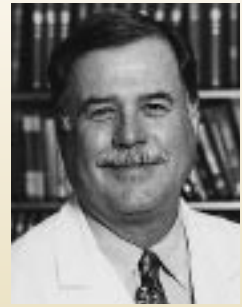


CHAIRMAN'S CORNER

JAMES H. HERNDON, MD, MBA

CHAIRMAN, PARTNERS DEPARTMENT OF ORTHOPAEDIC SURGERY
PROGRAM DIRECTOR, HARVARD COMBINED ORTHOPAEDIC RESIDENCY PROGRAM



I can't believe it, but this is now the fourth issue of the Journal of Orthopaedics at Harvard Medical School. The residents continue to do an outstanding job of producing this high quality Journal and we continue to receive great compliments from our readers and alumni. I again congratulate the editorial staff and this year's editor, Greg Erens, MD. They have worked very hard to produce this publication and deserve everyone's gratitude. Please make an effort to let them know your appreciation.

We also owe a debt of gratitude to all our industry colleagues who have generously and continuously supported our journal. Without their advertising commitment, publication of our journal would not be possible. Please join me in thanking each and every one of our corporate sponsors.

Over the past year, the Harvard Combined Orthopaedic Residency Program has continued to improve the quality and content of the Core Curriculum, conferences and Journal Club. In addition to sections devoted to each subspecialty, the Core now included new material on contracts, ethics and practice management issues. Plans are already in place to add a section on physician-patient communication conducted by an educator from the American Academy of Orthopaedic Surgery who trained at the Bayer Institute of Health Care Communication. This section will be one of several added to address the new core competencies required of all residencies by the Accreditation Council for Graduate Medical Education. Thanks to Mark Gebhardt, MD and the Core Curriculum Committee (faculty and residents) for their hard work this past

year. Thanks to Scott Martin, MD and the faculty for another superb Anatomy course this past summer.



David Wimberley, MD

The Journal Club has become an important conference for resident education. James Heckman, MD continues to be a tremendous mentor to the Club and its participants. I am also pleased to announce that David Wimberley, MD, the Club's resident founder, was awarded an OREF grant to support a special program or contribution to the Journal Club. The proposed use of the funds will be determined over the next several months. David has now turned over the reins to Jim O'Holleran, MD who will organize future Journal Club meetings.

With regard to resident recruitment, I am pleased to announce that we had our most successful match to date this past March. While there was a general reduction in applicants to orthopaedic residencies nationally, we were fortunate not to experience a decline in the quality or number of applicants to our program. Apparently, this reduced interest in orthopaedics as a career choice stems from a growing concern among medical students about lifestyle issues. From their perspective, orthopaedic surgeons have no life! Times are changing! Our residency program remains strong as we adjust and change to address issues of importance to all residents.



Core Curriculum



Journal Club

While we continue to improve our program, the Accreditation Council for Graduate Medical Education (ACGME) has released a series of new requirements over the past year that must be incorporated into our program by July 2002 and be fully implemented by our next RRC review in 2004. These requirements are designed to ensure that certain skills and attitudes are being taught to our residents and that our residents have the opportunity to master these skills in the course of their residency training.

The general competencies endorsed by the ACGME are in the following areas: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice. Specific competencies in these various areas include the expectation that residents “communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families; perform competently all medical and invasive procedures considered essential for the area of

Harvard Combined Orthopaedic Residency Program Core Curriculum 2001 – 2002 Academic Year

SUBSPECIALTY BLOCK	FACULTY	RESIDENT
Trauma (excluding spine)	William Tomford	Paul Appleton
Tumor	John Ready	Rahul Deshmukh
Pediatrics	John Emans	David Kim
Spine (including trauma)	Frank Pedlow	Patrick Tyrance
Adult Reconstruction (including shoulder)	Richard Scott Arun Shanbhag Andrew Freiberg	Ajeya Joshi
Business & Biostatistics	Dan Estok	Scott Price
Hand and Elbow	Jesse Jupiter	Lauren Adey
Foot and Ankle	Chris Chiodo Mike Wilson James Heckman	Karl Schultz
Rehabilitation & Prosthetics	Don Pierce	Rahul Deshmukh
MedioLegal/Ethics	Tammy Martin	Scott Price
Sports Medicine (including shoulder)	Peter Gerbino	Conrad Wang

