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### Modulation of the Acute Post-Anterior Cruciate Ligament Rupture Intra-Articular Environment via Recruitment of Marrow-Derived Stem Cells to Promote Bone Tunnel Healing in ACL Reconstruction

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**Poster No. P0387**  
**Biomechanical Variability of Osteochondral Allograft Dowels**

**Evan Vellios, MD**  
 Dean Wang, MD  
 Claire Lynch, BS  
 Tony Chen, PhD  
 Amanda Wach, MS  
 Scott A. Rodeo, MD, FAAOS  
 Suzanne A. Maher, PhD  
 Riley J. Williams, MD, FAAOS

OCA dowels harvested from female and/or older donors exhibit inferior shear mechanical properties making them prone to failure and pre-cut OCA dowels fail more often at the bone-cartilage interface.

**Poster No. P0388**  
**Superior Pain Reduction with Anteromedialization Tibial Tubercle Osteotomy vs. Nonsurgical Management for Patellofemoral Osteoarthritis**

**Amit K. Manjunath, BS**  
 Matthew Gotlin, MD  
 David A. Bloom, BA  
 Eoghan Hurley, MBCHB  
 Michael J. Alaia, MD, FAAOS  
 Laith M. Jazrawi, MD, FAAOS  
 Eric J. Strauss, MD, FAAOS

An unloading anteromedialization TTO provides significantly better pain relief and restoration of function compared to nonsurgical management in the treatment of symptomatic PFOA.

**Poster No. P0389**  
**The Effect of Unstable Chondral Lesions on Patient Outcomes and Degenerative Joint Disease at 5 Years after Meniscectomy: The Chondral Lesions And Meniscal Procedures Randomized Controlled Trial**

**Leslie J. Bisson, MD, FAAOS**  
 Melissa Kluczynski, MS  
 William Wind, MD, FAAOS  
 Marc S. Fineberg, MD, FAAOS  
 Geoffrey A. Bernas, MD, FAAOS  
 Michael A. Rauh, MD, FAAOS  
 John M. Marzo, MD, FAAOS  
 Zehua Zhou, MA  
 Jiwei Zhao

Patients undergoing APM without unstable chondral lesions had better outcomes than patients with unstable chondral lesions at 5 years after surgery.

**Poster No. P0390**  
**Anterior Cruciate Ligament Deficiency Alters Tibiofemoral Cartilage Strain Response to Walking In-Vivo**

**Bryan Crook**  
 Amber Collins, PhD  
 Nimit Lad, MD  
 Charles E. Spritzer, MD  
 Jocelyn R. Wittstein, MD, FAAOS  
 Louis E. DeFrate, PhD

ACL deficient tibiofemoral cartilage exhibits increased strain in response to treadmill walking, suggesting altered mechanical loading may contribute to the early degenerative cycle of osteoarthritis.

**Poster No. P0391**  
**Concussions Occur at Practice and on Average Require a Month to Return-to-Sport – Epidemiology of Concussion Injuries in NCAA Division I Athletes: 17-Year Data from a Single Institution**

**Nicholas Debellis, MD**  
 Alexander Weber, MD  
 Ioanna Bolia, MD, MSc  
 Russell Romano, ATC, MA  
 Reza Omid, MD, FAAOS  
 George F. Hatch, MD, FAAOS  
 Frank Petrigliano, MD, FAAOS  
 James E. Tibone, MD, FAAOS  
 Seth C. Gamradt, MD, FAAOS

Football was the sport with the highest number of concussion events. Water polo had the second highest number of concussion events followed by women's volleyball.

**Poster No. P0392**  
**◆ Modulation of the Acute Post-Anterior Cruciate Ligament Rupture Intra-Articular Environment via Recruitment of Marrow-Derived Stem Cells to Promote Bone Tunnel Healing in ACL Reconstruction**

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Acute, post-injury peripheral blood mobilization therapy with a CXCR4 antagonist improved bone tunnel healing and graft integration following ACL reconstruction surgery in a rat model.

\* The FDA has not cleared the drug and/or medical device for the use described in this presentation (i.e. the drug or medical device is being discussed for an off label use). For full information refer to page 17.