
NEW JERSEY
BRAIN AND SPINE
Connections
THE LATEST NEWS FROM NEW JERSEY BRAIN AND SPINE
June 2025
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Subspecialization for Exceptional Outcomes: Meet NJBS

By Reza Karimi, MD

Dear Colleagues,

We are proud to introduce *Connections*, a new publication from New Jersey Brain and Spine, designed to foster stronger ties between our practice and the referring physician community. For 28 years, our neurosurgery practice has been dedicated to delivering academic medical center-level care with the personal touch that only an independent practice can offer. Through *Connections*, we aim to create a bridge between our highly skilled subspecialists and you—our valued partners in patient care. Together, we can provide the optimal outcomes that critical and complex cases demand.

Our goal with *Connections* is simple: to make the referral process seamless and to ensure your patients have access to the best care available for brain and spine conditions. Whether you're navigating a challenging diagnosis or seeking subspecialty expertise, we are here to support you every step of the way. This publication will showcase how our personalized approach and deep subspecialization translate into exceptional results, making it easier for you to connect with the right physician for your patient's unique needs.

We hope *Connections* will inspire dialogue and collaboration. Stay connected with us to explore advances in treatment, share case discussions, and learn about the resources we provide. Your input is invaluable to us, and we welcome your questions, thoughts, and insights as we continue to work together in delivering outstanding care. Thank you for trusting us with your patients—we look forward to strengthening our partnership and serving as your go-to resource for specialized neurosurgical expertise.

Dr. Karimi is widely recognized as a leading expert in complex brain and spine disorders, drawing patients from New Jersey and across the U.S. who seek his specialized care. His unique expertise includes advanced fellowship training in both microvascular and endovascular neurosurgery, allowing him to perform highly intricate procedures with microscopic precision. Dr. Karimi specializes in developing and performing cutting-edge techniques for brain aneurysms, vascular malformations, cavernous malformations, vascular tumors, Chiari malformations, CSF leaks, pseudotumor cerebri, hydrocephalus, and neurotrauma.

Groundbreaking Treatments: Today Show Features NJBS Patient Story

The Today Show reported on the way that a groundbreaking technology is helping one patient, Bob Bosloper. Bob has had essential tremors in both hands since his early 20s. For many years, the only options were medication or a potentially complicated surgery. Now, with the help of Dr. Hooman Azmi, Bob was able to find a new option: High-Intensity Focused Ultrasound. With a successful first treatment in 2022, Bob was able to regain control over his right hand. Now, with regulations allowing treatment of non-dominant hands, Bob was able to also undergo treatment for his left hand.

Watch the Today Show broadcast at https://youtu.be/yAlcaInnNhk.

A Growing Team: Meet Drs. Carnevale and Frankel

Dr. Joseph Carnevale

As a resident at New York Presbyterian and Memorial Sloan Kettering Cancer Center, Dr. Carnevale honed neurosurgical skills in cerebrovascular disorders, along with spine surgery, neuroendoscopy, and tumors of the brain and spine. He was then selected for the prestigious Endovascular Neurosurgical Fellowship at New York-Presbyterian/Weill Cornell Medical Center, where he specialized in cerebrovascular techniques focused on treating patients with cerebral aneurysms, carotid-occlusive disease, arteriovenous malformations/fistulas, and various other neurosurgical pathologies.

Dr. Carnevale's award-winning research focuses on identifying the most optimal minimally invasive alternative approach to neurosurgeries that typically rely on more invasive methods. His unique background, grounded in both open and endovascular neurosurgical techniques, enables him to offer patients the most tailored and thoughtful treatment plans based on their specific conditions, desired lifestyles, and care needs.

Dr. Gregory Frankel

Dr. Frankel specializes in minimally invasive and complex spine surgery. Following a neurosurgical internship and residency at Northwestern Memorial Hospital, he obtained a fellowship in Complex and Reconstructive Spine Surgery with a focus on spinal deformity and revision surgery.

Medicine is personal to him. Motivated to pursue a career in the healing arts after witnessing his mom suffer a major multiple sclerosis attack, Dr. Frankel strives to care for others with the same blend of compassion and expertise as he would his own family.

A New Jersey native, Dr. Frankel was born and raised in Livingston, where he and his family are delighted to return as they start the next chapter of their lives. As a new member of the New Jersey Brain and Spine family, he plans to launch a Spinal Deformity program that serves the communities in and around Northern New Jersey.

