Center, Rochester, NY

HIP 1

**Moderator:** Joshua David Harris MD
Houston Methodist Hospital, Houston, TX

312 Surgical Trends in Arthroscopic Hip Surgery Using a Large National Database
Nicholas Bonazza MD1, Guodong Liu PhD1, Douglas Leslie PhD1, Aman Dhawan MD1
1Penn State Hershey Medical Center, Bone and Joint Institute, Hershey, PA

313 Characteristics and Outcome of Arthroscopic Femoroacetabular Impingement Surgery in the National Football League
Benedict U. Nwachukwu MD, MBA1, Ajay Premkumar MD, MPH1, Ryan Fader MD, Asheesh Bedi MD2, Bryan T. Kelly MD1
1Hospital for Special Surgery, New York, NY
2University of Michigan, Ann Arbor, MI

314 Multi-centered Comparison of Patient-Reported Outcomes After Hip Arthroscopy vs. Combined Hip Arthroscopy Alone and Peri-acetabular Osteotomy in Patients with Acetabular Dysplasia
Benjamin G. Domb MD1, Raymond James Kenney MD2, Christopher Cook1, Justin M. LaReau MD1, Sean Childs1, Edwin Chaharbaksh BS1, Brian D. Giordano MD1
1Hinsdale Orthopaedics and American Hip Institute, Westmont, IL
2University of Rochester Medical Center, Rochester, NY

315 Radiographic Validation of a Non-invasive Method of Measuring Hip Joint Reaction Force Using a Cartilage Relaxation Technique
Joseph Christopher Schaffer MD1, Daniel Vasconcellos2, Nathan Kaplan MD1, Noorollah Mapoodi1, Mark Olles PhD2, John C. Elfar MD1, Brian D. Giordano MD1
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2Rochester Institute of Technology
3University of Rochester Medical Center, Rochester, NY

316 Hip Arthroscopy Survivorship: A Population-Based Study
K Soraya Heidari BA1, Nathanael Heckmann MD1, William C. Pannell MD1, J Ryan Hill BS2, Braden M. McKnight BS1, C. Thomas Vaangness MD1, George F. Rick Hatch MD1
1University of Southern California, Los Angeles, CA
2University of Rochester, Rochester, NY

317 Do Femoral Head Osteochondral Lesions Predict a Poor Outcome in Hip Arthroscopy Patients? A Matched Control Study with Minimum 5-Year Follow-up
Lyall Ashberg MD1, Mary Close BS2, Itay Perets MD2, Edwin Chaharbaksh BS2, John P. Walsh MA2, Benjamin G. Domb MD2
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2Hinsdale Orthopaedics and American Hip Institute, Westmont, IL

318 Orthopaedic Surgeon
Andrew B. Wolff MD1, Catherine Salliford1, John Scanlan1, Alexandra M. Napoli BA1
1Washington Orthopaedics and Sports Medicine, Washington, DC
2Uniformed Services University, Bethesda, MD

319 Estrogen Deprivation and Diet-Induced Obesity Result in Alterations in Bone and Cartilage Content in the Murine Hip
Meghan Kelly MD1, Alaya Loiselle PhD1, Michael Zuscik PhD1, Brian D. Giordano MD2
1University of Rochester, Rochester, NY
2University of Rochester Medical Center, Rochester, NY
320 **Hip Arthroscopy with Labral Preservation and Capsular Plication in Patients with Borderline Hip Dysplasia: Minimum 5-Year Patient-Reported Outcomes**
Lyall Ashberg MD, Edwin Chaharbakhsh BS1, Itay Perets MD1, Mary Close BS1, John P. Walsh MA1, Benjamin G. Domb MD1
1Hinsdale Orthopaedics and American Hip Institute, Westmont, IL

319 **Clinical Outcomes Comparing Capsular Repair vs. No Repair Following Hip Arthroscopy: A Prospective, Randomized Controlled Study**
Etan P. Sugarman MD3, Michael E. Bims MD2, Matthew Fishman MD2, Deepan N. Patel MD2, Laura Goldsmith1, Renee Shirley Greene1, Michael B. Banfry MD1
1Kerlan-Jobe Orthopaedic Institute, Los Angeles, CA
2Arizona Orthopaedic Group, Phoenix, AZ

321 **Clinical Outcomes and Return to Sport in Competitive Athletes Undergoing Iliopsoas Fractional Lengthening as a Part of Hip Arthroscopy - Minimum Two-Year Follow-up**
Itay Perets MD1, David Edward Hartigan MD1, John P. Walsh MA1, Edwin Chaharbakhsh BS1, Mary R. Close BS1, Benjamin G. Domb MD1
1Hinsdale Orthopaedics and American Hip Institute, Westmont, IL

**HIP 2**

**Moderator:** Marc R. Safran MD
Stanford Sports Medicine Center, Redwood City, CA

324 **Independent Risk Factors for Revision Surgery or Conversion to THA After Hip Arthroscopy: An Analysis of 3,957 Patients**
Benjamin Kester MD1, Siddharth Ashok Mahure MD, MBA1, Brian Capogna1, Michael K. Ryan MD2, Theodore Wolfson BS3, Mathew Hamula BA, BS1, Andrew S. Rokito MD3, Thomas Youm MD3
1NYU Hospital for Joint Diseases, New York, NY
2American Sports Medicine Institute, Birmingham, AL
3RVC Orthopaedics PC, New York, NY

325 **The Dancers Hip: The Hyperflexible Athlete: Anatomy and Arthroscopic Clinical Outcomes**
Christopher M. Larson MD1, James R. Ross MD3, Russell Gieves PhD1, Rebecca M. Stone MS, ATC1, Nicole M. Ramos BS1, Asheesh Bedi MD3
1Minneapolis Orthopaedic Sports Medicine Institute at Twin Cities Orthopedics, Edina, MN
2Boca Care Orthopedics, Deerfield Beach, FL
3University of Michigan, Ann Arbor, MI

326 **Arthroscopic Treatment of Acetabular Chondral Defects Using BST-CarGel**
Ivan Wong MD1, Chanseok Rhee MD1, Eyal Amar MD2, Mark Glazerbrook MD3, Catherine M. Coady MD1
1Dalhousie University, Halifax, NS, Canada
2Nova Scotia Health Authority, Halifax, NS, Canada
3Queen Elizabeth Health Sciences Center, Halifax, NS, Canada

