NeuroPoint Alliance: Positioning Neurosurgery in Forefront of Outcomes Measurement

The NPA’s Registries Demonstrate Potential for Not Only Improving Care Quality but Also Demonstrating to Payors the Value that Neurosurgeons Deliver

By Bonnie Darves

A
d effort that started more than a decade ago as a modest attempt to track patient outcomes in high-volume areas of neurosurgery such as spine procedures so that surgeons could benchmark their results has become a leading national clinical registry organization and North America’s largest repository of spine surgery outcomes data.

The Quality Outcomes Database, or QOD, a quality improvement program operated since 2009 under the auspices of NeuroPoint Alliance, now contains comprehensive data, including patient-reported outcomes, on more than 70,000 patients. The QOD counts more than 1,400 participating surgeons and approximately 200 practice sites nationally, and covers lumbar, cervical, deformity and cerebrovascular procedures. The relatively new stereotactic radiosurgery registry has accrued data on nearly 3,000 patients. Tumor and deep-brain stimulation (DBS) registries are moving forward, with other sub-specialty areas likely to follow soon.

The QO’s, and the NPA’s raison d’être is to help neurosurgery as a specialty identify specific opportunities to both improve care and refine the operative indications for the procedures neurosurgeons perform—to optimize both clinical and economic effectiveness. That’s become a Holy Grail for healthcare in recent years, as payors try to shift from paying for quantity to paying for value.

According to Anthony Asher, MD, QOD director and co-medical director of the Carolinas Healthcare System Neuroscience Institute, sophisticated, well-designed registries can help position groups to demonstrate the value of what they do.

“Six years ago neurosurgery had no national presence in the quality space, so these are tremendous accomplishments.”

— Anthony Asher, MD, NeuroPoint Alliance QOD Director

“I put this in the category of where the rubber meets the road. One criticism of registries in general is that they’ve not really realized their potential, in that it’s hard to point to areas where registries have definitely moved the quality needle,” Dr. Asher said. “That might be true to some extent. But our registry has given us valuable insight into major opportunities to improve neurosurgical care that I don’t think we would have had without a national perspective.”

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Editor’s note: This article is the first in a two-part series on how neurosurgery as a specialty and forerunning neurosurgery practices are making inroads in quality and outcomes measurement that help position the specialty to thrive in an evolving reimbursement marketplace. The second article will appear in the Spring edition.
Neurosurgery in Forefront of Outcomes Measurement

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Data key in demonstrating care value

Dr. Asher cites a case in point. The QOD’s lumbar surgery registry looks beyond standard short-term surgical outcomes (such as 90-day complication rates) to incorporate patient-reported outcomes at one year post-op. That longer-term perspective, underpinned by comprehensive patient demographics, produces a far more nuanced and, ultimately, helpful view of what succeeds and what doesn’t, and why. An analysis of that QOD data found that while 85% of patients were satisfied enough with the results that they would undergo the surgery again, 15% said they would not.

“If we could reduce that 15% to 10% or 5%, and do that by looking at best practices and feeding that information back to neurosurgeons, we’d do more for quality improvement in the specialty than anything else we could do,” said Robert Harbaugh, MD, who chairs the NPA and is chair of neurosurgery at Penn State University. “What we’ve done, which is different than in other databases, is to look at whether patients really did get better—if they had back pain or leg pain or functional disability, did those things improve?”

Having such data is important for patients contemplating surgery, of course, but it’s also increasingly important for neurosurgeons who are being asked to demonstrate the effectiveness of their work. “With the shift from payors to stop paying for quantity and start paying for quality, neurosurgeons really have been put under the microscope to document the quality of our surgery. And you can do that by looking at complications, but that only tells a small part of the story,” Dr. Harbaugh said.

Other analyses of the QOD lumbar surgery data have also picked up patient characteristics that might contribute to less than optimal recovery and more readmissions in the early weeks after surgery. Patients with poorly controlled diabetes or renal disease, those who smoke, and patients on moderate to high-dose opioid regimens at the time of the procedure tend to have a rockier post-op course, for example. Pre-screening patients for these factors, Dr. Asher notes, can help neurosurgeons better optimize patients for lumbar surgery.

