CHAIRMAN’S CORNER

JAMES H. HERNDON, MD, MBA
CHAIRMAN, PARTNERS DEPARTMENT OF ORTHOPAEDIC SURGERY
PROGRAM DIRECTOR, HARVARD COMBINED ORTHOPAEDIC RESIDENCY PROGRAM

I am pleased to welcome you to the fifth issue of the Orthopaedic Journal 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, Don Bae, MD. They have worked very hard to produce this publication and deserve everyone’s gratitude. Please make sure to let them know this the next time you see them or send an email. I would also like to acknowledge 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.

This year, as many of you know, I have the privilege of serving as President of the American Academy of Orthopaedic Surgeons. The position brings a great responsibility in these difficult times for medicine in general and our specialty in particular, but it also brings great joy and satisfaction to me at the same time. Patient safety will be the major thrust of my efforts this year. Our Board of Directors will be devoting their entire Spring Workshop to this issue. I address the problem at each local, state and regional meeting I attend, along with other important issues facing orthopaedic surgeons. Number one of this list is professional liability reform, followed by declining Medicare reimbursements and regulatory issues – HIPAA, EMTALA and many others.

I am happy to hear from any of you about your concerns and any issues that you feel are important. If you have suggestions for improvement or change please let me know. I am available as President of the AAOS to every member.

First, I would like to recognize two special award winners from last year’s Graduation Dinner. Dr. Don Bae received both the Leonard Marmor Award for academic excellence in the OITE examinations, and the William Thomas Award. This double recognition is a fitting acknowledgement of Dr. Bae’s accomplishments as a resident and potential as a practicing surgeon.

I would also like to acknowledge Dr. Mark Vrahas as the winner of the Golden Apple Award for outstanding teaching in our program, chosen by our residents. I applaud Dr. Vrahas for his outstanding teaching and contributions to our program.

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. Information about the new HIPAA regulations and patient safety has been added to the Core Curriculum. A new session on physician/patient communication has also been added. This year’s speaker will be Dr. Gary Friedlander, Chair of the Department of Orthopaedic Surgery at Yale.

The Journal Club continues to be an important conference for resident education. Drs. James Heckman and Robert Poss continue to be tremendous mentors to the Club and its participants. Plans are currently underway to use the OREF award received last year to bring in guest speakers and to provide resources for residents in the areas of study design, biostatistics and clinical epidemiology. I would like to thank Jim O’Holleran, MD, for his leadership of Journal Club earlier this year and the current leadership of Pearce McCarty, MD. Their time commitment to this activity is much appreciated.

With regard to resident recruitment, I am pleased to announce that we had our most successful match to date this past March. Our incoming PGY-1 residents are listed in the adjacent box. I want to thank the residents for their efforts in making this a successful recruiting year. In particular, I would like to thank Renn Crichtlow, MD, for his special efforts in this regard. As part of our ongoing efforts to showcase the residency program and improve information for prospective applicants, an impressive new website has been developed. The site is based on the Harvard server and linked to each of the participating hospitals. In this way the program can be found by those searching on the HMS web site, as well as those searching the Hospital web sites. The address is www.hms.harvard.edu/ortho. I would like to thank Robert O’Toole, MD, for his leadership of this effort and all who helped make this possible. I encourage each of you to visit the site. Please feel free to forward any suggestions or comments for improvement.

Certainly one of our greatest challenges over the past year has been the development of goals and objectives by service that incorporate the general competency requirements endorsed by the Accreditation Council for Graduate Medical Education (ACGME) in 2001. The general competencies are in the following areas:

- Patient Care
- Medical knowledge
- Practice-based learning and improvement
- Interpersonal and communication skills
- Professionalism
- Systems-based practice

Specific competencies in these various areas include the
provide objective measure of residents’ performance on the requirement that programs develop evaluation tools that will feedback from residents and working to refine these curricula.

Over the past year the chiefs and faculty of each service have worked hard to develop curricula that provide clear goals and objectives for each level of resident rotating on their service. These curricula also include schedules for each resident on the service, as well as clear statements about the lines of responsibility between residents, fellows and attendings. With few exceptions, we now have written a curriculum for each of the subspecialty services at the BWH and MGH, as well as a curriculum for the six-month pediatric orthopaedic rotation at Children’s Hospital. Over the coming year we will be getting feedback from residents and working to refine these curricula in advance of our RRC site visit in 2004.