327 **The Development and Validation of a Functional Assessment Tool for the Hip in the Athletic Population**
Dean Papaliodis MD1, Michael B. Banfry MD1, Orr Limpisvasti MD1, Karen Mohr PT1, Nina Mehran MD2, Cristost Demetris Photopoulus MD1, Ronald S. Kvite MD1, Neal S. ElAttrache MD1
1Kerlan-Jobe Orthopaedic Clinic, Los Angeles, CA
2Kaiser Permanente, Los Angeles, CA

328 **Patient-Reported Outcomes and Symptomatic Impingement in US Women's Professional Soccer**
Joshua David Harris MD1, Ronald J. Mitchell MD1, Ali Qadeer MD2, Brayden John Gerrie BSc1, Patrick C. McCulloch MD1
1Houston Methodist Hospital, Houston, TX
2Baylor University, Houston, TX

329 **Concomitant Lumbar Spine Pathology in Patients Undergoing Hip Arthroscopy: A Matched Cohort Analysis**
Siddharth Ashok Mahure MD, MBA1, Michael K. Ryan MD2, Aaron Buckland MD, FRACS3, Mathew Hamula BA, BS1, John Begly MD1, Brian Capogna MD1, Chris Loose MD2, Kristofer E. Chenard MD2, Theodore Wolfson BS3, Thomas Youm MD4
1NYU Hospital for Joint Diseases, New York, NY
2American Sports Medicine Institute, Birmingham, AL
3NYU Langone Orthopedics, New York, NY
4RVC Orthopaedics PC, New York, NY

330 **Independent Risk Factors for Poor Outcome After Hip Arthroscopy**
Brian Capogna1, Mathew Hamula, BA, BS1, John Begly MD1, Theodore Wolfson MD1, Christopher Loose2, Michael K. Ryan MD2, Thomas Youm MD3
1NYU Hospital for Joint Diseases, New York, NY
2American Sports Medicine Institute, Birmingham, AL
3RVC Orthopaedics PC, New York, NY

331 **Return to Play and Career Length Following Hip Arthroscopy in Professional Baseball Players**
Sandeep Mannava MD, PhD1, Salvatore Joseph Frangiamore MD1, Shannen McNamara BA1, Travis J. Menge MD1, Karen K. Briggs MPH, MBA1, Marc J. Philippon MD2
1Steadman Philippon Research Institute, Vail, CO
2Steadman Clinic, Vail, CO

332 **Acetabular Cartilage Delamination in Femoroacetabular Impingement: The Underdiagnosis on MRI, Risk Factors, and Radiologic Factors**
Nicole Paquet1, J P. King MD1, Michael Mitchell MD2, Gordon Boyd MD1, Mohamed Abdoolie1, Ivan Wong MD1
1Dalhousie University, Halifax, NS, Canada

333 **Association of Hip Strength with the Hip Sports test: Impingement: the Underdiagnosis on MRI, Risk Factors, and Radiologic Factors**
Nicole Paquet1, J P. King MD1, Michael Mitchell MD2, Gordon Boyd MD1, Mohamed Abdoolie1, Ivan Wong MD1
1Dalhousie University, Halifax, NS, Canada

334 **A T-Capsulotomy Provides Increased Hip Joint Visualization Compared to an Extended Interportal Capsulotomy: Implications for Improved Capsular Management**
Gregory L. Cvetanovich MD1, Alexander E. Weber MD2, Benjamin D. Kuhns MD1, Giff Ukuwani MD1, Thomas H. Wuerz MD4, Mahmoud Michael Khair MD6, Shane Jay Nho MD, MS6
1Rush University Medical Center, Chicago, IL
2University of Southern California, Los Angeles, CA
3University of Rochester, Rochester, NY
4New England Baptist Hospital, Boston, MA
5Carroll Clinic, Dallas, TX
6Midwest Orthopaedics at Rush, Chicago, IL
335 Bone Age Assessment Utilizing Knee MRI
Andrew T. Pennock MD1, James D. Bomar MPH1
1Rady Children’s Hospital, San Diego, CA
2Harborview Medical Center, Seattle, WA
3Texas Scottish Rite Children’s Hospital, Plano, TX
4Rady Children’s Hospital, San Diego, CA
5Hospital for Special Surgery, New York, NY
6Northwestern University, Chicago, IL
7Texas Scottish Rite Children’s Hospital, Plano, TX
8University of Colorado, Boulder, CO
9University of Colorado at Denver, Aurora, CO
10Regis University, Denver, CO

336 Predictors of Subsequent Injury After Anterior Cruciate Ligament Reconstruction in Children and Adolescents
Travis J. Dekker MD1, Jonathan A. Godin MD, MBA2, Kevin Dale MD3, William E. Garrett MD, PhD3, Dean C. Taylor MD3, Jonathan Charles Rihob MD4
1University of Wisconsin, Madison, WI
2Steadman Phillipson Research Institute, Vail, CO
3Duke Sport Sciences Institute, Durham, NC

337 Short-Term Impact of Anterior Cruciate Ligament Reconstruction in an Adolescent Population on 3D Knee Kinematics
Guillaume Lafortest1, Alexandre Fuentes PhD2, Marc Therrien2, Guy Grimard MD3
1Université de Montréal, Montréal, QC, Canada
2Emovi, Inc, Laval, QC, Canada
3Hopital Sainte-Justine, Montréal, QC, Canada

338 Sequential MRI Study of Graft Integrity and Signal Following Pediatric All-Epiphyseal ACL Reconstruction: Does the “Sharp Turn” at the Socket of the Distal Femoral Aperture Matter?
Maria Tuca MD1, Harry Gus Greditzer MD, MSc1, Elizabeth Bishop Gausten MD2, Tyler J. Uppstrom BA2, Hollis G. Potter MD3, Frank A. Cordasco MD, MS4, Daniel W. Green MD5
1Hospital for Special Surgery, New York, NY
2Boston Children’s Hospital, Boston, MA
3Hospital Sainte-Justine, Montreul, QC, Canada
4Duke Sport Sciences Institute, Durham, NC

339 Distal Femoral Morphology is Altered in Skeletally Immature Anterior Cruciate Ligament (ACL)-Injured Knees
Jennifer J. Beck MD1, Edward Ebramzadeh2, Pamela J. Lang MD2
1Orthopedic Institute for Children, Los Angeles, CA
2Boston Children’s Hospital, Boston, MA

