

PRELIMINARY PROGRAM

AOSSM

Annual Meeting 2017

Metro Toronto Convention Centre • Toronto, ON, Canada
July 20 – 23, 2017

LEARN

IMPLEMENT

SUCCEED



The American Orthopaedic
Society for Sports Medicine

THE PREMIER ORTHOPAEDIC SPORTS
MEDICINE EDUCATIONAL AND
NETWORKING EVENT OF THE YEAR

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

AOSSM

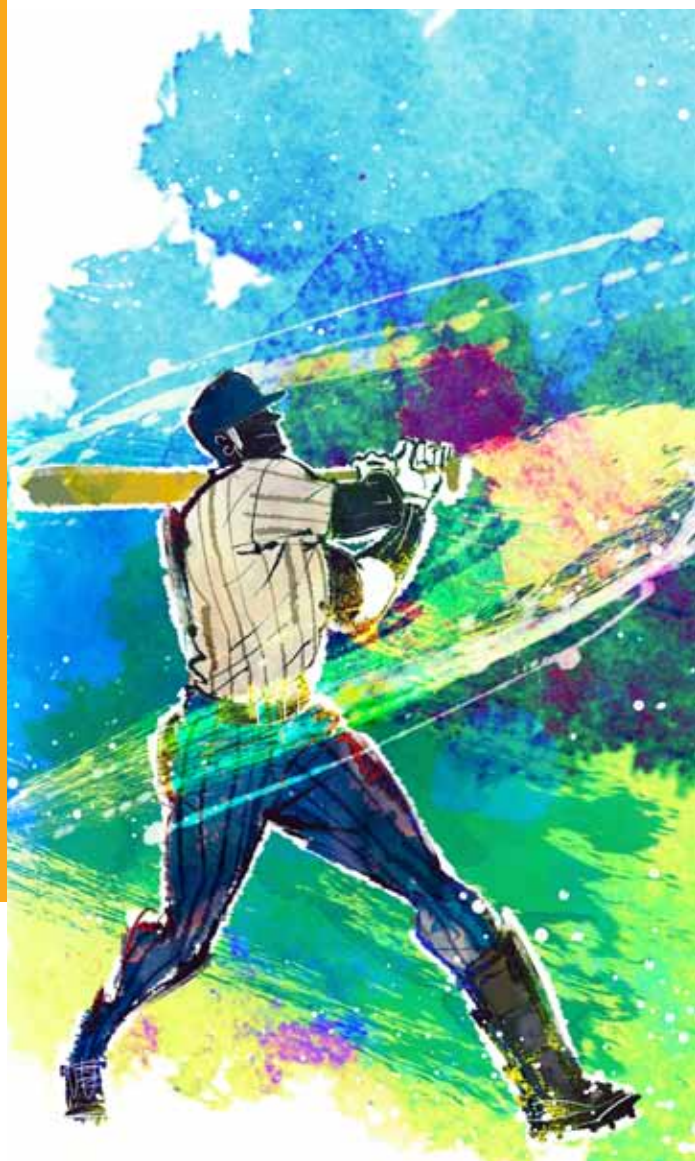
Annual Meeting 2017

Metro Toronto Convention Centre • Toronto, Canada
July 20 – 23, 2017

LEARN

IMPLEMENT

SUCCEED



REGISTER TODAY

www.sportsmed.org/aossmimis/annualmeeting

TABLE OF CONTENTS

2017 PROGRAM COMMITTEE

Brian R. Wolf MD, MS – Chair
David R. Diduch MD
Augustus D. Mazzocca MD, MS
Matthew T. Provencher MD
Kurt P. Spindler MD
Nikhil N. Verma MD

2017 ABSTRACT REVIEWERS

Asheesh Bedi MD
Stephen F. Brockmeier MD
Brian D. Busconi MD
Frank A. Cordasco MD, MS
Jonathan F. Dickens MD
Robert F. LaPrade MD
Lance E. LeClere MD, LCDR, MC, USN
Chunbong Benjamin Ma MD
Shane Jay Nho MD, MS
Eric Strauss MD
John Tokish MD
Rick W. Wright MD

2016-2017 BOARD OF DIRECTORS

President
Annunziato Amendola MD
President-Elect
Charles A. Bush-Joseph MD

Vice President
Neal S. ElAttrache MD

Secretary
Rick D. Wilkerson DO

Treasurer
Andrew J. Cosgarea MD

Past President
Allen F. Anderson MD

Past President
Robert A. Arciero MD

Member-at-Large
Jeffrey R. Dugas MD

Member-at-Large
Joseph H. Guettler MD

Member-at-Large
Robin Vereeke West MD

Council Of Delegates Chair (Ex Officio)
Christopher C. Kaeding MD

Exec. Editor, Medical Publishing/Editor-In-Chief AJSM (Ex-Officio Non-Voting)
Bruce Reider MD

Chief Executive Officer (Ex-Officio Non-Voting)
Greg Dummer CAE

OTHER AOSSM LEADERSHIP

Communications Chair
C. David Geier Jr MD

Education Chair
Steven B. Cohen MD

Research Chair
Matthew T. Provencher MD

Program at a Glance	4 – 5
Presidential Guest Speaker	5
Conference Agenda.....	6 – 20
Instructional Courses	22 – 33
Guided Poster Tours	35 – 47
Workshops	
AOSSM/SPTS Pre-Conference Program	49
AOSSM Medical Publishing Group Reviewers' Workshop.....	50
NIH Reviewer Information Session	50
Research Workshop	50
Round Table, Case-Based Discussions	51 – 52
General Information.....	54 – 55
Social Functions.....	57
Industry Symposia	59
Industry Theaters.....	59
Advance Registration Forms	60 – 61
AOSSM Upcoming Annual Meetings and Courses.....	62

AOSSM CORPORATE PARTNERS

AOSSM gratefully acknowledges the following companies for their 2016-2017 commitments:

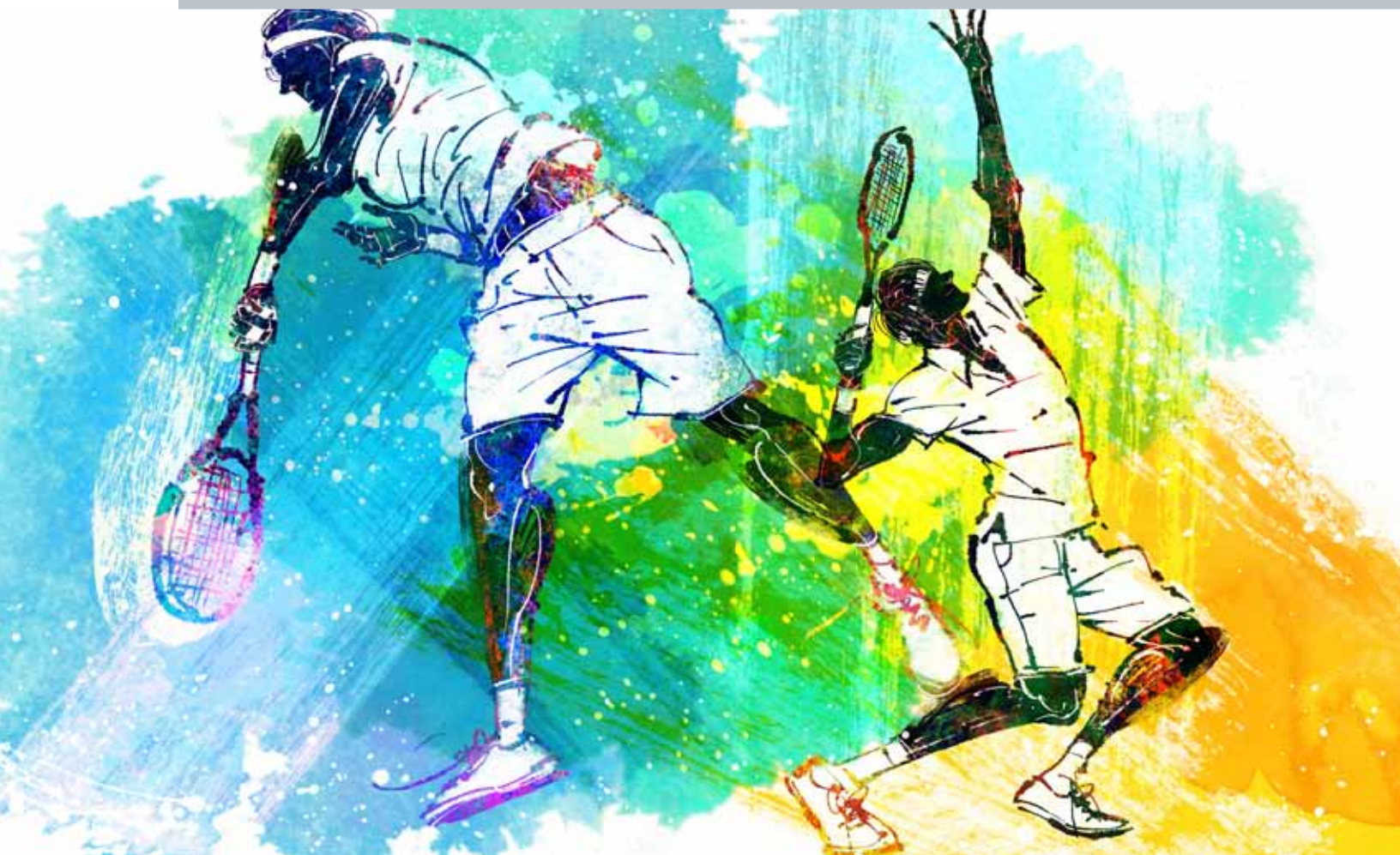
Arthrex
Breg
DePuy Synthes Mitek
DJO Global
Ferring Pharmaceuticals
Flexion Therapeutics
Kinamed Inc.
OSSUR

RTI Surgical
Sanofi
Smith & Nephew
Stryker
Topical Gear
The Aircast Foundation
Vericel
Zimmer Biomet

thanks!

as of March 20, 2017

CONFERENCE AGENDA



PROGRAM AT A GLANCE

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

Suprascapular Nerve Decompression

Biceps Tenodesis

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 Pectoralis 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

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

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.

