Mount Sinai
MSSM
MOUNT SINAI SCHOOL OF MEDICINE

Department of Orthopaedic Surgery

CHAIR'S REPORT

WINTER 2011

ACCELERATING SCIENCE – ADVANCING MEDICINE

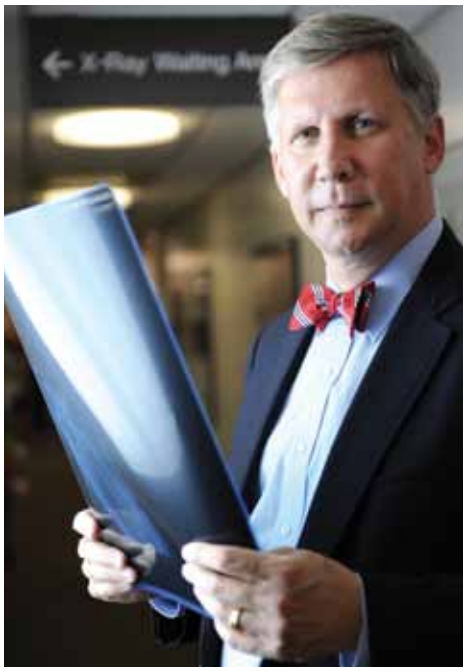
Spine injuries and degeneration are leading causes of pain, suffering, and lost work productivity in the United States. At the Leni and Peter W. May Department of Orthopaedic Surgery at Mount Sinai School of Medicine, our world-class scientists and surgeons are pushing the frontiers of understanding and treating spine conditions. I am particularly excited to report the recruitment of James Iatridis, PhD, to Mount Sinai as Professor and Director of Spine Research. Dr. Iatridis comes to us from the University of Vermont, where he was Director of the Spine Bioengineering Laboratory. His research focus is in the area of spine and intervertebral disc bioengineering.

James Iatridis, PhD, joins Mount Sinai

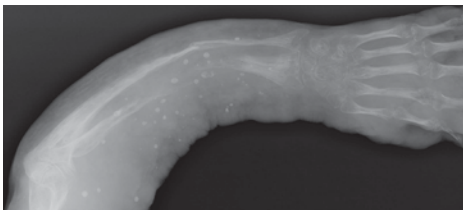
Dr. Iatridis is an internationally renowned spine researcher and has been awarded many honors, including the AO Research Fund Prize, a Career Development Award from the National Institutes of Health, and the distinguished and highly competitive Presidential Early Career Award for Scientists and Engineers, the highest honor bestowed by the U.S. government upon outstanding scientists and engineers beginning their independent careers. The awards are conferred annually at the White House, following recommendations from participating agencies. In 2008, Dr. Iatridis was one of only 12 awardees to represent the National Institutes of Health.

Dr. Iatridis has relocated his entire research group to Mount Sinai and is now working closely with Andrew Hecht, MD, Co-Director of Orthopaedic Spine Surgery, and his colleagues to build translational spine research. Their goal is nothing less than the development of new bioengineering techniques to reverse spine degeneration. We expect great things from them.

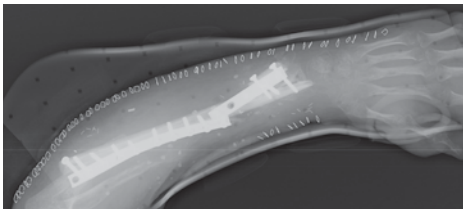
Through this publication, I look forward to sharing with you these and other heroic undertakings embarked on each day at Mount Sinai's Department of Orthopaedic Surgery.



Evan L. Flatow, MD, Lasker Professor and Chair, Chief of Shoulder Surgery



A preoperative x-ray of broken and deformed forearm bones, thinned to barely pencil size by abnormal blood circulation



After reconstruction, the patient's pain has been alleviated and his arm looks normal and is functional

COMPLEX CASES

A Novel Procedure to Reconstruct a Forearm

Before coming to The Mount Sinai Medical Center in 2009, a 49-year-old man had spent years of his adult life with his left arm wrapped up against his chest. He had been born with abnormal blood vessels in his arm (cavernous hemangioma and arteriovenous malformation).

"His arm was like a blood-filled balloon. It was swollen, and he had broken both of the bones in his forearm, which were weakened by the lesion," says Michael Hausman, MD, Vice-Chairman of the Department of Orthopaedic Surgery and Robert K. Lippmann Professor of Orthopaedic Surgery.

Other surgeons were reluctant to operate, due to the substantial risk that the man would bleed to death during the procedure. Dr. Hausman devised a two-stage procedure to safely reconstruct the patient's forearm. First, using the jugular vein and carotid artery in the neck as donor vessels, he created a healthy new artery and vein in the forearm, using equipment he adapted from general and cardiothoracic surgery. Three weeks later, Dr. Hausman transplanted a bone from the patient's leg (fibula) to his forearm and attached it to the new blood vessels via micro vascular surgery. "Because I had already created these new blood vessels, I could do that part of the operation under a tourniquet, so there was minimal bleeding," he says. Now, the patient can use his left arm once again.

