A Message From the Dean & CEO

It is a remarkable time for NYU Langone Medical Center—a time of great strides and tangible results in the areas of patient safety and quality, education, and research. You can feel the energy and momentum pulsing through our halls, in our labs, and in our classrooms as we move forward in our journey to achieving our vision: to be a world-class, patient-centered, integrated academic medical center.

Nowhere is this energy more palpable than at our Hospital for Joint Diseases, where the Department of Orthopaedic Surgery has played an integral role in helping to propel us towards our vision.

In these pages, you will learn about the Department of Orthopaedic Surgery—from their ongoing commitment to patient-centered care and their leadership in the area of quality and patient safety, to their innovative research that is changing how we treat disease and their focus on training future generations of orthopaedic surgeons. As chair of the Department of Orthopaedic Surgery, Joseph Zuckerman, MD, the Walter A.L. Thompson Professor of Orthopaedic Surgery, leads by example and has assembled a team of renowned orthopaedic surgeons who embody the true spirit of excellence in all that they do.

It is with great pleasure and pride that we share with you the work of our Department of Orthopaedic Surgery.

Robert I. Grossman, MD
Dean and Chief Executive Officer
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Dear Friends and Colleagues,

It is a great privilege to present to you an update on the clinical, research, and educational activities of the Department of Orthopaedic Surgery at NYU Langone Medical Center’s Hospital for Joint Diseases. There have been numerous advancements since our last report and I welcome this opportunity to share with you the success we have had as a department as well as how we have contributed to NYU Langone Medical Center’s journey to become a world-class, patient-centered, and integrated academic medical center.

In the past two years, our clinical and research programs have continued to expand. A newly renewed commitment to the musculoskeletal therapeutic area is evidenced by the medical center’s recent opening of a state-of-the-art outpatient surgical center on 38th Street and First Avenue, which will also house the NYU Langone Medical Center Musculoskeletal Institute. The Department of Orthopaedic Surgery will play a significant role in this integrative center of clinical practice and biomedical research, basing many research and educational initiatives there, as well as providing the clinical leadership at the Spine Center, Sports Medicine Center and the Arthritis & Joint Replacement Center with our extraordinary orthopaedic surgeons.

We have established a Quality Division within our department to ensure that quality care measures are captured and reported and that our patients benefit from evidence-based clinical practices. Ongoing projects in the areas of quality and outcomes research are detailed in our 2010 Quality and Outcomes Report, which can be found on the NYU Langone Medical Center’s Hospital for Joint Diseases website at www.med.nyu.edu/hjd. In the area of basic science, our department is integral to NYU Langone Medical Center’s Center of Excellence on Musculoskeletal Disease, focused on conducting world-class research that contributes to the understanding, treatment, cure, and prevention of musculoskeletal disease in the effort to provide patients access to promising new treatments for the full spectrum of these conditions.

Our orthopaedic residency program is one of the largest and most sought-after in the country. Each year, we graduate 12 specialty-trained orthopaedic surgeons who pursue fellowship training or enter clinical practice. We sponsor six clinical fellowships (14 positions) representing a broad spectrum of subspecialties within orthopaedic surgery. More than 80 medical students rotate on our clinical services from over 20 different medical schools, annually.

It is because of the dedication to teaching and the focus on continuous improvement embodied by every one of our surgeons, physicians, scientists, nursing and support personnel that our orthopaedic department is second to none – and as you read the pages ahead, I am confident that you will agree.

Joseph D. Zuckerman, MD
Walter A. L. Thompson Professor of Orthopaedic Surgery
Chairman, Department of Orthopaedic Surgery
Hospital for Joint Diseases at NYU Langone Medical Center
NYU Langone Medical Center’s Department of Orthopaedic Surgery is one of the largest orthopaedic programs in the country, recognized nationally and internationally as a leader in patient care, education, and research. The Department provides care to tens of thousands of patients each year: from infants to the elderly and from the simplest orthopaedic cases to the most complex. The faculty includes renowned surgeons from a wide array of subspecialties, spanning trauma and fractures, hip and knee replacement, spine, sports medicine, hand, musculoskeletal oncology, foot and ankle, shoulder and elbow and pediatric orthopaedics.

