

SpineSection

NEWSLETTER

AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves

Greetings!

Welcome to the Spring 2019 Newsletter of the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves.

In this edition you will find interviews with Drs. Michael Wang, John Wilson, and Rajiv Midha. Dr. Griffin Baum provides an insightful commentary on his experience as a neurosurgeon completing an orthopedic spine surgery fellowship. Drs. T.J. Wilson and Zack Ray educate us on meralgia paresthetica in the Peripheral Nerve Learning Corner. And, there are timely updates provided by our volunteer leaders in Coding, Payor Response, and Peripheral Nerve.

It was great to see everyone at the very successful Section meeting in Miami. I'd like to thank Dr. John O'Toole for his prior leadership of the Media Committee, and for teaching me how to be its Chair. I'd also like to thank my team that helped get this newsletter edition turned around in quick fashion: Vice Chair John Shin and members Griffin Baum, Laura Snyder, and Anand Veeravagu.

If you have any suggestions for content you'd like to see in this newsletter, please send feedback my way!

Khoi D. Than, M.D. thank@ohsu.edu



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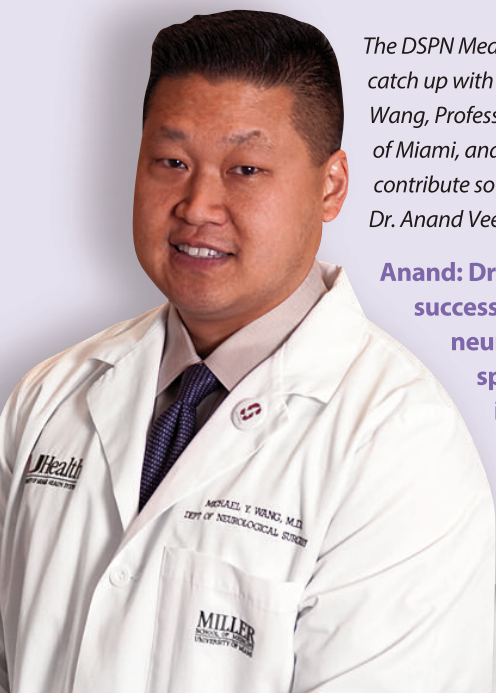
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Interview with Dr. Michael Wang

Professor of Neurosurgery at the University of Miami



The DSPN Media Committee had an opportunity to catch up with outgoing DSPN Chair, Dr. Michael Wang, Professor of Neurosurgery at the University of Miami, and learn about what inspired him to contribute so deeply to neurosurgical leadership. Dr. Anand Veeravagu provides an interview.

Anand: Dr. Wang, you have a very successful clinical and professional neurosurgical career – what first sparked your interest in organized neurosurgery?

Dr. Wang: I got my start in academic neurosurgery when

I was a resident at USC. Michael Apuzzo, who was then the editor of the Red Journal, encouraged me to think about the role we can all play in advancing our subspecialty. I have always looked up to him as a role model for what an academic neurosurgeon should strive towards.

Anand: What was your greatest challenge as Chair this past year?

Dr. Wang: Every Chair faces unique challenges. I was fortunate to preside over a relatively quiet year in terms of emergency responses, whether it be from payors, regulators, the media, or our membership. That is thanks in large part to the hard work of my predecessors. This gave us the unique opportunity to take 2018-2019 to strengthen and solidify our

Interview with Dr. Michael Wang

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society to better serve the members. We were able to revamp our website, expand our number and strength of individual Honor Your Mentor Funds, and develop a new feel to our Annual Meeting as we change the venue cities.

Anand: Is the Spine Section community only for academic neurosurgeons? Who is the membership?

Dr. Wang: I have always felt that the DSPN is for all surgeons interested in spinal surgery. We are mostly composed of private practice surgeons and hospital employees. Those individuals are the base of our membership, and we spend most of our efforts in making sure their interests are represented. Nonetheless, it is important that we are responsive to all spine surgeons, including military doctors, university professors, researchers, trainees, and advanced practice providers (nurses and physician assistants). I would say that we are an extremely agile society and take pride in being able to respond to the needs of a diverse variety of stakeholders.

Anand: How does the spine section work to ensure the longevity of our specialty and protect the care of our patients?

Dr. Wang: This is an important point. The sustainability of our profession is always at the forefront of my mind. I would say that we as a group are doing fairly well now, having survived the numerous changes brought forth by the Affordable Care Act, but who knows what challenges we will face next? This is why it is important for our members to support us and come to our Annual Meeting. Being informed about coming challenges allows our members to better prepare for the future. The efforts of the Rapid Response Team (founded by former Section Chair Joe Cheng) are probably well understood already, but many other volunteer members of our Executive Committee are meeting challenges to our specialty regularly. The fact that this work is often done with minimal recognition or fanfare is an indicator of their success and dedication.

Anand: What advice do you have to young residents as they consider spine surgery as a neurosurgical subspecialty?

Dr. Wang: Please remember that we are a privileged subspecialty. There is great responsibility that rests with that. To me, that means honoring three tenets: 1) Always put patients first, treating them ethically. 2) Volunteer for societal work. It doesn't have to be the Spine Section. That is what preserves future access to our care, which our patients need. 3) Be optimistic. The future is bright

because of the amazing technological advances that will solve many of the diagnostic, surgical, and patient management challenges we face today.

Anand: What do you see is the greatest challenge facing spine surgeons over the short term, say, the next 5 years?