340 Comparison of Early Lower Extremity Functional Recovery in Pediatric Patients Following Anterior Cruciate Ligament Reconstruction Using Hamstring vs. IT Band Autograft
Dai Sugimoto1, Benton E. Heyworth MD1, Sara Collins1, Mininder S. Kocher MD, MPH1, Lyle J. Micheli MD1
1Boston Children’s Hospital, Boston, MA

341 Complications After Pediatric ACL Reconstruction: A Meta-analysis
Stephanie Erin Wong MD1, Brian T. Feeley MD1, Nirav K. Pandya MD1
1University of California San Francisco, San Francisco, CA
2University of Michigan, Ann Arbor, MI
3McMaster University, Hamilton, ON, Canada
4National Basketball Players Association, New York, NY
5St Vincent Health System, Little Rock, AR
6Northwestern University, Evanston, IL
7Trina Orthopaedic Center, Bloomington, MN

342 Clinical Outcomes of ACL Reconstruction in Adolescent Female Athletes
Kristyn Darmafall MD1, Marc Tompkins MD2, Julie Agel MA, ATC2, Megan Reams MA, OTR/L1, Bradley J. Nelson MD2
1University of Wisconsin, Madison, WI
2University of Wisconsin, Madison, WI
3TRIA/University of Minnesota, Minneapolis, MN
4Harborview Medical Center, Seattle, WA

343 Intra-articular Physeal Fractures of the Distal Femur: A Frequently Missed Diagnosis in Adolescent Athletes
Henry B. Ellis MD1, Charles Wyatt PNP1, Tracey P. Bastrom MA2, Andrew T. Pennock MD3
1Texas Scottish Rite Children’s Hospital, Plano, TX
2Rady Children’s Hospital, San Diego, CA

344 Is Pre-Injury Leg Length Discrepancy a Risk Factor for Anterior Cruciate Ligament Injury in the Skeletally Immature Athlete?
Lionel E. Lazaro MD1, Jelle P. van derList1, Frank A. Cordasco MD, MS1, Daniel W. Green MD2
1Hospital for Special Surgery, New York, NY

345 Epidemiology of Contact Injuries in High School Athletes in the United States
Justin Hull Bartley MD1, Lauren Pierpoint MS2, Kristina Linnea Welton MD1, Monica Murray3, Eric C. McCarty MD1, Dawn Comstock PhD2
1University of Colorado, Boulder, CO
2University of Colorado at Denver, Aurora, CO
3Regis University, Denver, CO

346 Impact of Bony Stress Injuries on Professional Basketball Performance
Moin Khan MD1, Kim Madden MSc, PhD2, Joseph P. Rogowski MSc3, Jeff Stotts ATC4, Matthew Tyrrell Burrus MD1, Marisa Samani1, Robby Singh Sikka MD1, Ashesh Bedi MD1
1University of Michigan, Ann Arbor, MI
2University of Colorado, Boulder, CO
3National Basketball Players Association, New York, NY
4St Vincent Health System, Little Rock, AR
5Northwestern University, Evanston, IL
6Tria Orthopaedic Center, Bloomington, MN

347 Assessing Trends in the Epidemiology of Concussions Among High School Athletes
Michael S. Schallmo BS1, Joseph Arnold Weiner2, Wellington Hsu MD2
1Wake Forest University, Winston-Salem, NC
2Northwestern University, Chicago, IL

348 The Epidemiology of Injuries Identified at the National Football League Scouting Combine and Their Impact on Professional Sport Performance: 2,203 athletes, 2009–2015
Mark D. Price MD, PhD1, William H. Rossy MD, George Sanchez2, Kevin Jude McHale MD1, Catherine Logan MD, MBA, MSPT1, Matthew T. Provencher MD4
1Massachusetts General Hospital, Boston, MA
2Steadman Phillipson Research Institute, Vail, CO
3University of Pennsylvania, Philadelphia, PA
4The Steadman Clinic, Vail, CO

349 Short-Term Outcomes Following Concussion in the NFL: An 11-Year Retrospective Study of Player Release Rate and Financial Loss
Prem Ramkumar MD, MBA1, Sergio Michael Navarro BS1
1Cleveland Clinic, Cleveland, OH
2Baylor University, Houston, TX

350 Sports Medicine Physician Selection Criteria: Factors Influencing Patient Choice
Blaine T. Manning1, Daniel D. Bohl MD, MPH1, Bryan M. Saltzman MD2, Nikhil N. Verma MD1, Brian J. Cole MD, MBA1, Bernard R. Bach MD1
1Midwest Orthopaedics at Rush, Chicago, IL
2Regis University, Denver, CO

Topics, speakers and panelists are current at the time of publication and subject to change.
BASIC SCIENCE - 1

Moderator: Justin W. Griffin MD
Rush University Medical Center, Chicago, IL

352 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 H. Lebaschi MD, Christopher L. Camp MD, Camilla Carballo, Ting Cong, Zoe Album, Lilly Ying BS, Xiang-Hua Deng MD, Scott A. Rodeo MD
1Hospital for Special Surgery, New York, NY

353 Stem Cell Yield After Bone Marrow Concentration
Jason L. Dragon MD, Malcolm R. DeBaun MD
1Stanford Medicine, Redwood City, CA

354 Comparison of Platelet Rich Plasma and Bone Marrow Aspirate Concentrate for Osteoprogenitor Cell Retention and Osteoinductive Potential for Osteochondral Allograft
James L. Cook DVM, PhD, Charles A. Baumann, Aaron M. Stoker PhD, Farrah Monib PhD, Nicole L. Walden, Brett D. Crist MD, Mauricio Kfuri MD, PhD, Matthew Jared Smith MD, James P. Stannard MD
1University of Missouri, Columbia, MO

355 Hyaluronic Acid Injections of the Knee: Predictors of Successful Treatment
Eric N. Bowman MD, Justin Hallock MD, Frederick M. Azar MD, Thomas Throckmorton MD
1Campbell Clinic, Memphis, TN

356 Optimal Fixation of Jones Fractures Sacrifices the Peroneal Brevis Tendon Insertion and the Plantar Fascia
Pim A.D. van Dijk PhD, Sofie Breuking, Bryan G. Vopat MD, Daniel Guss MD, MBA, Anne H. Johnson MD, Ali Hosseini PhD, Christopher DiGiovanni MD
1Massachusetts General Hospital, Boston, MA, 2University of Kansas, Kansas City, KS