The Department of Orthopaedic Surgery traces its origins to the 19th century and a long-standing association with Bellevue Hospital. When Dr. Lewis Albert Sayre was appointed Professor of Orthopaedic Surgery, Fractures, and Dislocations at Bellevue in 1853, it represented the first orthopaedic professorship in North America. Dr. Sayre held this title, and later that of Professor of Clinical Surgery, until 1898, when Bellevue Hospital Medical College merged with University Medical College of NYU to become the New York University School of Medicine.

The history of the Hospital for Joint Diseases officially begins in 1905, when the brothers Henry and Herman Frauenthal founded the Jewish Hospital for Deformities and Joint Diseases. The Hospital quickly earned a reputation for innovation in musculoskeletal care, establishing a number of “firsts” and “onlys” within its walls, including the first extensive research in arthroscopic techniques in the United States in the 1920s, developing the earliest orthopaedic procedures for polio and congenital deformities in children in the 1940s, and founding the first biomechanics laboratory in the country in the 1960s.

In 1997, the Departments of Orthopaedic Surgery at NYU Langone Medical Center and at the Hospital for Joint Diseases (HJD) merged, providing the foundation for the merger of its two parent institutions in 2006. Together, the merged hospital represents 240 years of combined experience in the field of orthopaedic surgery. This combination of a comprehensive, academic medical center with a focused, specialty hospital dedicated solely to the treatment of musculoskeletal conditions has been of great benefit to the Department of Orthopaedic Surgery, and has helped propel it as a recognized leader in orthopaedic patient care, research, and education.

Both institutions helped make enormous strides in 20th-century orthopaedic treatment, knowledge, and innovation; with this legacy of excellence as our foundation, we anticipate a strong future ahead, with continued leadership in the science and practice of orthopaedic surgery into the 21st century and beyond.

The images on the next page depict scenes from the Jewish Hospital for Deformities and Joint Diseases, including a surgical operating room and amphitheatre, as well as surgery and patient care, as delivered by founding physician, Dr. Henry Frauenthal. The evolution of orthopaedic surgery is evident in contrasting images to their right, from today’s Department of Orthopaedic Surgery.
A New Era in Patient Care—The Outpatient Surgery Center

NYU Langone Medical Center recently opened a 22,000-square-foot Outpatient Surgery Center at 333 East 38th Street, with a focus on minimally invasive orthopaedic procedures including shoulder, elbow, wrist and hand procedures, knee and ankle arthroscopies, ACL reconstruction, rotator cuff repair, and fracture fixation, among others.

Staffed by our skilled orthopaedic surgeons, the stand-alone surgical center represents a new era in our evolution as a cutting-edge provider of orthopaedic care in the tri-state area.

Each of the four operating rooms (OR) is equipped with the latest in arthroscopic technology and is designed to optimize surgical space and provide enhanced functionality. In addition to the 12-bed post-anesthesia care unit (PACU), the facility boasts special air-filtration systems in the ORs that use positive-pressure ventilation to prevent airborne microbes. They are also equipped with the latest in ceiling-mounted arthroscopic equipment—a necessity for minimally invasive surgery—and a modular setup with enclosed wiring and cables, to allow additional devices to be easily and quickly integrated. Each operating table is bordered by two high-definition, flat-panel color video monitors that can be swung into place for viewing real-time images or X-rays during surgery.

The Outpatient Surgery Center forms the cornerstone of the future NYU Langone Medical Center Musculoskeletal Institute which, when completed, will be the first stand-alone center in the United States to integrate patient care and clinical research at a single point of service.

Musculoskeletal Research Center Designated a Center of Excellence

When NYU Langone Medical Center’s Office of Science and Research selected six key areas within the medical center as the cornerstone of its new collaborative translational research program, the Musculoskeletal Research Center was among the programs chosen. Joseph Zuckerman, MD, Chairman of the Department of Orthopaedic Surgery, and Steven Abramson, MD, Director of the Division of Rheumatology, are co-leading this newly established “Center of Excellence on Musculoskeletal Disease.”

As a Center of Excellence, we received an initial $1.5 million in funding, which we are using to recruit top-tier scientists and to further research efforts on arthritis, autoimmunity and the repair and regeneration of musculoskeletal tissues. Topics for collaborative studies include examining the basic biology of joint tissues and their functional decline with aging, developing methods to promote the regeneration of these tissues and applying bioengineering to design more effective implants to replace defective or injured bone and cartilage.

