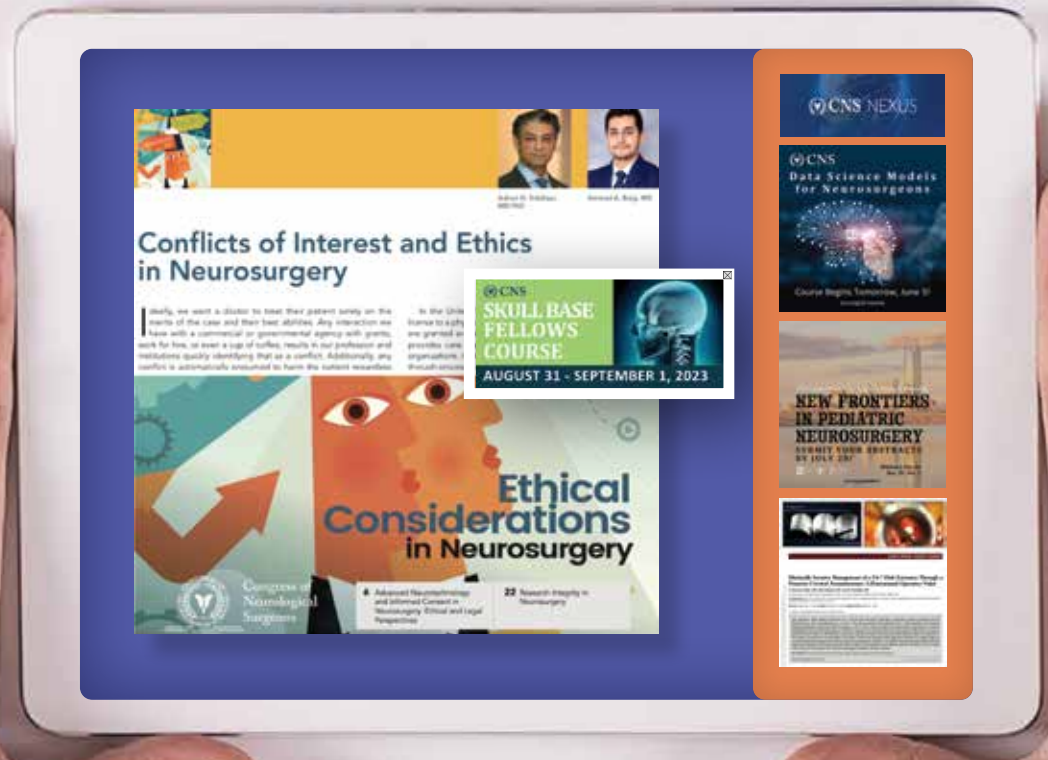


Congressquarterly

FALL 2023



CNS WORKING FOR YOU

Highlighting the work of our volunteer neurosurgeons and the programs, resources and benefits they bring to our members.



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Neurological
Surgeons

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Empowering Neurosurgeons to
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Transformative Journey

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EDITOR'S NOTE



Ellen L. Air
2022-23 Co-Editor



Clemens M. Schirmer
2022-23 Co-Editor

Dear Colleagues,

We hope you enjoyed the CNS Annual Meeting in Washington, D.C. While the meeting is always a time of great energy, interchange of ideas, and camaraderie, it is only one of the many ways the Congress works to support the neurosurgical community. In this issue of the *Quarterly*, we highlight CNS programs designed to promote education, innovation, and scientific exchange.

The CNS remains your primary source of education and development resources. Beyond live and virtual courses, the Education Committee has developed resources for neurosurgeons on the go. Want to review a case? Looking for a key surgical illustration? Nexus is your place to find it! More detailed videos are available on our new YouTube channel. Preparing for the Boards (oral and written) has never been more straightforward with the Oral Board Review Course and new CNS SANS flashcards.

The CNS is also there for you when you're eager to advance your professional development. The Leadership Institute helps you build business acumen, management, and mentorship skills, whether beginning or traveling along your leadership path. The daily challenges of running a practice continue to develop. The Practice-Based Neurosurgery Committee is here to support you, pooling colleagues' insights across the country. As Data Sciences has become central to the refinement of neurosurgical practice, our Data Science course is the best primer in the field. Under the leadership of our Editor Douglas Kondziolka, the **Neurosurgery Publications** are similarly looking toward the future of publishing relevant, usable information for your neurosurgical practice.

Underpinning all these programs is CNS's commitment to diversity and inclusion. We celebrate the uniqueness of our members, actively engage those from under-represented backgrounds to consider our amazing field and work to reduce disparities amongst our patients.

These offerings are not just for you; you and your contributions inspire them. We have so many volunteers to thank. We hope you find something new to you.

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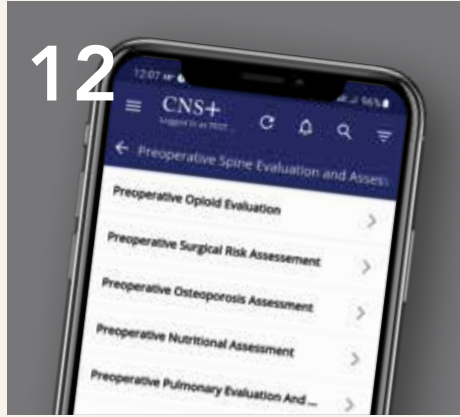
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Elad I. Levy

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PRESIDENT'S MESSAGE



Elad I. Levy, MD, MBA
President, Congress of
Neurological Surgeons

Dear Colleagues,

As we wrap up one of our most innovative and exhilarating CNS Annual Meetings in Washington D.C., I am grateful to the CNS Annual Meeting Committee—Annual Meeting Chair, Lola Chambless, Scientific Program Chair, Garni Barkhoudarian, Vice-Chair Edjah Nduom, and the dozens of other volunteer committee members who dedicated hundreds of hours to planning the meeting. I am also grateful to the more than 700 volunteer faculty who contributed their time and expertise to delivering timely and relevant content for our members. I hope that all of you who joined us in D.C. found the program instrumental and educational, resulting in enhancing your practice. Moreover, we hope that you enjoyed the opportunity to gather with your colleagues and friends. Thank you for attending and sharing your valuable time with me and your colleagues from all over the globe.

This issue of *Congress Quarterly* highlights all the many way CNS committees and volunteers work on your behalf throughout the year and the outstanding programs, products and member services they have developed to help you achieve your personal and professional goals.

Dr. Nader Pouratian and others from the CNS Education Division highlight the many contributions of this powerhouse committee—from the popular Complications Series courses and essential “CRUSH THE Boards” exam preparation offerings to our newer short-format offerings on the CNS YouTube channel and CNS podcast series. Meanwhile, Drs. Laura Snyder and Akash Patel elaborate on the recent additions to CNS SANS (Self-Assessment in Neurosurgery) catalog—one of our most volunteer-intensive offerings—and Drs. David Dornbos and Peter Nakaji highlight Nexus, CNS’ case-based

repository, which continues to grow in both cases and impact thanks to the contributions of so many CNS members. Recent CNS Leadership Fellows, Dr. Stephan Munich and Carrie Muh also share their experiences with the exclusive CNS Leadership Institute. Dr. Ashok Asthagiri shares plans for the upcoming Essentials for a Rewarding Neurosurgical Career course, which helps those entering into practice learn the skills needed for a successful neurosurgical career.

Neurosurgery Publications Editor in Chief, Douglas Kondziolka provides an overview of the evolution of our publications portfolio, along with **Neurosurgery Publications** fellow Hussam Abou-Al-Shaar. From the flagship red journal to our newest publication, *Neurosurgery Practice*, this impressive portfolio speaks to the vision of Dr. Kondziolka and the dedication of the many volunteers serving on our editorial boards.

After the journal, Guidelines have become many members’ most valued and utilized resource, for their impact on practice. The CNS is proud to be the driving force in developing neurosurgical practice guidelines. In their article, Drs. Mohamad Bydon and Anand Veeravagu highlight CNS investment in evidence-based clinical guidelines development, as well as complementary offerings like the new Practice Parameters and the Guidelines Podcasts. This is followed by Dr. Andrew Abumoussa and Sharona Ben-Haim’s article on the courses and programs CNS has developed to promote and advance data science research in the neurosurgical community.

Our Membership Committee chair, Dr. Jeff Mullin, highlights the many benefits CNS offers to members at each stage of their careers, while Dr. Jason Ellis and members of the Practice Based



I am grateful to my colleagues on the CNS Executive Committee and the hundreds of additional volunteers who work on behalf of our members to develop world class educational products and resources.

Neurosurgery Committee, along with Dr. Tiffany Hodges and members of the Diversity, Equity and Inclusion Committee dig into the efforts we are making to address the specific needs of several important demographics within our membership. And Dr. Theresa Williamson shares the work the CNS Wellness Committee is doing to advance our members' overall health and resilience. You'll also find in this issue updates from the CNS Foundation and the Washington Committee on the essential work they are doing to advance the field of neurosurgery.

The strength of the CNS lies in the passion and commitment of our volunteers, as this issue of *Congress Quarterly* makes clear. I am proud and grateful for the opportunity to work alongside so many talented and dedicated professionals every day. I hope you enjoy this issue, and perhaps discover a member benefit you haven't yet utilized. As always, I hope you will reach out if you have any other ideas or suggestions on how the CNS can help you advance your practice and career. 🇺🇸

Sincerely,

Elad I. Levy, MD, MBA

STAY CONNECTED



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Nader Pouratian, MD,
PhD

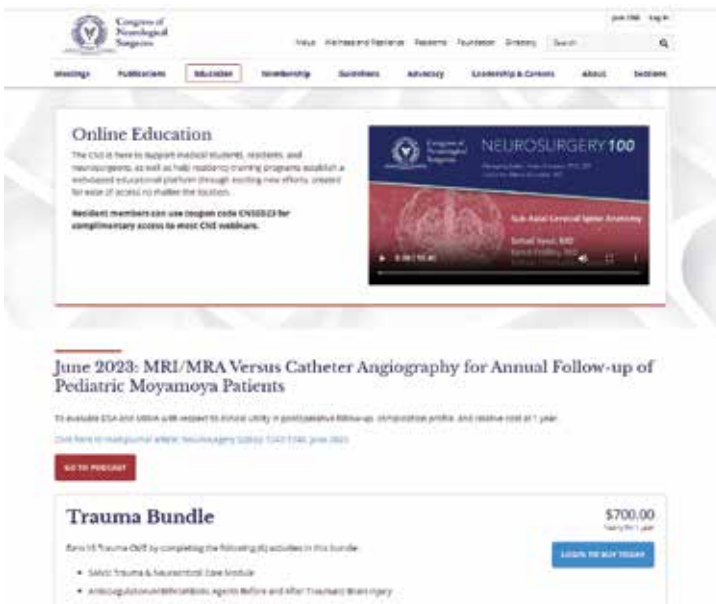


Tiffany R. Hodges, MD



Akash Patel, MD

CNS Education Division Working for You



recent SANS offerings, led by Drs. Laura Snyder (Barrow Clinic) and Akash Patel (Baylor College of Medicine), is an online bank of 2,400 question stems with answers and educational critiques derived from the questions used in the written board examination by the American Board of Neurological Surgery. This immense effort relied on over 100 volunteers from every stage of training to deliver this new material in less than two years, garnering the SANS Committee and its volunteers the coveted CNS Educator of the Year Award in 2021. The most recent innovation in SANS launched this Summer, thanks to the leadership of Drs. Laura Snyder and Michael Galgano (University of North Carolina), are SANS Flashcards for those seeking education on the go.

Nexus is our online case-based educational resource, with over 600 detailed operative cases with illustrations, videos, and valuable content for neurosurgeons at every stage of training and practice. Under the leadership of Dr. Khoi Than (Duke), Nexus has worked with an extensive network of volunteers to curate an unparalleled library for learning and practice. Drs. Ben Elder (Mayo Clinic) and Michael Galgano co-edit the spine section of Nexus and have been instrumental in creating and editing content, expanding the breadth and depth of cases offered for learning and reference. The library of cases in Nexus is entirely crowdsourced, ensuring that content has diversity of thought while being relevant, practical, and informative.

