



CONGRESS OF NEUROLOGICAL SURGEONS



Neurosurgery Origins



CNS

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CNS

— 2024 PRESIDENT'S MESSAGE —



Alexander A. Khalessi, MD, MBA
2024 President
Congress of Neurological Surgeons

As I reflect on my tenure as President of the Congress of Neurological Surgeons (CNS), I do so with enormous gratitude. The accomplishments detailed in our 2024 Annual Report offer a powerful testament to the collective ambition, dedication, and spirit of innovation that define our specialty. This has been a landmark year—one in which we have advanced our mission with exceptional momentum and reinforced CNS as a leading organization for neurosurgeons around the globe.

The 2024 CNS Annual Meeting in Houston, Texas, was a historic success. We set new records for attendance, scientific engagement, and abstract submissions. To meet these unprecedented milestones, we expanded to 5 presentation stages to share more than **1,200 scientific posters**. These figures reflect the dynamic growth of our community and its commitment to pushing the boundaries of neurosurgical science.

Guided by the theme Neurosurgery Origins, the meeting celebrated the foundational principles of our field while embracing the transformative potential of emerging technologies. From the high-impact TNT Symposium to innovative new sessions such as “Innovation, Hackathon, and Making Your Mark in Neurosurgery,” attendees experienced a program rich with forward-thinking content and trailblazing ideas. The enhanced Innovator of the Year program further showcased the visionary leadership shaping the future of our specialty.

Our inspiring lineup of keynote speakers included NBA Hall of Famer and Entrepreneur Magic Johnson, who spoke on the importance of perseverance and leadership on and off the court, and even took time to pose for selfies with the students in our Pathway to Neurosurgery program. We welcomed distinguished guests from the Japanese Congress of Neurological Surgeons (JCNS), the Neurological Society

of India (NSI), and the Sociedade Brasileira de Neurocirurgia (SBN). Our joint symposium with SBN and SLANC marked the return of the highly regarded Meeting of the Americas, highlighting the value of global partnerships in advancing neurosurgical care.

We were also proud to build our scientific program in with spectacular partners including the North American Skull Base Society (NASBS), the Madjid Samii Society of International Neurosurgery (MASSIN), the Scoliosis Research Society (SRS), Mission Brain, and the Neurosurgeon Research Career Development Program (NRCDP).

The tremendous success of the 2024 Annual Meeting was made possible by the dedication and leadership of our entire Executive Committee and Joint Section leadership. I extend my deepest appreciation to Annual Meeting Chair Dr. Garni Barkhoudarian, Scientific Program Chair Dr. Edjah Nduom, Vice Chair Dr.

— 2024 PRESIDENT'S MESSAGE —

continued

Khoi Than, and the entire Scientific Program Committee for their extraordinary efforts in delivering a truly exceptional event.

Beyond the meeting, CNS forged new multi-year partnerships with our Summit ecosystem partners, including the Society of Neurological Surgeons and the American Academy of Neurological Surgeons. We are united in representing the best of our specialty for our patients and neurosurgeons of tomorrow.

Coupled with our renewed support of the Joint Section on Tumors, the American Society for Stereotactic and Functional Neurosurgery (ASSFN), and the Joint Section on Cerebrovascular Surgery, these collaborations strengthen our ability to deliver high-impact, subspecialty-driven education to neurosurgeons at every stage of their careers.

Moreover, the CNS secured over \$500,000 in AHRQ/PCORI Evidence-Based Practice Center Program funding to support systematic reviews that inform CNS Guidelines—critical tools that help standardize neurosurgical care, support insurance coverage for vital procedures, and advance our specialty. Our Joint Washington Committee continues to play a pivotal role in shaping healthcare policy, advocating for legislation and regulatory frameworks that support neurosurgeons and their patients nationwide. We kicked off the 50th Anniversary celebration.

Thanks to these remarkable achievements and the continued expansion of our educational programming, the CNS proudly reached an all-time high of **11,663 members** in 2024. This historic milestone underscores the value CNS brings to the global neurosurgical community and reflects our enduring commitment to excellence, education, and advocacy.

Serving as President of the CNS has been the greatest honor of my professional career. I am deeply thankful to the CNS Executive Committee, to Dr. Douglas Kondziolka for his outstanding guidance of Neurosurgery Publications, and to Dr. Martina Stippler for her exceptional leadership guiding the CNS Foundation and the Pathway to Neurosurgery program. Together, we achieved lasting impact and laid the groundwork for future success.

As I pass the torch to my esteemed friend and colleague Dr. Dan Hoh, I do so with full confidence in the trajectory of the CNS. With your continued support, CNS will remain at the forefront of scientific advancement, patient care, and professional development for neurosurgeons around the world.



Thank you for your steadfast dedication to our specialty and to the CNS.

With gratitude and optimism,

Alexander Khalessi, MD, MBA

President, Congress of Neurological Surgeons

— MEMBERSHIP COMMITTEE —

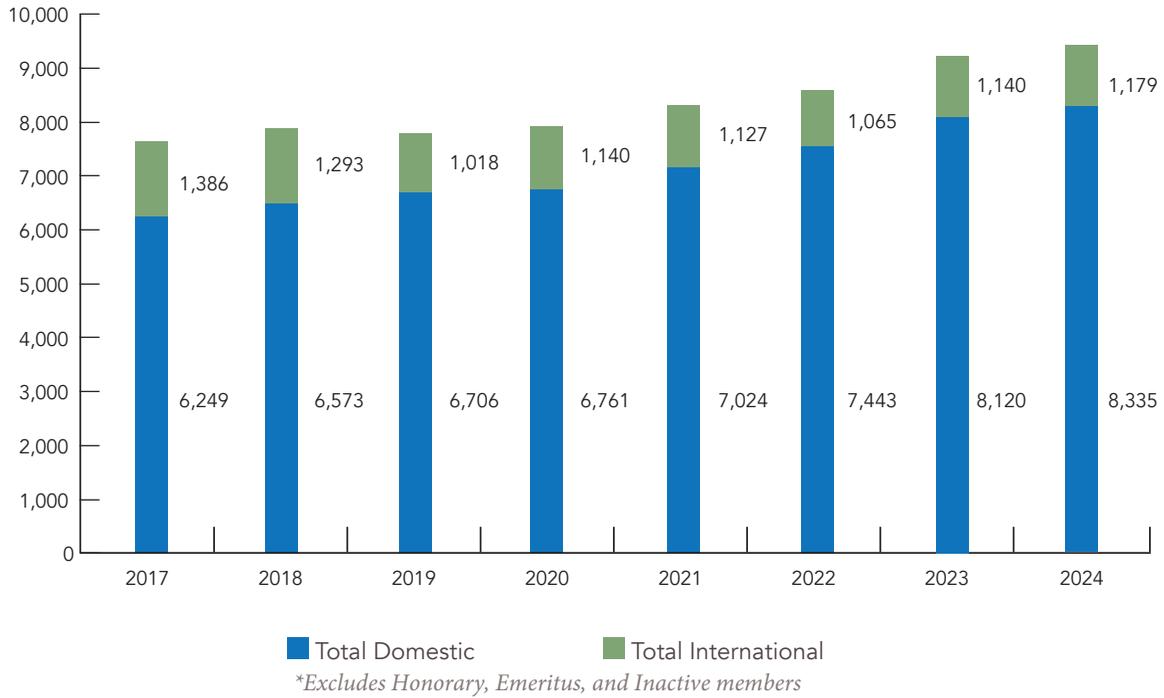


In 2024 the CNS Membership Committee continued its recruitment and retention efforts, resulting in another year of tremendous growth across key CNS membership categories. Building upon 14 consecutive years of member growth, we once again broke our membership record with 11,662 total members, including 8,120 domestic members and 1,140 international members.

MEMBERSHIP

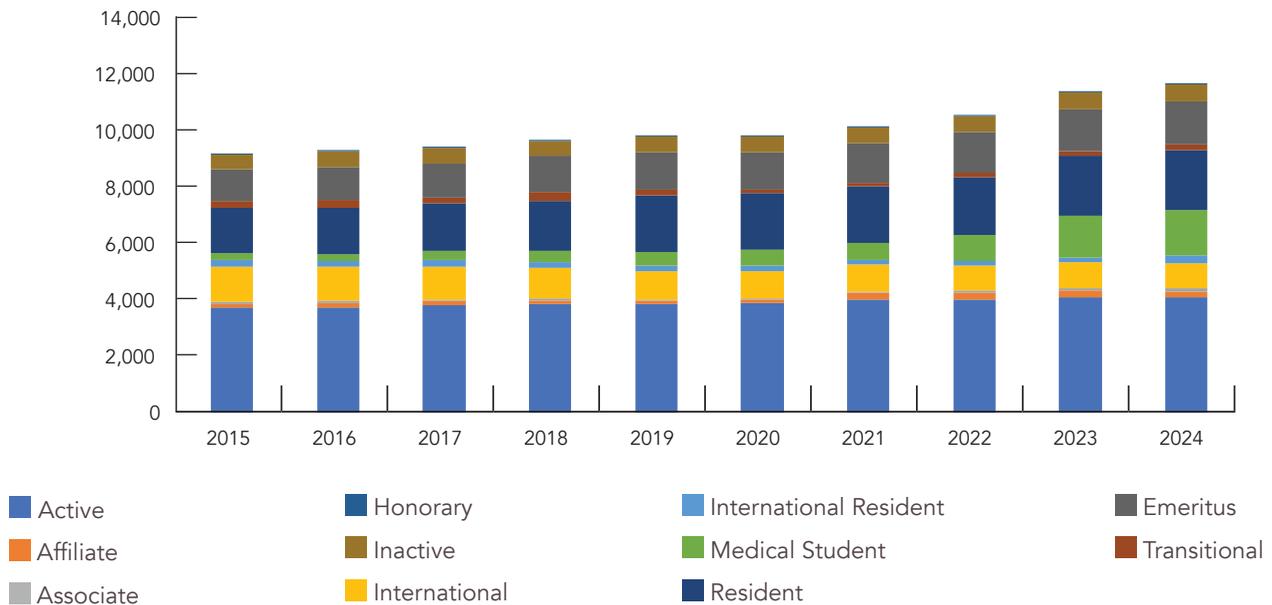
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CNS MEMBER GROWTH



10 YEAR MEMBERSHIP TREND

2015 - 2024



MEMBERSHIP
continued

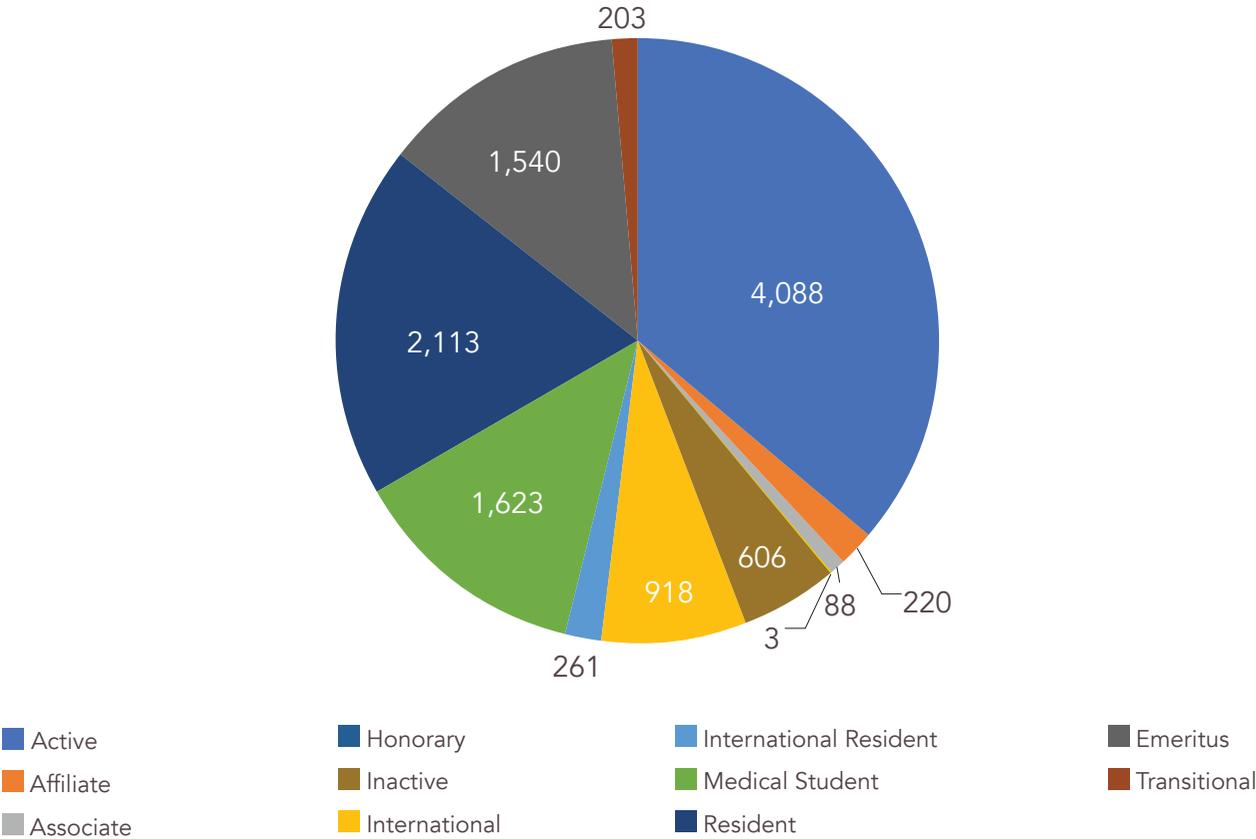
CNS Membership Spotlight

"I remember my first CNS Annual Meeting in Austin, TX back in 2021! I am so grateful for the opportunities for mentorship, connection, and education that the CNS has afforded me in the years since! As I begin my residency training, I look forward to continuing to learn with CNS!"

Gabriela D.M. Ruiz Colón, MD- Massachusetts General Hospital



CNS 2024 MEMBERSHIP



MEMBERSHIP

continued

The CNS remains committed to providing unparalleled service to our members and engaging with members across the specialty to understand and meet their needs. Through education, innovation, representation, and advocacy, we're shaping the future of neurosurgery. So you can be confident that we're always behind what's ahead.

Why CNS?



[Member Benefits >](#)

Education

Turn learning into leading. Discover why we're the go-to resource for research, insights, and intelligence.

[Learn](#)

Advocacy

Listen. The voice for what's vital is speaking—to legislators, the field, and the media.

[Hear Us](#)

Innovation

Ground break, change make. Explore why we're essential to the advancement of neurosurgery.

[Advance](#)

Representation

Your perspective matters. Learn about our community's diverse backgrounds, outlooks, and specialties.

[Convene](#)

New Fellow of the Congress of Neurological Surgeons (FCNS) Designation

During the 2023 Annual Business meeting, the CNS Executive Committee approved the Fellow of the Congress of Neurological Surgeons (FCNS) designation to serve as a recognition of professional standing and commitment to excellence in the specialty of neurosurgery. FCNS serves as an early recognition for residency graduates prior to their Board certifications. This is only available to Active members in good standing* (licensed practicing neurosurgeons in North America- US, Canada, and Mexico).

All current CNS Active members are automatically eligible to display FCNS in their professional resumes, CVs, marketing material, professional social media account like LinkedIn and signature blocks by appending the FCNS after the individual's name and medical degree.

**Good standing includes meeting all requirements of CNS membership, including ensuring membership dues are current. More information on the requirements for Active membership in the CNS can be found [here](#).*

— MEMBERSHIP —

continued

CNS MEMBERSHIP BENEFITS:

- Complimentary or discounted subscriptions to CNS portfolio of top-rated journals, including [Neurosurgery](#), [Operative Neurosurgery](#), and [Congress Quarterly](#), covering the latest advances in neurosurgical research and technology, practice management, socioeconomic developments, and more.
- Extensive educational resources, including our online [education catalog](#) of over 350 CME hours accessible at your convenience, anytime and anywhere, including [SANS Lifelong Learning](#); [Journal Club Podcasts](#); and [Nexus](#) with 600+ cases in all subspecialties.
- Exclusive member rates at in-person events, like our expert-led [courses](#) and the [CNS Annual Meeting](#)
- [CNS Online Education Subscription](#), a resource opportunity that is only available to CNS Members which provides unlimited access to some of CNS's best educational resources, including webinars, SANS Indication, SANS Leadership, Podcast CME and the Neurosurgery Survival Guide App. That's more than \$7,500 worth of online education and more than 150 hours of CME across all clinical and non-clinical areas of neurosurgical practice, for only \$14.99/monthly or \$119/annually!
- Member only discount on [Open Access Article Processing Charge \(APC\)](#) in *Neurosurgery Practice* through Wolters Kluwer.
- Exclusive member discounts on legal [contract review and negotiation](#) services through a new collaboration with Resolve that will provide professional guidance to empower our members during transitions in their careers.
- The [CNS+ app](#) providing you information when you need it most, like CNS Guidelines, CNS Neurosurgery Survival Guide, and CNS Education, all in the palm of your hand.
- The convenient [Member Dashboard](#) which includes content curated especially for you through tailored recommendations of articles, courses, and guidelines, based on your selected subspecialties, as well as the ability to track your activities such as meeting participation, donations, and even CME tracking (for certain member types).
- [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.
- Investment through dues support to defend and protect the ability of neurosurgeons to practice medicine freely through neurosurgery [advocacy and policy development](#), which CNS invests \$1 million annually towards advocating the best interest of our members and the neurosurgical community in Washington DC.

— MEMBERSHIP —

continued

Why are you a member of the CNS?

"I think it's tough to give an unbiased answer as a part of the resident committee, but I'd say the biggest reason is that the CNS is the premier organization within organized neurosurgery and demonstrates a consistent commitment to early career neurosurgeons (medical students, residents, young attendings). It also shows an unwavering commitment to both education through its development of the SANS question bank and NEXUS clinical case platform, and to the establishment of consistent care for neurosurgical patients nationwide. To the latter point, it is the organization that I think of when looking for guidelines to help inform me about clinical care. And the CNS makes these free through it's official journal, Neurosurgery. I think CNS is also the organization that makes the biggest effort to engage early career neurosurgeons both by hosting townhalls for medical students with interest in neurosurgery, and through the inclusion of courses at its annual meeting specifically focused on the early career audience."