SATURDAY, JULY 22

Instructional Courses 6:45 am – 8:15 am

Exhibits 7:30 am – 12:30 pm

General Session 8:30 am – 12:30 pm

Research Workshop 1:00 pm – 4:30 pm

Instructional Courses 1:00 pm – 2:30 pm

Round Table Discussions I 1:00 pm – 2:30 pm

Round Table Discussions II 2:45 pm – 4:15 pm

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

REMPLISSAGE vs. LTJ vs. DTA: How to Choose

OREF

Presidential Guest Speaker

Robert E. Leach Sports Medicine Leadership Award

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

Stem 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

SUNDAY, JULY 23

Instructional Courses 6:45 am – 8:15 am

General Session 8:30 am – 11:30 am

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

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

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, FRCS¹, Sheila McRae PhD¹, Gregory A. Stranges MD¹, Jason Old MD, FRCSC¹, James Dubberley MD¹, Randhir Mascarenhas MD², Jeff Leiter MScPhD², Mark Nassar³, 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 Go¹, 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
¹Andrews Sports Medicine and Orthopaedic Center, Birmingham, AL

8:45 am – 8:50 am Question and Answer

8:50 am – 9:00 am My Approach to Biceps Tendon and SLAP Pathology in the Overhead Athlete
 James R. Andrews MD
 Andrews Research and Education Foundation, Gulf Breeze, FL

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

9:35 am – 9:45 am 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. Fithian 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 MD¹, 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
 Lyon-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 MPFL” Identification by Palpation – Results
Jason L. Koh MD¹, Todd Zimmerman¹
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 Bonazza 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

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 - 9:50 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 ATCS², 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 - 9:55 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 MD¹, David W. Altchek MD¹, Joshua S. Dines MD¹
¹Hospital for Special Surgery, New York, NY
- 10:00 am - 10:05 am** **Question and Answer**
- 10:05 am - 10:10 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, PhD¹, 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
- 10:10 am - 10:15 am** **Paper 113: Decreased Shoulder External Rotation and Flexion Are Greater Predictors of Injury than Internal Rotation Deficits: Analysis of 132 Pitcher-Seasons in Professional Baseball**
Andrea Spiker MD¹, Christopher L. Camp MD¹, Alec Sinatro BS¹, Brian C. Werner MD², David W. Altchek MD¹, Struan H. Coleman MD, PhD¹, Joshua S. Dines MD¹
¹Hospital for Special Surgery, New York, NY
²University of Virginia, Charlottesville, VA
- 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, Aliya 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 MD¹, 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** **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, MSPT⁵, Matthew T. Provencher MD⁶
¹University of Pennsylvania, Philadelphia, PA
²University of Kansas, Lawrence, KS
³Steadman Philippon Research Institute, Vail, CO
⁴Princeton Orthopaedic Associates, Princeton, NJ
⁵Massachusetts General Hospital, Boston, MA
⁶The Steadman Clinic, Vail, CO
- 10:05 am - 10:10 am** **Question and Answer**
- 10:10 am - 10:18 am** **Managing Midfoot Injuries in the Athlete**
TBD
- 10:18 am - 10:25 am** **How to Diagnose and Manage the “Bad” Syndesmosis Ankle Sprain**
David A. Porter MD, PhD
Methodist Sports Medicine Center/The Orthopedic Specialists, Indianapolis, IN
- 10:25 am - 10:40 am** **Hand Trauma in the Athlete: Getting Them Back to Action Quickly**
TBD
- 10:40 am - 10:45 am** **Question and Answer**
- 10:45 am - 11:30 am** **Break**

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 Policlinico 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, FRCSC¹
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 PhD¹, Elizabeth Aisenbrey³,
 Stephanie J. Bryant PhD¹,
 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, FRCSC²,
 Rita Kandel MD², David Backstein MD, MEd, FRCSC³.
¹Lunenfeld-Tanenbaum Research Institute,
 Toronto, ON, Canada
²Mount Sinai Hospital, Toronto, ON, Canada
³Sinai Health System, University of Toronto,
 Toronto, ON, Canada
- 11:50 am - 11:55 am Paper 122: Second-Generation Autologous Chondrocyte Implantation in the Patella: Improved Pain Relief and Functional Outcomes Among US Army Service Members**
Nicholas Zarkadis DO, CPT, MC¹,
 Brian R. Waterman MD¹, Michael A. Zacchilli MD²,
 Courtney Holland MD¹, Alison Kinsler MD¹,
 Michael S. Todd DO, MAJ³, Philip J. Belmont MD¹,
 Mark P. Pallis DO¹
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

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 MD¹, 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 MD¹, Colin Strickland MD², Tigran Garabekyan MD³, Vivek Chadayammuri BS², Matthew Brick MD, FRACS⁴, Matthew John Kraeutler MD¹
¹University of Colorado, Boulder, CO
²University of Colorado at Denver, Aurora, CO
³Southern California Hip Institute, North Hollywood, CA
⁴Orthosports, North Shore City, New Zealand
- 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. Schairer MD¹, Kara G. Fields MS¹, Danyal H. Nawabi MD¹, Bryan T. Kelly MD¹, 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 MD¹, Itay Perets MD¹, John P. Walsh MA¹, Edwin Chaharbakshi 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, FRCS
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**

GENERAL SESSION – CARTILAGE AND MENISCUS

- 2:00 pm - 3:45 pm Moderators:**
Matteo Denti 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, MPH¹, Aaron J. Krych MD², Thomas L. Sanders MD², Ayoosh Pareek BS², Nick R. Johnson BS², Rohith Mohan BA², Michael J. Stuart MD²
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 MD¹, Dimitri Thomas MD²
¹Rush University Medical Center, Chicago, IL
²Munson 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 BS¹, Sameer Kumar Singh BA², Ryan Freshman BS², Kathryn Barth BA², Harry Mai MD³, Wellington Hsu MD²
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 Concomitant Meniscus Allograft Transplantation: A Comparative Matched Group Analysis**
Rachel M. Frank MD¹, Simon Lee MD¹, Sarah Glen Poland BS¹, Timothy Sean Leroux MD, MEd¹, Brian J. Cole MD, MBA¹
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, PhD¹, James P. Stannard MD², Mauricio Kfuri MD, PhD¹, Brett D. Crist MD¹, Matthew Jared Smith MD¹
¹University of Missouri, Columbia, MO
²Missouri Orthopaedic Institute, Columbia, MO
- 2:30 pm - 2:35 pm Question and Answer**

- 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 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 Lillegraven 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. Harner MD
University of Texas at Houston, Houston, TX
- 3:40 pm - 3:45 pm **Question and Answer**

CONCURRENT SESSION A – HIP (VIDEO SESSION)

- 4:00 pm - 5:00 pm **Moderators:**
Asheesh Bedi MD
University of Michigan, Ann Arbor, MI
Graeme Whyte MD, MSC, FRCS
New York University, Hospital for Joint Diseases, New York, NY
- 4:00 pm - 4:06 pm **Labrum Repair**
Stephen Kenji Aoki MD
University of Utah, Salt Lake City, UT
- 4:06 pm - 4:12 pm **Labrum Reconstruction**
Marc J. Philippon MD
Steadman Clinic, Vail, CO
- 4:12 pm - 4:18 pm **Femoral Osteochondroplasty**
J. W. Thomas Byrd MD
Nashville Sports Medicine Foundation, Nashville, TN
- 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
- 4:24 pm - 4:30 pm **Question and Answer**
- 4:30 pm - 4:36 pm **Snapping Hip**
Allston J. Stubbs MD, MBA
Wake Forest University, Winston Salem, NC
- 4:36 pm - 4:42 pm **Hip Abductor Repair**
Benjamin G. Domb MD
Hinsdale Orthopaedics/American Hip Institute, Westmont, IL
- 4:42 pm - 4:48 pm **Ligamentum Teres Treatment**
Omer Y. Mei-Dan MD
University of Colorado, Boulder, CO
- 4:48 pm - 4:54 pm **Femoral Head Articular Cartilage Treatment**
Bryan T. Kelly MD
Hospital for Special Surgery, New York, NY
- 4:54 pm - 5:00 pm **Question and Answer**

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

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. Ciccotti 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 MD¹
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, Asheesh Bedi MD⁴, Christopher M. Larson MD⁵, Christopher S. Ahmad MD¹
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. Embloom 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, Zyllyftar Gorica¹, Robert A. Magnussen MD, MPH¹, William Kelton Vasileff MD¹
¹The Ohio State University, Columbus, OH
- 4:20pm - 4:25pm** **Question and Answer**
- 4:25pm - 4:35pm** **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**

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

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, FRCSC¹,
 Denise S. Chan MSc, MBT¹
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,
 MOON Knee Group²
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,
 Charity Moore PhD, MSPH³, Volker Musahl MD¹,
 Robin Vereeke West MD⁴, Alicia Oostdyk MPH¹,
 Bryan Galvin ATC, MS¹, Freddie H. Fu MD¹
¹University of Pittsburgh Medical Center, Pittsburgh, PA
²University of Texas - Houston, Houston, TX
³Carolinas HealthCare System, Charlotte, NC
⁴Inova Sports Medicine, Fairfax, VA
- 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,
 Mark Burman MD¹, Thomas Powell¹,
 Paul A. Martineau MD, FRCSC¹
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

- 9:55 am - 10:00 am Presidential Introduction**
 Allen F. Anderson MD
 Tennessee Orthopaedic Alliance, Nashville, TN
- 10:00 am - 10:30 am Presidential Address**
 Annunziato Amendola MD
 Duke Sports Science Institute, Durham, NC
- 10:30 am - 10:45 am Hall of Fame Presentation**
- 10:45 am - 11:30 am Break**

CONCURRENT SESSION A – SHOULDER INSTABILITY

- 11:30 am - 12:30 pm Moderators:**
 Frank A. Cordasco MD, MS
 Hospital for Special Surgery, New York, NY
 Warren Dunn MD, MPH
 University of Wisconsin, Madison, WI
- 11:30 am - 11:35 am Paper 143: Return-to-Play After Shoulder Instability in National Football League Athletes**
Kelechi R. Okoroafor MD¹, Kevin Taylor MD¹,
 Robert A. Keller MD², Nathan E. Marshall MD¹,
 Vishal Varma BS³, Vasilios Moutzouras MD¹
¹Henry Ford Health System, Detroit, MI
²Kerlan Jobe Orthopaedic Clinic, Los Angeles, CA
³Wayne State University, Detroit, MI
- 11:35 am - 11:40 am Paper 144: A Prospective Outcome Evaluation of Humeral Avulsions of the Glenohumeral Ligament (HAGL) Tears in an Active Population**
Matthew T. Provencher MD¹,
 Francis McCormick MD², George Sanchez³,
 Lance E. LeClere MD, LCDR, MC, USN⁴,
 Christopher B. Dewing MD⁵, Daniel J. Solomon MD⁶
¹The Steadman Clinic, Vail, CO
²Coral Gables, FL
³Steadman Philippon Research Institute, Vail, CO
⁴US Naval Academy, Annapolis, MD
⁵The Rockwood Clinic, Spokane, WA
⁶Marin Orthopedics and Sports Medicine, Novato, CA

- 11:40 am - 11:45 am **Paper 145: Arthroscopic Treatment of Shoulder Instability with Glenoid Bone Loss Using Distal Tibia Allograft Augmentation**
Ivan Wong MD, MACM¹, Eya Lamar MD¹, Catherine M. Coady MD¹, Ben Smith MD², Mark Glazebrook MD³, George Konstantinidis⁵, Daryl B. Dillman MD¹
¹Dalhousie University, Halifax, NS, Canada
²Ontario, Burlington, ON, Canada
³Queen Elizabeth Health Sciences Center, Halifax, NS, Canada
⁴Nova Scotia Health Authority, Halifax, NS, Canada
- 11:45 am - 11:50 am **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**
Brian C. Werner MD¹, Xiang Chen², Christopher L. Camp MD², Andreas Kontaxis², Joshua S. Dines MD², Lawrence Vincent Gulotta MD²
¹University of Virginia, Charlottesville, VA
²Hospital for Special Surgery, New York, NY
- 11:50 am - 11:55 am **Paper 147: The Frequency of Glenohumeral Cartilage Lesions at the Time of Shoulder Instability Surgery: A Multicenter Comparison of Primary and Revision Surgery Patients**
Kyle R. Duchman MD¹, Carolyn M. Hettrich MD, MPH¹, Robert W. Westermann MD², Natalie Glass PhD¹, John E. Kuhn MD³, Brian R. Wolf MD, MS¹
¹University of Iowa Hospitals and Clinics, Iowa City, IA
²Cleveland Clinic, Cleveland, OH
³Vanderbilt Sports Medicine, Nashville, TN
- 11:55 am - 12:05 pm **Question and Answer**
- 12:05 pm - 12:15 pm **Treating the Anterior and Posterior HAGL**
 Dean C. Taylor MD
 Duke University, Durham, NC
- 12:15 pm - 12:25 pm **Managing the Acute Bony Bankart**
 Brett D. Owens MD
 University Orthopedics, Providence, RI
- 12:25 pm - 12:30 pm **Question and Answer**

