

Neurosurgery

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Neurosurgery Compensation Update

Although Incomes Continue to Rise, Some Signs Point to a Leveling Off

By Bonnie Darves

The compensation picture for neurosurgeons remains stable and mostly sunny, with two of the three major national surveys reporting upticks in general/adult and pediatric neurosurgery despite relatively flat productivity as measured by work relative value units (wRVUs) over the last year.

In addition, the economic uncertainty in healthcare spawned by incessant wrangling over the Affordable Care Act's future appears to have had no effect on neurosurgery hiring, sources reported, even if large organizations are fretting behind the scenes about what this turmoil means for future patient volumes and revenue streams. Further, the predicted effect of the shift from volume-based to value-based compensation models is occurring so slowly—in the surgical specialties at least—that neurosurgeons have yet to see palpable change in how they're paid.

The most detailed and extensive of the annual physician compensation surveys that track neurosurgery, produced by NERVES (Neurosurgery

the 2% to 3% range—while median hospital-employed neurosurgery compensation went down significantly (14%—from \$916,000 to \$786,000),” said Mr. Radomski, who is chief financial officer and VP of finance at Mayfield Brain & Spine in Cincinnati, Ohio. That change might be due in part to marked increases in survey participation by hospital-employed groups, and a 7% jump (from 14% to 21%) in the number of early-career (one to five years in practice) neurosurgeons included, he observes.

“It's unclear whether the change is a factor of the sample-size increase, or how much of this drop is related contract-renewal cycles,” Mr. Radomski said. “We certainly expect to see some of that.” For neurosurgeons with three-year starting contracts, for example, there's “some risk that the [new] contract will not be as rich as the first one, depending on the neurosurgeons' performance and track record” in generating revenues, he noted.

“Even though some organizations are being cautious in terms of their capital because of the current national environment, in terms of hiring neurosurgeons, it's still going great guns.”

— Michael Radomski, NERVES



Executives' Resource Value and Education Society), found a 2.6% jump in compensation from 2015 to 2016, to a median of \$710,000. The increase was comparable to the previous year's hike, but there are some noteworthy changes among practice types, according to Michael J. Radomski, CPA, NERVES president.

“Private practice compensation was down slightly and academic up slightly last year—in

The NERVES 2016 survey of 94 neurosurgeon groups included 330 private-practice neurosurgeons, 318 in academic practices and 146 in hospital-employed groups—the latter tripled from 51 the previous year. Hospital-employed offers and starting salaries in many specialties in recent years have tended to be considerably higher than those of other practice

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Neurosurgery Compensation Update

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types, industry observers have noted, and a leveling-off has been expected as contracts renew and hospitals and health systems look at the sustainability of physicians' salaries.

Other surveys find larger increase

The latest American Medical Group Association (AMGA) survey findings paint a somewhat different picture than the NERVES' data present. Median compensation, which increased 5.7% in the 2017 survey compared to the 2016 survey data, came in at \$779,266 for the 567 general neurosurgeons surveyed and \$764,213 for 34 pediatric neurosurgeons. For the 20th percentile—a not uncommon starting point for new graduates—median figures were \$614,686 (general/adult) and \$608,347 for pediatrics.

The AMGA 2017 Medical Group Compensation and Productivity Survey's findings on neurosurgeon productivity don't parallel the compensation increase, however. Median RVUs, 9,565 for adult neurosurgeons and 5,934 in pediatrics, were up only 1.2% this year overall—after a 7% increase the previous year compared to 2015. Thomas Dobosenski, president of AMGA Consulting Services, suggests that this kind of up and down movement in compensation and productivity is neither unusual nor cause for concern.

"It's normal to see that kind of swing, particularly in the surgical specialties—a big growth year in compensation at the median level, followed with a fairly small increase the following year," Mr. Dobosenski said. "In my experience, this tracks with other surgical specialties." He concurred with Mr. Radomski that surgical specialties are still paying predominantly on RVUs—and he doesn't predict a big shift in the coming years.

"We've heard a lot of talk about paying physicians on value [performance], but from what we've seen, healthcare organizations are still very much paying on volume. I don't see that changing soon in neurosurgery or other surgical specialties," he said.

NERVES Survey—Other Key Findings

The annual NERVES survey, conducted by the independent accounting firm Katz, Sapper & Miller in Indianapolis, is the most extensive of the national surveys and most representative of the practice environment in that it gathers data on the neurosurgery subspecialties and on aspects of neurosurgery practice and operations that other surveys do not follow.

Following are some of the survey's other key findings related to neurosurgery compensation and the operational factors that affect practice:

Call pay levels off. The median of \$1,700 daily for general call and \$2,450 for trauma call represents only a miniscule difference from last year's \$1,725 and \$2,400 respective figures. "Call pay has hovered in the same area over the last few years, and though I'm not sure where it will go moving forward, it's definitely leveling off," said Michael J. Radomski, CPA, the current NERVES president.