Why are you a member of the CNS?

From an individual standpoint, it gives the member access to resources such as NEXUS and discounted registration for the annual meeting. The former is comprised of cases put together by leaders in the neurosurgical community that can provide teaching points for a wide swath of cases, ranging from more familiar ones such as an ACDF for degenerative pathology, to highly complex cases such as insular low-grade glioma. These include highlights of both the operative case and perioperative management, along with pearls and pitfalls aimed at addressing the nuances of the case. And the discounted registration for the annual meeting allows members to attend the meeting with the latest neurosurgical science for a discounted price.

From the broader neurosurgical standpoint, I think membership is important as it represents a commitment to the advancement of neurosurgery as a whole. Unlike some medical fields, such as cardiology, which have high levels of evidence for many of their intervention due to the large patient populations available, neurosurgery still remains a field in which much of clinical decision-making is guided by clinical experience and level III/IV data due to the rareness of pathologies. Only through continued collaboration is it possible for our field to accumulate high quality evidence, and I think that organizations such as the CNS help to foster the relationships/connections that make these collaborations possible. Additionally, as a medical student and then as a resident, CNS has provided great opportunities to build connections with mentors within neurosurgery and to develop future colleagues. "

Zachary Pennington, MD – Mayo Clinic



Sharona Ben-Haim, MD
CNS Membership Committee Chair

— RESIDENT COMMITTEE —



In 2024 the CNS Membership Committee continued its recruitment and retention efforts, resulting in another year of tremendous growth across key CNS membership categories. Building upon 14 consecutive years of member growth, we once again broke our membership record with 11,662 total members, including 8,120 domestic members and 1,140 international members.

— RESIDENT COMMITTEE —

continued

THE RESIDENT COMMITTEE CONTINUED WORK ON THESE INITIATIVES IN 2024

Social Media Subcommittee: This subcommittee demonstrated significant success in engaging students and residents through CNS Resident Committee social media accounts, which primarily share educational opportunities and upcoming meetings. Notably, there was a nearly 80% increase in Instagram followers this year.

Sections Liaison: The following residents have started their first year of a two-year term representing CNS in their respective sections. These individuals have been selected for their commitment to advancing the field and their dedication to the mission of CNS:

ASSFN - Ahmed Awad, MD

CV - Jessica Campos, MD

Pediatric - Rachel Vaughn, MD

Spine - Roxana Beladi, MD

Tumor - Emal Lesha, MD

WINS - Katie Kearns, MD

Annual Meeting Rapid Response Team: This new team's primary role included actively promoting the 2024 CNS Annual Meeting leading up to the event, ensuring broad awareness and engagement. On-site, the team supported meeting logistics in the exhibit hall and elsewhere.

The CNS congratulates our 2023-24 Resident Committee and extends our sincere thanks for their work and contributions to the CNS this year:

A. Basit Khan
Abdulrahman Almansouri
Ahmed Awad
Aladine Elsamadicy
Alina Mohanty
Alon Kashanian
Asham Khan
Ban Vin Shen
Brian Saway
Chuck Mackel
Cordelia Orillac
Dara Farhadi

Elliot Pressman
Emal Lesha
George Koutsouras
Helen Shi
Jeffrey Breton
Jeffrey Traylor
Jessica Campos
Joseph Antonios
Katherine Holste
Kathryn Kearns
Matheus Pereira
Megan Still

Mohamed Zaazoue
Molly Lafuente
Omar Hussain
Piiamaria S. Virtanen
Rachel Moor
Rohin Singh
Roxana Beladi
Rushikesh Joshi
Sabrina Heman-Ackah
Sarosh Madhani
Zachary Pennington
Arvin Wali

Brandon Laing
Chloe Gui
Gnel Pivazyan
Julie Chan
Kevin Ivan Peñaverde Chan
Ricardo Fernandez-de
Thomas
Rodrigo Uribe-Pacheco
Silky Chotai
Sravanthi Koduri
Tristan Mackey
Turki Elarjani

— RESIDENT COMMITTEE —

continued

CNS VIRTUAL RESIDENCY FAIR

The CNS hosted our fourth Virtual Residency Fair August 14-15. A record 84 residency programs presented information on their respective programs to 175 interested medical student prospects.

The CNS is proud to continue offering this annual program, which provides future neurosurgical residents a valuable, and economical way to learn more about training programs across the country. Through this unique offering, the CNS is lowering the barrier to participation for underrepresented populations and helping programs recruit diverse applicants.



I believe in giving back to our communities and the CNS is one of the dearest communities that I belong to as a neurosurgeon. I have been serving within the CNS RC since my early residency years until now, even after accepting my faculty position. I feel that we owe it to the future generation of neurosurgery trainees to enhance their experience as resident members of the CNS.

MOHAMED A. ZAAZOU, MD, MSC, MBA

WHAT DOES SERVING THE CNS RC MEAN TO YOU?

To me, serving on the CNS Resident Committee represents an esteemed privilege and responsibility. It is an invaluable platform that enables residents to positively influence the trajectory of organized neurosurgery. Further, it fosters a collaborative environment where passionate individuals from diverse programs can unite, exchange ideas, and collectively champion reforms that will leave a lasting impact on the future of our specialty. Ultimately, it is an opportunity to pay it forward by enhancing the training experience for generations of residents to come.

MOLLY LAFUENTE, DO



J. Nicole Bentley, MD
2024 Resident Committee Co-Chair



Laura A. Snyder, MD
2024 Resident Committee Co-Chair

— DIVERSITY, EQUITY & INCLUSION COMMITTEE

COMMITTEE UPDATE

A key focus of the CNS Diversity, Equity and Inclusion (DEI) Committee is to ensure that the CNS, as an organization, reflects the diversity within our field and continues to improve in that area. The CNS DEI Committee worked with several other standing committees throughout the year to ensure a diverse speaker list for courses, webinars, and CNS-sponsored content. The members of the DEI Committee reviewed all courses and provided feedback/recommendations to the planning groups on the diversity of invited faculty—to include representation from different genders, ethnicities, training programs and practices, geographic locations, career stages, and perspectives.

On Tuesday October 1, two breakfast seminars were conducted. The first was the LGBTQIA+ and WINS Breakfast Seminar. The seminar included a discussion about the challenges of being in the LGBTQIA+ community and a practicing neurosurgeon and how to overcome these challenges and improve delivery of care to patients for the training of the next generation will be addressed. This seminar had an amazing turnout and engagement, with approximately 40 claims for *AMA PRA Category 1 Credit(s)*[™]. The second was the ASBN Breakfast Seminar, which focused on advancing diversity and equity in neurosurgery through the advancement of underrepresented minorities

in neurosurgery. The urgent need for concerted efforts to increase the representation of historically marginalized groups, particularly Black Americans and embracing diversity to foster innovation, creativity, and excellence in addressing the complex challenges of neurosurgical practice was highlighted. We are grateful to those CNS members who participated and shared their experiences and perspectives.

On Tuesday, October 1, Theresa Williamson spearheaded the education and discussion with two speakers and ten abstract presenters at the Sunrise Science Session—Healthcare Disparities. Health disparities are preventable differences in disease burden, injury, violence, or opportunities to achieve optimal health, too often experienced by vulnerable populations. Surgical health disparities are well documented in the literature and involve neurosurgical patients from prevention to disease burden to treatment and outcome. The goal of this session on healthcare disparity in neurosurgery was to understand better and spread knowledge related to disparity in neurosurgical disease and to brainstorm solutions to health disparities affecting neurosurgical patients. This session was well attended, with 33 claims for *AMA PRA Category 1 Credit(s)*[™]

2024 Pathway to Neurosurgery, Successful Outreach to Youth

The next generation of neurosurgeons is promising, based on the Pathway to Neurosurgery event held at the 2024 CNS Annual Meeting in Houston, Texas. Launched in 2021 in Austin, Texas by the CNS and now led by the CNS Foundation, Pathway to Neurosurgery welcomes local high school students from backgrounds underrepresented in STEM fields, to the CNS Annual Meeting. The program's impact is so significant that the CNS Foundation is committed to making this an on-going offering of the Annual Meeting.

"We continue to see gaps across gender, ethnicity, orientation and more, but initiatives like the CNS pathways program and the CNS foundation's support for DEI grants are actively changing this landscape. The Pathways program is unique because it's not about teaching a single skill or following one set path - it's about opening doors and showing students what a career in neurosurgery can look like. We want these students to know that they are capable of great things. By investing in new initiatives we are moving to transform the neurosurgical workforce into a more representative community."

Kunal Vakharia, MD

Co-chair of the CNS DEI Committee

— DEI COMMITTEE —

continued



"I am passionate about the Pathway to Neurosurgery program because I know how meaningful it is to see someone like me in a STEM field. I spent my young life being told repeatedly that I would never be a neurosurgeon. Neurosurgery must be a career option for them because we need more neurosurgeons that represent our broad spectrum of patients."

Tiffany Hodges, MD

Chair of the CNS Foundation's Committee for Diversity, Equity, and Inclusion.

2024 continued to be a productive year for the CNS DEI Committee as they built upon their focus of ensuring diversity and equity in CNS courses and offerings and lowering barriers to early neurosurgical exposure via the Pathway to Neurosurgery program. On September 30, 2024, 40 students from the local Houston area, in partnership with Breakthrough Houston, enjoyed a day-long symposium designed exclusively for them, enjoying lectures from a diverse group of leading neurosurgeons, including the 2024 CNS Presidential Address by Dr. Alexander A. Khalessi and Walter E. Dandy Orator, Earving "Magic" Johnson. DEI committee co-chairs, Drs. Tiffany R. Hodges, Maryam Rahman, and Kunal Vakharia welcomed the students upon their arrival and presented "A Day in the Life of a Neurosurgeon." The students spent the day surrounded by neurosurgeons, and got an inside look into what a medical career—possibly even a career in neurosurgery—would look like. The students also rotated through eight hands-on stations generously sponsored by Medtronic, Microvention, as well as the Mobile Lab sponsored by Stryker. During their time at each station, the students learned about the different types of equipment and tools neurosurgeons use in their daily practice, like spine and cranial navigation systems, surgical drills, and pedicle screws. Volunteer neurosurgeons and residents partnered with each student through the stations, giving them feedback on holding surgical instruments and answering their questions.

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students learned about the different types of equipment and tools neurosurgeons use in their daily practice, like spine and cranial navigation systems, surgical drills, and pedicle screws. Volunteer neurosurgeons and residents partnered with each student through the stations, giving them feedback on holding surgical instruments and answering their questions.

Between station rotations, the students listened to speakers from various backgrounds talk about their own pathways to becoming neurosurgeons. Dr. C. Rory Goodwin, a neurosurgeon and professor at Duke University, spoke about his journey to becoming a neurosurgeon and the importance of several mentors in his life. Dr. Kimberly Kicielinski, neurosurgeon and associate professor at Medical University of South Carolina took the students through a "typical" day, walked them through a case of a young patient that she was able to successfully treat. Dr. William Christopher Newman spoke to the children about his journey from high school to his current role as a neurosurgeon at Memorial Sloan Kettering Cancer Center. Lastly, neurosurgeon and assistant professor at the University of Minnesota, candidly spoke to the students about his professional journey and the importance of working hard and building great relationships.

During lunch, volunteer neurosurgeons led roundtable discussions with the students and casually answered their questions. Laughter and conversation bubbled throughout the day. Not only were the students enjoying themselves, but volunteer neurosurgeons also said it was one of the highlights of the CNS Annual Meeting.

— DEI COMMITTEE —

continued

Pathway to Neurosurgery and other fine programs supported by donors!

The CNS Foundation wishes to express gratitude to the following people and organizations for making the 2024 Pathway to Neurosurgery event possible:

- **Tiffany Hodges, MD, Maryam Rahman, MD, and Kunal Vakharia, MD**, for their outstanding leadership.
- **Medtronic** for their generous financial support and thoughtful leadership.
- **Stryker**, for their generous financial support, and for providing use of their mobile lab to the students the day of the symposium.
- **Olympus**, for their donated supplies for stations.
- To the following **practitioners** for giving their time to speak at the event: Tiffany Hodges, MD, Maryam, MD, Kunal Vakharia, MD, Kim Kicielinski, MD, W. Christopher Newman, MD, C.Rory Goodwin, MD, Dr. Daid Darriow, MD
- Sincere appreciation to the many **volunteer neurosurgeons, residents, and medical students** who stopped by and spent time with our guest students.

CNS DEI COMMITTEE FOCUS 2024 AND BEYOND

In addition to the above, the CNS DEI committee have ongoing efforts to increase diversity in CNS programming.

- Evaluate lists of invited speakers/course faculty/moderators for CNS courses and meetings and recommend changes to increase diversity.
- Ongoing efforts to collaborate with CNS Foundation:
 - Pathways to Neurosurgery
 - Neurosurgery Think Tank
 - Neurosurgery Experience Awards
- DEI Abstracts
- DEI Innovation Pilot Project
- DEI Scholar Award
- DEI Impact Award
- Ongoing efforts to collaborate with WINS, ASBN, and other sections in increasing and highlighting diversity within our specialty



Tiffany Hodges, MD
Co-Chair



Kunal Vakharia, MD
Co-Chair



Maryam Rahman, MD
Member of the DEI Committee

— PRACTICE-BASED NEUROSURGERY COMMITTEE —

The Practice Based Neurosurgery ad-hoc committee was formed in 2023, in an effort to ensure that neurosurgeons outside of full-time academic practice have a voice in the organization. The Committee, chaired by Dr. Jason Ellis and comprised of more than 50 neurosurgeons throughout the United States, has focused on better understanding the unique needs of members in each practice setting and ensuring the CNS continues to create value for all neurosurgeons.

Members of the committee represent a variety of different clinical practice models from private and small group practices to large, multi-specialty group practices, and a wide range of mixed or “privademic” practice settings. In addition to participating in committee calls and sharing their feedback on CNS programs, priorities and initiatives, members of the Practice Based Neurosurgery Committee served as liaisons to other CNS standing committees, contributing their perspectives to the development of educational products, events and more.

In 2024, members of the committee contributed to the 2024 CNS Annual Meeting in Houston, Texas in several ways. We brought back the “Practical Neurosurgery Symposium.” Developed by leaders in a variety of practice settings, this symposium showcased content relevant for all practicing neurosurgeons, including clinical practice optimization, engagement with administrators, program building, leadership and advocacy, 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.



In addition, 14 members of the committee participated in a panel discussion during a new Resident/Practice Based Neurosurgeon Luncheon. This new session was designed for Residents considering careers outside of full-time academic practice, allowing them to be connected with leaders in community and mixed practice settings to learn about the challenges and opportunities of these environments, as well as ask their questions about transitioning to practice.

The CNS is grateful for the time and energy the members of the Practice Based Neurosurgery committee brought to the organization in 2024 and we look forward to continuing to engage and build greater value for our members based on their feedback and ideas.



Jason Ellis, MD
Chair

— NEUROSURGERY PUBLICATIONS —



The **Neurosurgery Publications** leadership and staff strive to deliver the high-quality science and research that readers have come to expect. We are happy to provide this annual update to the CNS membership.

In 2024, **Neurosurgery**, **Operative Neurosurgery**, and **Neurosurgery Practice** continued to receive an incredibly healthy volume of submissions from a wide, international author base. Of note:

- **Neurosurgery** debuted the Global Neurosurgery Essentials Review Series with the September issue. Spearheaded by Global Neurosurgery Section Editor Gail Rosseau, this series furthers the journal's already strong international outreach. Topics covered in this series include clinical practice, research, education and training, and advocacy & policy implementation.
- **Operative Neurosurgery** marked its first-year transition to a fully online-only journal. With tremendous digital content, the journal is the first major neurosurgery journal to go fully online, having a positive impact on the environment by utilizing fewer resources than those needed to produce a print journal. **Operative Neurosurgery** remains a subscription-based journal and as such a key member benefit.
- **Neurosurgery Practice**, our newest title, reached an all-time high annual submission rate in 2024! **Neurosurgery Practice** is currently indexed in the Directory of Open Access Journals and Scopus.

— NEUROSURGERY PUBLICATIONS —

continued

“From the perspective of Data Science and AI, I think that we are pushing forwards the frontier with how a biomedical journal engages with AI technologies and, more importantly, how a medical specialty like Neurosurgery can engage with modern AI technologies. We are doing this through the scholarship that we publish every issue, how we publish it (e.g. the Neurosurgery Practice with Code article type), and what we do with that scholarship post-publication (e.g. CNS-CLIP).”

ERIC KARL OERMANN,
Associate Editor for Data Science, Neurosurgery Publications



Dr. Gail Rosseau, Guest Editor for the new series: Global Neurosurgery Essentials, signs journals during the CNS Annual Meeting in Houston.

Throughout the year, *Neurosurgery Publications* sought out several opportunities to engage with members and those in the community more widely by exhibiting at national meetings including the Spine Summit, the AANS Annual Meeting, and the CNS Annual Meeting. As part of the CNS Annual Meeting, *Neurosurgery Publications* hosted the “Getting Published” seminar, which sought to provide an overview of some of the issues that residents and early career scholars may encounter in getting published with the goal of empowering the attendees to calibrate future submissions and potentially increase their chance of success. Recognized at the CNS Annual Meeting were the eighth annual *Neurosurgery Publications* Paper of the Year winners. These awards highlight the collaboration between the CNS and *Neurosurgery Publications* by recognizing papers that challenged dogma, created a paradigm shift, and/or encouraged surgeons to rethink approaches to patient care, big data, and trial results. The Top Paper of the Year was awarded to “Bleeding Risk of Cerebral Cavernous Malformations in Patients on Statin and Antiplatelet Medication: A Cohort Study” by Luca Lee Marques, Christian Jaeggi, Mattia Branca, Andreas Raabe, David Bervini, and Johannes Goldberg. This paper also received the Paper of the Year: Cerebrovascular award. A list of all the 2024 Paper of the Year winners can be found at <https://www.cns.org/about/press-room-detail/congress-of-neurological-surgeons-announces-neuros-6>



Douglas Kondziolka, MD, MSc
Editor-in-Chief, Neurosurgery Publications

— 2024 CNS ANNUAL MEETING —



NEUROSURGERY ORIGINS

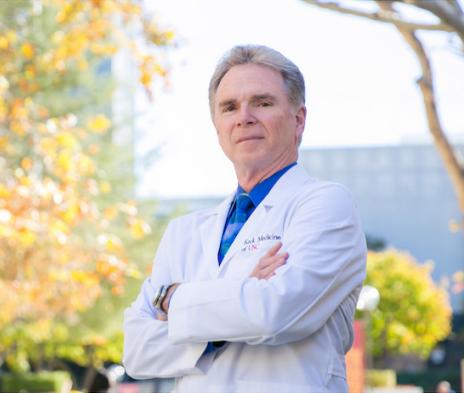
Houston, Texas • September 28-October 2, 2024

George R. Brown Convention Center

The 2024 CNS Annual Meeting gathered more than 3,300 neurosurgeons and neurosurgical team members across practice settings and career stages to share impactful research, discuss advances in neurosurgical technology and approaches, and connect with one another.