DEADLINE FOR EARLY REGISTRATION IS
JUNE 23, 2017

CONCURRENT SESSION B – OUTCOME MEASURES – LOGISTICS

- 11:30 am - 12:30 pm **Moderators:**
 Kurt P. Spindler MD
 Cleveland Clinic Sports Health Center, Garfield Heights, OH
 David Wasserstein MD
 Sunnybrook Health Sciences Centre, North York, ON, Canada
- 11:30 am - 11:37 am **Outcome and Performance Measures: How Will It Be Used in the Future**
 Kevin G. Shea MD
 Intermountain Orthopaedics, Boise, ID
- 11:37 am - 11:44 am **Update on Use of Outcome Measures in Sports Medicine**
 Warren R. Dunn MD, MPH
 Reedsburg Area Medical Center, Madison, WI
- 11:44 am - 11:52 am **Outcomes Collection - Academic Setting**
 Morgan H. Jones MD
 Cleveland Clinic Sports Health Center, Cleveland, OH
- 11:52 am - 12:00 pm **Outcomes Collection - Private Practice**
 Keith M. Baumgarten MD
 Ortho Institute, Sioux Falls, SD
- 12:00 pm - 12:05 pm **Question and Answer**
- 12:05 pm - 12:10 pm **Paper 148: Establishing Time to Maximal Medical Improvement in Arthroscopic Rotator Cuff Repairs**
Bonnie Gregory MD¹, William Zuke¹, Timothy Sean Leroux MD, MEd¹, Austin Black¹, Brian Forsythe MD¹, Anthony A. Romeo MD¹, Brian J. Cole MD, MBA¹, Nikhil N. Verma MD¹
¹Midwest Orthopaedics at Rush, Chicago, IL
- 12:10 pm - 12:15 pm **Paper 149: Validity and Responsiveness of the Single Alpha-Numeric Evaluation (SANE) for Shoulder Patients**
Charles A. Thigpen PT, PhD, ATC¹, Ellen Shanley PhD¹, John M. Tokish MD², Michael J. Kissenberth MD², Stefan John Tolan MD², Richard J. Hawkins MD, FRCSC²
¹ATI Physical Therapy, Greenville, SC
²Steadman Hawkins Clinic of the Carolinas, Greenville, SC
- 12:15 pm - 12:20 pm **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**
Kristian Samuelsson MD, PhD, MSc¹, Robert A. Magnussen MD², Eduard Alentorn-Geli MD, PhD, MSc³, Kurt P. Spindler MD⁴, Magnus L. Forssblad MD, PhD⁵, Jon Karlsson MD, PhD¹
¹Sahlgrenska University Hospital, Molndal, Sweden
²The Ohio State University Sports Medicine Center, Columbus, OH
³Duke University Medical Center, Durham, NC
⁴Cleveland Clinic Sports Health Center, Garfield Heights, OH
⁵Karolinska Institutet, Stockholm, Sweden
- 12:20 pm - 12:25 pm **Paper 151: No Clinically Relevant Change Between 1 and 2 Year Outcomes Following ACL Reconstruction**
Joseph Nguyen MPH¹, Scott A. Rodeo MD¹
¹Hospital for Special Surgery, New York, NY
- 12:25 pm - 12:30 pm **Question and Answer**

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 MD¹, Rebecca M. Stone MS, ATC², Nicole M. Ramos BS², Asheesh Bedi MD³, Christopher M. Larson MD²
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 MD¹, Jeffrey J. Nepple MD¹, John C. Clohisy MD¹
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**
Robert W. Westermann MD¹, Thomas Sean Lynch MD², Morgan H. Jones MD¹, Kurt P. Spindler MD¹, Greg Strnad¹, William Messner¹, James T. Rosneck MD¹
¹Cleveland Clinic, Cleveland, OH
²Columbia University Medical Center, New York, NY
- 11:45 am - 11:50 am** **Paper 155: Influence of Tönnis Grade on Outcomes of Arthroscopy for FAI in Athletes: A Comparative Analysis**
J. W. Thomas Byrd MD¹, Elizabeth Potts MSN, APN, ACNP-BC², Kay S. Jones MSN, RN¹
¹Nashville Sports Medicine Foundation, Nashville, TN
²Nashville Sports Medicine, Nashville, TN
- 11:50 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 Articular 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 BA¹, Brian Wu PhD¹, Max Berger MD¹, Dan Lorenzana MPH¹, Christianne Lane PhD¹, Jonathan C. Sum DPT¹, George F. Rick Hatch III, MD¹, E. Todd Schroeder PhD¹
¹University of Southern California, Los Angeles, CA
- 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 MD¹, Moin Khan MD¹, Fred Tolbert Finney¹, Jeffrey Stotts², Robby Singh Sikka MD³, Asheesh Bedi MD¹
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 PhD¹, Fares Qeadan¹, 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. Wolf MD, MS³
¹Cleveland Clinic, Cleveland, OH
³Vanderbilt Orthopaedic Institute, Nashville, TN
⁴University of Iowa Hospitals and Clinics, Iowa City, IA
- 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 **Moderators**
 Peter A. Indelicato MD
 University of Florida Ortho and Sports Medicine Institute, Gainesville, FL
 Eric C. McCarty MD
 University of Colorado, Boulder, CO
- 3:05 pm - 3:10 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 Rambhia¹, 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
- 3:15 pm - 3:20 pm **Paper 164: Concussion Symptoms and Symptom Resolution Time in US High School Athletes, 2007/08-2014/15**
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**

Instructional Courses	6:45 am – 8:15 am
Exhibits	7:30 am – 12:30 pm
General Session	8:30 am – 12:30 pm
Research Workshop	1:00 pm – 4:30 pm
Instructional Courses	1:00 pm – 2:30 pm
Round Table Discussions I	1:00 pm – 2:30 pm
Round Table Discussions II	2:45 pm – 4:15 pm

GENERAL SESSION - ROTATOR CUFF AND SHOULDER INSTABILITY

- 8:30 am - 9:55 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, Kunitomo Fukunishi MD³, Yukitaka Fujisawa MD¹, Takeshi Kawakami MD, PhD¹, Yasuo Itami MD¹, Mutsumi Ohue MD⁴, Masashi Neo MD, PhD¹
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 - 8:50 am** **Paper 166: A Prospective, Quantitative MRI-Based Assessment on the Progression of Fatty Infiltration After Rotator Cuff Repair**
Drew Anderson Lansdown MD¹, Sonia Lee MD², Craig Sam², Roland Krug PhD², Brian T. Feeley MD², Chunbong Benjamin Ma MD²
¹Rush University Medical Center, Chicago, IL
²University of California, San Francisco, San Francisco, CA

- 8:50 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
- 9:10am - 9:17am** **Span the Defect with Graft**
 Alison P. Toth MD
 Duke University, Durham, NC
- 9:17am - 9:24am** **Question and Answer**
- 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 MA¹, 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**

REGISTER TODAY

www.sportsmed.org/aossmimis/annualmeeting

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 Stem 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, FRCSC
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 MD¹, Lane Brooks Bailey PhD, DPT², Christopher D. Harner MD³, Russell M. Paine PT⁴, Walter R. Lowe MD³
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 MS¹, Heather Samady MD¹, Michael Brandon Gottschalk MD¹, Poonam Dalwadi¹, 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 Bedard¹, Natalie Glass PhD¹, Matthew Bollier MD¹, Carolyn M. Hettrich MD, MPH¹, Brian R. Wolf MD, MS¹
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 Syed¹, Alexander William Aleem MD¹, Charles Dante Wowkanech¹, 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 Slone MD¹, Thomas Epperson MD¹, Cory Furse MD¹, Bethany Wolf PhD¹, Sylvia Wilson MD¹
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, Kiritpaul Nandra MD¹, A. Atif Mustafa BS¹, Wajeeh Bakhsh MD¹, Amy Lalonde 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 Multi-Modal Anesthesia in ACL Surgery: Options in 2017

John W. Xerogeanes MD
Emory University, Atlanta, GA

ROUND TABLE DISCUSSIONS

1:00 pm - 2:30 pm Round Table Discussions – Session 1

2:45 pm - 4:15 pm Round Table Discussions – Session 2

INSTRUCTIONAL COURSES

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

RESEARCH WORKSHOP

1:00pm - 4:30 pm Early Sports Specialization and Return to Play

Instructional Courses	6:45 am – 8:15 am
General Session	8:30 am – 11:30 am

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 PhD¹, John M. Tokish MD², Charles A. Thigpen PT, PhD, ATC¹, Lauren Ruffrage³, Douglas J. Wyland MD², Michael J. Kissenberth MD²
¹ATI Physical Therapy, Greenville, SC
²Steadman Hawkins Clinic of the Carolinas, Greenville, SC
³CEROrtho, Greenville, SC
- 8:35 am - 8:40 am** **Paper 178: Rotator Cuff Repair in Adolescent Athletes**
Michael G. Azzam MD¹, Jeffrey R. Dugas MD¹, James R. Andrews MD², Samuel R. Goldstein MD¹, Benton A. Emblom MD¹, E. Lyle Cain MD¹
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 MD¹, Hiroyuki Sugaya MD¹, Norimasa Takahashi MD¹, Keisuki Matsuki MD², Morihiro Tokai MD¹
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 PhD¹, Toyohiko Hayashi PhD², Hiroaki Inui MD¹, Tomoyuki Muto MD¹, Hiroki Ninomiya MD¹
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**
- 9:30 am - 9:35 am** **Paper 181: Single-Sport Specialization in Youth Sports: A Survey of 3,090 High School, Collegiate, and Professional Athletes**
Patrick S. Buckley MD¹, Meghan Bishop MD¹, Patrick Kane MD¹, Michael C. Ciccotti MD¹, Stephen Selverian BA¹, Dominique Exume BS¹, William D. Emper MD¹, Kevin B. Freedman MD¹, Sommer Hammoud MD¹, Steven B. Cohen MD¹, Michael G. Ciccotti MD¹
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 PhD¹, David Bell PhD¹, Margaret Alison Brooks MD¹, Scott Hetzel MS¹, Adam Pfaller BS¹, Eric Post¹
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 MD¹, Natasha E. Trentacosta MD², Melodie Metzger PhD³, Trevor Nelson³, Max Michalski³, Landon S. Polakof⁴, Bert R. Mandelbaum MD⁵
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 MD¹, Jennifer J Beck MD¹, Jay Semel PT¹, Rebecca Serpa BS¹
¹Orthopaedic Institute for Children, Los Angeles, CA
- 9:50 am - 9:55 am** **Question and Answer**

GENERAL SESSION – STAYING ACTIVE WITH OSTEOARTHRITIS

- 9:55 am - 11:00 am** **Moderators:**
 John J. Callaghan MD
 University of Iowa Hospitals and Clinics, Iowa City, IA
 Seth C. Gamradt 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 MD¹, Sam Akhavan MD¹,
 Darren A. Frank MD²
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 MD¹, Jeffrey T. Alwine DO²,
 Stephanie C. Petterson PT, PhD²
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 BA¹, Nathanael Heckmann MD¹,
 William C. Pannell MD¹, J Ryan Hill BS¹,
 Braden M. McKnight BS¹, C. Thomas Vangsness MD¹,
 George F. Rick Hatch MD¹
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 MD¹, Maximilian A. Meyer BS²,
 Sarah Glen Poland BS², Timothy S. Leroux MD, MEd¹,
 Justin W. Griffin MD¹, Charles P. Hannon MD¹,
 Nikhil N. Verma MD², Anthony A. Romeo MD²,
 Brian J. Cole MD, MBA²
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 MD¹, Ryan Degen MD¹,
 Joseph N. Liu MD¹, David M. Dines MD¹,
 Lawrence Vincent Gulotta MD¹
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, PhD¹, Marilee P. Horan MPH¹,
 Salvatore Joseph Frangiamore MD¹, Erik M. Fritz MD¹,
 Jonathan Alexander Godin MD¹, Jonas Pogorzelski MD¹,
 Peter J. Millett MD, MSc²
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



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

IC 103

Approach to the Patient
with Failed Hip Arthroscopy

IC104

CASE-BASED

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

IC 105

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



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.

