For more than 150 years, one of the central missions of our department has been the education, training, and mentoring of orthopedic surgeons. Our department boasts academic medical programs at every level, from undergraduate to first year medical student to chief resident, and from clinical fellows to visiting clinicians from around the world.

The goals of our residency and fellowship training programs are the following: to provide our trainees with the tools to master the rigors of clinical training, to introduce students and trainees to the principles of sound orthopedic science, non-technical skills, and—most importantly—to provide them with an extensive patient care experience, in the operating room, in the emergency department and in many different outpatient settings. We do this in an environment that promotes a variety of learning experiences and professional training across all the major orthopedic subspecialties while at the same time allowing individuals to grow and develop the skills necessary to become future leaders of our field.

Orthopedic surgery is a discipline that does not stand still in this era of rapidly evolving medical technology and our programs expose trainees to the latest advancements in orthopedic techniques. We are proud to be able to educate learners at all levels, including those in clinical practice and in state-of-the-art facilities, while also providing access to the most up-to-date surgical technologies, in many cases developed by our own faculty.

However, access to 21st century technology is not the most important resource we provide. What makes our programs unique is the world-class faculty of 182 orthopedic surgeons and scientists, at the pinnacle of their respective subspecialties, who are available to share their accrued knowledge with each incoming learner. Whether the field is hand surgery or pediatric orthopedics, shoulder and elbow or foot and ankle, there are multiple faculty members available with the expertise necessary to train our students, residents, fellows and visiting clinicians in every aspect of orthopedic care.

Reading through the following pages, we are reminded of the numerous surgeons who have trained in our programs and we are gratified by their professional success. But we are not content to rest on our reputation—in the coming years we look forward to expanding our academic programs even further, as we train an ever more diverse group of future surgeons, researchers and leaders in the field of orthopedic surgery.

Kenneth A. Egol, MD
Professor & Vice Chair of Education
Program Director
Orthopedic Residency
Department of Orthopedic Surgery

Donna Phillips, MD
Clinical Professor of Orthopedic Surgery
Assistant Program Director
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Associate Professor
Associate Program Director
Orthopedic Residency
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Joseph D. Zuckerman, MD
Professor & Chairman
Department of Orthopedic Surgery
INTRODUCTION

In 1997, the departments of orthopedic surgery at the Hospital for Joint Diseases (now NYU Langone Orthopedic Hospital) and the NYU School of Medicine, created a single orthopedic surgery residency and fellowship program that combined the academic excellence and traditions of two historic institutions. Today, the Department of Orthopedic Surgery at NYU Langone Health boasts the largest, and one of the most prestigious, orthopedic residency programs in the nation. In addition, we offer fellowship programs in every major orthopedic subspecialty while providing educational opportunities for undergraduate students, medical students and orthopedic surgeons from the United States and around the world.

A PROUD HISTORY OF ACADEMIC EXCELLENCE

The NYU Langone orthopedic education programs are rooted in the very origins of orthopedic education in this country.

Orthopedic education at the NYU School of Medicine traces its origins to the nineteenth century and its long-term association with Bellevue Hospital. When Dr. Lewis Albert Sayre was appointed Professor of Orthopedic Surgery, Fractures, and Dislocations at Bellevue in 1853, it represented the first orthopedic 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. Dr. Sayre trained many of the country’s first orthopedic surgeons, thus making ours the oldest such orthopedic training program in the United States.

The history of the Hospital for Joint Diseases (now NYU Langone Orthopedic Hospital) begins in 1905, when brothers Drs. Henry and Herman Frauenthal, founded the Jewish Hospital for Deformities and Joint Diseases with a mission to help children with infantile paralysis. The highlights of the Hospital for Joint Diseases’ early history include the first research on arthroscopic techniques in the United States, the development of surgical procedures for the treatment of polio and congenital deformities in children, the establishment of orthopedic pathology as a distinct subspecialty and the establishment of the first orthopedic biomechanics laboratory in the United States.

Most recently the combined institutions opened the largest state-of-the-art facility for treating musculoskeletal conditions in New York City, the NYU Langone Orthopedic Center (LOC).