358 The Efficacy of Intra-articular Injections for Pain Control Following Hip Arthroscopy for Femoroacetabular Impingement.
Shane J. Nho MD, MS, Gift Ukwuani MD, Jennifer Alter, Nicole A. Friel MD, Bryce A. Basques MD
1Midwest Orthopaedics at Rush, Chicago, IL, 2Rush University Medical Center, Chicago, IL

BASIC SCIENCE - 2

Moderator: Carolyn M. Hettrich MD, MPH.
University of Iowa Hospitals and Clinics, Iowa City, IA

359 Comparison of Patient-Reported Outcomes Using PROMIS in Patients with Shoulder Pain
Benjamin Strong, Raymond J. Kenney MD, Joseph C. Schaffer MD, Jon Hedgcock MD, Jeff Houck PhD, Michael D. Maloney MD, Ilya Voloshin MD
1University of Rochester, Rochester, NY, 2University of Rochester Medical Center, Rochester, NY

360 Correlation of PROMIS CAT with Validated Hip Outcome Scores in Patients Undergoing Hip Arthroscopy
Sean Childs, Colin Canham MD, Raymond J. Kenney MD, Diana R. Silas DO, Kelly Adler ATC, Brian D. Giordano MD
1University of Rochester, Rochester, NY, 2University of Rochester Medical Center, Rochester, NY, 3DMC Medical Group, Bloomfield, MI

361 The Application of the Patient-Reported Outcomes Information System (PROMIS) on Hip Arthroscopy Patients
Diana R. Silas DO, Kelly Adler ATC, Raymond J. Kenney MD, Susan Messing MS, Brian D. Giordano MD
1University of Rochester, Rochester, NY, 2University of Rochester Medical Center, Rochester, NY, 3DMC Medical Group, Bloomfield, MI

362 The Use of PROMIS CAT Physical Function Pre-Surgical Scores to Predict Recovery and Establish Pre-Surgical Cut-off Values
Owen Papuga, Ilya Voloshin MD, Gregg Nicandri MD, John P. Goldblatt MD, Robert D. Bronstein MD, Lucien M. Rouse MD, Michael D. Maloney MD
1University of Rochester Medical Center, Rochester, NY

363 Responsiveness of Patient-Reported Outcome Measures After Shoulder Instability Surgery: A Systematic Review and Meta-Analysis
R. Zackary Unger MD, Jeremy M. Burnham MD, Cale A. Jacobs PhD, Lee Gammon MD, Chaithu S. Malempati DO, Jennifer Sebert Howard PhD, Christian Lattermann MD, Eric C. Makhni MD
1University of Kentucky, Lexington, KY, 2University of Pittsburgh Medical Center, Pittsburgh, PA, 3Henry Ford Health System, Detroit, MI

364 How Comprehensive and Efficient are Patient-Reported Outcomes for Femoroacetabular Impingement?
Molly Meadows MD, Eric C. Makhni MD, Jason Taizo Hamamoto BS, John Higgins BA, Shane J. Nho MD, MS, Nikki N. Verma MD
1Midwest Orthopaedics at Rush, Chicago, IL, 2Henry Ford Health System, Detroit, MI

365 Validity and Comprehensibility of Current Shoulder and Elbow Functional Outcomes Measures in Children
Benton E. Heyworth MD, Lara Cohen, Johan von Heideken MD, Mininder S. Kocher MD, MPH, Maura D. Iversen PT, DPT, SD, MPH
1Boston Children’s Hospital, Boston, MA, 2Karolinska Institutet, Stockholm, Sweden, 3Brigham and Women’s Hospital, Boston, MA

Topics, speakers and panelists are current at the time of publication and subject to change.
WORKSHOPS/ROUND TABLES
**AOSSM/SPTS PRE-CONFERENCE WORKSHOP**

**Wednesday, July 19**
**11:50 am – 4:45 pm**

The purpose of the AOSSM/Sports Physical Therapy Section (SPTS) pre-conference course is to provide attendees a team approach to the treatment of various sports medicine–type lesions and injuries. Through dual presentations, the physician and a physical therapist will present the most recent and state-of-the-art treatment for specific sports injuries. This year the pre-conference will discuss rotator cuff tears, superior capsular reconstruction, ACL injuries and treatment and the return-to-play criteria, and lastly, how to evaluate and manage the athlete who has sustained a concussion.

**Fee:** No Charge

**Location:** 714 AB

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**11:50am -12:00pm**
**Welcome & Introductions**
Kevin E. Wilk DP'T

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**12:00am - 12:45pm**
**Scapular Disorders: Surgery Treatments**
Brennen L. Lucas MD

**Scapular Disorders: Non-Operative Treatment**
Robert Manske DP'T, ATC

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**12:45pm -1:45pm**
**ACL Surgery: Graft Selection and Guidelines for Return to Play**
Robert B. Litchfield MD

**Outcomes after ACL Reconstruction: What MOON Has Taught Us**
Robert A. Magnussen MD

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**1:45pm -2:30pm**
**Superior Capsular Reconstruction for Massive Rotator Cuff Tears**
John M. Tokish MD

**Rehabilitation Following SCR: Guidelines & Outcomes**
Charles A. Thigpen PhD, PT

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**2:30pm – 3:15pm**
**Cuff Fixation: Options and Implications for Rehab**
Scott D. Mair MD, Terry R. Malone EdD, PT, ATC

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**3:15pm - 4:00pm**
**UCL Surgery: UCL Repair Using the Internal Brace**
Jeffrey R. Dugas MD

**Rehabilitation Following UCL Repair with Internal Brace**
Kevin E. Wilk DP'T

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**4:00pm -4:45pm**
**Concussions: Evaluation and Treatment Protocols**
Tad Seifert MD

**Concussions: Treatment Protocols and Guidelines**
John Nyland DP'T, EdD, ATC

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**4:45pm**
**Closure**

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**AOSSM/SPTS PRE-CONFERENCE WORKSHOP**

**AOSSM/SPTS PRE-CONFERENCE WORKSHOP**

**AOSSM/SPTS PRE-CONFERENCE WORKSHOP**

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**REGISTRATION TODAY**

www.sportsmed.org/aossimis/annualmeeting

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*Topics, speakers and panelists are current at the time of publication and subject to change.*
**AOSSM MEDICAL PUBLISHING GROUP REVIEWERS WORKSHOP**

**Thursday, July 20**  
12:45 pm – 2:15 pm

**Program Planners**
Bruce Reider MD  
James L. Carey MD, MPH

**Fee:** All meeting attendees are eligible to participate. Complimentary for *AJSM*, *Sports Health*, and *OJSM* reviewers; $50.00 USD for non-reviewers.