Vascular neurosurgeons lead in income. Median compensation for vascular neurosurgeons, based on the definition of neurosurgeons whose vascular services constitute more than 50% of all services, was \$817,000. This was followed, in declining compensation order, by spine, cranial, pediatric general, functional and pediatric cranial.

Starting salaries by specialty/subspecialty vary relatively little. For neurosurgeons leaving training and taking a first job, the median starting salary breakdown was as follows: cranial/skull base, \$542,000; vascular, \$531,000; spine, \$530,000; and pediatrics, \$486,000.

Ancillary services compensation contribution declines. The neurosurgeon compensation derived from ancillary and other non-direct patient care sources made up 18.7% of total compensation in the 2016 survey findings, but that's down significantly from 2013, when it was 27.2%.

In Mr. Dobosenski's view, the narrowing gap between adult neurosurgeons' and pediatric neurosurgeons' incomes is as it ought to be. For benchmarking or compensation-structure purposes, the pediatrics segment of the specialty is too small to warrant different treatment. "When I counsel groups on pediatric neurosurgery compensation plans, I advise them to go with the adult neurosurgery median as a benchmark, and to be competitive with that," he said. "The same goes for other specialties that have a pediatrics segment."

Of the three major national surveys, the one conducted by the Medical Group Management

Association (MGMA) found the highest median compensation—at \$823,213 for adult/general neurosurgery (up from \$772,914 the previous year) and \$719,805 for pediatric neurosurgery. The MGMA 2017 Provider Compensation and Production Report included data on 530 adult/general neurosurgeons in 166 groups, and 39 pediatric neurosurgeons in 22 groups.

In terms of practice type, in physician-owned groups, MGMA reported median compensation was \$762,728, compared with \$810,192 in hospital or health system-owned groups. The compensation increases don't indicate an increase in neurosurgeon productivity,

Neurosurgeon Compensation Across the Decades

The data below, from American Medical Group Association surveys, provides an interesting view of how neurosurgeons' earnings have grown.

| | Overall Median | Median Starting Salary* |
|------|----------------|-------------------------|
| 1976 | \$63,437 | \$39,312 |
| 1996 | \$308,954 | \$190,000 |
| 2016 | \$779,266 | \$697,500 |

*Starting salary data is for experienced neurosurgeon hires

Source: AMGA

according to Dave Gans, an MGMA senior fellow who has longtime experience in compensation surveys and associated research. "We're just not seeing the technology changes in neurosurgery that would cause the significant increase in production that we've seen in some other specialties. And the fact is that hospitals remain willing to subsidize neurosurgeons," Mr. Gans said, "because compensation is a relatively small part of the overall revenue that hospitals receive from neurosurgery services."

Regional compensation changes minimal

Across the three surveys, there was little change in terms of the regional neurosurgery compensation trends seen in previous years. Overall, neurosurgeons in the northern/north-central and southern regions tend to make slightly more than their counterparts in the eastern and western areas; however, it's worth noting that each survey defines regions somewhat differently.

The compensation spread in the AMGA survey, for instance, was a median of \$749,453 in the Eastern region to \$819,855 in the Northern region for general/adult neurosurgery. The small sample size in pediatrics precluded comprehensive data for all regions. However, the median-compensation spread was minimal in the two reported regions, southern and northern,

at \$776,776 and \$744,638, respectively. At the 20th percentile, the difference was negligible—a \$600,000 median in the southern region and \$608,347 in the northern region.

In the NERVES survey, the South and Midwest were the top two regions in compensation, followed by the East and West.

The regional variations are less meaningful than the overall median compensation and breakdown within the percentiles, in Mr. Dobosenski's view,

"It's normal to see that kind of swing, particularly in the surgical specialties—a big growth year in compensation at the median level, followed with a fairly small increase the following year."

— Thomas Dobosenski, AMGA

from the standpoint of hiring. "If an organization is going to hire a neurosurgeon, they'll have to do a national search anyway today. So that means they're going to have to be fairly competitive with the national market," he said, "or even pay a little higher than the national numbers depending on where the job is."

In Mr. Gans' view, neurosurgery compensation regional variations are less important in the big picture of hiring than the variations in practice

type. "For neurosurgeons evaluating practice opportunities, the [compensation] breakout by ownership is probably more meaningful than the regional differences," he said. MGMA's neurosurgery data in recent years points to relatively little regional compensation variation by region in hospital/health-system owned practices, which are steadily eclipsing private/physician-owned ones in number.

Looking forward, all sources were confident that neurosurgeons will continue to find opportunities plentiful and well-compensated, because of the sheer importance of ensuring adequate neurosurgery services in all markets and the relatively small population in the specialty. In addition, the trend toward developing dedicated neurosciences centers in many markets where none existed before is creating new types of opportunities and leadership roles for neurosurgeons.

