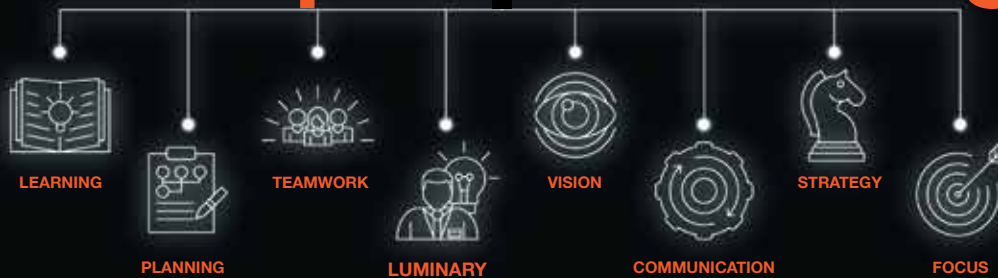


CongressQuarterly

FALL 2020



Leadership in Neurosurgery



Congress of
Neurological
Surgeons

4 The CNS Leadership Institute:
Empowering Neurosurgical
Leaders to Influence Change

8 Leadership in Times of Crisis

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Congress of
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Surgeons

EDITOR'S NOTE



Martina Stippler, MD
2019-20 Editor
[@martinastippler](https://twitter.com/martinastippler)

Dear readers:

The topic of this issue is Leadership in Neurosurgery. Why did we choose to talk about this now? The reason is not hard to imagine, because since March, the world has changed very much for most of us. Things we thought would never change or could not be put on hold were cancelled. Operating rooms were shut down. Our schools were closed and are slow in opening up. Even our Annual Meeting—our beacon of learning, networking and celebration—had to be canceled, something that would not have seemed possible just 6 months earlier.

During this time, leaders of large and small companies, schools, governments, and organizations like ours around the world have had to make difficult decisions. Nancy Koehn, who studies leaders in crisis states, says that leaders are not born, but are forged in crises.

So, in this issue, we are giving you some insight and perspective on Leadership in Neurosurgery. Our profession often puts us in leadership positions inside and outside of the OR just by default. Who wants to take on a neurosurgeon? But leadership comes in many different styles and more naturally to some than to others. And it is something we have to work on; it is not a trait that is written into our genetic code. Dr. Harry van Loveren talks about exactly this in his executive coaching article.

The Congress of Neurological Surgeons tapped into our tendency to lead with the generation of the CNS Leadership Institute, which offers training for neurosurgeons along their career path. We hear from two leadership graduates: Dr. Analiz Rodriguez from the University of Arkansas and Dr. Sameer Sheth from Baylor College of Medicine in Houston, Texas.

Also interesting is Dr. Jeremy Hosein's report on his experience in the White House Fellows Program that might inspire others to follow in his footsteps.

We also hear about two of our neurosurgeons and their response to the COVID pandemic. Both work in very different settings. Dr. David Langer reports on the challenges his department faced in New York City, and in an interview, we hear how military training prepared Dr. Rocco Armonda to make hard decisions.

I want to close with a quote Dr. Jonathan Martin tweeted in response to @CNS_Update about the most important leadership advice:

"When piloting a boat, attend to the bow, but never forget about the wake. As a leader, you will be judged by both, and remembered more for the latter than the former."

I hope you find our current issue inspiring as you learn from others and take on leadership challenges that come your way.

Stay healthy, stay safe.

Martina Stippler

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PRESIDENT'S MESSAGE



Steven N. Kalkanis, MD
President, Congress of
Neurological Surgeons

As the business of medicine has evolved, so too has the neurosurgeon's role in the hospital system. Decisions about patient care, once the eminent domain of the operating surgeon, are increasingly driven by health system policies set by hospital administration, as well as administrative requirements set forth by Congress and other regulatory agencies. Today more than ever, it is essential for neurosurgeons to step into broader organizational leadership roles, to ensure that these decisions take into account the latest evidence-based practices and patient outcomes.

The essential need for neurosurgical leadership has become ever more apparent this year, as the SARS-CoV-2 pandemic has forced hospitals to reevaluate which surgeries are considered essential, and triage and operating procedures have been revamped to ensure patient and surgeon safety. Leaders throughout our specialty have risen to this challenge to develop and implement practices and workflows that ensure the timely and safe delivery of care to critical neurosurgical patients.

Since our founding, the CNS has been uniquely focused on developing young neurosurgical leaders and helping our members build the skills and knowledge necessary to rise to such leadership positions. I personally credit much of my career success to the leadership lessons and invaluable relationships I have developed in the trenches of CNS committees and programs over the last decade. In addition, the role of mentorship cannot be overstated in our profession. The early lessons and critical guidance – and encouragement – I received over many years from Dr. Bob Carter, my chief resident during training and now the Chair of Neurosurgery at MGH, and Dr. Mark Rosenblum, the founding chair of the Tumor Section and the Chair Emeritus at Henry Ford who gave me my first job, made all the difference in my professional life. I am so thrilled to

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welcome them as our 2020 CNS Honored Guests and look forward to their presentations and involvement in our 2021 Annual Meeting in Austin.

The CNS has also demonstrated tremendous leadership in medicine, partnering with other societies, including the SNS and the Joint Sections, to advance our specialty and foster the development of evidence based guidelines.

Perhaps nowhere is the impact of our collaborative leadership greater than in Washington, where the Washington Committee works tirelessly to represent our members and patients on Capital Hill, under the guidance of our fearless and indefatigable advocate Katie Orrico. As a small specialty, the CNS must collaborate with other organizations to promote neurosurgery's advocacy agenda. By forming and leading coalitions, we are successfully making progress on several top issues affecting the specialty. Consider the following:

- The CNS is one of the founding members of the [Regulatory Relief Coalition](#) (RRC), a group of national physician specialty organizations advocating for regulatory burden reduction in Medicare so that physicians can spend more time treating patients. Working to remove barriers that hinder patients' timely access to care, the RRC is championing legislation to reform prior authorization in Medicare Advantage — H.R. 3107, the Improving Seniors' Timely Access to Care Act. This bipartisan legislation has more than 225 bipartisan cosponsors in the House of Representatives.
- Medicare is poised to cut neurosurgical payments by 6% in 2021, and additional cuts of 15-25% may be on the horizon. Recognizing that reductions of this magnitude would be devastating to neurosurgical practices and would harm patients' timely access to care, the CNS joined forces with 11 other surgical societies in establishing the [Surgical Care Coalition](#) (SCC). Working together, the SCC — which has launched a major public affairs campaign — is seeking passage of federal legislation and regulatory changes to prevent Medicare from implementing these cuts.
- Neurosurgeons face substantial medical-legal risks every day, and the CNS continues to lead the charge for medical liability reform. As leaders of the [Health Coalition on Liability and Access](#) (HCLA) — a national advocacy coalition of physicians, hospitals and liability insurers dedicated to passing comprehensive medical liability reform at the federal level — the CNS has successfully advocated for the introduction of H.R. 3656, the Accessible Care by Curbing Excessive lawSuitS (ACCESS) Act. This bill is modeled after successful laws adopted by states such as California and

Texas. With neurosurgeons facing even more risks associated with COVID-19, through HCLA, the CNS is working closely with Congress to pass legislation that will protect physicians from unwarranted COVID-19-related lawsuits.

To increase our voice, members of the CNS are reaching beyond our specialty to serve in leadership roles across organized medicine.

- **Ann R. Stroink**, MD, chair of the Joint Washington Committee and Washington Office, was recently appointed to the American Medical Association's Council on Legislation, which advises the AMA Board of Trustees on state and federal legislative matters. Dr. Stroink also serves as the vice-chair of the AMA's Mobility Caucus, which promotes policies related to the care of patients with neurological or musculoskeletal problems that affect function, wellbeing and quality of life.
- CNS Executive Committee members, **Alexander A. Khalessi**, MD and **Clemens M. Schirmer**, MD, PhD, represent the CNS on the American College of Surgeons' Summit on Surgical Training.
- Joint Washington Office Director, **Katie O. Orrico**, Esq., is the vice-chair of HCLA and was recently appointed as a public member on the American Board of Medical Specialties.

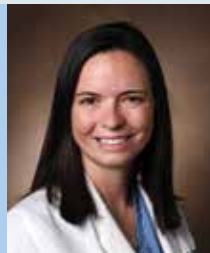
These are but a few examples of how the CNS is leading the charge. Punching above our weight and as the tip of the spear of medicine, we will continue to advocate on our members' behalf to improve neurosurgical practice and to protect patient access to neurosurgical care.

As we move ahead into 2021 and beyond, the CNS remains committed to supporting neurosurgical leaders. Our Leadership Institute continues to grow each year, providing essential leadership training and networking opportunities to surgeons in early to mid-career. We continue to expand our standing committees and workgroups as we grow our portfolio, offering essential opportunities to lead projects, influence the development of CNS products and services, and collaborate with other leaders in the field. If you have not already, I encourage you to get involved in one of our CNS committees. I promise the relationships you build will fundamentally shape your neurosurgical career, and enrich your life in immeasurable ways. 📌

Steven N. Kalkanis MD is CNS President, Chair Emeritus at Henry Ford, and recently selected to lead the 2,000 physicians and researchers of the Henry Ford Medical Group as CEO.



Brian V. Nahed, MD



Lola B. Chambless, MD



Maryam Rahman, MD



Ellen L. Air, MD, PhD

The CNS Leadership Institute: Empowering Neurosurgical Leaders to Influence Change

From our first Annual Meeting in 1951, the Congress of Neurological Surgeons has been dedicated to helping young neurosurgeons build and advance their careers. Throughout our history, the CNS has built a reputation for identifying and fostering leaders in the field, and as the field has evolved, we remain committed to helping our members adapt and lead through change.

In late 2015, a working group of CNS officers, volunteers, and staff sat down with a small leadership team from Medtronic to discuss the evolution of neurosurgical practice and brainstorm ways we could more effectively help our members succeed in the future. Common themes emerged as central to both organizations' strategic focus—a shift toward multi-disciplinary teams, the changing dynamics of healthcare finance, and a need for neurosurgeons to step up and lead in neuroscience centers and across hospital administration. Both organizations recognized that the modern healthcare environment required more of a neurosurgeon than clinical expertise and surgical skill, and over the proceeding months, the CNS Leadership in Healthcare Course was developed to empower junior attending neurosurgeons with the information and skills needed to shape their own careers and lead their departments, groups, hospitals, and health systems.

The pilot course kicked off May 14, 2016, in Rosemont, Illinois with a cohort of 14 junior attending neurosurgeons. The course relied on a unique mix of healthcare finance and business acumen along with soft skills like building influence, communication, and presentation skills. It was designed to help surgeons understand and communicate across all levels of the organization to more effectively lead teams and advance their projects. This unique curriculum and our intense focus on the neurosurgical perspective and experience set our intensive weekend course apart from other physician leadership programs. It was immediately apparent, both in the feedback received from this



Dr. Joseph Chang addresses a group of CNS Leadership Fellows at a 2019 Course.

pilot course cohort and from the tremendous accomplishments of the Leadership fellows pursuing their individual programs back at their home institutions—that this unique formula worked.

Over the course of the following three years, the program was enhanced and expanded to include a second live course—the Vanguard CNS Leadership in Healthcare course, designed for surgeons between five and 15 years into practice who have transitioned into or are preparing for formalized leadership roles in their organizations. This more advanced offering provides a deeper dive into the finances of neuroscience service lines and helps neurosurgical leaders to bridge the clinical, operational, and financial

picture and drive the neuroscience service line strategy for the health system. The curriculum explores different physician payment models to help leaders understand how each model shapes care decisions, costs and outcomes. Vanguard leadership fellows also learn essential negotiation skills and study several advanced leadership models to further develop their authentic leadership styles.

In 2019, these two courses were incorporated into the CNS Leadership Institute, a comprehensive program designed to offer educational content, leadership skills training and practical leadership experiences to aspiring and emerging neurosurgical leaders throughout their careers. A series of webinars has been developed on leadership fundamentals, with new webinar content in development. Additionally, a four-hour leadership training block was created for neurosurgeons transitioning into practice, and was incorporated into the CNS' new Career Guide course.


