The Pediatric Orthopaedic Fellowship Program at Hospital for Special Surgery
Institutional and Program History

The Division of Pediatric Orthopaedics at Hospital for Special Surgery has earned a national and international reputation as an authority in orthopaedics and musculoskeletal medicine, treating thousands of children each year. Our team of board-certified, fellowship-trained pediatric orthopaedists treats a broad range of musculoskeletal conditions, including spinal deformity, scoliosis, limb length discrepancy, limb deformity, clubfoot, cerebral palsy, developmental dysplasia of the hip, and osteogenesis imperfecta. Our orthopaedists are all active members of – and many hold leadership positions in – national and regional academic societies.

With over 12,000 pediatric outpatient visits per year and total pediatric surgical cases exceeding 1,200 per year, Hospital for Special Surgery clinicians care for the full spectrum of pediatric orthopaedic patients.

The Division of Pediatric Orthopaedics is also responsible for providing orthopaedic coverage for the NewYork-Presbyterian Hospital (NYPH) emergency room, nursery, neonatal intensive care unit (NICU), and pediatric intensive care unit (PICU), as well as the New York Hospital Queens (NYHQ) emergency room and trauma service.

The Pediatric Orthopaedic Fellowship Program at HSS was established over 35 years ago and has been accredited by the Accreditation Council for Graduate Medical Education (ACGME) since 1990. The program offers broad exposure to all facets of pediatric orthopaedics through the academic and clinical resources of Hospital for Special Surgery, NewYork-Presbyterian Healthcare System, Weill Cornell Medical College, and New York Hospital Queens.

Founded in 1863 by Dr. James Knight, Hospital for Special Surgery (HSS) is an academic medical center specializing in musculoskeletal medicine – including orthopaedic surgery, rheumatology, and rehabilitation – and is affiliated with NewYork-Presbyterian Healthcare System and Weill Cornell Medical College. For more than a century, Hospital for Special Surgery has trained the minds, hearts, and hands of some of the finest orthopaedic surgeons in the nation. A steadfast commitment to excellence in education dates back to the Hospital’s earliest traditions and continues to influence our present-day mission: To improve the mobility and enhance the quality of life of patients, while advancing the science of orthopaedic surgery, rheumatology, and their related disciplines through research and education.
Fellowship Program Overview and Goals

Established in 1972, the Pediatric Orthopaedic Fellowship Program at Hospital for Special Surgery is ACGME-accredited and is affiliated with NewYork-Presbyterian Hospital and Weill Cornell Medical College. The goal of this one-year fellowship is to provide exceptional training in the identification, management, and treatment of operative and non-operative pediatric orthopaedic disorders. The program involves a combination of clinical, educational, research, and administrative responsibilities. The program provides broad exposure to all facets of the discipline, while allowing individuals to pursue special interests, and is structured so that the Fellow has the opportunity to regularly attend clinics and operate with each of the faculty on the Pediatric Orthopaedic Service. The Fellow works closely with our attending surgeons and residents, assisting in the diagnosis, treatment, and management of a multitude of pediatric orthopaedic conditions, including: scoliosis; clubfoot; limb length discrepancy; developmental dysplasia of the hip; slipped capital femoral epiphysis; pediatric sports injuries; pediatric fractures / trauma; spina bifida; osteogenesis imperfecta; and cerebral palsy. The clinical and research components of the Pediatric Orthopaedic Fellowship Program are further outlined in the following sections.

Our Faculty

John S. Blanco, MD
Dr. Blanco specializes in the treatment of spinal deformity (including early onset scoliosis surgery utilizing growing rods and vertical expandable prosthetic titanium rib, or VEPTR), surgical and non-surgical management of pediatric fractures, neuromuscular conditions, clubfeet (including Ponseti casting), pediatric hip conditions, and management of angular deformities of the extremities (including limb length inequalities). His research interests include limb deformity, scoliosis, and pediatric trauma.

A native New Yorker, born in Brooklyn and raised in Queens, Dr. Blanco graduated from Weill Cornell Medical College and completed his pediatric orthopaedic and scoliosis training at the renowned Texas Scottish Rite Hospital in Dallas. He joined Hospital for Special Surgery from the Scottish Rite Campus of Children’s Healthcare of Atlanta, where he was the Pediatric Orthopaedic Fellowship Director, a post he maintains at HSS. For more information, including a list of publications, please visit Dr. Blanco’s online bio.