New Department Satellite Offices Established

Over the past two years, the Department has expanded its geographic reach and commitment to the community with new satellite physician practices located in Long Island and Westchester. The new faculty practice located in Westchester County is spearheaded by Adam Soyer, DO.
Our exceptional orthopaedic surgeons at NYU Langone Medical Center’s Orthopaedics at Westchester provide services in adult reconstruction, joint replacement, spine surgery, sports medicine, minimally invasive/arthroscopic surgery, shoulder and elbow surgery, general orthopaedics, and pediatric orthopaedics.

In Westbury, Long Island, we partnered with the New York Spine Institute to open a brand new 13,000-square-foot satellite office staffed by physicians and surgeons from our Department of Orthopaedic Surgery, who provide services in sports medicine, knee and hip replacement, pediatric orthopaedics, scoliosis and spinal deformities, hand surgery, shoulder and elbow surgery, and foot and ankle surgery. We also provide a pain management program, in-house physical therapy in a state-of-the-art rehabilitation gym, acupuncture, and an imaging center.

These new offices allow the Department of Orthopaedic Surgery to serve a new patient population and bring outstanding orthopaedic care delivered by our world-class doctors and surgeons to the residents of Westbury and White Plains and their surrounding communities.

New Programs Offer Alternatives in Orthopaedic Care

The Department has recently established several new, highly specialized patient care programs in the effort to provide tailored, world-class care to address the needs of specific patient populations:

The **New York Hip Center** was established by trauma surgeon Roy Davidovitch, MD, to offer new, innovative treatments for different hip conditions, especially for younger patients who wish to maintain their activity levels. One of the procedures offered by the center is total hip replacement using an anterior approach. Merits of the anterior approach to total hip replacement include less muscle and tendon trauma for the patient, a reduced hospital stay, an accelerated recovery, smaller incision, and lack of postsurgical positioning precautions.

The **Center for Ankle Arthritis** was established by Kenneth Mroczek, MD, Chief of the Foot & Ankle Division. Offering non-operative solutions for persistent ankle pain, the Center also treats patients with advanced ankle arthritis who may require an arthroscopic ankle fusion or total ankle arthroplasty. It is one of the few centers nationwide to offer the newest technology in ankle replacement: the Scandinavian Total Ankle Replacement system, or S.T.A.R.

The **Bone Healing Center** was established by Kenneth Egol, MD, Chief of the Trauma Division, as a multidisciplinary center for the treatment of complex and problem fractures. With a team of orthopaedists, endocrinologists, radiologists, and rheumatologists, the Center offers hope to patients with fracture non-unions, delayed unions, malunited fractures, osteomyelitis, and other conditions affecting bone healing.
Key Locations

The Hospital for Joint Diseases at NYU Langone Medical Center—Steven Stuchin, MD, Chief

Located at 301 East 17th Street, the Hospital for Joint Diseases at NYU Langone Medical Center (HJD) is the primary hospital of the Department of Orthopaedic Surgery. This 190-bed facility provides primary, secondary, and tertiary levels of service in the treatment and prevention of musculoskeletal, rheumatologic, and neurological diseases and injuries. HJD is one of the country’s largest and most renowned specialty hospitals dedicated solely to the prevention and treatment of musculoskeletal diseases. As a major center of care for patients with musculoskeletal conditions, it plays a key role in NYU Langone Medical Center’s designation of the Center of Excellence on Musculoskeletal Disease.

Tisch Hospital at NYU Langone Medical Center—Justin LaMont, MD, Chief

Tisch Hospital, located at 550 First Avenue, is the medical center’s acute-care hospital and a teaching hospital of the NYU School of Medicine. The Department of Orthopaedic Surgery provides inpatient and outpatient orthopaedic care at this 726-bed facility. Orthopaedic services at Tisch include joint replacement, orthopaedic oncology, spine, sports medicine, general adult and pediatric orthopaedic services, and emergency orthopaedic services through the Department of Emergency Medicine.