Dr. Wang: I think that we have been charged with practicing medicine ethically. Unfortunately, our subspecialty is sometimes seen in a negative light, and this is mostly undeserved. However, we are also responsible to some degree for how we are perceived, and it is important to continue to build trust with our patients and the payors of healthcare.

Anand: What do you see is the greatest challenge facing spine surgeons over the long term, say, the next 10 years?

Dr. Wang: We will need numerous tools to improve spine care. From high tech solutions like cellular regeneration and robotics, we will be given ever more ability to improve our patients' lives. In addition, data analytics may allow us to better phenotype common disorders like back pain, guiding treatment. We should stay at the forefront of this and lead the way with good science, sound policy, and responsible consumption of limited resource pools.

Anand: Thank you so much for taking the time to share your journey with us - any parting thoughts?

Dr. Wang: I want to thank all the Chairs that came before me and encourage the next generation of leaders like yourselves to take up the mantle!

Join us next year!

Block off your calendars.

THE 36TH ANNUAL MEETING OF THE AANS/CNS SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES

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Interview with John Wilson, MD

Meritorious Member Award Recipient

By Laura Snyder, MD

We congratulate Dr. John Wilson, Vice-Chair of Neurosurgery at Wake Forest University Baptist Medical Center, as the Meritorious Member Award Winner at the 2019 Spine Summit. I caught up with him after the meeting to hear more of his story.



Dr. Wilson grew up in the small town of Sharon, Pennsylvania, and attended the Penn State/Jefferson Medical College accelerated B.S./M.D. program, completing both undergraduate school and medical school in 5 years. He started in a General Surgery residency at Allegheny Hospital in Pennsylvania and early on recognized his true love for Neurosurgery. After three years of General Surgery residency, he started Neurosurgery residency at NYU and then transitioned to Tufts.

It was there that he met his major neurosurgical mentor, Dr. William Shucart. To this day, Dr. Wilson tries to emulate Dr. Shucart in his approach to teaching residents. He noted that Dr. Shucart recognized “residents need experience in the operating room to become technically skilled” as well as book learning and time in clinic for patient management. Dr. Wilson also respected Dr. Shucart’s “meticulous care of tissue” and attempts to maintain this meticulous care in his own cases wherever possible.

Upon graduation from residency, Dr. Wilson thought he would be a cerebrovascular neurosurgeon, but he was advised and recognized that there was a growing need for neurosurgeons to perform complex spine surgery. Dr. Shucart pointed him in the direction of Dr. Andreas Weidner at Paracelsus-Klinik in Osnabruck, Germany. Dr. Wilson spent 6 months with Dr. Weidner learning complex cervical spine surgery. Using these skills back in the States generated some of the biggest challenges he had while developing his early practice at Allegheny Hospital in Pittsburgh, Pennsylvania. At the time,

“Neurosurgical spine was in its infancy, and there was a substantial amount of skepticism about neurosurgeons performing instrumentation.” He was restricted in what he was able to do, which made his early practice of spine surgery frustrating and challenging.

Luckily, he was able to find a strong operative partner in Dr. Charles Stillerman. The two performed all instrumentation together. Dr. Stillerman’s experience in complex thoracolumbar surgery provided Dr. Wilson an opportunity to hone his own spine surgical skills. This experience

helped shaped his future practice and heightened Dr. Wilson’s commitment to train the future generations of neurosurgeons in complex spinal procedures.

After three years at Allegheny, he was notified of an opportunity to perform both cerebrovascular surgery and spine surgery at Wake Forest University. He was also offered the opportunity to teach. This offered the best of all worlds for Dr. Wilson, and he has practiced at Wake Forest ever since.

Now, Dr. Wilson’s greatest practice challenges lie in “the explosion of technology that has run ahead of our knowledge of who best to apply it.” He explained that advancements in technology have been made in spine surgery faster than we spine surgeons have been able to determine how to most effectively utilize them for our patients. Dr. Wilson hopes that with the advent of big data and more surgeons participating in registries, we spine surgeons can better prove what is most efficacious for our patients.

When it comes to advice for young spine surgeons, Dr. Wilson recommends, “Find an aspect of what we do that you love and build your identity and practice around it. We spend so many of our waking hours around our practices, you need to be passionate.”

An Antifragile Perspective on Post-Graduate Spine Fellowship Training

Griffin R. Baum, M.D. M.Sc.,

**Adult and Pediatric Comprehensive Spine Fellow, Columbia University Department of Orthopaedic Surgery, New York, NY
Emory University School of Medicine, Department of Neurological Surgery Resident 2011-2018, Atlanta, GA**

Neurosurgery training requires seven years of residency, which is more than most academic specialties that require both a research and clinical fellowship. For orthopaedic surgery trainees, residency and fellowship combined equals six years, one less than neurosurgery trainees without a fellowship. The commitment of an eighth year of training for neurosurgery residents can represent an opportunity cost, both financially and personally. Yet, the future of complex spine surgery is moving towards the need for a post-graduate fellowship training experience. High quality surgical experience, complemented by dedicated outpatient experience with a focus on surgical planning and patient selection, is the backbone for effective clinical training. Clinical research training and academic networking/connections are critical for the academic spine surgeon, all of which can be solidified through a post-graduate spine fellowship. Lastly, and potentially most importantly, the fellowship year can be the key to antifragility; finding the balance between clinical, research, administrative, and personal responsibilities to ensure a long, healthy, and burnout-free career. While there is the possibility for opportunity cost in a post-graduate spine fellowship, the value provided to not only the trainee but also to the academic spine community and to our patients greatly outweighs the cost.