Shevaun M. Doyle, MD
Dr. Doyle specializes in general pediatric orthopaedics, pediatric orthopaedic trauma, pediatric and adolescent metabolic bone disease, and scoliosis. She also conducts research focused on pediatric orthopaedics and metabolic bone disease.

While attending New York Medical College, Dr. Doyle attained several honors, including the New York Medical College Department of Orthopaedic Surgery Award, the Cor et Manus Award, and the New York Medical College Annual Medical Student Research Forum Award. Upon completion of her residency in orthopaedic surgery at Hospital for Special Surgery, a fellowship in pediatric orthopaedic surgery at Alfred I. duPont Hospital for Children, and nine years in private practice in White Plains, New York, she returned to HSS as a member of the Division of Pediatric Orthopaedics.

For more information, including a list of publications, please visit Dr. Doyle’s online bio.
Daniel W. Green, MS, MD, FACS
Dr. Green specializes in the treatment of pediatric sports injuries and knee disorders, such as patella dislocations, discoid meniscus, and osteochondritis dissecans. He also has a special interest in the management of spondylolysis, osteogenesis imperfecta, and scoliosis in young children.

Dr. Green completed his residency in orthopaedic surgery at Hospital for Special Surgery and fellowship in pediatric orthopaedic surgery at Children’s Hospital Los Angeles. Prior to returning to Hospital for Special Surgery in 1998, Dr. Green was a surgeon and assistant professor at the Yale University School of Medicine. Dr. Green is an active board member of the New York State Society of Orthopaedic Surgeons and the New York County Medical Society. He is a graduate of the American Academy of Orthopaedic Surgeons (AAOS) Leadership Fellows Program. Currently he is a member of the AAOS’s Board of Councilors and serves on the Evaluation Committee for both the AAOS Orthopaedic Self-Assessment Examination and the Orthopaedic In-Training Examination.

For more information, including a list of publications, please visit Dr. Green’s online bio.

Cathleen L. Raggio, MD
Dr. Raggio specializes in the treatment of osteogenesis imperfecta and skeletal dysplasia and is the Co-Director of the Kathryn O. and Alan C. Greenberg Center for Skeletal Dysplasias at Hospital for Special Surgery.

Dr. Raggio completed her residency in orthopaedic surgery at Hospital for Special Surgery and a fellowship in pediatric orthopaedic surgery at Alfred I. duPont Hospital for Children. Known worldwide throughout the medical community, Dr. Raggio performs basic science and clinical research on the etiology of scoliosis, osteogenesis imperfecta, osteoporosis, and skeletal dysplasias.

For more information, including a list of publications, please visit Dr. Raggio’s online bio.

Leon Root, MD
A member of the medical staff at Hospital for Special Surgery since 1967, Dr. Root is recognized worldwide as one of the leading experts in the treatment of cerebral palsy and osteogenesis imperfecta, and conducts research on these conditions. He also has a strong interest in neuromuscular diseases of childhood.

Dr. Root is the former chief of Pediatric Orthopaedic Surgery and has been the Medical Director of Rehabilitation Services at HSS since 1970. He served as President of the American Academy for Cerebral Palsy and Developmental Medicine in 1988 and has been a visiting professor at medical institutions throughout the world. He established New York City’s first clinic for children with osteogenesis imperfecta, founded the HSS Pediatric Outreach Program, and expanded the Hospital’s cerebral palsy clinic.

For more information, including a list of publications, please visit Dr. Root’s online bio.

David M. Scher, MD
Dr. Scher specializes in the treatment of clubfoot, pediatric foot disorders, cerebral palsy, hip dysplasia, and pediatric fractures. He is the Co-Medical Director of the Leon Root, MD Motion Analysis Laboratory, where his work focuses on optimizing gait in children with cerebral palsy.