Bellevue Hospital Center—Noel Testa, MD, Chief

Bellevue is the flagship hospital of New York City’s Health and Hospitals Corporation, a system of public hospitals located throughout the metro area. Located just two blocks south of NYU Langone Medical Center, this 1,232-bed facility has had a long-standing affiliation with the Department of Orthopaedic Surgery. Our faculty are responsible for all orthopaedic inpatient and outpatient care at Bellevue and run weekly clinics in the subspecialties of hand surgery, adult reconstructive surgery, trauma, pediatric orthopaedics, sports medicine, and spine. Bellevue’s trauma program, which includes physicians in our Trauma Division, is widely recognized as the finest in New York.

Veterans Affairs Medical Center—Paul Ort, MD, Chief

Part of the New York Harbor Healthcare system, this 851-bed hospital located on 23rd Street and First Avenue is an affiliate of NYU Langone Medical Center and serves a unique patient population. Physicians and surgeons from the Department of Orthopaedic Surgery provide care at the VA for the full range of orthopaedic conditions. The VA also serves as a key teaching and research facility that provides residents from the Department with important resources.

Jamaica Hospital Center—Nader Paksima, DO, Chief

Jamaica Hospital Center is a 387-bed medical facility in Queens where our faculty, residents and fellows provide orthopaedic services to the surrounding community. Department physicians provide general orthopaedic and trauma care as well as specialty care in the areas of adult reconstructive surgery, sports medicine, hand and upper extremity surgery, and pediatric orthopaedics.
Adult Reconstructive Division—Fredrick Jaffe, MD, Chief

The Adult Reconstructive Division is an important subspecialty component of adult orthopaedic services. About 3,000 joint replacement procedures are performed each year by our adult reconstructive surgeons, including primary hip and knee replacement as well as complex revision hip and knee reconstruction. Division surgeons specialize in diagnosing and treating some of the most complex hip and knee conditions including dysplasia of the hip, ankylosis of the hip, post-traumatic arthritis, and rheumatoid and inflammatory osteonecrosis. As a part of one of the nation’s leading academic institutions, the Division has been instrumental in the study, development, and implementation of new directions in adult reconstructive procedures. The orthopaedic faculty also works closely with leading rheumatologists throughout the medical center.

The educational and research component of the Division is multifaceted, including a series of lectures as part of the formal didactic program, weekly conferences and case presentations. Residents are exposed to patient care preoperatively and postoperatively in the orthopaedic clinics and in the faculty offices and are instructed in the comprehensive care of patients throughout their hospitalization. Presently, research is being performed on outcomes of hip and knee replacements using a variety of techniques, new forms of surface enhancement for biologic fixation in total hip replacements, the effect of temperature on bone cement fixation, hard bearing analysis, minimally invasive total hip and knee surgery, patella component modification for improved tracking, and wear in total knee replacements. The Division is one of the joint replacement centers selected nationally to participate in the implementation of the American Joint Replacement Registry.

A new program within the division is the New York Hip Center, led by Roy Davidovitch, MD. The Center is composed of a team of surgeons with different subspecialties as well as therapists and radiologists who have a specific interest in disorders of the hip, whether they are developmental, traumatic or degenerative. The New York Hip Center offers new treatment alternatives including anterior hip replacement, hip arthroscopy, resurfacing and minimally invasive procedures.

Pediatric Orthopaedic Division—David Feldman, MD, Chief

Led by David Feldman, MD, the Pediatric Orthopaedic Surgery Division treats a wide range of clinical conditions, from neuromuscular diseases, including cerebral palsy, spina bifida, and muscular dystrophies, to developmental conditions such as clubfoot, hip dysplasia, and limb deformities. In addition, the faculty specializes in the treatment of limb length inequality, arthrogryposis, skeletal dysplasias, brachial plexus, osteogenesis imperfecta, Blount’s Disease, scoliosis, and other neuromuscular diseases and conditions affecting children and adolescents.

A unique component of the Department’s pediatric program is The Center for Children, led by Norman Otsuka, MD, who joined the Department in 2010 from Shriners Hospital in Los Angeles. The Center maintains separate child-friendly facilities within HJD’s 17th Street
location to ease the anxieties of the hospital’s youngest patients. Colorful walls and floors and a “white-coat-free” policy among the physicians create a comfortable atmosphere for children and adolescents. State-of-the-art equipment and technology reassures parents that their children are receiving the very best care available.