Earlier this year, as hospitals across the US prepared for a rush of COVID-19 cases, the CNS Leadership Institute underwent yet another evolution as our cherished live courses were cancelled and the team set to work building a virtual program for our 2020 cohort. Dr. Alan M. Scarrow, who has led the Leadership in Healthcare Course since the 2016 launch delivered a powerful and timely webinar in May on Leadership in Times of Crisis to an exclusive group of 65 current and past CNS Leadership Fellows. This content has since been made available for purchase on-demand by all CNS members. Our 2020



Participants in the Vanguard Leadership in Healthcare course participate in a teamwork and communication exercise.

group also participated in a series of healthcare finance webinars and virtual networking sessions, as well as an online leadership skill assessment process. While it is difficult to replicate the interaction that takes place during small group discussion and communication exercises at the live course, we hope that this virtual program will serve to help these young leaders develop foundational knowledge as they prepare to join the live course in 2021.

Since its inception, the CNS Leadership Institute has welcomed 73 Leadership fellows to our live courses. More than 70% of those who have completed the Leadership Institute program have gone on to take formal leadership roles in CNS committees or programs. Nine of these fellows are currently sitting on the CNS Executive Committee and more than 30 have current roles on a 2020 CNS Standing Committee, Editorial Board, or as faculty for CNS courses and webinars. In addition, many have gone on to lead exciting projects and champion great changes in their own institutions, as well as step into formal faculty leadership roles. Five years in, it is almost impossible to measure the ripple effect this group of leadership fellows has had on the specialty.

Looking ahead, the CNS plans to continue its strategic investment in the Leadership Institute, continuing to develop new on-demand content to address our member's leadership challenges and cultivating our community of Leadership Institute fellows through expanded networking opportunities and leadership roles throughout the organization. Applications for the 2021 live courses will open in late 2020 and we are already looking forward to connecting with our next cohort in person next spring. For more information and applications, visit cns.org/leadership. 



The CNS Leadership Institute kicked off its 2020 virtual curriculum with a webinar on Leadership in Times of Crisis, presented by Dr. Alan Scarrow.

CNS Leadership Institute Profile

My CNS Leadership Institute Experience

I became interested in leadership opportunities as a neurosurgery resident. During my residency, the vice-chair of my department, Dr. John Wilson, was chair of the Joint Washington Committee. I was impressed by the impact he made on neurosurgical practice and his mentorship inspired me to apply for the CSNS socioeconomic fellowship. This fellowship allowed me to begin understanding how our national neurosurgery organizations carry out change in regards to trauma care access, residency education, and Medicare reimbursement, etc.

As a senior resident, I also applied for a CNS Leadership Resident Fellowship where I was able to contribute to Nexus, as neurosurgical education is an interest of mine. Around this time, I served as the WINS liaison to the Joint Tumor Section. Through these experiences, I got to meet some of the most galvanizing women in neurosurgery—leaders such as Dr. Stroink, Dr. Rosseau, Dr. Germano, and Dr. Benzil. I doubt they are even aware how impactful their advice has been, as they all are so personable and help guide many resident physicians. Following residency, I have been lucky enough to continue activities in education and served as secretary of the Communication and Education Committee for the CSNS. I also am on the CNS Scientific Program Committee.

When I started my job as an academic neurosurgeon after fellowship, I applied for the CNS Leadership Institute. From my residency experiences, I knew I wanted to learn how to impact more than just the patients I operate on. I had started a position in a state with many disparities relating to neurosurgical care and my goal was to learn how to improve access to disadvantaged patients, as this aligns with my personal beliefs. For my CNS Leadership

experience, I was given advice on how best to implement a program addressing the needs of rural patients with traumatic brain injuries (TBI). After the Leadership course, I started a TBI research group with the deputy chief science officer at the state Department of Health. Our multidisciplinary team just published an article in Critical Care Medicine and we hope to ultimately change policies to decrease TBI morbidity and mortality in our state. This pilot project turned out to be much more fruitful than I ever anticipated, and I believe that is due to the skillsets and advice I gained from the Leadership Institute. The Leadership Institute helps you identify your strengths, weaknesses, and leadership style in order to optimize your capabilities. I also found the leadership training principles applicable to running my research laboratory. There are unique challenges for surgeon-scientists that many people are not aware of and I serve on my College of Medicine's Research Council board to represent the interests of clinician scientist young investigators. Since my subspecialty interest is in oncology, my next leadership project will relate to implementing a community-based research program addressing brain tumor health disparities. I will get an opportunity to engage with researchers outside of my institution and learn to leverage community partnerships.

In summary, all neurosurgeons must be leaders in some form as we are the "captain of the ship" in our operating rooms. However, if you are interested in asserting your leadership skills to make broader impact, then the CNS Leadership Institute can give you guidance to reach your full potential. I enjoyed my experience and hope to be able to continue leadership roles that improve neurosurgery patients' lives. ■



Analiz Rodriguez MD, PhD
Assistant Professor, Director of Neurosurgical Oncology, University of Arkansas for Medical Sciences

CNS Leadership Institute Profile

Reflections on the CNS Leadership Institute Experience

As I think back on the reasons that originally motivated me to apply for the CNS Vanguard Leadership program, I realize how different my frame of mind was at that time, and indeed, how different the world was. My takeaway goals were fairly straightforward by all measures: as new faculty at the Baylor College of Medicine, I wanted to consider how to grow the program in my area of interest, functional neurosurgery. I had joined a faculty with two excellent surgeons in this area, and my addition increased our capacity, but not our immediate referral base. I wanted to learn how to anticipate the nuanced positions of the various stakeholders in this space, including the hospital, the service line, and other clinical departments. The Vanguard course certainly provided that perspective and answers to those immediate questions, but the community it created for me has provided even more over time.

Through a mix of lectures, workshops, and project-focused discussions, the course conveyed some extremely useful themes. The ones that resonated with me the most were those of thinking beyond oneself and finding win-win situations with others to accomplish one's goals. As I began implementing these strategies back home, I kept remembering Dr. Joe Cheng's insistence on the mindset of building a program, not just a practice. As I looked for ways to align the hospital's resources and the Neurology department's interests with our plans for the growth of a functional neurosurgery center, I kept thinking of Dr. Rich Byrne's comments during the discussion of my project proposal: use the levers of your various roles in the college/department and hospital/service line to identify mutually beneficial solutions that not only serve your purpose but also positively impact those around you. This

lesson is not a difficult one to understand but is sometimes an easy one to forget in the frantic bustle of our over-scheduled lives.

For the same reason we pay attention to the crowds of friends with whom our kids hang out, we are mindful of the people we choose to include in our inner circles. The influence of community is substantial. A longer-term impact of this course has been, and will continue to be, longitudinal interactions with the neurosurgical leadership community. The gathering of our group at CNS 2019 was a great reunion of our "class" as well as a chance to tell each other about progress and hurdles we have encountered. We discussed strategies adapted to our individual circumstances and even options for more formal education through executive degree programs. I imagine that the friendships from these activities will also be a life-long source of motivation, as we encourage each other to reach our greatest leadership potential.

Back home, we were off to a promising start with the implementation of these strategies when the pandemic hit. In times like these, the value of effective leadership is greater than ever. Dr. David J. Langer, who addressed our group at the CNS 2019 class reunion, also gave a very moving and thoughtful account of his experience in NYC to our Baylor department as a virtual Visiting Professor recently. He mobilized his group early and found ways to contribute to the effort of combating the surge that threatened to crush his hospital and community. Although some within our field have been called to the front lines, many of us have not. But even if we are not directly managing ventilators and treating multi-system failure, we can find innovative ways to direct other supportive roles to ease the burden on our colleagues who are straining



Sameer A. Sheth, MD, PhD
Department of Neurosurgery, Baylor College of Medicine, Houston, TX

under the effort. The recovery process, as well as the watchfulness that will be required for future pandemic resurgences, are also critical opportunities for us to use these skills. Leadership qualities can be developed not just in a classroom workshop in times of peace, but also through thoughtful actions in times of war.

To the leadership themes I mentioned earlier, I would add generosity as a value that we must uphold in the months and years ahead. Everyone has been affected, and thus recovery of one department or service line is meaningless without recovery of the system. Successful leaders will prize long-term benefits of the whole over short-term, opportunistic gains of the few. It is difficult to predict how our health systems will fare even in the months between this writing and its publication. A certainty, however, is that effective leadership will be critical for the future prosperity of our field and our community. ■



David J. Langer, MD

Leadership in Times of Crisis



In March of 2020, the world changed as the Coronavirus descended upon New York City. As the effects of the pandemic escalated, we were confronted with a world that felt like a military battle, yet with the goal to save not kill. Initially as a neurosurgeon, I felt impotent, without a role or a clear way to contribute. We had created an incredible neurosurgical group over the prior years. A group talented and ambitious, but also collaborative and empathetic. As I witnessed the change of landscape of New York City, I was deeply affected by what was being lost; fear for my family, our department, my income and my career. However as the days passed, I realized that while the world had changed nearly overnight, I hadn't. I had trained tirelessly, helped to create a wonderful collaborative department culture, yet felt lost without clarity and purpose. As we prepared for the onslaught of our unseen enemy, we

furloughed our department. Within days the hallways had emptied, our cases cancelled and I was alone with my thoughts.

David Brooks wrote an op-ed piece for the April 16, 2020 edition of the *New York Times* that deeply resonated with me as I thought about what we had accomplished during this difficult time. His essay entitled "The Age of Coddling is Over," lamented the loss of rigor and hardship in most of academia and how it has impacted a generation of our youth. However, he points out that unlike the arts, scientific rigor has been maintained and he reflected upon the intrinsic "hardness" of medical school. He goes on to write how the maxim of excellence is not action, it's a habit. "Tenacity is not a spontaneous flowering of good character. It's what you are trained to do. It manifests not in those whose training spared them hardship but in those whose training embraced hardship and taught

students to deal with it." Thinking back to our response, I realized it was this essential element of training that drove my decision-making. Our training gave us a role to play, though we had to identify what that role was in a world of chaos.

Leadership is both a noun and a verb. One must first identify the noun part in oneself by realizing they have it and then work to affect the people around them to make the whole better. The chaos of the hospital was rapidly escalating. Our group had little if any role in the conflict as we were told to stay home, avoid getting infected, and wait to be "redeployed." Chaos is in the eyes of the beholder, however, and where there is chaos there is opportunity. A crisis affords the leader a clean slate to reimagine him or herself, innovate and take risks to impact the greater good. Action, when planned and thought through is far greater than reaction. Identifying ways for our team to contribute became a new focus.

I began to create a plan in my mind that would allow our team to accomplish two things—one immediate and one more long term. I recognized there were going to be two distinct components to our role leading not only in the immediate crisis but also leading long-term change. Chaos required calmness, self-awareness and empathy for the fears and anxiety our team was experiencing. Change required creativity, vision and risk taking. I realized that the world would not be the same for some time. Effectively influencing behavior in this chaos required leading by example; an early self-deployment onto the units treating COVID patients would allow our faculty to get directly involved in the medical care and find ways to make ourselves useful, use our training and find a role long

> EFFECTIVELY INFLUENCING BEHAVIOR IN THIS CHAOS REQUIRED LEADING BY EXAMPLE; AN EARLY SELF-DEPLOYMENT ONTO THE UNITS TREATING COVID PATIENTS WOULD ALLOW OUR FACULTY TO GET DIRECTLY INVOLVED IN THE MEDICAL CARE AND FIND WAYS TO MAKE OURSELVES USEFUL, USE OUR TRAINING AND FIND A ROLE LONG BEFORE WE WERE CALLED UPON TO DO SO. <

before we were called upon to do so. Initially, I felt contributing at the point of care would be a valuable way to learn about the disease to prepare for possible deployment as intensivists while finding a way to assist our medical partners as the hospital became overwhelmed with sick patients. Ultimately, we made ourselves useful before anyone else could determine it for us, while securing our roles in areas where we could learn and assist our hospital colleagues. We had developed a culture in the department over the years of mutual trust and collaboration. This was essential during this turbulent time. The team needed not just guidance but trust that this was a credible strategy—putting ourselves in harm’s way and finding a role in the chaos.

In the long term, it became evident the pandemic also presented a unique opportunity to change the paradigm of how care and communication of care has historically been delivered, leveraging some of the newly acquired technology tools at the point of care and in the office. We found opportunities to assist our ICU teams while initiating utilization of both enterprise and local software focusing on collaboration,

education, patient care and community service. We focused at the point of care on communication. We rounded in the morning with the ICU group, learning to treat COVID patients and then, using mobile asynchronous and synchronous communication, we kept in touch with the families remotely. This allowed us to expand upon our understanding of the disease, support our hospital partners all while experimenting with a new mobile communication platform. Our patient communication strategy was adopted by our nursing and patient experience teams, facilitating collaboration across care team members. Our reach and impact extended outside of our hospital’s boundaries, contributing to our system’s initiative with the US Military at the Jacob Javits Convention Center field hospital. Lastly, we were positioned to be on the forefront of advancing clinical trials for the health system, having long-lasting and translational impact on the future of care. In retrospect these decisions were hugely impactful in ways wholly unpredictable to both myself and our team. The efforts we made continue to pay dividends and are likely to radically change

the way we treat and communicate with each other and with our patients. While it took a pandemic to force sorely needed change, the mistake would have been not to put our training to use and adapt to the opportunity amid chaos.