One of the best reasons to pursue a post-graduate fellowship is for supplemental or complementary surgical exposure and training. During my residency, I was first or second assistant on 896 spine cases, including 104 cases as Chief Resident at our county hospital. Despite this depth of experience, I did not perform any adult deformity cases, only one pediatric deformity case, no pedicle subtraction osteotomies, and one vertebral column resection. While I felt competent with many operative techniques, I did not feel proficient with most complex techniques and pathology. Similarly, I only knew one method for most basic techniques, including decompressions, discectomies, and instrumentation. In my mind, to be a true, complex spine surgeon I needed more high-quality training in spinal deformity as well as learning new methods and techniques. Likewise, during residency we operated at least four days per week, leaving limited time for outpatient exposure to spine clinic. No matter how perfectly executed, the wrong operation on the wrong patient will fail 100% of the time. Without this outpatient experience, the ability to make decisions about operative management and patient selection were a huge weakness in my ability to be a proficient complex spine surgeon. For those residents

from low-volume centers, a fellowship can be an opportunity to be exposed to the full breadth and depth of spine surgery with direct supervision as first assist. Whatever the final case numbers achieved prior to graduation, it is my opinion that the minimum case numbers required by the ACGME (25 anterior cervical approaches, 15 posterior cervical approaches, 25 lumbar discectomies, 20 thoracic or lumbar instrumentation and fusions, and 5 pediatric spinal cases of any type – 90 total spine cases) doesn't come close to the minimum required for proficiency as a complex spine surgeon, further supporting the need for high-quality, post-graduate fellowship training.

While the clinical exposure is a must for proficiency, to excel in academics a surgeon must also be experienced in clinical research, education, and networking. During residency, we are exposed to all areas within neurosurgery and self-select mentors whose clinical and personal interests tend to be similar. These mentors can be instrumental in our development and interest in spine surgery, just as Gerald (Rusty) Rodts, Jr., Daniel Refai, and Faiz Ahmad were to me during my time in residency. I learned so much from my mentors, but the best lesson of all was realizing that there was so much about spine surgery and clinical research that I didn't know. More often than not, we don't realize just how little we know and spending time as a post-graduate fellow has reinforced just how important getting a second perspective is to becoming a proficient spine surgeon. The clinical research skills I learned in residency have been invaluable as a fellow, as a year of focused clinical research in spine have led to over 30 abstracts submitted, nearly as many manuscripts in preparation, a full video library of over 500 hours of operative techniques, and multiple presentations over these past few months. The opportunity to be academically productive comes not only from having the time to focus just on spine surgery, but also the connections made from my residency mentors, my fellowship mentors, and new connections through these relationships. The satisfaction of having both clinical and academic productivity integrated in the fellowship experience has created positive expectations and habits that I will carry through the start of my career in practice.

The benefits of post-graduate fellowship are not just academic in nature, as there are been significant personal benefits for me and my family. As we all know and have experienced, burnout is an underre-

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ported issue throughout medicine, and neurosurgery is no different. The key to burnout prevention is not avoidance or resilience but rather antifragility. According to N. N. Taleb, “antifragility is beyond resilience. [That which is] resilient resists shocks and stays the same; [that which is] antifragile gets better.”¹ A post-graduate fellowship year allows for a fresh start with new mentors in a new city and under new circumstances. The focus on not just the clinical skills needed for one’s career, but also the opportunity to focus on the interpersonal and emotional skills needed to have a sustained and productive practice are invaluable. Personally, this opportunity has benefited my family and me as we get closer to the start of a whole new world as an attending neurosurgeon. As a result, things that seemed important during residency were no longer requirements in the search for a job, while other factors became vitally important. In the end, I was empowered to include my family in this major decision on where to accept a position, and most importantly, to be able to accept a position that likely would not have been available to me had I not pursued a post-graduate fellowship. In short, through this fellowship I have become antifragile - better, both personally and professionally.

One of the keys to this antifragile experience has been the ability to train in an orthopaedic spine fellowship program. This opportunity is critical for any surgeon who is looking to specialize in spine surgery, whether from a neurosurgical or orthopaedic training background. Spine surgery could become its own specialty right now from a logistical or academic standpoint, as the spine literature has transcended specialties and training backgrounds. In fact, several prominent spine surgeons have postulated what a combined residency and fellowship training program might look like². To be a complete spine surgeon, one could argue that the collective experiences from orthopaedic surgery and neurosurgery are still not enough.

For the neurosurgery resident, an orthopaedic spine fellowship is an invaluable experience to learn both surgical techniques as well as patient evaluation skills not otherwise learned during residency. Adult and pediatric deformity cases are a daily or weekly experience, not a once in a quarter or year case. To not only know how to do these cases, but also how to do them well with minimized blood loss and ability to troubleshoot changes in intraoperative neuromonitoring, are critical for any surgeon wanting to have a proportion of their practice devoted to deformity. Bone grafting techniques in both the cervical and thoracolumbar spine and how and when to use biologic products such as rhBMP-2 are above and beyond the level of understanding I had after completing my residency. After this year, I can confidently insert instrumentation into any part of the spine or pelvis using freehand, fluoroscopically assisted, navigated, or robotic assisted techniques. Lastly, learning the orthopaedic pathologies that can mimic spine pathology has been the most valuable skill learned in the clinic. A good shoulder, elbow, hip, and knee exam can be the difference between conservative management and an unindicated three level instrumented fusion.