While online material is critical as an on-demand resource, the CNS continues to work for neurosurgeons by delivering outstanding live and virtual courses that are considered by many to be critical for success. The CNS Board Review Courses have emerged as the most impactful courses to review for the ABNS primary and oral examination. Listening to our members' needs, we introduced "Hot Seat Mondays" for oral board preparation, led by Drs. Akash Patel and Dr. Robert Spinner (Mayo Clinic), during which participants either undergo or observe a mock oral exam every week in preparation for the exam. The goal is for attendees to crush the exam, not cram for it. This continuous engagement of our learners is a novel way in which our Education team has customized programs for our members. Our newest online courses include Neurosurgical Emergencies led by Drs. Martina Stippler (Beth Israel) and David Okonkwo (Pittsburgh) and Data Science led by Drs. Sharona Ben Haim (UCSD), Andrew Abumoussa (University of North Carolina), and Matthew Pease (Memorial Sloan Kettering). Both have exploded in popularity, recruiting the best faculty with an array of experience to transform

The Congress of Neurological Surgeons has always been at the forefront of neurosurgical education, recognizing neurosurgeons' need for lifelong learning. We've become the premier resource for neurosurgical education by developing and delivering education for neurosurgeons at every stage and in every aspect of their careers. Our greatest success emerges from neurosurgeons creating content for neurosurgeons, ensuring that material is not only relevant and impactful but that we deliver our education the way that our members want – whether in person, through virtual courses, on social media, via podcasts, or through Nexus. Our core resources include CNS SANS, Nexus, and live and virtual courses, with more recent additions including new podcast series and the Neurosurgery 100 series on the CNS YouTube channel. All of these represent the best of volunteerism, so that the CNS is working for you.

CNS SANS (Self-Assessment in Neurosurgery) is the longest continuously offered educational resource in neurosurgery. Despite its long tenure, SANS has evolved over time to meet the changing needs of neurosurgeons. When first launched, SANS was a spiral-bound printed multiple choice question book. In contrast, one of the most

the field of neurosurgery. Dr. Stippler has been particularly focused on engaging and bringing novel educational tools for active learning to increase the impact of these courses. Live courses continue to include the Skull Base Course at Case Western and the Spine and Tumor Complications Courses. While content is key, we also recognize that courses are an opportunity to travel and promote well-being. The Complications courses will therefore begin to alternate locations starting in 2024, with a sun, sea, and golf venue at Ponte Vedra before returning to the snow in 2025.

Another engaging educational offering includes our Podcast series allowing members to listen to educational content wherever they are, whenever they want. Previously led by Dr. Tiffany Hodges (Case Western Reserve), and currently led by Drs. Khoi Than (Duke) and Theresa Williamson (MGH), our Podcast series has been in high demand given the conversational format between hosts, authors, and expert neurospecialists. For example, the CNS Journal Club Series, the brainchild of Dr. Rafael Vega (Beth Israel), presents *Neurosurgery* and *Operative Neurosurgery* articles in a classic journal club format with riveting conversations by lead authors and experts in the field. The CNS Guidelines podcast presents the latest CNS guidelines on management of neurosurgical diseases by the authors, residents, and other experts. For those who enjoy a good debate on neurosurgical

topics, the CNS Controversies in Neurosurgery podcast invites guest experts for a conversation about disputed topics within their neurosurgical subspecialty. One of our more recent podcast offerings is the CNS Optimizing Neurosurgical Practice podcast that covers best practices and common challenges faced by neurosurgery practices in a variety of settings. Lastly, The CNS Leadership Institute Podcast Series gathers leaders throughout the neurosurgical community to discuss valuable lessons learned on topics relevant to one's neurosurgical practice and career.

One of the newest initiatives in the CNS Education Division is the enhancement of the CNS YouTube Channel, including the development of a novel Neurosurgery 100 video series. With significant volunteer contributions from Drs. Garni Barkhoudarian (John Wayne Cancer Institute), Nestor Gonzalez (Cedars-Sinai), and Kristin Huntoon (MD Anderson), this series includes ~20 minute videos on a full neurosurgery curriculum, which is valuable for medical students, residents, or practicing neurosurgeons who want an update or refresher on various topics. This is an immense effort to produce education by neurosurgeons for neurosurgeons that will endure and have a significant impact for years to come.

One of the most valuable educational resources the CNS offers is the Neurosurgical Survival Guide (NSG), which is available in the CNS+ app. This valuable resource was developed and ultimately donated to the CNS by Dr. Neil Roundy, who received the CNS Educator of the Year Award in 2019. This comprehensive resource puts critical practical information at neurosurgeons' fingertips. A team led by Drs. Jeff Mullin (University at Buffalo) and Kunal Vakharia (University of South Florida) continue to update NSG to ensure the content is current and relevant for you.

In addition to our products, one of the most important aspects of the CNS Education Division is our responsiveness to needs, trends, and changes in practices. One of the greatest examples of the ability to dynamically respond was highlighted by the work of Dr. Ashok Asthagiri, former education division chair. In the early pandemic when there was great uncertainty about the ability to engage in person, the CNS produced the Virtual Visiting Professor Series seemingly overnight, featuring thought leaders in neurosurgery online, regularly attracting 100-150 attendees.

Education is one of the greatest areas of investment by the CNS. Yet, our educational impact and our ability to deliver for you is entirely dependent on our volunteers who guide us, educate us, and support us. By engaging our community of neurosurgeons from every stage of training, we ensure that our educational efforts are relevant, timely, and valuable. This commitment and partnership with the people who make up our profession is why everyone recognizes the CNS as the premier resource for neurosurgical education. ■



The Complications courses are headed to Ponte Vedra in 2024 for sun, sea and golf after each day's course content.



Laura A. Snyder, MD



Akash Patel, MD

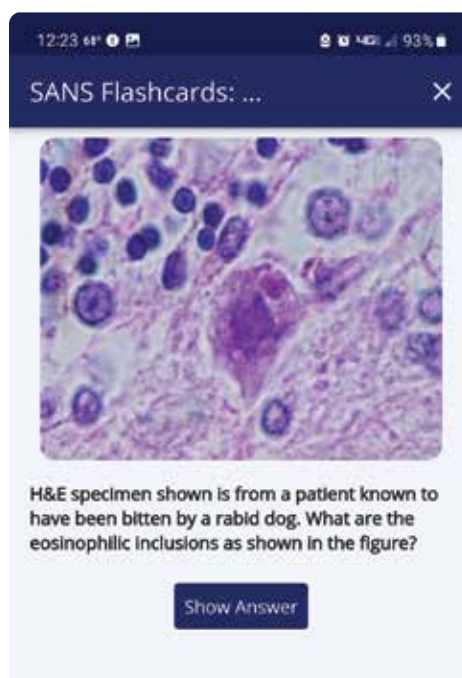
The CNS SANS Committee Offers Self-Assessment Exams for all Career Phases

The CNS strives to create continually relevant educational content. One of the methods by which we have excelled at this is in creating CNS SANS (Self-Assessment in Neurological Surgery). For over 30 years, the CNS has created and maintained SANS exams allowing members to test their knowledge. The exam content is updated yearly.

Younger CNS members routinely use these exams to prepare themselves for the knowledge required to survive residency, including preparation for the written board exam. Neurosurgeons in early practice use these exams to clarify their own practice patterns as well as enhance their own medical knowledge by recognizing gaps. Neurosurgeons in late practice use these exams to stay up to date on newer indications and methodology for treatment as well as changes in practice patterns.

CNS SANS has evolved over the years with many offerings beyond general exams. Exams in the classic topics of Functional, Pain and Peripheral Nerve, Pediatrics, Spine, Trauma, Tumor, Neuropathology, and Vascular all exist so that when a learner feels that he or she is deficient in one of these areas, the learner can focus on just that area. The SANS Indications exam helps learners improve diagnostic decision-making by testing the first steps neurosurgeons must take in common neurosurgery scenarios. This exam has been popular with those taking their oral boards.

The CNS SANS ABNS Primary Board Examination Bundle has been very popular for those taking their written boards. This includes over 2,500 questions with ABNS Primary Exam question stems. For those who are in the next step of their careers



taking on leadership roles, the SANS leadership exam can help learners improve communication on multidisciplinary teams as well as comprehend the business strategies needed to address evolving health systems. For all exams, comprehensive answers to test questions with multiple references allow learners to further review any topic in which they are challenged the most.

Over the years, the CNS SANS team has also provided live, in-depth webinars regarding the topics of Functional, Pain and Peripheral Nerve, Pediatrics, Spine, Trauma, Tumor, and Vascular. These webinars feature subject area experts and allow attendees to ask questions to clarify difficult topics. These webinars have been recorded and remain on the CNS website for repeated learner use.

New this year, the CNS SANS team introduced CNS SANS Flashcards, allowing for the swift study of Functional, Pain and Peripheral Nerve, Pediatrics, Spine, Trauma, Tumor, Neuropathology, Vascular, and Neuroanatomy topics via questions in a Flashcard format. With over 500 questions, the easy-to-use SANS Flashcards can be used for studying between cases or clinic patients. Another 500 CNS Flashcards will be released by the end of 2023.

The CNS SANS offerings allow learners to study and improve their knowledge base wherever and whenever they want. Learners can choose the exams that best fit what they need in any given time of their career as well as obtain CME. The CNS will continue to provide this service and update it for our members as we strive to promote education for the Neurosurgical community. 📖

CNS MEMBERS
SAVE UP TO 40%
on these available SANS Modules:

- SANS: Vascular
- SANS: Spine
- SANS: Tumor
- SANS: Trauma and Neurocritical Care
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- SANS: Neuropathology
- SANS: Functional
- SANS: Leadership
- SANS: Indications
- SANS Module Bundle



David Dornbos III, MD



Peter Nakaji, MD

CNS Nexus: Next Generation of Case-Based Education on a New Platform

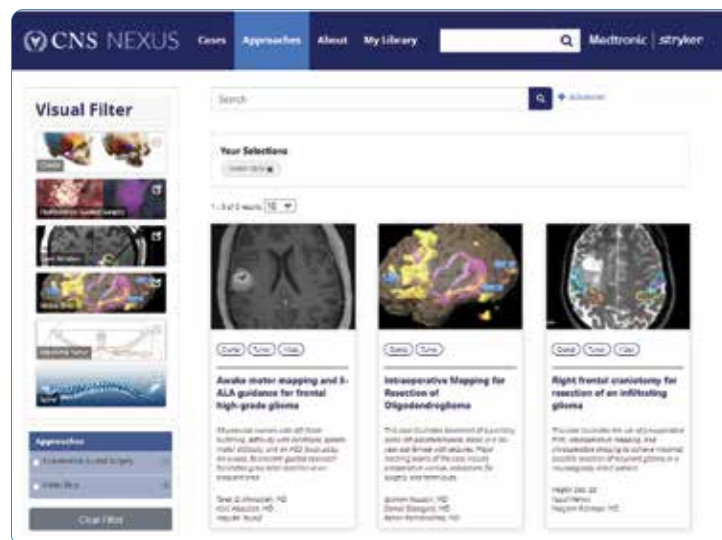
Conceived in 2014 and officially launched in 2016, Nexus has grown over the past seven years into the world's largest repository of neurosurgical cases. The combination of case-based education and world-class neurosurgical experts truly creates an unparalleled atmosphere for neurosurgical education. This free comprehensive library for students, residents, early career neurosurgeons, or anyone seeking to review surgical strategies to particular lesions serves as an expert tool in preparation for exams and surgical cases alike. As education has increasingly shifted to online and social media platforms, the reach and traffic of Nexus has continued to dramatically increase over recent years.

2022 saw the launch of a new state-of-the-art platform, highlighting cases from every neurosurgical domain, including vascular, spine, peripheral nerve, tumor, trauma, pediatrics, and functional/epilepsy. This new platform allows users to adeptly toggle between different subspecialties and sub-categories, tailoring their educational experience to specific cases, pathologies, and even anatomic location. While this overhaul has made Nexus significantly more user friendly, the content and access remains free and accessible to every CNS member.

Thanks to over 250 authors and contributors, in addition to innumerable volunteers and section editors, the offerings provided by Nexus have continued to grow, building a robust case repository. With 195 cases in 2018, the overall volume and quality of case vignettes, operative videos, and unique multimedia has steadily increased to 644 cases with an additional 25 drafts to roll out later this year. This explosion in content has occurred across all domains, largely serving to increase cases in previously scant subdisciplines.