The initial idea to act and assume new roles allowed our team to contribute in unexpected ways, and personally has become one of the most impactful events of my career. Finding a role in the chaos of the hospital gave us focus and calmness as we identified new short-term goals to which we could contribute. Simultaneously our workflows contributed to our ability to be impactful in the subsequent stages of both COVID and post-COVID, prepared for what was visibly in front of us while preparing for what could not be seen.

Chaos is primarily an emotional reaction to lack of clarity, loss of structure with ill-defined boundaries and diffuse and often dissonant communication. Leadership shines greatest in these moments and is perhaps the ideal environment in which a leader is tested. It is difficult however to simply turn on during these moments. Leaders must prepare for times like these by ensuring a culture of trust and altruism as a core element in the group they are leading. Leaders must support their teams without consideration of their own careers. Without an earned trust during normal times, it becomes more difficult to set an example and lead during chaotic ones and nearly impossible to engender change. While a modicum of normalcy has resumed, prepare now for what is to come. Be empathetic, give up ground, surround yourself with strength, be unselfish. The hardship of our training has prepared us for what is now and what is to come. Chaos will rear up once again someday. ■



Rocco A. Armonda, MD

Rimal H Dossani, MD

Interview with Dr. Rocco Armonda: Perspective on the COVID Crisis and Response



Rocco A. Armonda, MD, (Col ret, USA, MC) is director of Neuroendovascular Surgery and Surgical Co-Director for the Neuro-Intensive Care Unit at MedStar Washington Hospital Center, and Professor of Neurosurgery at Georgetown University Hospital. Following neurosurgical residency at Walter Reed Army MEDCEN, he completed a fellowship in Cerebrovascular Surgery and Interventional Neuroradiology at Thomas Jefferson University. During his 31-year military career, he was awarded the Bronze Star for service, the Legion of Merit, the Army Medical Proficiency 'A' Designator for excellence in both clinical and academic medicine in 2009.

How would the military have responded to the COVID crisis?

The military would have intervened earlier with public health measures as a priority over immediate economic concerns and in the final analysis, society would have been better for both the economy and public health as well as military readiness. In military medicine we are taught that non-combat loss due to disease is often greater than combat losses. In some conflicts this was as high as a 6:1 ratio. Infectious diseases among a confined population is a common scenario in the military and is a critical part of the "threat assessment." Battle days lost to disease can incapacitate an army and has happened throughout history. Combat power is preserved by a healthy resilient fighting force. In the civilian sector, this translates to public health measures to limit the spread of the virus. This is not going to be a popular decision, and that's where leadership must flourish. In a time of crisis, asking people to make a sacrifice for the benefit of the entire population is what we are trained to do in the military. It is obviously more challenging to enforce this in the civilian population. Making the sacrifice to stay at home, socially distance, and wear a mask when in public is in the best interest of the society. The critical role of logistics planning from test kits, PPE, to ventilators and ICU resources could have been optimally coordinated as the military would for a mass casualty scenario. To paraphrase Gen. Martin Dempsey, the former Chairman of the Joint Chiefs of Staff, "A rookie talks about strategy while a professional plans for logistics."

How would you evaluate the leadership response to the COVID crisis?

In my opinion as a private citizen, there were a variety of leadership examples both good and bad on all levels of the government. The delay of a coordinated,

centralized and early federal leadership was contrasted by the heroic efforts of Governors and Mayors to protect and provide for their citizens. In particular, the examples of Gov. Cuomo, Baker, Newson, Hogan, and others to fill a void from the absence of a central coordinated federal response was remarkable. Unfortunately, they are limited to state resources which had to compete not only with each other but also the erratic intervention of federal agencies. To enact an efficient COVID response, the President should have immediately used his authority under the War Powers Act to declare a national state of emergency, mobilize our industrial capabilities, enacted widespread testing utilizing the World Health Organization (WHO) kits, coordinated the tracking of cases, mandated a national lockdown, and prioritized personal protective equipment. In countries like Taiwan, New Zealand, and South Korea, early decisive action through measures like widespread testing, international travel restrictions and social distancing were able to limit the number of deaths and infections. As a result, these countries had much fewer deaths per capita than the United States. The President on the other hand refused the early counsel of his experts, deferred responsibility for a central coordinated immediate response and focused on affixing blame rather than adopting a strategy to protect our society.

Has history repeated itself given the context of the great influenza in 1918?

Many examples from the Great Influenza of 1918 resonate today. It is interesting that some of the most famous doctors of that era were infected by influenza including Drs. Cushing, Welsh, and William Osler who would expire from the disease. The early first wave concentration of cases in the spring of 1918 from Haskell County, Kansas to Camp Funston to nearby Ft.

the pattern of a zoonotic to human infection. Contact contamination with a concentrated population of military recruits led to further dissemination. The military response was thwarted by efforts to get more soldiers to European battlefields, resulting in significant infection spread in Ft. Devens, MA in particular, and subsequently to other military training bases and civilian sites—as soldiers returned from WWI. One of the most dramatic national outbreaks occurred in Philadelphia in October 1918, a week after hundreds of thousands gathered for a “War Bonds Parade.” The following week daily death tolls exceeded those of WWI battlefields, and a shortage of caskets was notable in Philadelphia.

The worldwide spread of the disease with death tolls approaching 50 million and 675,000 deaths in the US during the second wave presents an ominous warning for us today. As many as 14 million deaths were reported in the Indian subcontinent alone. This would be equivalent to 1.2 million deaths given our current US population. Failure of a coordinated federal and international response, with community spread, lack of abiding public health measures with the gathering of large public groups, and local, national, and international politics continue to threaten citizens today in a similar fashion.

What is the role of the military in maintaining civil order?

The active military and national guard are not a police force. Outside of an extreme crisis and martial law, their training is not specific in maintaining civilian order and their use in the wrong situation can lead to confrontation and escalation of violence. They have been used in emergencies to protect peaceful protests, maintain order and avoid confrontation between aggressive and violent opposing groups in unique situations. The military should always remain an apolitical force. To do otherwise is to corrode the

principles not a party nor person, it is to those ideals set forth in our Constitution; including freedom of the press, of assembly, of religion, of equal protection under the law regardless of race, color, or creed. As stated by the former secretary of defense Gen. Mattis, “We must reject any thinking of our cities as a ‘battle-space’ that our uniformed military is called upon to ‘dominate.’ This becomes critical now as we are at crossroads of both a pandemic and increased racial tensions where violence needs to be avoided and understanding and compassion should be enhanced.

What is your hope for neurosurgical leaders as we prepare to navigate a new norm in healthcare?

Neurosurgical leaders should be open-minded, invite new ideas by encouraging younger investigators, and question our assumptions. We should especially look at the most vulnerable populations, who experience healthcare disparities due to socio-economic and racial prejudices. This is particularly seen with civilian penetrating brain trauma as well as spontaneous intracranial hemorrhage, stroke, and delayed presentation of aneurysmal SAH. Neurosurgeons should stay engaged in improved community awareness, education, and prevention. Our role in community health needs to be emphasized and should shape the educational mission of our national organizations.

Additionally, the model for our national meeting should be reexamined. Gathering a few thousand people in one city for a neurosurgical meeting may not be prudent in a time of pandemic, financial crises, and other public health priorities. Such meetings will potentially expose thousands of people to the virus when there are excellent alternatives through the internet and live webinars to further the educational and leadership

heard recently have been on Zoom. I have recently interacted with biomedical engineers and diverse professionals virtually, where previously these types of multidisciplinary interactions may not have been possible. There are a number of online international symposia that we can all learn and use to teach others who are less likely to be able to travel abroad.

How have you applied decision-making learned in your military career to your neurosurgical career?

My military career has helped me seek the counsel of others, critically analyze my complications, recognize excellence and sacrifice of others, and avoid commercial bias. As a leader you must set the highest standards; don’t ask others to do something that you don’t already do. Sharing the burden of call, crediting others with success, and taking responsibility for complications are essential. Ideally it is best to avoid procedural complications by discussing treatment plans with your team, seeking different opinions which you may have not considered. This type of “war-gaming” consideration allows alternatives, contingencies, and worst-case scenarios discussions. Additionally, the military prohibited relationships with industry. I have adopted the same in my neurosurgical career. I have zero disclosures. I am willing to use a variety of medical devices as it best serves a patient. The crisis has also allowed us to reexamine funding needs. It is critical to reassess our relationships with industry and ensure that we remain neutral and unbiased. Ideally, we should not have any fiduciary relationship with the medical device industry. ❏



Harry R. van Loveren , MD

Memento Mori—Remember, Thou Art Mortal

Executive Coaching for Department Chairs: The Five Stages of Chair Tenure

Introduction

Neurosurgeons distinguish themselves as exceptional even prior to entering their seven-year training program.¹ In the recruiting process, we look for stronger than average work ethic, intellectual prowess, ability to delay gratification, and remarkable tolerance for emotional and physical suffering. Upon completion of residency, we hope these character traits continue to facilitate career advancement, whether in the private sector or academic medicine. In the former, a senior partner position that equates to substantial financial holdings is the pinnacle. For those of us in the latter, ascension to chairmanship can be the culminating recognition of excellence in teaching, science and surgical skills; however, it is also the beginning of a new journey with its own share of challenges, victories, and self-discovery.

In my first decade of chairmanship, I recall feeling as if I was doing a pretty good job—my faculty were happy, our book of business was booming, and we were academically productive. In short, I was at the top of my game and profession. Like many of you reading this article, I didn't think I would benefit from coaching whatsoever, didn't need it, didn't want it.² Nevertheless, four years ago, I agreed to a pilot study. The coach is still here today, albeit with a new title and responsibilities. Now he is the focal point of a reimagined division within our school of health and offers services to all levels of leadership, including the C-suite at our partner hospital.



Harry van Loveren meets with his executive coach at USF.

As the first faculty member to embrace executive coaching and now the one who helps grow the platform, I hold a unique perspective on its benefits—when implemented correctly. We have witnessed great successes for the coaching program and some disappointing failures. Through our own coaching M&M, we have realized two key components for successful coaching interventions: 1) determining whether a leader is coachable; and 2) identifying those who are on the leadership continuum. In this perspective paper, we share some of the lessons learned thus far in hopes that you can maximize the benefits coaching provides.

Indications for coaching

Executive coaching started to gain notoriety about 30 years ago, and has since grown into a multi-billion dollar industry with a multitude of coaching qualifications, processes, and (outcome) quality.³ The scope of practice for coaching arrangements range from interpersonal skills to strategic thinking.⁴ Our slice of this giant pie is comparatively insignificant. Housed under Clinical Affairs, we are a division of 1.⁵ FTE (a third of which is purely administrative); the hospital supports part of our funding budget thus reducing the University's burden; and although we boast a high success rate, complications do exist.

In our model, we considered any chair or Division Chief a candidate for coaching but those new to their leadership role received invitations to meet informally. The assumption that all chairs would embrace our services over-estimated our perceived value. As demonstrated in sport, coaches prefer players who are coachable, knowing that even the most talented athlete can improve further from guided instruction.⁵⁻⁷ Similarly, chairs need to demonstrate the desire for honest, direct feedback. Subsequently, they must demonstrate the effort to practice their coach's recommended strategies.

The Five Stages of Chairmanship

Reflecting on chairmanships around the country, we identified five stages that leaders, if fortunate enough to last, will eventually experience. In Stage I, new chairs refine basic leadership skills while attaining insights on the history and politics of their institutions. In Stage II, junior chairs transition their primary focus from personal ambitions to development and promotion of their faculty. In Stage III, chairs conduct a robust self-evaluation and program assessment to determine growth opportunities. In Stage IV, senior chairs begin designing a succession plan that meets the needs of the faculty, university and themselves. Finally, in Stage V, chairs emeriti adjust to a new normal in which they are either sage advisors or an after-thought.

Regardless of the Stage, chairs can benefit from the third person perspective that a coach provides. We see the relationship as similar to anyone who plays a sport, takes up a hobby or pursues a passion—an unfiltered, objective voice pointing out obstacles or praising your abilities is an invaluable resource. Rules of engagement are encouraged because the structure adds accountability to both parties.

