



COLUMBIA

COLUMBIA UNIVERSITY
DEPARTMENT OF ORTHOPEDIC SURGERY

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

2023 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. Since that time, our departments have 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 regularly ranked as a top five hospital 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 Ochsner Spine Hospital. Candidates who apply for this advanced fellowship must have completed a residency in orthopedic surgery or neurosurgery as well as 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 Ochsner Spine Hospital*



Peter D. Angevine, MD, MPH

*Associate Professor of Neurological Surgery
Columbia University Irving Medical Center
NewYork-Presbyterian Ochsner Spine Hospital*



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,
Columbia University Athletics
Editor-in-Chief, Journal of the American Academy of Orthopaedic Surgeons (JAAOS)*

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

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| Monday | 6:00 am | Spine Conference: held at the NewYork-Presbyterian Och Spine Hospital |
| 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. |

Fellowship Goals and Objectives

The goals and objectives of the fellowship are to educate fellows through the one-year training in 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 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 performed the first spinal fusion surgery for paralytic scoliosis. Since then, 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.

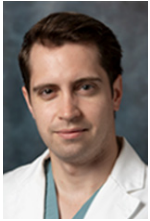
NewYork-Presbyterian Och Spine Hospital

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

These facilities represent one of the most advanced centers for 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, and in-patient nursing units specifically designed for the care and treatment of spine patients.



What the Fellows Have to Say



J. Manuel Sarmiento, MD

Current Pediatric Spine Surgery
Fellow 2022-2023

Residency: Neurosurgery,
Cedars-Sinai Medical Center,
Los Angeles, CA

Fellowships: Spine and Scoliosis
Surgery, Hospital for Special Surgery,
New York, NY

What makes the program unique?

This program provides a unique immersion into the busy practices of three pioneering pediatric spinal deformity surgeons: Dr. Michael G. Vitale, Dr. Lawrence G. Lenke, and Dr. Benjamin D. Roye. You will be exposed to challenging and interesting scoliosis cases from every etiology: congenital, neuromuscular, syndromic, and idiopathic. Surgical indications and optimal non-operative management are discussed weekly during engaging clinic office hours. Managing patients with early-onset scoliosis provides a unique skill set of infantile derotational casting and growth-preserving instrumentation and techniques. Finally, the operative experience in spinal deformity correction is unparalleled, with ample opportunity to refine free-hand pedicle screw placement, three-column osteotomies, reduction maneuvers, and advanced rod contouring and persuasion. It has been a pleasure and an honored privilege to work alongside my mentors in this program to help children and adolescents with some of the most complex and high-risk spinal deformities in the world.



“As a result of completing this fellowship, I feel that I have gained the foundational principles needed to take care of children with complex spinal disorders from both a conservative and operative perspective. The high volume of pediatric deformity cases and in-depth case discussions make this experience truly unparalleled and will allow me to start my career with confidence.”

Rajiv R. Iyer, MD Former Fellow

Assistant Professor of Neurosurgery
University of Utah/Primary Children’s Hospital, Salt Lake City, UT



“My surgical and clinical skills grew immensely during my fellowship year. I enthusiastically took the lessons learned from Drs. Vitale and Lenke—and exposure to the most complex spinal deformity cases seen nowhere else in the world—into my own practice—continuing the tradition of Columbia University Spine Surgery.”

Eduardo C. Beauchamp, MD Former Fellow

Pediatric Spine Surgeon
Twin Cities Spine Center, Minneapolis, MN



“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 Former Fellow

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

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.



“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 Former Fellow

Assistant Professor of Neurosurgery, Chief of Complex Spine Surgery
University of South Alabama, Mobile AL

Graduate Staff Salaries 2022 – 2023

Graduate Staff Level 1	\$75,694
Graduate Staff Level 2	\$83,783
Graduate Staff Level 3	\$90,651
Graduate Staff Level 4	\$93,199
Graduate Staff Level 5	\$96,365
Graduate Staff Level 6	\$98,095
Graduate Staff Level 7+	\$101,052



“What makes this program unique is the opportunity to work with internationally respected pediatric spine surgeons within Orthopedic and Neurosurgery disciplines. It provided the opportunity to learn a unique and highly specialized clinical skill that cannot be acquired through routine fellowship training.”

Brian J. Kelley, MD, PhD Former Fellow

Assistant Professor of Neurosurgery,
UConn Health, Farmington, CT



Adult & Pediatric **Comprehensive Spine Fellowship**

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Morgan Stanley Children's Hospital**

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