Dr. Scher graduated from the Duke University School of Medicine. He then completed his orthopaedic surgery residency at NYU-Hospital for Joint Diseases in New York and his pediatric orthopaedic surgery fellowship at Children’s Hospital and Health Center in San Diego. Dr. Scher’s research interests include the study of pediatric foot disorders, clubfoot, cerebral palsy, and pediatric trauma. In addition, Dr. Scher serves as Education Director of the Division of Pediatric Orthopaedics at Hospital for Special Surgery.

For more information, including a list of publications, please visit Dr. Scher’s online bio.
Ernest L. Sink, MD
Dr. Sink – who will join the medical staff in 2011 – specializes in the treatment of hip disorders in patients ranging from newborns to young adults. He will be the Co-Director of Hospital for Special Surgery’s Center for Hip Pain and Preservation. Dr. Sink performs hip procedures in infants, adolescents and young adults, including periacetabular osteotomies (PAO) and surgical hip dislocations. Dr. Sink has authored over 17 peer reviewed articles and six book chapters, and has particular academic and research interest in the areas of pediatric trauma and hip disorders.

Dr. Sink graduated from Texas Southwestern Medical School, where he went on to complete his orthopedic residency training. He completed his fellowship training at Rady Children’s Hospital in San Diego, and pursued post-fellowship study of innovative hip procedures in both the United States and Europe. Dr. Sink is involved in teaching other surgeons on a national level and collaborates with several other specialized hip surgeons in the country.

For more information, including a list of publications, please visit Dr. Sink’s online bio.

Roger F. Widmann, MD
The Chief of Pediatric Orthopaedic Surgery at Hospital for Special Surgery since 2004, Dr. Widmann specializes in pediatric spinal deformity/scoliosis treatment, pediatric limb lengthening, hip dysplasia, and pediatric orthopaedic trauma. Dr. Widmann also serves as the Co-Chief of the Limb Lengthening Service and is a member of the Scoliosis Service. In addition, he serves as the Director of Pediatric Orthopaedic Trauma at NewYork-Presbyterian Hospital / Weill Cornell Medical College. His research interests include pediatric trauma, scoliosis, hip disorders, and limb deformity.

Dr. Widmann completed his medical degree at the Yale University School of Medicine and his orthopaedic surgery residency at the Harvard Combined Orthopaedic Surgery Residency Program at Massachusetts General Hospital. He completed his pediatric orthopaedic surgery fellowship training at Children’s Hospital in Boston.

For more information, including a list of publications, please visit Dr. Widmann’s online bio.

Arkady Blyakher, Orthopaedic Specialist Assistant
Arkady Blyakher is an Orthopaedic Specialist Assistant who specializes in deformity correction and limb lengthening utilizing the Ilizarov method and external fixation. Before arriving in the United States in 1990 and joining Hospital for Special Surgery in 2000, Arkady received his medical degree from Kemerovo Medical School in Siberia and continued to practice as an Orthopaedist-Traumatologist at the world-renowned Kurgan Institute in Russia. During his tenure there, Arkady had the opportunity to specialize in deformity correction and limb lengthening techniques under the direction of Professor Gavriil A. Ilizarov. Since moving to the United States, Arkady has served as an Orthopaedic Specialist Assistant / Ilizarov Consultant at Hospital for Special Surgery, as well as many other notable academic institutions in the New York and Philadelphia metropolitan areas.
Clinical Training Components

The Division of Pediatric Orthopaedics at Hospital for Special Surgery maintains a strong dedication to the practice of evidence-based medicine, and as such, actively encourages the assimilation of scientific evidence and clinical judgment in order to provide the best possible clinical care. The Fellow attends and participates as an educator in four weekly academic lectures, weekly grand rounds, monthly journal club, and two weekly multidisciplinary case conferences, at which time current research and surgical indications are reviewed.

The Fellow also attends, works in, and teaches at the following weekly clinics: General Pediatric Orthopaedics, Cerebral Palsy, Scoliosis and Spinal Deformity, Clubfoot / Child Foot, and Pediatric Trauma. There are several monthly clinics in which the Fellow also participates: Prosthetics and Orthotics, Limb Length Discrepancy, Osteogenesis Imperfecta, Spina Bifida, and Skeletal Dysplasia. Attending faculty are present at all clinics. The Fellow develops diagnostic and clinical skills, with increasing, graduated responsibility for patient care and resident teaching. In addition to providing clinical opportunities in outpatient settings, the program is also designed so that the Fellow will have an active and broad surgical experience, including complex hip and pelvis osteotomies, fracture management, limb lengthening and deformity correction procedures, tendon transfers, knee arthroscopy, clubfoot procedures, spinal fusion, and scoliosis correction. The Fellow receives surgical training from all of the pediatric orthopaedic attendings during both clinic and private attending block time.