An important part of the ACGME Outcome Project is the requirement that programs develop evaluation tools that will provide objective measure of residents’ performance on 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 practice; and work effectively with others as a member or leader of a healthcare team or other professional group.”
general competencies. Toward this end, we have revised our existing rotation evaluation forms and added several new forms and approaches. One of the new approaches is a resident self-assessment, asking residents to describe particular situations they have faced in the past six-months. The types of situations queried include shared decision-making, surgical decision-making, end-of-life discussions, ethics and dealing with personal limitations. Residents are being asked to respond in writing to one of four questions and to come prepared to discuss their response with me as part of their individual, semi-annual evaluation meetings. I am pleased to report that these discussions have been excellent, raising issues that before now have not been addressed. A second new approach that is being initiated is a 360-degree evaluation of each resident. As a start, information will be gathered from nursing staff on the floors and in the OR, as well as patients. The scope of this evaluation will be expanded as the process proceeds. In addition, each subspecialty service has been encouraged to include evaluation strategies specific to their rotations. In particular, each subspecialty service has been asked to develop a test based on questions from the Orthopaedic In-Service Exam and self-assessment exams. Residents will also be encouraged to utilize self-assessment tools, e.g. JAASOS, OKO and OKUs made available through the Academy of Orthopaedic Surgeons. Each resident in the United States now receives a free subscription to the JAASOS and OKO from the AAOS.

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In addition to work on the curriculum, we are also in the midst of dealing with the resident work hour issue at each of the hospitals. As endorsed by the ACGME, residents can no longer be involved in patient care the day after being on call in the hospitals. As endorsed by the ACGME, residents can no longer be involved in patient care the day after being on call in the hospitals. The specific work hour requirements include:

- No more than 24 hours on duty.
- No more than 80 duty hours per week.
- One day off each week.
- No more than every third night on call.

No more than every third night on call.

It is important to note that adherence to this rule is not at the discretion of individual residents who might prefer to work the next day. Our initial plan for dealing with this requirement is to have a PGY-2 night float for in-house patient coverage and the OR at the MGH and BWH; increase the number of physician extenders and RNs; request to increase residents from the RCC to 12 per year (our previous size). Children’s has already implemented a PGY-3 night float position. In addition, many services will need to re-deploy the efforts of fellows and physician extenders, where available. While we are hopeful that these arrangements will be sufficient, we will be monitoring this situation closely over the coming year.

Beginning in July 2003, the Harvard Orthopaedic residency will no longer include a six-month chief residency. The decision to eliminate the chief residency requirement from our program reflects the strong preference of the younger residents coming up who are anxious to start their fellowship programs or pursue other educational opportunities. I want to commend the Executive Committee for making this difficult decision. Residency training is definitely long and almost all of our residents take fellowships. This change will also allow us to provide trauma care by specialists and not trainees.

I would like to provide you with a brief update on the search that is underway at the Beth Israel Deaconess Medical Center for a full-time Chief of Orthopaedic Surgery. Dr. Joseph Fisher, Chief of the Department of Surgery at the BIDMC, is directing the search. Drs. Kasser, Thornhill and I serve on the Search Committee. As part of the search, the Hospital has committed to re-establishing a Department of full-time faculty who are committed to the educational mission, as well as research and service. It is also clear that the new chief must move quickly to re-recruit a chief of orthopaedic trauma. Because this process is well underway with a clear commitment to establishing an academic department of orthopaedic surgery, the Executive Committee will be requesting an increase in residents.

Promotions and appointments across Harvard Orthopaedics over the past year include:

Professor: Julie Glowacki, PhD, and Mark Gebhardt, MD
Assistant Professor: Tamara Martin, MD, Scott Martin, MD, Phil Blazar, MD