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

Riley J. Williams III, MD, Deryk G. Jones MD, Aaron J. Krych MD, Chunbong 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.

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.

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. Petrigliano 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.

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.

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 can we 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:

- Describe 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 tenodesis, 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.

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 CASE-BASED**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 CASE-BASED**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 CASE-BASED**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.

REGISTER TODAYwww.sportsmed.org/aossmimis/annualmeeting

IC301**UCL Reconstruction: Epidemiology, Surgical Technique, and Return to Play**

Steven B. Cohen MD, James R. Andrews MD, Michael G. Ciccotti MD, Neil S. ElAttrache MD

Elbow injuries in baseball are often publicized in the mass media, especially ulnar collateral ligament (UCL) tears. The UCL is a critical structure in the baseball athlete and is often at risk for injury in the baseball pitcher. The purpose of this course is to aid physicians who take care of these athletes to appropriately manage UCL injuries and get them back on the field. Clinical cases will be reviewed by the speakers, all of whom are currently involved in the care of professional athletes.

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. Emblom 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.

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.
- Describe 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.

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.



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

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

C. Dain Allred MD, Jonathan F. Dickens MD, Lance E. LeClere 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 feneralized 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**Fixing the Shoulder's "Suspension": Update on AC/Clavicle/SC**

Joseph H. Guettler MD, Claude T. Moorman 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.

IC313

**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 outcomes 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.

**REGISTER TODAY**www.sportsmed.org/aossmimis/annualmeeting

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 and 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 tibial, tibial 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 tibial 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**

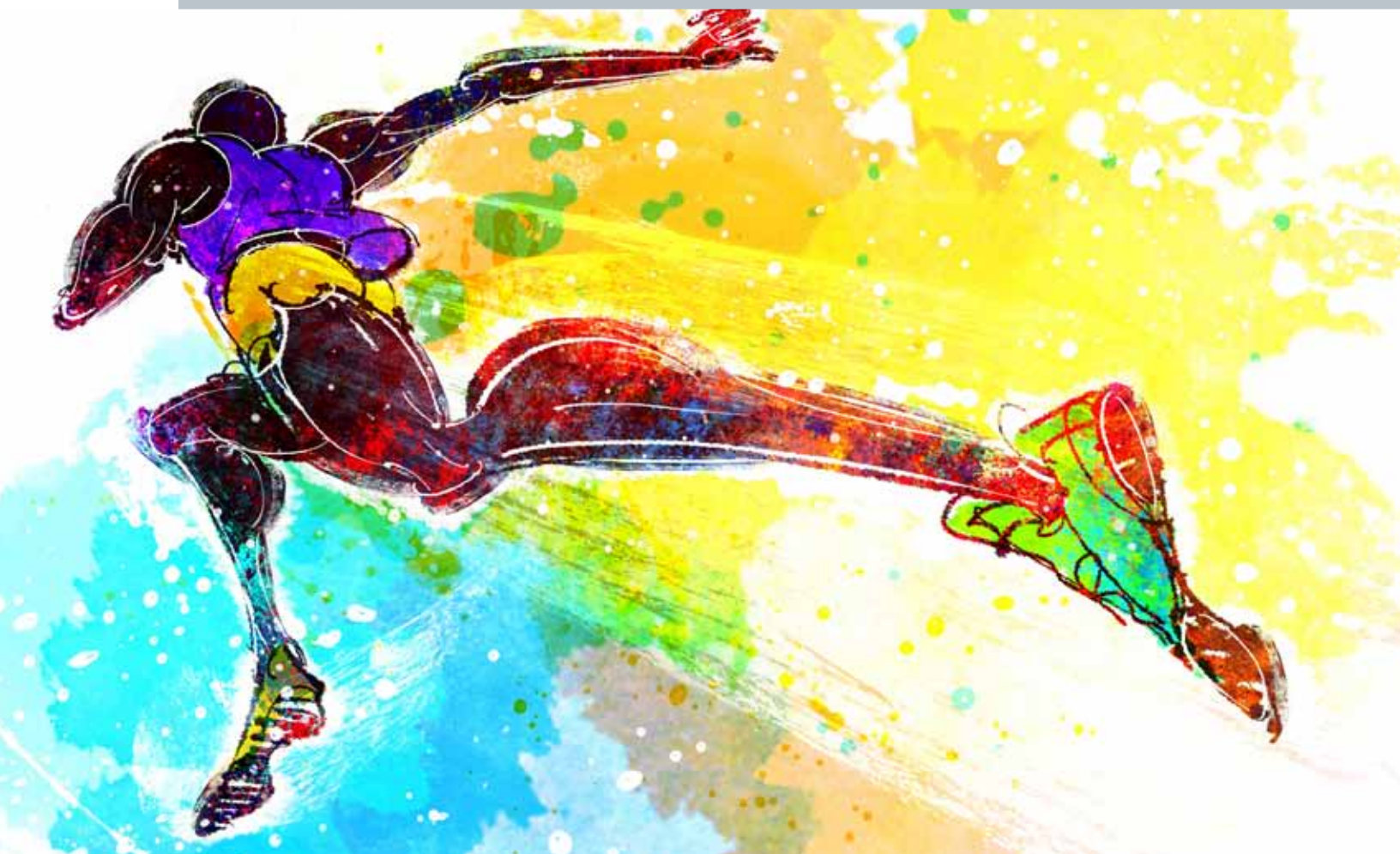
Henry T. Goitz MD, Tony Bouffard MD

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.

POSTERS



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. Csintalan¹, Heather A. Prentice PhD², Tadashi Ted Funahashi MD², Gregory B. Maletis MD³
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 MD¹, Robert G. Marx MD, MSc, FRCS¹, Brendan Dempsey², Yile Ge¹, Stephen Lyman PhD¹
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 Cinque¹, Justin J. Mitchell MD¹, Jorge Chahla MD¹, Chase S. Dean MD¹, Lauren M. Matheny MPH¹, Robert F. LaPrade MD, PhD²
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 MD¹, Steven J. Svoboda MD¹, Karen Y. Peck MEd, ATC², Estephan J. Garcia MD³, Kenneth L. Cameron PhD, MPH, ATC¹
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, PT¹, Staci Thomas MS², Timothy E. Hewett PhD, FACSM³, Robert A. Magnussen MD⁴, Laura Schmitt PhD, PT⁴
¹Sports Medicine Biodynamics Center, Cincinnati, OH
²Cincinnati Children's Hospital, Milford, OH
³Mayo Clinic, Rochester, MN
⁴The Ohio State University, Columbus, OH

206 Femoral Tunnel Drilling Method: Revision Risk After Anterior Cruciate Ligament Reconstruction

Samir Teiwani MD¹, Heather A. Prentice², Ronald Wyatt MD³, Gregory B. Maletis MD⁴
¹Kaiser Permanente, Fontana, CA
²Kaiser Permanente, San Diego, CA
³Kaiser Permanente, Walnut Creek, CA
⁴Kaiser Permanente Hospital, Baldwin Park, CA

207 Does Knee Hyperextension Affect Dynamic In Vivo Kinematics and Clinical Outcomes After Anterior Cruciate Ligament Reconstruction?

Kanto Nagai MD, PhD¹, Tom Gale MS¹, Yasutaka Tashiro MD, PhD¹, Elmar Herbst MD¹, James J. Irrgang PT, PhD, ATC¹, William Anderst PhD¹, Freddie H. Fu MD¹, Scott Tashman PhD²

¹University of Pittsburgh Medical Center, Pittsburgh, PA

²University of Texas Health Science Center, Houston, TX

208 Effect of Hamstring Harvest in the Setting of ACL and MCL Concurrent Injury

Trevor Nelson BS¹, Thomas J. Kremen MD¹, Landon S. Polakof BS¹, Sean Rajae MD¹, Melodie Metzger PhD¹

¹Cedars-Sinai Medical Center, Los Angeles, CA

209 Bridge-Enhanced ACL Repair: Mid-term Results of the First-in-Human Study

Lyle J. Micheli MD¹, Brett Flutie¹, Braden C. Fleming PhD², Martha M. Murray MD¹

¹Children's Hospital Boston, Boston, MA

²Bioengineering Labs, Providence, RI

211 Anterior Cruciate Ligament Tears: Impact of Delayed Presentation on Intra-articular Injuries

Katherine J. Coyner MD¹, Dietrich Walker Riepen MS¹, Audrie Aliza Chave MPH¹, Benjamin Schell MD¹, Michael S. Khazzam MD¹

¹University of Texas, Southwestern Medical Center, Dallas, TX

212 Posterior Tibial Subchondral Bone and Meniscal Slope Correlate with In Vivo Internal Tibial Rotation

Elmar Herbst MD¹, Tom Gale BS¹, Kanto Nagai MD, PhD¹, Yasutaka Tashiro¹, James J. Irrgang PT, PhD, ATC¹, William Anderst PhD¹, Scott Tashman PhD², Freddie H. Fu MD¹

¹University of Pittsburgh Medical Center, Pittsburgh, PA

²University of Texas Health Science Center, Houston, TX

213 ACL Force and Knee Kinematics After Posterior Tibial Slope-Reducing Osteotomy

Kent T. Yamaguchi MD¹, Edward Cheung MD¹, Justin Mathew¹, Daniel V. Boguszewski MD¹, Keith Markolf PhD¹, David R. McAllister MD¹, Frank A. Petrigliano MD¹

¹University of California Los Angeles, Los Angeles, CA

214 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

Steven J. Svoboda MD¹, Jesse R. Trump¹, James Reilly¹, Kenneth Wikiser², Kenneth L. Cameron PhD, MPH, ATC¹

¹Keller Army Hospital, West Point, NY

²United States Military Academy, West Point, NY

215 Clinical Outcomes of All Soft Tissue Quadriceps Tendon Autograft in ACL Reconstruction

John W. Xerogeanes MD¹, William Godfrey MS¹, Aaron Gebrelul MD², Ajay Premkumar MD³, Danielle Mignemi¹, Michael Brandon Gottschalk MD¹, Poonam Dalwadi¹, Harris Slone MD⁴