Register online for this workshop or via the registration form included in this program. Boxed lunch is included.

**Location:** TBD

**Program Description**

**Tips for Reviewing a Sports Medicine Paper**
Bruce Reider MD  
Editor-in-Chief, *AJSM* and *OJSM*

This session will explore a general method for reviewing a paper. The speaker will discuss a systematic approach to the review process and offer a number of suggestions for writing a review that will be helpful to the author of the article under evaluation. Specific techniques to be emulated or avoided will be discussed and illustrated with blinded excerpts from actual reviews. Practical tips for increasing reviewer efficiency will be offered.

**Reliability in Orthopaedic Sports Medicine Research**
James L. Carey MD, MPH  
University of Pennsylvania, Philadelphia, PA

The speaker will discuss some basic and advanced analytical methods used in orthopaedic sports medicine research. Special emphasis will be placed on proper study design and statistical analysis related to reliability studies. Examples taken directly from the orthopaedic sports medicine literature will be used to highlight key principles. Part of the presentation will have a workshop atmosphere with voluntary audience participation to enhance understanding.

**Workshop Objectives**

Upon completion of this live educational activity, participants will be able to:

- Properly identify advanced statistical methods used in orthopaedic sports medicine research
- Explore methods for best practices in reviewing scientific papers for publication

**NIH REVIEWERS WORKSHOP**

**Thursday, July 20**  
4:00 pm – 5:00 pm

**Fee:** Complimentary

**Location:** TBD

Serving on an NIH study section and reviewing grant applications can enhance your professional development and be beneficial to your career while providing valuable clinical perspective and expertise to NIH study sections. This session will explore the structure of NIH grant reviews and offer helpful advice for approaching reviews as a member of an NIH study section through presentations from members with experience reviewing grants for the NIH. This session also details AOSSM’s Bart Mann Award for the Advancement of Sports Medicine, which is given to five AOSSM members who serve as first-time grant application reviewers on an NIH study section.

**RESEARCH WORKSHOP**

**Saturday, July 22**

1:00 pm – 4:30 pm

**Fee:** Complimentary

**Location:** 701AB

The 2017 Research Workshop will review the state-of-the-art scientific evidence for two topics: early sports specialization and return to play. Research from published studies on physiology and outcomes along with other empirical data will provide a solid evidence-based foundation for preventing injuries in a wide range of patients.

**Workshop Objectives**

Upon completion of this live educational activity, participants will be able to:

**Early Sports Specialization (ESS)**
- Define ESS and implications for the adolescent athlete
- Identify sports that are most at risk for ESS
- Identify specific musculoskeletal problems that are associated with ESS in particular sports
- Define mental, psychosocial, and human performance aspects of ESS and consequences and mitigating circumstances

**Return to Play (RTP)**
- Identify criteria-based progression rehabilitation programs
- Identify sport-specific parameters and requirements to customize rehabilitation programs and determine timing for RTP in specific sports
- Identify preoperative, intraoperative, and postoperative factors affecting RTP

Topics, speakers and panelists are current at the time of publication and subject to change.
ROUND TABLE CASE DISCUSSIONS
Saturday, July 22
Session I: 1:00 pm – 2:30 pm
Session II: 2:45 pm – 4:15 pm

Fee: $70 USD each
Location: TBD

Small group discussions are led by two moderators who will present a case or cases. The cases will be relevant to current clinical practice and require that dilemmas be solved and decisions made. These discussions will include controversies or conflicts in management as well as pertinent teaching points. The moderator will ask open-ended questions of participants, and as in clinical practice, the case(s) will unfold gradually, with new information being offered during discussion. Register for one topic and stay at that table for the duration. Two sessions are available.

Pre-registration required.

ROUND TABLE DISCUSSIONS – SESSION 1
1:00 pm – 2:30 pm

RT01 Meniscus Repair
Moderators:
Geoffrey Scott Baer MD, PhD
University of Wisconsin Hospitals & Clinics, Madison, WI
Steven B. Cohen MD
Rothman Institute, Media, PA

RT02 Large Cuff Tear
Moderators:
Brian Feeley MD
University of California at San Francisco, Orthopaedic Institute, San Francisco, CA
Grant L. Jones MD
The Ohio State University, Columbus, OH

RT03 Cartilage Defect
Moderators:
Christian Latterman MD
University of Kentucky Medical Center, Lexington, KY
Riley J. Williams III, MD
Hospital for Special Surgery, New York, NY

RT04 Revision ACL
Moderators:
Richard D. Parker MD
Cleveland Clinic, Cleveland, OH
Rick W. Wright MD
Washington University, St. Louis, MO

RT05 Patellofemoral
Moderators:
David R. Diduch MD
University of Virginia, Charlottesville, VA
TBD

RT06 Hip - FAI
Moderators:
Brian D. Busconi MD
UMass Memorial Health Care, Worcester, MA
F. Winston Gwathmey MD
University of Virginia, Charlottesville, VA

RT07 Hip - Not FAI
Moderators:
Richard Mather III, MD
Duke Health, Durham, NC
Shane Jay Nho MD, MS
Midwest Orthopaedics at Rush, Chicago, IL

RT08 Revision Shoulder Instability
Moderators:
Julie Bishop MD
The Ohio State University, Columbus, OH
Stephen F. Brockmeier MD
University of Virginia, Charlottesville, VA

RT09 PCL – MLKI
Moderators:
Michael G. Baraga MD
UHealth Sports Medicine, Miami, FL
Christopher D. Harner MD
University of Texas at Houston, Houston, TX

RT10 Pediatric ACL – Ligament
Moderators:
Allen F. Anderson MD
Tennessee Orthopaedic Alliance, Nashville, TN
Frank A. Cordasco MD, MS
Hospital for Special Surgery, New York, NY

RT11 Shoulder Instability – Controversies
Moderators:
Jonathan F. Dickens MD
Walter Reed National Military Medical Center, Bethesda MD
Bradley J. Nelson MD
TRIA Orthopaedic Center, Minneapolis, MN

RT12 Throwers Elbow
Moderators:
Christopher S. Ahmad MD
Columbia University, New York, NY
James R. Andrews MD
Andrews Sports Medicine and Orthopaedic Center, Gulf Breeze, FL