Graduating resident plans

<table>
<thead>
<tr>
<th>Name</th>
<th>Fellowship specialty</th>
<th>Institution</th>
<th>City</th>
<th>Director</th>
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<tbody>
<tr>
<td>Paul Appleton</td>
<td>Trauma</td>
<td>Royal Infirmary of Edinburgh</td>
<td>Edinburgh, Scotland</td>
<td>Charles Court-Brown</td>
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<tr>
<td>Donald Bae</td>
<td>Hand/Upper Extremity</td>
<td>Brigham and Women's Hospital</td>
<td>Boston, MA</td>
<td>Barry Simmons</td>
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<tr>
<td>Robert Hurford</td>
<td>Spine</td>
<td>Washington University</td>
<td>St. Louis, MO</td>
<td>Keith Bresadell</td>
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<tr>
<td>Ajeya Joshi</td>
<td>Spine</td>
<td>Baylor Medical Center</td>
<td>Houston, TX</td>
<td>Stephen Esses</td>
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<tr>
<td>David Kim</td>
<td>Sports</td>
<td>Kerlan-Jobe Orthopaedic Clinic</td>
<td>Los Angeles, CA</td>
<td>Frank Jofe</td>
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<tr>
<td>Kai Lewandrowski</td>
<td>Spine</td>
<td>Cleveland Clinic</td>
<td>Cleveland, OH</td>
<td>Robert Milain</td>
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<tr>
<td>Brent Ponce</td>
<td>Shoulder</td>
<td>Massachusetts General Hospital</td>
<td>Boston, MA</td>
<td>Jon J.P. Warner</td>
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<tr>
<td>J. Scott Price</td>
<td>Spine</td>
<td>Rush-Presbyterian-St. Luke’s</td>
<td>Chicago, IL</td>
<td>Howard An</td>
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<tr>
<td>E. Ken Rodriguez</td>
<td>Trauma</td>
<td>Maryland Shock Trauma</td>
<td>Baltimore, MD</td>
<td>Cliff Turen</td>
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In my role as Chairman of the Partners Department of Orthopaedic Surgery, I would like to commend Tom Thornhill and Harry Rubash on their leadership of orthopaedic surgery at the Brigham and Women’s and Massachusetts General Hospitals. I direct you to their respective “Chief’s Corners” for an overview of the accomplishments of their Departments over the past year. Both Departments underwent an external review in February/March, organized by Harvard Medical School on behalf of the Dean and the Hospital Presidents. The purpose of the review was to assess the quality and vitality of the Departments’ programs with particular emphasis on the status and accomplishments of their academic programs. The Medical School invited six leaders in orthopaedic surgery from across the country to participate in this process, three at each institution. In addition to their review of an extensive written report prepared by each Department, the reviewers met with the Hospital leadership, the chiefs and a cross section of faculty and residents. The reviewers’ final reports are shared with the Dean Martin and the hospital presidents. Insights and recommendations will then be shared with each Chief. The initial results from the reviewers were quite positive and complimentary.

In closing, I want to share with you my plans for the coming year. As many of you may know, I will be stepping down as Chairman of the Partners Department of Orthopaedic Surgery effective at the end of 2003. However, I am pleased to announce that I will continue as Program Director for the Harvard Combined Orthopaedic Residency Program. Given our need to fully comply with the ACGME requirements, request additional residents and prepare for an RRC review next year, I expect this to be a very challenging but productive year for our Program. I look forward to continuing to work with our Executive Committee, faculty and residents on resident education.

Congratulations and best wishes to our graduating residents as they leave for fellowship training and practice. I would also like to thank the chief residents 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.

PODIUM PRESENTATIONS

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Effect Of Contact Area On The Wear Of Ultrahigh Molecular Weight Polyethylene In Bidirectional Pin-On-Flat Articulation
Mazzucco D, Spector M

Paper #120
The Effect of the PCL on Knee Function in High Flexion Angles
Li C, DePrato L, Most E, Suggs J, Gib T, Freiberg A, Rubash H

Paper #126
Kinematics of the Knee at High Flexion Angles
Li C, Zapotosky S, DePrato L, Most E, Suggs J, Rubash H

Paper # 127
Hydrostatic Pressure Stimulates Extracellular Matrix Accumulation By Swine Articular Chondrocytes In 3D Collagen Sponges
Mascarenhas AC, Kusamagi A, Bhatli R, Johnson J, Barlowitz Tarrant L, Mizuno S

Paper # 150
The Pectoralis Major Tendon As A Reference For Retroversion Improves The Quality Of Arthroplasty For Proximal Umeral Fractures
A Gerber, M Apneleva, F Harold, J J Warner

Paper # 219
Motile Chondrocytes: Migration Properties and Synthesis of Collagen Type II
Morales, T.I., Chang, C. and Lauffenburger, D.A.

Paper # 280
Gene-expression clustering using self-organizing maps: analysis of the macrophage response to particulate biomaterials
Garriques GE, Rubash HE and AS Shanbhag

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A Quantitative Technique to Assess Bone Density from Micro-Computed Tomography
A Nazarian, D von Stachow, D Zurakowski, R Huettel, B Snyder

Poster # 475
Dependence of Joint Development on Limb Motion: An In-vitro Model of Knee Morphogenesis in the Chick Embryo
Rodriguez E F, Mumawinge F, B Snyder
The 49th Annual Meeting of the Orthopaedic Research Society

Poster #482
Adult Canine Synovial Cells Express Alpha-Smooth Muscle Actin And Can Contract
Vickers SM, Johnson LL, Yannas IV, Gibson LJ, Spector M

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Effects Of Medium Flow Rate On Extracellular Matrix Accumulation By Swine Articular Chondrocyte In Collagen Sponges
Bihariu EB, Koseguine A, Mascarenhas AC, Johnson J, Berlowitz-Tarrant L, Mizuno, S