The education and mentoring of future generations of surgeons has been the mission of both institutions from their inception. As the oldest and largest such program, we continue to strive for excellence within this domain.
THE RESIDENCY PROGRAM

Each year, the NYU Langone orthopedic residency program matches 14 medical students. Twelve students are matched into a 5-year training program and two students are selected to participate in a 6-year clinician-scientist training program.

The basic components of our residency program focus on:

• Clinical Orthopedics
• Comprehensive Surgical Training
• Basic Orthopedic Science
• Professionalism and Communication Skills
• Orthopedic Research Fundamentals

Clinical rotations last over a 60 month period and include all major subspecialty areas of orthopedic surgery. The program incorporates rotations specific to each major subspecialty to provide a focused experience. Both outpatient and inpatient experiences are included, as well as operative and non-operative treatments for a complete spectrum of orthopedic pathology. Members of our teaching faculty provide residents with close interaction and supervision, as well as 1-2 academic conferences for each clinical rotation.

Clinical training is enhanced by a comprehensive didactic program that includes conferences in all areas of clinical orthopedics, fractures, basic science, and orthopedic pathology. Based on the core curriculum of the American Academy of Orthopaedic Surgeons, the didactic program provides each resident with two complete didactic cycles during five years of orthopedic training.

To learn the fundamentals of orthopedic research, each resident is required to complete three scholarly activities during the course of the program, one of which is an original research project. The original research project must be suitable for presentation at a national orthopedic meeting and/or publication in a peer-reviewed orthopedic journal. The other two writing projects may be an additional research project or preparation of a textbook chapter, case series, video project or case report.

Residents are expected to prepare a submission-ready grant proposal by the middle of the PGY3 year. Support and resources are provided by the research arm of the department: the Musculoskeletal Research Center (MRC). Clinical research is enhanced through the use of multiple computerized clinical databases for clinical research studies. Basic science research is conducted under the direction of the MRC staff. Further support for these activities is provided by two orthopedic clinician scientists within the department.

THE RESIDENCY TRAINING EXPERIENCE

Residents are provided the opportunity for progressive responsibility as they gain experience and knowledge. The overall goal of the residency is for the resident to obtain the necessary knowledge, experience and skill set to successfully complete the certifying exams of the American Board of Orthopedic Surgery and to enter the practice of orthopedic surgery as a well-trained, highly competent orthopedic surgeon.
Residency Year One (Internship)
The first year is a combined medical and surgical experience under the auspices of the Department of Orthopedic Surgery. The year begins with an intensive boot camp month in July in which new trainees are oriented to the medical center and provided hands-on instruction on basic surgical skills, patient safety, and the non-technical skills required to be successful residents and orthopedic surgeons. In addition to boot camp, rotations include general surgery, trauma surgery, plastic surgery, intensive care, and emergency care. Rotations in orthopedic surgery include adult reconstruction, foot and ankle, intensive care, emergency care, fracture, pediatrics, hand and tumor.

First-year residents are assigned to the following clinical facilities: NYU Langone Health's Tisch Hospital (Tisch), NYU Langone Orthopedic Hospital (LOH), Jamaica Hospital Medical Center (Jamaica), and Bellevue Hospital Center (BHC).

Residency Year Two
The goal of the second year of training is for residents to gain experience in the ambulatory and emergency outpatient setting as well as inpatient management of various acute and chronic orthopedic conditions. Operating room experience emphasizes enhancing the basic psychomotor technical skills accrued during year one as well as teaching the fundamental principles of orthopedic surgery, anatomy, and surgical dissection. During each rotation, the second-year resident serves as the junior resident on a variety of clinical services including spine, pediatrics, adult reconstruction, sports, trauma and general orthopedics.

Operating room experience emphasizes acquiring basic psychomotor technical skills as well as teaching the fundamental principles of orthopedic surgery, anatomy, and surgical dissection. During each rotation, the second-year resident serves as a junior resident of a clinical service. The importance of developing a basic orthopedic knowledge base is paramount during this year.

Residency Year Three
At this point in the program, the resident has gained sufficient core knowledge and experience to more actively direct the care of patients. On some rotations the resident will be directly responsible to a fellow or to the attending faculty. Extensive experience in both outpatient and inpatient care continues at this level, as well as increasing responsibility in the emergency department.