Stage 1: On-Boarding

You never get a second chance to make a first impression.

This adage goes for both the institution and the new chair. Imagine flying into a new country with no prior knowledge of the language, customs or history...with the expectation of the locals that you are there to make their lives better. Having a guide to facilitate the transition—from colleague introductions to time-honored traditions—will help you avoid basic mistakes. While most errors are easily overcome, too many of them will cost time and even reputation. After an exhaustive search and substantial financial investment, senior administrators only hurt themselves by failing to support new chairs with a coach for the immediate transition.

From a chair's perspective, access to a coach who understands the "lay of the land" is priceless. The coach can facilitate early wins by paving a path toward acceptable changes (think less resistance), potential adversaries (resistors who wanted another chair), and influential power brokers. Coaches who are invited to the numerous meetings chairs host in their first six months should provide rapid feedback regarding messaging (e.g. communication style, habits, clarity, etc.). As a dedicated resource, chairs also appreciate the accessibility and confidentiality that coaches provide.⁸ Previous mentors may not have the time needed to counsel the new chair; and admitting weaknesses or errors to unknown colleagues who at first appear friendly, is not always prudent.

Case in Point...

A highly lauded, internationally renowned professor arrived to our university with great expectations. His enthusiasm and energy were unbounded as reported by the faculty, administrators and other constituents. At the all chair meetings (held monthly with his counterparts from other departments),

the new chair asserted himself confidently and explained how poorly certain parts of the ambulatory service were run, especially in comparison to his previous place of employment. At the first meeting, the other chairs nodded in agreement; at the second, they ignored him; but after the third consecutive outburst, they dressed him down: "We all know the problems that exist here. You aren't telling us anything new or revealing. You were hired to improve things, so do your job and make it better."

The coach (who does not participate in the all chairs meetings) received feedback on the incident and quickly met with the new chair. Posited in a positive, non-threatening manner, this point of consternation became a teachable moment (if not humbling one). First, you never compare your old institution as more favorable than the new—it is a bad idea in all relationships be it former spouses or employers. Second, building credibility is like creating wealth: positive commentary is putting money in the bank while criticisms are negative cash flow. Save up for that rainy day.

Stage 2: One-Eye Blind

Junior chairs, typically in mid-career themselves, often have one eye on their own career and the other on everything else. That makes them "one-eye-blind" to the goals, ambitions, and development of the numerous colleagues who are attempting to build reputations or earn promotion. The coach must be that other eye, constantly meeting with faculty and trainees alike to present to the chair a clear picture of the department's mood and temperament. When faculty feel stalled or trainees hindered in their own development, corrections are required in real-time before they fester into something malignant.

One successful approach to coaching junior chairs is making them define, in writing, their department's culture. We call that document our playbook and require it for both residents and faculty. All non-technical



or clinical aspects of daily operations are legitimate subjects for the Playbook. We include our mission, values, academic expectations, and even accountabilities for non-compliance. Good chairs have some iteration of a playbook at all stages of their tenure; great chairs constantly revise it to reflect the needs and expectations of the department members.

Case In Point...

We met with a new chair who had built a career at another institution only to return "home" as the new leader. The selection committee believed that a former trainee was best to lead this strong-willed, exclusive group. Unfortunately, the previous chair held the confederate of surgeons together through charisma and a little intimidation, which was not a transferable trait. When asked about creating a unified group, we explained that he was better off establishing a culture that was acceptable to the majority of the partners. It was a large group and potentially lethal if they formed a majority coalition against his agenda. Creating a new culture that placated the dissenters was more achievable than attempting to rebuild the program through firings.

Stage 3: Memento Mori... Remember, Thou Art Mortal

Several years into your chairmanship, things typically become routine and comfortable: there are no major obstacles with which to contend; calls from the Dean do not elicit fears of the unimagined; even home life feels balanced. The moment this sense of calm is consistently apparent, is the time you call your coach. Together, you determine the relationship between your department and "fine". As adjective, fine reflects a higher standard (think dining, wine, art, etc.); as an adverb, it is the gateway to mediocrity (think dinner, drink, museum tour, etc.).

In professional sports, there are players, coaches and owners who are content with

just being in the league. Getting to the play-offs is a bonus—typically, a financial one—but regardless of final records, the organization lacks any sense of urgency to win. For fans, this complacency manifests as poor recruiting, not investing in facilities, or perpetual cycles of "rebuilding." Such a mentality corrupts the program from the inside out and requires inordinate effort to correct. Our message to chairs is simple: when you think things are fine, consider yourself in trouble. Then, work with the coach to assess your leadership style, the department culture and future goals as part of an honest SWOT report.^{9,10} The revelations from this exercise can help drive your new strategic plan.

Case In Point...

Early on in my "coached career" I gave the Annual State of the Department Address to the faculty. Just minutes later the coach came to my office, closed the door and asked me how I thought it went. Pretty well I thought. So, he asked, "What do you think you told them?" So, I laid it out. Then the coach asked, "Do you want to know what they actually heard? You said compensation going forward would reflect academic as well as clinical performance. They heard pay cuts were coming. You said metrics would be developed to more accurately track clinical productivity. They heard you don't think they're working hard enough. That little talk you gave was very negatively received." So, in my defense I asked, "then why didn't anyone speak up." "Something else we should talk about" he said. After he described everyone's sense of my intimidating persona, I said, "that's ridiculous, I'm like the nicest guy in the world." He agreed but said it doesn't matter because your role of chair supersedes everything else.

In my decades as a faculty member, I recall only a few people comfortable enough to have that discussion with me. Coaches must possess the confidence to

speak their opinions; chairs must welcome such unfiltered feedback. In ancient times, certain military commanders on triumphant parade in ancient Rome would have an Auriga, a slave with gladiator status, in their chariot hold a laurel crown over their head while continuously whispering in his ears "Memento Mori," remember you are mortal. The coach is my Auriga, constantly reminding me that neither I, nor the program, is perfect. We are constantly checking the pulse of the department culture and temperament to minimize catastrophic damage.

Stage 4: Chaos is a Ladder

Fans of HBO's *Game of Thrones* may recall Littlefinger's allusion to chaos as a ladder when discussing the competition for the Kingdom's crown. At the senior stage of chairmanship, believe us that even if you are not thinking about succession, others around you certainly have it on their minds. Some are worried because a new leader may disrupt their careers in a negative manner. For others, they are yearning (if not vying) to succeed you.

Chairs should consider two aspects of succession. First, related to Stage II, it is part of the chairs' mandate to develop their faculty. In this instance, administrative leadership (e.g. divisional directors, running committees, etc.) is the principle focus. Athletics shares its own equivalency: assistant coaches hired as coordinators or head coaches for another program. You are spreading your legacy across the sport by helping others reach a higher level. Putting people in positions of growth and then nurturing their maturation through mentorship or coaching, is one of the rewards of chairmanship.

The second aspect of succession is a bit more sobering. Many of us enter into the job believing we will stay at the helm for a specified time, make positive changes, step down while "still at the top of my game," and humbly return to our original

status, “member of the faculty.” We loathe repeating the failures of our predecessors who stayed too long. Progressively, however, some chairs falsely conflate their leadership with the survival of the program. If this were true, it would demonstrate a complete failure of organizational development and succession planning.

The role of a coach is to challenge the chair with three important questions: 1. If you died suddenly tomorrow, who have you prepared to lead? 2. When you do step down, who have you groomed to be a viable internal candidate? 3. Have you constructed a department that will attract high-level candidates in a national search? Even with positive responses to all three questions, there are chairs who cling to their corner office, reserved parking spots and other privileges beyond the desired stay.

Regular reflection of these three questions enables a coach to discuss, in a safe environment, the chair’s timeline for transition—and visions for life after chairmanship. Programs across the country approach this question for all levels of faculty differently. Some base it on age—regardless of physical or mental acuity. Others have no set parameters leaving it up to the individual. Regardless of your institutional policy, have a plan. One productive exercise is to conduct a 360 evaluation of the chair that includes senior leadership (specifically, the Dean or CEO) and certainly senior members of the faculty. A coach can use their feedback to determine whether the timed exit involves a gentle guide or more abrupt shove. Both are delicate matters, but the latter gets messy fast.

Stage 5: Chair Emeritus

In full disclosure, I have not experienced this phase so I cannot comment intelligently upon it.

Dr. Robert Ojemann, previous chair at Harvard, once wrote an open letter advising chairs of departments to not overlook the

best job you could have, chair emeritus. The ability to spend time in the direct care of patients, educating and inspiring medical students, training residents, and acting as “wise counselor” to the new chair with great authority but no responsibility. It will undoubtedly require a humility that is difficult to achieve but will be inflicted upon you eventually regardless of what choices you make. I’m confident that the coach will guide my ego to suppress the id. I’ll let you know how that works out and leave you with the following, “Don’t gripe about growing older, it’s a privilege denied to many.”

Conclusion

As with any new initiative, hobby or activity, smart enthusiasts hire coaches to establish good fundamentals and habits. Academic chairs are especially primed to benefit from skilled guidance throughout their tenures as Departmental leaders. Most chairs dedicated their professional lives to mastering technical skills and advancing science; leadership is another ability unto itself. Simply taking accomplished academics and giving them a title is insufficient for success. The guidance and messaging that coaches can provide is especially valuable because the success of the organization guides their perspective. There are no ulterior motives when having the uncomfortable discussions or delivering difficult news. Rather, they serve the chairs individually, thus benefitting the entirety of the organization.

It is incumbent on any chair who accepts coaching to do so unconditionally. Un-coachable chairs exist; they have all the answers; nothing is their fault; or they are too important and busy to work on themselves. Certainly, the chair can help set the agenda (depending on phase of tenure), but accepting the direction of the coach is imperative to success. When a trusting relationship exists between the chair and coach, institutions can enjoy the benefits that good leadership provides. ■

References

1. Zuckerman, S.L., et al., Predicting resident performance from preresidency factors: a systematic review and applicability to neurosurgical training. *World Neurosurgery*, 2018. 110: p. 475-484. e10.
2. van Loveren, H., F. Yusuf, and C. Paidas. *The Benefits of coaching in the Ultimate Contact Sport: Neurosurgery. in Congress Quarterly*. 2018.
3. Athanasopoulou, A. and S. Dopson, A systematic review of executive coaching outcomes: Is it the journey or the destination that matters the most? *The Leadership Quarterly*, 2018. 29(1): p. 70-88.
4. Bono, J.E., et al., A survey of executive coaching practices. *Personnel Psychology*, 2009. 62(2): p. 361-404.
5. Giacobbi Jr, P.R., et al., College coaches' Views About the Development of Successful Athletes: A Descriptive Exploratory Investigation. *Journal of Sport Behavior*, 2002. 25(2).
6. Piedmont, R.L., D.C. Hill, and S. Blanco, Predicting athletic performance using the five-factor model of personality. *Personality and Individual Differences*, 1999. 27(4): p. 769-777.
7. Favor, J.K., *The relationship between personality traits and coachability in NCAA divisions I and II female softball athletes. International Journal of Sports Science & coaching*, 2011. 6(2): p. 301-314.
8. Silver, M., et al., Supporting new school leaders: findings from a university-based leadership coaching program for new administrators. *Mentoring & Tutoring: Partnership in Learning*, 2009. 17(3): p. 215-232.
9. Hill, T. and R. Westbrook, *SWOT analysis: it's time for a product recall. Long range planning*, 1997. 30(1): p. 46-52.
10. Helms, M.M. and J. Nixon, *Exploring SWOT analysis—where are we now? Journal of strategy and management*, 2010.



Jeremy Hosein, MD

Leadership Lessons from the White House Fellows Program



Declaring that “a genuinely free society cannot be a spectator society,” President Lyndon B. Johnson announced the establishment of the White House Fellows Program in the East Room of the White House in October 1964. Prompted by the suggestion of John W. Gardner, then President of the Carnegie Corporation, President Johnson’s intent was to draw individuals of exceptionally high promise to Washington for one year of personal involvement in the process of government.

Source: whitehouse.gov

The Roosevelt Room is a stately suite just across from the Oval Office. On a day in January, I sat near the President listening to patients recount how illness encumbered their health and how surprise medical bills hobbled them financially. A Colorado man shared how his wife had spine surgery and signed a consent for neuromonitoring, not realizing that the price tag was nearly \$100,000 and was not included in her insurer’s network. The President would shortly thereafter wade into a fight among well-fortified executives from insurance companies, hospital systems, and provider groups who, all too often, were not clinicians.