In addition to building new content, efforts to promote Nexus cases through microlearning educational tutorials have proved to be a resounding success. In these microlearning endeavors, Nexus

cases are condensed down to short, edited videos or Tweetorials and then published across all CNS social media platforms. In addition to highlighting Nexus cases and learning pearls in easy to digest "on the go" vignettes, these social media blasts also lead users back to the Nexus platform, increasing traffic to the case repository so users can benefit from its rich offerings. Altogether, this has substantially increased viewership within Nexus, which now routinely sees approximately 6,000 views per month.



As Nexus continues to grow in size and breadth, new avenues are being explored to further advance neurosurgical education and the CNS mission. A new approaches section within Nexus has already launched and will be a focal point for future case submissions to develop a focused area on specific cranial approaches, aimed to enhance students and resident understanding of access for a number of pathologic lesions. Additionally, development of a new oral boards preparation template is currently under way. This will provide an opportunity for early career neurosurgeons to walk through cases on their own or with a mentor in a manner that resembles the methodology experienced in the oral boards, expanding the Nexus platform to an additional demographic within the CNS community. As Nexus nears almost a decade from its conception, the case repository continues to grow, evolve, and thrive in the neurosurgical educational space. Nexus is a truly democratic effort within the CNS that anyone can volunteer to help build. Users are encouraged to login through the CNS website (www.cns.org), review the Nexus content, and follow the "About" link to <https://www.cns.org/nexus/acknowledgements-volunteering> to see how to contribute. 📌



Ellen L. Air, MD, PhD



Anand Veeravagu, MD



Brian Nahed, MD

CNS Leadership Institute: Empowering Neurosurgeons to Lead at all Levels

In a health care environment increasingly defined by administrative complexity and competing interests, it is critical for our specialty and our patients that neurosurgeons have a seat at the decision table. The CNS Leadership Institute was developed to empower neurosurgeons with the skills and perspectives required to lead departments, organizations, hospitals, and health systems. Originally launched in 2016 as the CNS Leadership in Health Care Course, the CNS Leadership Institute has been expanded and refined over the years into a comprehensive neurosurgical leadership training curriculum designed to support neurosurgical leaders and provide the critical training and resources they need to lead at each phase of their career. This growth has been possible through the generous support of our exclusive partner, Medtronic.

To date, more than 175 CNS Members have participated in the program, developing their leadership skills and business acumen while working on critical projects within their own institutions. We can count among our alumni three Neurosurgery Chairs, 12 Residency Program Directors, 15 current CNS Executive Committee members, and more than 100 members of standing committees, joint committees and editorial boards critical to our specialty. Below, two members of our 2023 CNS Leadership Institute cohort share their experiences with the program.

Stephan Munich, MD

2023 Leadership Institute Fellow – Leadership in Health Care Course

I attended the CNS Leadership Institute this spring. As a junior faculty member, I often have felt naïve to the inner workings of academic departments, service lines, and hospital administration. The CNS Leadership Institute was a valuable resource to shed light on these inescapable aspects of contemporary neurosurgical practice.

Prior to the course, each attendee identified and prepared a small presentation about a “leadership problem” that we encountered. Despite the variety of practice environments that were represented, I believe I speak for all attendees when I say that there was comfort and relief in seeing that many of these problems were shared among many of us. The small format of the Institute allowed for interactive presentations and productive discussion surrounding the problems encountered in the attendees’ practices. More importantly, this also allowed for strategizing ways to solve these problems.

The CNS Leadership Institute provided an opportunity to interact directly not only with senior neurosurgical faculty, but also with practice / operations managers, service line directors and non-medical leadership personnel. I found the opportunity to listen to and understand the perspective of these non-neurosurgical personnel quite valuable. “No man is an island, entire of itself” and their presentations allowed me to better understand how I, as a junior neurosurgery faculty, fit into the “part of the main.” Their ability to expound on the perspective

of “the hospital system” or service line is something that will allow me to better navigate the inevitable obstacles confronted when building a neurosurgical practice.

In addition to the formal presentations and exercises, the CNS Leadership Institute included several, more informal opportunities to interact with other attendees and faculty. These sessions were as equally important as the formal curriculum. While there were some familiar faces in the room, it was wonderful to meet new people who are in similar stages of their careers. Through discussion with other attendees and listening to their experiences I was able to hear about successful (and unsuccessful) strategies to grow, build, and optimize my practice. This was further realized in discussion with members of the Vanguard group who have the benefit of successful and failed early career experiences to share.

While the presentations may have occurred over a weekend in May in Chicago, the CNS Leadership Institute continues throughout the year. I look forward to sharing my experiences and listening to those of the others when we meet again at the CNS Annual Meeting.



Carrie R. Muh, MD, MS, MHSc

Division Chief, Pediatric Neurosurgery

Surgical Director, Pediatric Epilepsy Program

Maria Fareri Children's Hospital and Westchester Medical Center

Associate Professor, Neurosurgery and Pediatrics, New York Medical College

2023 Leadership Institute Fellow – Vanguard Leadership in Health Care Course



To successfully make a difference and advance our field, effective leadership skills are paramount. The CNS Vanguard Mid-Career Leadership Course equips aspiring neurosurgical leaders with the tools and strategies to navigate the complex healthcare landscape and tackle challenges within our own healthcare systems.

The experience begins before the in-person course. Prior to meeting in Chicago, we viewed webinars on leadership in times of crisis and healthcare finances, topics that are essential for leaders, but the details of which many of us are woefully ignorant. We then completed a Clifton Strengths Assessment, which provided insight into our personal leadership strengths, styles, and areas of growth potential. Participants were also tasked with identifying an individual leadership project—a personal challenge to work on throughout the year. We evaluated our principle objective, as well as the stakeholders, metrics and milestones which would be necessary for the success of this project.

The core of the Vanguard Course, however, lies in its in-person session, where participants delve into a wide range of topics crucial for effective leadership in neurosurgery. We were taught by experts in health care administration and leadership, and were able to explore health alignment strategies including methods to cultivate a shared vision among team members, and ways to navigate complex institutional dynamics to better enable us to advocate for change and effectively implement our innovations.

We were taught how to build influencer skills and change management skills to develop our ability to inspire and motivate our colleagues, understand reasons for resistance and work with those who are initially hesitant to support us, build rapport and gain buy-in from team members, and drive successful change initiatives.


Lecturers consisted of well-known neurosurgeons like Dr. Ellen Air, who is Chair of the Neurosurgery Department at

Henry Ford, as well as those with significant experience in industry and hospital/health system administration such as Dr. Steven Kalkanis, Chief Executive Officer of the Henry Ford Medical Group, and Dr. Ashwini Sharan, chief medical officer of Medtronic's neuromodulation unit. Other faculty included a behavioral scientist and organizational manager, HR administrators and an expert in interpersonal relationships.

During small group sessions, participants had the opportunity to discuss and receive feedback on our individual leadership projects. This collaborative approach allowed for valuable input not just by the faculty at each table, but by the other participants as well.

The course also covers topics such as financial management, negotiation skills, and strategy implementation. Since the course, we have received slides and materials on these topics, ensuring we continue to have access to valuable resources even after the in-person course concluded.

The Vanguard Mid-Career Leadership Course has provided a comprehensive and practical education on leadership development, equipping participants with skills in health alignment, institutional dynamics, influencer techniques, and change management. This knowledge will help many of us continue to lead and make a positive impact in our own healthcare systems. I am looking forward to following up and sharing our progress when we get together in September at the CNS Annual Meeting.

The CNS is proud to continue growing this essential program, and grateful for the continued support we have received from Medtronic, who has supported the Leadership Institute since the beginning. The alignment of vision and synergy between our organizations' resources, have been instrumental in the program's growth and we look forward to expanding the program further in the years ahead. Applications for the 2024 program are now open at cns.org/leadership and will close November 15. 



Ashok Asthagiri, MD

Essentials for a Rewarding Neurosurgical Career: Preparing Chief Residents, Fellows and Recent Graduates for What's Next

In the current health care environment, it takes more than surgical skill and clinical expertise to build a successful neurosurgical practice and fulfilling career. **Essentials for a Rewarding Neurosurgical Career** is an intensive, two-day course designed to help the chief resident, post-graduate fellow, or recent residency graduate develop essential non-clinical skills and professional practices as they embark on their neurosurgical career. Our next course will be held January 20-21, 2024 in Dallas, Texas.

Originally launched in 2019, the "Career Guide" course has evolved to cover a wide range of topics, from the board certification process to personal finance basics to marketing your practice through social media. Our expert faculty describe indications—and, just as importantly, the lack thereof—for surgery for various neurosurgical disorders commonly encountered in clinical practice, while also providing guidance on dealing with early career complications and developing a framework for quality improvement in your practice. Together, these and other topics ensure that surgeons at this phase of their careers are prepared to establish and implement systematic processes that translate to an improvement in patient outcomes, patient safety, and patient satisfaction and reduced medical errors and legal implications.

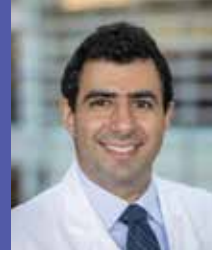
We'll also cover important relationship building topics, including how to work effectively with your Senior Partner, Chairman and hospital administration, collaborating across departments on multidisciplinary initiatives, the value of mentorship, and maintaining a peer network. Sessions on establishing a subspecialty interest and research focus, as well as mindfulness, physical health and family life will help surgeons develop strategies to balance clinical work with other important responsibilities and passions for greater

well-being and resilience. These skills are critical to becoming a more productive, effective contributor in your new practice, partnership or hospital system.

Essentials for a Rewarding Neurosurgical Career is part of a comprehensive curriculum designed to meet CNS members' needs at each phase of their neurosurgical career, and we are proud to offer this exclusive program at no cost to participants, thanks to support from our corporate partners. Applications for the 2024 program are now open at cns.org and will close November 3. 🇺🇸

"This was one of the most interactive courses focusing on real-world challenges that I have ever attended."

MAYUR SHARMA



Andrew Abumoussa,
MD, MSc



Sharona Ben-Haim, MD

The CNS Data Science Committee: Modeling our Future

The Data Science Committee of the Congress of Neurological Surgeons was established to lead our specialty in adopting and directing innovative applications of data science to advance the practice of neurosurgery. Embodying the theme “The CNS Working for You,” the CNS Data Science Committee has implemented several important initiatives surrounding our three main pillars of enhancing data science education, fostering leadership within the field, and facilitating data science research in neurosurgery.


This Spring, we held our third annual CNS Data Science Course, highlighting how data science solutions are generated, tested, validated, and deployed to advance our field. Each year, this course addresses a specific theme within data science (2021 Image Analysis, 2022 Prognostication, and 2023 Data Science Models) and is designed to provide neurosurgical trainees, faculty, and affiliated colleagues a longitudinal, evolving educational resource. For the past three years, we have brought together leaders in the field of data science who have integrated these methodologies into their neurosurgical practice to showcase the theory and science that enables these advancements. These educational events are designed to provide neurosurgeons with the necessary background and context to begin formulating their own research or clinical questions effectively. During our Data Science Course this year, we implemented an innovative, interactive workshop following the didactic portion of the course where budding data scientists had the opportunity to connect directly with leaders in the field to learn how to implement data science strategies on actual data, share their experiences, and learn from one another using a collaborative code base. These interactive sessions, stratified based on previous experience, are designed to actively remove common barriers associated with adopting and enhancing the increasingly complex tools available in our armamentarium.

The CNS Data Science Committee is dedicated to fostering the next generation of data science leaders through our annual Data Science Scholarship. This competitive, one-year scholarship is awarded to a resident or fellow, and designed to provide structured mentorship in the use of advanced data science techniques including machine learning and artificial intelligence for research and practice improvement in neurosurgery. The scholars awarded to date have developed thoughtful projects that have contributed to the neurosurgical community in a variety of unique ways. After

the term of their scholarship concludes, the Data Science Scholars stay on as standing members of our committee where they continue to build community and mentorship for future scholars, as well as help design our annual Data Science Course and facilitate other educational offerings throughout the year. The CNS Data Science Scholarship applications open annually in the spring.

The Congress of Neurological Surgeons is committed to promoting and advancing data science research in the neurosurgical community by showcasing this work at the CNS Annual Meeting. At the 2023 Annual Meeting, we once again held a special Data Science Sunrise Session, including invited guest lectures and oral abstract presentations highlighting recent innovations in the field. These special sessions encourage experts around the country to gather, discuss, share, and ultimately advance the future of neurosurgical data science.

