



# THE BETH ISRAEL DEACONESS MEDICAL CENTER

MARK C. GEBHARDT, MD

DEPARTMENT OF ORTHOPAEDIC SURGERY



The Department of Orthopaedic Surgery at the Beth Israel Deaconess Hospital underwent a major change in September 2003 when the Harvard search committee chose Mark C. Gebhardt, MD as Orthopaedic Surgeon-in-Chief of the Department. Mark is the Frederick W. and Jane M. Ilfeld Professor of Orthopaedic Surgery at Harvard Medical School. He moved from the Massachusetts General Hospital and continues his practice of pediatric orthopaedic oncology at the Children's Hospital. He will continue as Chair of the Core Curriculum Committee for the residency program, Chair of the Orthopaedic Residency Review Committee of the ACGME, as a Senior Director of the American Board of Orthopaedic Surgery and member of the Board of the American Academy of Orthopaedic Surgeons. Since his arrival a multidisciplinary team consisting of members of the medical oncology, radiotherapy, surgical oncology, radiology and pathology departments have come together for the treatment of adults with bone and soft tissue tumors and metastatic carcinoma. The oncology service has rapidly become quite busy in the first six months and a vibrant multidisciplinary tumor conference was instituted. The oncology fellowship received ACGME accreditation to include the service at the BIDMC with Children's Hospital and the MGH and we will begin having three fellows per year beginning in August 2004.

We are pleased to announce the appointment of Douglas K. Ayres, M.D., to our full-time staff. Dr. Ayres, who joined us in December, is an instructor of orthopaedic surgery at Harvard Medical School. He will lead our efforts in adult primary and revision joint reconstruction of the hip, knee and shoulder, expanding services at the BIDMC in this important area. He also brings his experience in minimally invasive total hip and total knee operations, and unicompartmental knee reconstruction. Dr. Ayres will be working closely with the BIDMC gerontology division to develop integrated residency rotations that will benefit residents in both specialties. He has additional interests in orthopaedic trauma and general orthopaedics, both surgical and non-operative. Dr. Ayres comes to us from the Sentara Williamsburg Regional Medical Center in Virginia, although his reputation as a skilled surgeon had already been well established in Boston during prior years here. He was fellowship-trained in adult hip and knee reconstruction surgery at Massachusetts General Hospital (MGH), where he also was chief resident in orthopaedic trauma. He completed the Harvard Combined Orthopaedic Residency Program following his general surgery training at Brigham and Women's Hospital (BWH). His medical

degree is from Tufts University School of Medicine. Dr. Ayres has been an associate surgeon at BWH, MGH, Mount Auburn Hospital, and for the Massachusetts Institute of Technology medical department. He has an M.B.A. from the College of William and Mary, and was a management consultant prior to his career in medicine.

Robert Davis, MD has continued his clinical work and expanded his practice in sports medicine and trauma. He currently serves as an at large member of the Medical Executive Committee of the BIDMC and has an active role in teaching of the PGY-1 and Emergency Department residents that rotate on the Orthopaedic Department.

Charles Day, MD, is in his second year at BIDMC and his practice has grown rapidly in hand and upper extremity disorders. He runs a weekly hand surgical indications conference that is well attended and received by the plastics hand service, musculoskeletal radiology service, rheumatology service, occupational therapists, and medical students. He also runs the HMS third year surgical rotation in Orthopaedics at the BIDMC. He is building his clinical research interest in wrist injuries and has been invited to give grand rounds at UCSF and Chang Gung Memorial Hospital in Taiwan on this topic. He was also the winner of the 2003 Julian M. Bruner Award for Outstanding Poster Submission Sponsored by the American Foundation for Surgery of the Hand and the American Society for Surgery of the Hand for "Basal Joint Arthritis of the Thumb: Results of a Prospective Trial of Steroid Injection and Splinting".

Donald Reilly, MD continues his clinical practice at the New England Baptist Hospital and the BIDMC. He remains active in the teaching of Harvard residents and HMS students and continues his research in the areas of knee replacement implants.

Drs. Louis Meeks, Lars Richardson and Jeffrey Zilberfarb continue their busy practice and make a big contribution to the education of the sports medicine resident on their service, as well as to the education of HMS students.

The surgeons in the Boston Orthopedic Group (Drs. Harris Yett, Hyman Glick, Tobin Gerhart, and Saechin Kim) continue in their busy practice of patient care and education of HMS students and BIDMC medicine residents. Drs. Gerhart and Kim have been active in providing trauma care and coverage for the medical center.

Dr. Paul Glazer continues his practice in the Shapiro Clinical Center and continues his research in several areas of spine surgery. Dr. Hillel Skoff has an active practice in Hand Surgery.

Dr. Augustus A. White, III devotes his attention and energies to the students of Harvard Medical School, serving as Master of the Holmes Society. We plan on celebrating his career with the first Augustus A. White, M.D. Symposium scheduled October 13, 2004.

The Musculoskeletal Medicine Unit, located in the orthopaedic suite of the Shapiro Clinical Center is under the direction of John Donohue, MD. John is a rheumatologist with a joint appointment in the orthopaedic and rheumatology division. He and Sharon Gates, an experienced nurse practitioner, continue to provide excellent care for non-operative musculoskeletal disorders in close collaboration with our Department members.