2001 - 2002 Grand Rounds Speakers and Topics

9/5/01	Henry Mankin, MD	Massachusetts General Hospital	A Computerized System for Orthopaedic Oncology
9/19/01	Mininder Kocher, MD	The Children's Hospital	Orthopaedic Clinical Effectiveness: Applied Epidemiology and Biostatistics
9/26/01	Professor Regina Herzlinger	Harvard Business School	Consumer Driven Healthcare
10/3/01	Carl J. Basamania, MD	Duke University Medical Center	The Restore Patch
10/3/01	Stephen F. Badylak, DVM, PhD, MD	Purdue University	ECM Bioscaffolds for Orthopaedic Soft Tissue Repairs
10/10/01	A. Seth Greenwald, D Phil (Oxon)	Cleveland Clinic Health Systems	Mobile Bearing Knees: What 's all the fuss about?
10/17/01	Harry Skinner, MD, PhD	Univ Calif Irvine Medical Center	Pain Management After Total Hip and Knee Surgery
10/24/01	Orthopaedic Biomechanics Research Staff	Massachusetts General Hospital	Current State of Harvard Orthopaedic Biomechanical Research
10/31/01	Jon JP Warner, MD	Massachusetts General Hospital	Modern Shoulder Arthroplasty: Better??
11/7/01	Henry Bohlman, MD	University Hospitals of Cleveland	Spinal Kyphosis: Diagnosis and Treatment
11/14/01	Ron Alkalay, PhD	Beth Israel Deaconess Medical Center	The Structural Augmentation of the Failed Osteoporotic Spine: Rationale and Efficacy
11/21/01	Mitchel B Harris, MD	WFU/Baptist Medical Center	C-Spine Clearance
11/28/01	Samuel Gerber, MD	Orthopaedic Surgical Associates of Lowell, PC	The Role of the Massachusetts Orthopaedic Association
12/5/01	William Seitz, MD	Cleveland Orthopaedic and Spine Hospital at Lutheran	Long Term Outcome of Callus Distraction in the Hand & Upper Extremity
12/12/01	John M. Flynn, MD	Children's Hospital of Philadelphia	Pediatric Femur Fractures
12/19/01	Aaron Rosenberg, MD	RUSH/Presbyterian Hospital, Chicago	The Future of Orthopaedics: Making the Diagnosis
1/9/02	Robert E. Booth, MD	Pennsylvania Hospital, Philadelphia	Total Knee Arthroplasty: A Tale of Two Cities
1/16/02	Stephen B. Murphy, MD	Beth Israel Deaconess Medical Center	Surgical Navigation of the Hip and Knee
1/23/02	Jesse Jupiter, MD	Mass General Hospital	Contemporary Perspectives on the Troublesome Scaphoid Fracture
1/30/02	Gerald Williams, MD	Presbyterian Medical Center, Philadelphia	Scapula Fractures: Treatment and Results
2/6/02	R. Malcolm Smith, MD	Massachusetts General Hospital	Modern Locking Plates: LISS
2/20/02	Julie Glowacki, PhD	Brigham & Women's Hospital	Osseous Responses to Old and New Implant Materials
2/27/02	Orhun Muratoglu, PhD	Massachusetts General Hospital	An Update on MGH Orthopaedic Research Projects
	Andrew Freiberg, MD	Massachusetts General Hospital	Molecular Synovectomy for Rheumatoid Arthritis
	Guoan Li, PhD	Massachusetts General Hospital	Biomechanics Research in Joint Kinematics
	Chris Towle, PhD	Massachusetts General Hospital	Protection of Cartilage with Light
3/6/02	Charles Czeisler, PhD, MD	Brigham & Women's Hospital	House Staff Work Hours, Health and Safety
3/13/02	Carl Winalski, MD	Brigham and Women's Hospital	MR Imaging of Articular Cartilage and Cartilage Repair
3/20/02	Brian Cole, MD	RUSH/Presbyterian St. Luke's Medical Center, Chicago	Cartilage Restoration: Clinical & Basic Science Update
3/27/02	Peter Madras, MD	Commonwealth of Massachusetts, Board of Registration in Medicine	Protection of Health, Welfare and Safety of the Public - Mass Board of Registration in Medicine Perspective
4/3/02	Peter Worlock, FRCS	Oxford Radcliff Hospital, England	The Oxford Trauma Service "Medical Manpower Experiment"
4/10/02	Thomas Einhorn, MD	Boston University Medical Center	Enhancement of Fracture Healing
4/17/02	David Ring, MD	Massachusetts General Hospital	Developments in Elbow Trauma and Reconstruction
4/24/02	Michelle Petri, MD	Johns Hopkins School of Medicine	An update on Cox-2: Safety vs Controversy
5/1/02	Richard D. Scott, MD	Brigham & Women's Hospital	Current Status of Unicompartamental Knee Arthroplasty
5/8/02	Anuj Bellare, PhD	Brigham & Women's Hospital	Factors affecting polyethylene wear
5/8/02	Wolfgang Fitz, MD	Brigham & Women's Hospital	Development of a New Nanocomposite Bone Cement
5/15/02	James D. Heckman, MD	Journal of Bone & Joint Surgery	Osgood Lecturer: Subtle Injuries of the Ankle and Foot
5/22/02	Peter Stern, MD	University of Cincinnati	Iatrogenesis, Imperfecta, Profunda
5/29/02	Ignacio Ponseti, MD	University of Iowa Hospitals and Clinics	Clubfoot Treatment
6/5/02	Michael Wilson, MD	Brigham & Women's Hospital	OCD of the Talus
6/12/02	Young-Jo Kim, MD	The Children's Hospital	Hip Deformity and Osteoarthritis
6/19/02	Robin Fleming, PhD	History Department, Boston College	Bones in History