Specialty Centers: Where Subspecialization **Thrives**

Our physicians are fellowship-trained in vascular neurosurgery, endovascular neurosurgery, skull base surgery, neuro-oncology, functional neurosurgery, spinal neurosurgery, and pediatric neurosurgery. This level of subspecialization enables us to bring the highest level of skill to each patient's care, and it places us at the forefront of neurosurgical care. Our Centers of Excellence exemplify our commitment to highly specialized care.

Comprehensive Spine Center

Our Comprehensive Spine Center has eased pain for thousands of patients and helped them lead their best lives. Our multispecialty team of experts has unparalleled experience and highly subspecialized training. That means we not only have neurosurgeons who are dedicated to spinal medicine and surgery, but we work with exceptional physical therapists and pain management experts.

When it comes to premier spine care, our team is the most comprehensive with unmatched expertise. From back pain to herniated and degenerated discs, pinched nerves to complicated spinal tumors, vascular malformations, or scoliosis, our doctors are hyper-focused on delivering the best possible outcomes.

Comprehensive Spine Experts

Paul S. Chirichella, MD
Mohammed Faraz Khan, MD
H. Gregory Frankel, MD
Patrick A. Roth, MD
Giorgio J. Rotoli, DO
Peter Schmaus, MD
Roy D. Vingan, MD
George J. Kaptain, MD

Brain & Spine Tumor Program

Among all of the diagnostic terms, “tumor” is one of the scariest for patients. When faced with such a diagnosis, it’s crucial for patients to partner with an exceptional, compassionate, and understanding neurosurgical team. These are core and guiding principles of our Brain & Spine Tumor Program. Our subspecialized experts include neuro-oncologists, radiation oncologists, medical neuro-oncologists, neuroradiologists, and neurologists, who all collaborate to develop a personalized treatment plan for each patient.

Brain & Spine Tumor Program Experts

George J. Kaptain, MD
Kangmin Daniel Lee, MD
Giorgio J. Rotoli, DO
Robert R. Goodman, MD
Ira M. Goldstein, MD

In place for more than two decades, our Brain & Spine Tumor Program has served more than 2,000 brain tumor patients, performed hundreds of surgeries, and is widely recognized for its low complication and readmission rates. Our team is also actively involved in research to advance the treatment of gliomas and other brain tumors. We participate in a wide range of clinical trials for our cancer patients, based on their condition, and serve as an adjunct to the standard of care.

Neurovascular Center

Our premier Neurovascular Center provides urgent, subspecialized care for patients. We are one of the highest-volume neurovascular centers in the Northeast, and our sophisticated practice addresses life-threatening conditions with a team of seasoned experts. We treat patients comprehensively—which means that we take advantage of the subspecialists on our team, carefully tailor every treatment plan to each individual person, and focus on compassionate care.

Neurovascular Experts

Reza J. Karimi, MD
Daniel E. Walzman, MD
Aryan Ali, MD
Joseph Carnevale, MD

Our sophisticated treatment options include cutting-edge surgeries. When we do determine that our patients need to undergo a procedure, over 90% of the time we are able to treat them using minimally invasive techniques. Minimally invasive approaches are important because they entail shorter hospital stays and a faster return to daily life. Whether the patient’s goal is to go back to work right away, get back to supporting their family, or ease back into their normal schedule, our Neurovascular Center has a track record of efficient recovery times.

HIFU Program (High-Intensity Focused Ultrasound)

Living with essential tremor can be incredibly challenging, affecting patients’ physical and emotional well-being. Approximately 10 million Americans are grappling with this neurological condition, seeking effective solutions to improve their quality of life. Our high-intensity focused ultrasound (HIFU) program is providing many of these patients with new hope.

HIFU Experts

Hooman Azmi, MD
Elana Clar, MD
Robert R. Goodman, MD

HIFU is a minimally invasive alternative to deep brain stimulation for patients with essential tremor and Parkinson’s disease tremor that has not responded to medications. With HIFU, our neurosurgeons and neurologists utilize precisely focused ultrasound waves to disrupt neural circuits responsible for tremors, providing relief without traditional surgical interventions. Many of our patients experience immediate and significant reduction in hand tremors.

A Premier Space For Premier Care: New Office, More Access

New Jersey Brain and Spine Expands to State-of-the-Art Facility in Paramus

We are delighted to share that we have moved our headquarters from Hackensack to a sophisticated new space conveniently located in Paramus, NJ.