In addition, the NPA’s QOD registries have garnered national attention. The data have been used by national organizations such as the Institute for Healthcare Improvement in a joint NPA-IHI initiative to refine an IHI quality improvement project looking at lumbar surgery readmissions and length of stay. The QOD registries are also among few nationally that qualified for the CMS Physician Quality Reporting System.

NPA has also worked with the HHS Office of Human Research Protections and Office of Civil Rights to help obtain official guidance on how registries can and should be used in the regulatory context. “We’re known for having spearheaded that effort, which has paved the way for broader adoption of registries,” Dr. Asher said. “Six years ago neurosurgery had no national presence in the quality space, so these are tremendous accomplishments.”

Registry-spawned calculator to debut

Although the concept of patient registries in surgery is hardly new, the notion of organizing and analyzing the resulting data with a focus that extends well beyond tracking safety and complications is in the early stages. Registries such as the ones NPA has developed are intended to embrace the bigger picture of better understanding long-term outcomes and identifying opportunities for quality improvement based on rigorously gathered and analyzed outcomes data.

For example, the NPA’s robust registry outcomes-data aggregation has led to development of a new tool, the Predictive Spine Calculator, that will benefit neurosurgeons seeking to better identify patients most likely to benefit from surgery. The web-based calculator will be provided to participating QOD centers this year and eventually made available generally.

“We’re becoming able to refine our operative indications—to be able to operate on patients who are very likely to improve and avoid surgery in people where the chances of improvement are very slim,” Dr. Harbaugh said. “Right now, with many of the things we do, that line is kind of fuzzy.”

All neurosurgeons and practices are welcome to participate in the QOD registries, but the logistical requirements—a full-time data specialist is needed, and the data acquisition, compilation and reporting requires rigorous oversight—has made participation logistically and economically infeasible for some practices.

A recent development might help address this hindrance. NPA has begun marketing its QOD databases to hospitals and health systems, and neurosurgery practices affiliated with those entities should be able to access their data without setting up an internal site. Alternatively, neurosurgery practices might reach out to their hospitals and ask the facility or health system to help underwrite the effort, Dr. Harbaugh suggested.

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— Robert Harbaugh, MD
In the interim, NPA is working to develop a more limited version of the registries because one of its key objectives is to identify less costly and cumbersome ways for practices of any size to participate in the registries. The envisioned “essentials” program would include a restricted number of variables and three-month rather than 12-month—those most predictive of long-term outcomes—that smaller practices might use.

“This is a major initiative for us in the next 18 to 24 months,” Dr. Asher said, “because if we don’t have a method for people in all practice settings to participate, we’ve really lost a major opportunity.”

Another of the NPA’s near-term objectives is one that many entities involved in QI and outcomes have struggled to accomplish: developing the means to tap electronic health records (EHRs) to obtain some of the data that registries utilize that’s now being gathered manually. To date, progress has been stymied by the reality that EHRs generally differ, sometimes substantially, from one manufacturer to another; and even those from the same manufacturer are often set up differently within practices.

“We had hoped that the effort to extract more data from EHRs would be coming along better than it has, but what we’re finding is that almost every EHR is different,” Dr. Harbaugh said.

Tapping into business opportunities

The NPA, a 501(c)(6) corporation that was originally an initiative of the American Association of Neurological Surgeons, has begun collaborating with other associated specialties, including neurology, neurointerventional surgery, radiation oncology and interventional neuroradiology, to allow for cooperative registry efforts or other data sharing. That approach, Dr. Harbaugh explains, and the increased enrollment, will make the registries more valuable ultimately in attempts to improve quality. The NPA also plans to add representatives from other specialties to its board of directors.

From the business perspective, NPA is pursuing avenues to utilize its in-house data-analysis capacity and contracted relationships with data management companies to collaborate with the device industry and government agencies in an impartial capacity. For example, Dr. Harbaugh explains, NPA might work with a device company seeking to assess a new spinal implant by designing the trial to test the device and set up an accompanying registry. Another option would be conducting a randomized study comparing two devices, and recruiting the neurosurgeons to conduct the study, after vetting them for potential conflicts of interest.

In either structure, the NPA would assume end-to-end responsibility for designing and running the study, performing the data analysis, and feeding the data back to industry, Dr. Harbaugh explained.

“I see a lot of opportunity to work with industry in an aboveboard fashion that meets everybody’s ‘sniff test’ and get very good data on these devices,” Dr. Harbaugh said, suggesting that the joint efforts could be set up to meet criteria established by the Food and Drug Administration (FDA) and potentially avoid financial or ethical conflicts.