Last year, I served as a White House Fellow. President Lyndon B. Johnson established the White House Fellows Program so that “...future leaders in all walks of life have opportunities to observe at firsthand the important and challenging tasks of American Government.” His goal was to expose young professionals to leadership and policymaking with the hope that they would return home as seasoned leaders ready to participate in civic affairs. After a rigorous application and interview process, a little more than a dozen Fellows are selected to serve alongside senior White House staff and cabinet secretaries.

Once chosen, Fellows undergo extensive leadership training. From professional communications training to direct mentorship, we learned about crisis leadership, failing forward, leading upwards, and balancing priorities. We had intimate conversations with Chief Justice John Roberts, businessman

Peter Thiel, Senate Majority Leader Mitch McConnell, General Colin Powell and David Petraus, Secretary Mike Pompeo, and many more. These history makers in politics and business shared their thoughts on surviving in Washington, leadership of large teams with complex missions, and staying focused on the big picture. These lessons often occurred in real time. My days varied from advising the Secretary of Health and Human Services (HHS) on the immigrant crisis at our border, legislative strategy for value-based healthcare, working on Senate confirmation of nominees, and drafting portions of the President's healthcare agenda. My experience in neurosurgery proved valuable in delivering complex messages concisely, performing under pressure, and using creative thinking to problem solve. I also witnessed the impact of failed leadership when traveling to South America. Venezuela's economy was in ruins. Once a beacon for its excellent medical training programs, its hospitals had shuttered and Venezuelans flurried across the border into Colombia where hospitals were overrun with patients who no longer had access to necessary medications, prenatal care, or vaccinations. One pediatric surgeon said he was seeing parasitic illnesses that he had not witnessed since training due to lack of access to clean water and electricity.

I was privileged to serve and learn alongside my classmates who were largely military servicemen and women. They were Navy Seals, ship commanders, and infantry leaders who had been shaped in the crucible of war for their entire military careers. They were challenged with maintaining readiness,

> "FROM THE VANTAGE POINT I HAD IN THE WEST WING AND HHS, DEVELOPING MORE LEADERS IN MEDICINE IS A WORTHWHILE ENDEAVOR. CHANGING THE REGULATORY ARC OF OUR PROFESSION REQUIRES MORE THAN A STRONG ADVOCACY ARM BUT ELECTED AND APPOINTED LEADERS WHO CAN SLOWLY TIP THE BALANCE OF COMPETING FORCES TO DRIVE ENDPOINTS TOWARD OPTIMAL PATIENT CARE. " <

preparing for intensive missions, and dealing with the repercussions of constant threat and trauma that have parallels with our craft. Leading dozens to hundreds of soldiers, these Fellows had practiced command, execution, accountability and mentorship with responsibility over human lives. In the year we spent together, I devoted time to understanding the precepts of servant leadership: building trust, being deliberate and thoughtful about individuals and the team, and cultivating future leaders. I took these lessons back with me to residency in preparing for my chief year with an understanding that my professional growth may be able to help the team, the organization and ultimately patients' lives.

I underestimated the importance of leadership before serving as a White House Fellow. In my year working in health policy, I encountered government, hospital, pharmaceutical, and insurance executives where the decision maker was most likely not

a clinician. From the vantage point I had in the West Wing and HHS, developing more leaders in medicine is a worthwhile endeavor. Changing the regulatory arc of our profession requires more than a strong advocacy arm but elected and appointed leaders who can slowly tip the balance of competing forces to drive endpoints toward optimal patient care.

Theodore Roosevelt, whose presidential portrait hangs over the fireplace in the conference room that bears his namesake, connected leadership with the responsibilities of a citizen in his "Man in the Arena" speech. Today, that arena may be working with bundled payments in value-based care, knocking down the barriers of pre-authorization that delay needed surgery, or reforming a medical liability system that creates unnecessary friction in doing the hard and necessary procedures for our patients. Preparing clinician leaders for the arena now will pay dividends for a generation of rising neurosurgeons. ■



Praveen V. Mummaneni,
MD



John F. Burke, MD, PhD

Leadership at UCSF

For the past 24 years, the department of neurosurgery at the University of California, San Francisco (UCSF) has been led by Dr. Mitchel S. Berger. As Chair, Dr. Berger built a program that launched a generation of surgeons and scientists. The question one may ask is: what were the secrets of his leadership success?

Dr. Berger attended Harvard College for his undergraduate studies followed by medical school at the University of Miami. He started his residency at UCSF in 1979 under the mentorship of Dr. Charles Wilson. After residency, Dr. Berger joined the faculty at the University of Washington in Seattle before being recruited back to UCSF to assume the role of chair. Although UCSF had a history of being a referral center for complex neurosurgical care, in 1996 the department needed a revival. There were few UCSF neuroscientists at the time with R01 funding, and clinical faculty largely had no interaction with the basic scientists. In addition, the

department was modeled for neurosurgery faculty to be generalists as well as specialists. At the time, it was not uncommon for a neurosurgeon in the department to perform a spine case followed by a complicated aneurysm procedure. The concepts of "team-science" and neurosurgical sub-specialization had not come to the forefront.

Upon assuming the Chair position, Dr. Berger immediately began recruiting additional faculty. He was an early proponent of the concept of sub-specialization in neurosurgery, and faculty surgeons were selected based on their potential to be masters in their chosen subspecialty field. Dr. Berger is a superb judge of character. He recruited candidates who had innate surgical talent, a commitment to teaching, a love of research, and the drive to present their work on the international stage through platform talks and publications. Dr. Berger paired many new faculty members with basic science researchers and, collectively, the



Figure 2: Dr. Berger with faculty Dr. Praveen V. Mummaneni, at the inaugural Joan O'Reilly endowed professorship ceremony.

surgeon and scientist were asked to lead a translational research effort. This forward-thinking approach was an early example of "team science".

Many of Dr. Berger's faculty hires became leaders in their respective fields. In the past five years, the department had 18 clinical faculty attain the rank of full professor, and an additional 14 research scientist faculty attain the rank of professor. In addition, Dr. Berger recruited several faculty who have gone on to become chairpersons at other institutions.

The other component of Dr. Berger's leadership is a focus on resident education. Dr. Berger was the residency program director at UCSF for the first ten years of his chair tenure. Even when he passed the baton of program director to others, Dr. Berger was very focused on the resident selection committee. He would carefully comb through more than 250 applications to select two and later three residents per year to train at UCSF. Again Dr. Berger was a superb judge of character. He had a knack for picking residents who are driven to be the stars in the field. This attention to detail regarding residency selection has proven to be effective:



Figure 1: Dr. Mitchel S. Berger with UCSF Neurological Surgery faculty in 2019.



Figure 3: The neurosurgery residents and faculty at the June 2019 Neurosurgery Research and Education Foundation Charity Softball tournament in Central Park, New York City.



Figure 4: The neurosurgery residents and Dr. Michael McDermott at UCSF (March 2020).

UCSF residents have gone on to academic positions at a higher rate than ever before. Graduates of the program have gone on to academic positions 83% of the time over the past 10 years, and 88% of the time over the past five years. These trainees carry on UCSF's legacy of rigorous academic research and uncompromising technical expertise.

The ultimate testament to Dr. Berger's leadership are the results that the department achieved during his tenure as chair. UCSF neurosurgery is the #1 neurosurgical program in terms of resident and faculty H-index, the #1 neurosurgical program in terms of National Institutes of Health (NIH) funding, the #1 residency

training program as ranked by physicians on Doximity, and the #1 neurosurgery program on the West Coast ranked by the *US News and World Report*. More than these accolades, Dr. Berger has led neurosurgery nationally, serving as the Vice-President of CNS, Vice-Chair of the ABNS, President of the Academy of Neurological Surgeons, and President of the AANS.

Ultimately, Dr. Berger leads by example. He diligently guided the department through the early months of the COVID pandemic and coauthored two manuscripts on UCSF's response. Through his sustained effort, passion, and intellectual curiosity, Dr. Berger has left UCSF, and neurosurgery as a whole, in a much stronger position than when he started. His trainees and mentees carry on his legacy and are now training the next generation of neurosurgeons. We are very proud to have Dr. Berger as our leader, and thank him for his service to our program, and our field. 🇺🇸

> ULTIMATELY, DR. BERGER LEADS BY EXAMPLE... THROUGH HIS SUSTAINED EFFORT, PASSION, AND INTELLECTUAL CURIOSITY, DR. BERGER HAS LEFT UCSF, AND NEUROSURGERY AS A WHOLE, IN A MUCH STRONGER POSITION THAN WHEN HE STARTED. <

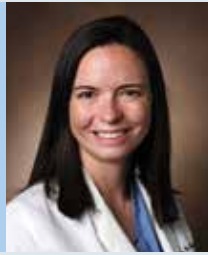
– Edward Chang, MD and Praveen Mummaneni, MD



Ashok R. Asthagiri, MD



Maryam Rahman, MD



Lola B. Chambless, MD



Garni Barkhoudarian, MD



Akash J. Patel, MD



Justin Hilliard, MD

The CNS Response to COVID 19: Adapting Education to the Needs of the Learner

The CNS exists to enhance health and improve lives through the advancement of neurosurgical education and scientific exchange. During the COVID pandemic, tried and true methods for the exchange of scientific progress and dissemination of clinical advances and research came to an almost immediate halt. The cessation of meetings began as cancellation of large national and international gatherings, but soon crept into even departmental conferences and social activities. As the necessity for safe distancing and travel restrictions grew, social isolation has become the new norm to fight and control an unseen force. Whilst our everyday lives have been impacted by these shutdowns in every imaginable way, the healthcare system has only been tasked with even more responsibility and expectations. In recognition of the practicing neurosurgeon's need to adapt to this shifting landscape from a medical knowledge and clinical competency perspective, and the continuing need to provide critical education to trainees, the CNS embarked on a monumental shift to providing interactive and virtual web-based education that would meet these changing needs. With the help of numerous individual volunteer neurosurgeons and the CNS headquarters staff, a growing portfolio of online education was created immediately and made widely available, to both the national and international community of



In response to the training and educational challenges created by the COVID-19 crisis, the CNS Education Division has developed a suite of complimentary online offerings accessible to all training programs.

neurosurgeons. The CNS vision has always been to be the essential partner organization for neurosurgeons, trainees and industry innovators in neurosurgical disease. While the COVID pandemic has been a challenge to each of us in our own ways, the CNS has strived to connect and provide resources for our membership and industry innovators in novel ways.

Virtual Visiting Professor

One of the unique strengths of the CNS organization is its ability to respond to changing circumstances, due in part to the close working relationships between core CNS staff members the CNS surgeon volunteers. This agility was demonstrated during the CNS response to educational challenges posed during the COVID pandemic. The CNS Education Division developed the Virtual Visiting Professor (VVP) series and Online Grand Rounds within days of most hospital systems closing elective services and instituting measures limiting didactic conferences.

The VVP series was launched after program directors from all of the U.S. Neurosurgery residency programs were surveyed about their interest in virtual grand round offerings to provide remote didactics to trainees prohibited from gathering in groups at their institution, as they typically would for departmental conferences. In response to overwhelming enthusiasm for this type of educational offering, the CNS launched live webinars with active Q&A

sessions from prominent neurosurgeons and other physicians, addressing a wide variety of general and subspecialty topics. These webinars were intended to reproduce a visiting professor lecture experience for participants.

The VVP webinar topics have included COVID-19 care experience for neurosurgeons, treatment of spinal cord injury, brain tumors, spinal cord tumors, management of aneurysms, endovascular advancements, functional and pain discussions, and unique topics such as global neurosurgery and practice development. Live participation per webinar has averaged 110 participants, with a high of 295 attendees. Access of the recorded versions of all of the webinars in sum has reached almost 12,000 views. Over 50 VVPs have been hosted through June 2020. Through a generous grant from the CNS Foundation, VVP webinars are available live and in their recorded version for free. They can also be purchased for CME.

In addition to live offerings, Online Grand Rounds was put into place to offer

pre-recorded webinars for free. Each week, two to three webinars are chosen from the CNS catalog and highlighted, allowing programs to develop a diverse and free educational resource to residents during a time when many programs had canceled their educational conferences.

As practices are resuming elective cases and most states have reopened businesses, we understand that programs may still not be able to invite in-person visiting professors and many trainees and surgeons may not be able to attend live courses for months to come. The CNS is committed to addressing this ongoing need, and the VVP and Online Grand Rounds programs will continue to provide online education to practicing neurosurgeons in need of CME, as well as for residents in training. The VVP faculty and moderators are due gratitude for their willingness to provide engaging content despite busy and uncertain schedules.