Our 2024 meeting theme, "**Neurosurgery Origins**," reminded attendees what has made the field of neurosurgery a leader in innovation and medicine and celebrated the many ways CNS has supported neurosurgical innovation throughout our history.

ANNUAL MEETING HIGHLIGHTS



The “*Giannotta Symposium: A Career of Surgical Excellence, Education and Leadership*” highlighted the contributions of Dr. Steven L. Giannotta to cerebrovascular surgery, skull base tumor surgery, and neurosurgical leadership and education.



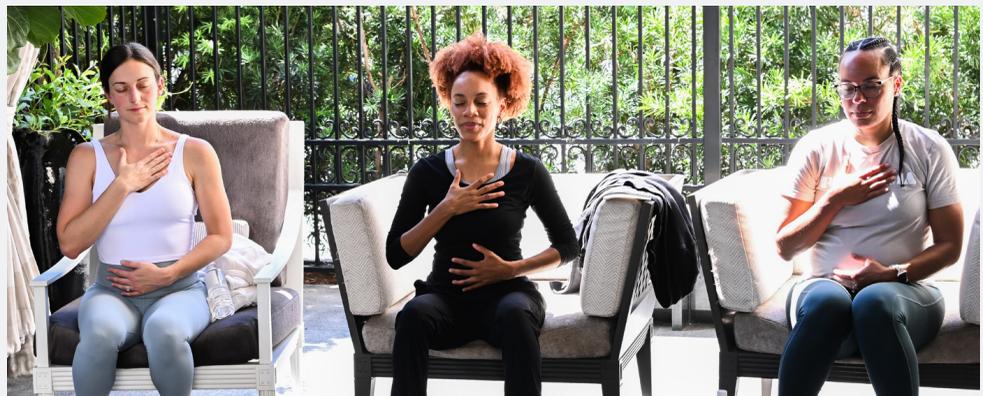
A new Special Symposium, “*Spinal Deformity Primer for All Neurosurgeons*”, offered in collaboration with the Scoliosis Research Society (SRS), offered lectures by leaders in the field as well as case based, small group discussions.



A new Innovation Track highlighted content throughout the meeting focused on driving scientific and clinical innovation—including the “*Transforming Neurosurgery Through Technology*” and “*Neurosurgeon Scientist*” Symposia and Dr. Brem’s Honored Guest Lunch, “*Developing New Approaches to Brain Tumor Therapy.*”



The **CNS 5K** returned, with 412 registrants participating in group runs on Monday morning and Tuesday afternoon or running asynchronously on their own.



Additional **wellness initiatives** were held throughout the meeting, including:

- Wellness Retreat on Friday and Saturday at the Post Oak Hotel
- Wellness talks at Sunday and Wednesday’s GSS.
- Warm up and stretching demonstrations on MO and TU in the CNS Xperience Lounge with Pilin Anice.

ANNUAL MEETING HIGHLIGHTS



An expanded **Art of Neurosurgery** gallery featured art submitted by the neurosurgical community and pieces curated by medical illustrators Josh Emerson and Peter Lawrence on display, as well as two presentations by medical illustrators in the Xperience Lounge during the Monday and Tuesday morning beverage breaks:

- The Art of Neurosurgery: To Draw is to Understand by Steve Graepel
- The Art of Neurosurgery: Extending Realities: Mayo Clinic's New Era in Neuroanatomy Visualization by Wes Price

Annual Meeting by the Numbers

3,398 medical registrants – more than 5,300 total registrants—gathered in Houston, Texas to collaborate and connect with colleagues from across the globe and share meaningful breakthroughs in neurosurgery.

4,112 total abstract submissions

- 535 Oral Presentation & Oral Presentations
- 436 Oral abstract presentations
- 288 Mini-oral presentations
- 1160 Poster presentations
- 1703 Digital posters

2 Honored Guests: Henry Brem and Steven Giannotta

35 weekend symposia, including the Meeting of the Americas, North American Skull Base Society (NASBS). This year, we will be hosting a pre-meeting symposium with the Scoliosis Research Society (SRS).

2 Diversity, Equity and Inclusion focused Breakfast Seminars

2 Dinner Seminars – “Disruptive Technology in Spine Surgery,” and “Complex Skull Base Approaches.”

5 Guidelines Sessions

22 Sunrise Science Sessions

21 Lunch Seminars

HONORED GUESTS



Steven L. Giannotta

- *The Martin H. Weiss Chair in Neurological Surgery*
- *Professor, Department of Neurological Surgery, Keck School of Medicine of USC*

Dr. Giannotta delivered his Honored Guest Presentation titled *"So You Want to be the Chair?"* on Sunday, September 29, and hosted an Honored Guest Luncheon, *"Crushing Your Residency and Early Years of Practice"* on Monday, September 30.

Henry Brem

- *Harvey Cushing Professor of Neurosurgery at The Johns Hopkins University*

Dr. Brem delivered his Honored Guest Presentation titled *"Research as an Imperative for Clinical Excellence,"* and hosted an Honored Guest Luncheon *"Developing New Approaches to Brain Tumor Therapy"* on Tuesday, October 1.



FEATURED SPEAKERS



Dr. Cargill H. Alleyne, Jr. delivered the annual John Thompson History of Medicine Lecture, *"The Neurosurgery Genealogy Project,"* on Sunday, September 29.



Two-time NBA Hall of Famer and Entrepreneur Earvin "Magic" Johnson shared inspiring stories of determination and perseverance during the Monday GSS, and graciously posed for pictures with our Pathway to Neurosurgery students.



The *Right Honourable Dame Jacinda Ardern*, the Second Dorothy Nash Lecturer, sat down for a thoughtful discussion on Tuesday with Drs. Laura Synder and Ellen Air.

PARTNER SOCIETIES

We were proud to once again welcome our international partners, the Neurological Society of India (NSI), the Brazilian Society of Neurosurgery (SBN), and the Japanese Congress of Neurological Surgeons (JCNS), and our colleagues from across the globe.



INNOVATOR OF THE YEAR

Congratulations to our 2024 Innovator of the Year, **Dr. Alexandra J. Golby** of Brigham & Women's Hospital, Harvard Medical School.



Dr. Golby's project, **NousNav**
An Open-Source Low-Cost Navigation System for Low and Middle Income Countries, was selected by Annual Meeting attendees live in Houston. Thank you to all who submitted projects for this year's awards.

CONGRATULATIONS!



Distinguished Service Award Recipient
Michael P. Steinmetz, MD



CNS Founders' Laurel Award Recipient
L. Dade Lunsford, MD



CNS Educator of the Year Award Recipient
Robert J. Spinner, MD

CONGRATULATIONS TO THE 2024 ABSTRACT AWARD WINNERS

Each year, merit-based abstract awards at the CNS Annual Meeting are granted to acknowledge outstanding submissions.

CNS Resident Award

Early Hypertonic Saline Infusion is Associated with Superior Neurologic Outcome Following Acute Traumatic Spinal Cord Injury

TJ Florence

Disparities in Healthcare

Best Posters:

- Effect of Race, Sex, and Socioeconomic Factors on Overall Survival Following the Endoscopic Versus Non-endoscopic Surgery for Resection of Non-functioning Pituitary Adenomas: A National Database Study
- Evaluation of Health Disparities within Clinical Presentation on Long-Term Postoperative Spinal Surgery Outcomes
Abigail Jenkins
- Insurance Status and Socioeconomic Barriers to Clinical Follow-up: Implications for Clipping vs Endovascular Treatment of Cerebral Aneurysms
Zachary Sorrentino
- Serum Metabolomic Markers in ACS and Stroke: Influence of Race and Gender
Udaya Tantry
- Barriers to Neurosurgical Service Delivery in Sub-Saharan Africa
Eugene Cho
- Validating NousNav, A Low-Cost Neuronavigation System, Against a Commercial System in a Clinical Setting

History

Best Basic Science Poster:

- Origins and Evolution of Dissection, Preservation and Vascular Injection Techniques That Shaped Modern Neurosurgical Cadaveric Brain Research Practices
Oscar Alcantar-Garibay

Best Clinical Research Poster:

- The History and Evolution of the Surgical Treatment for Spasticity: A Journey from Neurotomy to Selective Dorsal Rhizotomy
Maria Uparela

Best Operative Technique Poster:

- The Evolution of Treatment Strategies of Penetrating Traumatic Brain Injury Throughout Military Conflicts
Melissa Meister

CNS Data Science

Best Abstract Award:

- Development and Validation of an Unpaired Multi-modality Image Generation Model on Brain Tumor Segmentation in Sequence Missing Scenarios
Zhuoyuan Li

Best Basic Science Poster:

- Clinical Auto-referral Pipeline for Patients with Radiologically Identified Spinal Metastasis Using Natural Language Processing
Karl Sangwon

Best Clinical Research Posters:

- Impact of Psychiatric Comorbidities on Outcomes in Epilepsy Patients: A Nationwide Inpatient Study in the United States
Ahmed Elbayomy
- Artificial Intelligence Accurately Predicts Intensive Care Unit Length of Stay in Posterior Spinal Fusion for Adult Spinal Deformity
Mert Marcel Dagli

Best Operative Technique Poster:

- Self-Supervised Deep Learning Algorithm for Monocular Depth Estimation and “Smart Measurement Mining” During Anatomical Dissections: A Proof of Concept Study
Leonardo Tariotti

CNS Medical Education and Training

Best Abstract:

- “Mentorship in a Minute”: A Pilot Initiative to Close Mentorship Gaps Among Women Medical Students Interested in Neurosurgery
Cordelia Orillac

Best Posters:

- Evaluating Surgeon Performance in Basic and Intermediate Surgical Tasks Using HoloLens2 Mixed Reality Headset
Ari Ettleson
- Reframing Career Exploration: A Summer Elective’s Impact on Medical Student Perceptions of Neurosurgery
Claudia Hejazi-Garcia
- Whole-Brain Dynamic Tractography Atlases
Aya Kanno
- Revolutionizing Surgical Residency Evaluation: A Process Mapping Approach
Saikiran Murthy
- Characterizing Medical Student Research Output and Impact in the 2023 Neurosurgery Match
Ethan Wetzel
- The Impact of a Neurosurgical Boot Camp upon Medical Student Preparedness for Sub-Internships
Carly Weber-Levine

CNS DEI Abstract Awards

- The Association of Neighborhood-Level Deprivation on Glioblastoma Outcomes: A Single Center Cohort Study
Yifei Sun
- “Mentorship in a Minute”: A Pilot Initiative to Close Mentorship Gaps Among Women Medical Students interested in Neurosurgery
Cordelia Orillac
- Socioeconomic and Racial Disparities in Access to Care in Patients with Cervical Spondylotic Myelopathy: A Quality Outcomes Database Study
Satvir Saggi

CONGRATULATIONS TO THE 2024 ABSTRACT AWARD WINNERS

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Section on Cerebrovascular Surgery

Duke Samson Awards

- Results of the COMMAND Trial: an Early Feasibility Study of the Synchron Endovascular Brain-Computer Interface
Elad Levy



- The Dynamic Adaptability of the Circle of Willis in Response to Major Branch Artery Coverage with a Flow Diverter
Felipe Ramirez Velandia

Galbraith Award

- A Transcriptome-wide Association Study of Intracranial Aneurysm Identifies Novel Risk Genes and Overlapping Genetic Architecture with Other Vascular Disorders
Gunther Wong

Best Basic Science Posters:

- Adropin Protects Delayed Cerebral Ischemia in Subarachnoid Hemorrhage Patients
Zahra Hasanpour Segherlou
- First-pass Effect Negative Stroke Thromboemboli are Enriched with Neutrophil-specific Proteins
Herman Li

Best Clinical Research Posters:

- The Prevalence and Rupture Risk of Intracranial Aneurysms in Patients with Fibromuscular Dysplasia
Varunil Shah

- Safety and Efficacy of Endovascular Thrombectomy for Stroke in Low- and Middle-Income Countries: A Systematic Review
Nathaly Chinchihualpa Paredes

Best Operative Technique Posters:

- Comparison of Postoperative Seizures Between Burr Hole Evacuation and Craniotomy in Patients with Non-Acute Subdural Hematomas: A Bi-institutional Propensity Score Matched Analysis
Felipe Ramirez Velandia
- Supraorbital Key-Hole Approach for Intracranial Aneurysms: Technique and Feasibility In 54 Cases
Jose Carlos Rodrigues Jr.

Council of State Neurosurgical Societies

Best Posters:

- Epidemiological Insights into Craniosynostosis in a Middle-Income Country: A Comprehensive Analysis of Risk Factors and Social Trends
Leonardo Jose Monteiro de Macedo Filho
- Can We Measure Value at the Surgeon-Level For ACDF? Introducing The Operative Value Index (OVI)
Advith Sarikonda
- Evolution of Child Abuse and Subsequent Traumatic Brain Injury: Investigating Trends of Child Abuse and Sociodemographic Shifts After The COVID-19 Pandemic Using a Bayesian Structural Time Series Model
Foad Kazemi
- Cost Efficacy of DBS in Treatment-Resistant OCD
Brice Sewell
- Assessing the Impact of the Socioeconomic Fellows of the Council of State Neurosurgical Societies in Organized Neurosurgery
Clayton Rawson
- Cost Analysis and Outcome Measures Comparison After Mechanical Thrombectomy for Acute Ischemic Stroke Between a Comprehensive Stroke Center and Affiliated Satellite Thrombectomy-Capable Stroke Center Within the Same Healthcare Network
Matthews Lan

Julius Goodman Resident Award

- How Does Medico-legal Liability and Defensive Medicine Impact US Neurosurgeons? Results from a National Survey
Akshay Bhamidipati

Samuel Hassenbusch Young Neurosurgeon award

- Parental Leave in Neurosurgery: A United States Cross-Sectional Study
Olabisi Sanusi

Section on Disorders of the Spine and Peripheral Nerves

Best Basic Science Posters:

- Exploring Targeted Stimulation of Denervated Muscles for Prehabilitation of Neurotization in a Nonhuman Primate Model
Samuel Uptown
- Deciphering the Genomic Landscape of Spine Metastasis: Survival Stratification Via a Machine Learning Algorithm
Alexandra Giantini Larsen

Best Clinical Research Posters:

- The Impact of Grit on Quality of Life Outcomes in Multilevel Lumbar Spine Surgery Patients
Ken Porche
- Mobile Health Assessment of the Recovery Process in the First Month Following Lumbar Spine Surgery
Salim Yakdan

Best Operative Technique Posters:

- A Biomechanical Comparison of Distraction Methods for Treatment of Basilar Invagination
Isabella Lucyk



CONGRATULATIONS TO THE 2024 ABSTRACT AWARD WINNERS

Each year, merit-based abstract awards at the CNS Annual Meeting are granted to acknowledge the achievements of residents

- **Femoral Nerve Displacement and Strain During Lateral Lumbar Interbody Fusion at L4-L5: Comparison of Standard versus Supra-psoas Hovering Retractor Docking Techniques**

Dallas Kramer

Section on Neurotrauma and Critical Care

Natus Resident/ Fellow Award for Neurocritical Care:

- **Diagnostic and Prognostic Utility of Inflammatory Cytokines and Acute Phase Proteins in Traumatic Brain Injury: Results from the 18-Center TRACK-TBI Study**

John Yue

Natus Resident/Fellow Award for Traumatic Brain Injury:

- **A Rat Model of Second Impact Syndrome in Diffuse Traumatic Brain Injury: Evidence of Facial Pain, Neurological and Other Behavioral Alterations, and Immunological and Histopathological Tissue Changes**

Leonardo Jose Monteiro de Macedo Filho

Best Basic Science Poster:

- **In-Vitro Assessment of Cortical Repair Induced by Branched-chain Amino Acid Treatment**

Ezek Mathew

Best Clinical Research Poster:

- **Age Of First Exposure and Later Life Cognitive Health: A Study of Community Dwelling Adults**

Grant Rigney

Best Operative Technique Poster:

- **MMA Embolization for Non-Acute Subdural Hematoma: Comparison of Embolic Agents**

Prakash Gupta

Section on Pain

Ronald R. Tasker Young Investigator Award:

- **Advances in Coccygectomy: Evaluating Surgical Techniques for Coccygodynia**

Barnabas Obeng-Gyasi

Best Basic Science Poster:

- **A Novel Approach Delivering Intradural, Preganglionic Compression of the Trigeminal Nerve in a Mouse**

Mostafa Abdulrahim

Best Clinical Research Poster:

- **An Application of Deep-Learning to Trigeminal Neuralgia Evaluation**

Kyra Halbert-Elliott

- **Intraoperative Neuromonitoring During Percutaneous Spinal Cord Stimulation Surgery Increases Operative Duration, but Does Not Result in Improved Safety, Revision Rates or Pain Outcomes**

Michael Staudt

Best Operative Technique Posters:

- **Pear or Banana: Which is the Key to PBC Success?**

Zhong Jun

- **Intraoperative Low-Intensity Current Stimulation Monitoring during Microvascular Decompression for Trigeminal Neuralgia: Differential Responses of Fibers within the Trigeminal Nerve Sensory Branch**

Shusaku Noro

Section on Pediatric Neurosurgery

Best Basic Science Abstract Award

- **Astrocytes With Prior Exposure to Serum Predispose Cortical Networks to Develop Hypersynchrony and Bursting Activity in Response to Cytokines**