For a trainee from an orthopaedic surgery training background, the opportunity to train in a neurosurgical spine fellowship is just as critical and beneficial. The ability to not just observe, but scrub for intradural tumors, complex decompressions, and thoracic discectomies are cases that they never even see as residents. Management of spinal cord injury and traumatic spine fractures present a level of acuity seen frequently in neurosurgical training programs but not often in orthopaedic settings. The amount of durotomies from revision cervical and thoracolumbar cases also demand a level of comfort with working with dural deficiencies, microsurgical techniques, and when to insert a lumbar drain to drain CSF and allow a patch to scar over. The exposure to spine pathology is important, but oftentimes the exposure to the neurosurgical pathologies that can mimic spinal pathologies such as normal pressure hydrocephalus, peripheral nerve compression, spinal dural arteriovenous fistulae, and others can be the difference between a patient getting the wrong treatment and getting worse or getting in to the care of the appropriate neurosurgical specialist.

Quite often we hear patients ask the question, “Who would be best for my problem, an orthopaedic surgeon or a neurosurgeon?” My response is now, “Whoever it is, make sure that they are a spine surgeon.” In my opinion, to be a complex spine surgeon, regardless of whatever residency training program got them there, requires a post-graduate fellowship. The academic spine community demands not just the training itself, but using that training to be proficient and productive. As an example, to be a spinal deformity surgeon, one has to take care of spinal deformity patients frequently. To quote one of my fellowship mentors, “Someone who dabbles in deformity surgery is not a deformity surgeon.” More than likely, these surgeons create more deformities than they fix. The same can be said for degenerative pathologies – a lack of understanding of basic biomechanics combined with poor surgical technique creates more iatrogenic pathology than the sum total of fellowship-trained complex surgeons can fix. In the end, while surgeons will benefit from more standardized post-graduate training, the population who benefits the most are patients. When diagnosed with a spine problem that requires surgeons, we as the spine surgery community must demand a level of proficiency and quality across the board to best help all of our patients. In the end, spine surgery (and fellowship training) is not a zero-sum game. Just as all ships rise with the tide, we can all become antifragile from sharing knowledge, techniques, and wisdom from all backgrounds to train the spine surgeons of tomorrow.

References

1. Taleb NN. Philosophy: “Antifragility” as a mathematical idea. *Nature*. 2013;494:430. doi:10.1038/494430e
2. Daniels AH, Ames CP, Garfin SR, et al. Spine surgery training: is it time to consider categorical spine surgery residency? *Spine J*. 2015;15(7):1513-1518. doi:10.1016/j.spinee.2014.08.452

The Evolution of Evaluation and Management Coding:

An analysis of two proposals

By Luis M. Tumialán, John K. Ratliff, Joseph Cheng

A Letter from Medicare

On November 5, 2018, the current Center of Medicare and Medicaid Services (CMS) Administrator, Seema Verma, sent out a letter that commented on Evaluation and Management Coding. Specifically, Ms. Verma commented on the fact that the coding scheme for E/M was developed in the 1990s and since that time the nature of clinical work in medicine has evolved to patient-centric collaborative models with clinical teams working in unison, a model that the 1990s framework does not capture. Furthermore, Ms. Verma identified that a major source of physician burnout is the documentation burden associated with E/M coding. She stated that a change is long overdue. Any neurosurgeon reading that correspondence would likely agree with many of its sentiments. After all, there is little to disagree with in those statements. E/M coding is indeed complex and out of proportion to the dollar value of the services provided. The code sets are out of date (1995 and 1997) and are becoming less congruent with the changing health-care system. Many of us have found ourselves focusing on technicalities of a particular code, which forces us into excessive documentation to justify the code selected and capture the value of our work. We all believe that that time would be better spent focusing on the patient.

Invoking the spirit of “Patients over Paperwork,” CMS has proposed a single payment rate for visits that are currently reported as levels two, three and four, which represent the majority of office visits.

The documentation required for payment would be limited to what is currently required for a level two visit. A separate payment rate would remain for the most complex patients, those patients whom are a level five, with the possibility of using time or medical decision making to justify the level of coding. The coding and reimbursement scheme would resemble Table 1 below. In short, the five levels collapse into two for both new patients and established. Patient visits would either fall into routine or complex. The proposal was slated to become effective January 1, 2019.

The Valuation Process of a CPT Code

The Evaluation and Management Codes represent the work product of a representative body from the American Medical Association (AMA). As such the AMA, AANS and CNS strongly objected to CMS proposing a new coding scheme outside the auspices of the RVS Update Committee (RUC). In response to the feedback from the various societies, CMS responded by saying,

“We (CMS) recognize that many commenters, including the AMA, the RUC, and specialties that participate as members in those committees, have stated intentions of the AMA and the CPT Editorial Panel to revisit coding for E/M office/outpatient services in the immediate future. We note that the 2-year delay in implementation will provide the opportunity for us to respond to the work done by the AMA and the CPT Editorial Panel, as well as other stakeholders. We will consider any changes that are made

to CPT coding for E/M services, and recommendations regarding appropriate valuation of new or revised codes.”

The Chairs of the CPT Editorial Panel and AMA/Specialty RUC created the CPT/RUC Workgroup on E/M in order to solicit feedback on the best coding structure to decrease the burden of documentation while ensuring appropriate valuation. A code change application was submitted through the appropriate channels for consideration by the CPT Editorial Panel at the February 2019 meeting and passed.