Arthroscopy Lab

practice; and work effectively with others as a member or leader of a healthcare team or other professional group.” An important part of this effort is the requirement that programs develop evaluation tools that will provide objective measures of whether residents are developing these competencies. While it is expected that programs will have some form of evaluation in place by July 2002, the ACGME expects that it will take at least two years for programs to have these tools in place.

Another important emphasis reflected in these new requirements is the desire to increase residents’ outpatient experience and provide greater opportunity to participate in and practice continuity of care. The goal is to have residents working in



Dr. Philip Blazar



Dr. Peter Millett



Dr. Andrew Hecht

the ambulatory setting at least one day per week. Too often in our own program, residents have been kept in the operating room with little exposure to the office practice of orthopaedics, i.e. physical exam and diagnosis, pre-operative education, non-operative management and post-operative care. While the ACGME requirements may be difficult to integrate into our program, the benefits to the residents of doing so will be enormous.

An area of growing concern nationally within graduate medical education is the issue of work hours. New directives required by law in New York State limiting work hours are likely to be adopted nation-wide, particularly as the country embraces patient safety as a key priority for health care providers and institutions. While our record in this regard is mixed, I am asking the Chiefs of each service to revisit the residents’ responsibilities on their services to make sure we are setting the right standard.

Lastly, the ACGME has enacted a more stringent accreditation requirement for completion for the Board exams. Currently 75% of the residents must pass Part I of the ABOS exam. The new standard is 75% must pass both Parts I and II. While this should not be an issue for our residents, it may be a concern for others.

In order to fully address and incorporate these new requirements into our program, I have held a series of mini-retreats with the faculty in each subspecialty. Every service is being asked to develop goals and objectives for each PGY rotation on their service that incorporate the six areas of general competency; to identify methods for evaluating these goals and objectives, (e.g. case presentations, pre- and post-tests); to design a schedule for each rotation that includes one day per week in an ambulatory setting with patients; and to provide a description of levels of responsibility between

Resident Plans

George Liu	Private Practice	Medicine Hat, Alberta, Canada
Thomas Myers	Fellowship in Sports Medicine	American Sports Medicine Institute, Birmingham, AL
Arun Ramappa	Fellowship in Sports Medicine	Steadman-Hawkins Clinic, Vail, CO
Shahram Solhpour	Fellowship in Sports Medicine	University of Pittsburgh, Pittsburgh, PA
Upshur Spencer	Fellowship in Spine Surgery	Washington University, St. Louis, MO
Rahul Deshmukh	Fellowship in Arthroplasty	New England Baptist Hospital, Boston, MA
Kai Mithoefer	Fellowship in Sports Medicine	Hospital for Special Surgery, New York, NY
David Scott	Undecided	Undecided
Patrick Tyrance	Fellowship in Spine Surgery	Mayo Clinic, Rochester, MN
David Wimberley	Fellowship in Spine Surgery	Jefferson University, Philadelphia, PA



Dr. Malcolm Smith



Dr. Brian Grottkau

fellows, residents and faculty in order to maximize teaching, fairly distribute scut work, and clarify responsibility for patient care. I have also asked each service to evaluate the need for a teaching and non-teaching service for resident training. While I doubt that any of our services will elect to implement this model, we are reaching a point where resident education is significantly at risk and such a model will be needed.