The Orthopaedic Biomechanics Laboratory at the Beth Israel Deaconess Medical Center continues to thrive as a world-renowned center for biomechanics research in orthopaedics. In addition, the lab trains numerous Harvard residents, medical residents and engineering students from the Massachusetts Institute of Technology and Boston University. The Orthopaedic Biomechanics Laboratory is now under the co-direction of Brian D. Snyder, MD, PhD and Mary L. Bouxsein, PhD. Dr. Snyder is a pediatric orthopaedic surgeon at Children's Hospital and in addition to his clinical work is very active in the laboratory. He and John A. Hipp, PhD won the prestigious Vaughan Award from the Kappa Delta Sorority at this year's Orthopaedic Research Society and American Academy of Orthopaedic Surgery Annual Meeting in San Francisco, CA. The award was for their work in the prediction of fracture risk due to benign and metastatic skeletal defects from benign and malignant tumors. Dr. Snyder also recently received a grant from the Susan G. Komen Breast Cancer Foundation entitled "Computed Tomographic Prediction of Response to Treatment in Breast Cancer Induced Bone Metastasis."

Dr. Bouxsein has developed two new areas of research related to understanding the genetic regulation of bone density, microarchitecture and strength using mouse models. In this new research area, she has developed techniques for assessment of skeletal strength and architecture in mice. In addition, she has initiated her own in vivo research program to study the role of an intracellular adaptor molecule,  $\beta$ -arrestin2, which is important in regulation of G-protein-coupled receptor signaling in mediating the skeletal response to parathyroid hormone. She is recognized world-wide as a leader in the field of biomechanics as it relates to the etiology and treatment of osteoporotic fractures, as evidenced by her invitation to speak at the NIH-sponsored Consensus Conference on Osteoporosis, the NIH-sponsored conference on Skeletal Genetics, and to co-chair the NIH-sponsored workshop of Bone Quality. In addition, she has been a leader in the field of non-invasive assessment and diagnosis of osteoporosis, in particular in the area of quantitative ultrasound and bone quality.

Ron Alkalay, Ph.D. focuses on spinal biomechanics in the areas of; vertebral and disc mechanics, the effect of failure and degenerative processes on the function of these structures and the effect of clinical procedures and spinal instrumentation on the outcome of surgical procedures. Of particular interest to Ron is the effect of vertebral structure on its post-failure load carrying capacity, the role of nutrition as an underlying cause for degenerative process of the intervertebral disc and the role of the vertebral endplate in both the initiation of vertebral failure and in the process of disc degeneration. This work combines both experimental and the use of advanced algorithms for CT and MRI image based analysis and the development of computational models to enable prediction of functional and structural competence of these structures to support clinical care.

Robert Fajardo, Ph.D. primarily takes a comparative mammalian perspective to his research. He recently completed work investigating the relationship between locomotor behavior and cancellous bone structure in the primate hip, as well as effects of gender and body size. He continues to study bone biology in a comparative context and is investigating comparative bone cell biology to explore scaling issues at this level. He contributes to several ongoing collaborative biomedical research projects requiring microCT expertise, including structural quality assessments of tissue engineered bone, roles of calcitonin and RANKL in osteoclastogenesis, and the efficacy of a murine estrogen transgene to shield against menopausal-associated bone loss.

The plans for the future look even brighter! The Department is actively recruiting new faculty in trauma surgery, spine, sports medicine and oncology. At least two new faculty will start in September, 2004 and the goal is to recruit 6-7 new faculty over the next two to three years. We will be asking the Residency review Committee to increase our resident complement so that more orthopaedic residents can return to the BIDMC for unique educational opportunities that will complement those already in existence within the HCORP. We are actively planning to form a multidisciplinary Musculoskeletal Research Unit combining the strengths of the Orthopaedic Research Laboratory with the Bone Biology Laboratory at the Harvard Institute of Medicine under the direction of Steven Goldring, MD, Chief of the Rheumatology Service at the BIDMC. This research unit will also collaborate with other laboratories in the Harvard community including the Orthopaedic Biology Laboratory at Children's Hospital.

All of this bodes well for the future of Orthopaedics at BIDMC. The Hospital is committed to providing the resources to rejuvenate this Department to one of the best in the country and we are convinced that the BIDMC will once again be a vital part of the Harvard Combined Orthopaedic Residency Program.

## Department of Orthopedic Surgery, Beth Israel Deaconess Medical Center

### **Mark C. Gebhardt, MD**

Frederick W. and Jane M. Ilfeld Professor of Orthopaedics,  
Harvard Medical School  
Orthopaedic Surgeon-in-Chief, Department of  
Orthopaedic Surgery

### **Clinical Faculty**

#### **Douglas K. Ayres, MD**

Instructor, Harvard Medical School

#### **Robert G. Davis, MD**

Instructor, Harvard Medical School

#### **Charles S. Day, MD**

Instructor, Harvard Medical School

### **Tobin N. Gerhart, MD**

Assistant Clinical Professor, Harvard Medical School

### **Paul A. Glazer, MD**

Clinical Instructor, Harvard Medical School

### **Saechin Kim, MD**

Clinical Instructor, Harvard Medical School

### **Louis W. Meeks, MD**

Assistant Clinical Professor, Harvard Medical School

### **Donald T. Reilly, MD, PhD**

Assistant Clinical Professor, Harvard Medical School

### **Lars C. Richardson, MD**

Clinical Instructor, Harvard Medical School

### **Hillel Skoff, MD**

Clinical Instructor, Harvard Medical School

### **Harris Yett, MD**

Clinical Instructor, Harvard Medical School

### **Jeffrey L. Zilberfarb, MD**

Clinical Instructor, Harvard Medical School

## Beth Israel Deaconess Medical Center Orthopedic Biomechanics Laboratory

### **Research Faculty**

#### **Brian D. Snyder, MD, PhD**

Assistant Professor of Orthopedic Surgery,  
Harvard Medical School  
Co-Director, Orthopedic Biomechanics Laboratory

#### **Mary Bouxsein, PhD**

Assistant Professor of Orthopedic Surgery,  
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#### **Ron Alkalay, PhD**

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#### **Roberto Fajardo, PhD**

Research Associate in Orthopedic Surgery,  
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