Few facilities in the United States are properly structured to provide interdisciplinary care for children with disabilities. The Center for Children combines services from across the medical center, including acute care services at Tisch Hospital and rehabilitation care at the Rusk Institute of Rehabilitation Medicine.

**Spine Division—**
**Thomas Errico, MD, Chief**

The Spine Division provides comprehensive treatment of adult and pediatric spine disorders.

The surgical activity spans the entire spectrum of spinal disorders in children and adults, including spinal deformity, degenerative disease, trauma, tumors, and infections. The most advanced techniques, including the use of operative microscopic assistance, the application of anterior spinal instrumentation, thoracoscopic and other minimally invasive procedures are routinely performed. Extensive spinal reconstructive procedures, including combined anterior and posterior approaches, are commonly performed. The Division functions in close cooperation with neurosurgical colleagues to provide a modern, unified, multidisciplinary approach to the care of the spine patient.

Members of the Spine Division are part of the Spine Research Group and are active in both clinical and basic science research. Two research coordinators orchestrate the clinical activities of the group. The Division is actively involved in contributing to the ongoing medical student lecture series, Grand Rounds, teaching conferences, and sponsoring continuing medical education events.

The **Spine & Deformity Center** is the Division’s multidisciplinary clinical program designed to provide comprehensive and cost-effective care to patients of all ages, with mild to severe spine conditions. Physicians in the Spine Center evaluate and provide ongoing care to more than 5,000 patients annually. Patients who visit the Center receive care for spinal deformities such as scoliosis and kyphosis, degenerative spinal conditions such as herniated discs and spinal stenosis, and more serious spinal disorders such as tumors and infections. Spine Center staff also treat a wide range of neck and back ailments, including those due to workplace and motor vehicle accidents.

The Center will be an integral part of the new Musculoskeletal Institute, housing the Spine Center faculty’s offices and practice space, physical therapy services, and a complete diagnostic and therapeutic imaging center.

**Sports Medicine Division—**
**Laith Jazrawi, MD, Chief**

The Sports Medicine Division faculty treat the full spectrum of athletic injuries in children and adults, not only in organizational contexts such as high school, college, and professional athletics but in the care of recreational athletes, such as golf and tennis. More than 3,000 procedures are performed annually by the Division, including arthroscopic procedures on the knee, shoulder, elbow, and ankle. Division physicians also perform the most recently developed meniscal and cartilage reconstruction procedures.

Additionally, a new and comprehensive Sports Medicine Center, including faculty practice offices, physical therapy space, and research facilities, will be a key component of the Musculoskeletal Institute, helping to fulfill the Division’s mission to provide patients with the best setting for the rehabilitation of their sports-related injuries and with the proper education and training to prevent such injuries in the first place.

Division faculty members are instrumental in the care of athletes of all skills and ages. Dr. Orrin Sherman serves as team physician to all NYU athletic teams (NCAA Division III); Dr. David Menche is an orthopaedic consultant for the U.S. Open Tennis Tournament; as of this year, Dr. Andrew Feldman serves as team physician for the professional hockey team, the New York Rangers. And, in partnership with Bellevue Hospital Center, Dr. Dennis Cardone provides care for adolescents in the New York City Public School Athletic League as Director of **Partners for Youth**. The Division also conducts an educational lecture series on sports health topics ranging from marathon racing to triathlons, with several members serving as clinical leadership on the New York City Marathon’s medical staff.

Division staff are central to the education of residents and fellows in the Department. They are also involved in numerous research initiatives including the study of the ability of meniscus injury repair to preclude development of post-traumatic arthritis,
electrodiagnostic studies of muscle activity during exercise and after injury, and approaches to anterior cruciate ligament injuries and reconstruction.

The Harkness Center for Dance Injuries

The care of dancers and artists is also a major focus of the Sports Medicine Division. Led by Donald Rose, MD, the Harkness Center for Dance Injuries is a world-renowned program specializing in the treatment of student, amateur and professional dancers with various orthopaedic, rheumatologic and neurologic ailments. Through a process of comprehensive medical evaluations with physicians and therapists, factors contributing to the dancer’s dysfunction are identified and discussed with the dancer. Functional treatment programs are then planned with emphasis placed on preventative maintenance programs tailored to each individual dancer’s needs.