Such collaborations might address a few inherently problematic issues with the status quo—moving away from strictly industry-designed and -conducted trials, which are sometimes skewed, and situations in which large trial sites’ investigators might feel pressured to find more benefit or fewer downsides in a product. In addition, some industry-developed trials are intentionally set up by entities with a monetary interest in the device to compare that device to relatively ineffective alternatives, Dr. Harbaugh noted, while others might produce results that don’t see the light of day.

“That raises all kinds of red flags, and I think that the FDA will look on these [industry] in-house arrangements as less than adequate in the future,” he said. “In our model, we would always publish the data, regardless of how the trial came out.”

The big-picture goal is to use the expertise and infrastructure NeuroPoint Alliance has in place, in concert with its existing relationships with leading data-management companies, to essentially create new business lines that would, in turn, help reduce the cost of neurosurgery practice participation. Dr. Harbaugh observed that NPA is also well positioned to work with health plans and biomedical companies.

“We’d like to develop business relationships with industry in which we can offer them something they need and their business helps support our ongoing efforts—without putting that [expense] on the backs of the neurosurgery practice,” Dr. Harbaugh said.

Ms. Darves, an independent writer based in the Seattle area, is editor of Neurosurgery Market Watch.

Upcoming Course to Provide Overview of NPA

Neurosurgeons and practices interested in learning more about NeuroPoint Alliance and options for participating in the QOD registries might consider enrolling in the introductory course that will be offered at the AANS Annual Meeting:

The NeuroPoint Alliance and Your Practice: Using Registries to Enhance Quality, Reimbursement, Certification and Clinical Research

AANS Annual Meeting
April 29, 2018

For more information visit www.aans.org/online-program
Making a Difference in Tanzania
Neurosurgical Mission Saves Lives, Enhances Careers and Delivers Sustainable Change
By Roger Härtl, MD

I have been drawn to Tanzania since I first visited the East African nation as a medical student. Conditions there were dramatically different from what I had seen in European hospitals, and the need for medical care was so great. Conditions have improved somewhat since then, and I’m proud to be a part of the effort that’s bringing about that change. There is, however, a long way to go.

When I started the Neurosurgical Mission in Tanzania almost a decade ago, we focused on getting equipment and supplies to a hospital there. Then we would go over as a small team, and operate on and treat patients. Yes, we would save lives, but I realized pretty quickly that there was no long-term solution in that. Supplies are used up and can’t be replaced. Equipment breaks down and there’s no one to fix it. We needed a strategy that would make a difference in the long run, and that would allow patients to receive high-quality treatment in the time between our annual visits.

What does make a lasting difference is training, and that’s what our model is now. Teaching local doctors how to evaluate and treat patients, and to do so using locally available equipment and supplies, is the way to ensure lasting change. Along the way we have formalized and expanded our training through a fellow exchange, a classroom course, and weekly Skype calls to keep our teams connected. We have also implemented research protocols where we monitor the current treatment of patients with traumatic brain injury, spinal trauma and hydrocephalus. (including not only neurosurgeons but also a neuro-intensivist, a physician assistant, and a nurse practitioner) gathered from around the globe. The faculty came from Weill Cornell Medicine and Vanderbilt University in the United States, and neurosurgical departments from Germany, the United Kingdom, Spain, Uganda and Pakistan.

Our most recent trip took place in October 2017. For the fourth year in a row, the weeklong trip started with several days of intensive classroom instruction, the "Hands-On Neurosurgery, Neurotrauma, and Critical Care" course in Dar es Salaam. The course is an international collaboration between Western physicians and the local neurosurgical team, led by Hamisi Shabani, MD, PhD, from the Muhimbili Orthopedic and Neurosurgical Institute. A faculty of 14 (including not only neurosurgeons but also a neuro-intensivist, a physician assistant, and a nurse practitioner) gathered from around the globe. The faculty came from Weill Cornell Medicine and Vanderbilt University in the United States, and neurosurgical departments from Germany, the United Kingdom, Spain, Uganda and Pakistan.