In my role as Chairman of the Partners Department of Orthopaedic Surgery, I am pleased to acknowledge the recruitment of new faculty, strengthening of our clinical programs and growth of our research program. I would like to commend Tom Thornhill, MD and Harry Rubash, MD on their leadership of orthopaedic surgery at the Brigham and Women's and Massachusetts General Hospitals. I would also like to commend Jim Kasser, MD on his leadership of the Department of Orthopaedic Surgery at Children's Hospital. I direct you to their respective "Chief's Corners" for an overview of the accomplishments of their programs over the past year.

Of particular importance to the residency program and growth of the Partners Department, I would like to acknowledge the arrival of several outstanding new physicians to our ranks: Philip Blazar, MD in hand surgery; Peter Millett, MD in shoulder surgery, Andy Hecht, MD in spine surgery; Malcolm Smith, MD in trauma and spine surgery; and Brian Grottkau, MD as Chief of Pediatric Orthopaedics at MGH and MassGeneral Hospital for Children. These surgeons represent important additions to our complement of subspecialty services. As we grow, we anticipate additional recruitments in the areas of trauma, sports, foot and ankle, and spine.

Promotions and appointments in the Partners Department over the past year include: William Tomford, MD to Professor, Mark Brezinski, MD to Associate Professor, Orhun Muratoglu, MD to Assistant Professor, and Ariane Gerber, MD, Elvire Gouze, MD, Martha Murray, MD, and Sonya Shortkroff, MD to Instructor. I would also like to acknowledge John Emans, MD promotion to Professor of Orthopaedic Surgery at Children's Hospital.

I would like to congratulate Harry Rubash, MD for being

named the third incumbent of the Edith Ashley Chair at Harvard Medical School. Likewise, I would like to acknowledge that Henry Mankin, MD has become the Distinguished Edith Ashley Professor.

I am also proud to acknowledge the other honors and awards received by our faculty over the past year. Myron Spector, PhD has been awarded the 2002 Clemson Award for career achievement in Applied Biomaterials Research. Congratulations to the entire group. Congratulations also to Andreas Gomoll, MD who received the Marshall R. Urist Residency Research Award from the Association of Bone and Joint Surgeons for his research on nanocomposite bone cement with improved mechanical properties. I am also extremely proud to report that the Partners Orthopaedic Trauma Service, under the leadership of Mark Vrahas, MD, received its second consecutive Partners in Excellence Award for service to the patients and physicians of this community.

Our musculoskeletal research program continues to grow at both the MGH and BWH. I want to commend Mark Brezinski, MD for his success over the past year in securing an important sponsored research agreement with Eli Lilly, as well as obtaining four ROIs and two subcontracts.

I would like to acknowledge Chris Evans', PhD work in preparing for Phase II of a clinical trial in gene therapy for arthritis. Development of the Phase II protocol is in the advanced stages of planning and the Center is currently negotiating with NIH for a contract to fund this work. I would like to commend Chris on his leadership of the Center, which is now fully functional and generating original publications on the results of their research.

In closing, I want to congratulate the graduating residents and wish them every success as they leave for fellowship training and practice. I would also like to thank the Chief Residents who finished in December and those who will finish in June. On behalf of the Harvard Combined Orthopaedic Residency Program and the institutions we represent, I want each of you to know that we are proud of the role you play in ensuring the continued excellence of Harvard Orthopaedics.

ORS and AAOS Presentations 2002 Dallas, Texas

ORS

Podium Presentations

- #36 A role for IL-1 Receptor in the effect of static compression on proteoglycan synthesis
- #38 PTH stimulated trabecular bone adapts to its local mechanical environment
- #42 Congenic mouse strains reveal gender-specific genetic regulation of bone structure
- #64 Bisphosphonate Enhance Osteoblast Proliferation and Maturation
- #109 Time-lapsed microstructural imaging of bone failure behavior
- #114 Genetic influences on bone density and geometry affect femoral bone strength
- #130 Effect of femoral head size and acetabular anterversion on dislocation of THR

Murata M, Bonassar L, Wright M, Mankin HJ, Towle CA

Kim CH, Takai E, Raina P, Zhou H, von Stechow D, Müller R, Dempster D, Guo XE

Turner CH, Sun Q, Schrieffer J, Pitner N, Price R, Bouxsein ML, Rosen CJ, Donahue LR, Shultz KL, Beamer WG:

Im G, Rubash HE, Puskas B, Shanbhag AS

Nazarian A, Müller R

Turner CH, Sun Q, Schrieffer J, Bouxsein ML, Rosen CJ, Donahue LR, Schultz KL, Beamer WG