"Even though some organizations are being cautious in terms of their capital because of the current national [political and health policy] environment, in terms of hiring neurosurgeons,

it's still going great guns," said Mr. Radomski. "When we ask our respondents about their plans to recruit in next 12 months, the number this year was 77%—compared to 65% last year and 60% the year before. So people are definitely trying to hire neurosurgeons."

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

Pursuing Collaboration with Industry

Opportunities Exist, but Due Diligence, Realistic Expectations a Must for Young Neurosurgeons

By Bonnie Darves

Neurosurgeons who have developed a solution to a pesky problem or, better yet, taken a potentially practice-changing device or instrument concept first scribbled on a notepad through to market launch, know just how heady innovation can be. And neurosurgeons who think they're on to something novel should consider taking that concept to the next level, whether that involves developing a product on their own or identifying an industry collaborator to help them develop it.

At the same time, early-career neurosurgeons should understand that the road to success in device development is arduous—and long—and potentially fraught with frustration and risk. “This entire process generally takes a long time, about five years, before you will see any return on investment. Young neurosurgeons should also expect that taking something through biomedical testing runs between \$50,000 and \$100,000,” said Christopher Shaffrey, MD, a professor of neurological surgery at the University of Virginia Health System in Charlottesville who has extensive experience in neurosurgery product innovation.

That reality needn't dissuade a prospective inventor who has a solid concept, Dr. Shaffrey said, but it's important for young neurosurgeons to understand that it's a challenging undertaking. “The more experience you have, the more likely it is that your product will come to fruition,” he said. “If you have a phenomenal idea, companies might consider developing it, but they tend to take more interest in neurosurgeons who have experience in [product] development.”

Regis Haid, Jr., MD an Atlanta neurosurgeon and well-known innovator with Atlanta Brain & Spine Care who holds numerous patents for spine implants and surgical techniques, advises young neurosurgeons who want to work with industry—in the pursuit of an idea or to develop a product—to do some preliminary research. He also urges them to proceed prudently before

approaching a potential collaborator, and cautions that young neurosurgeons should have realistic expectations.

“If you want to get involved in [product] design, first you must have an original concept—a truly novel idea—and it must be of value,” said Dr. Haid, who developed the first FDA-cleared cervical spine disc joint and is a former chair of the Joint Spine Section of American Association of Neurological Surgeons and the Congress of Neurological Surgeons. “The problem is that young neurosurgeons sometimes think they're experts after they've finished training and expect to go out and get paid for their knowledge. But that's not the way it works.” Dr. Haid is also chair a member of the AANS Executive Committee and chair of the Neurosurgical Education and Research Foundation.

Neurosurgeons who are convinced that their idea is novel can pursue one of two options, according to Dr. Haid: Take the product forward on their own or seek an industry collaborator. The former entails

your idea. And if they have an interest, it goes from there,” Dr. Haid said, to development of an agreement that spells out the terms and includes an actual offer.

Young neurosurgeons who want to surmount the obstacle of relative inexperience to interest companies in their concept might have to do more upfront legwork than their veteran counterparts, Dr. Shaffrey observed, by doing a patent search or getting the patent, and even doing preliminary biomedical testing. “The further along your idea is, the more attractive it will be to industry,” he said, adding that a “napkin sketch” isn't likely to elicit serious interest, but a patent submission and completed biomedical testing likely will.

The stage of development also affects the financial-earnings potential for the neurosurgeon, should the concept become a device or instrument that an industry collaborator takes to market. Dr. Shaffrey notes that the product royalties the neurosurgeon stands to receive will be far higher if the

“If you want to get involved in [product] design, first you must have an original concept—a truly novel idea—and it must be of value.”

— Regis Haid, MD, Atlanta Brain & Spine Care



conducting a patent search to ensure the concept hasn't already been developed and obtaining the patent—and then developing the product. The other avenue is take the idea to industry companies that manufacture or distribute similar products, with the objective of developing the concept collaboratively.

“In that scenario, you have the company sign a NDA [non-disclosure agreement] and share

neurosurgeon entered the arrangement with a patent in hand rather than having the company's design team develop the concept.

Dr. Shaffrey, who also has chaired the AANS/CNS joint spine section, observes that while there is always a market for a novel device or instrument that will change the face of neurosurgery practice, the device-development market has slowed somewhat in recent years

and can be hard to break into. In his view, the two areas ripe for novel approaches in neurosurgery right now are concepts for reducing surgery complications and biological aspects of spine and disc regeneration. “There is a lot of interest in these areas right now,” he said.

Next steps: seek expert input

Both Dr. Haid and Dr. Shaffrey stress the importance of reaching out to senior neurosurgeon colleagues as early as possible in the concept-development stage, to help ensure that the idea is feasible and either meets an acknowledged need in the field or breaks new ground. Those reality-check discussions can help the prospective inventor further refine a potentially successful concept—or reconsider one that isn’t ready for prime time.