Poster #636
Calcium Influx Stimulated By Hydrostatic Pressure In Chondrocytes In Vitro
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Poster #761
Dendrimer-Linked Nitroxides As Contrast Agents For Cartilage
Shorttloff, S; Winobrd, CS; Mulvehil, R; Chattha, A; Schneider, E; Rosen, GM

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Biosynthetic Activity Of Articular Chondrocytes In Type I And Type II Collagen Matrices
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Bisphosphonates enhance osteoblastic recruitment from human bone marrow stromal cells in vitro
von Knob F, Kowalsky M, Weissbach L, Im G, Puskas B, Fishman F, Rubash HE and AS Shambhag

Poster #900
Calcium Influx Stimulated By Hydrostatic Pressure In Chondrocytes In Vitro
Mizuno, S

Poster #985
Use Of Direct Bmp-2 Gene Delivery To Enhance The Healing Of Segmental Bone Defects: Evaluation In The Rat Model

Poster #952
Contractile Forces Generated By Articular Chondrocytes In Collagen-Glycosaminoglycan Matrices
Kinner B, Zeikoskas JM, Feyman TM, Yannas IV, Gibson LJ, and Spector M

Poster #956
Biosynthetic Activity Of Articular Chondrocytes In Type I And Type II Collagen Matrices
Veilleux NH, Spector M

Poster #1130
Contractile Forces Generated By Articular Chondrocytes In Collagen-Glycosaminoglycan Matrices
Kinner B, Zeikoskas JM, Feyman TM, Yannas IV, Gibson LJ, and Spector M

Poster #1142
Calcium Influx Stimulated By Hydrostatic Pressure In Chondrocytes In Vitro
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Ariane Gerber, Fraser Harrold, Maria Apreleva, Jon J Warner

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Sugi, J P; Wang, C; Gill, T; Li, G

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Li G, Most, E; Zagouris, S; Schule, S; Park, E; Freibert, A; at High Rubash H

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Interface Temperatures in Total Hip Replacement Simulators as a Function of Head Size
Nathaniel E Hawkins, Charles R Bradson, Brian R Burroughs, Daniel O O'Connor, Orhan K Muratoglu, William H Harris

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Effects of bisphosphonates (alendronate and risedronate) on bone ingrowth in rabbit model: A radiographic and histomorphometric analysis.
von Knob F, Cho MR, Garrigue G, Kowalsky M, Rubash HE and a AS Shambhag

Poster #1379
The Effect of Calcium Phosphate Bone Substitute on Bone Defect Healing and Ingrowth in a Canine THR Model
Arnie M Doherty, Charles R Bradson, Munal Jasty, Harold E Bone Rubash, William H Harris

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Quantification of Scar Formation in a Cruciate-Retaining Total Knee Testing Using Both Geometric and a New CMM Volumetric Methods
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Mary E. Tomell, Ann Bellow, Philippe Scheever, Thomas S. ultra-high Thornhill
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Evan S Greenbaum, Orhun K Muratoglu, Stephen H Spiegelberg, William H Harris

Poster #1414
The effect of cross-path motion on the wear rate of ultra-high molecular weight polyethylene
Mary E. Tunell, Aiguo Wang, Anuj Bhalle

Poster #1429
Torsion Ratio and True Creep with One Type of Highly Crosslinked and Conventional UHMWPE Tibial Knee Inserts
Orhun K Muratoglu, Rebecca S Perinchief, Daniel O’Connor, Charles R Brodson, Daniel M Estok III, Matthew Sargent, William H Harris

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RSA Evaluation of Wear of Conventional versus Highly Crosslinked Polyethylene Acetabular Components in Vivo
Georgios Digas, Johan Kahlholm, Henrik Melchau, Charles R Brodson, Peter Herberts, Jonas Thanner, Daniel M Estok III, Gordon Plank, William H Harris

Poster #1436
Effects of bisphosphonates on interleukin-1β and tumor necrosis factor-α in osteolysis
Kaneko S, Chaudhary S, von Knoch P, Rabin HE and AS clinical

Harvard Combined Orthopaedic Residency Program
Incoming PGY-2 Residents

George Dyer, M.D.
Harvard Medical School

Michael S. Fehm, M.D.
Yale University School of Medicine

Brian Forsythe, M.D.
University of Pennsylvania School of Medicine

Andrew Jawu, M.D.
University of Pennsylvania School of Medicine

Stefan R. Jibodh, M.D.
Johns Hopkins University School of Medicine

Alexander P. Sah, M.D.
Jefferson Medical College of Thomas Jefferson University

Maximilian C. Song, M.D.
Columbia University College of Physicians and Surgeons

Michael A. Vazquez, M.D.
Columbia University College of Physicians and Surgeons

Howard H. Yeon, M.D.
Harvard Medical School

Bojan R. Zoric, M.D.
University of California Los Angeles School of Medicine