RT13 Failed Cuff
Moderators:
Alison P. Toth MD
Duke Health, Durham, NC
Paul M. Sethi MD
Orthopaedic & Neurosurgery Specialists, Greenwich, CT

RT14 Osteotomy
Moderators:
Matthew Bollier MD
University of Iowa Hospitals and Clinics, Iowa City, IA
Jack Farr II, MD
Ortholindy South, Bargersville, IN

Topics, speakers and panelists are current at the time of publication and subject to change.
### ROUND TABLE DISCUSSIONS – SESSION 2

2:45 pm – 4:15 pm

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Title</th>
<th>Moderators</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT16</td>
<td>Meniscus Repair</td>
<td>Matthew J. Matava MD, Washington University Orthopedics, Chesterfield, MO, Eric J. Strauss MD, New York University NYU Hospital for Joint Diseases, Scarsdale, NY</td>
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<tr>
<td>RT17</td>
<td>Large Rotator Cuff</td>
<td>Chunbong Benjamin Ma MD, University of California at San Francisco, San Francisco, CA, Scott A. Rodeo MD, Hospital for Special Surgery, New York, NY</td>
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<tr>
<td>RT18</td>
<td>Cartilage Defect</td>
<td>David C. Flanigan MD, The Ohio State University, Columbus, OH, Seth L. Sherman MD, University of Missouri, Columbia, MO</td>
</tr>
<tr>
<td>RT19</td>
<td>Revision ACL</td>
<td>Daniel E. Cooper MD, The Carrell Clinic, Dallas, TX, Darren L. Johnson MD, UK Healthcare, Lexington, KY</td>
</tr>
<tr>
<td>RT20</td>
<td>Patellofemoral</td>
<td>Beth E. Shubin Stein MD, Hospital for Special Surgery, New York, NY, Robin Vereeke West MD, Inova Sports Medicine, Great Falls, VA</td>
</tr>
<tr>
<td>RT21</td>
<td>Hip – FAI</td>
<td>Stephen Kenji Aoki MD, University of Utah, Salt Lake City, UT, Benjamin G. Domb MD, Hinsdale Orthopaedics/American Hip Institute, Westmont, IL</td>
</tr>
<tr>
<td>RT22</td>
<td>Hip – Not FAI</td>
<td>Thomas S. Lynch MD, Columbia University, New York, NY, James T. Rosneck MD, Cleveland Clinic, Garfield Heights, OH</td>
</tr>
<tr>
<td>RT23</td>
<td>Revision Shoulder Instability</td>
<td>John M. Tokish MD, Steadman Hawkins Clinic of the Carolinas, Greenville, SC, Nikhil N. Verma MD, Midwest Orthopaedics at Rush, Chicago, IL</td>
</tr>
<tr>
<td>RT24</td>
<td>PCL – MKLI</td>
<td>Mark D. Miller MD, University of Virginia, Charlottesville, VA, Daniel B. Whelan MD, St. Michael’s Orthopedic Association, Toronto, ON</td>
</tr>
<tr>
<td>RT25</td>
<td>Pediatric ACL – Ligament</td>
<td>Matthew D. Milewski MD, Connecticut Children’s Medical Center, Farmington, CT, Jonathan C. Riboh MD, Duke Health, Durham, NC</td>
</tr>
<tr>
<td>RT26</td>
<td>Shoulder Instability – Controversies</td>
<td>Anthony Miniaci MD, Cleveland Clinic, Garfield Heights, OH, Brett D. Owens MD, University Orthopedics, Providence, RI</td>
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<tr>
<td>RT27</td>
<td>Throwers Elbow</td>
<td>John E. Conway MD, Orthopedic Specialty Associates, Texas Health Physicians Group, Fort Worth, TX, Neal S. ElAttrache MD, Kerlan-Jobe Orthopaedic Clinic, Los Angeles, CA</td>
</tr>
<tr>
<td>RT28</td>
<td>Failed Cuff</td>
<td>Carolyn M. Hettrich MD, University of Iowa Hospitals and Clinics, Iowa City, IA, Keith Kenter MD, Western Michigan University, Kalamazoo, MI</td>
</tr>
<tr>
<td>RT29</td>
<td>Osteotomy</td>
<td>Volker Musahl MD, University of Pittsburgh Medical Center, Pittsburgh, PA, TBD, TBD</td>
</tr>
</tbody>
</table>

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GENERAL INFORMATION
CONTINUING MEDICAL EDUCATION CREDITS
The American Orthopaedic Society for Sports Medicine (AOSSM) is recognized by the Board of Certification, Inc. to offer continuing education for Certified Athletic Trainers.

AAPA
AAPA accepts certificates of participation for educational activities certified for AMA PRA Category 1 Credits™ from organizations accredited by ACCME or a recognized state medical society.

LOCATION
As one of the most multicultural cities in the world, Toronto is enriched by an exciting fusion of traditions, passions, and perspectives of more than 100 cultures. With over 9,000 restaurants, 200 dance and theatre companies, boutiques, galleries, and summer festivals, Toronto has something for everyone. Attractions not to miss include the CN Tower (a Modern Wonder of the World), The Hockey Hall of Fame, Casa Loma (Canada’s foremost castle), St. Lawrence Market, Royal Ontario Museum, Ripley’s Aquarium, and the Distillery District, which is a restored historic area. Beyond city limits are breathtaking attractions such as Niagara Falls, a renowned wine region, outstanding theatres, and outdoor adventures—all within a short drive. For more information, visit www.seeTorontonow.com.

PASSPORTS AND VISAS
As a reminder, the United States Department of State and Homeland Security’s announcement of the Western Hemisphere Travel Initiative states that all US citizens, Canadians, citizens of the British Overseas Territory of Bermuda and citizens of Mexico must obtain a passport or another accepted secure document to enter or re-enter the United States. Children 15 years of age and under are now required to show proof of citizenship. They are not required to show photo ID. If you are traveling with children, you should carry identification for each child. Divorced parents who share custody of their children should carry copies of the legal custody documents.

In addition, your current passport must not have an expiration date within six months of July dates of travel. Check your expiration date now and renew immediately, if necessary. For more information on how to obtain your travel documents and to review the requirements visit https://travel.state.gov/content/passports/en/passports.html.