If the neurosurgeon decides to move forward and present the concept to a potential industry collaborator, several considerations come into play—both legal and logistical. If there is no patent application on file, the neurosurgeon should protect the concept by ensuring anyone who will see it signs a nondisclosure agreement. A preliminary discussion with an intellectual property (IP) attorney whose practice focuses, ideally, on surgical devices and related products, is also in order, Dr. Shaffrey advised.

It’s also key to avoid discussing the concept publicly, whether that’s a casual dinner gathering or in a conference presentation, advised Patrick Richards, a Chicago IP attorney and founder of Richards Patent Law. “You don’t want to write a paper on your concept or give a presentation on it without at least evaluating whether you should be filing a patent application,” he said. The objective is to determine if “what you’re doing is potentially patentable and worth patenting,” he added.

“It’s important for neurosurgeons to find someone with experience in this space. These initial conversations are not particularly challenging or difficult—you just need to get some preliminary legal advice,” said Mr. Richards, who is an adjunct professor at the Northwestern University Pritzker School of Law and teaches in

Tips for Navigating Invention, Industry Collaboration

Protect your idea by taking the proper steps before talking to people about it.

Neurosurgeons who disclose their idea or invention before seeking legal counsel or patent protection risk compromising their rights at the least, or, at the worst, having their idea stolen. “You should get information about those things before you start publicizing what you are doing. There’s a little bit of inventor paranoia that’s helpful there—you don’t want anyone to steal your idea so you want to avoid publicizing it in any manner before talking to an attorney,” said Mr. Richards.

Contracts should spell out all terms—expectations, milestones to development and release, and payments—in painstaking detail.

“Everything should be definable and mutually agreeable,” Dr. Haid advised, “and nothing should be vague. There should be clear expectations regarding timelines and deliverables on both sides.” The contract should also specify what constitutes the neurosurgeon’s participation or contribution, in consulting or collaboration agreements, and what the payment structure will be for any type of arrangement.

Set a firm deadline for company review of your concept or the timeline for starting development.

Sometimes companies will hold on to a surgeon’s concept for an inordinately long time, then decide to go forward with a different concept or patent. To avoid having the intellectual property held up in limbo, Dr. Shaffrey recommends neurosurgeons give the company a deadline of six to 12 months maximum, to start design.

Have realistic expectations about your idea’s potential value to industry. “You’re not a 10-time all-star, you’re a rookie, so you have to expect that unless you take a company a patent on a plate, you will have to be able to prove your concept,” Dr. Haid said.

Resources

AANS Guidelines on Neurosurgeon-Industry Conflicts of Interest, accessible via the AANS website at www.aans.org
AdvaMed Code of Ethics on Interactions with Health Care Professionals, at www.advamed.org/resource-center/advamed-code-ethics-interactions-health-care-professionals

the university’s NUvention medical innovation course. “That doesn’t mean there are legal steps to take Day 1, but you should be informed about what you should look for.”

Mr. Richards concurs with Drs. Haid and Shaffrey that discussing the concept’s viability and potential with trusted and senior neurosurgeons experienced in product development is a good first step, perhaps in advance of meeting with legal counsel if the idea is at a very early stage.

Identify possible employment issues

Today, when many young neurosurgeons join employed-model practices in hospitals or health systems rather than private practices,

or work in academic centers, the issue of who potentially owns a prospective invention is an important consideration—one that might need to be addressed early in the process. The key issue for the neurosurgeon inventor is whether she or he will actually have rights to an intellectual creation, Mr. Richards said.

In an academic center or university setting, there’s typically a technology transfer office that handles such determinations. In that setting, the neurosurgeon would complete an intake form and the employer would decide whether to pursue patent protection, and what rights, if any the neurosurgeon would retain if the invention gets developed.

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Winning Ways: How Candidates Can Impress Prospective Employers

By Katie Cole



When I work with neurosurgery candidates, especially those who have their sights (and heart) set on a certain region or practice type,

I'm often asked for tips on how to make the best possible impression right from the start. Others ask for guidance on ways to convince a prospective employer that they're really, truly highly interested in the opportunity.

In this article, I provide thoughts on both—illustrated by my own experiences with successful candidates in recent years.

Be extremely accommodating. Usually the first site visit or interviews must be scheduled far in advance and candidates need to be flown in. Getting the logistics settled can be a difficult process for both parties because candidates and practices are very busy.

Even though it might be frustrating, being as open and accommodating as possible during this process makes a very good impression on a prospective employer. If you provide multiple dates that you would be available, as well as a quick response (24 to 48 hours from receipt of a phone call or email), this indicates that you are genuinely interested in the position. Some of my successful candidates respond within 24 hours and provide at least three dates that might work.

I have encountered candidates who are highly interested in an opportunity but unintentionally create roadblocks—the client has a hard time getting them to respond and state their availability. Unfortunately, this might cause the client to move on because they think the candidate isn't truly interested.

Be as flexible as possible. I recently had a candidate interview in late August, and accept the job the following week—because she made it happen! This was unprecedented, as the interview and negotiation process usually drag on for months from both parties.