Marc Carmichael

Best Clinical Research Abstract Award

- **Machine Learning for Enhanced Prognostication: Predicting 30-day Outcomes Following Posterior Fossa Decompression Surgery for Chiari Malformation Type I in a Pediatric Cohort**

Victor Gabriel El-Hajj

Best Basic Science Posters:

- **De Novo Variants Disrupt an LDB1-regulated Transcriptional Network in Congenital Ventriculomegaly**

Neel Mehta

- **The Role of Microglial CSF1R-GRB2 Signaling in CSF Homeostasis**

Evan Dennis

Best Clinical Research Posters:

- **Towards a Definition of Physiologic Vulnerability in Pediatric Spine Surgery - A Study of Children with Neuromuscular Disease Undergoing Spinal Fusion: A Cohort Study and Identification of Key Risk Factors**

Muhammad Shabbeer Ghauri

- **Outcomes After Surgical Treatment of Primary Benign Bone Tumors in Children**

Sai Susheel Chilakapati

Best Operative Technique Posters:

- **Comparative Efficacy of Ventriculosubgaleal Shunts vs. Ventricular Access Devices in Achieving Shunt Independence within Six Months in Infants with Post-Hemorrhagic Hydrocephalus**

Syed Khalid

- **Feasibility of Pure Neuroendoscopic Excision of Intraventricular Tumors**

Miranda Hayworth

Section on Peripheral Nerves

Best Abstract

- **Impact of NETosis on Neuroma Formation**

Mark Mahan

Best Basic Science Posters:

- **Historical Evolution of Peripheral Nerve Injuries and Management in Modern Wartime: A Comprehensive Systematic Review and Meta Analysis.**

Zachary Hubbard

- **Nerve Transfer Compared to Grafting in Motor Restoration of Traumatic Nerve Injury**

Abdel-Hameed Al-Mistarehi

Best Clinical Research Posters:

- **Specificity and Sensitivity of High-Resolution Ultrasound in Evaluating Traumatic Peripheral Nerve Injury**

Tianqi Xiao

- **Predictors of Mortality in Malignant Peripheral Nerve Sheath Tumor Resections: Insights from a Johns Hopkins Cohort**

Melanie Alfonzo Horowitz

Best Operative Technique Posters:

- **To Biopsy or Not to Biopsy: The Risk of Biopsy in Non-Syndromic Schwannomas**

Feras Fayed

- **Axillary to Radial Nerve Transfer for Elbow Extension in the Tetraplegic Patient**

Stanley Bazarek

CONGRATULATIONS TO THE 2024 ABSTRACT AWARD WINNERS

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Section on Stereotactic and Functional Neurosurgery

Resident Basic Science Award:

- Microsurgical Anatomy of the Human Superolateral Medial Forebrain Bundle: Current Evidence from Focused Fiber Microdissections and Population-based Tractography

Georgios Skandalakis

Resident Clinical Award:

- Connectomic Predictors of Outcome in Centromedian RNS and DBS for Generalized Epilepsy

Pranav Nanda

Young Neurosurgeon Basic Science Award:

- Restoration of the Neurovascular Unit Permeability Through Gut Microbiome Modulation

Sean Polster

Young Neurosurgeon Clinical Award:

- Human Intra-thalamic Neurophysiologic Synchrony in the Context of Mathematical Cognition

Benjamin Sherman

Best Basic Science Posters:

- Neuroimmune Modulation Reduces Inflammation and Promotes Re-myelination In Animal Models of Multiple Sclerosis

Daniel Peterson

- Wireless High-fidelity, Low-impedance, Micro-scale Electrophysiology and Stimulation of Cortex and Basal Ganglia in Pigs

Kiefer Forseth

Best Clinical Research Posters:

- Hippocampal Micro-stimulation Modulates High Frequency Ripple Oscillations in Humans

David Zarrin

- Evaluating the Concurrent Impact of Deep Brain Stimulation on Depression Symptoms in Patients with Obsessive-Compulsive Disorder: A Cohort Study

Tommy Liu

Best Operative Technique Posters:

- sEEG-based Device for Concomitant Neural Recordings and Drug Delivery into the Brain - Feasibility Bench and In Vivo Studies

Aura Kullmann

- Technical Nuances for Thalamic Responsive Neurostimulation Placement and Seizure Focus Resection in Drug-Resistant Epilepsy

Pratik Talati

Section on Tumors

Tumor Neuro-Oncology Trainee Award:

- 2007 A Prospective Study of Minimally Invasive Keyhole Craniotomy and Stereotactic Brachytherapy for Large Brain Oligometastases

Smruti Mahapatra

American Brain Tumor Association Young Investigator Award:

- Impact of TERTp Mutation on Meningioma Outcome is Context-Dependent

Karena Groff

BrainLab Neurosurgery Award:

- Liquid Biopsy for Glioblastoma: Utilizing Plasma Extracellular Vesicles for Tumor Diagnosis and Monitoring

Massimiliano del Bene

Columbia Softball Skull Base Surgery Award Skull Base Surgery Award:

- Vestibular Schwannoma Koos Grade I International Study of Active Surveillance Versus Stereotactic Radiosurgery: the VISAS-K1 Study

Hussam Abou-Al-Shaar

Elekta Tumor Section Award:

- Accurate Tumor Delineation of Glioma by FET-PET Compared to Contrast-enhanced MRI: Radiomics and Genomics Analysis of the Mismatch Area

Ye Cheng

Gladiator Award – 2024:

- 1045 Detection of P53 Aggregates for Plasma-Based Diagnosis and Monitoring of Glioblastoma

Renuka Chintapalli

Globus Spine Oncology Award:

- Methylation Based Subgroups of Spinal Meningiomas

Khizar Nandoliya

Integra Foundation Award:

- Integrating Histologic and Molecular Features in Meningiomas

Harrshavasan Congivaram

James Rutka Pediatric Tumors Award:

- Sonodynamic Therapy (SDT) Using Intravenous 5-aminolevulinic Acid with MR-Guided Focused Ultrasound (MRgFUS) for the Treatment of Diffuse Intrinsic Pontine Gliomas in Pediatrics: Initial Safety and Outcomes of the Multicenter SDT-201 Trial

Kelsi Chesney

Journal of Neuro-Oncology Award:

- Molecular Diagnosis and Quantification of Tumor Cell Infiltration During Glioma Surgery Through Ultra-Rapid Droplet Digital PCR

Zachary Murphy

KLS Martin Tumor Award:

- Therapeutic Monoclonal Antibody-Mediated Inhibition of NOTCH Pathway Prolongs Survival in High Grade Glioma Models

Umberto Tosi

Leica Proficient Surgical Tumor Award:

- Fluorescence Lifetime Imaging (FLIm) Provides Highly Accurate, Dye-free Tumor Margin Detection During Resection of Low Grade Gliomas

Orin Bloch

Lunsford and Leksell Radiosurgery Award:

- Preoperative Stereotactic Radiosurgery Positively Modulates the Tumor Immune Microenvironment in Glioblastoma: Preliminary Findings of a Phase I/IIa Human Clinical Trial

Juan Pablo Navarro Garcia de Llano

Mizuho Minimally Invasive Brain Tumor Surgery Award:

- Comparison of Outcomes Following Surgical Intervention for MRI-positive versus MRI-negative Cushing's Disease: A Multi-Center Study

Danielle Wishart

Rosenblum - Mahaley Clinical Research Award:

- Vaccination by Homologous Antigenic Loading as Adjuvant Therapy for Glioblastoma: Early Analysis of Phase I Results

Joseph Georges

CONGRATULATIONS TO THE 2024 ABSTRACT AWARD WINNERS

Each year, merit-based abstract awards at the CNS Annual Meeting are granted to acknowledge the achievements of residents

Southeastern Brain Tumor Foundation Award:

- Targetable Gene Expression Changes Mediate Extravasation of Breast Cancer Cells from the Circulation and Local Proliferation in the Brain

Venina Kalistratova

Stryker Tumor Award:

- Intracranial Tumors Elicit Systemic Sympathetic Hyperactivity that Limits Immunotherapeutic Responses

Peter Fecci

StacheStrong Award:

- NKCC1 Dependent GABAergic Signaling is Necessary for GBM Migration and Neural Network Integration

Cesar Nava Gonzales

Synaptive Preuss Award:

- Tumor-Targeting TLR9 Agonist Promotes Antitumor Immune Activity in Intracranial Glioma Model

Alexander Ren

Zeiss Brain Tumor Award:

- NIR Indocyanine-White Light Overlay Visualization Mode for Neuro-Oto-Vascular Preservation in the Anterior Transpetrosal Approach: Technical Note for Tailored MDK Rhomboid Drilling

Leonardo Tariciotti

Best Basic Science Poster:

- Investigating the Therapeutic Potential of STK17A Inhibition in Glioblastoma

Jesus Castro

Best Clinical Research Poster:

- A Comprehensive Analysis of Surgical Outcomes and Predictors of Progression-Free Survival Following Resection of Intracranial Epidermoid Tumors

Mychael Delgado

Best Operative Technique Poster:

- Use of Photogrammetry for Surgical Field Documentation and Estimation of Tumor Residual in Glioma Patients

Daniel Ballesteros Herrera

Sherry Apple Resident Travel Scholarship (WINS):

- Internal Hematoma Architecture Predicts Subdural Hematoma Responsiveness to Upfront Middle Meningeal Artery Embolization

Danielle Golub



CONGRATULATIONS TO THESE INSTITUTIONS FOR THE HIGHEST NUMBER OF ACCEPTED ABSTRACTS



1ST PLACE

UBNS



2ND PLACE

Mayo



3RD PLACE

Johns Hopkins



4TH PLACE

UCSD



5TH PLACE

Brigham and Women's Hospital

NEUROSURGERY PAPER OF THE YEAR AWARDS

Each year, the CNS and **Neurosurgery Publications** honor the original papers that challenged dogma, created a paradigm shift, and/or encouraged surgeons to rethink approaches to patient care, big data, and trial results with the *Neurosurgery Publications Paper of the Year Awards*



Khoi Than, Vice Chair of the Scientific Program Committee, presents the Top Paper of the Year Award to Dr. Johannes Goldberg.

PAPER OF THE YEAR

The Top Paper of the Year was awarded to *“Bleeding Risk of Cerebral Cavernous Malformations in Patients on Statin and Antiplatelet Medication: A Cohort Study”*

Luca Lee Marques, Christian Jaeggi, Mattia Branca, Andreas Raabe, David Bervini, Johannes Goldberg

NEUROSURGERY PAPER OF THE YEAR AWARDS

continued

SECTION LEVEL PAPERS OF THE YEAR

Neurotrauma and Critical Care

“The Roles of Protocols and Protocolization in Improving Outcome From Severe Traumatic Brain Injury”

Randall M. Chesnut, Nancy Temkin, Walter Videtta, Silvia Lujan, MD, Gustavo Petroni, Jim Pridgeon, Sureyya Dikmen, Kelley Chaddock, Terence Hendrix, Jason Barber, Joan Machamer, Nahuel Guadagnoli, Peter Hendrickson, Victor Alanis, Gustavo La Fuente, Arturo Lavadenz, Roberto Merida, Freddy Sandi Lora, Ricardo Romero, Oscar Pinillos, Zulma Urbina, Jairo Figueroa, Marcelo Ochoa, Rafael Davila, Jacobo Mora, Luis Bustamante, Carlos Perez, Jorge Leiva, Carlos Carricondo, Ana Maria Mazzola, and Juan Guerra.

Pain

“Focused Ultrasound Central Lateral Thalamotomy for the Treatment of Refractory Neuropathic Pain: Phase I Trial”

Abdul-Kareem Ahmed, Jiachen Zhuo, Rao P. Gullapalli, Li Jiang, Michael L. Keaser, Joel D. Greenspan, Chixiang Chen, Timothy R. Miller, Elias R. Melhem, Charles A. Sansur, Howard M. Eisenberg, and Dheeraj Gandhi.

Pediatrics

“Postnatal Myelomeningocele Repair in the United States: Rates and Disparities Before and After the Management of Myelomeningocele Study Trial ”

Belinda Shao, Jia-Shu Chen, Olivia A. Kozel, Oliver Y. Tang, Natalie Amaral-Nieves, Rahul A. Sastry, Debra Watson-Smith, Julie Monteagudo, Francois I. Luks, Stephen R. Carr, Petra M. Klinge, Robert J. Weil, and Konstantina A. Svokos.

Peripheral Nerve

“Impact of Timing of Primary Nerve Surgery on Shoulder, Forearm, and Elbow Recovery in Neonatal Brachial Plexus Palsy”

Whitney E. Muhlestein, Kate W.-C. Chang, Denise Justice, Virginia S. Nelson, Yamaan S. Saadeh, and Brandon W. Smith.

Socioeconomics, Health Policy, and Law

“Anterior Cervical Discectomy and Fusion Versus Microendoscopic Posterior Cervical Foraminotomy for Unilateral Cervical Radiculopathy: A 1-Year Cost-Utility Analysis ”

Steve H. Monk, Ummey Hani, Deborah Pfortmiller, E. Hunter Dyer, Mark D. Smith, Paul K. Kim, Michael A. Bohl, Domagoj Coric, Tim E. Adamson, Christopher M. Holland, and Matthew J. McGirt.

Spine

“Digital Biomarkers and the Evolution of Spine Care Outcomes Measures: Smartphones and Wearables”

Christina L. Bi, David B. Kurland, Roee Ber, Douglas Kondziolka, Darryl Lau, Donato Pacione, Anthony Frempong-Boadu, Ilya Laufer, and Eric K. Oermann.

Stereotactic and Functional

“Reconnecting the Hand and Arm to the Brain: Efficacy of Neural Interfaces for Sensorimotor Restoration After Tetraplegia”

Eric Z. Herring, Emily L. Graczyk, William D. Memberg, Robert Adams, Gaudalupe Fernandez Baca-Vaca, Brianna C. Hutchison, John T. Krall, Benjamin J. Alexander, Emily C. Conlan, Kenya E. Alfaro, Preethisiri Bhat, Aaron B. Ketting-Olivier, Chase A. Haddix, Dawn M. Taylor, Dustin J. Tyler, Jennifer A. Sweet, Robert F. Kirsch, A. Bolu Ajiboye, and Jonathan P. Miller.

Tumor

“Response to Preoperative Dexamethasone Predicts Postoperative Neurological Improvement of Focal Neurological Deficits in Patients With Brain Metastases”

Stephen G. Bowden, Christian G. Lopez Ramos, Barry Cheaney II, Emma Richie, Nasser K. Yaghi, Daniel N. Munger, David J. Mazur-Hart, Hao Tan, Matthew D. Wood, Justin S. Cetas, Aclan Dogan, Ahmed M. Raslan, and Seunggu J. Han.

Global Neurosurgery

“Firearm-Related Traumatic Brain Injury Homicides in the United States, 2000-2019”

Dana Waltzman, Kelly Sarmiento, Jill Daugherty, Angela Lumba-Brown, Joanne Klevens, MD, and Gabrielle F. Miller.

SANS Challenge Winners

Congratulations to our 2024 SANS Challenge Winners



1st Place

UNIVERSITY OF COLORADO ANSCHUTZ
MEDICAL CAMPUS
Ahmed Helal, Reinier Alvarez
(Faculty: Muhammad Riaz)



2nd Place

UNIVERSITY OF KANSAS
MEDICAL CENTER
Anand Dharia, Andrew Guillotte
(Faculty: Timothy Stepp)



3rd Place

GEORGE WASHINGTON
UNIVERSITY
Peter Harris, Douglas Chung
(Faculty: Carlos Chung)

Pathway to Neurosurgery

An initiative by the Congress of Neurological Surgeons Foundation on **Monday** brought local high school students to the convention center to learn about neurosurgery, hear CNS President Alexander Khalessi deliver his presidential address, hear Magic Johnson speak, and get hands-on access to equipment with neurosurgeon faculty.



Other Special Speakers and Events

continued

Two sold out **Dinner Seminars** at popular DC restaurants:

- **Disruptive Technology in Spine Surgery**
- **Complex Skull Base Approaches**

CNS International, Resident, and Foundation Reception on the pool deck at the Marriott Marquis Houston on **Saturday** night, followed by the Stryker event.



Two **Interactive Poster Presentation Session** with Wine and Cheese – **Monday** and **Tuesday** evenings showcasing almost 1200 posters and 300 mini-oral podium presentations.



Medical Student Town Hall on **Monday** night provided medical students the opportunity to learn about navigating the match and developing a successful career in neurosurgery from a panel of neurosurgery Residency Program Directors who were available to answer questions and discuss hot topics.



New session on **Wednesday** afternoon: **Innovation, Hackathon and Making Your Mark in Neurosurgery.**

Neurosurgical Medical Student Specialty Session held on **Wednesday** afternoon – content created by and presented by medical students.



— CNS XPERIENCE LOUNGE HIGHLIGHTS —



SPACE TO RELAX AND CONNECT WITH COLLEAGUES AND PEERS



— CNS EXPERIENCE LOUNGE —

continued

2024 CNS XPERIENCE LOUNGE HAPPENINGS



MEET AND GREET—GROUP STRETCHES AND WELLNESS ACTIVITIES



MORNING EXHIBIT HALL BREAK

- Dr. Steven Giannotta
- Meet & Greet Sessions with the Honored Guests

LIVE SURGERY PRESENTATION STAGE



- Karl Storz, KLS Martin, & Peter Lasic Daily live surgery sessions. Complex Endoscopic Skull Base Surgery
Surgeons: Paul Gardner & Garret Choby

- **Microvention Live Surgery:**
Surgeons: Elad Levy, Kunal Vakharia
- **Medronic - Siemens Live Surgery: Vantage Flow Diverter for Aneurysm on the Artis Q Biplane in the Atlans Ambulatory Surgery Center**
Surgeon: Elad Levy
- **Stryker Live Surgery: Complex Aneurysm Treatment with Stryker's Newest Target Coils**

— CNS EXPERIENCE LOUNGE —
continued



THE ART OF NEUROSURGERY

- To Draw is to Understand
Steve Graepel
- Extending Realities: Mayo Clinic's New Era in Neuroanatomy Visualization
Wes Price



GIVEAWAYS

Goodr Sunglasses giveaway for members.