The 16,222-square-foot space is nestled within a newly remodeled campus, a large top-tier office park completely transformed into a stunning workplace destination. With modern lobbies and common areas, a full-service food hall, a state-of-the-art conference center, and inviting indoor and outdoor employee lounge areas, our new space is designed to offer patients the highest quality care, with a strong emphasis on comfort and convenience.

Finding a site sophisticated enough to support the breadth of advanced care we provide was no simple task. Our new space offers modern amenities designed to enhance patient comfort and streamline medical services. The facility features cutting-edge medical equipment, spacious consultation rooms, and a welcoming environment conducive to healing. Strategically located near major highways, the new headquarters ensures easy accessibility for patients and referring physicians alike. The expansive new office will allow us to continue providing the unparalleled care we are known for, while expanding our footprint, so that we can serve even more patients in need of world-class, subspecialized neurological care.

“Operationally and geographically, this is a terrific move for us,” said Dr. Hooman Azmi. “Our new space allows us to continue our mission of providing top-tier neurosurgical care with the utmost convenience for our patients.”

We welcomed our patients and their loved ones to our state-of-the-art headquarters in February 2025. Our new Paramus office is located at 650 From Road, Suite 220, Paramus, NJ 07652. For referrals or more information, please contact us at (201) 342-2550.

13 NJBS Physicians Recognized as Top Doctors

In addition to ranking NJBS as one of the ten best neurosurgery practices, Castle Connolly also recognized 13 of its doctors as Top Doctors.

Hooman Azmi, MD

Paul S. Chirichella, MD

Elana Clar, MD

Ira M. Goldstein, MD

Robert Goodman, MD

George J. Kaptain, MD

Reza J. Karimi, MD

Mohammed Faraz Khan, MD

Kangmin Daniel Lee, MD

Patrick A. Roth, MD

Peter Schmaus, MD

Roy D. Vingan, MD

Daniel E. Walzman, MD

Exceptional Spine Tumor Treatment: What Sets NJBS Apart

Subspecialization, Advanced Treatments, and Collaboration

As a neurosurgeon specializing in brain and spine tumors, Dr. Kangmin Daniel Lee regularly encounters patients with extremely complex and challenging conditions.

"Many of these patients are in the midst of getting radiation or have just finished radiation and are suddenly confronted with an urgent situation to treat a spine tumor," said Dr. Lee. "They are often highly stressed and frightened, and their concerns might include potential loss of leg function or paralysis."

With Dr. Lee, patients find a calm, empathetic, and deeply experienced surgeon, one that quickly engenders trust and confidence—and for good reason. Dr. Lee is one of the premier neurosurgeons in the country for spine tumor treatment. He's also one of the most experienced, performing between 60 to 70 spine tumor surgeries each year.

A Commitment to Continuity

Dr. Lee provides spinal tumor ablation treatment—a minimally invasive procedure that uses targeted radiofrequency energy—to shrink tumors and provide pain relief to patients, when appropriate. "This is not something that a lot of surgeons do," said Dr. Lee, noting that the treatment is typically provided by interventional pain management specialists or other members of the care team. "It's important to me to treat patients as much as I possibly can, to keep that continuity in the patient relationship. It makes a big difference."

That deep experience and subspecialization (Dr. Lee is fellowship-trained in neurosurgical oncology) have a significant impact on patient care and patient outcomes. "Surgeries are more efficient, patients spend less time in the OR, and the recovery process is more streamlined," he said.

Advanced treatments and a collaborative mindset

Another benefit Dr. Lee brings to patients? A commitment to staying at the forefront of treatment advances. Dr. Lee frequently utilizes spinal radiosurgery, a highly precise radiation therapy that effectively targets tumors while minimizing damage to surrounding tissues.

"This technique significantly improves tumor control rates and reduces complications, offering new hope for patients with even the most challenging cancer diagnoses," he said. "This can be highly effective for all kinds of cancer—including breast, prostate, renal cell, melanoma, and sarcomas."

Dr. Lee's patients also benefit from his close relationships with referring providers, such as oncologists and radiation oncologists. "Patients feel more comfortable due to the collaboration and communication, and they also benefit from more coordinated treatment and more proactive identification of potential complications," said Dr. Lee.

Dr. Lee also has strong relationships with plastic surgeons across the region, since spine tumor patients with a history of radiation are more likely to encounter wound healing challenges.

Committed to excellence

A strong advocate for patients, Dr. Lee is committed to finding the most appropriate treatment with the least risk. He believes that every patient is different and every patient faces different circumstances, so he takes the time to get to know each one and embraces a personalized approach. In addition, he forges strong bonds with patients, typically continuing to treat and monitor them for two to three years post-surgery to ensure an optimal recovery and monitor for any tumor recurrence.