Shoulder & Elbow Division—Andrew Rokito, MD, Chief

The clinical activities of the Shoulder and Elbow Division include the care of a large volume and variety of patients with a wide spectrum of conditions and injuries including athletic, traumatic, and degenerative problems, which are managed both non-operatively and surgically. Specific diagnoses include rotator cuff pathology, instability, arthritis, and fractures of the shoulder and elbow.

Ongoing research activities conducted by the Shoulder Research Group include treatment for adhesive capsulitis, the correlation between MRI findings and intraoperative pathology in patients with shoulder instability, functional outcomes of arthroscopic rotator cuff repairs and arthroplasty for glenohumeral arthritis.

Trauma & Fracture Division—Kenneth Egol, MD, Chief

The Trauma & Fracture Division provides acute management of fractures in the Immediate Care and Emergency Units across the medical center, including the Emergency Department, the Hospital for Joint Diseases, Bellevue Hospital, the Veterans Affairs Medical Center and Jamaica Hospital Center. Over 3,000 trauma cases are seen each year by the Division.

The spectrum of fractures treated in both emergency and inpatient units ranges from the simplest to the most complex. Significant interaction takes place with the faculty of the Department of Neurosurgery and the Divisions of Plastic Surgery and Vascular Surgery in the treatment of associated injuries to nerves and blood vessels and soft tissue loss. Additionally, significant attention is given to comprehensive evaluation and care of geriatric patients with hip fractures as well as the coordinated care of patients with all types of fractures. Late reconstructive procedures are commonly performed on such conditions as nonunions, malunions, and osteomyelitis.

Both clinical and basic research is conducted by the Trauma Research Group with the assistance of two full-time research coordinators. Ongoing projects include outcome studies of geriatric hip fracture patients, fractures in the elderly, and laboratory evaluation of various fracture fixation devices.

In 2009, the Division established the Bone Healing Center, a clinical program dedicated to providing an integrated team approach to the evaluation and treatment of complex
fractures and problem fractures. The Center is fulfilling the Division’s mission of pioneering new technologies and procedures to help patients facing a long and difficult recovery as a result of their sequelae of their complex injuries.

Orthopaedic Oncology Division—Timothy Rapp, MD, Chief

The Department of Orthopaedic Surgery serves as a major referral center in the New York City area for bone cancers and soft tissue tumors. Division physicians provide treatment for a wide variety of pathologic diagnoses, both benign and malignant.

The Division works with the NYU Cancer Institute at NYU Langone Medical Center to provide a multidisciplinary approach to the treatment of bone cancer. Orthopaedists and surgical oncologists are joined by professionals in radiology, pathology, pediatric and adult oncology, and radiation therapy to formulate the best, balanced approach to treatment for every individual patient.

Historically, the Department has always been on the leading edge of musculoskeletal pathology and surgical oncology, numbering among its members several founders of modern bone pathology, including Drs. Henry Jaffe and Henry Mankin. Today, Dr. Timothy Rapp continues the tradition of community outreach and education by working closely with other area hospitals, sharing his expertise in the management of difficult orthopaedic oncology cases.

The Division also serves an important role at Bellevue Hospital Center with the Bellevue Orthopaedic Oncology Center which assists with the complex management of patients with tumors involving the musculoskeletal system. Because it is located in one of the busiest public hospitals in New York City, the Center is able render quality care to patients in the NYC Health and Hospitals Corporation regardless of financial hardship.

Foot & Ankle Division—Kenneth Mroczek, MD, Chief

The Foot & Ankle Division is among the oldest clinical programs for the care of foot and ankle conditions in the United States. It was founded over 50 years ago by Paul Lapidus, MD, one of the pioneers of this subspecialty.

A wide range of conditions are managed both non-operatively and operatively, including traumatic injuries, post-traumatic and inflammatory arthritis, complications of diabetes, sports medicine, forefoot reconstruction, and acquired flatfoot secondary to posterior tibial tendon dysfunction.

Division physicians are an integral part of two unique patient programs led by Dr. Mroczek:

The Diabetic Foot and Ankle Center is a program for the advanced treatment and specialized care of foot and ankle problems related to diabetes. The mission of the center
is to prevent and treat diabetic complications and reduce limb loss. It provides patients with limb salvage options, including reconstruction with either internal or external fixation.