This lightning-fast timeline might not work for most neurosurgeons because of their schedules coming out of training or the understandable need to give adequate notice to a current employer. But the more flexible you are, the more likely the prospective employer will aggressively pursue you.

Demonstrate professionalism—at all times. This means being at your best not only during the interview(s) and before the interview process starts but also presenting yourself professionally before you even engage in that first conversation. The most effective tools for putting a professional face forward are a highly polished CV and a compelling cover letter. In essence, “pre-sell” yourself by demonstrating the best parts of your training, experience and personality before you meet physicians and administrators on a first site visit.

My clients are always impressed when candidates bring either a list of references or reference letters to a first interview, regardless of whether they're asked to do so. This proactive strategy demonstrates interest in the position

Handle follow-up tasks quickly and efficiently. Regardless of whether you ultimately pursue an opportunity after the first in-person interview, always thank the physicians and administrators you met. You can do this with either a single letter to a director or neurosurgeon, or individual letters to different people you met during your visit (hint: if you really want the job, do the latter).

These letters always impress, and in this era of “e-noise” and clipped text messages, are always well received. Some candidates I've worked with go one step further, by also writing to a support staff member who might not receive much gratitude for her hard work. This small gesture can go a long way to solidifying a good impression after a face-to-face meeting.

On a practical level, handle any interview-related business transactions quickly and correctly. Candidates often are asked to make their own travel arrangements and then turn in their receipts after the interview for reimbursement. This can be awkward,

“It's also important to look the part—never take any chances on being under-dressed for the occasion...”

and respect for prospective employers' time by not requiring them to ask for such documents and track them.

It's also important to look the part—never take any chances on being under-dressed for the occasion, whether it's a site interview or a dinner outing with prospective colleagues.

Candidates who do this well tend to intentionally over-pack: they bring several outfits (suits and crisp business apparel) for multiple day interviews, as well as professional-looking evening wear for dinner meetings. It's not a bad idea to also pack clean business-casual attire in case the itinerary includes a brisk walk around the campus at some point.

when there's an unclear timeline regarding the prospective employer's expectations for receiving the receipts, and processing and submitting reimbursement to the candidate.

To avoid making this process more awkward than it needs to be, submit receipts timely and in the manner requested—ideally a few days after the visit but absolutely within a week. Some candidates take this opportunity to tuck in an additional thank-you note and reiterate their continued interest in the position.

Ms. Cole, a Denver resident, is publisher of Neurosurgery Market Watch.

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PERSPECTIVES



How—and Why—Young Neurosurgeons Should Pursue Involvement in the Specialty

By Krystal Tomei, MD

In this new Neurosurgery Market Watch series, we feature neurosurgeons' views on a variety of issues, from the joys and challenges of practicing in an ever-changing specialty, to socioeconomic and policy factors affecting the profession.

For this inaugural article, we reached out to Krystal Tomei, MD, a pediatric neurosurgeon highly regarded for her involvement in the profession, to talk about ways that neurosurgeons can play an important role in shaping the specialty's future and advocating for patients. Dr. Tomei is the Reinberger Endowed Director in Pediatric Neurological Surgery and an assistant professor of neurosurgery at Case Western Reserve University School of Medicine and chief of pediatric neurosurgery at University Hospitals Rainbow Babies & Children's Hospital in Cleveland, Ohio.

Q: When and how can neurosurgeons start getting involved with organized medicine, and which organizations might welcome their involvement and energy?

A: It's possible to become involved at any stage of your medical career. The AANS offers opportunities for medical students to form chapters, along with faculty and residents, to encourage leadership early on. In addition, students can apply for positions on the AANS Young Neurosurgeons Committee, or even work with the YNC during the annual meeting as part of the Marshal Program. The Congress of Neurological Surgeons offers students and residents the ability to pursue involvement at the committee level or to work with the Sergeant at Arms Committee during the CNS annual meeting.

There are many avenues of involvement for neurosurgery residents. They can apply for the CNS Leadership Fellow program, which enables them to integrate into the various CNS

committees on organization-critical projects. Alternatively, or in addition, residents can be nominated for election to the AANS Young Neurosurgeons Committee, where residents and young neurosurgeons can pursue volunteer and leadership opportunities within the AANS.

Residents with an interest in health policy and socioeconomic policy can apply for a Council of State Neurosurgical Society Socioeconomic Fellowship, an exciting opportunity that provides an immersive experience in the socioeconomic aspects of neurosurgery.

Q: What roles have you assumed in your volunteer work, and how have you changed your focus areas/causes in the intervening years?

A: I've served in several roles, ranging from being a member of the AANS-YN, to chairing the AANS Marshalls Committee, to eventually serving as secretary—and later, chair—of the YNC. Within the CNS, I served as the chair of the CNS Resident Committee and ex-officio member of the Executive Committee.