TABLETOP DEMONSTRATION NEAR ENTRANCE TO ART OF NEUROSURGERY GALLERY

Live Demonstration of Real-time Medical Illustration
Josh Emerson, Peter Lawrence



DEVICE INNOVATION SHOWCASE

10-minute sponsored talks



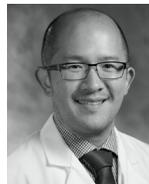
Alexander A. Khalessi, MD, MBA
President



Garni Barkhoudarian, MD
Annual Meeting Chair



Edjah Nduom, MD
Scientific Program Chair



Khoi Than, MD
Vice-Scientific Program Chair

— EDUCATION DIVISION —



Under the continued leadership of Chairs Akash Patel and Clemens Schirmer, as well as Vice Chair Tiffany Hodges, the CNS Education Division built on the foundation laid in previous years with a focus in 2024 on expanding and reinforcing the high value educational content that the CNS provides for neurosurgeons across all career stages and practice settings.

This year we held three successful live courses, while continuing to deliver essential content to our members at home through five virtual courses, several of which reached record numbers of attendees this year. Additionally we have continued to add new accessible content to our Neurosurgery Survival Guide, which is housed in the CNS+ App. All of this was accomplished through the efforts of more than 100 volunteer committee and work group members and over 250 faculty members.

— LIVE COURSES —

Neurosurgical Complications Course

February 2 – 4, 2024 In February, the CNS hosted a Neurosurgical Complications Course with Spine Complications and Tumor Complications tracks, in Ponte Vedra, Florida. The combined program used an interactive case-based format to help attendees recognize factors that lead to complications and poor outcomes when treating spine disorders and brain tumors and discussed different strategies for resolving surgical complications should they arise. Led by course directors, Drs. Daniel J. Hoh, Gerald Rodts, Constantinos G. Hadjipanayis and Daniel M. Prevedello, this program invited participants to present a complicated case of their own for discussion with peers and expert faculty on management and preventative strategies. The course also featured combined networking events and a medico-legal session.

Total CME Claimed: (Hours)

210.5

Essentials for a Rewarding Neurosurgical Career

January 20 – 21, 2024

Led by Drs. Ashok Asthagiri and Mark Hadley, along with seven other neurosurgical faculty, the Essentials Course was a part of a comprehensive curriculum to guide participants through the transition period from senior residency to mid-career neurosurgeon. Topics included strategies for establishing a career focus; the value of mentorship and maintaining a peer network; working with your senior partner, chairman and hospital administration; and establishing effective physician-patient relationships that translate to an improvement in patient outcomes, patient safety, and patient satisfaction. This year, we were able to offer the Essentials Course complimentary to all participants thanks to generous support from our corporate partners, and we received a record number of participants. For 2025 the Essentials for a Rewarding Neurosurgical Career program has been incorporated into the CNS Annual Meeting.

Total CME Claimed: (Hours)

13

2024 CNS Skull Base Fellows Course

August 29 – 30, 2024

This fall the CNS once again gathered early career neurosurgeons in Cleveland, OH for the Skull-Base Fellows Course, led by Dr. Nicholas Bambakidis and a team of 18 expert faculty. This rigorous two-day course combined lectures, case-based discussions, and cadaveric dissections to cover the basic surgical approaches and anatomy required of every skull base neurosurgeon.

Total CME Claimed: (Hours)

202.25

— VIRTUAL COURSES —

2024 SANS Written Board Review Course

January 27, 2024

In January, the CNS hosted the SANS Written Board Course online. Attendees took advantage of this opportunity to study together for the ABNS Primary Exam in an interactive format. The one-day intensive review, led by Dr. Khoi Than, provided summative didactic sessions covering the breadth of neuroanatomy, neurobiology, neuropathology, neuroimaging, neurology, neurosurgery, critical care, and core competencies—from synaptic physiology to cranial nerve anatomy to complex spine surgery. Each lecture incorporated live SANS questions to help learners test their knowledge through a combination of interactive polling, verbal questions and written response.

2024 Oral Board Review Courses

March 2-3, 2024 & September 7-8, 2024

In 2024 the CNS continued to host our popular Oral Board Review Courses virtually. Held in March and September, these highly interactive courses were designed to prepare surgeons for the case-based nature of the exam with multiple learning formats, including didactic, faculty vs. faculty quiz demonstrations, case presentations, small-group discussions and one-on-one sessions. This year's courses were led by Drs. Akash Patel and Robert Spinner in the Spring, and Drs. Laura Snyder and Robert Spinner in the Fall, along with 24 other expert faculty. In addition to the virtual courses, we have continued to host post-course Hot Seat Monday sessions for course attendees with around 30-40 people participating each week. Combined with the course weekend, these sessions provide participants with a chance to review for the exam weekly for six weeks ahead of their exam. We also offered a registration option for just the Hot Seat Monday sessions this year, for those folks who were unable to join us for the Course weekend.

Total CME Claimed: (Hours)

308

2024 Neurosurgical Emergencies Course

April 10, 17, & 24, 2024

The CNS was proud to bring back this important virtual course designed for neurosurgeons, allied health staff and residents who work in neurosurgical emergency situations. This three-day virtual course was led by Drs. Martina Stippler, David Okonkwo, and Phil Tausky, and covered topics including aneurysm rupture, stroke care, anticoagulation reversal, spine stabilization, TBI operative care, and hyper intense conversations. The 2024 course had record attendance for the third consecutive year, with an especially strong audience of physician extenders and international residents, whose participation was enabled by donations from the CNS Foundation. The course featured multiple learning formats including didactic, panel discussions, case presentations and live polling to engage learners of all types.

2024 Data Science Course

June 8, 2024

In June 2024, the CNS held its Data Science Virtual Course designed for neurosurgeons and residents who will use data science in their research or hospital administrative duties. Led by Drs. Eric Oermann, Lauren Stone and Natasha Ironside, the course covered Designing Interpretable Machine Learning Models - Decomposing Black Box Methods, Alternatives to Convolutional Neural Networks for Signal and Image Processing, Curating Big Datasets for Use in Neurosurgical Data Science Search, Assessing Safety and Efficacy of Data Science Models in the Clinical Environment, and Transition to Market: Deploying Data Science Models. The course was presented using didactic and panel discussion, and included a Data Science Workshop at the conclusion of the course.

Total CME Claimed: (Hours)

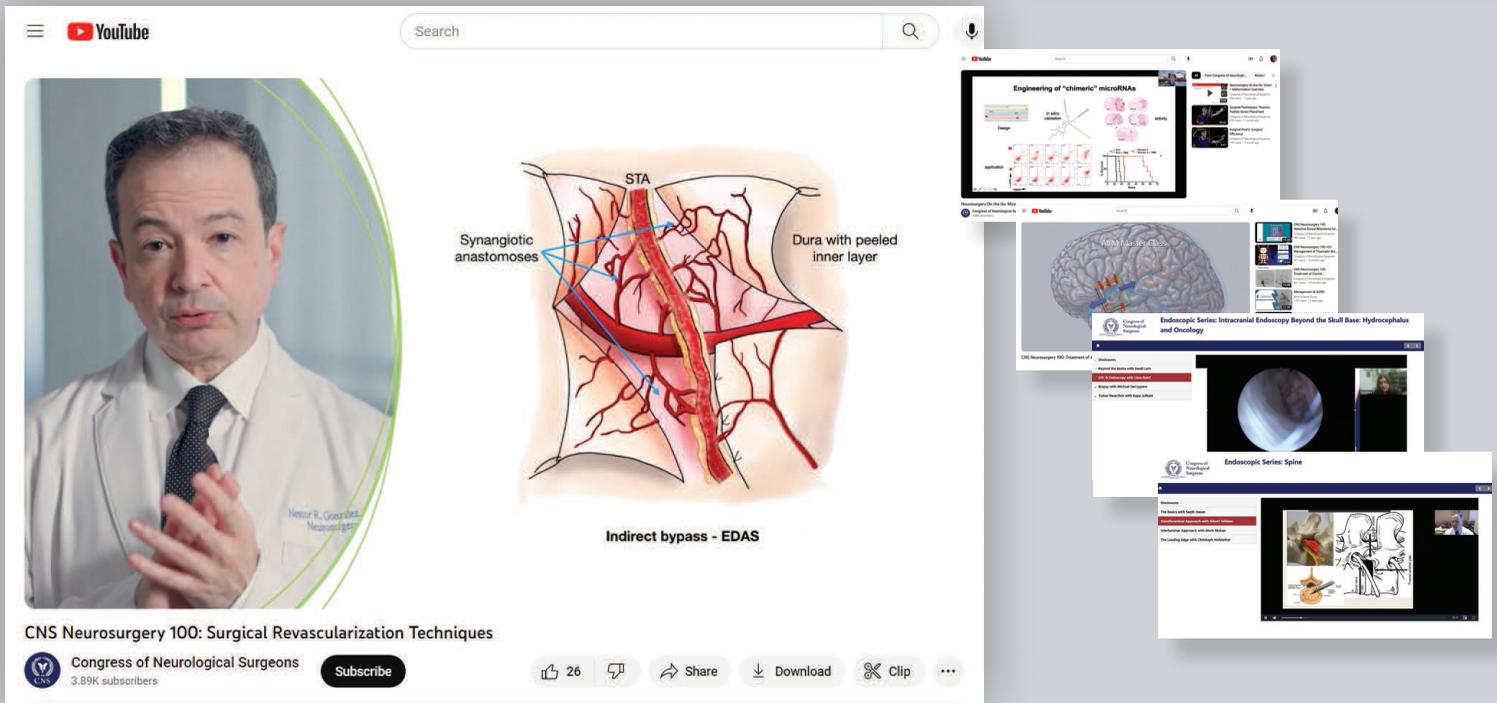
585.75

Total CME Claimed: (Hours)

12.5

— ONLINE LEARNING —

This year we offered 160 activities in the online catalog, which included podcasts, special series, and webinars. A total of 872.75 AMA PRA Category 1 credits have been claimed to date.



Webinar Series

- The CNS continued to offer its Hot Seat Monday Webinars following the 2024 Oral Board Review Course. These webinars were also made available to an audience beyond the course attendees for a separate registration fee.
- In October 2024, the CNS held the last of series on career guidance topics, through a partnership with Rosman Search that began in 2023.

Podcasts

- The CNS recorded 12 monthly Journal Club Podcasts in 2024. These 30-minute podcasts are complimentary to all CNS members and had a combined total of 11,851 plays. Two new resident volunteers joined the committee this year. Thank you to our volunteer committee, led by co-chairs Kimberly Hoang and Rafael Vega for their efforts on this series.
- Controversies in Neurosurgery, led by co-chairs Seth Oliveria and Rushna Ali featured six episodes and had 5,587 total plays this year.
- Optimizing Neurosurgical Practice, led by co-chairs Brian Gantwerker, Amir Vokshoor, Lara Massie and Scott Zuckerman featured six episodes and had 5,817 total plays this year. These two podcasts alternate monthly. They are both complimentary and are non-CME.

— ONLINE LEARNING —

continued

YouTube

<https://www.youtube.com/@cnsvideolibrary/videos>



In 2024, the CNS YouTube Channel grew to over 7,000 subscribers, a new record. The channel now includes the following content:

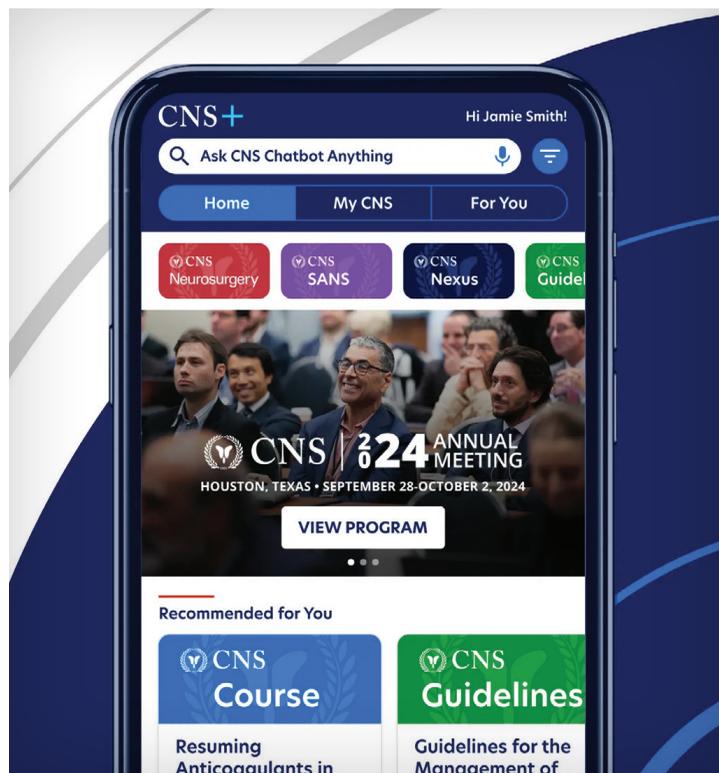
- **Neurosurgery On the Go** – Features webinar clips from CNS webinars as a teaser to the full product available on the CNS Website.
- **CNS Annual Meeting highlights** including the Presidential Address and Michael L.J. Apuzzo Lecture with Elon Musk.
- **CNS Neurosurgery 100** – Features 10-15 minute lectures on key topics across Neurosurgery subspecialties.
- **CNS Podcasts** – Cross-posted audio from each CNS Podcast that is released.
- **Journal Highlights** – Videos submitted by accepted authors with a manuscript published in *Neurosurgery*. This series expanded dramatically this year, quadrupling in the number of videos originally planned.
- **CNS Promotional Videos** – Course and Meeting promotional videos about upcoming CNS events and initiatives.

CNS+

<https://www.cns.org/cns-plus-app>

The CNS is revolutionizing neurological practice with a groundbreaking AI-enhanced interface integrated into the new CNS+ app. Tailored education, and exclusive tools at your fingertips—whether you're in the operating room, clinic, or on the go!

- **Instant Answers:** AI-enhanced search engine, delivering results 90% faster.
- **Personalized Education:** Receive recommendations tailored to your needs.
- **Exclusive CNS Member Access:** Unlock CNS Guidelines, Nexus, Neurosurgery, and more!
- **Transform your practice:** Access critical information anytime, anywhere.



— ONLINE LEARNING —

continued

— SANS —

<https://www.cns.org/education/sans-lifelong-learning>

In 2024, the SANS Committee continued to build upon our successful rollout of the CNS SANS Flashcards, releasing a second deck of 500 flashcards in June. SANS Flashcards allow 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 1,000 questions, the easy-to-use SANS Flashcards can be used for studying between cases or clinic patients. The committee also met virtually over the summer to update the module exams with 20% new content. These exams are available as 100-question modules covering individual subspecialty areas—neuropathology, functional neurosurgery, pain and peripheral nerve, pediatric neurosurgery, spine, trauma and neurocritical care, tumor and vascular. A 700-question bundle is also available, which includes all seven subspecialty modules.

We continued to provide the essential CNS SANS ABNS Primary Board Examination Review modules, with 86 programs now utilizing these modules. The modules incorporate actual question stems from the ABNS Primary Examination into CNS' peer-reviewed self-assessment question format. This go-to resource for Primary Examination study allows candidates to test their knowledge of the topics covered in the Primary Board Examination, while receiving immediate feedback and a detailed rationale for the correct answer, as well as links to supplemental references for continued study.

We are, as always, grateful to the volunteer members of the SANS committee who dedicate hundreds of hours every year writing, reviewing and updating questions to ensure all exams stay fresh and relevant to today's practice.

SANS by the numbers:

14

SANS
Exams

1000

SANS Flashcards
220 SANS Flashcard decks sold

1645

AMA PRA Category 1 Credits
claimed on SANS exams

86

Programs subscribed to the CNS
SANS ABNS Review Bundle

DID YOU KNOW?

Two of our SANS Exams—SANS: Indications (150 questions) and SANS: Leadership (20 questions) are included in the CNS Online Education Subscription.

This member exclusive offering gives you access to more than \$7,500 worth of online education and 150 hours of CME, across all clinical and non-clinical areas of neurosurgical practice, for only \$19.99 per month.

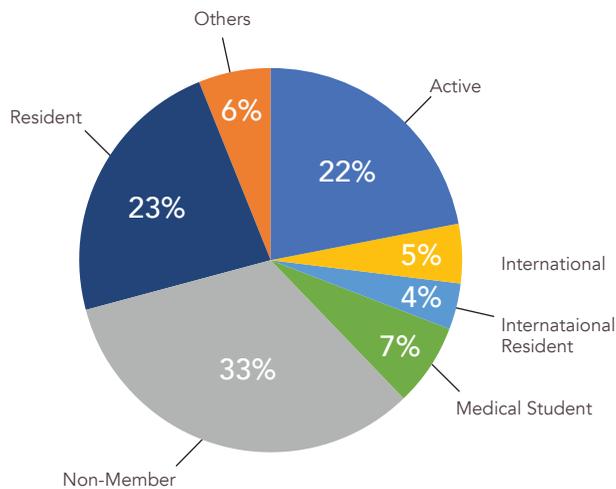
— NEXUS —

<https://www.cns.org/nexus/cases>

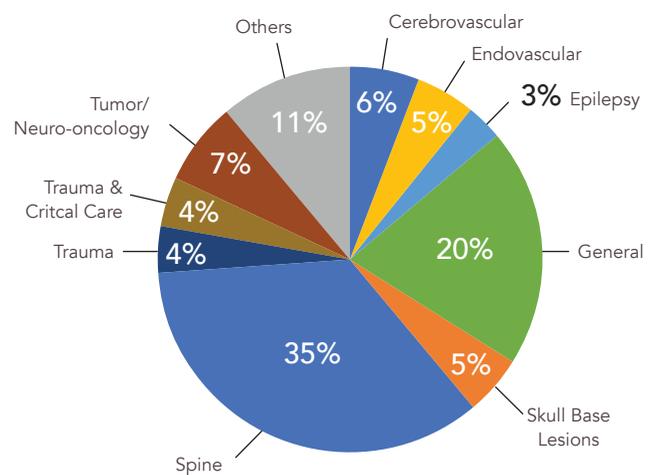
Thanks to over 250 authors and contributors, in addition to our many volunteers and section editors, the offerings provided by Nexus continue to be a valued resource for surgeons across the platform spectrum of practice. Nexus now offers 35 approaches within the and 602 cases, enhanced with intraoperative images, medical illustrations, and operative videos. Now this comprehensive, case-based repository is available exclusively to CNS members.