The Fellow also has the opportunity to interact with other members of the care team, including nurses, social workers, prosthetics and orthotics staff, and therapists (physical, occupational, and speech). This multidisciplinary approach allows the Fellow to broaden his or her base of knowledge, including the principles of physical therapy and bracing in the management of various neuromuscular conditions.

Techniques

- Periacetabular Osteotomy (PAO)
- VEPTR
- Growing Rods
- Pedicle Screws
- Guided Growth
- Ilizarov
- Surgical hip dislocation
- Taylor Spatial Frame
- Single Event Multilevel CP Surgery
- Crouch Gait Surgery
- 3D Gait Analysis
- Fassier-Duval Rodding Technique
- Hip arthroscopy
- Ponseti Technique
- Pediatric and Adolescent Sports Medicine
- Latest techniques in Trauma through coverage of NYPH and NYHQ emergency department and operating room
Research Components

In addition to a robust clinical experience, the Pediatric Orthopaedic Fellowship Program offers a range of research opportunities, including clinical, laboratory, basic science, and motion analysis laboratory research. The Fellow learns formal research skills by receiving extensive exposure to research methodology, study design, and critical data review. The Fellow is encouraged to participate in and publish at least one clinical and one non-clinical research project during the course of the year, in addition to publishing one review article.

Supported by the York Avenue complex – one of the most sophisticated clinical and basic research campuses in the world, Hospital for Special Surgery has an active and well-recognized Research Division focused on identifying the mechanisms underlying musculoskeletal and autoimmune diseases and discovering and developing effective approaches for prevention, diagnosis, and treatment of these disorders. Funding for these research efforts comes from numerous sources, including grants from the National Institutes of Health (NIH), institutional grants, foundation grants, and industry support.

Physical Facilities

Located in Manhattan’s Upper East Side, Hospital for Special Surgery is currently undergoing an exciting period of growth and physical expansion, including the construction of a new Children’s Pavilion. In order to enhance the Fellow’s clinical, educational, and research experience, the Fellow will have access to these and other Hospital facilities, including – but not limited to – the following:

- **Leon Root, MD Motion Analysis Laboratory:** This laboratory incorporates force sensors for gait evaluation, as well as multiple high-speed video cameras, to conduct formal video analysis of human motion. In addition, the laboratory also allows telemetered electromyographic evaluation of muscle function.
- **Bioskills Education Laboratory (BSEL):** Established in 2000, the BSEL simulates surgical procedures with equipment that is, in many instances, identical to that in HSS operating rooms, allowing fellows to become more familiar with the myriad devices currently used in surgery. The procedures in the lab can be performed on cadaver specimens or sawbones – plastic models of bones and joints.
- **Computer Assisted Surgery (CAS) Center:** The CAS Center was created to investigate innovative methods of utilizing computer technology to assist in orthopaedic surgery. HSS is uniquely positioned to pioneer CAS technologies with the integration of important assets which are exclusive to the Hospital.
- **Biomechanics Laboratory:** The mission of the Department of Biomechanics at HSS is to apply the principles of engineering and material science to solve orthopaedic problems by conducting basic and applied research that translates to the development of orthopaedic devices and instrumentation aimed at improved patient care. The Biomechanics Laboratory houses a robotics system that allows sophisticated testing of joint mechanics.
- **Core Research Facilities:** The HSS Core Research Facilities include Epidemiology and Biostatistics, Flow Cytometry, Musculoskeletal Repair and Regeneration, Analytical Microscopy, Imaging, and Mechanical and Material Assessment.
Academic Training Department at HSS

The vision of HSS Academic Training is to educate innovative and outstanding physicians through graduate medical education training programs to be the academic leaders in musculoskeletal clinical care, research, and teaching. Overall support for the administrative and educational conduct of all of the clinical training programs is provided by the Academic Training Department, which is a part of the Education Division of Hospital for Special Surgery. The Academic Training Department works closely with the Fellowship Program Director to ensure that each program meets its mission, as well as maintains a periodic evaluation process that includes all of the program stakeholders. The Academic Training Department is also responsible for ensuring that each fellowship program is held to the universal policies and procedures established by the multidisciplinary Fellowship and Graduate Medical Education (GME) committees.

