

Department of Orthopedic Surgery
Division of Pediatric Orthopedics, Spine & Scoliosis Service
Columbia University Irving Medical Center
NewYork-Presbyterian Morgan Stanley Children's Hospital

Advanced Pediatric Spinal Deformity Fellowship

2025 Recruitment Interviews



Welcome to Columbia Spine

The Departments of Orthopedic Surgery and Neurological Surgery at Columbia University College of Physicians and Surgeons have earned reputations as two of the leading academic departments in the nation. Our rich traditions in orthopedic and neurological surgery dates back to 1866 and 1909, respectively, when the New York Orthopaedic Dispensary and Neurological Institute of New York were founded. Our departments have since grown into preeminent centers for quality patient care, research, and education.

The training of residents and fellows is one of our most important missions—and we are very proud that many of today's leading spine surgeons throughout the United States and abroad have trained here at Columbia. The excellence of our training programs reflects the dedication of our faculty members, who combine their commitment to educating future leaders in the field of orthopedic and neurological surgery and their recognized expertise as clinicians and scientists. It is also an enormous advantage for all our residents and fellows to be trained in one of the nation's leading academic medical centers, which is ranked among the top five hospitals in the nation by *U.S. News & World Report* and continues to be recognized as one of the best hospitals in New York City.

Our single, 12-month fellowship position is based at NewYork-Presbyterian Morgan Stanley Children's Hospital and NewYork-Presbyterian Och Spine Hospital. Candidates who apply for this advanced fellowship must have completed a residency in orthopedic surgery or neurosurgery. Preference for candidates who previously completed a fellowship in pediatric orthopedics or spine surgery.

The fellowship is designed to provide surgeons with comprehensive training in both the operative and non-operative care of complex pediatric spinal deformity.

We invite you to learn more about our outstanding fellowship program and encourage you to ask questions and discuss the program with our current fellows.

We look forward to meeting and interviewing you today!



Michael G. Vitale, MD, MPH

*Ana Lucia Professor of Pediatric Orthopedic Surgery & Neurosurgery
Chief, Pediatric Orthopedic Surgery
Vice Chair, Quality & Strategy
Department of Orthopedic Surgery
Director, Advanced Pediatric Spinal Deformity Fellowship*



Lawrence G. Lenke, MD

*Professor of Orthopedic Surgery
Chief, Division of Spinal Surgery
Co-Director, Advanced Pediatric Spinal Deformity Fellowship
Surgeon-in-Chief, NewYork-Presbyterian Och Spine Hospital*



Peter D. Angevine, MD, MPH

*Professor of Neurological Surgery at Columbia University Medical Center
Vice Chair for Quality and Safety
Director, Och Spine at NewYork-Presbyterian Westchester
Department of Neurosurgery at Columbia University Vagelos College of Physicians and Surgeons*



William N. Levine, MD

*Frank E. Stinchfield Professor & Chair, Department of Orthopedic Surgery
Chief, Shoulder Service
Co-Director, Center for Shoulder, Elbow & Sports Medicine
Head Team Physician Emeritus, Columbia University Athletics
Editor-in-Chief Emeritus, Journal of the American Academy of Orthopaedic Surgery*

Fellowship Program Overview



Surgeons completing the advanced fellowship will be proficient in addressing the whole spectrum of pediatric spine pathologies including congenital, neuromuscular, syndromic and adolescent idiopathic scoliosis, as well as Scheuermann's kyphosis, spondylolisthesis and complex cervical spine deformity.

The advanced fellow will attain experience in performing techniques ranging from de-rotational casting, halo gravity traction, traditional and magnetically controlled growing rods, to posterior spinal fusion and vertebral column resections. The fellow will also gain experience in up-to-date non-operative management of adolescent idiopathic scoliosis including Rigo-Cheneau style bracing systems and Schroth physical therapy.

Approximately 320 pediatric spine deformity cases are performed at our institution annually. The overall fellowship surgical case-load profile is 40% adolescent idiopathic scoliosis, 25% early onset scoliosis, 20% neuromuscular/syndromic scoliosis, 10% cervical deformity, and 5% tumor/fracture.

Research

The advanced pediatric spine fellow will have one day a week dedicated to research and academic pursuits. During this period he/she may engage in our robust clinical research program.

Conference Schedule

Monday	6:00 am	Spine Conference: held at Och Spine within NYP Allen Hospital
Tuesday	6:00 am	Optional Och Spine Fellowship Teaching Conference: Weekly fellow/resident education series (including lectures from guest speakers, case studies and journal club), Held at NYP Allen Hospital or via Zoom.
Thursday:	7:00 am	Orthopedic Surgery Grand Rounds: weekly lectures by nationally and internationally renowned guests. Held at Columbia University Irving Medical Center
	8:00 am	Multidisciplinary Spine Case Conference: indications and operative planning as well as post-operative results are discussed with surgical faculty, residents, anesthesia faculty, and operating room staff.
	9:00 am	Pediatric Spine Research Conference