Operative experience increases in volume and complexity during the third year of training, providing the resident with the background necessary to enter the senior resident years. Residents in their third year focus on the following subspecialties: hand surgery, sports medicine, shoulder and elbow surgery, trauma and adult reconstructive surgery. Rotations include BHC, LOC, Jamaica and LOH.

Residency Year Four
Responsibility for patient care continues to increase and in some rotations the resident reports directly to the faculty attending. Even in instances that involve the fifth-year resident as Chief Resident, the fourth-year resident will have specific clinical responsibilities that allow for functioning as the supervising senior resident. Residents become more actively involved in the development of treatment plans for patients in both the outpatient and inpatient settings, while moving into the roles of primary surgeon and first assistant in the operating room. Residents at this level begin to assume responsibility for the education of their co-residents and medical students.

Residents in the fourth year focus on these subspecialties: foot and ankle, tumor, spine, pediatric orthopedic surgery, and adult reconstructive surgery.
Residency Year Five
During this final year, the resident always functions as the Chief of a multiple-resident service, which will vary from 2-6 residents depending on the rotation. The Chief Resident has responsibility for all clinical activities of the service, including inpatient and outpatient care, as well as all operating room activity. The coordination of all resident activity and the oversight of the care provided is the Chief Resident’s responsibility, working directly with the Chief of Service and other members of the teaching faculty. The roles of primary surgeon and first assistant continue in the operating room, depending on the complexity of the case. Chiefs assume more responsibility for the education of their co-residents and medical students.

Senior residents pursue a selective rotation in one of three subspecialty interests (spine, joint replacement or hand surgery), which often coincides with future fellowship plans. The fifth year rotations concentrate on pediatric orthopedics, adult reconstructive surgery, sports medicine and provide residents with opportunities to play significant roles directing patient care in our trauma service. The senior residents rotate throughout the department’s clinical facilities.

THE CLINICIAN SCIENTIST TRAINING PROGRAM

Since 1984, our department has offered an additional year of training for those interested in pursuing a career as a clinician scientist. Each year, two medical students entering the residency program are accepted into the 6-year Clinician Scientist Training Program. The goal of the 6-year research program is to immerse the resident in an intensive year of clinical and basic science orthopedic research. This program is designed for those interested in an academic career focused on leadership and scientific discovery.

This program is a rewarding experience that introduces future clinician-scientists to a wide range of orthopedic research. This 12-month program takes place within the Musculoskeletal Research Center (MRC) and begins in July of the R3 year for those residents selected. Residents are assigned a focus in basic science and clinical investigations under the mentorship of the Director of the MRC, Thorsten Kirsch, PhD and our two orthopedic clinician scientist faculty members, Thomas Einhorn, MD and Philipp Leucht, MD, PhD (pictured above).

At the conclusion of the research year, the resident will have gained an in-depth experience in biome-
chanical or biomolecular techniques used in con-
temporary orthopedic research and have greater
insight into today’s relevant research topics.

Each research resident is responsible for the planning,
initiation, execution, and manuscript submission of at
least one clinical and one basic research investigation;
participating in ongoing studies conducted by the
MRC’s faculty; preparing and presenting the results
of studies in which he/she is involved at national
meetings; and researching and preparing at least
one comprehensive review paper, typically on a
controversial subject, for publication in a major
orthopedic journal. The resident will work under
the guidance of the MRCs research faculty, an
outstanding group of full-time scientists who mentor
the residents in the program.

FELLOWSHIP PROGRAMS

Fellows in the Department of Orthopedic Surgery
work closely with the resident staff and function
as junior attendings. All fellows are expected to
pursue at least one scholarly activity during the
year and must present the results of their work
at a departmental meeting, prior to completion
of their fellowship year. Each fellow is responsible
for participation in the resident curriculum lecture
series. Six orthopedic subspecialties offer 20
postgraduate fellowship-training positions that
provide a comprehensive clinical experience in
each of these areas:

The Spine Surgery Fellowship Program
(5 positions)

Jeffrey Goldstein, MD - Director
The spine fellowship is designed for four fellows, with
one additional position reserved for an international
trainee. There are 16 subspecialty trained spine
surgeons directly involved in the fellowship program.
The fellows are exposed to a wide range of pathology
including degenerative spine disease, complex
pediatric and adult deformity cases, tumors, trauma,
and infections. At the end of the fellowship, fellows
will be trained in surgery from the occiput to the
sacrum, both anterior and posterior, with and without
instrumentation. Additionally, they will be exposed to
many new and cutting edge techniques such as disc
arthroplasty, minimally invasive surgery, and dynamic
stabilization. The fellows work at LOH and Tisch.