I also served as a CSNS Socioeconomic fellow, which subsequently enabled me to serve for one year on the AANS/CNS Washington Committee. In addition, I have had the privilege of serving on the neurosurgery delegation to the American Medical Association. In my various roles over the years, my areas of focus have adapted to the needs of the position. My current interest is in medical education, and I am working toward an increasing presence in that important realm.

Q: Why do you think it's important for young neurosurgeons to get involved with their specialty organizations or in the communities where they begin practice?

A: The healthcare landscape in the United States is changing rapidly, and the changes in health policy can and do impact our practice as neurosurgeons. It is beneficial to both our practice and our patients for us to have an understanding of the practice landscape.

In addition, neurosurgeons' unique perspective in caring for some of the most vulnerable patients allows us to better advocate for them, and being informed about the factors that might affect care delivery is an important aspect of effective advocacy. Involvement in our specialty is also an opportunity for us to give back to our profession and patients in a broader way.

Q: How realistic is it for neurosurgeons to find a truly "low-commitment" opportunity—in terms of hours per month, for example—and what are examples of these?

A: There are all sorts of ways to get involved with varying time commitments. Some committees will meet once or twice per year at the CNS and AANS annual meetings. Others, working to develop educational materials, for example, might meet over conference calls. The best way to find a commitment that you can work with is simply to ask the chair of the committee you're interested in what a standard time commitment would be. Then you can choose an appropriate, workable opportunity before you agree to help out.

Q: How can this involvement enrich both neurosurgeons' professional lives and perhaps their personal lives as well? What skills have you acquired or strengthened, for example?

A: Involvement creates a social network of colleagues that you will come to value as

friends. This provides a network within your profession for case sharing, career exploration and collaboration.

In addition, I think that developing critical skills in leadership, as well as acquiring a wealth of knowledge about the U.S. health system, can improve your ability to negotiate

with your hospital or practice. Ultimately, this volunteer work can assist with advancing your career.

Q: If neurosurgeons think that they're not the public-facing personality types, what might you say to assure them that they can play important roles without being highly visible?

A: Just as time commitments vary, not every leadership or volunteer opportunity requires that you stand in front of a crowd. Something as simple as creating case-based learning modules, or participating in guideline reviews can bring value to our profession, without requiring public face time.

Pursuing Collaboration with Industry

(continued from Page 5)

In other practice settings, the employment contract will dictate ownership parameters and conditions. The typical employment agreement will have limitations on what the employee-inventor can own outright. If, based on the neurosurgeon's job description, the invention is predicated on information received in the course of business, or by accessing the employer's resources and facilities, Mr. Richards said, the employer will want to investigate it. "If you come up a new surgical instrument or procedure, it's likely the employer will want to be involved in it," he said. "If you have something that very clearly doesn't relate to their resources, they aren't going to claim ownership.

"The hospitals and universities will tend to say, you have access to our facilities and our technology and resources, if you come up with something, we own it," Mr. Richards said. That doesn't mean that a more neurosurgeon-favorable arrangement can't be struck with any employing entity, he added, but deft negotiation will be required to ensure the inventor retains rights as appropriate.

Safeguarding reputation key

If the neurosurgeon-inventor is legally free to pursue an invention, and proceeds to discussions with industry and, eventually, a potential offer or contractual arrangement, seeking informed advice on the proposed arrangement before signing on is a must. Dr. Haid advises first seeking a review by a senior neurosurgeon who has successfully "done this before" and comprehensive legal counsel from an IP attorney whose practice focuses, ideally, on surgical devices and related products.

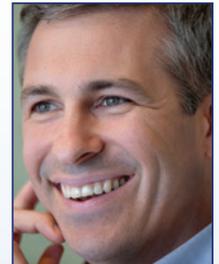
It's also important to thoroughly investigate the company to avoid pitfalls that could arise out of association with the entity. Neurosurgeons whose name will be attached to or mentioned in the context of a product or company should do their due diligence to ensure that the company is

"There should be a compliance officer who deals specifically with contracts. If there isn't one, I'd advise staying away from that company," he said, "because you could end up in prison."

Dr. Haid cautions that neurosurgeons might be enticed by companies that want

"It's important for neurosurgeons to find someone with experience in this space. These initial conversations are not particularly challenging or difficult—you just need to get some preliminary legal advice."

— Patrick Richards, Richards Patent Law



reputable and the arrangement ethical and legal. "This is really about protecting your reputation," Dr. Haid said. "So first, consider what your mother taught you: If it [the offer or terms] sounds too good to be true, it probably is."