Citizens of certain countries and territories need a visa to visit Canada. Others need an Electronic Travel Authorization (ETA). For more information, visit http://www.cic.gc.ca/english/visit/eta.asp.
Should you require a letter of invitation in order to attend the meeting and obtain a visa, contact AOSSM at aossm@aossm.org.
## 2017/18 ONLINE MEETING SUBSCRIPTION
Revisit the general session presentations from the 2017 Annual Meeting and the 2017 Specialty Day at your convenience! For only $200, you receive online access to the slides synced with the audio of the speaker’s presentation. Review presentations, hear missed talks, and reference sessions at any time. To register, check the “Online Meeting” box on the registration form in this program or during online registration.

## QUESTIONS
email AOSSM at info@aossm.org

## INSTRUCTIONAL COURSES AND ROUND TABLE CASE DISCUSSIONS
Instructional courses are offered Thursday through Sunday from 6:45 – 8:15 am and on Saturday afternoon from 1:00 – 2:30 pm. Round table discussions are offered on Saturday afternoon from 1:00 – 2:30 pm and 2:45 – 4:15 pm. Attendee in instructional courses and round table case discussions is by ticket only, and the fee is $70 USD per course. One must register and pay the fee in order to enroll. This fee is applicable to ALL registrants. Some instructional courses and round table case discussions have limited capacity, and space is assigned as registrations are received. The instructional course handouts are available as a complete package in electronic format at a price of $70 USD.

**NO REFUNDS FOR INSTRUCTIONAL COURSES OR ROUND TABLE DISCUSSIONS WILL BE ISSUED.**

## DISCLAIMER
The material presented in this continuing medical education program is being made available by the AOSSM for educational purposes only. This material is not intended to represent the only methods or procedures appropriate for the medical situation discussed, but rather it is intended to present an approach, view, statement, or opinion of the faculty, which may be helpful to others who face similar situations. Neither the content (whether written or oral) of any course, seminar, or other presentation in the program, nor the use of a specific product in conjunction therewith, nor the exhibition of any materials by any parties coincident with the program, should be construed as indicating endorsement or approval of the views presented, the products used, or the materials exhibited by the AOSSM, or its Committees, Commissions, or Affiliates. The AOSSM makes no statements, representations, or warranties (whether written or oral) regarding the Food and Drug Administration (FDA) status of any product used or referred to in conjunction with any course, seminar, or other presentation being made available as part of this course. Faculty members shall have sole responsibility to inform attendees of the FDA status of each product that is used in conjunction with any course, seminar, or presentation and whether such use of the product is in compliance with FDA regulations.

## DISCLOSURE STATEMENT
In accordance with the guidelines for commercial support of the ACCME, it is the policy of the AOSSM that faculty and planners disclose to the learners all financial relationships during the past twelve months with any commercial interest (any entity producing, marketing, re-selling, or distributing healthcare goods and services consumed by, or used on, patients). Any and all disclosures will be provided in the final program that is distributed at the meeting. In accordance with AOSSM policy, faculty participation is predicated upon timely submission and review of AOSSM disclosures. Non-compliance results in faculty being stricken from the program.

## AMERICANS WITH DISABILITIES ACT
The AOSSM wishes to take those steps to ensure that no individual with a disability is excluded, denied services, segregated, or otherwise treated differently than other individuals because of the absence of auxiliary aids and services. If you require any of the auxiliary aids or services identified in the Americans with Disabilities Act in order to attend this program, please contact AOSSM prior to arrival at info@aossm.org.
SOCIAL FUNCTIONS
SOCIAL ACTIVITIES

THURSDAY, JULY 20
WELCOME RECEPTION
6:30 pm – 8:00 pm
Join us at the Westin Harbour Castle for this year’s Welcome Reception. Everyone and their families are welcome to attend.
Fee: No Charge

FRIDAY, JULY 21
NIAGARA FALLS
8 am – 5 pm
Niagara Falls is a Canadian jewel, captivating tourists around the world. This tour will take you to Niagara Falls for the day where you will enjoy a historical ride on one of the 700 catamaran boats, lunch at the Elements of The Falls restaurant, admission to the Butterfly conservatory featuring 2,000 colorful tropical butterflies, and free time on Clifton Hill – Niagara’s World Famous Street of Fun by the Falls. The bus ride is approximately 3 ½ to 4 hours round trip and the tour is appropriate for all ages. The trip also includes a 3 course lunch.
Fee: $145 USD

SATURDAY, JULY 22
HOCKEY HALL OF FAME
7:00 pm – 10:00 pm
Join us on Saturday night for a private event with your family at one of Toronto’s premier hockey attractions, the Hockey Hall of Fame. This unique venue is home to the legendary Stanley Cup, and renowned trophies and will wow you with its many attractions and interactive games. Guests can go one-on-one against life-size, animated versions of today’s greatest goalies and shooters; call the play-by-play of some of hockey’s greatest goals; view 3D films; get up close and personal with the Stanley Cup, and explore the largest collection of hockey memorabilia in the world. A unique destination like no other, the Hockey Hall of Fame is fun for the whole family and kids of all ages! The event is within walking distance from all of the AOSSM designated hotels. Please register in advance and indicate the number of adults and children when registering.
Fee: No Charge

www.sportsmed.org/aossmimis/annualmeeting
INDUSTRY THEATRE/SYMPOSIA
INDUSTRY SYMPOSIA

700 Level

Thursday, July 20th
12:30 pm – 2:00 pm

Join your colleagues for a 90-minute, lunch-time learning session where you can become more familiar with the latest products, services, and newest findings.

Lunch will be provided, and pre-registration is encouraged. The afternoon scientific session resumes at 2:00pm.

The following symposia are not presented, endorsed, or otherwise sanctioned by the American Orthopedic Society for Sports Medicine, and NO CME CREDIT WILL BE AWARDED for participation. The views and techniques presented are not necessarily those of AOSSM or its members. AOSSM assumes no responsibility or liability for the use or misuse of any information, materials, or techniques described, and it makes no warranty, guarantee, or representation as to the absolute validity or sufficiency of any information provided.

IS
Room 711
SMITH & NEPHEW

IS
Room 709
ZIMMER BIOMET

The Subchondroplasty® Procedure (SCP®)
Sean McMillan DO, FAOAO, Steven B. Cohen MD

The Subchondroplasty® Procedure (SCP®) is a minimally invasive, fluoroscopy-assisted procedure that targets and fills subchondral bone defects, often called BML, with AccuFill® BSM, a hard-setting biomimetic bone substitute.