Ethical, equal, and inclusive practice within the field of data science is critical. The CNS Data Science Committee is acutely aware of these considerations surrounding data collection, storage, and usage. We focus on adhering to the highest standards of data privacy and security, and the committee aims to foster the important discussion, guidance, and mentorship necessary to ensure that our solutions remain fair to our patients while addressing social and socioeconomic issues that naturally present through research. We celebrate the candid discussions, consideration, and transparency required for ethical data collection and sharing within this field and focus on fostering this important and thoughtful approach to data-science.

The CNS Data Science Committee serves as a catalyst for neurosurgical progress by tailoring the strengths of data science to our community's needs. An innovative approach to cutting-edge data science tools will enable insights that enhance our clinical practices and ultimately result in improved patient care. By fostering collaboration, facilitating knowledge and data exchange, and committing to our community's future leaders we hope to continue delivering valuable resources that continually enhance the neurosurgical community. 



CNS Develops Neurosurgical Guidelines for You!

As a leader in education and innovation, the Congress of Neurological Surgeons (CNS) recognizes high-quality, evidence-based guidelines as a critical tool to confront a rapidly changing health care environment. Guideline development is a priority for the CNS. As such, the CNS supports an in-house infrastructure, including robust methodological processes, to produce high-quality evidence-based clinical practice guidelines. CNS is THE developer of neurosurgical guidelines.

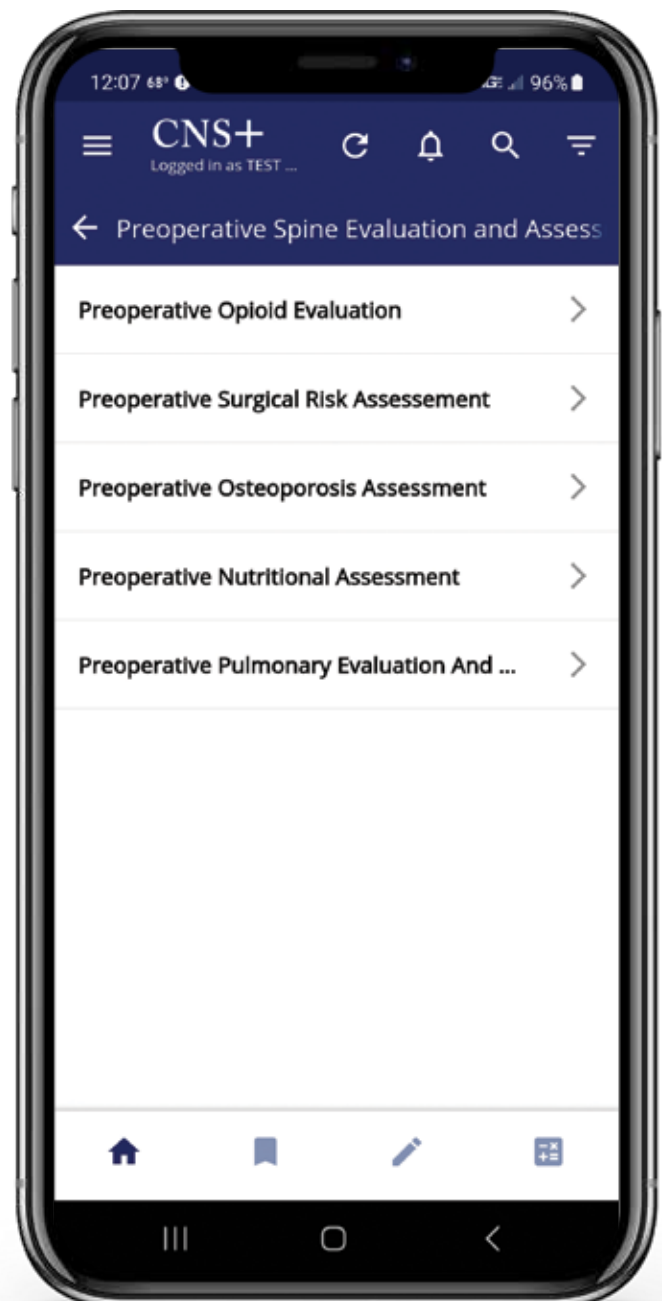
CNS Guidelines in Clinical Practice

The CNS develops high quality, robust [clinical practice guidelines](#) on a wide variety of neurosurgical topics. CNS Guideline recommendations are based on comprehensive systematic reviews of peer reviewed medical literature on topics such as spine, peripheral nerve, tumor, trauma, pediatrics, stereotactic and functional, pain and cerebrovascular.

In a recently published study, Brooks et. al. conducted a survey of CNS members on the Guidelines for the Management of Acute Cervical Spine and Spinal Cord Injuries. A total of 72% of respondents (varied by demographics such as age, practice setting and practice location) were aware of these guidelines. Furthermore, data suggest that CNS guidelines have “a moderate to good impact on physician practice and lead to a decrease in use of methylprednisolone for acute spinal cord injury.”¹ Evidence-based guidelines have tremendous value to neurosurgical providers, and as CNS continues to develop and maintain more high quality and robust guidelines, it will need to ensure it also maintains an infrastructure of support.

The CNS has dramatically increased the number of Guidelines it publishes from one - two per year to three - four per year. Currently, there are fifteen guideline topics in development on a wide variety of neurosurgical topics. We also aim to update all guidelines within five years, which is recommended as a best practice by the National Academy of Medicine.

CNS brings the most current, evidence based clinical practice guidelines to neurosurgeons worldwide, helping to improve resources for clinical practice and therefore patient outcomes.





Trish Rehring, MPH



Mohamad Bydon, MD



Anand Veeravagu, MD



J. Bradley Elder, MD

Faith Robertson, MD,
MSc

Practice Parameters

As a leader in education and innovation, the CNS recognizes the need for clinician resources on topics for which there is a lack of higher quality clinical evidence but there may be expert consensus to support the development of a clinical practice parameter. [Practice Parameters](#) are the synthesis of the best available information, supplemented by expert opinion on focused clinical topics. These come into application where there is not enough high-quality published evidence to develop an evidence-based guideline as defined by CNS methodology. The CNS is currently developing three new topics that will be published in 2024.


Podcasts

The [CNS Guidelines podcast](#) series presents conversations on the latest CNS guidelines by the authors, residents, and other experts. Podcasts are available on SoundCloud and Spotify.

"The CNS Guidelines podcasts are a popular product which give learners the opportunity to hear insights and nuances regarding a specific guidelines topic directly from the authors involved. Listeners benefit from having an alternative, more casual method to consume guidelines information, akin to participating in a brief chat over coffee."

- **J. Bradley Elder, MD**, Professor, Director Neurosurgical Oncology, Department of Neurological Surgery, The Ohio State University College of Medicine, Host of CNS Guidelines Podcasts

Resident Perspective

The CNS Guidelines and Quality Scholarship supports a resident or fellow in their research year to conduct a one-year project, in which they select guideline recommendation(s) from a published CNS Guideline and assess the impact of Guidelines on practice. 

"The CNS Guidelines and Quality Scholarship has helped me understand the process for guidelines and practice parameter creation within the field. It has shown me how much care and hard work goes into the systematic review of the literature and the overlay of expert opinion to publish documents that neurosurgeons and our multidisciplinary colleagues can look to for guidance on patient care. Multiple guidelines are being created and updated each year, and the team is continuously surveying needs for investigation as new research and technology evolves. We are also looking into seeing how the guidelines are being used (in citations, news outlets, etc) to understand how the field is utilizing these efforts. My research projects will hopefully supplement the body of work that will be reviewed for the upcoming update on anticoagulation reversal for intracranial hemorrhage, so it will be rewarding to play a role in that process. Overall, it brings me confidence as a neurosurgery trainee that I can look to these guidelines in clinical decision making, and I hope to serve on guideline committees within my subspecialty going forward."

- **Faith Robertson, MD, MSc**, PGY 4, Massachusetts General Hospital, CNS Guidelines and Quality Scholar 2022-2023

Guidelines in CNS+ App and Webinars

The CNS Guidelines are now available on the [CNS+ app](#). Access concise summaries and key recommendations for all CNS guidelines. CNS also offers [webinars](#) on a wide variety of clinical guidelines topics for a more comprehensive understanding of guidelines and their application to clinical practice.

Reference

- 1 Brooks NP, Potts E, O'Toole J. (2016). The Impact of Guidelines on Clinical Practice: Survey of the Use of Methylprednisolone for Acute Spinal Cord Injury. *Neurosurgery*, 79(3): E516-519.



Hussam Abou-Al-Shaar,
MD



Douglas Kondziolka, MD,
MSc

Neurosurgery Publications: Working For You

First launched in 1977, *Neurosurgery*, which is now one of the three journals published by **Neurosurgery Publications** (*Neurosurgery*, *Operative Neurosurgery*, and *Neurosurgery Practice*) has always been at its core a service to the CNS membership and the neurosurgical community at large. Inherent to this sense of service is the recognition that the journals must continually evolve in both form and content to address the needs and interests of the readership by remaining forever at the cutting edge. Just how our journals evolved over the last four and half decades in this respect would be too long a tale for the limited space we have here. Instead we would like to highlight a few key moments in our evolution that illustrate **Neurosurgery Publications**, dedication to service, evolution, and relevance.

Portfolio Evolution. Over time the membership has undoubtedly noticed the growth of the CNS journals portfolio from the debut of *Neurosurgery* in 1977, to the launch of *Operative Neurosurgery* in 2005, initially as a supplement to *Neurosurgery* and then ultimately an independent title in 2015, and finally to *Neurosurgery Practice* (formerly *Neurosurgery Open*) in 2019.¹ The foci and organization of our publications portfolio evolved alongside neurosurgical practice itself as it became more and more specialized and began to incorporate an increasing number of novel technologies. The launch of *Neurosurgery Practice* was a recognition of the push toward “open science” in scientific research and publishing and the need to provide members and the community at large with an official venue for their work. *Neurosurgery Practice* offers competitive Open Access article processing charges and we are particularly proud of the 20% discount on those charges we are able to offer to all CNS members.

Peer Review. Recognizing that the research and innovation we disseminate ultimately impacts clinical practice and patient care **Neurosurgery Publications** is committed to the highest quality peer review. We are able to ensure a consistent level of high-quality peer review through our rigorous double-blind review process² and the dedication of our Editorial Review Boards, which are comprised of recognized experts in neurosurgical practice and research, as well as a pool of equally respected non-Board reviewers. Both groups volunteer their time and expertise to ensure only the best science is

ultimately accepted and published in the pages of our journals and for their service we are eternally grateful.

International Neurosurgery. **Neurosurgery Publications** recognizes the development of neurosurgical practice internationally and publishing work relevant to those practitioners. In fact over the past five years *Neurosurgery* alone has received over 5,600 submissions from 86 countries outside the United States! We are proud to be the venue for such an international author base and of the two initiatives launched to better engage the international community: *Neurosurgery* and *Operative Neurosurgery Speaks!* and the recently launched Global Neurosurgery section in *Neurosurgery*. Building off of an earlier international focused podcast series, *Neurosurgery* and *Operative Neurosurgery Speaks!* features audio abstracts for select published papers in up to 11 different languages, translated and read by native speakers. This initiative is an attempt to make the content we publish accessible to those whose first language is not English and is only possible through the dedication of our volunteer *Speaks!* board. Launched in October 2022, the Global Neurosurgery section in *Neurosurgery* led by Section Editor Dr. Gail Rosseau is a formal recognition of the importance of “advocating for the needed financial and personal investments in training, device acquisition, hospital and critical care infrastructure, and people”³ across global neurosurgery. Since the section’s launch *Neurosurgery* has issued a call for papers focused on Global Neurosurgery and has plans for additional content on this topic. Stay tuned!

The Next Generation. **Neurosurgery Publications** recognizes the importance of formally engaging residents and providing them with opportunities to learn more about the publication process and hone their skills as reviewers. To that end we launched the **Neurosurgery Publications** Resident Fellowship beginning with the 2018-2019 cycle. Since that time we have welcomed five Fellows: Drs. Saniya S. Godil, Tarek El Ahmadi, Ann Liu, Matthew J. McPheeters, and Hussam Abou-Al-Shaar¹. Each has brought with them their unique experience, perspective, and ideas which have in turn strengthened our journals. For the 2023-2024 cycle and for the first time, we are welcoming both a Resident Fellow and Deputy Resident Fellow, Drs. Ali M. Alawieh and Alexandra Giantini Larsen respectively. We look forward to working with Drs. Alawieh and Giantini Larsen.