"We often miss opportunity because it's dressed in overalls and looks like work."
Thomas A. Edison



Drs. Robert J. Dempsey and Michael G. Haglund delivered a VVP Presentation on Global Neurosurgery: Personal perspectives, lessons learned, and worldwide opportunities for neurosurgical development.



Upcoming Online Offerings

Virtual Visiting Professor

- October Focus: Oral Board Review
- November Focus: Paper of the Year Winners

Skull Base Fellows Course Virtual Experience 2020

- Offered every other Thursday September 24 through December 3

Navigating the Neurosurgery Match in 2020:

- What to do after interviews Tuesday, October 6 at 7:00 PM
- Resident advice Tuesday, November 3 at 7:00 PM

Be sure to check out cns.org for updates on SANS Live! Sessions, VVP, CNS/SNO Quarterly Virtual Tumor Board, and more (i.e. in addition to the specific courses listed, be sure to check out the website for more.)

The CNS Town Hall Xperience — A Virtual Forum for Urgent Discussions

One of the goals of the CNS Education Division is to remain conscious of the shifting needs of the membership and to be nimble in addressing those needs with innovative platforms and programs. As neurosurgeons experienced seismic changes in our lives and practices this spring, we recognized a new urgency underlying our conversations; we wanted a way to communicate about critical topics quickly and transparently. Out of this new reality grew the CNS Town Hall Xperience.

Town Halls are intended to be highly interactive and this required a new format. Zoom provided the best platform for engagement and proved to have become a familiar part of most neurosurgeons day-to-day life in the early stages of the COVID-19 pandemic. We quickly learned a few rules to live by: minimize slide presentations, encourage attendees to join with video, and choose panelists and moderators who are excellent facilitators of discussion. Optimizing simple functions like “chat” and “hand raise” can quickly transform a lecture into a vibrant conversation. We

opted against recording town halls for rebroadcast because much of the material presented was late-breaking, opinion based, and relatively unvetted. We felt that this was information that should be rapidly disseminated but which could prove stale or irrelevant in future months, and for these reasons we have also chosen not to make these CME-earning events.

The topics of the Town Hall have been intentionally wide ranging. In our first session we heard from neurosurgical leaders around the country about the ways they were managing manpower, telehealth, compensation, and burnout in practices experiencing various versions of the initial pandemic surge. With the help of section leadership, we broadcast Town Hall on COVID-19 specific topics like the use of PPE and testing to facilitate safe skull base surgery and the unusual features and management of COVID-19 related stroke. Our most popular Town Halls have centered on the impact on COVID-19 on trainees. For example, our session discussing changes to the upcoming match reached the Zoom version of “standing room only” as more than 300 attendees tuned in for updates from leaders in the Society of Neurological

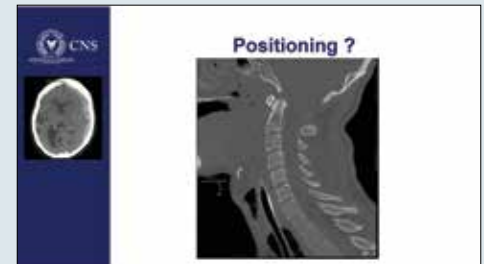
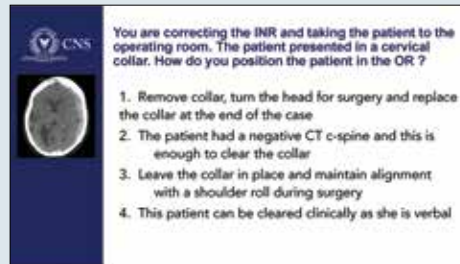
Surgeons. Other popular Town Hall topics have included building resilience, the job search for graduating trainees, and legislative updates from the Washington Committee.

As we move into a new phase of living with the COVID-19 pandemic we anticipate that new hot topics will find a home in the Town Hall format. An ongoing series of resident-focused sessions, led by Dr. Maya A. Babu and the CNS Resident Committee, will focus on both the novel and age-old issues facing neurosurgical trainees. Additional sessions will promote discussion of practice management during crisis and ways to navigate new obstacles to providing optimal neurosurgical care. These sessions will remain a live, free CNS member benefit where expert panelists can participate in timely discussions of the challenges facing our community in this unprecedented time. As always, the CNS Education team would love to engage our members in building our program; if you have an idea for a Town Hall you would like to see us produce, please reach out to the team by contacting the CNS Education Division at Education@cns.org.

SANS Live!

In Neurosurgery, Self Assessment in Neurosurgery (SANS) has long been an interactive way to learn, fill knowledge gaps, and stay current with the latest practice trends. There are seven subspecialty modules available, each offering 100 peer-reviewed questions that cover the breadth of clinical applications for that discipline. Combined, the bundle of all seven modules offers a comprehensive integrated educational curriculum designed to reinforce practice patterns and recognize knowledge gaps, making it an essential tool for residency training and Primary Examination preparation. Because of its format, it has been an important tool for board preparation.

During the unprecedented COVID-19 pandemic, many residency programs were unable to conduct the usual didactic conferences. To fill this void, the CNS education team developed SANS Live! Unlike lecture-based webinars, SANS Live! utilizes a question/answer, quiz show style format to help participants enhance their surgical knowledge and decision-making skills. Session moderators deliver SANS



During SANS Live! sessions, SANS questions are used to quiz the audience and the expert faculty provide first-hand rationale with images and video along with references recommendations for the correct answers.

questions, which the attendees answer using a polling system. Subspecialty experts then discuss the nuances of the questions and the reasoning behind the answer selection.

We have offered SANS Live! webinars since May, with an average attendance of nearly 90 participants per webinar and 245 unique individuals viewing each recording. This is due in large part, to the outstanding, internationally renowned experts who volunteered their time to be faculty discussants. The series kicked off with a session on management options in neurotrauma, led by Martina Stippler and David O. Okonkwo, followed by a session

on Controversies in Vascular Neurosurgery, led by Elad I. Levy and Michael T. Lawton. In June, Raymond E. Sawaya and Doug S. Kondziolka led a session on Management of Brain Metastases. Nader Pouratian and Ellen L. Air led the July Session on functional neurosurgery.

Though many training programs have resumed didactic conferences, the CNS plans to continue SANS Live! sessions on a monthly basis for Residency programs and medical students.

Virtual Tumor Boards

Any tumor neurosurgeon recognizes the value of a multidisciplinary review of complex brain tumor patients in the setting of a tumor board. Typically, these had been conducted behind closed doors. However, through the rapid adoption of secure virtual conferencing platforms instigated by the COVID-19 pandemic, many institutions have adopted virtual tumor boards as a viable solution. In some cases, local tumor boards may request additional input from experts worldwide. This not only improves the care

we deliver to our patients, but also serves as a valuable educational opportunity for all involved.

With the spirit of multidisciplinary collaboration, the CNS has joined forces with the Society for Neuro-Oncology (SNO) to introduce a Virtual Brain Tumor Board. In collaboration with the Joint Tumor Section and The Neurosurgical Atlas, we will be introducing regular sessions featuring globally recognized experts in brain tumor management (neurosurgery, neuro-oncology, radiation oncology,

neuropathology, neuroradiology and other specialists) to discuss actual cases presented by our faculty. The first of these Virtual Tumor Boards will be on Tuesday, September 29, 2020. We anticipate this collaboration will outlast the COVID crisis and provide a lasting and valuable service for our combined memberships.

INSIDE THE CNS



CNS

Foundation

CNS Foundation Strength in its Supporters

In a year of unique pandemic challenges, it is my pleasure to report to you the strength of the CNS Foundation. I come to you with news about innovation, new leadership and a partnership of humbling generosity.

Below you will read about the CNS Foundation's partnership with the CNS to create a terrific online educational project. Funds from our generous donors made possible complimentary access to a fantastic array of virtual education for our international members and residents just as pandemic quarantine changed our world. This innovative solution continues to receive praise from doctors globally.

I am pleased to announce my new Vice Chair of the CNS Foundation, Alexander Khalessi. I have mentored and consider Alex a friend of exceptional brilliance both as a neurosurgeon and as a leader. The CNS Foundation has grown rapidly in the past year and I am excited to have his vision and passion onboard to further our mission.

And finally, but certainly not least, I am honored to thank Medtronic for their generous 2020 leadership gift to the CNS Foundation.

Having led with a generous donation in 2019, they remain committed to our partnership and we are grateful. Medtronic has been a source of inspiration for many of us over the years and we are grateful to have their vote of confidence – especially during this unprecedented year. With the support of our many generous donors who remain committed to improving neuroscience patient care around the world, the CNS Foundation will maintain our steep, positive trajectory in furtherance of our mission.



Elad I. Levy, MD
CNS Foundation Chair



Alexander Khalessi, MD, MBA
CNS Foundation Vice Chair

The CNS and CNS Foundation Create Hit Online Resources in Response to COVID-19

The CNS and the CNS Foundation collaborated to develop the [Virtual Visiting Professor \(VVP\) and Online Grand Rounds \(OGR\)](#) webinars to support neurosurgeons worldwide during the COVID-19 pandemic. Produced by the CNS Education Division volunteers and staff, the CNS Foundation's grant provides international neurosurgeons and residents complimentary access to an innovative collection of educational products.

As the Virtual CNS educational platform has continued to thrive, several industry partners (Medtronic, Carbofix in Orthopedics, GT Medical Technologies, Thompson Surgical Instruments, Carl Zeiss Meditec, NX Development, Gleolan) have provided sponsorship to the CNS for these well-attended online educational hours.

Getch K12 Scholar Award goes to Nick Au Yong.

Named in honor of past CNS president, the late Christopher C. Getch, the award is a testament to the CNS commitment to fostering tomorrow's neurosurgeon scientists. The CNS Foundation is pleased to announce that Nicholas Au Yong, assistant professor of Neurosurgery at Emory University School of Medicine, was named the NINDS/CNSF "Getch" K12 Scholar Award recipient by the National Institute of Neurological Disorders and Stroke (NINDS), part of the National Institutes of Health (NIH). The award, which aims to increase the number of neurosurgeon-scientists trained to conduct research into neurological disorders, is made possible by a collaboration with the Foundation for the National Institutes of Health (FNIH). Dr. Au Yong is the third neurosurgeon to have received this prestigious honor.



Nicholas Au Yong, assistant professor of Neurosurgery at Emory University School of Medicine, named the third recipient of the NINDS/CNSF "Getch" K12 Scholar Award.

"On behalf of the Department of Neurosurgery at Emory University, I want to express our deep gratitude to the NINDS and the CNS Foundation for honoring our colleague, Nicholas Au Yong, as the most recent NINDS/CNSF "Getch" K12 Scholar Award recipient."

– **Daniel Barrow, Professor and Chairman of the Pamela R. Rollins Department of Neurosurgery at Emory University School of Medicine.**

Update on Second K12 Award: Due to the COVID-19 pandemic, the application cycle has been modified. Details for the next award will be announced in 2021.

CNS Foundation Organizes Volunteer Spanish Translators During COVID-19

The CNS Foundation wishes to thank Alexis Morell (2018 Tumor Observership recipient) Franco Rubino (2019 Tumor Observership recipient) and Derek Pipolo, for their work to provide Spanish captions to a selection of VVP and OGR webinars. All three neurosurgeons are residents in Argentina.



"If we helped only one neurosurgeon in Latin America to stay safe from COVID, it was worth it!"

– Alexis Morell,
Tumor Observership
Grant recipient, 2018.

To view these webinars with Spanish captions, please visit: [Recursos en Espanol](#)

Special appreciation goes to Dr. Morell, for his leadership in spearheading the project

2019 Tumor Observership in Miami

The Tumor Observership at the University of Miami continues to thrive as an educational and bridge-building initiative.

Dr. Franco Rubino of Tucumán, Argentina, spent three unique months at the outbreak of the COVID-10 pandemic in Miami, observing with Dr. Ricardo Komotar, CNS Foundation Board member and Associate Professor of Neurological Surgery at the University of Miami School of Medicine.

"Dr. Rubino was an integral part of our brain tumor team, involved in clinical care, research projects and observing surgery. He brought an international and valued perspective to patient management," said Dr. Ricardo Komotar. (Pictured with Dr. Franco Rubino.)



Dr. Rubino returned to his home country of Argentina as chief resident, in time to implement proper procedures for clean and safe areas to protect both personnel and patients, as well as jumping in as a Spanish-speaking neurosurgeon translator for CNS educational materials. 🇦🇷

THANK YOU DONORS FOR YOUR GENEROSITY IN 2020!