Fellowship Goals and Objectives

"Over the course of one year, fellows will learn the art and science of advanced pediatric spinal deformity care. The primary objective is to teach skilled, competent, caring, and technically proficient physicians and surgeons. These goals are attained through a carefully created educational program, becoming proficient in the physical examination and diagnosis of patients, and progressively increasing responsibility and autonomy in the non-operative and operative management of patients. Specific goals and objectives are as follows:

- Gain proficiency in the diagnosis, evaluation and treatment of pediatric patients with various spinal deformities with emphasis on maximal restoration of function and preservation of further disability.
- Gain confidence and competency in performing spine and neurologic history and physical examination, as well as formulating and executing a treatment plan for patients in a variety of settings (outpatient, inpatient and consultation).
- Develop a proficiency of technical skills in the surgical management of spinal deformities and demonstrate increasing autonomy from one year to the next. At the conclusion of the fellowship, the fellow is expected to practice advanced spinal surgery competently and independently.
- Develop skills needed to lead a multidisciplinary team of allied health care workers including health care extenders, physical therapists, occupational therapists, social workers, nurse practitioners and nutritionists, and to understand their role and contribution to patient care.
- Become proficient in writing prescriptions for therapeutic exercises, modalities, prostheses, orthoses, and durable medical equipment.
- Develop interpersonal skills needed to effectively engage patients and family members to enhance communication and education.
- Develop competency in management of the spinal inpatients including administration, quality improvement and leadership through the use of effective verbal and written communication skills.
- Gain experience and proficiency in direct supervision and teaching of fellow residents and medical students.
- Master the skills needed to independently research scholarly sources for the purposes of presenting the topic to be of educational value to other medical staff and to enhance patient care.
- Develop a sense of personal responsibility to patients and a commitment to providing excellent clinical care with proper and ethical professional behavior.
- Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health as it is related to the field of spinal surgery.
- Acquire medical knowledge about established and evolving biomedical, clinical, cognitive sciences and demonstrate the competent application of this knowledge to patient care.
- Demonstrate practice-based learning and improvement that involves investigation and evaluation of patient care, appraisal and assimilation of scientific evidence and improvements in patient care.
- Demonstrate interpersonal and communication skills resulting in effective information exchange and teaming with patients, their families, and other health professionals.
- Demonstrate professionalism as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
- Demonstrate system-based practice, as manifested by actions demonstrating an awareness of and responsiveness to the larger context and system of health care and ability to effectively call on system resources to provide care that is of optimal value.

About Our Program

In 1911, Columbia University professor and orthopedic surgeon Dr. Russell A. Hibbs, MD, performed the first spinal fusion surgery for paralytic scoliosis. The spine experts at Columbia Orthopedics and Neurosurgery have continued to develop and apply innovative therapies backed by the latest clinical and basic science research to treat and heal disorders of the cervical, thoracic, and lumbar spine.

Our world-class physicians specialize in surgical and non-surgical treatment of spinal deformities, acute injuries, and degenerative conditions of the spine. Using the most sophisticated diagnostic tools, in-depth clinical experience backed by the latest research, and advanced surgical techniques, our specialists create personalized treatment plans for patients suffering from all types of spine conditions—from the routine, to complex spinal reconstruction.



Russell A. Hibbs, MD

NewYork-Presbyterian Och Spine Hospital



The Columbia spine team is based at three state-of-the-art facilities: the NewYork-Presbyterian Och Spine Hospital, the recently-opened Och Spine at NewYork-Presbyterian/The Spiral, and the NewYork-Presbyterian Morgan Stanley Children's Hospital—treating adult and pediatric patients respectively.

These facilities represent some of the most advanced centers for personalized inpatient and outpatient spine care in the world, featuring dedicated operating rooms purpose-built for spinal surgery, the latest intra-operative navigation technologies, robotically assisted surgery, state-of-the-art diagnostic testing equipment, physical therapy, and in-patient nursing units specifically designed for the care and treatment of spine patients.



What the Fellows Say

Current Fellow



Edwin S. Kulubya, Jr., MD, MBA 2025

Residency: Neurosurgery, University of California Davis Medical Center

Fellowship: Shillito Pediatric Neurosurgery Fellow, Boston Children's Hospital

Future Plans: Clinical Instructor of Neurosurgery, Boston Children's Hospital

Why did you choose Columbia Orthopedics' Advanced Pediatric Spinal Deformity fellowship?

High-volume pediatric spinal deformity cases are predominantly handled by orthopedic surgeons at a limited number of specialized centers and are not typically included in standard neurosurgical training. As a trained pediatric neurosurgeon, I wanted to expand my expertise to provide comprehensive, multidisciplinary care for patients with spinal deformities particularly early onset scoliosis. Columbia offered an unparalleled opportunity to learn from renowned experts in the field while training in an exceptional medical and academic environment in NYC.

How is the program setting you up for success in your career?