¹Emory University, Atlanta, GA

²University of Texas Southwestern, Dallas, TX

³Hospital for Special Surgery, New York, NY

⁴Medical University of South Carolina, Charleston, SC

ACL 2

Moderator: Diane L. Dahm MD

Mayo Clinic, Rochester, MN

216 Indicators of Bacterial Colonization in Failed Anterior Cruciate Ligament Reconstructions

David C. Flanigan MD¹, Joshua Scott Everhart MD, MPH¹, Alex DiBartola BS¹

¹The Ohio State University, Columbus, OH

217 The Psychosocial Trauma of ACL Ruptures in Young Athletes

Ajay Shridar Padaki MD¹, Charles Aaron Popkin MD¹, Manish Suresh Noticewala MD¹, Christopher S. Ahmad MD¹

¹Columbia University, New York, NY

218 Is Lateral Femoral Notch Depth Associated with Rotatory Instability in ACL Deficient Knees: A Quantitative Pivot Shift Analysis

Jeremy M. Burnham MD¹, Thomas Rudolf Pfeiffer¹, Ajay C. Kanakamedala¹, Elmar Herbst MD¹, Jason Zlotnicki MD¹, Amir Ata Rahnama-Azar MD¹, Marcin Kowalczyk MD¹, Adam Popchak DPT, MS, SCS, CSCS¹, Richard Debski PhD¹, Volker Musahl MD¹

¹University of Pittsburgh Medical Center, Pittsburgh, PA

219 Knee Kinematics Following Anatomic Single- vs. Double-Bundle ACL Reconstruction: A Randomized Clinical Trial

Scott Tashman PhD¹, James J. Irrgang PT, PhD, ATC², Charity Moore PhD, MSPH², Volker Musahl MD², Robin Vereeke West MD³, Freddie H. Fu MD²

¹University of Texas Health Science Center, Houston, TX

²University of Pittsburgh Medical Center, Pittsburgh, PA

³Inova Sports Medicine, Fairfax, VA

220 Concomitant Lateral Meniscus Injury Aggravates Rotational Laxity of the Anterior Cruciate Ligament Injured Knees

Yuichi Hoshino MD, PhD¹, Nobuaki Miyaji¹, Yuichiro Nishizawa², Daisuke Araki MD², Takehiko Matsushita², Ryosuke Kuroda MD²

¹Kobe Kaisei Hospital, Kobe, Japan

²Kobe University, Kobe, Japan

221 Predictors of a Symptomatic Knee Following ACL Reconstruction: 84-Month Follow-Up

J. Kristopher Ware MD¹, Matthew Akelman², Brett D. Owens MD³, Paul D. Fadale MD³, Michael J. Hulstyn MD³, Braden C. Fleming PhD⁴

¹Brown University, Providence, RI

²Rhode Island Hospital, Providence, RI

³University Orthopedics, Providence, RI

⁴Bioengineering Labs, Providence, RI

222 Enhanced ACL Graft Incorporation by Novel Minimally Invasive Activation of Endogenous Stem Cells

Thomas J. Kremen MD¹, Maxim Bez¹, Joseph C. Giaconni MD¹, Wafa Tawackoli PhD¹, Pablo Avalos², Dmitriy Sheyn PhD¹, Jess G. Snedeker PhD², Zulma Gazit PhD¹, Gadi Pelled DMD, PhD¹, Dan Gazit MD, PhD¹

¹Cedars-Sinai Medical Center, Los Angeles, CA

²University of Zurich, Zurich, Switzerland

223 Primary Anterolateral Ligament Rupture in Patients Requiring Revision Anterior Cruciate Ligament Reconstruction: A Retrospective Magnetic Resonance Imaging Review

James Bradley Carr MD¹, Baris Yildirim¹, Dustin L. Richter MD¹, Brian Edward Etier MD¹, David R. Diduch MD¹, Mark W. Anderson MD¹, Jennifer Pierce¹

¹University of Virginia, Charlottesville, VA

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, Yosuke Shima MD, PhD³, Takeshi Oshima MD¹, 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, PT¹, 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 Voleti MD², Patricia Berkanish BA¹, Matthew Cohn BA¹, David W. Altchek MD¹, Answorth 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, SCS², 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 Zarzycki², David Logerstedt PT, PhD³, Elizabeth Wellsandt⁴, Michael J. Axe MD⁵, Lynn Snyder-Mackler PhD²
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 Bolia¹, Marc J. Philippon MD², Jorge Chahla MD¹
¹Steadman Philippon 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
¹University of Miyazaki, Miyazaki, Japan

233 Early Rates of Revision of Knee Cartilage Restoration Surgery and Conversion to Arthroplasty Within Five Years

Aravind Athiviraham MD¹, Haroutioun Boyajian¹, Kevin Lindsay-Rivera¹, Lewis Shi MD¹, Ravand 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, Maximilian A. Meyer BS³, Sarah Glen Poland BS³, Adam B. Yanke MD³, Brian J. Cole MD, MBA³
¹University of Southern California, Los Angeles, CA
²Rush University Medical Center, Chicago, IL
³Midwest Orthopaedics at Rush, 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, MS², Mauricio Kfuri MD, PhD², Brett D. Crist MD², Matthew J. Smith MD², James L. Cook DVM, PhD²
¹Missouri Orthopaedic Institute, Columbia, MO
²University of Missouri, Columbia, MO

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 MD¹, Atsushi Urita MD, PhD¹, Maximilian A. Meyer BS¹, Nozomu Inoue MD, PhD¹, Brian J. Cole MD, MBA¹
¹Midwest Orthopaedics at Rush, Chicago, IL

- 239 Can Competitive Athletes Sustain High-Level Play Following Osteochondral Allograft Transplantation of the Knee?**
Mark A. McCarthy MD¹, Maximilian A. Meyer BS², Alexander E. Weber MD³, David Levy MD², Annemarie K. Tilton BS², Adam B. Yanke MD², Brian J. Cole MD, MBA²
¹Mayo Clinic, Rochester, MN
²Midwest Orthopaedics at Rush, Chicago, IL
³University of Southern California, Los Angeles, CA

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 PhD¹, Maximilian A. Meyer BS¹, Atsushi Urita MD, PhD¹, Nikhil N. Verma MD¹, Anthony A. Romeo MD¹, Adam B. Yanke MD¹, Brian J. Cole MD, MBA¹
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, DPT¹, David C. Flanigan MD², Thomas M. Best MD, PhD, FACSM³, Laura Schmitt PhD, PT²
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 MD¹, Atsushi Urita MD, PhD², Maximilian A. Meyer BS², Brett Madden BS², Susan Chubinskaya PhD¹, Brian J. Cole MD, MBA²
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 MD¹, Cathy Sue Carlson DVM, PhD², Ferenc Toth DVM, PhD², Bjørnar Ytrefhus DVM, PhD³, Peter C. Cannamela¹, John Polousky MD⁴, Kristin Olistad PhD⁵
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, Plano, TX
⁵Norwegian University of Life Sciences, Oslo, Norway

- 244 Clinical Outcomes of Patellofemoral Osteochondral Allograft Transplantation: A Prospective Analysis**
Eric J. Cotter BS¹, Dillen Wischmeier BS², Rachel M. Frank MD¹, Adam B. Yanke MD¹, Jack Farr MD², Brian J. Cole MD, MBA¹
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 MD¹, Philip H. Locker¹, Gregory L. Cvetanovich MD¹, Annemarie K. Tilton BS¹, Matthew E. Gitelis BS¹, Alexander E. Weber MD², Adam B. Yanke MD¹, Brian J. Cole MD, MBA¹
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 MD¹
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 MD¹, Thomas L. Sanders MD¹, Ayoosh Pareek BS¹, Nick R. Johnson BS¹, James L. Carey MD, MPH², Travis Maak MD³, Michael J. Stuart MD¹
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 PhD¹, Caitlin Whale¹, Patrick M. King¹, Kate N. Jochimsen¹, Jennifer S. Howard PhD², Chaitu S. Malempati DO¹, Carl G. Mattacola PhD, ATC¹, Jeremy M. Burnham MD³, Christian Lattermann MD¹
¹University of Kentucky, Lexington, KY
²Appalachian State University, Boone, NC
³University of Pittsburgh, Pittsburgh, PA

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 MD¹, Maximilian A. Meyer BS², Timothy S. Leroux MD, MEd¹, Matthew E. Gitelis BS², Margaret Debot 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 MD¹, Todd A. Zimmerman¹, Savan Patel MD², Yupeng Ren¹, Jongsang Son¹, Li-Qun Zhang PhD²
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 Mensical Tears Repair Comparison

Jorge Chahla MD¹, Mark Cinque¹, Andrew Geeslin MD¹, Grant Dornan¹, Robert F. LaPrade MD, PhD²
¹Steadman Philippon Research Institute, Vail, CO
²The Steadman Clinic, Vail, CO

252 Bone Plug vs. Suture-Only Fixation of Medial Meniscus Allograft Transplantation: Biomechanical Study

Luiz Felipe Morlin Ambra MD¹, Amy Phan BS¹, Jack Farr MD², Andreas H. Gomoll MD¹
¹Brigham and Women's Hospital, Boston, MA
²OrthoIndy South, Greenwood, IN

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

Justin J. Mitchell MD¹, Jorge Chahla MD¹, Mark Cinque², Chase S. Dean MD², Lauren M. Matheny MPH¹, Robert F. LaPrade MD, PhD¹
¹Steadman Philippon Research Institute, Vail, CO
²The Steadman Clinic, Vail, CO

254 The LM Posterior Root Stabilizes the ACL-Deficient Knee

Gilbert Moatshe MD¹, Jonathan M. Frank MD¹, Grant Dornan¹, Alex Brady MSc¹, Erik Slette BA¹, Robert F. LaPrade MD, PhD²
¹Steadman Philippon Research Institute, Vail, CO
²The Steadman Clinic, Vail, CO

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 Moutzourous MD³, Eric C. Makhni MD⁴
¹Columbia University, New York, NY
²Boston University Medical Center, Boston, MA
³Henry Ford Medical Group, Novi, MI
⁴Rush University Medical Center, Chicago, IL

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,
¹Oregon Health & Science University, Portland, OR
²Sansom Consulting, Glendale, AZ

257 Second Fracture: A Risk Factor for Anterior Cruciate Ligament Reconstruction Failure?

Christopher L. Gaucher MD¹, Tracey P. Bastrom MA², Andrew T. Pennock MD²
¹Saushec Orthopaedic, San Antonio, TX
²Rady Children's Hospital, San Diego, CA

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
¹Steadman Philippon Research Institute, Vail, CO
²The Steadman Clinic, Vail, CO

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 Hoshino², Tanaka Toshikazu¹, Kyohei Nishida¹, Yuichiro Nishizawa³, Daisuke Araki MD¹, Noriyuki Kanzaki¹, Takehiko Matsushita¹, Ryosuke Kuroda¹
¹Kobe University, Kobe, Japan
²Kobe Kaisei Hospital, Kobe, Japan
³Shinsuma Hospital, Kobe, Japan

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)¹, Michal Daniluk¹, Christopher Hewison¹, Dianne Bryant PhD², Robert B. Litchfield MD, FRSC², Kevin Willits MD, FRCS¹, Trevor Birmingham PhD, PT³
¹Fowler Kennedy Sport Medicine Clinic, London, ON, Canada
²University of Western Ontario, London, ON, Canada
³Health Sciences School of Physiotherapy, London, ON, Canada

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 MD¹, George Lebus MD², Jorge Chahla MD², George Sanchez², Marcio Balbinotti Ferrari², Gilbert Moatshe MD²
¹The Steadman Clinic, Vail, CO
²Steadman Philippon Research Institute, Vail, CO