"It's an honor to care for patients as they progress through their treatment," said Dr. Lee. "I'm realistic with them and I don't give them false expectations, but I always commit to finding the best approach for their unique needs and circumstances."

Dr. Lee is dedicated to helping advance neurosurgical knowledge to improve the care of patients with brain and spinal conditions. His articles have appeared in scientific journals, and he has written medical textbook chapters. He has also served as a reviewer for the *Journal of Neurotrauma,* the *Journal of Neurosurgery*, and Thieme Medical Publishers. He has been recognized as a Castle Connolly Top Doctor for five years running.

Fewer Complications and Better Outcomes:
How NJBS Helped HUMC Gain Top Neurosurgery Ranking

Most brain and spine practices partner with local medical centers where they perform many of their surgical procedures, but few have a collaboration as impactful as the one between New Jersey Brain and Spine (NJBS) and Hackensack University Medical Center (HUMC).

Both organizations are committed to providing exceptional patient care, particularly when it comes to safety and quality. As part of that shared mission, the physicians at NJBS regularly partner with the doctors, nurses, quality team members, and hospital leaders at HUMC to analyze and improve safety and quality performance.

"Our collaboration with HUMC is highly focused on care excellence," said Dr. Hooman Azmi, an NJBS neurosurgeon who is fellowship-trained in functional and restorative neurosurgery. "That excellence is defined in different ways, but safety and quality rise to the top. We work together to ensure patients experience a technically excellent surgical result, but also that they have the safest and highest quality care possible."

The ongoing pursuit of these shared goals is having a profound impact, in the form of exceptional patient outcomes and experience. In fact, HUMC's metrics related to safety and quality are so impressive that its neurosurgery program recently gained recognition by *U.S. News & World Report* as #23 in the country and #1 in New Jersey.

"The *U.S. News & World Report* ranking is extremely competitive," said Dr. Azmi, noting that the organization evaluated more than 3,000 hospitals before compiling its ranking. "It underscores the fact that the outcomes at HUMC exceed what patients experience at most other hospitals. The chance of having a complication or death is less for all patients at HUMC."

> *"Patients should seek surgeons who are very involved in the quality and safety of patients in the hospital where they perform most of their surgical procedures. That takes the care provided to a higher level."*

Key takeaways for patients: Why the ranking matters

Any patient who has been recently

diagnosed with a neurological disorder—a disease or condition that involves the brain, spinal cord, or nerves—should consider multiple factors when seeking out a neurosurgeon. The physician should inspire the patient's trust and confidence through their experience, credibility, results, care philosophy, and ability to connect.

Patients should also seek out a neurosurgeon who is actively involved in the quality and safety initiatives at the hospital in which they perform surgeries, said Dr. Azmi. "That takes the care provided to a higher level."

Dr. Azmi added that patients should also consider the safety and quality rankings of the hospital where the physician performs surgeries, such as those released by *U.S. News & World Report*. "Hospitals that are ranked highly have much less risk of complications, much less risk of mortality," he said. "They're just safer hospitals."

For more tips on how to find a neurosurgeon, read: How do you find the best neurosurgeon for your unique case?

A focus on subspecialization: How it advances quality and safety

Another factor patients should consider when searching for a neurosurgeon is subspecialization. Subspecialization is a philosophy of practice that enables doctors to immerse themselves in their area of expertise and to pursue and develop innovations within their field of neurology and neurosurgery.

This is a philosophy that NJBS embraces—and one that helps the practice provide such exceptional care to patients within its own facility and at HUMC, said Dr. Azmi.

"We're very good at what we do, in part because we're very focused on our subspecialization," said Dr. Azmi. "Whether it's endovascular, neuro-oncology, spine, or functional neurosurgery, we have a group of doctors who are really good at their craft and committed to ongoing excellence and improvement."

The dedication to subspecialization also makes it easy for NJBS physicians to ensure every patient gets exceptional care for their unique needs. "We never hesitate to bring in another physician in our group if they have relevant experience or expertise," said Dr. Azmi. "That's really the core of subspecialization, and it has a huge impact on the quality of care our patients receive."

A collaborative model: NJBS and HUMC

While NJBS physicians play a key role in advancing safety and quality at HUMC, they also feel privileged to perform their surgeries at such an innovative program. At HUMC, advancements such as robotic-assisted surgeries, innovative imaging techniques, and minimally invasive procedures are standard. These tools allow NJBS surgeons to deliver safer, more effective treatments that result in faster recovery times and improved patient satisfaction.