Burroughs BR, Harris WH, Hallstrom BR, Golladay GJ

ORS and AAOS Presentations 2002 Dallas, Texas

- #171 The effect of age on the response to injury in the human ACL *Murray MM, Sawyer A, Zurakowski D, Gerbino P, Micheli LJ*
- #176 The in-situ force in the interosseous ligament varies with forearm rotation and elbow flexion *DeFrate LE, Li G, Zayontz SJ, Herndon JH, Jupiter J*
- #226 Assessment of Early Osteoarthritis in Hip Dysplasia using MR *YJ Kim, M Gray, D Jaramillo, M Millis, D Burstein*
- #238 Internal Fixation of Displaced Proximal Humeral Fractures: The Effect of Bone Mineral Density and Screw Placement *Tingart M, Lehtinen J, Apreleva M, Zurakowski D, Warner JJP*
- #284 Three-dimensional Analysis of Humeral Head Arthroplasty and its Ability to Restore Original Humeral Head Geometry *Harrold FR, Gerber AM, Apreleva M, Warner JJP*
- #288 Reliability and Validity of MRI in Quantitative Assessment of Rotator Cuff Muscle Volumes *Tingart M, Apreleva M, Lehtinen J, Capell B, Palmer W, Warner JJP*
- Poster Presentations**
- #337 Synergistic effect of combined estrogen and PTH (1-34) therapy in ovx mice assessed by micro-computed tomography *von Stechow D, Fish S, Zurakowski D, Chorev M, Müller R, Alexander J*
- #377 Hydrostatic fluid pressure enhances intracellular calcium concentration in bovine articular chondrocytes *Mizuno S*
- #403 Spatially-Localized GAG Mapping with dGemric Predicts the Compressive Load Response of the Articular Surface to In Situ Indentation testing *Samosky J, Burstein D, Martin SD, Grimson E, Gray M*
- #424 Chondrocyte Apoptosis after articular fracture in humans *Murray MM, Vrahas MS*
- #454 Repair of canine articular cartilage defects treated with cultured chondrocyte-seeded type II collagen scaffolds *Lee CR, Grodzinsky AJ, Spector M*
- #456 Engineered Biological Joints: In Vitro and In Vivo Properties *Glowacki J, Yates KE, Warden S, Peretti G, Strongin D, MacLean R, Zaleske D*
- #482 Chondrocyte seeding of porous wettable UHMWPE and its effect on friction *Fitz W, Shortkroff S, Gomoll A, Scott RD, Thornhill TS*
- #498 Delivery of plasmid DNA to articular chondrocytes via collagen-GAG matrices *Samuel RE, Lee CR, Ghivizanni S, Evans CH, Yannas IV, Spector M*
- #557 Does vertebroplasty alter the mechanical competence of severely osteoporotic vertebrae *von Stechow D, Zurakowski D, Torres K, Serhan HA, Alkalay R*
- #569 Effects of thresholding techniques on the accuracy of micro-CT image based finite element models of bovine trabecular bone *Kim CH, Mikhail G, von Stechow D, Müller R, Guo XE*
- #636 The Effect of PDGF-AB and TGF- β 1 on human ACL cell proliferation and collagen production *Murray MM, Rice K, Spindler KP*
- #651 Regulation of smooth muscle actin expression and contraction of human mesenchymal stem cells in a collagen-glycosaminoglycan matrix *Kinner B, Zelaskas J, Spector M*
- #745 Non-invasive prediction of fracture risk in patients with metastatic breast cancer to the spine *Aaron M, Snyder B, Wilson S, Kwak D, Zurakowski D, Coughlin L, Parker L*
- #765 Direct augmentation approach restores the structural competence of failed metastatic defect vertebrae *Alkalay R, von Stechow D, Torres K, Serhan H*
- #781 Structural competence of severely osteopenic thoracolumbar vertebrae following anterior-wedge compression fracture *Alkalay R, von Stechow D*
- #855 Pullout Strength of Suture Anchors in Rotator Cuff Repair: The Effect of Bone Mineral Density and Anchor Placement *Tingart M, Apreleva M, Zurakowski D, Warner JJP*
- #890 PCL reconstruction does not restore knee joint rotation at low flexion angles *Gill TJ, DeFrate LE, Li G, Carey CT, Zayontz SJ, Glatt V, Zarins B*
- #917 Histologic Comparisons of the ACL in humans, dogs, cows and sheep *Murray MM, Weiler A, Spindler KP*
- #924 The effects of selected crosslinking protocols on human ACL cell interactions with 3-D collagen-GAG scaffolds *Murray MM, Rice K, Spector M*
- #927 Twisting and Braiding Reduces Strength and Stiffness of Human Hamstring Grafts used for ACL Reconstruction *Kim D, Wilson D, Hecker A, Jung T, Robinson L, Brown C*
- #929 ACL and PCL do not carry significant loads in high flexion of the knee under muscle loads *Zayontz S, Most E, DeFrate LE, Li G, Suggs J, Glatt V, Rubash HE*
- #945 Kinematics of intact knee, fixed and mobile bearing TKAS during passive flexion *Most E, Li G, Zayontz S, Hallstrom B, Rubash HE*
- #954 The Validation of the Effects of Stress Relaxation on the Dimensional Stability of Tibial Inserts Subjected to Cyclic Loading *Perinchieff RS, Muratoglu OK, Jasty M, Harris WH, Plank G, Rubash HE, Estok DM, O'Connor DO*
- #967 Kinematic Responses of Posterior Cruciate Retaining and Posterior Substitute TKAS Under Muscle Loads *Li G, Zayontz S, Most E, Otterberg E, Sabbag K, Rubash HE*
- #1008 Factors Affecting Tibial Insert Wear During In Vitro Knee Simulator Testing *Muratoglu OK, Rubash HE, Harris WH, Bragdon CR, Travers JJ, Jasty M, O'Connor DO, Savadore T*
- #1020 Validation of digital radiography, for use with radiostereometric analysis (RSA) using a dynamic phantom wear model *Bragdon CR, Harris WH, Karrholm J, Malchau H, Larson SL, Borlin N*
- #1027 Effect of radiation and thermal history on hydroperoxide content in UHMWPE *Greenbaum ES, Muratoglu OK, Harris WH*
- #1028 Lipid absorption into conventional and highly crosslinked UHMWPE: An in vitro model *Greenbaum ES, Muratoglu OK, Pfabe HW, Harris WH, Frieberg AA, Burroughs BR*