We focus primarily on neurotrauma and hydrocephalus, for a few reasons. First, neurotrauma is a leading cause of death in Tanzania—from motor vehicle accidents, violence and other traumatic injuries—and the victims are often young adults. Hydrocephalus is all too common in babies, and although it’s easily treated when patients are brought to trained professionals, it can become a significant disability when untreated. By focusing on these two groups of young people, we can add the greatest number of years back to their lives.

More than 100 people attended the course this year, including local medical students and specialists aspiring to improve neurosurgery and neurocritical care in East Africa. The team was pleased to be joined by Dr. Tariq Khan from the World Federation of Neurosurgical Societies (WFNS), who spoke about the importance of building neurosurgical training capacity in the developing world.

“Nothing hones a neurosurgeon’s skills quite like operating on a high volume of cases, with limited resources, on a daily basis.”

– Dr. Härtl
‘Multiplier effect’ a key benefit

It was especially gratifying to spend time with our “champion surgeons” in Tanzania, who we rarely get to see in person. Dr. Japhet Ngerageza, who spent six months at Weill Cornell Medicine as an international fellow, was recently named head of neurosurgery at the new Muhimbili University of Health and Allied Sciences (MUHAS) Academic Medical Center. Dr. Ngerageza has had the intended multiplier effect by sharing the advanced skills he learned in New York, and he is now teaching other surgeons to perform highly complex surgeries without advanced microsurgical equipment.

We also spent time with Dr. Andreas Leidinger, M.D., who is currently serving as the second Global Neurosurgery Fellow at Muhimbili Orthopaedic Institute. An important element of this project is posting Western-trained neurosurgeons to Tanzania for extended assignments. Having a skilled surgeon there full time not only allows the local hospitals to treat surgical patients who would otherwise have no options; it also reinforces on a daily basis the training we do on our annual trips. And nothing hones a neurosurgeon’s skills quite like operating on a high volume of cases, with limited resources, on a daily basis. Our Global Neurosurgery Fellows will acquire more experience and log more hours in the OR than a more typical fellow in a Western program.

In fact, all of the surgeons who have participated in this program—myself perhaps most of all—have benefitted both personally and professionally from the endeavor. We gain not only the experience of working on fascinating cases that we’d rarely see in our Western practices, but also enter the ranks of neurosurgeons working in the field of global health. Being a part of this group has given me new perspectives on our mission and has allowed me to mentor younger surgeons as they enter this international specialty. I encourage any neurosurgeon with an interest in developing a more expansive world view as well as hands-on skills to look into joining a global health initiative. (There are now many of them around the world, and in fact, we will host a Global Health in Neurosurgery CME course at Weill Cornell later this year.)

There is simply no excuse any more for the disparity of treatment seen from one continent to another. With all the high-tech communications devices we have in this global age, we can be transferring knowledge and experience to those who need it all the time.

Dr. Härtl is Director of Spinal Surgery at Weill Cornell Medicine Neurological Surgery in New York City, and director of the Weill Cornell Medicine Center for Comprehensive Spine Care.

In 2017 we held our fourth annual Neurotrauma Course, which provides classroom instruction to a wide range of health care providers.
Malpractice Considerations for Neurosurgeons Seeking First Opportunity

By Bonnie Darves

In this regular column, Neurosurgery Market Watch speaks with health lawyers about legal issues affecting neurosurgeons. This article, the first in a two-part series, features Michael Sacopulos, JD, a partner in the Terre Haute, Ind., law firm Sacopulos, Johnson & Sacopulos who specializes in physician medical liability and is general counsel for Medical Justice Services, a national organization. He discusses basic issues young neurosurgeons seeking their first practice position should understand about malpractice lawsuits and coverage.

Q: For most neurosurgeons heading into their first practice position, the mechanics of arranging malpractice coverage will be handled by the group or institution. Despite this, what should young neurosurgeons know— and ask—about the coverage itself?

A: Neurosurgeons need to know whether the medical malpractice or professional liability coverage includes a consent-to-settle provision. Traditionally, policies all had this provision, which means that the neurosurgeon has the ability to say yes or no to settling the claim against them. And that’s a typical provision for professional liability policies.

That is changing, and it’s becoming more common to have a no-consent-necessary provision for physicians. The issue with this is that when the case is settled, it’s reported to the National Practitioner Data Bank, and that will follow the physician the rest of her or his career. If the neurosurgeon wants to take the case all the way to court because he is convinced he did nothing wrong, that option might not be available. The reality is that neurosurgeon cases are very expensive to defend, so there’s an incentive on the part of insurers to just write a check.