"Within NJBS and HUMC, we are able to collaborate with some of the most esteemed specialists in the field," said Dr. Azmi. "For our patients, this means access to the highest level of medical and surgical care available in the country."

We're honored that *U.S. News & World Report* recognized our partnership with HUMC in this year's rankings. Click here to schedule a consult or seek a second opinion with our subspecialized team.

Citadel Clinical Trial: Practice Selected to Pioneer New Technology for Riskiest Brain Aneurysms

Not all brain aneurysms are the same. Nor are all surgeons and practices.

Out of over 1,000 neurological medical centers in the country, the vascular neurosurgery team at New Jersey Brain and Spine was selected to participate in the Citadel embolization device study.

The minimally invasive approach for brain aneurysms varies from a more common coil treatment to one that's more like a ribbon shape.

A coil treatment for a brain aneurysm is a minimally invasive procedure that blocks blood flow to the aneurysm and thus permanently decreases its risk of bleeding. Aneurysms come in all shapes and sizes, and wide-neck aneurysms—similar to balloons with broad openings—are often significantly more difficult to treat.

"The idea is that you can treat very wide aneurysms that would previously need a stent, or they would need open surgery to clip the aneurysm," said neurosurgeon Dr. Reza Karimi. "In select cases, we may be able to avoid using a stent or clipping the aneurysm. This can significantly impact a patient's chances of success and their time to recovery."

There are many advantages to minimally invasive brain surgery, including smaller incisions and less pain, reduced risk of infection and faster recovery time, and reduction in psychological effects from cutting a patient's hair.

"I want my patients to know that if they have a condition that requires surgery, I'm going to get them through it as safely as possible, using the most minimally invasive techniques available," said Dr. Karimi.

Innovations around new treatment options—especially for the most at-risk patients—are a particular motivation for his team, said Dr. Karimi.

"The Citadel device may represent a paradigm shift in the way we're going to endovascularly treat the more challenging brain aneurysms," said Dr. Karimi. "Our practice was picked as one of the most experienced operators with the best safety track records. There's a lot of competition to be in trials like this, and it really pushes the boundaries of how New Jersey Brain and Spine and Hackensack University Medical Center can deliver the best care to our patients."

New Technology Means New Hope for Brain Aneurysm Patients

Dr. Reza Karimi is not only among the few neurosurgeons in the country with advanced training in open microvascular neurosurgery and endovascular neurosurgery—he's also an assistant neurosurgery professor. That means he's just as open to developing and teaching new ways to treat life-threatening conditions that benefit his patients and the next generation of brain specialists.

Among those is the innovative NeVa VS device for vasospasm. Dr. Karimi is the only neurosurgeon in the Northeast currently using the non-invasive technology to treat the condition that affects as many as 50% to 90% of patients with a brain aneurysm rupture.

What is vasospasm?

Vasospasm is a constricting, narrowing, or tightening in your artery. After a brain aneurysm bleeds, patients can have vasospasm for up to two weeks, putting them at risk of a potentially serious stroke. Vasospasm reduces blood flow through the artery, sending less oxygen than normal to nearby tissues. Vasospasm can occur in many parts of your body, like the feet and hands—but the brain is one of the most concerning as a stroke is irreversible once it occurs.

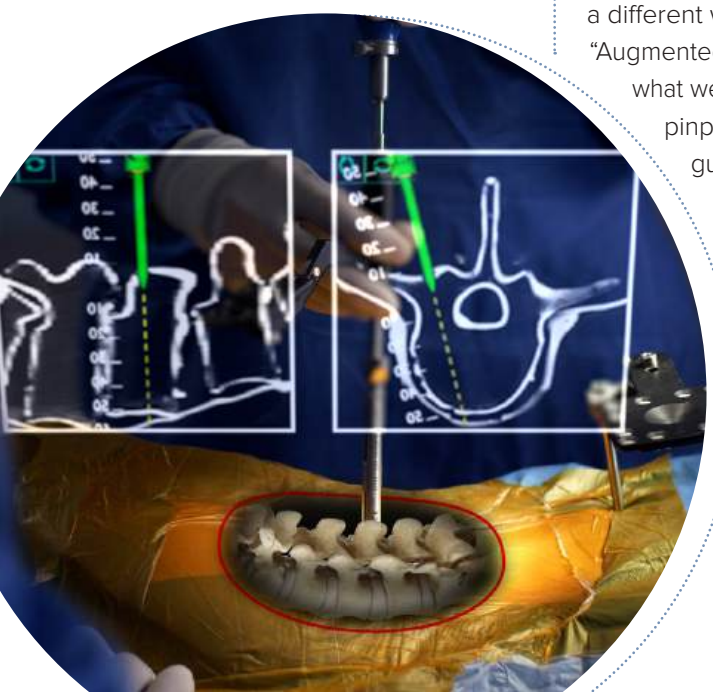
How does NeVa transform traditional vasospasm treatment?