The Center for Ankle Arthritis provides a full range of treatment options for patients with ankle arthritis. Patients are often treated without surgery with such modalities as physical therapy, bracing, orthotics or injections. Surgical options include: minimally invasive arthroscopic debridement, distraction arthroplasty with external fixation, ankle fusion and total ankle arthroplasty.

Hand Division—Martin Posner, MD, Chief

The Hand Division is the largest clinical hand surgery program in the United States. It provides comprehensive care for the complete spectrum of conditions that affect the upper extremity, including acute traumatic injuries (fractures and dislocations as well as tendon, nerve, and vascular lacerations), post-traumatic and arthritic deformities, acquired problems such as nerve compressions and tumors, congenital deformities, and neuromuscular disorders. Hand surgeons Steve Lee, MD, Alice Chu, MD, and Alfred Grant, MD, also provide care to hundreds of pediatric patients with hand conditions such as traumatic hand injuries and congenital deformities.

With more than 5,000 operative procedures performed each year, there is excellent material for clinical research and prospective studies. Current clinical studies focus on the treatment of fractures of the distal radius, carpal subluxations, compressive neuropathies, and tendon healing. Anatomical studies are also being conducted at the NYU School of Medicine, as well as collaborative research projects with the Departments of Pathology and Radiology. The Hand Division physicians continue in the tradition of their illustrious predecessors Drs. Emanuel B. Kaplan and Richard Smith in providing first-rate patient care as well as exceptional training of residents and fellows.
Musculoskeletal Research Center (MRC)—Thorsten Kirsch, PhD, Director

Basic and translational orthopaedic research is based at our Musculoskeletal Research Center, where researchers work to create and discover treatments, techniques, and devices that improve the treatment of patients with a wide range of orthopaedic conditions, from arthritis and fractures to damaged cartilage and a range of genetic disorders that affect the musculoskeletal system.

Recent events have ushered in an exciting new era of innovation at the MRC, beginning with the appointment of Thorsten Kirsch, PhD, as Director of the Center and Vice-Chair of Research for the Department. Dr. Kirsch will also lead the efforts of the Center of Excellence on Musculoskeletal Disease, which encompasses the full array of orthopaedic and rheumatologic research at Hospital for Joint Diseases. The Center fosters existing collaborations between the Department of Orthopaedic Surgery, the Division of Rheumatology, and the scientists at NYU Langone Medical Center to promote new synergies and integrate clinical and translational research efforts.

The MRC’s research laboratories have recently undergone a complete renovation. The new state-of-the-art laboratories occupy 4,000 square feet of space dedicated to research in molecular biology, tissue engineering, gene discovery and regulation, biomaterials, bioengineering, and cell biology complemented by extensive materials testing, microscope, cell culture, computer, and machining facilities.

Occupational and Industrial Orthopaedic Center—Margareta Nordin, DrSci, Director

The Occupational and Industrial Orthopaedic Center (OIOC) is focused on research related to the prevention of workplace injuries and disabilities, which includes such topics as patient treatment compliance and factors that predict work retention as well as work reintegration after injury and disease. Collaborative research with the Department of Orthopaedic Surgery and other departments and divisions includes automobile driving performance in patients with lower and upper extremity injuries and the role of ergonomics in the operating theater. The Department and the OIOC jointly support an MS and PhD program in orthopaedic biomechanics and ergonomics at the NYU School of Arts & Sciences. Research involving doctoral candidates includes cumulative trauma complaints among adolescents, gender differences in landing from upright jumping, and MRI studies of patients with shoulder impingement.