Our Editorial Review Boards are comprised of recognized experts in neurosurgical practice and research.

The history, initiatives, and programs mentioned here are but just a few highlights focused primarily on the modern history of **Neurosurgery Publications** that illustrate our dedication to service, evolution, and relevance. We encourage all members to familiarize themselves with the initiatives and programs mentioned here and to share them with colleagues and collaborators. Though there are few certainties in what we do and what we encounter, **Neurosurgery Publications'** commitment to responsive evolution and the iterative process is steadfast. We welcome your feedback and suggestions always. 📧

References

- 1 https://journals.lww.com/neurosurgery/Fulltext/2022/08000/A_Long_Farewell.1.aspx
- 2 https://journals.lww.com/neurosurgery/Fulltext/2010/11000/The_Registrar.1.aspx
- 3 https://journals.lww.com/neurosurgery/Fulltext/2022/10000/Reaching_the_Far_Corners_of_Neurosurgery.1.aspx

Hussam Abou-Al-Shaar, MD¹ and Douglas Kondziolka, MD, MSc^{2,3}

¹ Department of Neurological Surgery, University of Pittsburgh, Pittsburgh, Pennsylvania; ² Departments of Neurosurgery and ³ Radiation Oncology, New York University Langone, New York, New York.

Declarations: Dr Kondziolka receives research support from Brainlab and purchased direct stock in Chiefy.



Jason A. Ellis, MD



R. Morgan Stuart, MD



Rima Rindler, MD

Updates from the Practice-Based Neurosurgery Committee

Membership engagement through products, services, advocacy, and educational programming has and always will be the top priority of the Congress of Neurological Surgeons. Recognition that community practice neurosurgeons constitute the vast majority of the Congress's membership motivated CNS President Dr. Elad Levy to establish a Practice-Based Neurosurgery Committee. The Committee, chaired by Dr. Jason Ellis and comprised of more than 40 community practice neurosurgeons throughout the United States, demonstrates the CNS's continued commitment to attract and create value for all neurosurgeons, regardless of their clinical practice model. This year's Practical Neurosurgery Symposium, held Sunday, September 10, in conjunction with the CNS Annual Meeting in Washington, D. C. was a direct response to Committee members' suggestions and efforts. The symposium content was created with practice-based neurosurgeons in mind, showcasing topics that are relevant and high yield for all practicing neurosurgeons. Sessions not only delved into clinical practice optimization but also topics such as leadership and advocacy, program building, engagement with administrators, and academic production. These and other topics were designed to help participants forge partnerships with hospital administration and other leaders to broaden the scope of neurosurgical care offered in a community setting. The committee plans to build on the success of this new symposium to bring further educational content and resources to our members in a variety of practice settings. ■

The below letters from the Practice-Based Neurosurgery Committee members convey the energy, excitement, and engagement our committee members bring to the table.

"This year I am honored to participate in what I believe is one of the most important initiatives the CNS has ever undertaken. As a neurosurgeon who has spent my entire 12-year career with the same practice, the same hospital, and in the same community, I have come to appreciate how the true measure of a successful neurosurgeon involves more than just improving and refining the technical aspects of neurosurgery, but also establishing oneself as a trusted and respected healthcare leader to the people amongst whom one lives and serves. To this end, the inaugural CNS Practical Neurosurgery Symposium aims to provide insight, support, and guidance for neurosurgeons at all career stages to optimize their individual practices. We will look at neurosurgery through the lens of hospital systems and our roles, obligations and opportunities within healthcare organizations. We will also examine the practice of neurosurgery from the perspective of our patients, and the ways in which we can expand and enhance relationships and reputation within our communities."

– R. Morgan Stuart, MD Charleston, SC

"Participating in the CNS Practice-Based Neurosurgery Committee has been a natural way to complement my first year in the private practice setting. Going through the job interview circuit as a recent graduate with subspecialty training, it became clear that neurosurgeons practice in a truly remarkable variety of settings, contexts, and employment models in the United States. The special considerations and activities for working in the private practice setting were not immediately obvious, but intriguing and necessary to familiarize myself with quickly. In joining the CNS Practice-Based Neurosurgery Committee, my goals are several: to learn from others in the community setting with respect to practice-building, hospital engagement, medical advancement, and academic activities; to identify the knowledge deficits and desires of other young neurosurgeons to learn about the business of medicine and exposure to varied practice settings; and, to combine the two to advocate for and deliver educational opportunities in a visible and targeted way to encourage visibility of community practice. I am an invited speaker at the inaugural Practical Neurosurgery Symposium at the



Mohsen Nouri, MD



Rupa G. Juthani, MD



Christian Sikorski, MD



Mandy Binning, MD



Jeffrey Mullin, MD, MBA



Garni Barkhoudarian, MD

2023 Annual CNS Meeting to discuss the lessons I learned, and ones I wish I learned, in training to prepare for practicing in the community. As part of the social media committee, I will highlight the activities of this committee, encourage member dialogue, and increase exposure of the remarkable individuals and practices providing efficient, creative and high-quality care to communities around the country. This committee is an excellent way for neurosurgeons to shape the direction of the CNS engagement with its members; I'm proud and excited to be part of this effort."

– **Rima Rindler, MD** Reno, NV

"An ever-increasing number of neurosurgery practices are based in community hospitals. Simply put, this means that more and more patients are being treated in the community setting rather than in traditional tertiary care academic medical centers. My involvement with the Practice-Based Neurosurgery Committee is to be representative and give a voice to practicing neurosurgeons, like myself, who deliver services in the community and strive for the best patient outcomes possible in such a setting. It goes without saying that the challenges that community practice neurosurgeons face can be quite different from those faced in academic medical centers. Thus, informed perspectives that have a voice within the CNS are needed. The Practice-Based Neurosurgery Committee is the ideal venue for community practice neurosurgeons to present, discuss, and find solutions to our unique challenges."

– **Mohsen Nouri, MD** Queens, NY

"The Practice-Based Neurosurgeon Committee is an important effort by the CNS to demonstrate that neurosurgeons practicing in a variety of diverse environments around the nation are a priority and focus. While our national organizations have been essential in highlighting advances in our field with a focus on academic development, the vast majority of neurosurgical practices have been grossly underrepresented. This committee aims to identify the unique needs of the broader neurosurgical community, including a spotlight on individuals in practice environments which represent this group. In forming this committee, the CNS aims in parallel to appeal to the many neurosurgeons who have felt that the national meetings and organizations are not meeting the needs of this community, and to increase engagement broadly. I am eager to support this effort through the Practical Neurosurgery Symposium and forward-thinking initiatives across our social media platforms."

– **Rupa Juthani, MD** Ridgewood, NJ

"The notion that residency trains us to administer neurosurgical care without educating us on the 'business' that facilitates the delivery of neurosurgery has become cliché—because it is true. Gone are the days where the graduating neurosurgeon had two options: private practice or academia. Today, neurosurgeons have multiple practice options including many that did not exist only a few decades ago. While academic neurosurgery and pure private practice remain viable choices, hospital employment and hybrid models have become increasingly popular and increasingly common. Without rudimentary business training, how then does one decide the best career course of action? Particularly when the decision can have enormous repercussions on the neurosurgeon's ability to provide patient care and the neurosurgeon's financial well-being. The Practice-Based Neurosurgery Committee is positioned to bring together non-academic neurosurgeons that operate under diverse practice models. This allows for the nuances and details of each model to be explored. This information has incredible value for the neurosurgeon pondering under which practice scheme they would best succeed and aid in the decision-making process. I'm looking forward to moderating The Practical Neurosurgery Symposium at this year's CNS Annual Meeting so that these topics can be further examined."

– **Christian Sikorski, MD** St. Louis, MO



Jeffrey Mullin, MD, MBA

The CNS Membership Committee Working for You

Throughout this issue of *Congress Quarterly*, you have been reading about all the great ways that the CNS is working for you, its Members. We believe that the sum total of all these offerings makes the CNS the premier neurosurgical society. The numbers speak for themselves; currently we are at record high membership with over 10,500 members around the world!

During this time of year, many neurosurgeons are transitioning to new stages of their practices. The CNS is here to help with that. Current outreach efforts focus on welcoming graduating residents to a full, active membership level by offering a special membership offer to support trainees as they move into practice. The CNS has made transitioning from residency or fellowship to Active membership extremely convenient – all you have to do is complete the short application by December 31 of the same year you completed training, and you will get all the benefits of CNS membership at the special Transitional rate for one full year.

Additionally, the CNS also provides complimentary membership to any resident in an ACGME accredited program. While resident membership is complimentary, it comes with many benefits such as online access to *Neurosurgery*, *Operative Neurosurgery*, and *Congress Quarterly*. Another complimentary benefit is the opportunity to apply for free resident housing at the Annual Meeting. Resident membership also comes with great discounts on many of the great educational offerings, such as the CNS SANS modules, and some of these offerings are even complimentary for Residents.

The CNS also has many resources that are valuable for all professionals within the neurosurgical community, including:

- Complimentary or discounted subscriptions to the CNS portfolio of top-rated publications, including [Neurosurgery](#), [Operative Neurosurgery](#), and [Congress Quarterly](#).
- Extensive educational resources, including our online [education catalog](#) accessible at your convenience. These include the highly popular [CNS SANS Journal Club Podcasts](#), and [Nexus](#) with 600+ cases in all seven subspecialties.
- Exclusive member rates at in-person events, like our expert-led [courses](#) and the [CNS Annual Meeting](#)
- [CNS Online Education Subscription](#), exclusively available to CNS Members. This subscription provides unlimited access to

some of CNS's best educational resources, including webinars, SANS Indications, SANS Leadership, Podcast CME and the Neurosurgery Survival Guide App.

- [Access to recorded sessions](#) from the CNS Annual Meeting Presidential Address and all four General Scientific Sessions - a **NEW** member-only benefit in 2023!
- Member-only discounts on [Open Access Article Processing Charge \(APC\)](#) in *Neurosurgery Practice* through Wolters Kluwer.
- Exclusive member discounts on legal [contract review and negotiation](#) services through Resolve, which provides professional guidance to our members during career transitions and when navigating the job market - a NEW benefit opportunity added in 2022!
- The [CNS+ app](#) providing resources like CNS Guidelines, CNS Neurosurgery Survival Guide, and CNS Education, all in the palm of your hand.
- The convenient [Member Dashboard](#) includes content curated especially for you through tailored recommendations of articles, courses, and **guidelines**. Easily track your meeting participation, donations, and even CME.
- **CNS Guidelines** provide up-to-date peer-reviewed, evidence-based recommendations for your neurosurgical practice. These are cited in many publications and agencies and area available through the **CNS+ app**.
- [Advocacy and policy development](#) through the Washington Committee.
- [Volunteer](#) opportunities, where you can make an impact in neurosurgery through your expertise and skills by becoming a leader in the field, an opportunity only available to CNS members.

The CNS Resident committee includes volunteers from neurosurgical training programs, throughout the country, working hard to provide educational content, engage with members via social media, and facilitate collaboration between trainees.

For example, the Resident Research Collective, led by Emal Llesha (Univ. Tenn- Health Sciences Center), Helen Shi (Oklahoma Univ), Silky Chotai (Vanderbilt), and Vin Shen Ban (Univ. Texas) are paving the way for multi-institutional research projects that will inform your patient care.

Aside from these great direct benefits to our members, the CNS is proud to support the Washington Committee. Annually, we invest over a million dollars supporting the advocacy efforts of our partners in DC. These funds support advocacy, policy developments and public relations efforts to protect neurosurgeons' ability to practice medicine as we see fit.

As you can see, CNS membership puts your investment to work, and as a return on this investment, the CNS will continue to provide unwavering service and education. We are your go-to organization to learn, advance, and achieve. 📌



Nicole Bentley, MD



Kunal Vakharia, MD



Helen Shi, MD



Sangami Pugazenthi

HARNESSING DIGITAL INNOVATION:

The CNS Resident Committee's Transformative Journey

Over the past couple years, the CNS Resident Committee has developed several initiatives aimed at advancing education, clinical practice, and scientific exchange amongst residents and medical students. By strategically leveraging digital platforms and fostering multidisciplinary engagement, the committee has achieved growth and adapted in new ways to share knowledge and research.