In the new proposed CPT E/M code structure, it was determined that code level selection may be based either solely on medical decision making or total time on the date of the encounter. The extent of history and physical examination will no longer be an element in the code level selection of office visits. The new scenario deletes code 99201 (as that code was not commonly used by physicians) but preserves codes 99202-99295 and 99211-99215, and creates a new prolonged visit add-on code 99XXX. The most important aspect of these new codes is that it represented the work product of a representative body from the AMA. Fifty-two specialty societies have participated in the RUC surveys; among them were 1,000 randomly selected neurosurgeons. The survey asked, in particular, questions about physician work and practice expense. At this writing, the surveys are completed and data from those surveys will be presented at the RUC Meeting on April 26, 2019.

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		Current (2018) Payment Amount	Revised Payment Amount***				
	Complexity Level under CPT	Visit Code Alone*	Visit Code Alone Payment	Visit Code With Either Primary or specialized care add-on code**	Visit Code with New Extended Services Code (Minutes Required to Bill)	Visit with Both Add-on and Extended Services Code Added**	Current Prolonged Code Added (Minutes Required to Bill)*
New Patient	Level 2	\$76	\$130	\$143	\$197 (at 38 minutes)	\$210	
	Level 3	\$110					
	Level 4	\$167					
	Level 5	\$211	\$211				\$344 (at 90 minutes)
Established Patient	Level 2	\$45	\$90	\$103	\$157 (at 34 minutes)	\$170	
	Level 3	\$74					
	Level 4	\$109					
	Level 5	\$148	\$148				\$281 (at 70 minutes)

Table 1: CMS Proposal for E/M Coding Simplification. The new proposal eliminates the level 1 code, and combines level 2 and 4 into one code for both new patients and established patients. Level 5 codes would require documentation with time, medical complexity or application of the previous criteria.

How will the new E/M coding scheme affect my practice?

The logical question we should ask is how these changes will affect our practice. The ultimate impact of the changes to E/M coding is difficult to assess. In the proposed 2019 MPFS, CMS stated that the E/M changes would be minimal or possibly slightly positive for neurosurgery. However, in the 2019 MPFS final rule, CMS estimated that if they had implemented their E/M coding and reimbursement changes in 2019 rather than putting them off until 2021, the impact on neurosurgery would have been -1 percent in CY 2019. The impact of the CPT-approved/RUC-

valued new codes will not be knowable until after the RUC meeting in April 2019 and will not be public until CMS publishes the information. It is important to recognize that even though a neurosurgical practice generates most of its revenue from surgical volume, E/M coding may represent upwards of 25% of the revenue.

Timeline: When will the new E/M coding scheme take effect?

There is little doubt that new E/M codes will be implemented by January 1, 2021, in one form or another. The RUC is scheduled to vote on the recommendations for relative values for the E/M codes on April 25, 2019. From there, the hope is that CMS will provide some indication of their views when they release the 2020 MPFS proposed rule in July 2019. If the agency states they are inclined to accept the AMA CPT-passed/RUC-valued codes for January 1, 2021, and scuttle their original plan to collapse the codes, they would ask for public comment. Ideally, CMS would

finalize the AMA CPT/RUC-passed plan in the 2020 MPFS final rule released in November 2019. An implementation of January 1, 2021, will provide specialties a year to prepare and educate their members for the changes. Once CMS publishes comments about the RUC submission, it will be public information. The hope is that the new coding scheme will be the product of a representative body of physicians not a mandate from a government agency outside of the valuation process that has been established through the AMA.

What should I do to prepare my practice?

It is important that AANS and CNS members be aware of the impending changes for E/M coding. The coding software in the electronic medical record will need to be updated to include the new coding scheme, and ancillary coding staff and neurosurgeons will need to be trained on the new codes. When the final coding scheme is finalized, AANS coding courses will cover that material in great depth.

Interview with Dr. Rajiv Midha

Meritorious Member Award Recipient

By Line Jacques, MD

On March 16, 2019, you received from the DSPN the meritorious award for your work in the field of peripheral nerve surgery. What did this honor mean to you?

I am very humbled and appreciative. It is an honor shared by only two other very prestigious DSPN members, Dr. David Kline and Dr. John McGillicuddy.

From a historical point of view, I did receive the Mayfield basic science award in Miami early in my career at the DSPN meeting, and now over 25 years later, I am being recognized for my service and commitment to the DSPN and the field. It is truly a great privilege to be recognized by my peer group. It is also about all the friendships that have prevailed over the years, which I will cherish.



This interdisciplinary approach to nerve care will allow us to offer the best outcomes possible for patients with nerve injuries.

Without hesitation, I can testify to the fact that the field of peripheral nerve surgery and care is still in the process of evolution with many future discoveries to come.

For the neurosurgery resident who would like to advance the field in nerve surgery, a one-year fellowship is highly advisable and encouraged, especially if your residency program did not provide peripheral nerve surgical exposure. The possibility of completing a condensed 6-month training may be satisfactory, with access to a mentor in the first years of practice.

What is the paper that you are the most proud of?

The JNS is celebrating their 75th year anniversary (1944-2019). I was asked by editor-in-chief, Dr. James Rutka, to contribute to this edition and review the evolution of peripheral nerve surgery over the last century. Along with Dr. Grochmal, I did write this paper that was just published this month in the JNS and titled *"Surgery for nerve injury: current and future perspectives."* (J Neurosurg. 2019 Mar 1;130(3):675-685. doi: 10.3171/2018.11.JNS181520.)