Whether that provision is negotiable depends on the employment situation. In a private practice or small group, the neurosurgeon might be able to opt out. If it’s a large entity, a hospital or health system, for example, which includes the consent-to-settle provision in contracts for all providers, the neurosurgeon will probably just have to accept it. An employer might agree to let the neurosurgeon purchase his own coverage, but that would be highly unusual.

Q: What should young neurosurgeons understand about why malpractice lawsuits are filed?

A: First of all, I think there’s a disconnect between the medical community and the legal community on why physicians get sued. If you asked a neurosurgeon coming out of residency, I think you’d hear a lot of medicine—that the types of conditions neurosurgeons treat are difficult ones.

Most malpractice claims have so little to do with the physician’s skill that I think most neurosurgeons would be shocked. People generally sue doctors not because they’re bad at medicine but because they’re bad at communicating. Experience has shown that almost no one sues a doctor they like.

You should remember that most patients know nothing about neurosurgery—about how skilled you are or the equipment that you use. What patients evaluate you on is personality and how much they think you care about them, which are the only real metrics they have.

To the extent that patients feel you’re withholding information, that you’re uncaring or that you’re inattentive, those are things that— whether accurate or not— drive people to file lawsuits. Everyone will have bad results; that happens, especially in a high-risk specialty such as neurosurgery. But it doesn’t mean that the neurosurgeon has committed malpractice.

Numerous studies looking at why patients file malpractice lawsuits show that money is way down on the list. More likely motivators are, one, that patients don’t want this thing that happened to them to happen to someone else and, two, that they want to know the full story. And that’s a lot about communicating. Studies on the apology laws now in place in some states have shown a 60% to 70% reduction in medical malpractice claims.

Q: What might neurosurgeons do to help reduce the likelihood that they will experience a malpractice claim?

A: There are a few key things. First, try to truly make a connection with patients and exhibit a caring demeanor. If you don’t appear to be very caring about the problems that people have, that puts you in the target zone. This doesn’t take a lot of time—and many neurosurgeons probably do this naturally—but it’s very important.

I also remind surgeons not to overlook the patient’s family, and to take the time to talk to them. If or when something goes wrong, family members will influence the patient.

Of course, you should make sure that you communicate clearly about the treatment or procedure, including risks and possible complications. And if something does go wrong, communicating in a timely and open manner is very important.
IN BRIEF

Survey: Neurosurgeons Favor Flexible Retirement Age

A recent survey of 1,449 neurosurgeons, both practicing and retired, found that 67% of respondents think that no absolute cut-off age should be set for when neurosurgeons must stop practicing. Conducted for the American Board of Neurological Surgery (ABNS) and published in the Mayo Clinic Proceedings in December 2017, the survey included 938 neurosurgeons who were age 50 or older.

In other findings, 50% of neurosurgeon respondents favored cognitive testing and or a review of cases for practicing neurosurgeons age 65 and older, and also suggested that maintenance of certification should be structured to accommodate the needs of aging neurosurgeons. In particular, 59% of respondents thought that MOC for older neurosurgeons should focus on case reviews and patient outcomes.

The survey’s principal investigator was Maya Babu, MD, MBA, a neurosurgical fellow from Miami, Fla.
In January, Neurosurgery Market Watch spoke with Ann Stroink, MD, CPE, FAANS, chair of the American Association of Neurological Surgeons and Congress of Neurological Surgeons’ Washington Committee, about key advocacy focus areas this year, and how young neurosurgeons might get involved. Dr. Stroink is a senior partner at Central Illinois Neuro Health Sciences in Bloomington.

**Q:** What does a “week in the life of the Washington Committee” look like, and what has driven you to remain so involved over the years?

**A:** We are very active on Capitol Hill on a daily basis, working with senators and Congress members and the various committees they serve to inform them of problems we see that affect neurosurgeons’ ability to practice efficiently and care for our patients—and to seek solutions. We operate an effective sub-committee structure in the various subspecialty areas—spine, stroke and functional neurosurgery, to name a few—which allows us to tap into the expertise provided by neurosurgery subspecialists.