Social Media: Amplifying Educational Opportunities

Recognizing the potential of social media, the CNS Resident Committee has harnessed platforms like Twitter to disseminate information about educational opportunities and CNS resources, much of which is focused on resident and medical student education. By leveraging hashtags and establishing an active presence, committee members have connected with a wider audience of students interested in neurosurgery. Through engaging discussions, updates, and interactive content, the committee promotes knowledge sharing and networking within the field.

YouTube Channel: A Gateway to Cutting-Edge Research

Building upon their prior success with Neurosurgery Watch Classics, the Resident Committee has embraced the YouTube channel platform to serve as a bridge between upcoming research and neurosurgery practitioners, providing easily digestible visual abstracts of high-impact publications in the field. By translating complex scientific findings into engaging videos, the committee increases access to cutting-edge research and empowers practitioners to remain informed about the latest advancements in the field.

Resident Research Forum: the Power of Collaboration

Driven by a shared interest and commitment to research, the committee has established a remarkable CNS Resident Research Forum (CNS RRF). This dynamic platform facilitates collaborative research projects that require multi-institutional cooperation, harnessing the collective interests and knowledge of a team of residents. By breaking down institutional barriers and fostering a spirit of collaboration, the committee is redefining scientific inquiry and driving projects of their own initiative. Residents gain unique insights into other programs, work on high-impact projects, and help accelerate their career trajectories in scientific research.

Resident Spotlight:

Helen Shi is a rising PGY-6 at the University of Oklahoma. During her

tenure on the CNS Resident Committee, she has been involved with a number of projects, including the CNS RRF, Medical Student Initiative, Ambassador program, and SANS exam. Helen has helped develop the inaugural CNS RRF project comparing the outcomes of glioma resection involving the speech region using awake neurocognitive testing versus under general anesthesia with advanced image mapping. The project is led and coordinated by residents at multiple institutions throughout the country. The CNS RRF is now in the process of developing a second research project and expanding the program.



Medical Student Sub-Committee: Nurturing the Next Generation of Neurosurgeons

Finally, in recognizing the importance of mentorship, the Resident Committee launched a sub-committee dedicated to medical students. This strategic move aims to engage the future leaders of neurosurgery, through a curated mix of social media, virtual panel discussion, and experiences at the CNS Annual Meeting. By empowering young minds, and offering valuable insights into the world of neurosurgery, the committee is fostering the pipeline of talented individuals who will shape our future.

Medical Student Spotlight:

Sangami Pugazenthi is a third-year medical student at Washington University School of Medicine, and the first chair of the newly formed CNS Medical Student Sub-committee, leading initiatives to engage medical students interested in neurosurgery. Initiatives surrounding the 2023 CNS Annual Meeting centered on visibility, attendance, and medical student involvement leading up to and during the meeting, including the inaugural medical student symposium created by and for medical students, medical student social events and a student social media campaign. In collaboration with Resident Committee members, she is leading a team developing, and increasing visibility for, medical student-focused webinars and educational resources.



Through these new and expanding experiences, the Resident Committee has pushed several initiatives to grow involvement for both residents and students in neurosurgery and organized medicine. ■



Tiffany R. Hodges, MD



Edjah K. Nduom, MD



Maryam Rahman, MD

The CNS DEI Committee: Working on Behalf of All Neurosurgeons

Since its inception in 2020, The CNS DEI committee has been committed to working with our members to make the changes that you want to see. In that vein, the CNS DEI Committee has focused on five overarching goals including

1. Increase DEI knowledge amongst CNS Executive Committee (EC) and staff,
2. Increase diversity amongst the faculty for online and in-person educational events,
3. Develop educational offerings that discuss diversity, equity, and inclusion concepts,
4. Establish mentorship and scholarship programs for underrepresented groups, and
5. Increase engagement by neurosurgeons in non-academic practices. Over the past three years, our DEI efforts have surpassed levels we could have ever dreamed of!

First, our committee continues to ensure diverse speakers for courses, webinars, and CNS-sponsored content. This includes during the CNS Annual Meeting, where we have formulated a Scientific Program DEI Committee to review and develop a diverse list of invited speakers/course faculty and moderators, including diverse representation of gender, ethnicity, program-type, geography, and career stages. The DEI Committee similarly reviews all courses and provide feedback/recommendations to the planning groups to ensure our programs reflect the diversity within our field. This is our commitment to you.

We have also developed diversity programming at the annual meetings—beginning with our inaugural DEI course in 2020, entitled “Diversity Leadership: How to Promote Equity in Neurosurgical Practice

and Training.” This course, the first of its kind, reviewed the historical events that have led to inequity in the U.S. healthcare system, case studies on bias in training, hiring and promotion in neurosurgery, and strategies to mediate implicit biases. During the 2023 Annual Meeting in Washington D.C., we hosted “*Mentoring 101*.” This free course, led by a diverse faculty, explored finding and being a good mentor, the importance of sponsorship, identifying barriers to successful mentorship of underrepresented groups, and models of success. This program was developed in response to feedback from CNS members, who voiced a need for this type of content.

Even more exciting, we hosted our first ever Healthcare Disparities Session in D.C., featuring new research and discussions on health disparities in neurosurgery! As many of us know, health disparities are preventable differences in disease burden, injury, violence, or opportunities to achieve optimal health, too often experienced by vulnerable populations. The goal of this session was to better understand and spread knowledge related to disparity in neurosurgical disease and to brainstorm solutions to health disparities affecting neurosurgical patients.

Our ultimate goal is to inspire and mentor the next generation of neurosurgeons. To this end, we developed the annual Pathway to Neurosurgery program to lower barriers to creating a diverse neurosurgical residency applicant pool, and hosted our third session during the 2023 CNS Annual Meeting. Now led by the CNS Foundation, Pathway to Neurosurgery welcomes local high school

students from backgrounds underrepresented in STEM fields to participate in a day-long symposium at the Annual Meeting. Students spend the day surrounded by neurosurgeons, attend select sessions and are introduced to considerations for a medical, or possibly even neurosurgical career. The CNS Foundation also awards scholarships to two students, offering an opportunity to shadow and receive mentorship from a local neurosurgeon.

In order to foster collaboration with neurosurgeons and community leaders, we are also working closely with the CNS Foundation to create the first ever “Pathway to Neurosurgery Think Tank” program! This program supports neurosurgeons who want to positively impact the lives of local middle and/or high school students through mentoring and teaching about neurosurgery. Our goal is to provide neurosurgeons with support to be used in the classrooms and their communities, to spark an interest in students who may not have otherwise been exposed to neurosurgery.

Lastly, the committee believes it is vitally important to recognize our diverse members. Our social media page continues to highlight diversity within the CNS, celebrating Women’s History Month, International Women’s Day, Black History Month, Juneteenth, Asian Pacific American Heritage Month, etc. There are so many ways to see the work that we are doing for you and share the many ways for you to get involved! Our DEI efforts have been featured on our social media pages, neurosurgery blogs, CNS Podcasts, as well as our CNS DEI website. <https://www.cns.org/about/diversity-equity-and-inclusion-committee>

CNS DEI is actively working to impart necessary changes to improve diversity within our programming and within neurosurgery. We appreciate our members who have volunteered time and effort to continue our mission. If you are interested in joining this effort or supporting any of the above initiatives, we would be thrilled to have you on board. 🇺🇸



Theresa Williamson, MD

The CNS Wellness Committee: Striving to Help You Show Up Best for Your Patients, Your Colleagues, Your Community and Yourself

The CNS Wellness Committee is made up of resident and faculty members of the neurosurgical community in all practice settings. The committee's distinct goal is to understand the challenges in neurosurgical practice to address them and help neurosurgeons navigate their careers while being as well as possible. Wellness means many things to many people, but for the CNS committee we define it as practicing in environments, with people, and with ourselves such that we can show up best for our patients, ourselves, our colleagues, and the communities we love.

To the aim of the CNS Wellness Committee's goals for wellness, we have three main pillars:

1. Create a culture that attracts and retains those passionate about neurosurgery. The current culture of neurosurgery often rewards a type of nihilism and equates misery with competency. We'd like to evaluate which aspects of this culture are necessary and which could be avoided.
2. Find the best practices for well-being in neurosurgery and practice them.
3. Identify and address system-level issues that lead to neurosurgeon burn out. We will find ways to make wellness-related changes at a systems level.

Examples of work in each aim include the following.

To address the culture of neurosurgery, we have partnered with the Columbia EPIC Center. Dr. Lin's team works on emotional and psychological responses to failure in high performers. These types of responses are often trained and part of culture and can be key targets to improve stress and improve culture. Additionally, we aim to build community through group activity. A key example of this is our upcoming virtual CNS 5K and partnerships with Pacers Running and Lululemon to provide physical wellbeing and community- building.

For aim two, we are constantly in touch with neurosurgical departments and programs about programming that is working well there. Our website (<https://www.cns.org/wellness-and-resilience>),




"The CNS Committee on Wellness and Resilience aims to support the wellbeing of neurosurgeons at all levels - from junior trainees to senior faculty - by providing the resources needed to maximize satisfaction and prevent burnout. As a committee member, I have focused my efforts on creating initiatives to develop

community through wellness activities, particularly through the lens of fitness. With the CNS 5k event at our upcoming annual meeting, we strive to bring out the competitive nature of neurosurgeons in a sense that builds community, while celebrating the physical wellbeing of our field."

ALEX SCHUPPER, MD

keeps track of many of these best practices and our goal is to continue to be a resource and trial ground for those starting or continuing practices in the wellness space.

Finally, we recently completed a survey regarding systems-based administrative burdens on neurosurgeons. We hope to contribute these results towards system changes in efforts to advocate for practicing neurosurgeons. 

Wellness Committee Contributors: *Aurora Cruz, Alia Hdeib, Charles Mackel, Renee Reynolds, Brian Saway, Alexander Schupper, Gary Simonds, Alejandro Spiotta*



C. Rory Goodwin, MD,
PhD



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Aden P.
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Andreas Seas, BS

CNSF DEI Impact Award: Inspiring Future Neurosurgeons through the Future Leaders in Neurosurgery Symposium of Underrepresented Students

Introduction of FLNSUS

In recent years, the imperative to address racial and ethnic disparities within neurosurgery has gained significant traction. Despite notable progress in attracting women to neurosurgical residency programs, the representation of Black, Hispanic, and Native American trainees continues to lag, failing to align with diverse patient populations.¹ The underrepresentation of Black, Hispanic, and Native American trainees in neurosurgery can be attributed to various systemic and structural challenges that have perpetuated barriers to entry and advancement in the field. These include limited access to educational resources and opportunities, implicit biases in the selection and evaluation processes, a lack of mentorship and support networks, and systemic inequalities that hinder the recruitment and retention of diverse talent.²

Recognizing the need to promote inclusivity and provide opportunities for underrepresented students, we embarked on the development of a virtual educational event: the "Future Leaders in Neurosurgery Symposium for Underrepresented Students"(FLNSUS).

Our dynamic team of medical students, residents, and attendings leveraged advancements in technology and virtual learning experiences to transcend financial and geographical barriers and ensure accessibility to a wide range of participants. The seven-hour symposium aims to have a transformative impact on college-level students who self-

identify as African American or Black, Hispanic or LatinX American, and Native American. By specifically tailoring the symposium to cater to the unique experiences and perspectives of these underrepresented groups, we aimed to create a safe environment where guest speakers and participants feel comfortable engaging in authentic and vulnerable conversations, fostering self-confidence, and dismantling perceived barriers that may have deterred them from pursuing a career in this rewarding specialty.

The symposium featured interactive sessions, including "How to Become a Neurosurgeon," offering a roadmap and advice for aspiring neurosurgeons; "Cool Neurosurgical Cases," showcasing intriguing tumor, spine, trauma, and functional neurosurgical cases; and a "Tour of an Operating Room," providing a glimpse into the surgical environment and paired with a Q&A session with residents. A "Career Panel" featured accomplished neurosurgeons sharing their personal experiences and insights, and a "Neurosurgery Research Panel," showcased advancements within basic, translational, clinical, and global neurosurgical research. Finally, "Small Group Mentorship" sessions facilitated intimate discussions between participants, medical students, residents, and attendings.

Through FLNSUS, we are working to recruit the next generation of diverse and talented neurosurgeons who will contribute to improved treatment outcomes, increased

research productivity, and greater patient satisfaction.^{3,4,5} We are providing students with diverse role models, fostering connections and mentorship, and inspiring underrepresented students on their journey towards a career in neurosurgery.