What will be the next steps in our field?

Nerve transfers will continue to evolve with further anatomical and clinical work in the field.

The application of brief electrical stimulation as an adjunct for nerve regeneration will also be further explored and likely implemented.

Advancements in the field of pharmacological and biological therapy that will aid in the promotion of nerve regeneration are on the horizon.

Robotic engineering, along with neurosurgical expertise, will help patients with complete flail arm by the development of a next generation of functional prosthetic limb driven by patients' own neuromuscular control.

Any comments for the young peripheral nerve clinician?

This is a very exciting field with the opportunity to work with an interdisciplinary team of providers: rehabilitation physicians, hand therapists, engineers, scientists, other surgeons and a host of experts in their sub-specialized fields.

What is the future of the DSPN Peripheral Nerve division?

There have been significant advances in the spine surgery field with technology, tools and approaches.

Peripheral nerve surgery has a natural boundary with spine surgery. Spinal cord injury and focused nerve transfer, along with dumbbell peripheral nerve sheath tumors of the spine, are examples.

The unification of both fields will improve the training of the future generations of surgeons.

An increased focus on pain would be a very useful adjunct to patient care, along with more evidence-based guidelines. This has been a challenge because of the overlap with orthopedic surgery, hand surgery and plastic surgery.

Meaningful studies with a focus on specific metrics will be very important.

Other Comments?

In order to increase greater peripheral nerve publications and participation at our meetings, each of us should engage at least one resident and or medical student in our neurosurgical programs.

I take each opportunity to engage them in reviewing and writing papers, along with assisting in book chapter writing.

This will help us to further develop our field.

The Kline Research Award and the Kline Lectureship will continue to be a priority for our group.

Payor Response Committee Report

By Kurt Eichholz, MD, FACS, FAANS

The DSPN Payor Response Committee (PRC) continues to be very active in maintaining patients' access to key neurosurgical services. In the last several months, the Committee has addressed numerous issues that have arisen across the country.

Washington State – Bree Collaborative Lumbar Fusion Warranty

The Washington State Bree Collaborative reviewed their payment model for Lumbar Fusion Warranty. This model is a significant departure from the typical care model for patients seen in a spine practice. In this model, a multi specialty collaborative team would be required to monitor and ensure that a given patient has undergone appropriate conservative treatment before being considered for surgical intervention. This team would be led by a physiatrist, who would basically be the "gatekeeper" for surgical care. The PRC submitted several recommendations and had numerous issues with the general structure of the Warranty. Despite this, the plan was adopted. We will continue to monitor this situation as it has the potential to restrict access to surgical care for those patients who are in need of a lumbar fusion, and also places the surgical decision making process in the hands of non-surgeons.

Washington State – SI Joint Fusion

The Washington State Health Care Authority reviewed coverage for Sacroiliac Joint Fusion. The Payor Response Committee did an extensive review of the literature, and submitted a recommendation to the HCA that SI joint fusion be covered as an option for patients with intractable SI joint pain that has failed conservative treatment. Dr. David Polly of the American Academy of Orthopedic Surgeons also did an extensive literature review supporting coverage of SI joint fusion, and presented testimony to the HCA in January. Unfortunately, the HCA voted and determined that SI joint fusion was not a covered benefit. We will continue to monitor this issue, as this determination prevents access to care for patients who may benefit from an SI joint fusion.

Third Party Vendors for Pre-Authorization

Many surgeons have seen a significant increase in the utilization of third party vendors such as eviCore and Healthways for pre-authorization for surgical procedures. Insurers have recently increased their utilization of these third party vendors as a way of off-loading the pre-authorization process and, in doing so, decreasing transparency. In many cases, the third party will determine that a given service is or is not "medically necessary," despite the fact that the service may be a covered benefit. At a minimum, this process causes delays in care and increased peer-to-peer calls by providers. In addition, while in most cases insurers' medical policies are readily available, third party vendors have had a lack of transparency in their indications for determining their pre-authorization.

The PRC has been in contact with some of these third party vendors in an effort to ensure that their policies reflect the best practices in spinal surgery. This is a new front that the insurance carriers have utilized as an additional barrier to care.

Aetna Coverage Policy Denying Lumbar Expandable Interbody Grafts

In 2018, it came to the attention of the Payor Response Committee that Aetna's medical policy regarding expandable interbody cages was not consistent with best practice. Specifically, the policy stated that expandable interbody grafts were only approved for the L5-S1 interspace, and that use at all other levels was "experimental and not medically necessary." This is not consistent with any available medical literature, and also was not consistent with the indications for expandable cages that were used for FDA approval. Spine surgeons across the country were not being allowed to use this surgical technique for patients of this payor, and if they attempted to do so, were then required to do extraneous peer-to-peer reviews, which in many cases were denied due to the stringent policy.

The PRC mobilized and a joint letter from leadership of the DSPN, the AANS and the CNS was sent to the Medical Director of Aetna, citing the literature and FDA approval data. In September, the policy was revised to allow the use of expandable cages at any intervertebral level from L2-S1, which is consistent with the literature and indications for use. This is a great example of how the Payor Response Committee is working to ensure that patients and surgeons have access to care.

63047 with 22630/3

In the February 2018 edition of *Neurosurgery*, Drs. Luis Tumalian, John Ratliff, and Joseph Cheng published a detailed history of the misinterpretation of CPT code 63047 when used with an interbody fusion (22630 or 22633), which has led to a de facto bundling of 63047 for interbody fusions. This misrepresentation of the appropriate CPT coding based upon the work done by a surgeon has been adopted as policy by most commercial payors. The article is a must-read for any spine surgeon. The Payor Response Committee is engaged with the leadership of organized neurosurgery in trying to reverse this situation.