The Sports Medicine Fellowship Program
(2 positions)

Laith Jazrawi, MD - Director
Fellows in the sports medicine program are dedicated
to the care of patients with athletic injuries of
both the upper and lower extremities. The core
responsibilities of the fellows includes weekly clinics,
directing physical therapy protocols and the surgical
treatment of patients. Other activities include leading
weekly journal club meetings and participating in the
on-field coverage of local high school, collegiate, and
professional athletic events, including the care of the
Jacksonville Jaguars Football Team. The fellows work
at LOH, LOC and BHC.

The Hand Surgery Fellowship Program
(5 positions)

Martin Posner, MD - Director
The Combined Emanuel Kaplan/Eaton Hand
Fellows is a diverse experience devoted to the
treatment of disorders of the hand, wrist, and elbow. Fellows assist in the care provided at two weekly clinics and present at weekly conferences along with the residents. The experience includes office management and operative intervention of such disorders as compressive neuropathies, trauma, arthritis, tendonitis, and rheumatoid deformities. The fellows work at NLOH, LOC, Jamaica and BHC as well as at affiliated institutions at the discretion of the program director.

**The Adult Reconstructive Fellowship Program**
(6 positions)

*Richard Iorio, MD - Director*

The NYU/ISK Adult Reconstructive Fellowship Program is designed to provide extensive clinical experience in primary and revision knee and hip arthroplasty, with emphasis on a wide range of approaches and techniques, including minimally invasive surgery and computer-assisted surgical navigation. The fellow is involved in all facets of patient care, including clinic coverage and resident education in addition to intensive operating room experience. The fellows work at LOH, Tisch, St Francis Hospital and BHC.

**The Shoulder Surgery Fellowship Program**
(1 position)

*Andrew Rokito, MD - Director*

The Shoulder and Elbow Surgery Fellowship program is designed to provide extensive clinical experience in both the non-operative and operative management of shoulder and elbow disorders. The fellow actively participates by evaluating patients in one weekly clinic and taking part in shoulder and elbow operative cases with the attending surgeons on the shoulder and elbow service. Research also plays a role in the fellow’s development, with active participation in the research activity of the Shoulder Research Group. The fellows work at LOH and LOC.

**The Pediatric Orthopedic Surgery Program**
(1 position)

*Alice Chu, MD - Director*

The Division of Pediatric Orthopedic Surgery actively involves the fellow in the daily activities of the service, including patient care in the clinic, inpatient wards, the operating rooms and resident education. Fractures, congenital disorders and the entire spectrum of pediatric orthopedic and neuromuscular diseases provide a diverse experience for the fellow and result in an extremely well-rounded program. The treatment of pediatric spinal disorders is a combined effort with the Spine Division. The fellows work at LOH, the Center for Children, The Hassenfeld Children’s Hospital, Tisch and BHC.

**Visiting International Physician (VIP) Program**

The Department of Orthopedic Surgery established a Visiting International Physician (VIP) Program in order to accommodate the numerous qualified foreign orthopedic surgeons interested in the cutting edge orthopedic care and research practiced by our world-class faculty.

The visits from international academic observers have a twofold benefit: VIPs learn state-of-the-art orthopedic techniques available at NYU Langone Health while sharing their own accrued knowledge and expertise with our faculty. In order to participate in the VIP program, a physician must have a faculty sponsor within the department.
The sponsor will guide the VIP’s experience and help the VIP obtain the educational experience he/she desires. Length of visit, the location of the observership, and the specific activities the VIP will engage in are agreed upon by the VIP and his/her faculty sponsor before the visit takes place.

**RESEARCH AND SURGICAL TRAINING FACILITIES**

**The Musculoskeletal Research Center**
Research is one of the cornerstones of the academic experience at NYU Langone Health. The department boasts a center dedicated exclusively to orthopedic basic science and clinical research. The world-class research facilities and labs that comprise the Musculoskeletal Research Center (MRC) are a vital resource for all orthopedic residents and fellows.