Impact of FLNSUS

Over 500 students have participated in the 2021 and 2022 FLNSUS symposia, with 53% of all participants identifying as Black or African American, 35% identifying as Asian or Pacific Islander, 22% identifying as multiracial, and 24% identifying as Hispanic or Latino. Out of all 510 participants, 372 (73%) identified as female, and 81 (16%) identified as LGBTQ. This diverse group of future neurosurgeons attended virtually from every continent except Antarctica, and included high school freshman all the way to college graduates.

Based on pre- and post-survey data collected at both symposia, FLNSUS significantly increased students' self-confidence, and reduced the magnitude of perceived barriers to enter the field of neurosurgery. We also observed significant improvements in their understanding of the field, and reduced feelings of intimidation around neurosurgeons. Students expressed interest in future opportunities such as neurosurgical research, long-term mentorship programs with residents and neurosurgeons, and financial scholarships. Furthermore, 99% participants indicated they would recommend the event to their peers. A recent follow-up

Congratulations to Dr. C. Rory Goodwin for being awarded the CNS Foundation Impact Award, for his work on FLNSUS.

survey of these participants garnered responses from 83 past FLNSUS students, 61 of whom (73%) say the symposium significantly influenced their career goals.

However, nothing speaks as loudly as the words of our participants. One participant described their learning and exposure as clarifying what life looks like as a neurosurgeon:

"FLNSUS has introduced me to what a day in the life of a neurosurgeon looks like and has challenged and motivated me to become a neurosurgeon. It has also helped me to meet people of my background who are successful in the field of neurosurgery."

Another student shared that FLNSUS reminded them what doctors should be like:

"[FLNSUS] reminds me that there are doctors who genuinely care in medicine and that your background doesn't determine what life you can live."

Several students also shared the specific impact of interacting with neurosurgeons of diverse backgrounds:

"I have been inspired by seeing neurosurgeons of color and being able to picture myself in their position more easily. I have a lot more confidence for myself and am more encouraged and excited to pursue medicine as a career path."

"As an international female student, I was happy to see female neurosurgeons/neuro residents with diverse backgrounds. FLNSUS helped me understand that Neurosurgery is one of the areas of Medicine that I am most passionate about. My favorite part of FLNSUS in 2021 was meeting Dr. Q and learning about his journey. It was so impactful that I still recall some of the advice he gave the audience."

"Before FLNSUS, I had never seen a Black female neurosurgeon. It was fantastic to see someone from my background who has completed the goal that I have for myself."

There is much work to be done, but it is on us as neurosurgeons and neurosurgeons-in-training to continue to grow initiatives like FLNSUS. The effort is large, but the impact is exponentially greater.

Expansion Efforts

Disparities in recruiting diverse pools of students are not exclusive to neurosurgery; they are also prevalent in other surgical subspecialties such as orthopedic surgery, ophthalmology, and otolaryngology, leading to low representation of underrepresented residents and decreased diversity.⁶ Moreover, residents with such backgrounds face higher attrition rates during residency.⁶ With recent changes in the residency match process, preparation for competitive specialties often necessitates an early start in a medical student's career. This underscores the importance of providing early exposure to increase the proportion of students with diverse backgrounds in all specialties. As a result, we have begun a multi-specialty, multi-institution effort to expand FLNSUS into other surgical subspecialties in 2023. This effort, termed "FLXSUS" will be a hybrid series of three separate virtual symposia in neurosurgery, orthopedic surgery ("FLOSUS") and plastic surgery ("FLPSUS"). Students also have an opportunity to participate in a culminating, in-person experience at the Duke University School of Medicine, which will include surgical skills labs, hospital tours, and medical career and admissions panels in collaboration with medical school, graduate medical education, and industry partners. Through gracious donations of our sponsors, we hope to support a subset of non-local attendees. These combined efforts will leverage existing FLNSUS infrastructure to increase the impact within and outside of neurosurgery.

Partners

The significant effort required to develop and sustain FLNSUS would not have been possible without the dedication of faculty, staff, and external partners. The American Society of Black Neurosurgeons (ASBN) provided crucial leadership and has been essential in establishing the program as a recurring event. Drs. Sonia Eden and William Ashley played a tremendous role in informing

the development of the virtual program. Nu Rho Psi, a national undergraduate neuroscience honor society, was instrumental in promoting the symposium to its members. The Future Neurosurgeons Foundation has been an incredible source of support, providing financial assistance for the initiative. The Duke Department of Neurosurgery supplied the necessary infrastructure and support to make this initiative possible, offering technical assistance and an event coordinator. The Congress of Neurological Surgeons Foundation (CNSF) supports the efforts of the Future Leaders in Neurosurgery Symposium for Underrepresented Students, providing financial aid that enables our program's executive committee members to attend neurosurgical organizational meetings, support marketing endeavors, technical and logistical assistance to ensure the program's sustainability, and scholarships for participants.

Our program has been enriched by the invaluable contributions of brilliant neurosurgical faculty who generously devoted their time to engage with our attendees, including Drs. Edjah Nduom, Analiz Rodriguez, Venita Simpson, Allen Levi, Olabisi Sanusi, Lola Chambless, Linda Liao, Alfredo Quiñones-Hinojosa, Gerald Grant, Nnenna Mbabuike, Ernest J. Barthélemy, and Langston Holly. We also extend our deep appreciation to the following residents, Drs. Nancy Abu-Bonsrah, Aladine Elsamadicy, and Oluwaseun Akinduro, for providing exceptional guidance and mentorship throughout the program. The recognition of FLNSUS' efforts with the CNS DEI Impact award serves as a significant acknowledgment, emphasizing the crucial work we are dedicated to expanding. We warmly invite fellow CNS members who are interested in supporting our endeavors by volunteering or providing financial assistance to join us in recruiting the next generation of neurosurgeons. ■

References

(Continued on page 31)

FOUNDATION UPDATE



The CNS Foundation is an innovative organization dedicated to advancing neurosurgery and enhancing patient outcomes through philanthropy. By addressing four key pillars—International Philanthropy, Clinical Scientist Career Development, Guidelines Development, and Diversity, Equity, and Inclusion—the Foundation strives to create programming that will deliver informed and improved change to the practice of neurosurgery. I am supported in this work by four CNSF Pillar chairs and their committees, who oversee more than 30 awards and programs outlined below. None of this would be possible without the generous donations made to the CNS Foundation from the many individual donors, joint sections, industry and foundation donors. Additionally, the CNS donates to the CNS Foundation specifically to support the Clinical Scientist Career Development's Getch/K12 Award.



Sincerely,
Martina Stippler, MD
Chair, The CNS Foundation

"This experience is invaluable as a budding neurosurgeon coming from the developing world. as it provided opportunities and experiences with key persons in the field of global neurosurgery. I have been exposed to a whole new perspective on what different paths in neurosurgery may look like. This period of time is going to be a pivotal aspect of my growth as a neurosurgeon and critical part of my neurosurgical foundation. Endless gratitude. "

Chrystal Calderon, MD

*'22 Recipient of CNSF/MGH
Global Neurosurgery Observership*



International Philanthropy: Fostering Global Connections

Under the leadership of committee Chair Sarah Woodrow, international philanthropy plays a crucial role in the work of the CNS Foundation. Through Observerships and Visitorships ranging from a few weeks to six months, the Foundation invites international neurosurgeons to attend intensive, mentored learning opportunities at renowned American medical institutions. With these awards the recipients have a unique opportunity to gain new knowledge and skills that they will then share with their colleagues when they return home, enhancing patient care in their communities. These Observerships and Visitorships foster a global connection and lifelong mentorship with their neurosurgery counterparts in the US.

**International visitorship
and observership
applications open
in October.**

Diversity, Equity, and Inclusion (DEI): Promoting Diversity

Promoting diversity, equity, and inclusion is a fundamental principle of the CNS Foundation. Under the leadership of Chair Tiffany Hodges, the CNS Foundation exemplifies its commitment to DEI through the DEI Scholar, Impact, and Pilot Project awards. The Scholar Award supports research on DEI in the neurosurgery work force and health care disparities in neurosurgery. The Pilot Award supports implementation of innovative ideas that will improve diversity in neurosurgery and overcome health care disparities in our field. The DEI Impact Award recognizes and celebrates successful practices in DEI programs or research. Applications for the DEI Scholar, Impact, and Pilot Project awards will open again in October.

Additionally, the Pathway to Neurosurgery program, now in its third year, introduces high school students to the world of neurosurgery, inspiring them to consider it as a potential career path. By fostering diversity and inclusivity, the CNS Foundation aims to transform lives and improve patient health outcomes.

The Foundation prioritizes empowering female leaders in neurosurgery through the prestigious Future Women Leaders in Neurosurgery Scholarships. Annually, there are two winners. The international winner is provided the financial support to attend the leadership course of their choice and the CNS Annual Meeting. The domestic winner attends the CNS Annual Meeting and the CNS Leadership Institute. Applications for the Future Women Leaders in Neurosurgery Scholarships open in October.

Clinical Scientist Career Development: Investing in Research

Research and innovation are pivotal for advancing neurosurgery, but getting started as clinical investigations can be challenging. Generous donations, including contributions from the CNS and the Joint Section for Cerebrovascular Neurosurgery, enable significant research programs. The Joint CV Section/CNS F Young Investigator Awards and the NINDS/CNS Getch K12 Scholar award make it possible for emerging clinical scientists to undertake multi-year research projects, driving progress in the field.

Guidelines Development: Shaping Best Practices

The CNS Foundation recognizes the importance of developing, updating, and disseminating the CNS Guidelines to inform and standardize neurosurgical best practices. The CNSF Guidelines Development committee is led by Chair Anand Veeravagu. As demand for CNS Guidelines continues to increase, donations to the CNS Foundation Guidelines fund from Sections and individual donors are more and more essential. The CNS Guidelines Committee's reviews and recommendations are completely independent of the CNS Foundation. Industry funding is not allowed for the support CNS Guidelines development.

Do you utilize CNS Guidelines in your practice?

Donate here to support their continued development.



DONATE!

Conclusion

The statements by Hippocrates and Aeschylus both underscore the inseparable link between the practice of medicine and philanthropy. Hippocrates' statement, "Wherever art of medicine is loved, there is also love of humanity," highlights the notion that the practice of medicine is rooted in a genuine concern for the well-being of others. The philanthropic endeavor of the CNS Foundation intersects with the devotion of the CNS to delivering the highest quality care through education. By creating a globally connected community of awardees, the Foundation fosters a new generation of leaders and patients connected by philanthropy, whose practice of neurosurgery is elevated by education championed by the CNS. ■

Would you like to join the group making a difference in our next generation of neurosurgeons and their patients?



Annual Gifts of \$5,000 and more.



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Annual Gifts of \$1,000 and more.



Annual Gifts of \$500 and more.

INSIDE THE CNS



Washington Committee Report



Katie O. Orrico, Esq

Surgeons Release 7-Point Plan to Fix Broken Medicare Physician Payment System

The CNS and AANS continue their efforts to fix the broken Medicare physician payment system. On June 21, the neurosurgical groups joined the Surgical Coalition in outlining a plan for reforming the Medicare physician payment system. The plan points out that the current Medicare payment system impedes efforts to improve the quality and value of care, calling on Congress to, among other things:

- Stop all Medicare physician payment cuts scheduled for calendar year 2024;
- Establish an annual payment update based on the Medicare Economic Index;
- Eliminate certain budget neutrality requirements;
- Halt implementation of the G2211 evaluation and management complexity add-on code; and
- Appropriately value the global surgery codes.

Visit the online issue of CNSQ to read the plan.

Congress Continues to Shine Light on Health Plan Abuses

On May 17, the Senate Homeland Security & Governmental Affairs Committee, Permanent Subcommittee on Investigations, chaired by Sen. **Richard Blumenthal** (D-Conn.), held a [hearing](#) on “Examining Health Care Denials and Delays in Medicare Advantage.” Among the witnesses was a widow whose husband had difficulty getting medically necessary treatment, despite the efforts of their neurosurgeon. The CNS and AANS submitted letters for the record urging Congress to take action to hold MA plans accountable, including reforming prior authorization.

The Regulatory Relief Coalition letter and the Alliance of Specialty Medicine letter are available in the online issue.