The Laboratory for the Study of Minimally Invasive Surgery—Peter Walker, PhD, Director

The Laboratory for the Study of Minimally Invasive Surgery is located at the Manhattan Veterans Affairs Medical Center. Here, laboratory scientists study the development and evaluation of new computer-assisted techniques in total knee replacement surgery. They are also active in projects using knee activity simulators and have collaborated with the Shoulder and Sports Medicine divisions in studies of shoulder implants.
The Division of Outcomes Studies and the Clinical Research Institute—Phil Band, PhD, Director

The supervision of several clinical databases within the Department of Orthopaedic Surgery have recently been consolidated into the Division of Outcomes Studies. These include the Total Joint Reconstruction Registry, the Hip Fracture Registry, the Sports/Shoulder Registry, and registries for tracking wrist and elbow fractures. Most recently, the Department established a comprehensive Clinical Research Institute under the direction of Phil Band, PhD. The goal of the Institute is to develop a robust patient database across all subspecialty Divisions, focusing on outcome measures. Plans are now under way to recruit research personnel to manage the expanding database and to recruit a new faculty member with expertise in clinical effectiveness research. The goal of this three-year plan is to establish the infrastructure and staff to support a comprehensive clinical research program for the entire Department.

The Hip Fracture Research Group—Kenneth Egol, MD, Director

The Hip Fracture Research Group, a multidisciplinary team of orthopaedists, epidemiologists, nurse specialists, geriatricians, and social workers, was established in 1985. The resulting database is now managed by the Trauma Division. The group is well represented by numerous papers in peer-reviewed journals, including the Journal of Bone and Joint Surgery, Journal of Orthopaedic Trauma, Geriatrics, Clinical Orthopaedics and Related Research, and Facts and Research in Gerontology, as well as several book chapters and textbooks.

The Sports Medicine and Shoulder and Elbow Research Group—Laith Jazrawi, MD, Director

The Sports Medicine and Shoulder and Elbow Research Group, the research component of the Shoulder and Elbow and Sports Medicine Divisions, conducts clinical and biomechanical studies on a wide range of shoulder disorders, in addition to developing new measurement tools for shoulder research. At any given time, over 30 research projects are at various stages of investigation. Typical studies include the biomechanical analysis of rotator cuff and instability repairs, new techniques for rotator cuff repairs, outcomes of shoulder arthroplasty, and a comparison of arthroscopic and open techniques in treating shoulder pathologies. In addition, the Group is involved in studies of advanced MRI techniques for monitoring cartilage repair, biomechanical evaluations of proximal hamstring repair techniques, and rotator cuff biomarkers.
Led by Vice Chair and Residency Program Director Kenneth Egol, MD, and Assistant Residency Program Director Eric Strauss, MD, the Department’s educational programs include one of the largest and most prestigious residency programs in the country as well as fellowship programs in every major orthopaedic subspecialty. The Department also offers educational opportunities for undergraduate students, medical students and visiting orthopaedic surgeons from the United States and around the world.

Each year, the Department of Orthopaedic Surgery matches 12 medical students to enter its residency program. Ten students are matched into a five-year training program and two students are selected to participate in a six-year clinician-scientist training program.

The basic components of the residency program focus on:

- Clinical Orthopaedics
- Comprehensive Surgical Training
- Basic Orthopaedic Science
- Orthopaedic Research Fundamentals

Clinical rotations last for 60 months and include nine major subspecialty areas of orthopaedic surgery to provide an extensive and focused experience. Both outpatient and inpatient clinical training is included, as well as operative and non-operative methods for exposure to the complete spectrum of orthopaedic treatments. Members of our teaching faculty interact closely with the residents and provide the supervision and instruction needed in our outstanding training program which includes one-to-two weekly case conferences on each clinical rotation.

Clinical training is enhanced by a comprehensive didactic program that includes conferences in all areas of clinical orthopaedics, fractures, basic science, and orthopaedic pathology. Based upon a two-year cycle, the didactic program provides each resident with two complete cycles during the four years of orthopaedic training.

Fellows in the Department of Orthopaedic Surgery work closely with the resident staff and function as junior attendings. Six orthopaedic subspecialties offer 14 postgraduate fellowship training positions that provide a comprehensive clinical experience in each of these areas: spine surgery, sports medicine, adult reconstructive surgery, hand surgery, shoulder surgery and pediatric orthopaedic surgery.

In addition to these programs, the Department established a Visiting International Physician (VIP) Program in order to accommodate the numerous qualified international orthopaedic surgeons interested in the cutting-edge orthopaedic care and research practiced at our world-class faculty.
Research Publications

TEXTBOOKS


SELECTED PUBLICATIONS (2009-2010)


### Adult Reconstructive
Fredrick Jaffe, Chief
(212) 598-7605
Edward Adler
(212) 427-3986
Jorge Baez
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