Mark Krieger donated his 2020 CNS Annual Meeting registration



Praveen Mummaneni redirected his Globus Medical speaking stipend



CNS President-Elect **Brian Hoh** and his wife, Melissa, gave a generous family donation

DONATE TODAY!

Join these generous donors in the CNS Foundation Leadership Circle with an annual donation of \$500 or more. All donations from individuals are matched by the CNS Leadership gift!

cns.org/foundation



CNS Scholarship in Data Science

The CNS Foundation congratulates Dr. Matthew Pease, recipient of the CNS Scholarship in Data Science. Dr. Pease is in his fifth year of residency at the University of Pittsburgh. The topic of Dr. Pease's project is using machine learning techniques to differentiate between solitary primary CNS lymphoma, glioblastoma, and metastatic disease based on MRI imaging alone. This \$20,000 scholarship was sponsored by a grant from Viz.AI, which was matched by the CNS Foundation.



Neurosurgeons Speak:

What is your best leadership advice?

"How about we fill each other's buckets with recognition and praise."

Costas Hadjipanayis (@hadjiMDPhD)

"As @cybulski_george says – 'leaders eat last.'"

Joshua Rosenow (@joshuaosenowMD)

"Leaders reflect strength and love. One of the great problems of history is that strength and love have been contrasted as opposites - what is needed is a realization that power without love is reckless and abusive, and that love without power is sentimental and anemic.' – MLK, Jr."

Dr. Alan Scarrow (@DrScarrow)

"When faced with conflict/gossip/poor communication seek out the person of concern for direct, private, face to face conversation. If it's a misunderstanding they will appreciate you. If they are a bully they will turn their negative energy to an easier target."

-Lola Chambless (@lola_chambless)

"You can never lead where you are not willing to go"

Jeremy_Phelps_Neurosurgery (@JNeurosurgery)

"Excel by cultivating passion and skill in your 'sweet spot' and avoid too much time spent in your 'sweat spot'."

Elad Levy (@EladLevyMD)

"Rank does not confer power or give power. It confers responsibility' – Peter Drucker"

Jason Schwalb MD (@JasonSchwalbMD)

"If you want to go fast, go alone. If you want to go far, go together.' (African proverb)"

Julie Pilitsis (@JuliePilitsis)

"Lead by Example."

-Jorge F. Urquiaga (@urquiagajf)

"Never hesitate to surround yourself with people that are not like you!"

Jeffrey Balzer (@balzjr)

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WEBINARS

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October 12, 8:00 am CDT	Peripheral Nerve
October 13, 9:00 am CDT	Neuro-oncology
October 20, 9:00 am CDT	Cerebrovascular
October 22, 9:00 am CDT	Spine
October 27, 9:00 am CDT	Pediatrics

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Complimentary live, non-CME version is available for each.



Congress of
Neurological
Surgeons

Washington Committee Report



Katie O. Orrico, Esq

Surgical Care Coalition Campaign

SCC Campaign Coalition to Prevent Medicare Payment Cuts Marches Forward

On June 18, the Congress of Neurological Surgeons (CNS) and the American Association of Neurological Surgeons (AANS), along with 10 other national surgical associations, officially launched the [Surgical Care Coalition \(SCC\)](#). The coalition represents more than 150,000 surgeons and was formed to prevent steep Medicare payment cuts in 2021, which may lead to reduced access to care for older Americans. The CNS and the AANS are asking Congress to waive Medicare's budget neutrality requirements to prevent the cuts and to require the Centers for Medicare & Medicaid Services (CMS) to apply the increased evaluation and management (E/M) payment adjustments to all 10- and 90-day global surgery codes.

Since the launch, the coalition has been working on converting information that was gleaned from its [member survey](#) into news stories and op-eds in national and local newspapers in targeted states. Additionally, the coalition has begun its paid digital media campaign. Finally, the AANS, CNS and coalition partners will be ramping up their grassroots efforts, urging Congress to prevent the cuts and adjust the global surgery code values.

To stay informed about the SCC's activities, neurosurgeons are encouraged to sign-up for the coalition's advocacy newsletter. Thus far, the coalition has issued four newsletters, on [July 2](#), [July 16](#), [July 30](#) and [Aug. 13](#).

[Click here](#) to subscribe to the SCC advocacy update newsletter.

Neurosurgeons are also encouraged to follow the coalition on [Twitter](#) and [LinkedIn](#).

COVID-19

Neurosurgery Calls for COVID-19-Related Medical Liability Protections

As part of the ongoing efforts to provide health care providers with protections from unfounded lawsuits, the Health Coalition on Liability and Access ([HCLA](#)) — of which the CNS and the AANS serve as vice-chair — has joined a chorus of stakeholders in calling on Congress to pass legislation to safeguard medical professionals, and the facilities in which they practice, from COVID-19-related medical liability lawsuits.

To that end, on May 28, bipartisan legislation that would provide targeted relief from these lawsuits — [H.R. 7059](#), the Coronavirus Provider Protection Act — was introduced in the House of Representatives by Reps. **Phil Roe**, MD, (R-Tenn.) and **Lou Correa** (D-Calif.). Recently, on July 9, Rep. **Mike Kelly** (R-Pa.) introduced [H.R. 7538](#), the Essential Workforce Parity Act, which contains language similar to that of H.R. 7059. HCLA expressed its strong support for Section 3 of H.R. 7538 and applauded Rep. Kelly for his commitment to protecting health care professionals from the serious threat of COVID-19-related liability lawsuits.

In the Senate, on July 27, Sens. **John Cornyn** (R-Texas) and **Mitch McConnell** (R-Ky.) introduced [S. 4317](#), the Safeguarding America's Frontline Employees To Offer Work Opportunities Required to Kickstart the Economy (SAFE TO WORK) Act. Supported by HCLA, the Senate bill would shield health care providers from coronavirus-related medical liability claims, while allowing damage awards in situations of gross negligence or willful misconduct. The introduction of this legislation follows several Senate hearings on this topic, including one convened by the Senate Health, Education, Labor & Pensions (HELP) Committee on [June 23](#), titled "COVID-19: Lessons Learned to Prepare for the Next Pandemic."

[Click here](#) to read HCLA's letter to Rep. Kelly, [here](#) for HCLA's statement to the Senate HELP Committee and [here](#) for HCLA's release supporting Section 3 of H.R. 7538.

CNS and AANS Urge Congress to Fund Additional Residency Slots

On July 9, the CNS and the AANS joined more than 60 health care organizations in urging Congress to include the Resident Physician Shortage Reduction Act ([S. 348/H.R. 1763](#)) in the next comprehensive COVID-19 legislation. According to a new [study](#) from the Association of American Medical Colleges, the demand for physicians continues to grow faster than supply, leading to a projected shortfall of between 54,100 and 139,000 physicians by 2033 — including a shortage of between 17,100 and 28,700 surgical specialists. The letter points out that the country has a dire need for more physicians, “not only to treat a growing and aging population, but also to respond to public health emergencies like COVID-19.”

[Click here](#) to read the letter.

Neurosurgery Calls on Congress to Increase Funding for COVID-19 Testing

As cases of COVID-19 continue to increase across the country, the CNS and the AANS are calling on Congress to prioritize robust federal funding for the critical testing needed to reopen the country. On July 21, the neurosurgery groups joined nearly 50 other health care stakeholder organizations in a letter advocating for swift action to ensure that every American — especially essential workers, frontline health care professionals and those at disproportionate risk for COVID-19 — have access to vital COVID-19 testing.

[Click here](#) to read the letter.

CNS and AANS Lead Effort Cautioning Congress About Surprise Medical Bills Legislation

On July 28, the CNS and the AANS joined more than 100 state and national medical societies in sending a letter to Congress reiterating that while “it is critical to protect patients from surprise medical bills...now is not the time to adopt divisive surprise billing legislation.” The letter restates organized medicine’s principles for surprise medical bills and urges Congress to address the issue separately from COVID-19 relief legislation.

[Click here](#) to read the letter.

HHS to Begin Distributing \$1.4 Billion in Relief Funds to Children’s Hospitals

On Aug. 14, the U.S. Department of Health and Human Services (HHS) [announced](#) that it will distribute \$1.4 billion to almost 80 free-standing children’s hospitals nationwide. The funds — made possible through the bipartisan [CARES Act](#) and the [Paycheck Protection Program and Health Care Enhancement Act](#), which allocated \$175 billion in relief funds to hospitals and other health care providers — will be administered through the Health Resources and Services Administration. The CNS and the AANS have been

advocating for additional COVID-19 relief funding for pediatric neurosurgeons, and previously joined nearly 30 medical groups in a [letter](#) to congressional leaders in requesting COVID-19 Public Health Emergency Fund support.

Legislative Affairs

Prior Authorization Legislation Reaches Important Milestone

Legislation to streamline prior authorization has reached an important milestone, with a bipartisan majority in the U.S. House of Representatives now cosponsoring the bill. Introduced last year by Reps. **Suzan DelBene** (D-Wash.), **Mike Kelly** (R-Pa.), **Roger Marshall**, MD, (R-Kan.) and **Ami Bera**, MD, (D-Calif.), [H.R. 3107](#), the Improving Seniors’ Timely Access to Care Act, would protect patients in Medicare Advantage from unnecessary prior authorization practices that limit timely access to medically necessary care.

The CNS and the AANS are leading the [Regulatory Relief Coalition’s](#) (RRC) effort to improve prior authorization. In a [statement](#) released on June 11, 2020, **Ann R. Stroink**, MD, FAANS, chair of the CNS/AANS Washington Committee, noted that “It is especially critical coming out of the COVID-19 crisis, that patients not face additional obstacles to getting the care they need. My patients have faced delays in their surgery for several months, so relieving prior authorization burdens will help.” The bill’s sponsors also featured Dr. Stroink in their [release](#), where she stated:

Neurosurgeons take care of very sick patients who suffer from painful and life-threatening neurologic conditions such as brain tumors, debilitating, degenerative spine disorders and stroke, and without timely medical care, our patients often face permanent neurologic damage, and sometimes death. Streamlining prior authorization will help ensure that our seniors get the care they need without delay, and we are thrilled that a bipartisan majority of the House of Representatives now supports H.R. 3107.

Companion legislation is expected to be introduced in the U.S. Senate.

House Adopts MISSION Zero Funding in FY2021 Appropriations Legislation

On July 31, the House of Representatives passed [H.R. 7617](#), the consolidated appropriations act that included Fiscal Year 2021 (FY2021) funding for HHS. Included in this legislation is \$11.5 million to fund the [MISSION Zero Act](#) grant program. Authorized by the Pandemic and All-Hazards Preparedness and Advancing Innovation ([PAHPAI](#)) Act, the grant program would assist civilian trauma centers in partnering with military trauma professionals to create a pathway to provide patients with the highest quality of trauma care in times of both peace and war.

House appropriators also included [report language](#) encouraging the Assistant Secretary for Preparedness and Response (ASPR) to

support MISSION Zero efforts by pursuing “partnerships between military and civilian trauma care providers to ensure trauma care readiness by integrating military trauma care providers into civilian trauma centers.”

The CNS and the AANS strongly support this program as outlined in letters to [House](#) and [Senate](#) appropriators earlier this year.

Coding and Reimbursement

UnitedHealthcare Suspends Imaging Prior Authorization Requirements

Effective April 1, 2020, UnitedHealthcare (UHC) had issued [Medical Record Requirements for Pre-Service Reviews](#) requiring surgical practices to upload radiographic studies via a web-based portal as a condition of obtaining prior authorization for the surgical treatment of spine pain and total artificial disc replacement. To further clarify this policy, UHC also issued Medical Policy Documentation Requirement Updates [frequently asked questions](#).

On June 23, the CNS, the AANS and the and the Section on Disorders of the Spine and Peripheral Nerves (DSPN), [sent a letter](#) to UnitedHealthcare (UHC) expressing opposition to a new policy for the surgical treatment of spinal conditions. The letter stated that the new policy “is unnecessary, ill-advised and will adversely affect patients’ timely access to care.” The groups further pointed out that “the policy inappropriately veers towards the practice of medicine” and asked UHC “to permanently end this new policy.” In addition to the letter, representatives from the CNS, AANS and the American Academy of Orthopaedic Surgeons convened a conference call with UHC leadership to discuss our concerns about this policy.

[Responding](#) to the AANS, CNS and DSPN, **Russell H. Amundson**, MD, FAANS, a neurosurgeon and senior medical director for UHC, acknowledged that physicians, practice administrators and others had raised similar concerns to those outlined in organized neurosurgery’s letter. He assured the neurosurgical groups that UHC was evaluating and refining its “administrative processes to address and resolve the issues identified.” Dr. Amundson also noted that the health plan was “suspending denials on initial review for lack of information/lack of required images.” However, in select cases, UHC “may require images when necessary to determine if clinical criteria are met.”