The Payor Response Committee continues to work diligently in conjunction with the Washington Committee and the Coding and Reimbursement Committee, as well as the leadership of the DSPN, AANS and CNS to ensure that patients are allowed to maintain access to surgical spine care.

References

1. Tumalian LM, Ratliff JK, Cheng J. *Commentary: The Anatomy of Devalued Codes: the 63047 and the 22633*. *Neurosurgery* 84(2): E122-126, February 2019. <https://academic.oup.com/neurosurgery/article/84/2/E122/5289228>

Peripheral Nerve Learning Corner

Lateral Femoral Cutaneous Neuropathy (Meralgia Paresthetica)

By Thomas J. Wilson, Wilson Zack Ray

Lateral femoral cutaneous neuropathy is typified by numbness, paresthesias, and/or pain in the anterolateral thigh. Notably, there is no weakness associated with this syndrome, since the lateral femoral cutaneous nerve is a pure sensory nerve. The nerve typically arises from L2 and L3. Accordingly, the differential diagnosis includes L2 and L3 radiculopathy. Typical of peripheral nerve territories as opposed to dermatomal distributions, the territory of the lateral femoral cutaneous nerve, and thus the symptoms, classically has a sharply demarcated border. The patient can often take one finger and draw a clear line around the area of the symptoms. Conversely, the borders and distribution of symptoms in an L2 or L3 radiculopathy tend to be less specific.

Lateral femoral cutaneous neuropathy can be idiopathic or traumatic. Risk factors for idiopathic lateral femoral cutaneous neuropathy include obesity, wearing tight fitting clothes/belts around the area of the anterior superior iliac spine (ASIS), and diabetes. Traumatic/iatro-

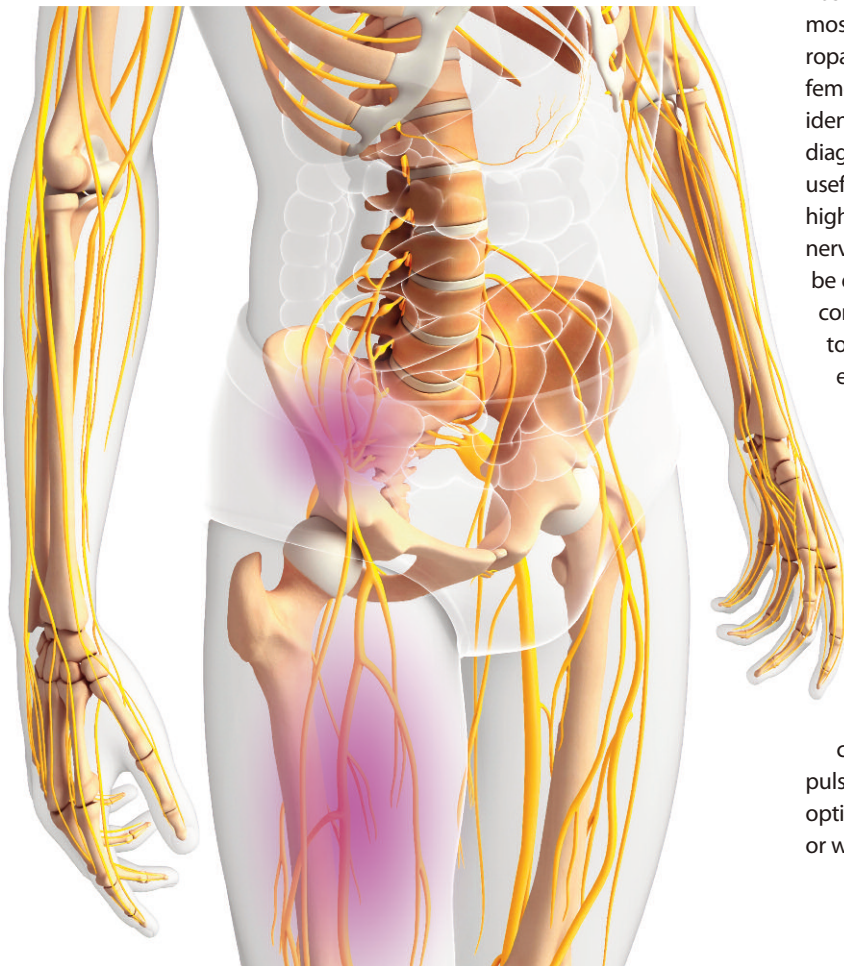
genic injury can also occur. Common scenarios for iatrogenic injury include total hip arthroplasty, prolonged pressure during prone operations (e.g., spine surgery), and stereotactic frame placement at the ASIS. Both the differential diagnosis and potential mechanisms of injury are particularly relevant for spine surgeons.

The anatomy of the lateral femoral cutaneous nerve is highly variable, particularly the relationship of the nerve to the ASIS and the inguinal ligament. Most commonly, the nerve passes medial to the ASIS, typically within 2 cm, and passes beneath the inguinal ligament. However, the nerve may pass lateral to the ASIS and may course above or through the inguinal ligament.^{1,2} This variability is important when considering ways to avoid iatrogenic injury to the nerve and when treating lateral femoral cutaneous neuropathy.