262 Safe Zone Technique Improves Suture Placement During Remplissage

Ryan Degen MD¹, Grant Garcia MD², Joseph N. Liu MD², Cynthia A. Kahlenberg MD², Joshua S. Dines MD²
¹Western University Fowler Kennedy, Ontario, Canada
²Hospital for Special Surgery, New York, NY

263 Arthroscopic Anatomic Glenoid Reconstruction: Analysis of the Learning Curve

Iustin Moga¹, Ivan Wong MD¹, Catherine M. Coady MD¹
¹Dalhousie 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, MPH¹, Joseph L. Yellin MD², Jason Brett Anari MD³, Alexander Neuwirth MD³, Theodore J. Ganley MD², Nancy A. Chauvin MD², John Todd R. Lawrence MD, PhD²
¹Hospital for Special Surgery, New York, NY
²The Children's Hospital of Philadelphia, Philadelphia, PA
³University of Pennsylvania, Philadelphia, PA

265 Acute vs. Delayed MRI Imaging and Associated Pathology in Traumatic Shoulder Dislocations

Xinning Li MD¹, Nathan D. Orvets MD¹, Robert L. Parisien², Emily Joan Curry BA², Josef K. Eichinger MD³, Akira Murakami MD²
¹Boston University, Boston, MA
²Boston University Medical Center, Boston, MA
³Medical University of South Carolina, Charleston, SC

266 Quantitation of Cartilage Strains in the Glenohumeral Articulation Immediately After Pushups

Hanci Zhang¹, Lauren Heckelman¹, Charles E. Spritzer MD³, Kwadwo Owusu-Akyaw MD¹, John T. Martin¹, Dean C. Taylor MD¹, Claude T. Moorman III, MD¹, Grant E. Garrigues MD¹, Louis E. DeFrate PhD¹
¹Duke University, Durham, NC

267 Patient-Related Risk Factors for Postoperative Infection Following Shoulder Arthroscopy: An Analysis of Over 420,000 Patients

Brian C. Werner MD¹, Stephen F. Brockmeier MD¹, Jourdan M. Cancienne MD¹
¹University of Virginia, Charlottesville, VA

268 Shoulder Injuries in Collegiate Football Athletes: Impact on Draft Status and Professional Performance

Salvatore Joseph Frangiamore MD¹, Sandeep Mannava MD, PhD¹, George Sanchez¹, Marcio Balbinotti Ferrari¹, Rachel M. Frank MD², James P. Bradley MD³, Matthew T. Provencher MD⁴
¹Steadman Philippon Research Institute, Vail, CO
²Rush University Medical Center, Chicago, IL
³University of Pittsburgh Medical Center, Pittsburgh, PA
⁴The Steadman Clinic, Vail, CO

269 Seeing the Future: Predicting a Patient's Need for Shoulder Surgery Before the First Encounter

William Alexander Cantrell BS¹, Scott Galey BS¹, Justin Magnuson¹, Greg Strnad¹, William Messner¹, John E. Kuhn MD², Kurt P. Spindler MD³
¹Cleveland Clinic Foundation, Cleveland, OH
²Vanderbilt Sports Medicine, Nashville, TN
³Cleveland Clinic, Garfield Heights, OH

270 Arthroscopic 360-Degree Capsular Release for Idiopathic Adhesive Capsulitis in the Lateral Decubitus Position

Anthony A. Romeo MD¹, Gregory L. Cvetanovich MD², Timothy Sean Leroux MD, MEd², Eamon Bernardoni MS¹, Bryan M. Saltzman MD², Nikhil N. Verma MD¹
¹Midwest Orthopaedics at Rush, Chicago, IL
²Rush University Medical Center, Chicago, IL



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

Elan J. Golan MD¹, Ryan Krochak MD¹, 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, Germany¹

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 MD¹
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 Hirai MD¹, Akihiko Hasegawa MD¹,
Kunimoto Fukunishi MD², Chisato Watanabe MD¹, Yukitaka Fujisawa MD¹,
Takeshi Kawakami MD², Kenji Yasui MD³, Yasuo Itami MD¹,
Mutsumi Ohue MD¹, Masashi Neo MD PhD¹
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 MD¹,
Jan Christoph Katthagen MD², Jonathan Alexander Godin MD¹,
Peter J. Millett MD, MSc³
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 Photopoulos MD¹, Neal S. ElAttrache MD¹,
Alex Doermann², Masaki Akeda MD³, Michelle H. McGarry MS³,
Thay Q. Lee PhD³
¹Kerlan-Jobe Orthopaedic Clinic Program, Los Angeles, CA
²University of California at Irvine, Irvine, CA
³VA Long Beach Healthcare System, Long Beach, CA

279 Generalized Joint Hyper Mobility is Not Associated with the Development of Overuse Arm Injuries in Adolescent Baseball Pitchers

John M. Tokish MD¹, Ellen Shanley PhD², Lane Brooks Bailey DPT³,
Michael J. Kissenberth MD¹, Wayne F. Sease MD¹,
Richard J. Hawkins MD, FRCSC¹, Charles A. Thigpen PT, PhD, ATC²
¹Steadman Hawkins Clinic of the Carolinas, Greenville, SC
²ATI Physical Therapy, Greenville, SC
³Ironman Sports Medicine Institute, Houston, TX

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 Pauyo MD¹, Benjamin B. Rothrauff¹, Tom Chao MD¹,
David Hirsch MD¹, 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 PhD³,
Joshua S. Dines MD¹, David M. Dines MD¹, David W. Altchek MD¹,
Brittany Dowling MS²
¹Hospital for Special Surgery, New York, NY
²Motus Global, Massapequa, NY
³American Sports Medicine Institute, Birmingham, AL

282 A Novel Surgical Management for SLAP Lesions in Throwers

Onishi Kazutomo MD¹, Hiroyuki Sugaya MD¹, Norimasa Takahashi MD¹,
Keisuki Matsuki 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, ATC², Jean-Paul C. Lucke DO³, 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, ATC¹, Andrew Massey MAT, ATC¹, 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 Omwansa¹, Mark J. Sytsma 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 Thawait 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

¹Pinnacle Health Sciences Center, Richmond Hill, ON, Canada

²Mackenzie Health, Richmond Hill, ON, Canada

³SRG Specialist Radiology & MRI, Auckland, New Zealand

⁴York University, Toronto, ON, Canada

⁵Starship Children's 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. Davis², Mininder S. Kocher MD, MPH³

¹Columbia University, New York, NY

²Harvard Medical School, Boston, MA

³Boston Children's Hospital, Boston, MA

REGISTER TODAY

www.sportsmed.org/aossmimis/annualmeeting

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 BS², 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 MD¹, Gregory M. Kurkis BS¹, 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

¹University of Virginia, Charlottesville, VA

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, Yoshihiro Hagiwara MD, PhD¹, Haruki Momma², Kenji Kanazawa MD, PhD¹, Kaoru Kuroki³, Masahiro Tsuchiya³, Eiji Itoi 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. Kamath 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

⁴Baseball Performance Science, Tampa Bay Rays, Saint Petersburg, FL

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

¹VCU Orthopaedics, Richmond, VA

²Steadman Philippon Research Institute, Vail, CO

³Steadman Clinic, 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 BS¹, Charles J. Cogan BA¹, Hayden Patrick Baker BA¹, Cynthia A. Kahlenberg MD³, 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

¹Allegheny General Hospital, Pittsburgh, PA

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 MD³, S. Dane Swinehart³, Keith T. Lonergan MD¹, Michael J. Kissenberth MD¹, Richard J. Hawkins MD, FRCSC¹, Charles A. Thigpen, PT, PhD, ATC⁴

¹Steadman Hawkins Clinic of the Carolinas, Greenville, SC

²Greenville Health System, Greenville, SC

³University of South Carolina, Greenville, SC

⁴ATI Physical Therapy, Greenville, SC

306 Strength Changes Associated with Elongation in Distal Biceps Tendon Repair

Vasilios Moutzouros MD¹, Nathan E. Marshall MD², John-Michael Guest³, Kelechi Okoroha MD², Stephanie Muh MD², Eric C. Makhni MD¹, Robert A. Keller MD⁴

¹Henry Ford Medical Group, Novi, MI

²Henry Ford Hospital, Royal Oak, MI

³Wayne State University, Royal Oak, MI

⁴Kerlan Jobe Orthopaedic Clinic, Los Angeles, CA

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 MD¹

¹Johns Hopkins University, Baltimore, MD

308 Elbow Arthroscopy Complications in Pediatrics and Adults

Jessica Intravia MD¹, Raffi 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 Sairyo¹

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 MD¹

¹Southern California Orthopaedic Institute, Van Nuys, 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, Raffi Mirzayan MD², Leo Pauzenberger MD³, Felix Dyrna MD³, Elifho Obopilwe, MS³, Augustus D. Mazzocca MD, MS³

¹Orthopaedic and Neurosurgery Specialists, Greenwich, CT

²Kaiser Permanente Hospital, Baldwin Park, CA

³University of Connecticut Health Center, Farmington, CT

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 MD¹, 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 Cook², Justin M. LaReau MD¹, Sean Childs³, Edwin Chaharbachshi BS¹, Brian D. Giordano MD²

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, Noorullah Maqsoodi¹, Mark Olles PhD², John C. Elfar MD¹, Brian D. Giordano MD³

¹University of Rochester, Rochester, NY

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 BS¹, Braden M. McKnight BS¹, C. Thomas Vangsness MD¹, George F. Rick Hatch MD¹

¹University of Southern California, Los Angeles, CA

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

¹Edwin Chaharbachshi BS², John P. Walsh MA², Benjamin G. Domb MD²

¹Atlantis Orthopaedics, Palm Beach Gardens, FL

²Hinsdale Orthopaedics and American Hip Institute, Westmont, IL

318 Orthopaedic Surgeon

Andrew B. Wolff MD¹, Catherine Salfiti¹, John Scanaliato², 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, Alayna 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

Lyal Ashberg MD¹, Edwin Chaharbakhshi BS¹, Itay Perets MD¹, Mary Close BS¹, John P. Walsh MA¹, Benjamin G. Domb MD¹
¹Hinsdale Orthopaedics and American Hip Institute, Westmont, IL

321 Clinical Outcomes Comparing Capsular Repair vs. No Repair Following Hip Arthroscopy: A Prospective, Randomized Controlled Study

Etan P. Sugarman MD¹, Michael E. Birns MD¹, Matthew Fishman MD², Deepan N. Patel MD¹, Laura Goldsmith¹, Renee Shirley Greene¹, Michael B. Banffy MD¹

¹Kerlan-Jobe Orthopaedic Institute, Los Angeles, CA

²Arizona Orthopaedic Group, Phoenix, AZ

323 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 Chaharbakhshi 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 Capogna MD¹, Michael K. Ryan MD², Theodore Wolfson BS¹, Mathew Hamula BA, BS¹, Andrew S. Rokito MD¹, 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 MD², Russell Giveans PhD¹, Rebecca M. Stone MS, ATC¹, Nicole M. Ramos BS¹, Asheesh Bedi MD³

¹Minnesota 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 Glazebrook 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. Banffy MD¹, Orr Limpisvasti MD¹, Karen Mohr PT¹, Nima Mehran MD², Christos Demetris Photopoulos MD¹, Ronald S. Kvitne 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, FRACS¹, Mathew Hamula BA, BS³, John Begly MD¹, Brian Capogna MD¹, Chris Looze MD², Kristofer E. Chenard MD³, 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 Looze², 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 MRA, Risk Factors, and Radiologic Factors