Treating a ruptured brain aneurysm includes time in the intensive care unit, with rounds of medications and

IV fluids to maintain steady blood flow to the brain after the aneurysm has been secured. If these measures are not effective and the patient is at risk for a stroke, Dr. Karimi can often open arteries with balloons or medications. But these techniques have their limits and their own risks. NeVa technology offers a better and more effective way to treat vasospasm using a minimally invasive approach. The device enters the artery and acts like a stent to stretch the artery slightly for just three minutes and is then quickly removed. The vasospasm typically then resolves over time, after the procedure.

The results of new technology that helps keep him at a 90% success rate of patients treated without surgery are encouraging and make treatment choices easier.

NeVa VS is the first and only FDA HDE-approved device for the adjunct treatment of symptomatic cerebral vasospasm following aneurysmal subarachnoid hemorrhage. New Jersey Brain and Spine is the only practice in the Northeast part of the U.S. where it is currently a treatment option.



Pioneers: NJBS Surgeons are First in State to Use New Augmented Reality Tool

What is the surgical augmented reality system?

Neurosurgeons and practice co-founders Patrick A. Roth, MD, and Roy D. Vingan, MD, have joined an elite group of U.S. physicians to use new augmented reality (AR) technology, making them the first in the Garden State to offer more accurate and personalized implant placement. The FDA-cleared Augmedics xvision Spine System is the first AR navigation system to be used in surgery for both open and minimally invasive spine implant procedures.

"It's kind of a 'wow moment,' like looking through a telescope and seeing the stars. Suddenly, the world is open to you in a different way," described Dr. Vingan. "Augmented reality allows us to advance what we can see inside the spine with pinpoint accuracy to accurately guide instruments and implants in the least invasive way. It is a navigation tool that gives us information in the operating room that is deeper than traditional methods."

Conventional operating methods can increase exposure to radiation for both patients and surgical teams, and freehand methods are associated with complications due to close proximity to patients' neural and vascular structures. But the xvision Spine System features a transparent near-eye-display headset to determine the position of surgical tools in real-time and superimpose them on a patient's CT scan data. The navigation data is then projected onto the surgeon's retina using the headset, allowing him or her to simultaneously look at both the patient and the data.

How is augmented reality used in surgery?

Simply put, the results for those on or around the operating room table are significant. Surgeons can keep their focus honed, as opposed to other methods that have a separate screen displaying a patient's anatomy during procedures. Better control and visualization may lead to easier, faster, and safer surgeries.

The benefits are plentiful for those under his care or that of Dr. Vingan, noted Dr. Roth. "For patients, added accuracy and tactile feedback for their surgeon means smaller exposures, less pain, and greater precision," said Dr. Roth. "The accuracy is phenomenal, and we are extremely proud to be among the first surgeons to offer this amazing technology."

Daniel E. Walzman, MD

Widely regarded as a leader in neurovascular and endovascular surgery, Dr. Walzman founded the endovascular neurosurgery programs at Hackensack University Medical Center, The Valley Hospital, Englewood Hospital, and Holy Name Medical Center. He also was instrumental in establishing comprehensive stroke centers at Hackensack University Medical Center and The Valley Hospital. He has subspecialized training in cerebrovascular disorders, endovascular neurosurgery, and interventional neuroradiology, and provides the full array of cranial and spinal neurosurgical care. He also has a particular interest in the treatment of spinal trauma.

Dr. Walzman has a keen interest in advancing technologies in the field of neurosurgery in order to improve care for patients and provide additional treatment options. He was the first physician in Bergen County to utilize the Merci retrieval device for the treatment of ischemic strokes. He is also an innovator and has 10 granted U.S. patents for novel devices and treatment methods.

He serves as chief of endovascular neurosurgery at Hackensack University Medical Center and director of neurointerventional services at the Heart and Vascular Hospital at Hackensack University Medical Center. He is also the primary investigator for multiple clinical trials for the treatment of strokes and aneurysms.