Efforts to promote Nexus cases through microlearning educational tutorials continued in 2024. 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.

Total Visits by Member Type



Total Visits by Subspecialty



NEXUS TOP 10 ARTICLES

- Superior Parietal Lobule Approach
- Far Lateral Approach
- Acute Subdural Hematoma Craniotomy Evacuation
- 5-ALA fluorescence guided surgery for GBM
- Acute Ischemic stroke from MCA occlusion
- Mini-Pterional Approach
- Pterional Approach
- 2-Level arthroplasty for cervical spondylosis
- Retrosigmoid Approach
- Mini Pterional Approach

A decade after its conception, the case repository continues to 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, review the Nexus content, and follow the “**About**” link to <https://www.cns.org/nexus/acknowledgements-volunteering> to view the complete Nexus Editorial Board listing and learn how you can contribute.

— EDUCATION DIVISION —
continued

EDUCATION DIVISION LEADERSHIP



Akash J. Patel, MD
Co-Chair



Clemens M. Schirmer, MD, PhD
Co-chair



Tiffany R. Hodges, MD
Vice Chair



Nader Pouratian, MD, PhD
Advisor

ONLINE EDUCATION LEADERSHIP



Theresa L. Williamson, MD
Chair



Sharona Ben-Haim, MD
Vice Chair

SANS COMMITTEE LEADERSHIP



Laura A. Snyder, MD
Chair



Theresa L. Williamson, MD
Vice Chair



Akash J. Patel, MD
Advisor

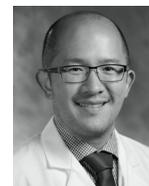
NEXUS COMMITTEE LEADERSHIP



Jeffrey P. Mullin, MD
Chair



Kunal Vakharia, MD
Vice Chair



Khoi D. Than, MD
Advisor



Peter Nakaji, MD
Approaches Editor

— CNS LEADERSHIP INSTITUTE —

The CNS Leadership Institute, a marquee program central to CNS’ mission, kicked off its ninth annual cycle in March 2024 with a new series of pre-course webinars, including “Leadership Essentials,” a leadership project workshop and “Leveraging your Leadership Strengths.” These new webinars were designed to better prepare the 2024 Leadership Fellows for the intensive live courses held May 10-11 in Chicago—the CNS Leadership in Health care Course, for surgeons within five years of entering independent practice, as well as the Vanguard CNS Leadership in Health care Course for those more tenured in their practice who are already in or are moving into formal leadership roles within their home institution.



The Leadership Institute curriculum is uniquely designed to help surgeons understand diverse perspectives, communicate across all levels of the organization, and more effectively lead teams and advance their projects. It covers both health care business content, such as hospital finance and health system alignment, as well as essential leadership skills like change management and communication strategies, in order to prepare neurosurgeons to engage in meaningful dialog with administrators

In addition to the pre-course webinar series, the 2024 Leadership Institute Fellows completed the CliftonStrengths Assessment prior

to the live courses, to identify their unique leadership strengths. And each participant identified an individual leadership project, which they planned to pursue within their home institutions or in organized neurosurgery.

The in-person workshops in Chicago were led by neurosurgeon leaders—Dr. David Langer for the junior attending course, and Drs. Ganesh Rao, Ashwini Sharan, Scott Wait and Michele Johnson for the Vanguard course—as well as a group of organizational communications and health care finance experts and administrators affiliated with the University of Illinois at Chicago, Henry Ford Health,

— CNS LEADERSHIP INSTITUTE —

continued

Baylor College of Medicine and Medtronic. These experts, along with Leadership Institute committee course directors, Ellen Air, Anand Veeravagu, Sharona Ben-Haim and Rushna Ali, led 28 rising leaders in the field through two days of critical leadership content and facilitated small-group discussion of real-world decision scenarios faced by administrative and neurosurgical leaders. Participants applied the concepts learned from the weekend courses to their individual projects, gaining insight from faculty and peer mentors to overcome obstacles while working toward their personal and organizational goals. The program also included a joint networking dinner where participants and faculty from both courses could connect and discuss their leadership challenges, as well as a shared negotiations session featuring a panel of all neurosurgeon faculty members.

Following the live courses, Leadership Institute fellows returned to their home intuitions and practices to continue work on their individual projects, armed with new knowledge, skills and connections to help them overcome obstacles and effect their desired change. The program concluded in September with a final report-out session during the CNS Annual Meeting where selected participants shared their progress and challenges around the leadership projects they were pursuing and gained feedback from their colleagues. The end result is a dynamic and adaptive learning experience unlike anything available in our specialty, which has been well received by participants and their mentors back home.

To date, nearly 200 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.

In today's health care environment, the role of a modern neurosurgeon includes health care leadership. Change management, communication and negotiation skills are as critical to the role as surgical training and knowledge. 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.



Ellen L. Air, MD
Co-Chair



Anand Veeravagu, MD
Co-Chair



Sharona Ben-Haim, MD
Vice Chair



Brian V. Nahed, MD
Senior Advisor

— WASHINGTON REPORT —



Charlotte Pineda, MPP, presenting at the CNS Annual Meeting

CNS Leads the Way Advocating for Neurosurgeons in Washington

Through advocacy, policy development, and public relations, the Washington Committee and Washington Office have played a fundamental role in advancing [neurosurgery's key health care initiatives](#). Organized neurosurgery has made progress on legislative and regulatory issues important to neurosurgeons, their patients, and the specialty. The CNS frequently interacted with members of Congress and worked with government agencies — including the Centers for Medicare & Medicaid Services (CMS) and the Food and Drug Administration (FDA) — and other health care stakeholders, such as third-party payers and state and national medical associations.



AANS/CNS Washington
Committee for
Neurological Surgery

— WASHINGTON REPORT —

continued

In 2024, **Charlotte Pineda**, MPP, was named VP of health policy and advocacy for the Washington Office. Ms. Pineda brings a wealth of experience and a distinguished career in health policy to her new role. She has spent the last eight years on Capitol Hill, most recently as health policy director for U.S. Senator **Roger Marshall**, MD, (R-Kan.) and a professional staff member on the U.S. Senate Committee on Health, Education, Labor & Pensions (HELP), including the HELP Subcommittee on Primary Health & Retirement Security. She also worked as a research assistant for former Sen. **Orrin Hatch** (R-Utah).

Efforts to Reform Prior Authorization Continue

For the past seven years, the CNS has been tireless in its efforts to reform prior authorization. The CNS applauded the introduction of neurosurgery-backed legislation, the *Improving Seniors' Timely Access to Care Act* ([S.4532/H.R. 8702](#)). Championed by Sens. **Roger Marshall**, MD, (R-Kan.), **Kyrsten Sinema** (D-Ariz.), **John Thune** (R-S. Dak.), and **Sherrod Brown** (D-Ohio) in the Senate, and Reps. **Suzan DelBene** (D-Wash.), **Mike Kelly** (R-Pa.), **Ami Bera**, MD, (D-Calif.), and **Larry Bucshon**, MD, (R-Ind.) in the House, this bill would reform the use of prior authorization in Medicare Advantage through a streamlined and standardized process that focuses on increased transparency and accountability. Additionally, this bill would codify and enhance elements of the Advancing Interoperability and Improving Prior Authorization Processes rule that was finalized by CMS in 2024.

The Senate Permanent Subcommittee on Investigations Majority Staff released a [report](#) exposing Medicare Advantage insurers' refusal of care for vulnerable seniors. The full report, [available here](#), details how certain Medicare Advantage plans overuse risk adjustment coding and use prior authorization to delay or deny medically necessary care, impacting patient outcomes. It calls for enhanced oversight to ensure that the program fulfills its promise of providing high-quality, cost-effective care to seniors rather than prioritizing insurer profits. The report further evidences the need to pass the Improving Seniors' Timely Access to Care Act as well as other reform measures.

Neurosurgeon Testifies in Congress

Anthony M. DiGiorgio, DO, MHA, testified before the U.S. Senate Committee on the Budget at a [hearing](#) titled "Reducing Paperwork, Cutting Costs: Alleviating Administrative Burdens in Health Care." In his testimony, Dr. DiGiorgio, tackled the issue of administrative burdens such as prior authorization, meaningless "quality" measures and the morass of health care regulations.



Charlotte Pineda, MPP, and **Ann R. Stroink**, MD, meet with Rep. **Suzan DelBene** (D-Wash.)

Subsequently, Dr. DiGiorgio [testified](#) before the U.S. House Committee on Energy and Commerce about the problems related to the 340B Drug Discount Program ("340B Program"), the second-largest government pharmaceutical program. The purpose of the 340B Program is to provide low-income and uninsured patients increased access to life-saving drugs. However, the 340B Program has expanded beyond its legislative purpose, resulting in additional profits for hospitals and health systems operating in affluent areas.

Legislative Success in Pediatric Neurosurgery

Neurosurgery celebrated legislative victories with the reauthorization of federal programs prioritizing pediatric neurosurgical care including the Gabriella Miller Kids First Research Act 2.0 and the reauthorization of the Emergency Medical Services for Children (EMSC) program.

The Gabriella Miller Kids First Research Act 2.0 reauthorizes and expands funding for the Kids First Research Program at the National Institutes of Health (NIH). The program prioritizes research on brain tumors, a leading cause of cancer-related deaths in children. Named after Gabriella Miller, a young advocate who succumbed to brain cancer at the age of 10, the law honors her legacy by ensuring sustained investment in the fight against childhood cancers and congenital anomalies. This additional funding stream will help provide critical research to find new, innovative treatments.

— WASHINGTON REPORT —

continued



Joshua M. Rosenow, MD; Krystal L. Tomei, MD, MPH; Laura Stone McGuire, MD; Jason M. Schwalb, MD; Maya Babu, MD, MBA; and Ann R. Stroink, MD, at the American Medical Association House of Delegates Interim Meeting



Ann R. Stroink, MD, attending a coffee meeting with Sens. **Dick Durbin (D-Ill.)** and **Tammy Duckworth (D-Ill.)**



Ann R. Stroink, MD, with Rep. **Darin LaHood (R-Ill.)**

— WASHINGTON REPORT —

continued

Equally impactful is the Emergency Medical Services for Children (EMSC) program, which ensures that emergency departments across the country are prepared to address pediatric-specific needs. For neurosurgery, this program plays a vital role in enhancing care for children experiencing traumatic brain injuries (TBIs) and other neurosurgical emergencies. By integrating neurosurgeons into emergency medical services and supporting readiness initiatives, the program has reduced child morbidity and mortality from severe injuries.

Taking Neurosurgery's Policy to the Next Level: Advocacy at the AMA

Neurosurgery's delegation to the American Medical Association (AMA), led by **Ann R. Stroink**, MD, CNS Delegate and Chair, continues to play a critical role in shaping policies that impact neurosurgical practice and patient care. At the AMA Interim Meeting (I-24) in Orlando, Florida, the delegation tracked 51 resolutions, focusing on issues such as reimbursement, artificial intelligence (AI), and physician well-being. Among the delegation's key accomplishments, Testimony by **Laura Stone McGuire**, MD, helped strengthen protections against ionizing radiation exposure, ensuring inclusive personal protective equipment for all body types and pregnancy statuses. Subsequently, *MedPage Today* [published an article](#) titled, "AMA Delegates Want Better Protection From Ionizing Radiation Exposure," featuring Dr. McGuire.

Dr. Stroink's advocacy led to amendments prohibiting retrospective payment denials, a significant step toward administrative fairness and financial stability for physicians as federal entities and Congress increase scrutiny on insurer use of prior authorization.

Separately, Dr. Stroink's work as a member of the AMA Council on Legislation has been instrumental in advancing neurosurgery's legislative priorities. Through direct engagement with congressional leaders, she championed reforms to the Medicare Physician Fee Schedule and prior authorization processes. These efforts resulted in enhanced advocacy against Medicare payment cuts and strengthened neurosurgery's legislative influence.

Championing Fair Reimbursement for Neurosurgeons

The Coding and Reimbursement Committee (CRC) — chaired by **G. Edward Vates**, MD—continues to advocate on behalf of neurosurgeons. Below are some examples of advocacy efforts in 2024:

- CRC leaders introduced a new code for magnetic resonance (MR)-guided focused ultrasound (MRgFUS) to treat essential tremor and were successful in reversing a Centers for Medicare & Medicaid Services (CMS) recommendation to reduce the value

of the code in the 2025 Medicare Physician Fee Schedule.

- CRC leaders and Leaders from the Section on Disorders of the Spine and Peripheral Nerves (DSPN) spearheaded efforts with spine societies to develop a new CPT Category I add-on code to describe the work of the use of an annular closure device.
- CRC leaders have supported separate payment for non-opioid treatments for pain, especially for devices in the hospital outpatient and ambulatory surgery center settings. In 2025 regulation, CMS agreed to separate payment for seven drugs and one pain pump device.
- CRC provided education and information on resources for neurosurgery practices affected by the Change Healthcare cyber-attack that significantly impacted much of the nation's health care system.
- CRC continues to advocate for appropriate health insurance coverage for neurosurgical procedures. For example, in 2024, 8 payors added favorable coverage policy for interstitial laser thermal therapy (LITT) treatment, along with many state Medicaid plans. The CRC is currently conducting an outreach to the Blue Cross/Blue Shield that do not cover LITT to educate them on the latest clinical literature.

Pioneering Medical Innovation: Shaping the Future of Neurosurgery

The advocacy efforts of the Drugs and Devices Committee, chaired by **Joshua M. Rosenow**, MD, continue. The committee has held a number of in-person events with the FDA and CMS regarding device development and, in 2025, will conduct virtual webinars with neurosurgeon leaders, innovators, and FDA staff. Finally, a neurosurgeon nominated by the CNS has been accepted to serve on the HHS Interagency Pain Research Clinical Committee (IPRCC).

In addition to long-time participation in the FDA [Network of Experts](#) program that provides FDA reviewers with real world feedback from practicing neurosurgeons, the Drugs and Devices Committee is working closely with FDA on the [Total Product Lifecycle Program](#) (TAP) to provide early access to neurosurgical guidance for manufactures of FDA Breakthrough devices and have met with several companies in early device development for products used in the brain. Neurosurgery urged the FDA to expand the program to spine devices and TAP will do so early in 2025.

— WASHINGTON REPORT —

continued

Value-Based Health Care Reform

The CNS continues to advocate for significant improvements to the Quality Payment Program (QPP), including the Merit-Based Incentive Payments System (MIPS), which was authorized under the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) to tie Medicare physician payments to performance metrics in an effort to reward value over volume. The program was also intended to provide physicians with meaningful performance feedback and to incentivize movement into alternative payment models (APMs), but it has been an abysmal failure in all of its goals.

Through the Alliance of Specialty Medicine and the Physician Clinical Registry Coalition (PCRC), the CNS has met with CMS, MedPAC, the White House Office of Management and Budget (OMB), and Congressional leaders to request fundamental reforms to the program to ensure more accurate measurement of specialist quality and cost, and to minimize administrative burden. The CNS has also submitted comment letters to CMS, pushing back on policies that ignore the realities of clinical medicine and other band-aid fixes that fail to make the program more meaningful for both physicians and patients.

Neurosurgical leaders, including **Jay K. Nathan**, MD, and **Jason M. Schwalb**, MD, continue to serve on CMS-appointed clinical expert panels to ensure that neurosurgical-focused measures under development for the program are as accurate and fair as possible within the context of the existing flawed program. The CNS has also encouraged CMS and Congress to look beyond the QPP and consider alternative investments in quality improvement. Sen. **Bill Cassidy**, MD, (R-La.), who is expected to chair the Senate Health, Education, Labor, and Pensions (HELP) Committee in the 119th Congress, recently expressed interest in developing new legislation to recognize data collected by registries and certifying boards, such as the American Board Of Neurological Surgery (ABNS), as an alternative to MIPS.

Amplifying Neurosurgery's Message: Engaging Broader Audiences

Beyond its direct lobbying and grassroots advocacy, the Washington Committee garners support for neurosurgery's health policy positions by carrying out a nationwide earned media campaign and by providing the media with timely information that can be used for their reporting. These efforts included op-eds, letters to the editor, and briefings with reporters, resulting in multiple articles published in such media outlets as *Becker's Spine Review*, *Forbes*, *The Hill*, *MedPage Today*, *Medscape*, *Newtown County Times*, *Policy and Medicine*, *Politico*, *The Robesonian*, *Swark Today*, *Vermont Biz*, and *The Wall Street Journal*. This year, neurosurgeon **Richard P. Menger**, MD, MPA, became a *Forbes* contributor.

In addition, the Washington Office's digital media platforms have amassed an audience of more than 120,000. These communication tools include social media platforms, including X (formerly Twitter), Facebook, Instagram, LinkedIn, YouTube, Threads, and Neurosurgery Blog.

Neurosurgery Blog: More Than Just Brain Surgery, a web-based opinion and perspective column through which the CNS offers insights and perspective on contemporary health issues as they relate to organized neurosurgery. In 2024, *Medscape* published an [article](#), "'Blog MD': Medical Blogs That Physicians Love," featuring Neurosurgery Blog on its list of 10 medical blogs for physicians. The article notes that the blog's mission is to investigate and report on how health care policy affects patients, physicians and medical practice and to illustrate that the art and science of neurosurgery encompass much more than brain surgery.

P·C·R·C
PHYSICIAN CLINICAL REGISTRY COALITION



Russell R. Lonser, MD
Chair, Washington Committee



Charlotte Pineda, MPP
Vice President, Health Policy and Advocacy

— GUIDELINES PROGRAM —



For more than 20 years, the CNS has demonstrated its commitment to the development of neurosurgical guidelines by supporting an in-house infrastructure, including robust methodological processes, to produce high-quality evidence-based clinical practice guidelines. Practice Guidelines establish the standards for neurosurgical practice. The 22 published guidelines have been cited more than 6,300 times in academic journals and are among the most frequently accessed resources on CNS' website and podcast catalog.