Nicole Paquet¹, J. P. King MD¹, Michael Mitchell MD¹, Gordon Boyd MD¹, Mohamed Abdoell¹, Ivan Wong MD¹

¹Dalhousie University, Halifax, NS, Canada

333 Association of Hip Strength with the Hip Sports Test: A Functional Test to Measure Athletes' Ability to Return to Sport Activity after Hip Arthroscopy

Ioanna Bolia MD, MSc¹, Karen K. Briggs MPH, MBA¹, Renato Locks MD¹, Hajime Utsunomiya MD, PhD¹, Marc J. Philippon MD²

¹Steadman Philippon Research Institute, Vail, CO

²Steadman Clinic, Vail, CO

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 MD³, Gift Ukwuani MD¹, Thomas H. Wuerz MD⁴, Mahmoud Michael Khair MD⁵, 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

⁵The Carrell Clinic, Dallas, TX

⁶Midwest Orthopaedics at Rush, Chicago, IL

YOUTH SPORTS - TEAM MD

Moderator: Jay C. Albright MD
Children's Hospital of Colorado, Aurora, CO

335 Bone Age Assessment Utilizing Knee MRI

Andrew T. Pennock MD¹, James D. Bomar MPH¹
¹Rady Children's Hospital, San Diego, CA

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 MD¹, William E. Garrett MD, PhD³, Dean C. Taylor MD¹, Jonathan Charles Riboh MD³
¹Duke University, Durham, NC
²Steadman Philippon 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 Laforest¹, Alexandre Fuentes PhD², Marc Therrien², Guy Grimard MD³
¹Université de Montreal, Montreal, QC, Canada
²Emovi, Inc, Laval, QC, Canada
³Hopital Sainte-Justine, Montreal, 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 Gausden MD¹, Tyler J. Uppstrom BA¹, Hollis G. Potter MD¹, Frank A. Cordasco MD, MS¹, Daniel W. Green MD¹
¹Hospital for Special Surgery, New York, NY

339 Distal Femoral Morphology is Altered in Skeletally Immature Anterior Cruciate Ligament (ACL)-Injured Knees

Jennifer J. Beck MD¹, Edward Ebramzadeh¹, 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 Collines¹, 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

342 Clinical Outcomes of ACL Reconstruction in Adolescent Female Athletes

Kristyn Darmafall MD¹, Marc Tompkins MD², Julie Agel MA, ATC³, Megan Reams MA, OTR/L², Bradley J. Nelson MD²
¹University of Wisconsin, Madison, WI
²TRIA/University of Minnesota, Minneapolis, MN
³Harborview 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 MD²
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 der List¹, Frank A. Cordasco MD, MS¹, Daniel W. Green MD¹
¹Hospital for Special Surgery, New York, NY

346 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

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 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 Samani⁵, Robby Singh Sikka MD⁶, Asheesh Bedi MD¹
¹University of Michigan, Ann Arbor, MI
²McMaster University, Hamilton, ON, Canada
³National Basketball Players Association, New York, NY
⁴St Vincent Health System, Little Rock, AR
⁵Northwestern University, Evanston, IL
⁶Tria Orthopaedic Center, Bloomington, MN

349 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 MD¹, George Sanchez², Kevin Jude McHale MD³, Catherine Logan MD, MBA, MSPT¹, Matthew T. Provencher MD⁴
¹Massachusetts General Hospital, Boston, MA
²Steadman Philippon Research Institute, Vail, CO
³University of Pennsylvania, Philadelphia, PA
⁴The Steadman Clinic, Vail, CO

350 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 BS
¹Cleveland Clinic, Cleveland, OH
²Baylor University, Houston, TX

351 Sports Medicine Physician Selection Criteria: Factors Influencing Patient Choice

Blaine T. Manning¹, Daniel D. Bohl MD, MPH¹, Bryan M. Saltzman MD¹, Nikhil N. Verma MD¹, Brian J. Cole MD, MBA¹, Bernard R. Bach MD¹
¹Midwest Orthopaedics at Rush, Chicago, IL

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 MD¹, Christopher L. Camp MD¹, Camilia Carballo¹, Ting Cong¹, Zoe Album¹, Lilly Ying BS¹, Xiang-Hua Deng MD⁴, Scott A. Rodeo MD⁴
¹Hospital for Special Surgery, New York, NY

353 Stem Cell Yield After Bone Marrow Concentration

Jason L. Dragoo MD¹, Malcolm R. DeBaun MD¹
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, PhD¹, Charles A. Baumann¹, Aaron M. Stoker PhD¹, Farrah Monib PhD¹, Nicole L. Walden¹, Brett D. Crist MD¹, Mauricio Kfuri MD, PhD¹, Matthew Jared Smith MD¹, James P. Stannard MD²
¹University of Missouri, Columbia, MO

355 Hyaluronic Acid Injections of the Knee: Predictors of Successful Treatment

Eric N. Bowman MD¹, Justin Hallock MD¹, 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 PhD¹, Sofie Breuking¹, Bryan G. Vopat MD², Daniel Guss MD, MBA¹, Anne H. Johnson MD¹, Ali Hosseini PhD¹, Christopher DiGiovanni MD¹
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, MS¹, Gift Ukwuani MD², Jennifer Alter², Nicole A. Friel MD², Bryce A. Basques MD²
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 Strong¹, Raymond J. Kenney MD², Joseph C. Schaffer MD¹, Jon Hedgecock MD¹, Jeff Houck PhD¹, Michael D. Maloney MD², Ilya Voloshin MD²
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 Childs¹, Colin Canham MD¹, Raymond J. Kenney MD², Diana R. Silas DO³, Kelly Adler ATC¹, Brian D. Giordano MD²
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 DO¹, Kelly Adler ATC³, Raymond J. Kenney MD², Susan Messing MS³, Brian D. Giordano MD²
¹DMC Medical Group, Bloomfield, MI
²University of Rochester Medical Center, Rochester, NY
³University of Rochester, Rochester, NY

362 The Use of PROMIS CAT Physical Function Pre-Surgical Scores to Predict Recovery and Establish Pre-Surgical Cut-off Values

Owen Papuga¹, Ilya Voloshin MD¹, Gregg Nicandri MD¹, John P. Goldblatt MD¹, Robert D. Bronstein MD¹, Lucien M. Rouse MD¹, Michael D. Maloney MD¹
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 MD¹, Jeremy M. Burnham MD², Cale A. Jacobs PhD¹, Lee Gammon MD¹, Chaitu S. Malempati DO¹, Jennifer Sebert Howard PhD¹, Christian Lattermann MD¹, Eric C. Makhni MD³
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 MD¹, Eric C. Makhni MD², Jason Taizo Hamamoto BS¹, John Higgins BA¹, Shane J. Nho MD, MS¹, Nikhil N. Verma MD¹
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 MD¹, Lara Cohen¹, Johan von Heideken MD², Mininder S. Kocher MD, MPH¹, Maura D. Iversen PT, DPT, SD, MPH³
¹Boston Children's Hospital, Boston, MA
²Karolinska Institutet, Stockholm, Sweden,
³Brigham and Women's Hospital, Boston, MA

WORKSHOPS/ROUND TABLES



WORKSHOPS

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



- | | |
|-------------------|---|
| 11:50am -12:00pm | Welcome & Introductions
Kevin E. Wilk DPT |
| 12:00am - 12:45pm | Scapular Disorders: Surgery Treatments
Brennen L. Lucas MD

Scapular Disorders: Non-Operative Treatment
Robert Manske DPT, ATC |
| 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. Magnusen MD

ACL Interventions: Reducing the 2nd ACL Injury
Mark V. Paterno PhD, PT |
| 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 |
| 2:30pm – 3:15pm | Cuff Fixation: Options and Implications for Rehab
Scott D. Mair MD, Terry R. Malone EdD, PT, ATC |
| 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 DPT |
| 4:00pm -4:45pm | Concussions: Evaluation and Treatment Protocols
Tad Seifert MD

Concussions: Treatment Protocols and Guidelines
John Nyland DPT, EdD, ATC |
| 4:45pm | Closure |

REGISTER TODAY

www.sportsmed.org/aossmimis/annualmeeting

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

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 Lattermann 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
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
OrthoIndy South, Bargersville, IN

ROUND TABLE DISCUSSIONS – SESSION 2

2:45 pm – 4:15 pm

RT16 Meniscus Repair

Moderators:

Matthew J. Matava MD
Washington University Orthopedics,
Chesterfield, MO
Eric J. Strauss MD
New York University NYU Hospital for Joint
Diseases, Scarsdale, NY

RT17 Large Rotator Cuff

Moderators:

Chunbong Benjamin Ma MD
University of California at San Francisco, San
Francisco, CA
Scott A. Rodeo MD
Hospital for Special Surgery, New York, NY

RT18 Cartilage Defect

Moderators:

David C. Flanigan MD
The Ohio State University, Columbus, OH
Seth L. Sherman MD
University of Missouri, Columbia, MO

RT19 Revision ACL

Moderators:

Daniel E. Cooper MD
The Carrell Clinic, Dallas, TX
Darren L. Johnson MD
UK Healthcare, Lexington, KY

RT20 Patellofemoral

Moderators:

Beth E. Shubin Stein MD
Hospital for Special Surgery, New York, NY
Robin Vereeke West MD
Inova Sports Medicine, Great Falls, VA

RT21 Hip – FAI

Moderators:

Stephen Kenji Aoki MD
University of Utah, Salt Lake City, UT
Benjamin G. Domb MD
Hinsdale Orthopaedics/American Hip Institute,
Westmont, IL

RT22 Hip – Not FAI

Moderators:

Thomas S. Lynch MD
Columbia University, New York, NY
James T. Rosneck MD
Cleveland Clinic, Garfield Heights, OH

RT23 Revision Shoulder Instability

Moderators:

John M. Tokish MD
Steadman Hawkins Clinic of the Carolinas,
Greenville, SC
Nikhil N. Verma MD
Midwest Orthopaedics at Rush, Chicago, IL

RT24 PCL – MKLI

Moderators:

Mark D. Miller MD
University of Virginia, Charlottesville, VA
Daniel B. Whelan MD
St. Michael's Orthopedic Association,
Toronto, ON

RT25 Pediatric ACL – Ligament

Moderators:

Matthew D. Milewski MD
Connecticut Children's Medical Center,
Farmington, CT
Jonathan C. Riboh MD
Duke Health, Durham, NC

RT26 Shoulder Instability – Controversies

Moderators:

Anthony Miniaci MD
Cleveland Clinic, Garfield Heights, OH
Brett D. Owens MD
University Orthopedics, Providence, RI

RT27 Throwers Elbow

Moderators:

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

RT28 Failed Cuff

Moderators:

Carolyn M. Hettrich MD
University of Iowa Hospitals and Clinics,
Iowa City, IA
Keith Kenter MD
Western Michigan University, Kalamazoo, MI

RT29 Osteotomy

Moderators:

Volker Musahl MD
University of Pittsburgh Medical Center,
Pittsburgh, PA
TBD
TBD



GENERAL INFORMATION



DESCRIPTION

The AOSSM Annual Meeting serves as the primary source of continuing medical education for orthopaedic sports medicine by advancing research and promoting a climate conducive to excellence in clinical practice. Our Annual Meeting is the principal mechanism for the transfer of scientific, technical, and intellectual information to the orthopaedic sports medicine community.