An advocate for minimally invasive techniques as a first line of treatment whenever appropriate, Dr. Walzman was one of the first neurosurgeons in New Jersey to perform minimally invasive embolization procedures for the treatment of intracranial aneurysms and arteriovenous malformations.

“The most gratifying aspect of our work is when you’re able to see a patient come back to your office after they’ve suffered a difficult illness and see that they’re back on their feet and getting back to a normal life.”

Daniel E. Walzman, MD

“I am driven by the profound need for neurosurgical care. Each morning, I wake up with a deep sense of purpose—to go to the hospital, see patients, and make a meaningful difference in their lives.”

Aryan Ali, MD

Aryan Ali, MD

Dr. Aryan Ali is a distinguished neurosurgeon with specialized fellowship training in Pediatric and Endovascular Neurosurgery. He completed his advanced fellowship at New York University after several years of neurosurgical practice in the Middle East.

Dr. Ali leads a dedicated team of pediatric anesthesiologists, nurses, and intensivists to provide world-class neurosurgical care. His patient-centered philosophy prioritizes clear communication and active parental involvement in every stage of a child’s treatment.

“The most gratifying thing for me when I treat children is when I see the relief in the eyes of their parents. When they see their little ones are safe,” said Dr. Ali.

He specializes in treating a broad spectrum of brain and spine vascular disorders in both children and adults, including carotid artery disease, cerebral aneurysms, and arteriovenous malformations. His expertise also extends to pediatric hydrocephalus, Chiari malformations, myelomeningocele, brain tumors, craniosynostosis, traumatic brain injury, epilepsy, spasticity surgery, and rare conditions such as Moyamoya disease.

An accomplished researcher, Dr. Ali has published extensively in peer-reviewed neurosurgical journals and serves as a reviewer for *World Neurosurgery*.

George Kaptain, MD

Dr. Kaptain is a conscientious, thoughtful, kind, and skilled board certified neurosurgeon with more than 25 years of experience managing a busy clinical practice in clinical research and teaching. He specializes in the surgical and radiosurgical treatment of benign and malignant tumors of the brain, pituitary, skull base, and spine. Dr. Kaptain is an Associate Professor of Neurosurgery at the Hackensack Meridian School of Medicine and serves as the Surgical Director of Neuro-Oncology, Skull-Base Surgery, and Radiosurgery at the John Theurer Cancer Center of Hackensack Meridian Health. He has served as site director for the neurosurgical residency and directs a fellowship in Surgical Neuro-Oncology. He has been an investigator in over 20 clinical trials for glioblastoma, placing him and his department at the forefront of brain tumor treatment.

Dedicated to enhancing patient care, Dr. Kaptain has built a multi-disciplinary team of specialists at the Hackensack University Medical Center, including neuro-oncologists, radiation oncologists, endocrinologists, neuropathologists, and radiologists. His compassionate approach provides patients and their families with sound guidance for even the most complex cases.

Our priority is helping patients make the best treatment decisions. This happens when we educate them and their families on their condition and treatment risks and benefits. We believe this is one of the most critical aspects of our work."

George Kaptain, MD

When your patient has a good outcome, they go from being severely disabled to making an astounding recovery. To be a part of that recovery is what is most rewarding to me as a neurosurgeon."

Mohammed Faraz Khan, MD

Mohammed Faraz Khan, MD

Dr. Khan is one of the nation's leading physicians in the treatment of complex disorders of the spine. Known for his advocacy of the most conservative treatment appropriate for each patient, he often employs minimally invasive techniques, as well as state-of-the-art computer-assisted navigation technology, when treating neck/back pain, sciatica, disc disease, spinal stenosis, spinal fractures, scoliosis, spine tumors, and spinal fusions. Dr. Khan has extensive experience in the treatment of traumatic brain and spinal cord injury, as well as in treating a wide range of neurosurgical conditions such as brain tumors, hydrocephalus and peripheral nerve disorders.

Dr. Khan has been published in several peer-reviewed scientific journals, and has authored several textbook chapters on the treatment of spinal disorders. He has served on the American Association of Neurological Surgeons Scientific Planning Committee. As a participant in the renowned Miami Project to Cure Paralysis, he focused on the treatment of severe spinal trauma with spinal cord injury, spinal deformity, and complex revision spinal surgery.