#1029 Surface analysis of early retrieved acetabular polyethylene liners: a comparison of standard and highly crosslinked polyethylenes

#1030 On the Changes of an Adhesive/Abrasive Wear Mechanism of Polyethylene Tibial Knee Inserts Upon Crosslinking: An In Vitro Simulated Gait Study

#1033 Effect of processing conditions on morphology, wear and mechanical performance of UHMWPE

#1034 Fracture toughness of radiation cross-linked ultra-high molecular weight polyethylene

#1067 Mechanisms of crack propagation in a conventional and nanocomposite bone cement

#1082 Cytokine Gene Expression and Release by Macrophages Cultured on Cross-Linked UHMWPE Surfaces

AAOS

Podium Presentations

#40 ORIF of Ununited Fractures of the Distal Radius: Does the Size of the Distal Fragment Matter?

#56 Intra- and Inter-observer Reliability of the Classification of Brachial Plexus Birth Palsy

#109 A Critical Review of the Ludloff Osteotomy for Correction of Hallux Valgus Deformity

#111 Relationship between Objective Assessment of Stability and Subjective Assessment of Symptoms and Function after ACL Reconstruction

#133 Excision of Heterotopic Bone from the Knee: A Functional Outcom Study

#167 Wear of highly crosslinked polyethylene with 46mm femoral heads in the presence of third body debris

#169 Articular surface morphology in explanted highly crosslinked UHMWPE acetabular liners

#225 Management and Complications of Anterior Cruciate Ligament Injuries in Skeletally Immature Patients: A Survey of The Herodicus Society and The ACL Study Group

#226 Functional and radiographic Outcome of Juvenile Osteochondritis Dissecans of the Knee Treated with Transarticular Arthroscopic Drilling

#270 Combined Dorsal and Volar Plate Fixation of Complex Fractures of the Distal Radius

#276 Plate Fixation and Autogenous Bone Grafting for Ununited Fractures of the Distal Humerus

#277 Ununited Fractures of the Distal Humerus with Flail Instability: Can the Native Elow Be Preserved?