This fellowship has changed the way I approach spinal surgery, deepening my understanding of indications, surgical techniques, alignment principles, and patient safety. I have gained invaluable expertise that has made me a more well-rounded and confident spine surgeon, particularly in managing complex cases. For example, I now have a stronger grasp of the indications for three-column osteotomies and the ability to identify cases at higher risk for neuromonitoring changes and plan accordingly. This advanced training has significantly enhanced my clinical judgment, technical precision, and overall ability to provide optimal care for patients with spinal deformities.



"My experience as an Advanced Pediatric Spine Deformity fellow at Columbia University was unparalleled. From surgical and non-operative treatment of Early Onset Scoliosis to complex pediatric spine deformity, the complexity of cases treated, in conjunction with the collaboration between neurosurgery and orthopedic spine surgery, make this fellowship a unique experience for future spine surgeons."

Eduardo C. Beauchamp, MD 2018

Columbia Orthopedics
New York, NY



Thomas Zervos, MD 2024

Pediatric Neurosurgeon and Clinical Assistant Professor at University at Buffalo Neurosurgery (UBNS)

Residency: Neurosurgery, Henry Ford Health Systems, Detroit, MI

Fellowships: Pediatric Neurosurgery Fellowship, Barrow Neurological Institute at Phoenix Children's Hospital

"As a global referral center for all forms of pediatric spinal deformity, this fellowship offered an impressive volume of cases of varying complexity. Under the mentorship of Drs. Vitale, Lenke and Roye—each a pioneer in the field—I was given the tools to be successful in any clinical setting. Each surgeon has a unique approach to learn from. Yet, there is an impressive culture of protocolized safety measures, which teaches trainees how to perform surgery efficiently with a very low complication rate. Beyond surgical technique, the art and business of medicine is exemplified. There is an incredible amount to learn from those fortunate enough to train in this unique program."

The Big Apple: Where to Live and What to Do



Columbia University Irving Medical Center and NewYork-Presbyterian/Morgan Stanley Children's Hospital are located on the eastern shore of the Hudson River at the foot of the George Washington Bridge in northern Manhattan. Many housing options exist in New York City and many fellows live on the upper west side. There are housing options available through the NYP GME office.

New York is the financial and cultural capital of the world. One can easily reach Midtown Manhattan via a 20-minute subway ride that reveals a world of art, theater, and shopping. The Museum of Modern Art, the Museum of Natural History, the Metropolitan Museum, and the Hayden Planetarium are but a few of the many city museums. Radio City Music Hall, Carnegie Hall, and the four theaters of Lincoln Center are replete with music, ballet, opera, and other live entertainment. You can enjoy the latest Broadway musical, play, or revival after dining in the world's finest restaurants.

New York never sleeps! Easily accessible from three airports by car or public transportation, the CUIMC location will allow you to go to the beach for the day or to the Catskill Mountains for the weekend. If sports are in your blood, Yankee Stadium and Citi Field are a subway ride away, Madison Square Garden is a couple stops away, and the Meadowlands Sports Complex is located just across the river in New Jersey.

2024-2025 Graduate Medical Education Salary & Stipend

Graduate Staff Level	Salary Effective July 2023	Salary Effective July 2024	Annual Living Supplement \$1,875 paid quarterly	Total Direct Pay Effective July 2024
PGY 1	\$81,000	\$89,100	\$7,500	\$96,600
PGY 2	\$89,700	\$98,700	\$7,500	\$106,200
PGY 3	\$97,000	\$106,700	\$7,500	\$114,200
PGY 4	\$99,800	\$109,800	\$7,500	\$117,300
PGY 5	\$103,200	\$113,500	\$7,500	\$121,000
PGY 6	\$105,000	\$115,500	\$7,500	\$123,000
PGY 7	\$108,200	\$119,000	\$7,500	\$126,500



"This is one of a handful of focused pediatric spine fellowships. A year of concentrated experience in the field is imperative to development as a proficient, safe and confident deformity surgeon. You will work with leaders in the field and the opportunity is unparalleled. And you cannot beat New York as a city to live in. I am a more well-rounded and technically proficient surgeon. The complexity this fellowship offers is unparalleled."

Anand H. Segar, MD 2020

Spine and Scoliosis Surgeon
Auckland Spine Institute, Auckland, New Zealand



"I couldn't be happier with my fellowship selection. I learned neurosurgical spine in my residency and began my introduction to the orthopedic approach during my enrolled fellowship. I want to do pediatric spinal deformity. I want to grow that specific type of practice. I wanted to learn from the absolute best. The entire group is truly invested in your education. The research opportunities are abundant. I'll be a different type of surgeon operatively, academically, and clinically when I complete my fellowship."

Richard Menger, MD, MPA 2019

Chief of Complex Spine Surgery, Vice Chair Department of Neurosurgery

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University of Utah/Primary Children's Hospital, Salt Lake City, UT



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COLUMBIA UNIVERSITY
DEPARTMENT OF ORTHOPEDIC SURGERY

 **NewYork-Presbyterian Kids**
Morgan Stanley Children's Hospital

Division of Pediatric Orthopedic Surgery
Spine & Scoliosis Service
Department of Orthopedic Surgery

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