IS
Room 705
VERICEL

SUMMIT Outcomes, FDA Approval and the Practical Application of the MACI Implant in the USA.
Daniël D. Saris MD, PhD, Eric J. Strauss MD, Seth L. Sherman MD, Alison P. Toth MD, David Recker MD

IS
Room 703
STRYKER

INDUSTRY THEATRES

Inside the Exhibit Hall

Thursday, July 20th and Friday, July 21st
7:30 am – 11:30 am

Thirty minute theater sessions in the Exhibit Hall provide you with up-to-date information from industry about the products, equipment, and services they offer via demonstrations or presentation.

Fee: No Charge

Industry Symposia and Industry Theater sessions are non-CME.

Friday, July 21st
IT 9
9:30 am – 10:00 am

STRYKER
Hip Portfolio

Topics, speakers and panelists are current at the time of publication and subject to change.
Online Registration available at www.sportsmed.org/aossmimis/annualmeeting
Advance Registration closes June 23, 2017.
After June 23rd, a $150 surcharge will be assessed to all registrations.

REGISTRATION CATEGORIES & FEES*
All fees below are listed in US Dollars (The cost of meeting registration does not include hotel).

### A. MEETING REGISTRATION
- **Official Housing**
  - Member: $150
  - Non-Member MD: $750
  - Resident / Fellow: $350
  - Military Non-Member: $300
  - Allied Health: $350
  - Faculty: $150
- **Other Hotel**
  - Member: $300
  - Non-Member MD: $900
  - Resident / Fellow: $500
  - Military Non-Member: $450
  - Allied Health: $500
  - Faculty: $300

**(A) Registration Subtotal**

### B. EDUCATIONAL RESOURCE MATERIALS
- **Instructional Courses***
  - $70 (Complete set of IC handouts, online access only)
- **Online Meeting Subscription**
  - $200 (General session presentations from the 2017 Annual Meeting and 2017 Specialty Day)

**(B) Educational Resource Materials Subtotal**

### C. INSTRUCTIONAL COURSES, WORKSHOPS & ROUND TABLE CASE DISCUSSIONS
- **Instructional Courses**
  - Registrations are non-refundable. On-site registration is subject to availability.
  - Thursday, July 20, 2017
    - 1st Choice: $70
  - Friday, July 21, 2017
    - 1st Choice: $70
  - Saturday, July 22, 2017
    - AM Session: $70
    - PM Session: $70
  - Sunday, July 23, 2017
    - 1st Choice: $70

- **Workshops**
  - AOSM Medical Publishing Group Reviewers’ Workshop
    - AJSM / SPH / OJSM Reviewers: $50
  - Industry Symposia Session
    - 1st Choice: $50
  - Research Workshop – Sports Specialization and Return to Play
    - N / C
  - NIH Workshop
    - N / C

- **Round Table Case Discussions**
  - Discussion Topics
    - Friday, July 21, 2017
      - 1:00 pm – 2:30 pm: $70
      - 2:45 pm – 4:15 pm: $70

**No refunds after June 23, 2017 on any of the above registration fees. All refunds are subject to a $150 non-refundable processing fee.**
## Advance Registration Form

Online Registration available at [www.sportsmed.org/aossminis/annualmeeting](http://www.sportsmed.org/aossminis/annualmeeting)

Advance Registration closes June 23, 2017.

**After June 23rd, a $150 surcharge will be assessed to all registrations.**

### Social Functions

**Niagara Falls**
- **Friday, July 21**
  - All Ages: $145

**Hockey Hall of Fame/Family Night**
- **Saturday, July 22**
  - Adults (Ages 12 and Up): N/C
  - Children 4 – 11: N/C
  - Under 4: N/C

(D) Social Functions Subtotal

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### Fees Enclosed

A) Registration Subtotal (FROM PAGE 1)

B) Educational Resource Materials (FROM PAGE 1)

C) Instructional Courses, Case-based Discussions, Workshop (FROM PAGE 1)

D) Social Functions Subtotal (FROM PAGE 2)

**Total Fees**

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### Payment is Required with the Submission of a Registration Form

Mail form and payment to AOSSM, 2884 Momentum Place, Chicago, IL 60689 – 5328. Make check payable in US Dollars to American Orthopaedic Society for SportsMedicine (AOSSM) or provide credit card information and fax form to 847 / 292 – 4905. Your canceled check is your receipt.

- Check Enclosed
- Visa
- Master Card
- American Express

**Card Number**

**CVV Code**

**Exp. Date**

**Name (as it appears on card)**

**Signature (I agree to pay according to the credit card issuer agreement)**

**Date**

**E-Mail**

**AOSSM Image / Likeness / Voice Release**

I understand and agree that, as a result of participating in an AOSSM educational conference or meeting, my image, likeness, or voice may be photographed and/or recorded. If family members are attending the meeting with me, their image, likeness, and voice may also be photographed and/or recorded. I hereby grant irrevocable and unrestricted permission to AOSSM and its staff to use my or my family’s image, likeness, or performance in any medium and for any purpose they deem appropriate. I hereby waive any right to inspect or approve such use of materials. Submission of this form for meeting registration acknowledges acceptance of these terms.

**No Refunds After June 23, 2017 on Any of the Above Registration Fees.**
AOSSM Upcoming Annual Meetings

AOSSM Annual Meeting 2018
JULY 5-8, 2018
San Diego, CA

AOSSM Annual Meeting 2019
JULY 11-14, 2019
Boston, MA

AOSSM Annual Meeting 2020
JULY 9-12, 2020
Seattle, WA

Upcoming Meetings and Courses

AOSSM/AAOS
Sports Medicine Review Course
August 11-13, 2017
Chicago, IL

Baseball 2017: Youth to the Big Leagues, Managing the Developing Player
October 11-13, 2017
Rosemont, IL

The Cutting Edge 2017: Arthroscopic and Open Shoulder Techniques in the Athlete’s Shoulder
October 13-14, 2017
Rosemont, IL

Advanced Team Physician Course
December 7-10, 2017
Washington, D.C.

AOSSM Abstract Submissions

AOSSM 2018 Specialty Day
Online submissions open April 3, 2017
To submit an abstract for the AOSSM 2018 Specialty Day, please visit www.sportsmed.org. Deadline for submissions is May 17, 2017. Abstracts will only be accepted via the website. No exceptions will be made for late abstracts.

AOSSM 2018 Annual Meeting
Online submissions for abstracts open August 7, 2017 and close on October 2, 2017.

Visit Online www.sportsmed.org to submit your abstract today