Congress Urges CMS to Finalize Prior Authorization Rules

Nearly 300 bipartisan members of Congress signed letters urging the Centers for Medicare & Medicaid Services (CMS) to finalize [proposed regulations](#) to increase transparency, streamline and standardize

prior authorization (PA) in the Medicare Advantage (MA) program. Sixty-one [senators](#) and 233 members of the [House of Representatives](#) signed the letters to U.S. Department of Health and Human Services Secretary **Xavier Becerra** and CMS Administrator **Chiquita Brooks-LaSure**.

The letters also urged the agency to align the final rules with the Improving Seniors’ Timely Access to Care Act ([S. 3018/H.R. 3173](#)) by:

- Establishing a mechanism for real-time PA decisions for routinely approved services;
- Requiring MA plans to respond to PA requests for urgently needed care within 24 hours; and
- Requiring MA plans to report detailed transparency metrics related to delays, denials and appeals.

The CNS and AANS issued a [press statement](#) joining Congress in calling on CMS to swiftly finalize these PA reforms. In the press release, **Russell R. Lonser**, MD, chair of the Washington Committee, stated:

Our message to policymakers is simple: our patients cannot afford to wait or jump through unnecessary hoops to get care for painful, debilitating and life-threatening neurologic conditions. When finalized, these rules would remove barriers to patients' timely access to care and allow physicians to spend more time treating patients and less time on paperwork.

Dr. Lonser was also featured in a Regulatory Relief Coalition [press release](#), stating, "Congress has seen the harm that MA overreach has on seniors and the physicians who care for them. Millions of Medicare Advantage patients are frustrated by delays and denials of care. Our patients are demanding action from policymakers, and it's clear that our patients are being heard."

CNS' press statement and the RRC press release are available in the online issue.

Neurosurgery Supports Telehealth Expansion Legislation

On June 6, the CNS and AANS joined the

Alliance for Connected Care in sending a [letter](#) from 188 health care and patient support organizations urging the House Committee on Ways and Means to advance the Telehealth Expansion Act of 2023 ([H.R. 1843/S. 1001](#)) to the full House of Representatives for consideration. The Telehealth Expansion Act of 2023 is a bipartisan, bicameral bill that would make permanent the pandemic-era policy that enabled employers to provide telehealth services on a pre-deductible basis to individuals with high-deductible health plans coupled with a health savings account. The committee passed the bill on to the full House of Representatives following a [markup](#) of the bill on June 7.

Legislation Introduced to Fund Additional GME Slots

The Resident Physician Shortage Reduction Act ([S. 1302/H.R. 2389](#)) has been reintroduced in the U.S. House and Senate. Sponsored by Sens. **Robert Menendez** (D-N.J.), **John Boozman**, OD, (R-Ark.), **Charles E. Schumer** (D-N.Y.) and **Susan Collins** (R-Maine) in the Senate, and Reps. **Terri A. Sewell** (D-Ala.) and **Brian Fitzpatrick** (R-Pa.) in the House, this neurosurgery-

endorsed legislation would provide 14,000 new Medicare graduate medical education (GME) slots over seven years. The bill builds on the GME provisions included in the Consolidated Appropriations Act, 2021 ([P.L. 116-260](#)) and the Consolidated Appropriations Act, 2023 ([P.L. 117-328](#)), which provided 1,200 new Medicare-funded GME positions — the first such increases in nearly thirty years.

This bipartisan legislation is crucial to expanding the physician workforce and ensuring that patients nationwide can access quality care from providers. The need for physicians grows faster than supply, leading to an estimated shortfall of up to 124,000 primary care and specialty physicians by 2034.

The GME Advocacy Coalition's letter to the Senate and the letter to the House are available in the online issue.

Neurosurgery Continues Support for Pediatric Subspecialty Loan Program

On May 17, the CNS and AANS urged Congress to provide \$30 million in funding

for the Pediatric Subspecialty Loan Repayment Program (PSLRP). The letter stressed the need to fund the PSLRP since without “federal investment in the pediatric medical subspecialty, pediatric surgical specialty, and child mental health workforce, children will continue to face long wait times for subspecialty care, need to travel long distances to receive that care, or go without care altogether.”

The House and Senate letters are available in the online issue.

Neurosurgery Supports Gabriella Miller Kids First Research Act 2.0 Legislation

In May, the CNS and AANS sent letters to the [Senate](#) and [House](#) sponsors of the Gabriella Miller Kids First Research Act 2.0 ([S. 1624/H.R. 3391](#)). Introduced by Sen. Tim Kaine (D-Va.) and Rep. Jennifer Wexton (D-Va.), this legislation would expand the available funds to support research on pediatric diseases and disorders at the National Institutes of Health (NIH). By redirecting penalties collected from certain health care organizations, this legislation provides a new funding source for NIH pediatric and childhood cancer research.

CNS and AANS Urge Congress to Fund MISSION ZERO Program

On May 18, the CNS and AANS submitted a [statement](#) to the Senate Subcommittee on Labor, Health and Human Services, Education, and Related Agencies asking for \$11.5 million to fund the Military and Civilian Partnership for the Trauma Readiness Grant (MISSION ZERO) Program for Fiscal Year 2024. The MISSION ZERO program was signed into law in 2019 as a part of the [Pandemic and All-Hazards Preparedness and Advancing Innovation Act](#) provides funding for civilian trauma centers to train and incorporate military trauma care providers and teams into care centers.

The CNS and AANS also submitted a statement to the House Subcommittee on

Appropriations Labor, Health and Human Services, Education supporting funding for this program, which is available in the online issue of CNSQ.

CMS Proposed Edit for Decompression Add-on Codes Rescinded

On June 23, staff for the Centers for Medicare & Medicaid Services (CMS) [National Correct Coding Initiative](#) (NCCI) reached out to the Washington Committee, stating that as of July 1, NCCI edits would be implemented that restrict the reporting of spinal fusion codes 22630, 22632, 22633 and 22634 with add-on decompression codes 63052 and 63053. In the same notice to our societies, CMS acknowledged this was an error and will delete this edit as soon as possible. Neurosurgeons should brace themselves for the possibility that the deletion may not occur until Jan. 1, 2024. Fortunately, CMS stated that the edit deletion would be retroactive to July 1.

To bypass this erroneous code pair error, CMS recommends that from July 1 until the error is corrected, neurosurgeons should submit claims for these services using modifier 59, Distinct Procedural Service. Alternatively, practices may hold claims for these codes until CMS has corrected the error and submit at that time.

NCCI edits are intended to prevent inappropriate payment of services that should not be reported together. However, these edits were clearly inaccurate since the add-on codes 63052 and 63053 were explicitly created to be used with the interbody fusion codes 22630-22634. Similar inappropriate NCCI edits for these codes were proposed last year, but the Coding and Reimbursement Committee leaders led a call with CMS staff to review the history of the codes. Following this conversation, on Feb. 7, 2022, CMS agreed not to implement the edits.

Rest assured, Coding and Reimbursement Committee leaders and Washington Office Staff are aware of the disruption

and confusion caused by this error and are seeking further clarification from CMS and NCCI on this issue. If you have questions or problems related to this or other coding and reimbursement issues, contact the Washington Office staff at reimbursement@neurosurgery.org.

For more information on the history of these codes, visit the online issue of CNSQ.

New Training Requirement for Initial and Renewed DEA Registration

Beginning on June 27, physicians obtaining a new Drug Enforcement Administration (DEA) registration or renewing their current registration are required to attest to training requirements under the federal Medication Access and Training Expansion Act, passed as part of the Consolidated Appropriations Act, 2023 ([P.L. 117-328](#)). The law requires physicians to complete eight hours of training “on the treatment and management of patients with opioid or other substance use disorders.”

A guidance document issued by the DEA, as well as resources from the American Medical Association — including educational opportunities to satisfy the DEA training — are available in the online issue.

Please Provide Us with Your Social Media Handles

The Washington Committee and Washington Office are working to expand their social media reach. Our goal is to increase and enhance our engagement with neurosurgeons. With nearly 125,000 total followers across the Washington Committee’s social media accounts, we have a broad and extensive audience for you to reach.

A link to provide us with your public social media account handles is available in the online issue.

IMAGES IN NEUROSURGERY

Postoperative Infection Following Decompressive Craniectomy

The patient is a 17-year-old female who had an auto-pedestrian accident and was GCS 7T (eyes closed, intubated, and localizing bilaterally) with right-sided cerebrospinal fluid (CSF) otorrhea. CT revealed cerebral edema, left-sided subdural hemorrhage (SDH), and skull base fractures (**Figure 1A**). An intracranial pressure (ICP) monitor was placed with elevated ICPs that were refractory to medical therapies. The patient had a left sided decompressive hemicraniectomy (Figure 1B). The patient improved to following commands, was extubated, and had resolution of the CSF leakage shortly after surgery. On postoperative day (POD) 9, she developed increasing fevers and leukocytosis with CT that showed asymptomatic contralateral subdural hygroma (**Figure 2A**). An MRI did not show obvious infection (**Figure 2B/2C**). A lumbar puncture was not performed due to the hygroma. The wound was healing well without evidence on infection. The fevers continued despite negative infectious work up, and on POD14, a repeat MRI showed restricted diffusion and increased enhancing collection (**Figure 3A/3B**). She had no exam change or wound issues. Operative wound exploration revealed a purulent collection with cultures showing methicillin resistant staphylococcus aureus. She was treated with four weeks of intravenous antibiotics and returned to clinic without evidence of infection and resolution of the contralateral hygroma (**Figure 4**). Multiple MRIs were needed to make the diagnosis despite no external evidence of infection. The contralateral hygroma did not require operative drainage.

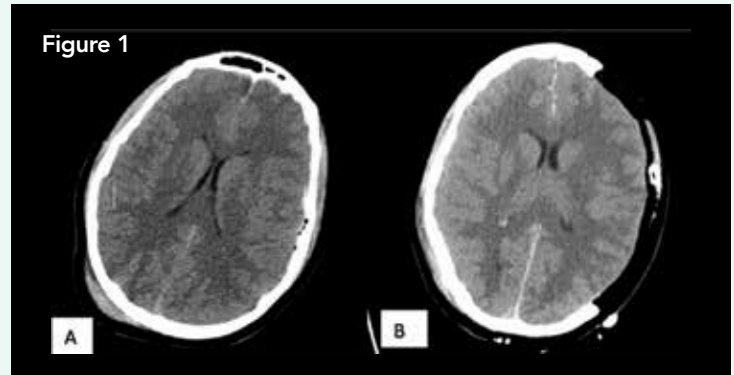


Figure 1: **A:** CT scan at time of arrival to ED shows cerebral edema and thin left SDH, **B:** Immediate post operative imaging.

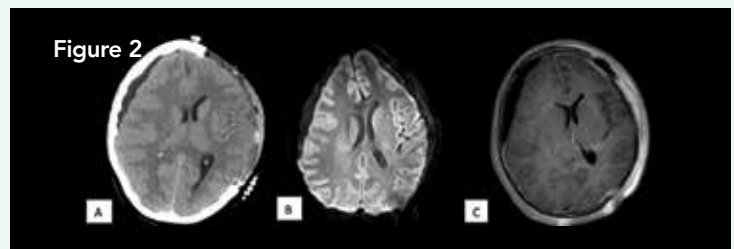


Figure 2: **A:** CT scan on POD 9 showing contralateral hematoma. **B:** MRI on POD 9 showing no restriction. **C:** T1 post enhancement MRI on POD 9.

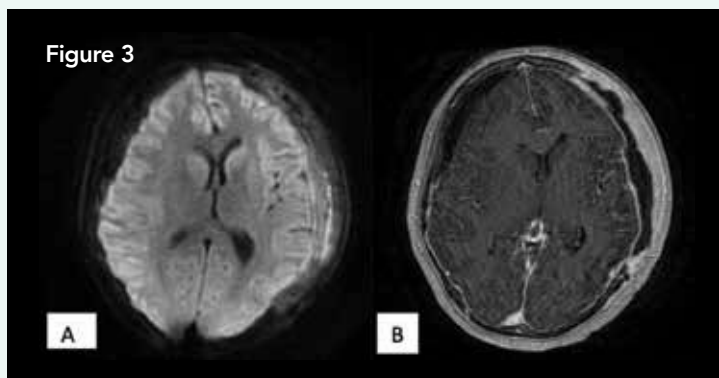


Figure 3: MRI images on POD 14, **A:** DWI, **B:** T1 with contrast

[Click here to view a complete writeup of this case on CNS Nexus](#)



Figure 4: Post operative imaging at clinic



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