The Washington Office communicates directly with government agencies and healthcare stakeholders through communication about our legislative issues, to our members and the public, thanks largely to the expertise of Katie Orrico, director of our Washington Office. She helps us ensure that neurosurgery has a voice in key health policy developments. We also have a social media platform through Twitter @Neurosurgery and the Neurosurgery Blog www.neurosurgeryblog.org, which reaches a wider audience regarding our activities.

Why do I do this work? Frankly, I get a lot of energy from the people around me who want to do the right thing for their patients and for our specialty.

**Q:** The sheer volume of media attention healthcare has garnered in recent months indicates that it’s a particularly tumultuous time for physicians in most specialties and, by extension, their patients. What are some key issues affecting neurosurgery that your committee is focusing on this year?

**A:** We’re focusing our efforts on national care-access issues and the regulatory burdens that we think are impeding access to care. Our pediatric neurosurgeons, for example, supported and fought hard on the CHIP (Children’s Health Insurance Program) reauthorization, to allow access to care for our most vulnerable patients.

The other big focus area is the CMS (Centers for Medicare & Medicaid Services) physician quality-improvement payment programs such as MIPS and the Alternative Payment Model; we’re advocating for a less complex and more effective means of reporting on quality and rewarding improvement. These programs, as they’re structured, perpetuate a check-box system that does little to improve quality, or deliver on value for our Medicare patients. We intend to support meaningful quality-payment models and specialty-specific measures that are developed by physicians, not governmental personnel.

Reducing regulatory burden on neurosurgeons has proven to be overwhelming. It is an ongoing struggle for physicians to comply with the ever-increasing regulations that increase our overhead and workload. To that end, we work with and address neurosurgery concerns with governmental agencies such as CMS. We also work with Congressional committees seeking solutions for reducing regulation. We have provided input, for example, to the Medicare Red Tape Relief Project initiated by the House Ways and Means Health Subcommittee. This project is tasked to provide relief from burdensome regulations and mandates that drive up costs, limit innovation and undermine timely care.

An important issue now, for neurosurgery, is the Appropriate Use Criteria program for advanced diagnostic imaging for Medicare patients. The AUC, slated for implementation in 2020, will require that physicians ordering an advanced diagnostic test such as an MRI, CT or PET scan first consult the criteria and also use a cumbersome CMS-approved clinical decision support mechanism to communicate the request to the furnishing radiologist. If this program goes into effect, it will be extremely time-consuming and costly for practices, and certainly lead to care delays.

**Q:** What is your advice for young neurosurgeons who want to get involved, but don’t know where or how to start?

**A:** When I speak to residents and young neurosurgeons, I encourage them to be aware...
of socioeconomic controls that impact their practice and their patients’ access to care. It’s important to be informed about factors that can hide in employment models, such as coding and reimbursement, medicolegal issues and regulatory burdens that eventually trickle down to the physician.

Start with one area that you like or care about—maybe it’s patient safety, coding issues, reimbursement problems, medical innovations or quality measures—and start studying that as a hobby. Being an informed physician leader in specialized issues, above and beyond what you do as a neurosurgeon, is valuable to your department, hospital administration and specialty societies. This is especially true as healthcare moves toward value-based purchasing models and a more complex governmental environment overseeing innovations in drugs and devices. Get involved and stay involved; your voice can help shape the future.

A good place to start is through the Council of State Neurosurgical Societies (CSNS), where you might find work in committees you might enjoy. Or contact Katie at the Washington Office and ask how you could help.

**Resources**
Neurosurgeons who are interested in pursuing advocacy activities and representing the specialty in policy should start with the organizations below.
CSNS—csnsonline.org

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**SPINE FELLOWSHIP**

Lahey Hospital & Medical Center

The Lahey Spine Fellowship, made possible by Alan L. and Jacqueline B. Stuart, is a 12-month SNS/CAST-approved structured program for trainees to acquire expertise in outstanding patient care.

The Lahey Spine Fellowship gives rise to the next generation of spinal surgeons well trained in the latest surgical techniques and committed to systematic, thoughtful approaches centered on evidenced-based research in the treatment and care of spinal disorders.

Fellows will master a wide variety of surgical techniques including minimally invasive surgery, image-guided surgery, and deformity correction in a large-volume practice that spans a breadth of degenerative, traumatic, and oncologic disorders. Fellows will also learn appropriate indications for interventional pain management procedures and rehabilitation.