EDUCATIONAL OBJECTIVES

Upon completion of this educational activity, learners should be able to:

- Implement an effective evaluation algorithm, based on recent research, for musculoskeletal and medical sports medicine conditions
- Assess and apply surgical and non-surgical treatment recommendations and rehabilitation protocols for the management of musculoskeletal and medical conditions germane to the practice of orthopaedic sports medicine
- Integrate prevention strategies with healthcare team(s) to improve musculoskeletal and medical health in their patient population

TARGET AUDIENCE

This program is designed for orthopaedic surgeons, physicians, and allied health professionals in the field of sports medicine or related fields of practice.

PREREQUISITES

A basic understanding of the mechanics of sports injuries, as well as a familiarity with the pertinent anatomy and physiology of the upper and lower extremities and the spine, is suggested.

INDEPENDENCE

AOSSM attests that the people responsible for the development of this educational activity did so independently and were not influenced by commercial supporters.

CONTINUING MEDICAL EDUCATION CREDITS

The American Orthopaedic Society for Sports Medicine (AOSSM) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.



General Scientific Sessions: AOSSM designates this live activity for a maximum of 17.75 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Instructional Courses: AOSSM designates this live activity for a maximum of 1.5 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Roundtable Discussions: AOSSM designates this live activity for a maximum of 1.5 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Research Workshop: AOSSM designates this live activity for a maximum of 3.5 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

AOSSM Medical Publishing Group Reviewers Workshop: AOSSM designates this live activity for a maximum of 1.5 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CONTINUING EDUCATION FOR ATHLETIC TRAINERS

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 Credit™* 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

OFFICIAL AIRLINE/AIR TRAVEL

Air Canada is the official Canadian airline for the AOSSM Annual Meeting. Air Canada is offering special discounts, depending on the fare class, to attendees traveling to the meeting. To book your ticket visit www.aircanada.com and enter promo code **R9GZUC81**.

AIRPORTS

- Toronto Pearson International Airport (YYZ) (approximately 16 miles) – This airport is served by more than 75 airlines
- Billy Bishop Toronto City Airport (YTZ) (approximately 2 miles) – This airport is served by Air Canada and Porter Airlines

RENTAL CARS

AOSSM has negotiated special rates for rental cars during the annual meeting. Visit www.hertz.com or call **1-800-654-2240 / 1-405-749-4434** for your discount using **CV# 04YW0005** or visit the AOSSM website at www.sportsmed.org for additional information.

HOUSING

Housing for the AOSSM Annual Meeting is available at www.sportsmed.org via OnPeak who is the AOSSM's official housing company. Rooms at the discounted AOSSM rates will sell quickly so be sure to book your hotel early for the best selection and price. Reservations can also be made by calling **(855) 416-4093**. The Westin Harbour Castle, Fairmont Royal York and Delta are all included in the meeting block. All hotels are within a mile of the Convention Centre. Limited daily transportation will be offered from the Westin. All scientific sessions and exhibits will be held in the South Building at the Metro Toronto Convention Centre.

Important Note: AOSSM has designated onPeak as the only official housing provider. There are companies and organizations that will try to present themselves as official partners of the AOSSM Annual Meeting and offer you potential room reservations that might not be guaranteed or available. However, onPeak is the only official housing provider.

LATE / ON-SITE REGISTRATION

On-site registration is available for an additional charge of \$100 plus the pre-registration fee.

ATTIRE

Meeting attire is casual, including all social events. Consider dressing in layers to accommodate all temperatures.

EXHIBITS

Exhibits will be located in Hall E. A complete listing of commercial exhibitors, including exhibit hours, will be printed in the Final Program. Continental breakfast and coffee breaks will be held in the exhibit hall. Admission to the exhibit hall requires a badge. Children under 16 are not permitted into the exhibit hall. The AOSSM attendee raffle will be located in the exhibit hall.

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. Attendance 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

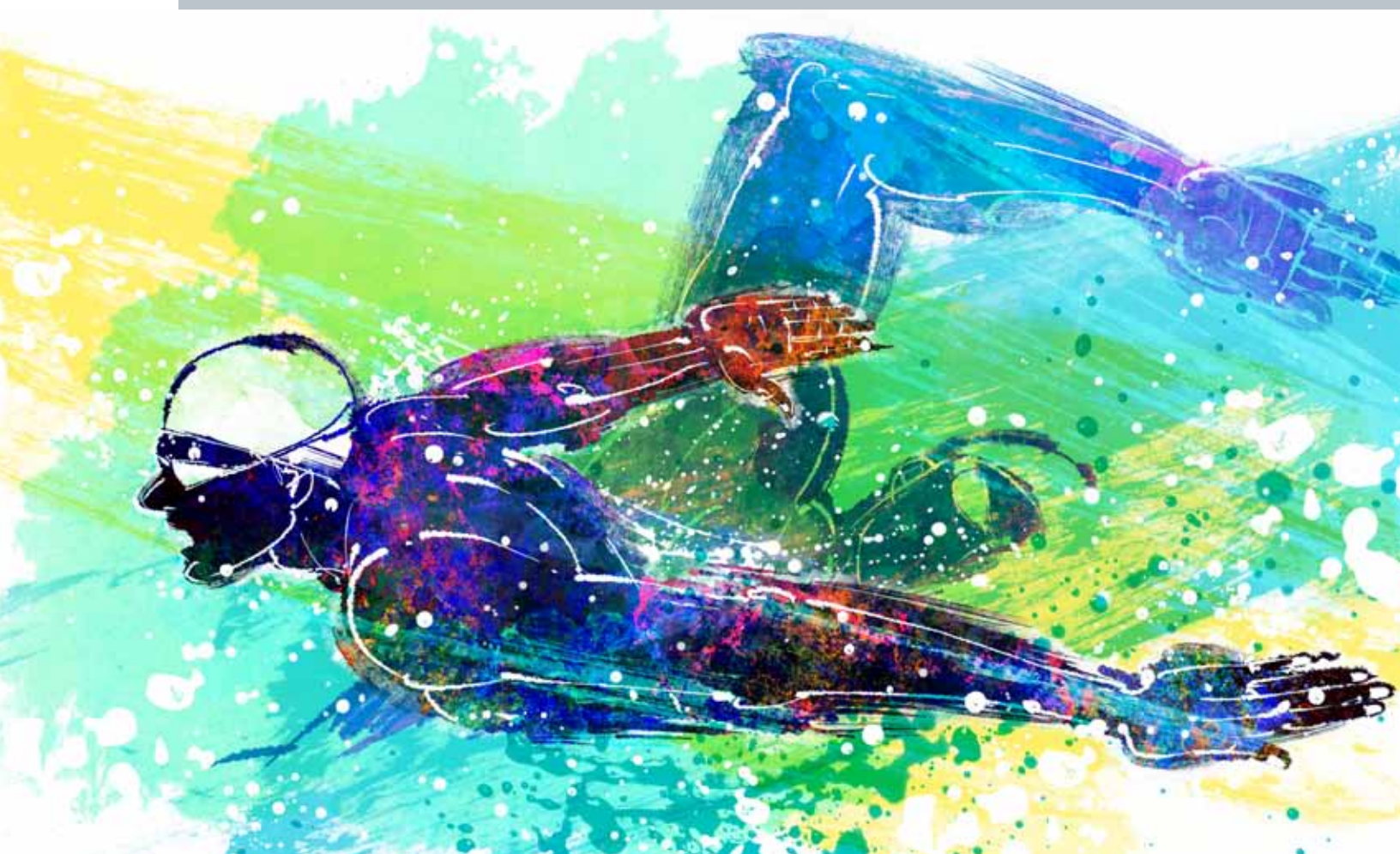
Join us on Saturday night for a private event with your family at one of Toronto's premier hockey attractions, the Hockey Hall of Fame. This unique venue is home to the legendary Stanley Cup, and renowned trophies and will wow you with its many attractions and interactive games. Guests can go one-on-one 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

REGISTER TODAY

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



ADVANCE REGISTRATION FORM

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.

AOSSM
Annual Meeting 2017

Metro Toronto Convention Centre • Toronto, Canada
July 20 – 23, 2017



NAME (PLEASE TYPE OR PRINT CLEARLY)

DEGREE(S)

SPOUSE / GUEST NAME (IF ATTENDING)

ADDRESS

CITY / STATE / ZIP

OFFICE PHONE

OFFICE FAX

E-MAIL

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	OTHER HOTEL**	
☐ Member	\$150	\$300	
☐ Non-Member MD	\$750	\$900	
☐ Resident / Fellow	\$350	\$500	
☐ Military Non-Member	\$300	\$450	
☐ Allied Health	\$350	\$500	
☐ Faculty	\$150	\$300	

(A) Registration Subtotal

B EDUCATIONAL RESOURCE MATERIALS

Instructional Courses***

(Complete set of IC handouts, online access only)

x \$70

Online Meeting Subscription

General session presentations from the 2017 Annual Meeting and 2017 Specialty Day (powerpoints synced with audio)

x \$200

(B) Educational Resource Materials Subtotal

* All registration fees are listed in US dollars.

** Note on Fee Differential: Registration costs are predicated on attendees staying at official meeting hotels. A \$150 differential fee is assessed to registrants staying at other hotels to offset expenses incurred. Meeting registrants will be confirmed with hotel master list.

*** IC Faculty will be contacted directly regarding their complimentary IC Materials.

No refunds after June 23, 2017 on any of the above registration fees.

All refunds are subject to a \$150 non-refundable processing fee.



The American Orthopaedic
Society for Sports Medicine

C INSTRUCTIONAL COURSES, WORKSHOPS & ROUND TABLE CASE DISCUSSIONS

Instructional Courses

IC registrations are non-refundable. On-site registration is subject to availability.

	IC NUMBER	
☐ Thursday, July 20, 2017	1st Choice x \$70	
	Alternate	
☐ Friday, July 21, 2017	1st Choice x \$70	
	Alternate	
☐ Saturday July 22, 2017 AM Session	1st Choice x \$70	
	Alternate	
☐ Saturday July 22, 2017 PM Session	1st Choice x \$70	
	Alternate	
☐ Sunday, July 23, 2017	1st Choice x \$70	
	Alternate	

Workshops

☐ AOSSM Medical Publishing Group Reviewers' Workshop	
AJSM / SPH / OJSM Reviewers	N / C
AJSM / SPH / OJSM Reviewers	x \$50
☐ Industry Symposia Session	1st Choice N / C
	Alternate N / C
☐ 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	1st Choice x \$70	
	Alternate	
☐ Friday, July 21, 2017 2:45 pm – 4:15 pm	1st Choice x \$70	
	Alternate	

**(C) Instructional Courses, Workshops,
Round Table Case Discussions Subtotal**

COMPLETE AND MAIL OR FAX BOTH PAGES OF THIS REGISTRATION FORM

ADVANCE REGISTRATION FORM

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.



NAME (PLEASE TYPE OR PRINT CLEARLY)

DEGREE(S)

D SOCIAL FUNCTIONS

Niagara Falls

☐ Friday, July 21

All Ages x \$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

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



DEADLINE FOR EARLY REGISTRATION IS
JUNE 23, 2017

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

CCV 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



Annual Meeting **2018**

JULY 5-8, 2018
San Diego, CA



Annual Meeting **2019**

JULY 11-14, 2019
Boston, MA



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