Compensation (Stipend, Housing, etc.)

The Fellow is provided a stipend and benefits based on the cost of living in New York City, competitive with those of other institutions. In addition, the Fellow will be put in touch with a Housing and Parking Coordinator, who is available to assist fellows who are interested in obtaining housing through the Hospital. HSS does not guarantee housing for fellows; however, to date, all interested fellows have been accommodated.

Living in NYC

Our program is situated in New York City’s Upper East Side, which consists of both commercial and residential areas, many of which are populated by families with school-aged children. The New York City setting is among one of the most economically and culturally diverse metropolitan areas in the world. The Fellow will not only have the opportunity to work with patients from a variety of religious, ethnic, and socio-economic backgrounds, but will also be able to take advantage of all of the recreational and cultural activities and experiences that New York City has to offer.

How to Apply

To apply for the Pediatric Orthopaedic Fellowship Program at Hospital for Special Surgery, please visit the HSS Academic Training webpage and follow the application instructions. For more information, please contact the Department of Academic Training by phone at 212.606.1466, by fax at 212.606.1477, or via email at academictraining@hss.edu.
Service Bibliography


Book Chapters


Sink, E.L. Open Reduction and Internal Fixation of Tibial Tuberosity Fractures, in Operative Techniques in Orthopaedic Surgery, J.M. Flynn, Editor. 2011, Lippincott Williams & Wilkins: Philadelphia. P 1130-1133


RaggioCL, Osteogenesis Imperfecta In: LaneJM, HealeyJH. (Eds) Diagnosis and Management of Pathologic Fractures, New York: Raven Press. 55-64 1993

RaggioCL, Adolescent Orthpaedic Disorders in Textbook of Adolescent Medicine. Editor, R.I. Shenker

RaggioCL, Congenital Knee Abnormalities in Surgery of the Knee. (ed) InsallJJ. 1993


<table>
<thead>
<tr>
<th>Fellow Name</th>
<th>Graduation Date</th>
<th>Current Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracey A. DeLucia, M.D.</td>
<td>7/31/2011</td>
<td>Orthopedic Surgeon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pekin Orthopedic Center</td>
</tr>
<tr>
<td>Vladimir Goldman, M.D.</td>
<td>7/31/2010</td>
<td>Attending Orthopedic Surgeon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hadassah Medical Organization</td>
</tr>
<tr>
<td>Gilbert Chan, M.D.</td>
<td>7/31/2009</td>
<td>Orthopedic Surgeon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kosair Children's Hospital</td>
</tr>
<tr>
<td>L. Kaleb Friend, M.D.</td>
<td>7/31/2008</td>
<td>Orthopedic Surgeon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Children's Hospital &amp; Research Center Oakland</td>
</tr>
<tr>
<td>Purushottam A. Gholve, M.D.</td>
<td>7/31/2007</td>
<td>Assistant Professor of Orthopedics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tufts University School of Medicine</td>
</tr>
<tr>
<td>Mengnai Li, M.D., Ph.D.</td>
<td>7/31/2006</td>
<td>Assistant Professor of Orthopedics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>University of Minnesota Regions Hospital</td>
</tr>
<tr>
<td>Sheryl Handler-Matasar, M.D.</td>
<td>7/31/2005</td>
<td>Attending Pediatric Orthopedic Surgeon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Akron Children's Hospital</td>
</tr>
<tr>
<td>Terry D. Amaral, M.D.</td>
<td>7/31/2004</td>
<td>Assistant Professor of Orthopedics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Albert Einstein College of Medicine</td>
</tr>
</tbody>
</table>
Hospital for Special Surgery is an affiliate of NewYork-Presbyterian Healthcare System and Weill Cornell Medical College.

535 East 70th Street
New York, NY 10021
tel 212.606.1000
www.hss.edu