The Lahey Spine fellow will acquire a comprehensive approach to patients with spinal disorders and be able to prepare for an academic career dedicated to improving quality of life. Each fellow will have opportunities to participate in national and international spine-related registry projects and learn the fundamentals of clinical trial design, cost-effectiveness research and comparative-effectiveness research.

Opportunities include projects similar to our SLIP study, recently published in the New England Journal of Medicine. Our Spine Program currently has a multimillion-dollar PCORI award, an NIH award, over more than $1 million in philanthropic funding. Additionally, the Lahey Spine Center is a key component of the Lahey Comparative Effectiveness Research Institute (CERI) with the Chair of Neurosurgery, Dr. Zoher Ghogawala, MD, serving as Co-Director.

We are currently accepting applications for one-year fellowship positions beginning July 2018 and July 2019. Applicants must be enrolled in or have successfully completed an accredited orthopedic or neurosurgery residency training program and be eligible for a Massachusetts medical license.

- Applicants should send a letter of interest and CV to:
  Subu N. Magge, MD, FAANS, Fellowship Director, Lahey Spine Fellowship
  Subu.N.Magge@lahey.org
A startling number of neurosurgeons change jobs after their first contract. Unfortunately, many young neurosurgeons find themselves unsatisfied with their job choice, and some, sadly, even become burned out early in their career.

Studies on neurosurgeon job satisfaction and burnout, including the survey published in the Journal of Neurosurgery in July 2015, identify a range of factors—some within and others outside a neurosurgeon’s control. In that context, it’s important for young neurosurgeons seeking a practice opportunity and comparing offers to at least try to gauge a prospective position’s potential for long-term satisfaction with the choice you have made.

Before you sign, what might you look for to help ensure that the job you choose won’t lead to dissatisfaction or burnout? One is mentor availability. With the increasing trend toward hospital-employed opportunities, sometimes there is a lack of neurosurgeons to mentor young colleagues starting out.

If mentorship is important to you, as you interview, look for and ask about potential neurosurgeon mentors—or veteran surgeons in related specialties who might serve in that role. Mentors can help you navigate not only starting clinical practice but also the business-oriented matters that arise that you might not have considered in your job-selection process.

A high percentage of neurosurgeons who are satisfied in their jobs cite their colleagues as a chief reason. In short, their satisfaction with and loyalty to the practice are often due to mutually aligned interests with other neurosurgeons and physicians in the practice. As you are interviewing the first or second time, find out how long the other neurosurgeons have been in the group and try to assess their personal job satisfaction and loyalty to the practice.

A revolving door is usually a red flag indicating that the culture, the environment, or the leadership—or all three—are not conducive to job satisfaction.

Depending on the type of practice environment you are seeking, make sure that the groups you consider have the support and resources in-house, and possibly the flexibility, to help you achieve your key professional desires and practice goals. Some neurosurgeons are looking for more control and autonomy in how they build their practice, while others are happy (and perhaps prefer) to step in to an existing model and method and fill in as protocol determines.

Whatever your preferences, try to gauge how much opportunity exists for building your own practice in the manner you envision or pursuing a particular niche, if that’s important to you. If you’re a big-picture thinker, it might be important to explore potential opportunities for helping the organization expand or set up new service lines. A chief cause of job dissatisfaction, for neurosurgeons and other physicians, is practicing in an environment in which they feel their professional growth is stymied.

It’s easy to become swept up with high dollar figures, especially when selecting your first position out of training. That is why it is important to consider what your long-term goals are not only in your career, but also in your family and personal life. I’ve had candidates prepare expectation lists along with their cover letters to let potential employers know from the very beginning what their long-term career and family/personal goals are. At the very least, this approach can help avoid significantly mismatched expectations.

Ms. Cole is publisher of Neurosurgery Market Watch. She resides in Denver.
FEATURED OPPORTUNITY

General Neurosurgery Opportunity on Florida Gulf Coast

A hospital on the Gulf Coast of Florida is seeking a BE/BC neurosurgeon to join the neurosurgery group. The position is open because one of the three neurosurgeons is leaving to practice outside the country. The two remaining neurosurgeons have been in the practice for 12 years and 3 years, respectively.

The facility prefers a candidate with a wide range of general neurosurgery experience including cranial, and training or interest in DBS/functional neurosurgery would also be considered. The incoming neurosurgeon will practice a full-spectrum general neurosurgery case load.