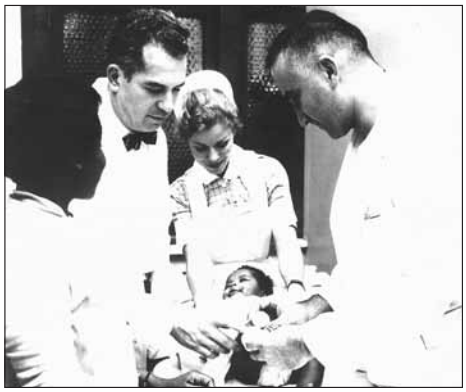
MEDICAL MILESTONES

Treating Patients for 100 Years

From a pioneering use of x-rays to treat bone and joint diseases and fractures in the early 20th century to designing state-of-the-art hip and shoulder prostheses, the Department of Orthopaedic Surgery at Mount Sinai School of Medicine has been at the forefront of orthopaedic innovation for 100 years. Mount Sinai's program, one of the first orthopaedic departments in the nation, was established in 1910, just as the medical specialty was emerging.

Since the department's inception, Mount Sinai orthopaedic physicians have conducted landmark research and developed innovative surgical techniques and procedures. Philip W. Nathan, MD, the first department chair, studied poliomyelitis, a viral disease of the hip that can lead to full or partial paralysis. Research by Robert Siffert, MD, a former World War II surgeon who later chaired the department, produced other advances, most notably a greater understanding of the basic mechanisms of bone formation. Evan L. Flatow, MD, the current Chair, helped develop a comprehensive shoulder replacement system that is now used by shoulder surgeons worldwide. Mount Sinai physicians also have developed techniques for minimally invasive orthopaedic surgery, cartilage restoration, partial knee replacement, and hip arthroscopy.

The Department of Orthopaedic Surgery has expanded significantly since 2006, increasing its focus on minimally invasive surgery, and in 2010, opening a state-of-the-art joint replacement center. Today, Mount Sinai physicians continue to provide patient-focused care, ensuring that each patient receives the optimal surgical or nonsurgical treatment.



One hundred years of patient-centered care at Mount Sinai's Department of Orthopaedic Surgery

NEW FACES

Samuel Cho, MD, Assistant Professor of Orthopaedics, focuses on treating degenerative spine disorders, spinal deformities (including scoliosis, kyphosis, and flatback syndrome), spinal tumors, metastatic spine disease, and spine trauma.

Dr. Cho specializes in minimally invasive spine surgery and the use of motion-sparing technology (artificial disc replacement). His basic science and clinical research interests include bone biology and complex spinal reconstructions for severe spinal deformity. He has presented his research at a host of national and international meetings.

A graduate of Washington University School of Medicine in St. Louis, Dr. Cho completed his residency at Columbia University, followed by a fellowship in spine surgery at Washington University School of Medicine.

Franco Cerabona, MD, Assistant Clinical Professor of Orthopaedics, joined Mount Sinai from St. Vincent's Hospital–Manhattan, where he was Section Chief of Spine Surgery for 23 years, until the hospital closed. Dr. Cerabona focuses on adult deformity and degenerative spine disorders, tumors, and traumatic conditions of the spine.

He specializes in joint arthroplasty and minimally invasive surgical techniques for the cervical and lumbar spine. Dr. Cerabona is an associate editor of *Current Orthopaedic Practice* and has contributed to several textbooks and articles.

After graduating from the University of Pittsburgh School of Medicine, Dr. Cerabona completed his residency at St. Vincent's Hospital–Manhattan/New York Medical College and his fellowship in spine surgery at Hospital for Special Surgery.

Craig DuShey, MD, Assistant Clinical Professor of Orthopaedics, specializes in all surgeries of the hip and knee, including arthroscopy, fracture repair, minimally invasive techniques, and primary and revision joint replacement. His research interests include the outcome of joint replacements in younger patients.

A graduate of Yale School of Medicine, Dr. DuShey completed his residency at Yale–New Haven Hospital and his fellowship in adult reconstruction and joint replacement at Hospital for Special Surgery.

Andrew Merola, MD, Assistant Clinical Professor of Orthopaedics, specializes in spinal reconstructive surgery in adult and pediatric patients. He is the winner of the Scoliosis Research Society's Russell S. Hibbs Award for Clinical Excellence in Spinal Reconstructive Surgery, and the John H. Moe Award for Best Basic Science Poster. He also received the Charles Epps Award for Orthopaedic Surgery from Howard University College of Medicine.

Dr. Merola co-edited *Surgical Techniques for the Spine* and is a peer reviewer for *Current Orthopaedic Practice.* He is a past president of the Brooklyn Orthopaedic Society and chairman of the Scoliosis Research Society's website committee.

After graduating from Howard University College of Medicine, Dr. Merola completed his residency at SUNY Downstate Medical Center, followed by a fellowship in spinal reconstructive surgery at the University of Colorado Denver.