In 2024, the CNS continued to advance the practice of neurosurgery through the development of clinical practice guidelines. Approximately 200 members of the CNS Guidelines Committee and its associated task forces, under the direction of Drs. Anand Veeravagu (Chair) and Joseph Osorio (Vice Chair), submitted 2 guidelines for publication and continued work on guidelines in development as well as four new practice parameters. The CNS Guidelines Department supports committee and task force volunteers in all aspects of the development process, from topic refinement and development of clinical questions to publication and dissemination.

The CNS also continues to advance an unprecedented and successful three-year partnership with the Section on Disorders of the Spine and Peripheral Nerves to publish a comprehensive Perioperative Spine Guideline, including three parts (preoperative, intraoperative and postoperative). This initiative is funded by a generous donation from the Section on Disorders of the Spine and Peripheral Nerves to the CNS Foundation.

Program Highlights

- 18 guideline topics and practice parameters are currently in development
- CNS Guidelines Podcast Series published new episodes on all new guideline topics, with over 40,000 listens.
- CNS Lumbar Fusion Guidelines was accepted by the Evidence Based Practice Center Program through both AHRQ and PCORI, providing more than \$500,000 in funding for systematic review to support the development of this guideline.
- New topics to be published in 2025 include:
 - Brain Metastases Emerging Therapies Update
 - Perioperative Spine: Intraoperative
 - Functioning Pituitary Adenoma
 - Low Grade Glioma Update
 - Vestibular Schwannoma Update
 - Ulnar Nerve
 - Spinal Cord Stimulation



Anand Veeravagu, MD
Chair



Joseph Osorio, MD
Vice Chair

— DATA SCIENCE INITIATIVES —

As part of our mission to advance health and improve lives, the CNS is committed bringing together thought leaders in neurosurgery to collaborate around challenges facing our specialty and drive the innovations that improve patient care. Through the work of the Data Science and Technology Committee, we continue to drive the development and evaluation of novel strategies that improve data science initiatives related to neurosurgery, as well as to educate practicing neurosurgeons on how they can apply these data science tools in their own practice to improve health outcomes.

Data Science Scholarship

The CNS and Viz.ai partnered in 2024 to continue the CNS Data Science scholarship, designed to provide residents with structured mentorship in the use of advanced data science techniques, including artificial intelligence, for research and practice improvement in neurosurgery. Dr. Lauren Stone was selected as the 2023-24 recipient for her project focusing on adaptive, AI-driven learning as the next frontier in educational theory.



Data Science Abstract award

**Congratulations to our 2024 Data Science Abstract award winner,
Dr. Li Zhuoyuan.**

Development and Validation of an Unpaired Multi-modality Image Generation Model on Brain Tumor Segmentation in Sequence Missing Scenarios

Zhuoyuan Li, Kelei He, Wei Li, Chunhua Hang

This award is sponsored by Nvidia.

Virtual Data Science Course

The 2024 CNS Virtual Data Science Course, “Translating Data Science to Neurosurgical Practice: From Computer Screen to Bedside” provided neurosurgeons, junior academic faculty, and residents with a framework for answering neurosurgical questions using data science models and translating these models into clinical practice. Faculty assisted clinicians in understanding how to incorporate data science models into their clinical practice and to critically evaluate models for their transparency, reliability, and efficacy. The course concluded with a hands-on collaborative workshop applying the concepts covered.

For more details, see the Education Division report on page 36.



Eric K. Oermann, MD

Chair, CNS Data Science & Technology Committee



Mohamad Bydon, MD

Senior Advisor, Guidelines and Data Science Committees

— STRATEGIC PARTNERSHIPS —

Collaborating with Organized Neurosurgery to Advance Neurosurgical Training and Patient Care

The Congress of Neurological Surgeons is committed to partnering with adjacent specialty and subspecialty societies to develop content and programs that advance the specialty and ultimately improve patient care. To that end, we continued to advance our partnership with the Sections and other neurosurgical organizations in 2024

Joint Section Partnerships

For years, the CNS has partnered with the Joint Sections, leveraging our reputation for relevant content, evidence-based guidelines development, and innovative program delivery with the Sections' subspecialty expertise to deliver unparalleled educational programs and resources and provide outstanding service to members and volunteers

Joint Section on Pediatric Neurological Surgery

The CNS was honored to partner again with the Joint Section on Pediatric Neurological Surgery for their 2024 Annual Meeting held in New York, NY, December 12-15, 2024. The 2024 Annual Meeting, themed Better Together: The Power of Partnership, welcomed a record breaking 494 in-person medical attendees and hosted 84 abstract presentations during the general sessions. Under the leadership of Section Chair, L Matthew Smyth and Annual Meeting Chair/Local Host, E. Richard Anderson, the Scientific Program Committee presented two hands-on practical courses, two and a half days of plenary sessions, and two luncheon seminars. Featured keynote speakers included Cyril Arpin, Vice President & General Manager, The Tiffany & Co. Landmark NYC, Ben Rowe, Vice President, Design High Jewelry & Fine Jewelry Tiffany & Co., Head and Eva Price, Three-time Tony Award-Winning Producer.

2024 JOINT PEDIATRIC SECTION ANNUAL MEETING
**BETTER TOGETHER:
 THE POWER
 OF PARTNERSHIP**

NEW YORK, NY
DECEMBER 12-15, 2024
 Sheraton New York Times Square Hotel

PEDIATRIC NEUROLOGICAL SURGERY

2024 JOINT PEDIATRIC SECTION ANNUAL MEETING
**BETTER TOGETHER:
 THE POWER
 OF PARTNERSHIP**

In addition to the scientific program, the Section hosted valuable networking events where many members connected with their colleagues.

— STRATEGIC PARTNERSHIPS —

Collaborating with Organized Neurosurgery to Advance Neurosurgical Training and Patient Care continued

American Society for Stereotactic and Functional Neurosurgery

The CNS was excited to once again partner with the American Society for Stereotactic and Functional Neurosurgery (ASSFN) for their 2024 ASSFN Biennial Meeting—held June 1-4 in Nashville, Tennessee—which focused on forging connections and collaborations in functional neurosurgery and beyond. A team of subspecialty experts, led by Meeting Chair, Dr. Joseph S. Neimat and Scientific Program Chair, Dr. Dario Englot, explored cutting-edge topics at the Daily Plenary Sessions. Topics included Innovation in Neurosurgery, Collaborations in Music, Sports, and Neurosurgery, Exploring the Conscious and Unconscious Brain, Advances in Neural Interfaces, and Unlocking the Brain. Parallel sessions covered diverse topics, including Big Data and AI, Pediatric Surgical Advances, The Evolution of Epilepsy Surgery, The Evolution of Movement Disorder Surgery, The Evolution of Psychiatric Neuromodulation, The Evolution of Pain Surgery, and Connectomic Functional Neurosurgery and Bench to Bedside Advances.



In the Exhibit Hall, attendees were able to engage with exhibitors, view state-of-the-art products, and discover the latest advancements in the field. The 2024 ASSFN Biennial Meeting offered an unparalleled opportunity to stay at the forefront of stereotactic and functional neurosurgery, collaborate with colleagues, and connect with renowned faculty from around the world.

Joint Cerebrovascular Section



The CNS continues to manage the Joint Section on Cerebrovascular Neurosurgery's administrative and Executive Committee business. This partnership has proven extremely valuable over recent years, helping the CNS better understand and anticipate the needs of cerebrovascular surgeons, and ensuring that CV Section members and volunteers receive outstanding service and support.

In 2024, the CNS also partnered with the CV Section to deliver two webinars and one online town hall.

- **CV Section Town Hall**
 - **May 14:** Updates and Highlights from the 2024 AANS Annual Meeting
- **CV Section Webinars**
 - **January 23:** Management of Multiple Aneurysms in the Setting of Subarachnoid Hemorrhage
 - **March 19:** Spinal Vascular Malformations

2024 SNS Medical Student Webinar Series

- Maximizing your 4th year of Medical School - March 6, 2024
- Signaling Update for Program Chairs and Directors - July 24, 2024
- Signaling update for 2024-25 cycle applicants - August 15, 2024
- Interviews 101: Making the Best Impression In-person or Virtually - October 22, 2024

— STRATEGIC PARTNERSHIPS —

*Collaborating with Organized Neurosurgery to Advance Neurosurgical Training and Patient Care
continued*

Neurosurgical Society Partnerships

In 2024, the CNS continued to extend its impact throughout neurosurgery by partnering with two key neurosurgical societies.

American Academy of Neurological Surgery (AAcNS)

The CNS also had the privilege of partnering again with the American Academy of Neurological Surgery (AAcNS) in 2024, administering membership dues, and managing the organization's website and abstract center. New this year, the CNS was the provider of CME for the 2024 Academy Meeting, October 16-19, 2024 in Half Moon Bay, California.

The Academy focuses on promoting, sponsoring and mentoring laboratory, translational, and clinical research in the neurological sciences, and CNS's expertise in abstract management is sure to enhance their success over the course of the partnership.

americanacademyns.org



American Academy
of Neurological Surgery

Society of Neurological Surgeons

The CNS was honored to continue to grow its partnership with the Society of Neurological Surgeons (SNS) in 2024, managing the Society's administrative, membership and website support.

The CNS once again managed the Society's Annual Meeting, held May 18-20, 2024. The meeting was titled *Forthcoming Disruptions in Education: Opportunities and Challenges* and was hosted by Weill Cornell Medicine, attracting 310 medical attendees to New York. General Session topics included "Forthcoming Disruptions in Residency Advocacy and Training," "Forthcoming

Disruptions in Resident Recruitment," and "AI and Other Disruptive Technologies in Neurosurgical Training What Residency Program Directors Need to Know." The Keynote Speech was a Fireside Chat with John Waldron, President and Chief Operating Officer of The Goldman Sachs Group, Inc., and the Winn Prize Lecture: *Brain Tumor Immunotherapy: From Discovery Science to Clinical Translation* was delivered by Dr. Linda M. Liau.

In addition, the CNS partnered with the Society on a series of four webinars over the course of the year, as well as managing the Society's entire suite of trainee programs. The Intern Boot Camps returned to an in-person format in 2024, with programs held July 12-13 at Baylor College of Medicine, July 19-20 at Oregon Health & Science University and July 26-27 at Tufts Medical Center. These basic skills courses prepare PGY1 Residents for their first year of training. Each course includes cranial skills training as well as neurosurgical bedside procedures. All incoming PGY1 neurosurgical residents in ACGME accredited programs (245 interns) participated in cranial skills training as well as neurosurgical bedside procedures. The Junior Resident course, held virtually on April 5, was designed for current PGY1 Residents and covered topics ranging from Risk Management and Professionalism to Quality Improvement Project/Work Group, and How to Get Published. The Senior Resident Course, held virtually on November 16, covered topics like *Achieving Life Balance in your First Job*, *Negotiating your First Contract*, *Managing Personal Finances*, and *Appropriate Billing and Coding*. Finally, the CNS once again partnered with the society to manage the *Research Update in Neuroscience*

for Neurosurgeons (RUNN) Course for PGY-3 and PGY-4 residents November 3-8, 2024 at the Marine Biology Laboratory in Woods Hole, Massachusetts. The course offers intensive exposure to some of the best neuroscience in the country, in an environment conducive to learning.

The SNS also opened up a new Positional Membership category in 2024, open to non-members who are Program Directors or Chairs of ACGME accredited residency program departments. Forty-four individuals were awarded positional membership in this first year, with 11 of these transferring to active membership during the 2024 SNS Annual Meeting.

The SNS, which comprises U.S. academic department chairs, residency program directors, and other educational leaders, serves as the representative body for neurosurgery to the Accreditation Council for Graduate Medical Education, and plays a critical role in graduate and post-graduate education of Neurosurgical Residents and Fellows, making it a natural partner for the CNS and our commitment to providing educational and career development support for neurosurgeons at all career stages.

societyns.org



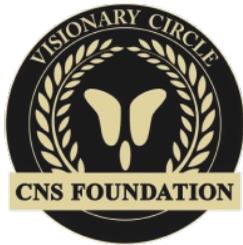
The Society of
Neurological Surgeons

— THE CNS FOUNDATION REPORT —



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FRIEND OF FOUNDATION – up to \$249

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Not Pictured: Ellen Air, Ruth Bristol, Alexander Khalessi, Elad I. Levy, Edjah K. Nduom, Akash Patel, Nader Pouratian, Wilson Ray, Uzma Samadani, Clemens M. Schirmer, Scott Simon, Laura Snyder, Anand Veeravagu, Ashwin Viswanathan, Theresa Williamson

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— THE CNS FOUNDATION REPORT —



CHAIR MESSAGE:

Dear supporters of the CNS Foundation,

It has been a great honor to have served for the past three years as Chair and co-Chair of the CNS Foundation. Over the last five years, the Congress of Neurological Surgeons Foundation’s has given more than \$2,000,000 of funding through grants, recognition, and educational opportunities for neurosurgeons around the world. Thanks to you, our donors, and our exceptional awardees, you have made an impact on neurosurgery worldwide.

In 2024 alone, we gave back more than \$748,000 in awards and programs that truly help support the advancement, innovation and accessibility through our four established pillars:



CNS
Guidelines

Diversity, Equity,
and Inclusion

International
Philanthropy

Clinical Scientist
Career Development

The CNS Foundation Board expresses sincere appreciation to Medtronic, Stryker, MicroVention, Penumbra, Emvia Healthcare Solutions, the Joint Section on Cerebrovascular Neurosurgery, Dr. Khoi Than and Family, Dr. Edward Overfield and many and many generous donors, anonymous or individual, for making these awards possible. Please give your attention and your thanks to the long list of our donors on pages 63-65. We also wish to thank the many volunteer mentors who have given their time to educate our growing number of awardees. Together, we are making profound contributions to neurosurgery and improving patient care around the world.

This incredible impact requires continuous commitment to what we have created and I ask you to continue your support in 2025 and beyond. Our awardees and the future of neurosurgery depend on you, me, and every individual who has given time to the CNS Foundation.

Sincerely,



Martina Stippler, MD
CNS Foundation Chair
CNS Secretary

— THE CNS FOUNDATION REPORT —

continued



2024 CNS Foundation award recipients.

— International Philanthropy —

OBSERVERSHIPS

Simon Balogun – International Spine Observership at Duke University

Gbetoho Fortune Gankpe – International Global Neurosurgery Observership at Massachusetts General Hospital/Harvard University

Noor ul-Huda Maria – International Brain Tumors Observership at Icahn School of Medicine at Mount Sinai

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Silvia Veronica de los Santos Segura – International Visitorship at Stanford University

Thomas Megerrssa – International Visitorship at Penn State University

Henok Teshome Molla – International Visitorship at University of Pittsburgh Medical Center (UPMC)

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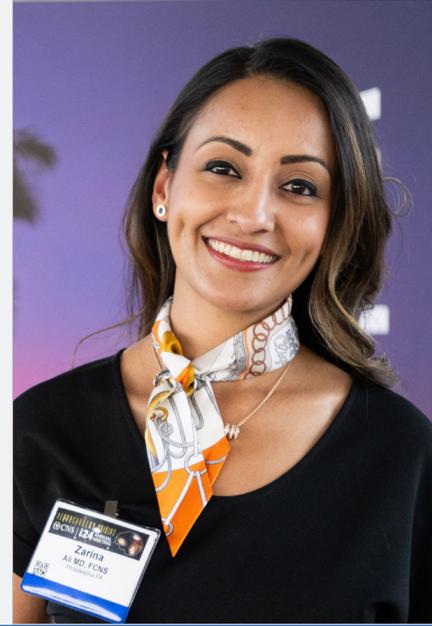
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*University of Kansas
Medical Center*



**FUTURE WOMEN
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NEUROSURGERY
SCHOLARSHIP**

DOMESTIC
Zarina S. Ali
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Diversity, Equity, and Inclusion Pillar Awards

**FUTURE WOMEN
LEADERS IN
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SCHOLARSHIP**

INTERNATIONAL
Taise Mosso Ramos
Praia, Cape Verde



**DEI INNOVATION
PILOT PROJECT
AWARD**

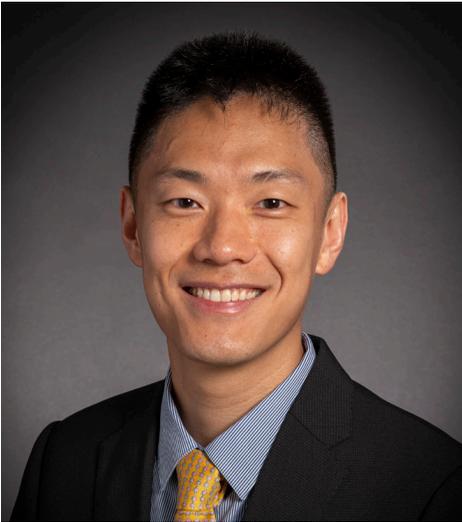
Debraj Mukherjee
Johns Hopkins Medicine



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CLINICAL SCIENTIST CAREER DEVELOPMENT PILLAR AWARDS



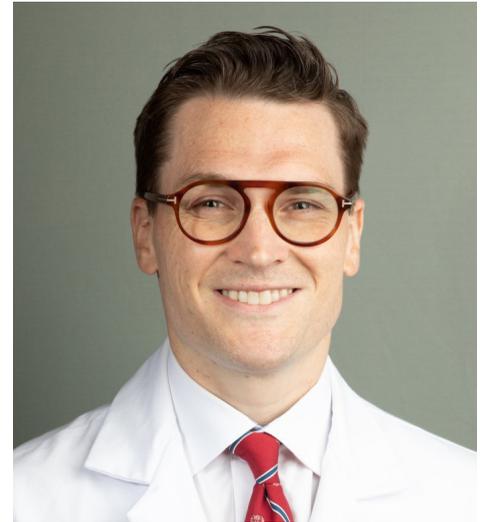
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Council of State Neurosurgical Societies/CNS Foundation Medical Student Summer Fellowship

MaKayla Fae Cox – “SES barriers to stroke care in Appalachia”
Medical Student Summer Fellowship in Social Determinates of Care Research

Ellen Marie O’Callaghan – “Rates of depression and psychiatric referral for
surgical spine oncology patients and its sociodemographic risk factors”
Medical Student Summer Fellowship in Wellness Research