Molecular and biomechanical research is the major focus of the MRC’s research laboratories. MRC laboratories provide facilities where faculty, residents, fellows, medical students, graduate and undergraduate students, and visiting scholars can conduct interdisciplinary research in tissue and cellular biomechanics, regeneration, and repair. The primary lab for the MRC is a 4,000-square-foot facility that houses a “materials testing” laboratory, cell and molecular biology laboratory, histology laboratory, tissue culture facilities, and a microscopy laboratory. In 2017, we expanded our research facilities to the NYU Tandon School of Engineering with a combined laboratory in the 26th Street facility. In addition, there are many opportunities for collaboration within NYU Langone Health including collaborative research with staff at the departments of Population Health, Cell Biology, Medicine as well as researchers from the NYU School of Dentistry.

**EDUCATIONAL FACILITIES AND TRAINING CENTERS**

**The New York Simulation Center**
The New York Simulation Center for the Health
Sciences, created through a partnership between The City University of New York and NYU Langone Health, is one of the nation’s largest urban health science simulation training facilities. This state-of-the-art, 25,000-square foot center, is located within Bellevue Hospital. The facility’s primary mission is training students from the affiliated nursing, medical, dental and allied health schools of NYU and CUNY as well as residents, practicing physicians and nurses at NYU Langone Health. Training of first responders to disasters in New York City is also a part of the mission of the center. The department utilizes these facilities for team training, surgical skills training and objective structured clinical encounters (OSCE’s).

**Orthopedic Surgical Skills Labs**

An important component of our program is the development of psychomotor surgical skills at our state-of-the-art surgical skills labs. A group instruction wet skills lab is located at Bellevue Hospital. Here the department runs bimonthly bioskills surgical sessions, focusing on various aspects of surgical care. Sessions include spine surgery exposures and pedicle screw placement, shoulder arthroplasty, lower extremity trauma and soft tissue hand surgery. In addition, the skills lab houses our arthroscopic surgery simulator and training microscope used for instruction in microsurgery.

This lab also allows for recording video and still images while performing surgical procedures and can accommodate arthroscopic procedures of the shoulder, elbow, hip, knee, or ankle. Several types of open procedures can also be performed. The lab has been used to conduct research studies, anatomy dissections, and surgical teaching sessions for open and arthroscopic techniques. Live demonstrations with two-way audio are telecast into the Loeb Auditorium, the principal lecture hall at LOH, as well as other conference rooms throughout the hospital, to help enhance academic conferences and other educational sessions.

**The Herman Robbins MD Memorial Library**

The Herman Robbins Medical Library at the NYU Langone Orthopedic Hospital is one of the Health Sciences Libraries at NYU Langone Health. In 1993, the library was named after Dr. Herman Robbins, Chairman of the Department of Orthopedic Surgery (1972-1981) for his invaluable and indefatigable service to the orthopedic hospital’s residents, patients and staff. Open 24 hours a day, it provides a multitude of resources for all orthopedic trainees including bound journals, textbooks, search services and conference rooms.

**SPECIAL EDUCATION PROGRAMS**

**International Medical Experience**

Through a relationship developed with Orthopedic Relief Services International (ORSI), the department currently funds and staffs 4 missions to Haiti each year. An attending orthopedic surgeon, a resident surgeon, a scrub nurse/tech and an anesthesiologist staff the missions. These experiences allow the trainee to provide vital medical services to the underserved population of Haiti. In addition to providing needed orthopedic care to often neglected patients, our residents are involved in helping to re-establish the only orthopedic training program in the country which is headquartered in Port Au Prince. Over the years, the department has developed mutually beneficial relationships in Haiti. Our residents provide didactic conferences and teaching in the operating rooms for the local orthopedic trainees. Candidates are selected based on interest and seniority.