291 A Controlled Study of Autologous Chondrocyte Implants Versus Marrow Stimulation: Techniques For Full-Thickness Cartilage Lesions of the Femur

293 5-Year Multicenter Outcome of Autologous Chondrocyte Implantation of the Knee: Results in the First 100 Consecutive Patients

297 Full-Thickness Articular Cartilage Defects of the Trochlea

Contemporary Perspectives on the Assessment and Management of Wrist Trauma

Long term Follow-Up for Proximal Femoral Allografts

Osteoarticular allograft reconstruction for tibial tumors

Reconstruction of Symptomatic Chronic Achilles Tendon Disorders With Flexor Hallucis Longus Transfer

Difficult Elbow Fractures: Pearls and Pitfalls

Advances in distal radius fracture management - Update on Internal Fixation

Gene Therapy for Rheumatoid Arthritis

Instructional Courses

Instructional Course #131

Assessment and Management of the Stiff Elbow

Instructional Course #143

Revision in Total Hip Arthroplasty: Understanding and Management of Osteolysis

Instructional Course #146

Indications and Techniques of anterior Cervical decompression and fusion

Instructional Course #165

The Surgical Management of Articular Cartilage Injuries

Instructional Course #167

Update on Scaphoid Fractures

Instructional Course #201

Unicompartmental Replacement in the Middle-Aged Patient

Muratoglu OK, Greenbaum ES, Larson SL, Freiberg AA, Burke D, Harris WH

Perinichief RS, Muratoglu OK, Jasty M, Rubash HE, Bragdon CR, Harris WH, Spiegelberg SH, O'Connor DO

Turell M, Bellare A, Ganesan P, Scott RD, Thornhill TS

Turell M, Gomoll A, Bellare A

Bellare A, Turell M, Ganesan P, Gomoll A, Fitz W, Baker D, Pruitt L, Scott RD, Thornhill TS