His conservative approach is driven by a desire to decrease patient hospital stays and help patients more quickly return to full functionality. Embracing shared decision-making with patients, Dr. Khan is dedicated to ensuring they understand their treatment options and feel confident and comfortable with the treatment plan selected.

New Jersey Brain and Spine Ranked Top 10 Nationally

New Jersey Brain and Spine has been ranked among the top 10 neurosurgery practices in the country for the third consecutive year. This recognition from Castle Connolly is a testament to our team's unwavering dedication and unparalleled expertise.

The top 10 national ranking is based on a variety of factors, including peer nominations, extensive research, qualifications, reputation, and patient care standards. This prestigious honor reflects not only our quality of care but also our commitment to improving the lives of our patients through innovative treatments and compassionate service.

Our ongoing recognition as one of the top neurosurgery practices in the country affirms that we meet and exceed our field's highest standards. We continue to prioritize leadership in neurosurgical care, and we hope this distinction underscores our commitment to maintaining the highest standards of excellence.

This achievement would not have been possible without our patients' immense trust and support, our team's collaborative spirit, and the invaluable contributions of the surrounding medical community. We want to extend our deepest gratitude to everyone who has been part of our journey.

Delivering Patient-Centered Neurosurgical Expertise in Essex County

Dr. Giorgio Rotoli joined New Jersey Brain and Spine six years ago, drawn to its deep subspecialization and truly collaborative approach—one that always prioritizes the patient's best interests.

Fellowship-trained in neurosurgical oncology, Dr. Rotoli specializes in the surgical and radiosurgical treatment of brain and spine tumors. He also treats the full spectrum of adult neurosurgical conditions, including degenerative disc disease, cervical and lumbar stenosis, and herniated discs.

"My goal is to achieve the best possible outcome for each patient, and that means considering surgery only as a last resort," he explains. "I treat every patient as I would my own family—always focusing on what's best for them."

Dr. Rotoli primarily serves Essex County, working with leading medical centers such as Cooperman Barnabas Medical Center, Hackensack Meridian Mountainside Medical Center and Clara Maass Medical Center.

Referring physicians rely on his commitment to collaboration. "I deeply respect the trust a referring physician places in me," Dr. Rotoli says. "Whether it's through phone calls, sharing notes, or secure messaging, I make it a priority to keep them informed throughout the treatment process. That continuity of care is essential for our shared patients."

Dr. Rotoli's commitment to patient care is grounded in a personal philosophy that has guided him throughout his career. "My parents instilled in me a simple but powerful philosophy: always try to help people," he reflects. "I feel fortunate to fulfill that purpose alongside an extraordinary team of subspecialized physicians."

5 QUESTIONS for... Roy Vingan, MD

Dr. Roy Vingan, a board certified neurosurgeon specializing in spine conditions, co-founded the practice with Dr. Patrick Roth in 1996. Dr. Vingan shares his original vision for the practice, how it has grown, and his hopes for the future.

1 What was your vision for the practice when you co-founded it 29 years ago?

Our goal was to create a subspecialized, academic medical center-like practice that provided top-tier care within the community. We wanted strong patient relationships and a growing team of skilled physicians. We knew that many in the community sought care in Manhattan, and our vision was to offer the same level of expertise locally — building a practice equal to, if not better than, major city institutions.

2 As you were starting, what were the core values that shaped the practice?

We quickly built strong hospital relationships. Both Dr. Roth and I were on call every other night. We became well-known to the trauma department. They saw our commitment to high-quality care, knowing we operated only when necessary and prioritized conservative management. This trust helped establish our reputation and remains central to our philosophy today.

3 What role has subspecialization played in the practice's ability to provide exceptional care?

Our practice is highly subspecialized to ensure that each physician can focus on what they do best. Research consistently demonstrates this leads to better outcomes. By dedicating ourselves to specific areas of expertise, we enhance our skill, precision, and decision-making. That's what serves the patient best and that's what we're here to do.

4 What should referring physicians expect when they send a patient to the practice?

We value the trust of referring physicians and are committed to providing their patients with the highest level of care. We always schedule promptly, communicate often, and deliver expert, compassionate care. Our approach is simple—we treat every patient with the same level of skill, empathy, and respect that we would want for our own families.

5 As the practice evolves, what are your aspirations?

My vision is to be the leading destination for neurosurgical care, attracting patients from across the state and beyond while preserving what makes us exceptional. I want to remain a welcoming home for like-minded neurosurgeons committed to excellence, innovation, and compassionate care—delivering academic medical center-level treatment with cutting-edge advancements and deep empathy.

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