**Health Policy Certificate**

The department has created an opportunity for one resident every other year beginning in either their PGY-1 or PGY-2 year, to receive four years of enhanced education about health policy through a Strategy and Policy Orthopedic Resident Track (SPORT). There are two active SPORT residents in the residency program at any given time. The SPORT program involves partnerships with three entities:

2. The New York State Society of Orthopedic Surgeons (NYSSOS);
3. The American Academy of Orthopedic Surgeons/American Association of Orthopedic Surgeons (AAOS)
Selection for the SPORT program is based on trainee interest and qualifications. Interested residents would apply on or before February 1st of their PGY-1 year via an application, personal statement and letters of support. Decision for selection will be communicated by May 1st of their PGY-1 year. Alternatively, a statement of interest and application may also be submitted during residency interviews to allow a selected applicant to begin the program in their PGY-1 year.

OUR COMMUNITY

The residents, fellows, medical students, and VIPs participating in the educational programs at NYU Langone can take advantage of the diverse and vibrant community outside of our hospital walls.

Most of the facilities at which residents and fellows train (the NLOH, CMC, VA, Tisch and BHC) are located within a 17-block radius in the Gramercy and Kips Bay neighborhoods of Manhattan. Our location in the heart of one of the world’s most exciting and culturally-rich metropolitan areas provides yet another facet to the educational experience at our institution.

The Housing Services Office at the NYU School of Medicine recognizes the challenges involved in the search for affordable housing in and around New York City and acts as a housing resource for faculty, students, and staff at the medical center.

WELLNESS AND RESILIENCE

Being a resident or fellow at a major teaching hospital is a rewarding but demanding experience. You work long hours and may face emotional, physical, and intellectual challenges on a daily basis. In order to provide patients with the best care possible, you also need to take care of yourself.

The NYU Langone Department of Orthopedic Surgery is committed to providing resources to help our residents and fellows manage the daily demands of being a physician-in-training. Our residents participate in the House Staff Wellness Committee. Members of this committee seek to identify and address issues related to the well-being and mental health needs of residents and fellows at NYU School of Medicine.
Orthopedic surgery house staff are well supported as soon as they arrive at NYU Langone for training. We recognize that residency can be stressful for some trainees. Therefore, each resident is assigned a faculty advisor to assist with academic and/or personal challenges, and adjustment to residency. Department leaders are attuned to individual resident needs and provide mentorship and support to ensure success during training.

We encourage our trainees to maintain a work-life balance that promotes resilience. As such, we actively support activities outside the hospital, including department sponsored basketball teams, a soccer team, day ski trips, a yearly golf outing, and a trainee and faculty paint ball day. There is a gym for trainee use in the hospital. These activities serve as a welcome source of physical activity as well as creating a sense of comradery within the department, both well known-methods to prevent burn out.

**A COMMITMENT TO DIVERSITY**

The Office of Diversity Affairs at NYU School of Medicine is committed to developing and managing recruitment, retention, and the inclusion of trainees. The outreach programs ensure that students, residents, fellows, and faculty reflect the community it serves.

The Department of Orthopedic Surgery is committed to supporting the goals of the American Academy of Orthopaedic Surgeons in fostering diversity in orthopedic academic programs. As part of these efforts, our academic staff strives to identify and train qualified women and underrepresented minorities that are interested in the field of orthopedic surgery. The department has its own diversity committee and also funds activities of the Student National Medical Association. The department hosts one of the largest Perry Initiatives yearly to introduce female students to orthopedics and engineering.
HOW TO APPLY

Residency
The deadline for applications for the residency program is November 1st of the previous academic year. Interviews are offered to approximately 72 applicants.

Applications for entry at the R-1 level will be processed through the American Association of Medical Colleges (AAMC) Electronic Residency Application Systems (ERAS). For application materials and detailed instructions for the ERAS program, please contact the Dean’s Office at your medical school.

Residency
For application to one of our residency programs please contact:
Randie Godette
Residency Coordinator
301 East 17th Street NY, NY 10003
212.598.6509
randie.godette@nyumc.org

Fellowship
For application to one of our fellowship programs please contact:
Cara Notarianni
Fellowship Coordinator
301 East 17th Street NY, NY 10003
212.598.6509
cara.notariani@nyumc.org

VIP Academic Observership
For an application to the VIP program please contact:
Malka Alt
VIP Program Coordinator
212.263.6391
Malka.alt@nyumc.org

For more information about our Educational Programs visit us on the web at: www.nyulangone.org