Dr. Haid advises working only with companies that possess an unassailable reputation, a proven track record of working with surgeons and a comprehensive compliance department that will ensure that the arrangement passes legal and regulatory muster and meets FDA and other guidelines. "The larger the company, the more bureaucracy there will be—but typically, the more compliant those companies tend to be," Dr. Haid explained. Neurosurgeons should meet in person with the company's CEO and its compliance attorney, for their own protection and compliance, he added.

their business to get involved with a project in exchange for royalties or a consulting fee, without the neurosurgeon making a significant contribution. If that involvement does not meet the regulatory requirements and is not compensated at fair market value—a payment rate dependent on the neurosurgeon's qualifications, years of experience and track record in working on devices or products—the neurosurgeon could be exposed to considerable risk. He and Dr. Shaffrey also stress the importance of avoiding any potential conflict of interest. (See Resources.)

"Basically, my advice is: do nothing that could compromise your integrity," Dr. Haid said, "and remember that anything you do could end up on the front page of the Wall Street Journal. Only do things that would make your mother proud."

PROFILE



Who:

Abilash “Abi” Haridas, MD, FAANS; specializes in pediatric cerebrovascular disorders.

Current:

Recently appointed Chief of Pediatric Neurosurgery, St Joseph Children’s Hospital, Tampa, Florida

Up next:

Building a comprehensive Pediatric Neurosurgery program at St. Joseph Children’s and recruiting additional neurosurgeons.

“I was drawn to the position because the sense of building something new with like-minded people was exciting.”

Why he chose neurosurgery:

The field of neurosurgery is challenging, both technically and mentally for me. It’s interesting that with all the progress made in medicine, the brain still remains a mystery. The opportunity to tackle the unsolvable continues to excite me.

Why he went into pediatric neurosurgery:

Specifically with pediatrics, there is this sense that you are part of a child’s trajectory in life, and you are privileged to help that child and family make it through a tough situation. So I am not just a physician, but also a part of my patient’s family. I get to have lots of families, and that’s a gift.

It’s a very exciting time to be a pediatric neurosurgeon. We’re going to see the pediatric subspecialties continue to grow and evolve, just

as they did in adult neurosurgery. With over 30 fellows graduating per year, the horizon is bright for pediatric neurosurgery to evolve swiftly.

Advice to neurosurgery residents starting a job search:

It’s important to be very clear about the direction you want to go in, before you start looking at opportunities. I urge residents to take the time to talk to a lot of their senior colleagues and mentors, irrespective of how long they have been in practice. These conversations include practice type, location, work cultures, and life balance. You need to grow professionally and personally to be successful. You should hear the pros and cons, and sincerely communicate effectively to help people understand your intentions. No job is perfect, but you need to find something that fits well.

IN BRIEF

Neurosurgeons’ Medicare ‘Markup’ Among Highest

It’s understood and somewhat expected in the U.S. marketplace that physicians will bill patients more than Medicare pays them, but the variation in the excess charges—by specialty and region—can be pronounced, according to a January 17, 2017 JAMA study conducted by Johns Hopkins researchers.

The study found that median physician charges were 2.5 times higher than what Medicare pays, and that the highest excess charges in terms of the median charge-to-Medicare ratio were seen in specialties in which patients are generally unable to choose their physicians. These included anesthesiology, emergency medicine, radiology and pathology—with anesthesiology claiming the highest median ratio, at 5.8.

Neurosurgery’s median charge-to-Medicare ratio, at 4.0, put the specialty in the top quartile, just behind interventional radiology, at 4.5. Not unexpectedly, the lowest markup (a 1.6 median ratio) was seen in general practice. The study included 429,273 physicians across 54 specialties. Of note, patients might not actually pay (or be charged) the excess amounts.

Neurosurgery Fellowships

Swedish Neuroscience Institute (SNI) at Swedish Medical Center in Seattle, WA, is seeking qualified physicians (MD/DO) for one- or two-year fellowships for the academic year beginning in July 2018.

SNI offers advanced clinical training with the following neurosurgical fellowships:

- Complex and Minimally Invasive Spine
- Cerebrovascular/Endovascular Neurosurgery
- Endoscopic Cranial & Skull Base Surgery
- Functional Neurosurgery

Additionally, SNI offers fellowships in:

- Interventional Spine
- Advanced Otology
- Clinical Neuroscience Research

Physicians currently in residency or that have completed residency are eligible to apply. Candidates must qualify for licensure in the State of Washington. Preference given to board eligible applicants. If interested, please submit a current CV and two letters of recommendation to the program coordinator:

susan.thomas@swedish.org



FEATURED OPPORTUNITY

Pediatric Neurosurgery Opportunity in Pennsylvania

A neuroscience institute in Philadelphia is seeking a BE/BC pediatric neurosurgeon to join the department. The incoming pediatric neurosurgeon will work out of a single facility, a stand-alone children's hospital. The neurosurgeon will have a 100% pediatric practice, and no adult call will be required unless the incoming neurosurgeon would like to take adult call.

The incoming candidate will have a faculty appointment at a local university. Research and teaching opportunities are available, but these activities are not mandatory. The pediatric cases encompass craniofacial, tumor, spine

and all aspects of pediatrics neurosurgery practice. The practice has vascular coverage in place, so that service will not be required. However, the department is open to specialty trained candidates who are interested in other pediatric neurosurgery sub-specialties.