Aside from obtaining a thorough history and performing a detailed neurologic examination, additional work-up can include electrodiagnostics, imaging, and diagnostic nerve blocks. Electrodiagnostics are mostly useful for excluding more widespread plexopathy or polyneuropathy, as well as for excluding L2 or L3 radiculopathy. A lateral femoral cutaneous sensory nerve action potential can be difficult to identify, limiting the utility of electrodiagnostics to establish the diagnosis of lateral femoral cutaneous neuropathy. Ultrasound can be useful in the work-up, particularly for operative planning. Due to the highly variable nature of the anatomy, defining the anatomy of the nerve relative to the ASIS and inguinal ligament using ultrasound can be extremely helpful. Ultrasound may also identify a neuroma-in-continuity or intraneural swelling, suggesting compression or injury to the nerve. Magnetic resonance imaging can also be helpful, especially if considering more proximal lesions in the lumbosacral plexus, such as a nerve tumor. Finally, a diagnostic nerve block, typically ultrasound-guided, can be useful in establishing the diagnosis.

Initial management typically is conservative, consisting of time (particularly when related to positioning), weight loss, improved glycemic control, and behavior modification, including avoiding tight fitting belts. Neuropathic pain medications, such as gabapentin, pregabalin, nortriptyline, or duloxetine, can also be utilized for symptomatic control.

When conservative and pharmacologic management fail, consideration can be given to interventional management, such as pulsed radiofrequency blockade and operative interventions. Surgical options include lateral femoral cutaneous nerve decompression with or without transposition, lateral femoral cutaneous nerve neurectomy,



■ Continued from page 10

and stimulation (e.g., peripheral nerve stimulation, dorsal root ganglion stimulation, or spinal cord stimulation). There are no data supporting decompression over neurectomy or vice versa. Early data have suggested an advantage of deep decompression with or without transposition over simple decompression. Simple decompression consists of releasing the fascia superficial to the lateral femoral cutaneous nerve and opening the inguinal ligament, while deep decompression consists of simple decompression plus release of the fascia deep to the lateral femoral cutaneous nerve.^{3,4}

References

1. Tomaszewski KA, Popieluszko P, Henry BM, et al. The surgical anatomy of the lateral femoral cutaneous nerve in the inguinal region: a meta-analysis. *Hernia: the journal of hernias and abdominal wall surgery*. 2016;20(5):649-657.
2. Lee SH, Shin KJ, Gil YC, Ha TJ, Koh KS, Song WC. Anatomy of the lateral femoral cutaneous nerve relevant to clinical findings in meralgia paresthetica. *Muscle & nerve*. 2017;55(5):646-650.
3. Hanna A. Transposition of the lateral femoral cutaneous nerve. *J Neurosurg*. 2018;1-6.
4. Hanna AS. Lateral femoral cutaneous nerve transposition: Renaissance of an old concept in the light of new anatomy. *Clinical anatomy*. 2017;30(3):409-412.

Peripheral Nerve Updates for DSPN Members

By Line Jacques, MD

1. **The Peripheral Nerve Business Dinner** during the 2019 AANS Annual Meeting will be held on Sunday, April 14, 2019, at 7:00 PM at the Oceanaire Seafood Room-San Diego, 400 J Street, San Diego, 619-858-2277.
2. **The 2019 Kline lecture** will be presented by Dr. Allan Levi (University of Miami) on Wednesday, April 17, 2019, during the AANS meeting in San Diego, California. The lecture title is "The Biology of the Human Schwann Cell: Bench to Bedside."
3. **The Kline Research Award** will be offered again this year to support either basic or clinical research related to peripheral nerves with funding in the amount of \$10,000. The research award provides means of peer review for clinical projects and, therefore, to enhance competitiveness for potential National Institutes of Health (NIH) funding.

Dr. Shelby Burks (Dr. Levi, University of Miami) will present a talk entitled "Schwann cell delivery via enhanced collagen-glycosaminoglycan tubes to improve outcome from critical length nerve gap repairs" on Wednesday, April 17, 2019, during the AANS Annual Meeting in San Diego.

4. **Winner of the 2019 Kline Research Award is Christopher F. Dibble from St. Louis, MO**, on optimizing nerve regeneration. The Kline Abstract Award is given to Pennington et al. for their work titled "Giant pre-sacral schwannoma: 10year clinical experience and systematic review of the literature."

5. **Kline NREF Fund "Honor your mentor"** is on the NREF website. If you would like to contribute to the fund, please visit the Kline NREF Fund website: <http://www.nref.org/donate>

Note that the Peripheral Nerve Division leadership controls the use of the NREF PN funds (including the Kline fund) for research or education, within the guidelines of the NREF.

6. Upcoming meetings

ASPEN Annual Meeting, January 10-12, 2020, Marriott Harbor Beach, Ft. Lauderdale, Florida.

<http://www.peripheralnerve.org/meeting>

24th Meeting of the Sunderland Society, November 3-6, 2019, Jerusalem, Israel.

21st Narakas meeting, May 16-18, 2019, Leiden, Netherlands.

The 6th annual Peripheral Nerve Dissection Course, "The Kline Legacy," in New Orleans, Louisiana, will take place in February 2020.

Email your suggestions, meeting information, or other newsletter topics to: Khoi D. Than, MD thank@ohsu.edu.

SpineSection NEWSLETTER

AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves



American Association of Neurological Surgeons

and the American Association of Neurosurgeons



Congress of Neurological Surgeons

email: info@1cns.org

phone: 847-240-2500

web: <http://www.spinesection.org>