CMS Issues Proposed 2021 Medicare Physician Fee Schedule Rule

On Aug. 3, CMS released the Calendar Year (CY) 2021 Medicare Physician Fee Schedule (MPFS) [proposed rule](#). Under the proposal, neurosurgeons face overall Medicare payment cuts of at least 7% next year. The reductions are primarily driven by new Medicare payment policies for office and outpatient visits that CMS will

implement on Jan. 1, 2021. By law, any changes to the relative value units (RVUs) cannot increase or decrease expenditures for physician services by more than \$20 million. If CMS increases RVUs for a given service, the increase must be offset by decreases in payments for other services. In the proposal, values for E/M and other visit codes will result in additional spending of \$10.2 billion, necessitating a neutrality adjustment to the conversion factor. As a result, the proposed CY 2021 conversion factor is \$32.26, a drastic 11% reduction over the CY 2020 conversion factor of \$36.09. Additional details regarding the proposed rule are provided in a CMS [fact sheet](#).

The CNS and the AANS will continue advocating to prevent the implementation of these cuts, including submitting comments to CMS and legislative action.

CMS Releases Proposed 2021 Medicare Hospital Outpatient and ASC Rule

On Aug. 4, CMS released the CY 2021 Hospital Outpatient Prospective Payment (OPPS) and Ambulatory Surgical Center (ASC) Payment Systems [proposed rule](#). For CY 2021, CMS proposes to increase payment rates under the OPPS and the ASC payment systems by 2.6%. Hospitals and ASCs that fail to meet their respective quality reporting program requirements are subject to a 2.0% reduction in payment. Items of interest for neurosurgeons include the following:

- A three-year transition to eliminate the inpatient-only list, beginning with 266 musculoskeletal-related services in CY 2021 — including approximately 80 spine procedures, which would allow Medicare patients to receive these services in the hospital outpatient setting;
- New requirements for prior authorization for cervical fusion with disc removal and implanted spinal neurostimulator procedures performed in the hospital outpatient setting; and
- A request for comments on a new method to update the process for placing procedures on the ASC list — which would result in significantly more procedures on the list, including about 20 procedures performed by neurosurgeons.

Additional information about the proposal is available from the CMS [press release](#) and [fact sheet](#).

BCBS of North Carolina Extends Coverage of Laser Ablation to Brain Tumor

On July 21, BlueCross BlueShield of North Carolina extended its medical [coverage policy](#) to allow coverage for MRI-guided Laser Interstitial Thermal Therapy (LITT) to treat brain tumor patients. The additional indication updates the previous policy issued in February that provides coverage for LITT for patients with epilepsy under certain conditions. In addition to advocating for coverage for LITT, the CNS and the AANS have submitted a CPT Code Change Application for a Category I CPT code for the procedure, which will be considered at the [October CPT Editorial Panel meeting](#).

Communications

Neurosurgeons Raise the Alarm about Medicare's Proposed Physician Fee Schedule

On Aug. 4, the CNS and the AANS [announced](#) their strong opposition to the Medicare Physician Fee Schedule proposed rule released by CMS for calendar year 2021. Under the proposal, neurosurgeons face overall payment cuts of at least 7% at a time when the nation's health care system is already stressed by the COVID-19 pandemic. The reductions are primarily driven by new Medicare payment policies for office and outpatient visits that CMS will implement on Jan. 1, 2021.

"Now is not the time to reduce payments for surgical care, and if implemented as is, the Medicare payment rule will challenge an already fragile health care system," said Washington Committee chair, **Ann R. Stroink**, MD, FAANS. Dr. Stroink went on to conclude that this "was an ill-informed and dangerous policy for patients even before the pandemic started but could be even more detrimental as our health care system continues to weaken under COVID-19. If finalized, this proposal could result in neurosurgeons taking fewer Medicare patients leading to longer wait times and reduced access to care for older Americans, so Congress must act now to prevent this from happening."

On Aug. 4, the CNS and the AANS also joined with other medical groups representing more than 350,000 physicians and 764,000 nonphysician health care providers in a [press release](#) calling on Congress to pass legislation to stop arbitrary Medicare cuts to specialty physicians and nonphysician providers. These organizations are calling on Congress and CMS to develop a solution that will allow the changes to the E/M services to proceed — while at the same time preventing cuts — and waiving Medicare's budget neutrality requirements for the E/M policy is the most straightforward solution.

Neurosurgery Featured in News Articles about Proposed Medicare Payment Cuts

Following its release, the CNS and the AANS were featured in several articles about the proposed Medicare Physician Fee Schedule rule.

- "Health Groups Criticize Proposed Medicare Fee Schedule Changes for 2021," read the Aug. 4, **Medpage Today** headline. The [article](#) underscored neurosurgery's concern that drastic cuts caused by changes to the office visit codes will undermine patient access to neurosurgical care.
- On Aug. 6, **Becker's Spine Review**, [wrote](#), "Neurosurgeons ask Congress to intervene in CMS' 'ill-informed and dangerous' Medicare payment cuts." The article restated neurosurgery's concerns about the cuts, noting that the AANS and the CNS "have asked Congress to waive Medicare's budget neutrality requirements to prevent the cuts and require CMS to apply the increased evaluation and management payment adjustments to all 10- and 90-day global surgery codes."

Neurosurgery Featured in Article on Joe Biden's Health Care Proposals

On Aug. 12, Medscape published an article titled, "Election 2020: What Exactly Is Joe Biden's Healthcare Plan?" The piece featured comments by **Katie O. Orrico**, Esq., director of the CNS/AANS Washington Office. On the question of Medicare for all, Ms. Orrico stated that the CNS and the AANS "support expanding health insurance coverage, but the expansion should build on the existing employer-based system." She added that shifting more Americans into government-sponsored health care will inevitably result in lower payments for physicians' services, noting that reimbursement "rates from Medicare, Medicaid, and many ACA exchange plans already do not adequately cover the costs of running a medical practice."

On the topic of COVID-19, Ms. Orrico pointed out that the COVID-19 pandemic has exposed some cracks in the US health care system, and policymakers will likely take a closer look at issues related to unemployment, health insurance coverage, and health care costs due to the COVID-19 emergency.

Finally, Ms. Orrico acknowledged that there are ways to improve the current health care system, such as moving to value-based care.

Neurosurgery Featured in News Articles about Medical Liability Protections

Katie O. Orrico, Esq., director of the CNS/AANS Washington Office, was featured in two recent articles from the Northern California Record. In an [article](#) published on May 18, titled, "Capitol Hill efforts continue for expanded liability protections amid COVID-19," Ms. Orrico noted that there is a bipartisan willingness for Congress to adopt targeted liability protections for health care professionals. She pointed out that, "In the context of the coronavirus, liability protections are an essential element for businesses and physicians and hospitals to get back up and running as an integral part reopening America."

In a follow-up [piece](#) published on June 8, titled, "New federal legislation seeks to shield physicians from COVID lawsuits," Ms. Orrico pointed out that "During this global pandemic, physicians have been dedicated to preserving and protecting the health of the American public under extremely difficult and challenging circumstances, often at risk to themselves." She concluded by pointing out that "Plaintiff attorneys have already begun filing COVID-19-related lawsuits, and lawsuits, even those without merit, cost time and money, which clearly interferes with the country's economic recovery. More importantly, such lawsuits distract health care providers from keeping laser-focused on caring for their patients." ■



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IMAGES IN NEUROSURGERY

Persistent first intersegmental artery: a craniovertebral vertebral artery variant with implications on C1 lateral mass screw placement

A 65-year-old man presented to the emergency department with transient right-sided visual field deficit. He underwent a stroke workup demonstrating left-sided carotid stenosis on CT angiogram and diffusion-weighted imaging hits in the left occipital lobe on MRI. The patient was scheduled for a diagnostic angiogram to evaluate for carotid stenosis as well as to evaluate for intracranial atherosclerotic disease in the left posterior cerebral artery. The angiogram demonstrated a vertebral artery (VA) variation at the craniovertebral junction called the persistent first intersegmental artery (FIA) with a VA fenestration (Figure 1 and Figure 2). In this variation, the anomalous VA (called the FIA) enters the spinal canal between C1 and C2, and a fenestration of the VA follows a normal course in the C1 sulcus arteriosus and joins with the anomalous VA in the spinal canal. This craniovertebral VA variant is present in only 0.9% of patients. Other craniovertebral VA variations include persistent FIA without fenestration (3.2% of patients) and extracranial C1-2 origin of the posterior inferior cerebellar artery (1.1% of patients). Craniovertebral VA variants are important to recognize because they pass dorsal to the C1 lateral mass and may affect safe screw placement. The remainder of the angiogram demonstrated less than 70% left-sided carotid stenosis. The patient was diagnosed with atrial fibrillation and started on oral anticoagulation.

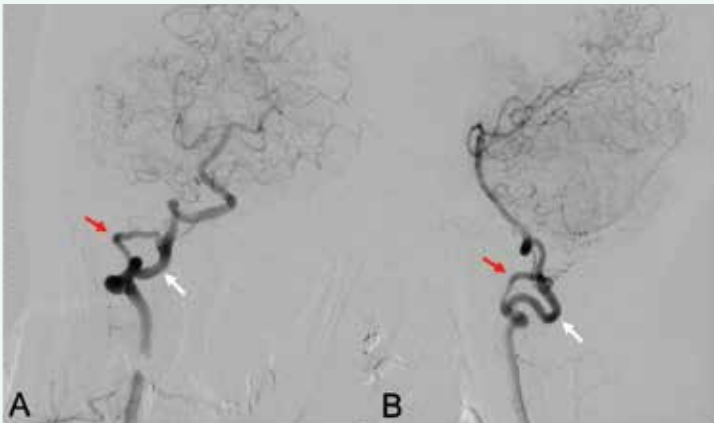


Figure 1: Right vertebral artery anteroposterior (A) and lateral (B) projections demonstrating a vertebral artery (VA) variation at the craniovertebral junction called the persistent first intersegmental artery (white arrow) with a VA fenestration (red arrow).

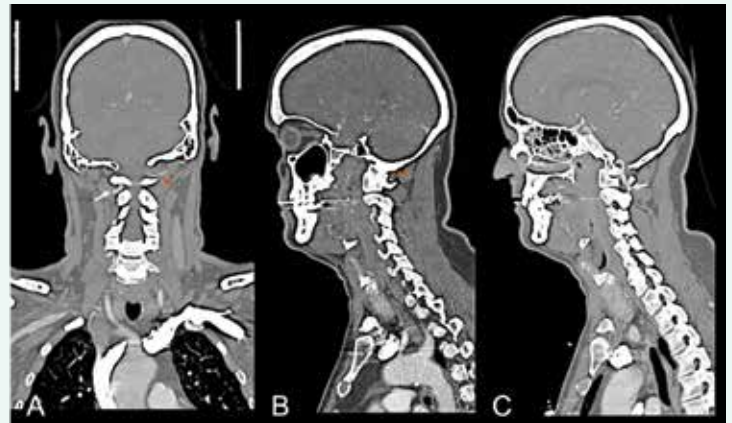


Figure 2: CT angiogram coronal (A) view demonstrating a right-sided persistent first intersegmental artery running dorsal to the C1 lateral mass (white arrow) and a normal left-sided vertebral artery running in the C1 sulcus arteriosus (brown arrow). CT angiogram sagittal views (B and C) demonstrating a normal left-sided VA running in the sulcus arteriosus (brown arrow) and a right-sided persistent intersegmental artery running dorsal to the C1 lateral mass (white arrow). Craniovertebral VA variants are important to recognize because they pass dorsal to the C1 lateral mass and may affect safe screw placement.

Reference:

- 1 Abtahi AA, Brodke DS, Lawrence BD. Vertebral Artery Anomalies at the Craniovertebral Junction: A Case Report and Review of the Literature. *Evid Based Spine Care J.* 2014 Oct; 5(2): 121-125

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Save the Date

2021 CNS Annual Meeting

October 16–20, 2021 | Austin, Texas

We hope you will be able to join us next October for the 2021 CNS Annual Meeting where you can expect a variety of data-driven science, first-rate speakers, and plenty of collaborative learning opportunities. We are pleased to announce our meeting will feature presentations from 2021 Honored Guest William A. Friedman as well as 2020 Honored Guests Bob S. Carter and Mark L. Rosenblum. Stay tuned for many more details in the coming months!

cns.org/2021



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