Neavyn MJ, Sethis RK, Rubash HE, Shanbhag A

Ring D, Prommersberger K, Lanz U, Fernandez D, Jupiter J

Bae DS, Waters PM, Zurakowski D

Chiodo C, Schon L, Myerson M

Kocher MS, Steadman JR, Briggs KK, Zurakowski D, Sterett WI, Hawkins RJ

Fuller D, Mark A, Keenan M

Bragdon CR, Muratoglu OK, O'Connor DO, Jasty M, Savadore T, Harris WH

Muratoglu OK, Bragdon CR, Larson SL, Perinichief RS, Harris WH

Kocher MS, Hawkins RJ, Saxon HS, Hovis WD

Kocher MS, Zurakowski D, Micheli LJ, Yaniv M

Ring D, Prommersberger K, Morgan T, Gupta A, Jupiter J

Ring D, Gulotta L, Jupiter J

Ring D, Gulotta L, Jupiter J

Anderson AF, Mandelbaum BR, Erggelet C, Micheli LJ, Fu F, Moseley JB, Browne JE

Browne JE, Anderson AF, Micheli LJ, Erggelet C, Moseley JB, Fu F, Mandelbaum BR

Mandelbaum BR, Browne JE, Fu F, Micheli LJ, Moseley JB, Erggelet C, Anderson AF

Jupiter J, Moderator; Amadio P, Stern P, Fernandez D, Ring D

Fox EJ, Gebhardt MC, Hornicek FJ, Tomford WT, Mankin HJ

Gebhardt MC

Kolker D, Cheleuitte D, Wilson MG

O'Driscoll S, Moderator; Jupiter J, Ring D

Jupiter J

Freiberg A

Jupiter J, Moderator

Harris WH, Moderator; Jacobs JJ, Maloney WJ, McKellop HA, Rubash HE

Pedlow FX, Heller JG, Boden SD

Minas T

Jupiter J, Moderator

Scott R

ORS and AAOS Presentations 2002 Dallas, Texas

Instructional Course #309 Dallas Convention Center, Room # C244 The Skeletally Immature Knee – Injury Patterns and Treatment	<i>Micheli LJ</i>
Instructional Course #350 Orthopaedic Aspects of Child Abuse - “Domestic Violence”	<i>Kocher MS</i>
Instructional Course #371 Unstable Elbow- Presentation on Coronoid Fractures	<i>Jupiter J</i>
Instructional Course #407 Complications of distal radius fractures, Presentation: malunions of the distal radius	<i>Jupiter J, Moderator</i>
Instructional Course #410 Evaluation and Treatment of Disorders of the Forearm Axis	<i>Graham TJ, Moderator; Murphy MS, Ring D, Tomaino MM</i>
American Shoulder and Elbow Society	
Ununited Fractures of the Distal Humerus: Plate Fixation and Autogenous Bone Graft	<i>Ring D, Gulotta L, Jupiter J</i>
American Orthopaedic Foot and Ankle Society	
Autologous Osteochondral Grafting for Cartilage Defects of the Talar Dome	<i>Kolker D, Wilson MG</i>
Reconstruction of Symptomatic Chronic Achilles Tendon Disorders with Flexor Hallucis Longus Transfer	<i>Kolker D, Cheleuitte D, Wilson MG</i>
Combined Knee Society/AAHKS	
Crosslinked Polyethylene	<i>Muratoglu OK</i>
The effect of PCL reconstruction on patellofemoral joint contact pressure under simulated muscle loads	<i>Gill TJ, Li G, DeFrate LE, Wang C, Glatt V, Carey CT, Zayontz S, Zarins B</i>
Knee Society	
Osteoarthritis In The Young, Unicompartmental Replacement	<i>Scott R</i>
Hip Society	
All Heads Can Be 32mm or Greater With Highly Crosslinked Polyethylene: Rationale and Results	<i>Rubash HE, B Burroughs, WH Harris</i>
The Bearing Surface Should Be Ceramic On Ceramic	<i>Bierbaum BE; Ward D, Nairus J, Kuesis D, Morrison JC</i>
Extraphyseal Reconstruction in the Skeletally Immature Athlete	<i>Micheli LJ</i>
Orthopaedic Trauma Association	
Wrist Fractures: ORIF vs. External Fixator, Non-Joint Bridging Frame and Bone Graft Substitutes	<i>Jupiter J</i>
Musculoskeletal Tumor Society	
Video Vignettes: Proximal Tibial Reconstruction - Will I be able to kick a field goal?	<i>Eckardt J, Gebhardt M, Hornicek F</i>
Posters	
#P011 The Use of large femoral heads with highly crosslinked polyethylene in a total hip replacement	<i>Bragdon CR, Muratoglu OK, O'Connor DO, Perinchief RS, Jasty M, Savadove T, Harris WH</i>
#P013 Cementless acetabular revision: 10-15 year results with the HGP I & II acetabular component	<i>Vittetoe, DA, Hallstrom, B, Golladay, GJ, Harris WH</i>
#P108 Markedly improved adhesive wear and delamination resistance with a highly crosslinked UHMWPE for use in total knee arthroplasty	<i>Muratoglu OK, Bragdon CR, O'Connor DO, Savadove T, Perinchief RS, Jasty M, Rubash HE, WH Harris</i>
#P303 Arthroscopic vs Open Bankart Repair: Analysis of Patient Experience and Cost	<i>Wang C, Ghalambor N, Zarins B, Warner JJP</i>
#P312 Uncemented Glenoid in Total Shoulder Arthroplasty: Five to Thirteen Year Follow-Up	<i>Martin SD, Zurakowski D, Thornhill TS</i>
#P327 Hinged external Fixation for post-traumatic elbow instability	<i>Ring D, Hannouche D, Jupiter J</i>
#P343 Reliability and Validity of MRI in Quantitative Assessment of Rotator Cuff Muscle Volumes	<i>Tingart M, Apreleva M, Lehtinen J, Warner JJP</i>
#P389 Salvage of Distal Tibia metaphyseal nonunions with 90 degree cannulated humoral blade plate	<i>Chin KR, Nagarkatti DG, Miranda MA, Santoro BM, Baumgaertner MR, Jupiter J</i>
#P418 Pitfalls in the diagnosis of scaphoid fracture with CT	<i>Ring D, Levitz S, Adey L, Jupiter J</i>
#P437 Articular Cartilage Damage after Fracture in Humans	<i>Murray MM, Vrahas MS</i>
#P478 Determinants of Patient Satisfaction after Anterior Cruciate Ligament Reconstruction	<i>Kocher MS, Steadman JR, Zurakowski D, Briggs K, Sterett WI, Hawkins RJ</i>
#P510 Open Anterior and Posterior Synovectomy With and Without Adjuvant Radiotherapy For Recurrent Diffuse Pigmented Villonodular Synovitis of the Knee	<i>Chin KR, Barr SJ, Winalski C, Zurakowski D, Brick GW</i>

#P514 Persistent Diffuse Pigmented Villonodular Synovitis of the Knee after Arthroscopic Synovectomy

Chin KR, Brick GW

#P515 Allograft Reconstructions in Young Patients with High-Grade Sarcomas about the Knee

Brigman BE, Hornicek FJ, Gebhardt MC, Mankin HJ

Scientific Exhibits

#SE06 Development of the Highly Crosslinked Polyethylenes

Muratoglu OK, Bragdon CR, Jasty M, O'Connor DO, Harris WH

#SE54 Articulated Elbow External Fixation Without an Axis Pine-Technique Results

Marsh JL, von Knoch F, McKinley TO, Steyers CM, O'Rourke MR, Bottlang M

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