Call for the incoming pediatric neurosurgeon will be 1:4. The department is looking for a pediatric neurosurgeon to head the department.

The facility is part of a large hospital pediatric system that operates multiple locations throughout the Philadelphia area and into New Jersey. The system has more

than 220 pediatric experts on staff, combining top-notch general pediatric care with a wide array of pediatric specialties.

The facility will pay a generous compensation package including salary, a bonus-based incentive, a competitive benefits package, including a 401(k) savings plan, income replacement and medical/vision/dental/life insurance after 31st day of employment. Benefits also include paid time off, an online educational program, tuition reimbursement, a student loan repayment program and an employee stock purchase plan.

UPCOMING U.S. NEUROSURGERY EVENTS/CMES

6th Annual Meeting of the Walter E. Dandy Neurosurgical Society

☐ October 2-6
St. Louis, Missouri

Congress of Neurological Surgeons Annual Meeting

☐ October 7-11
Boston, Massachusetts
Meet us there! Booth #948

Mayo Clinic Convergence Neuroscience 2017

☐ October 24-25
St. Thomas, US Virgin Islands

NASS

☐ October 25-28
Orlando, Florida

Pituitary Tumors: Diagnostic and Treatment Dilemmas

☐ October 27
New York, New York

Endoscopic and Open Surgical Approaches for Craniostomosis: A Hands-On Practice Course

☐ November 3
New York, New York

AO Spine North America

☐ November 3-4
Las Vegas, Nevada

11th New York City Minimally Invasive Spine, Spinal Endoscopy, Robotics & 3D Navigation Symposium: Case-Based and Hands-on

☐ December 14-16
New York, New York

Surgical Approaches to the Skull Base: A Hands-on Dissection Course

☐ December 14-16
New York, New York

2018 Winter Clinics

☐ February 25-March 1
Snowmass Village, Colorado

3rd Annual Common Neurosurgical Conditions in the Pediatric Practice

☐ May 3
New York, New York

Advanced Endoscopic Skull Base and Pituitary Surgery

☐ June 1-2
New York, New York

UPCOMING INTERNATIONAL CMES

EUROSPINE 2017

☐ October 11-13
Dublin, Ireland

Comprehensive Clinical Neurosurgery Review Course 2017

☐ November 27- December 1
Krakow, Poland

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

Harlequin Recruiting

PO Box 102166

Denver, CO 80250

NEUROSURGERY POSITIONS

HOSPITAL EMPLOYED

Rockford, IL
Trenton, NJ (*Endovascular*)
Knoxville, TN
Salisbury, MD (*Vascular*)
Tampa, FL (*Pediatric*)
Fresno, CA (*Endovascular*)
Charlottesville, VA (*Endovascular*)
Tampa, FL (*Endovascular*)
Hattiesburg, MS
Kingsport, TN

Farmington, NM
Lake Havasu, AZ
Edison, NJ (*Spine*)
Billings, MT

PRIVA-DEMIC

Trenton, NJ (*Endovascular*)
Fresno, CA (*Endovascular*)
Reading, PA (*Spine*)
Fresno, CA (*Trauma*)
Dayton, OH (*Spine*)
Erie, PA (*Endovascular*)

Reading, PA (*Endovascular*)
Philadelphia, PA (*Pediatric*)

ACADEMIC

San Antonio, TX (*Endovascular*)
Poughkeepsie, NY (*Endovascular*)
Morgantown, WV
Albuquerque, NM (*Spine*)
San Antonio, TX (*Spine*)

PRIVATE PRACTICE

Baltimore, MD

Dallas, TX (*Spine*)
Long Island, NY (*Complex Spine*)
Houston, TX (*Spine*)
Cincinnati, OH
Macon, GA (*Neuro-Oncology*)
Macon, GA (*Pediatric*)
Jackson, MS
Bakersfield, CA
Reno, NV (*Deformity Spine*)
Albany, NY (*Neuro-Oncology*)
Bloomington, IL

NEUROSURGERY PHYSICIAN ASSISTANT OPPORTUNITIES

Rochester, New York: *Academic, Neurosurgery PA*
Salisbury, Maryland: *Hospital Employed, General Neurosurgery PA or NP*
Stuart, Florida: *Hospital Employed, Neuro-ICU PA or NP*
Fresno, California: *Hospital Employed/Priva-demic, General Neurosurgery PA or NP*
Macon, Georgia: *Private Practice, General Neurosurgery PA or NP*

Trenton, New Jersey: *Hospital Employed, Neuro-Critical Care PA*
Stuart, Florida: *Hospital Employed, Neurosurgery PA*
Glenwood Springs, Colorado: *Hospital Employed, Neurosurgery/Spine PA*
San Antonio, Texas: *Academic, Neurosurgery PA AND Neuro-ICU PA*
Pinehurst, North Carolina: *Hospital Employed, Neurosurgery PA*