This highly regarded practice offers a comprehensive family-centered program to diagnose, evaluate and treat a wide variety of neurological disorders including: brain and spinal cord tumors; hydrocephalus and arachnoid cysts; spasticity and movement disorders; congenital malformation of the nervous system; craniofacial anomalies; Chiari malformations and epilepsy. There is potential for an academic affiliation, but it would be predominantly clinical.

The facility is located in the central Gulf Coast of Florida. The facility offers growing practices robust administrative support in a location that is world renowned for its sunshine, schools, sports and exceptional quality of life. The facility will provide the incoming neurosurgeon a competitive base salary with RVU productivity incentive, incentive bonus, retirement plan, discretionary allowance and eligibility for member status (after two years). Comprehensive insurance is provided, including malpractice, health, dental, vision, life, supplemental and dependent life, and short-long term disability.

UPCOMING U.S. NEUROSURGERY EVENTS/CMES

3rd Annual Principles and Techniques of Complex Spinal Reconstruction: A Hands-on Cadaveric Workshop
- March 30-31
  New York, New York

2018 AANS Annual Scientific Meeting
- April 28-May 2
  New Orleans, Louisiana
  ***Meet us there! Booth #1047***

3rd Annual Common Neurosurgical Conditions in the Pediatric Practice
- May 3
  New York, New York

Neurological Trauma Update 2018
- May 18
  New York, New York

Advanced Endoscopic Skull Base and Pituitary Surgery
- June 1-2
  New York, New York

SNIS: Society of NeuroInterventional Surgery 15th Annual Meeting & Fellows Course
- July 23-27
  San Francisco, California

UPCOMING INTERNATIONAL CMES

SLU Brain Surgery Course
- February 24
  Zagreb, Croatia

WLNC: World Live Neurovascular Conference
- April 25-27
  Kobe, Japan

ESOC: European Stroke Organization Conference
- May 15-18
  Gothenburg, Sweden

ASNR: American Society of Neuroradiology Annual Meeting
- June 2-7
  Vancouver, Canada

LINC: Live Interventional Neuroradiology & Neurosurgery Course
- June 11-13
  Paris, France

The 7th Annual Dandy Meeting
- October 12-14
  Cabo San Lucas, Mexico

For more information regarding any of these events, or to post your upcoming CME or neurosurgery event, please contact info@harlequinna.com.
## NEUROSURGERY POSITIONS

### HOSPITAL EMPLOYED
- Fresno, CA (Functional)
- Trenton, NJ (Endovascular)
- Knoxville, TN
- Tampa, FL (Pediatric)
- Fresno, CA (Endovascular)
- Charlottesville, VA (Endovascular)
- Clearwater, FL (Endovascular)
- Reading, PA (Endovascular)
- Tampa, FL (DBS)
- Kingsport, TN
- Farmington, NM
- Lake Havasu, AZ
- Edison, NJ (Spine)
- Billings, MT
- Reading, PA (Spine)
- Poughkeepsie, NY (Endovascular)

### PRIVA-DEMIC
- Trenton, NJ (Endovascular)
- Fresno, CA (Endovascular)
- Fresno, CA (Trauma)
- Dayton, OH (Spine)
- Erie, PA (Endovascular)
- Fresno, CA (Functional)
- Philadelphia, PA (Pediatric)
- Poughkeepsie, NY (Endovascular)

### ACADEMIC
- San Antonio, TX (Endovascular)
- Poughkeepsie, NY (Endovascular)
- Morgantown, WV
- Buffalo, NY (Endovascular)
- Worcester, MA (Spine)
- San Antonio, TX (Spine)

### PRIVATE PRACTICE
- Baltimore, MD
- Dallas, TX (Spine)
- Long Island, NY (Complex Spine)
- Houston, TX (Spine)
- Cincinnati, OH
- Bloomington, IL (Vascular)
- Macon, GA (Pediatric)
- Jackson, MS
- Hattiesburg, MS
- Bakersfield, CA
- Reno, NV (Deformity Spine)
- Albany, NY (Neuro-Oncology)
- Danville, CA (Cranial)
- Tucson, AZ (Vascular/ Endovascular)

For more information on these positions, or if you are interested in hiring a neurosurgeon for a permanent position, please contact info@harlequinna.com.