David Shin – “Association between Social Vulnerability Indexes and
Neurosurgically Underserved Areas”
*Medical Student Summer Fellowship in Diversity, Equity, and Inclusion
Research*

Andrew Boyuan Yang – “Distribution of public and private research
funding in neurosurgery”
Medical Student Summer Fellowship in Policy Research





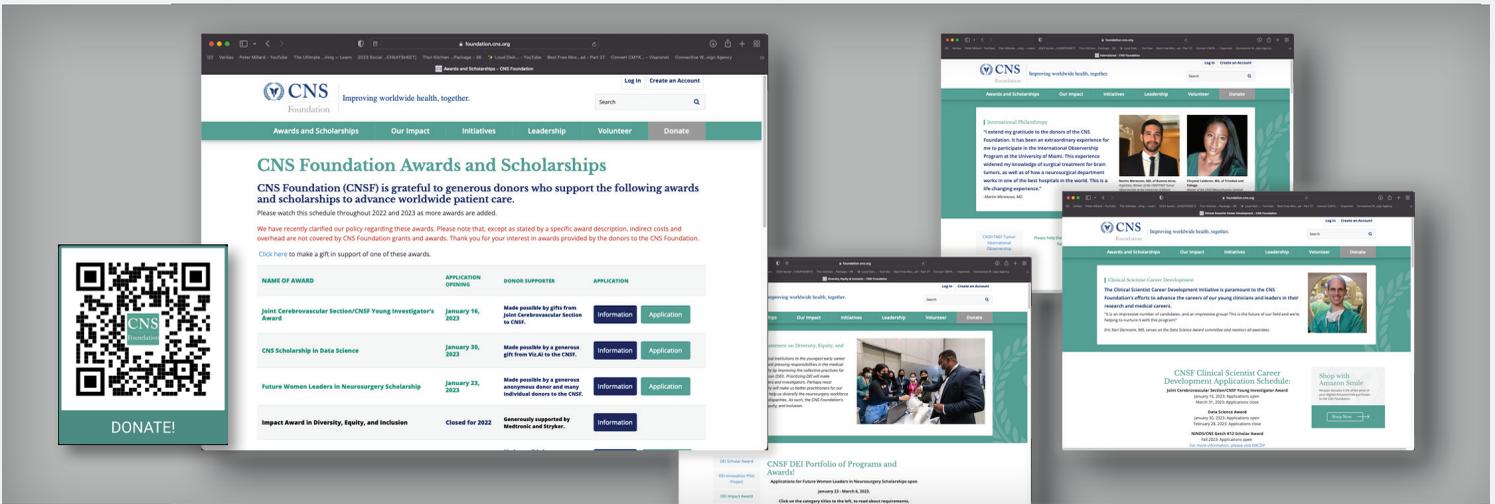
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2025 AWARDS CYCLE:

Applications for the 2025 awards cycle closed in January. Winners will be announced in March 2025.

Thank you to all the donors who made these awards possible.



The following awards will be offered this cycle:

CNSF/International Spine Observership at Duke University

CNSF/ International Tumor Observership at University of Miami

CNSF/International Brain Tumor Observership at Icahn School of Medicine at Mount Sinai

CNSF/International General Visitorship at Stanford University

CNSF/International Neurotrauma Visitorship at University of Pittsburgh (UPMC)

CNSF/International Endovascular Observership at Harvard University/Beth Israel Deaconess

CNSF/International Endovascular Observership at UC Davis

CNSF/International Endovascular Observership at University of Utah

Diversity, Equity, and Inclusion Impact Award

Diversity, Equity, and Inclusion Innovation Pilot Project Award

Diversity, Equity, and Inclusion Scholar Award on Disparities in Healthcare Services

Future Women Leaders in Neurosurgery Scholarship Domestic Award

Future Women Leaders in Neurosurgery Scholarship International Award

For more information on awards and all CNS Foundation programs, please visit <https://foundation.cns.org>

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Onam Verma
Juan Vicenty Padilla
Bernardo Vieira Nogueira
Wayne Villanueva
José Villarreal-Flores
Amirti Vivekanandan
Rand Voorhies
Aryan Wadhwa
Jen-Yeu Wang
Jeremy Wang
Joseph Watson Watson
Ros Whelan
Arthur Williams
Theresa Williamson
Sarah Woodrow
Tianqi Xiao
Alexander Yang
Mehmet Denizhan Yurtluk
Karol Zakalik
Melanie Zandvoort
Heather Zarrilli Than
Juan Zuluaga Garcia

— CORPORATE DEVELOPMENT UPDATE —

In 2024, the CNS Corporate Development initiatives focused on partnering with companies across all neurosurgical specialties with a benefits program that heard our partners' needs and allowed companies to support the vast educational offerings CNS provides throughout the year. This continued focus on relationships resulted in another successful year.

We would like to thank the following companies for their support of our 2024 Non-Annual Meeting Activities.

In-Person Courses

- **Neurosurgical Complications Course:** Globus Medical, Medtronic, GT Medical (GammaTile), DePuy Synthes, Integra LifeSciences, Stryker, Cerapedics, Enovis, Isto Biologics, Medexus Pharma (Gleolan®), SI-BONE, Carl Zeiss Meditec Inc., and NICO Corporation Essentials for a Rewarding
- **Neurosurgical Career Course:** Medtronic, DePuy Synthes, Globus Medical, Providence Medical Technology, Penumbra, Phasor Health, Sunstone Wealth Strategies, and GT Medical Technologies Inc.
- **Leadership Institute:** Exclusive Supporter, Medtronic
- **Skull Base Fellows Course:** Johnson & Johnson MedTech, Insightec, BK Medical, Penumbra, Integra LifeSciences, and Sunstone Wealth Strategies

Virtual Courses, Sessions, and other Online Education

- **Neurosurgical Emergencies Course:** Globus Medical, AstraZeneca, Integra LifeSciences, Medtronic, Microvention, Phasor Health, and Penumbra
- **Data Science Models for Neurosurgeons:** Medtronic and Stryker
- **CNS Neurosurgery 100 Series:** Medtronic
- **Podcasts:** Medtronic
- **Nexus:** Globus Medical

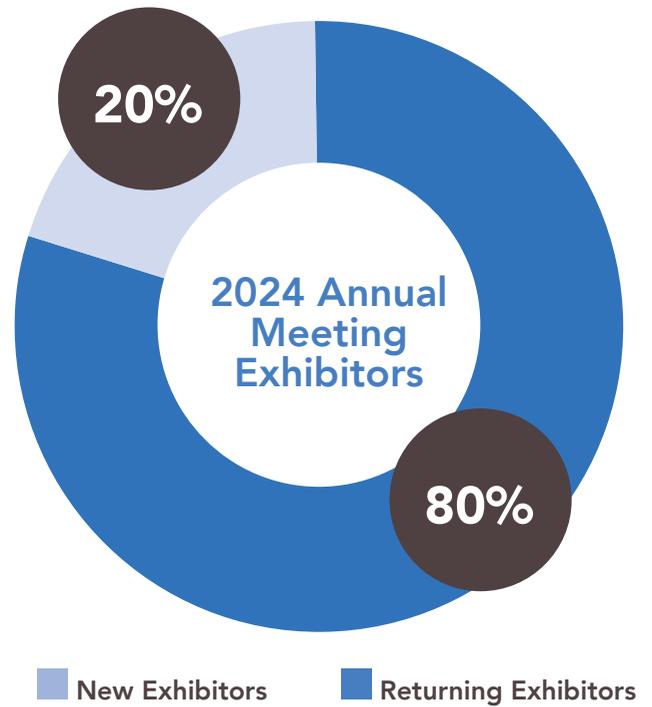
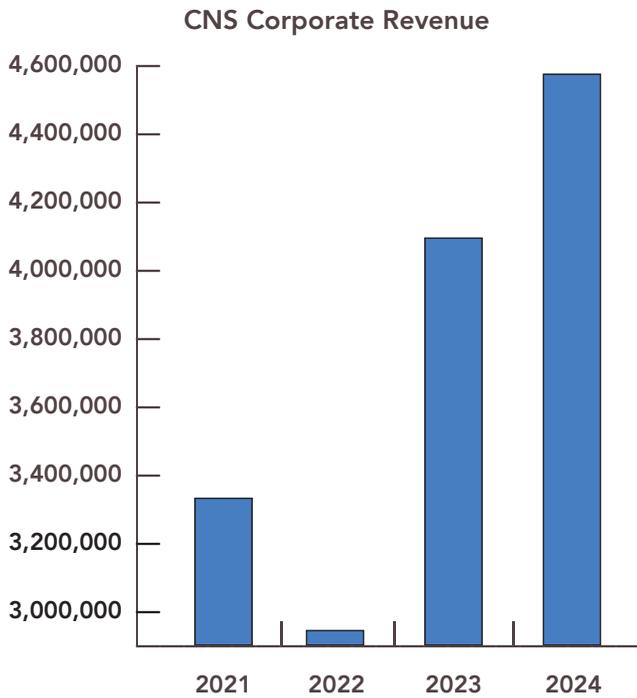


Annual Meeting Supporters: Medtronic, Stryker, Johnson & Johnson MedTech (DePuy Synthes, Cerenovus), Aesculap, Siemens Healthineers, Globus Medical, Carl Zeiss Meditec Inc., MicroVenton, BK Medical, Penumbra, GT Medical (GammaTile), Leica Microsystems, RapidAI, Abbott, Longevity Neuro Solutions, Merck, Olympus America, SI-BONE, Servier Pharmaceuticals, Phasor Health, Karl Storz Endoscopy, Arthrex, LivaNova, AstraZeneca, Carlsmed, NICO Corporation, Insightec, Imperative Care, Cerapedics, Mesmerise, Sophysa, Acuity Surgical, Brainlab, IRRAS, Chimerix, Medivis, elliquence, Monteris Medical, icotec Medical, Boston Scientific, KLS Martin Group, DIXI Medical USA, Alphatec Spine, Glioblastoma Foundation, American Surgical Company, Peter Lazic, Synchron, Wellwithall, SpineCAMP - Medical Metrics, Bioventus, Natus Neuro, PMT Corporation, Mercy Clinic, MiMedx Group, Renishaw, Thieme Publishers, SPIWAY, Imvax, Rapid Medical, Modulight, Sunstone Wealth Strategies

— CORPORATE DEVELOPMENT —

A total of 64 companies supported the CNS programs and products in 2024!

We continue to be both proud and grateful for the collaboration with companies in the field. Our partnerships allow the CNS to provide products and solutions that help achieve our mission of enhancing health and improving lives through innovative neurosurgical education, advancement of clinical practice and scientific exchange.



Garni Barkhoudarian, MD
Chair



Sharona Ben-Haim, MD
Co-Vice Chair



Jeffrey P. Mullin, MD
Co-Vice Chair



David Dornbos, MD
Member



Kunal Vakharia, MD
Member



Elad I. Levy, MD, MBA
Senior Advisor



Nader Pouratian, MD, PhD
Senior Advisor



Congress of Neurological Surgeons

Thank You

The Congress of Neurological Surgeons gratefully acknowledges our Industry Allies Council Partners for their continued support.

TRANSFORMATIONAL PARTNER

Medtronic

PREMIER PARTNER

stryker

PARTNER



COLLABORATOR



ASSOCIATE



— FINANCIAL REPORT —

Statement of Financial Position

December 31, 2024

2024 Assets

	Current	Prior Year	Increase/ (Decrease)
CNS Cash	\$1,327,786	\$1,763,400	(\$435,614)
Accounts Receivable	129,110	546,766	(417,656)
Pre-Paid Expenses & Deposits	549,763	557,491	(7,728)
Beneficial Interest	376,000	376,000	0
Investments	27,677,425	25,276,578	2,400,847
Equipment & Software	1,148,042	983,240	164,802
Other Assets	707,629	780,344	(72,715)
Joint Section Assets (Net)	5,246,271	5,246,272	(1)
Total Assets	37,162,026	35,530,091	1,631,935

2024 Liabilities

Accounts Payables	195,605	228,101	(32,496)
Capital Lease	1,150,629	1,259,500	(108,871)
Accrued Expenses	1,021,503	1,051,580	(30,077)
Deferred Revenue-Dues	1,746,764	1,632,123	114,641
Deferred Revenue-Annual Meeting	222,700	275,376	(52,676)
Deferred Revenue-Journal	1,142,857	1,428,571	(285,714)
Deferred Revenue-Other	141,727	329,385	(187,658)
Net Payable - Foundation	(8,221)	85,824	(94,045)
Total Liabilities	5,613,564	6,290,460	-676,896

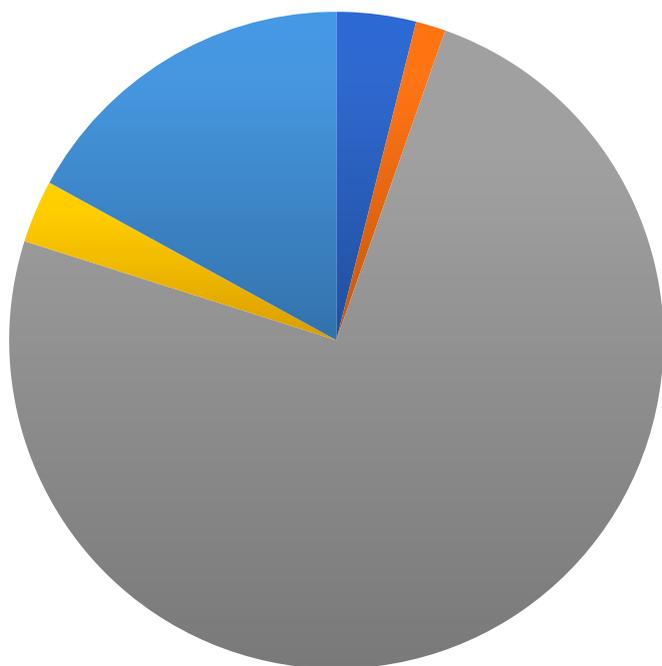
Net Assets

Unrestricted	31,172,462	28,863,631	2,308,831
Permanently Restricted	376,000	376,000	0
Total Net Assets	31,548,462	29,239,631	2,308,831
Total Assets	37,162,026	35,530,091	1,631,935

— FINANCIAL REPORT —

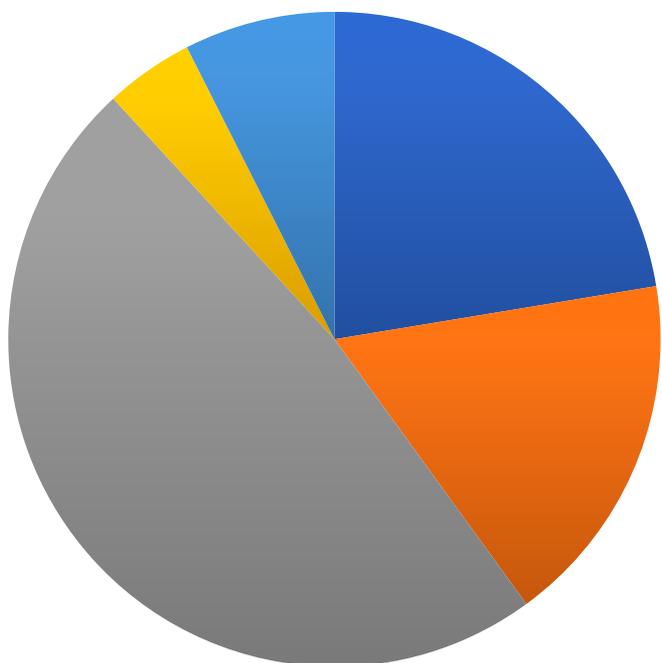
continued

Assets as of December 31, 2024



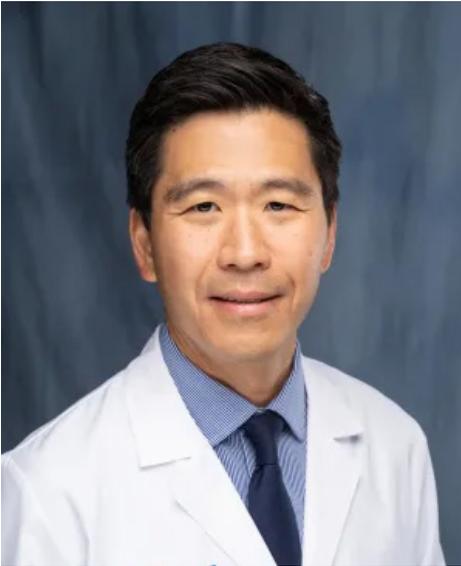
- Cash & AR.....\$1,456,896
- Prepays.....549,763
- Investments.....\$27,677,425
- Fixed assets, etc.....\$1,148,042
- Other.....\$6,329,901

FY24 Revenue



- Membership Dues.....\$3,520,928
- Publications and Journal...\$2,762,670
- Annual Meeting.....\$7,568,155
- Online Products.....\$689,494
- Other.....\$1,174,181

— 2025 PRESIDENT —



Daniel J. Hoh, MD, MBA

2025 President

Congress of Neurological Surgeons

I am honored to have the privilege of leading the Congress of Neurological Surgeons (CNS) in the year ahead. My predecessor, Dr. Alex Khalessi, was outstanding in building on the strength and vitality of the organization and I am grateful for his leadership. Congratulations Alex on a phenomenal year!

The 2024 Annual Meeting in Houston was spectacular, thanks to the enthusiasm and engagement of our members. We again saw a record number of attendees and abstract submissions, reflecting the impactful content presented across various sessions and symposia. Thank you to all the CNS members who joined us in Houston, whether to present or to connect with colleagues. Your contributions are vital to our influence in the field. I would also like to extend congratulations and gratitude to Annual Meeting Chair Garni Barkhoudarian, Scientific Program Chair Edjah Nduom, and Vice Chair Khoi Than for their extraordinary efforts.

Congratulations also to all my colleagues on the CNS Executive Committee for your contributions and accomplishments this past year. The Education Division, under the leadership of Akash Patel, Clemens Schirmer and Tiffany Hodges, continued to build our robust catalog of online, virtual and in-person learning opportunities and launched the Innovation Institute online catalog. I am especially excited by the roll out of the updated CNS+ app this past Fall, featuring a neurosurgical AI chatbot and a recommendation engine for deeper interaction with members. Laura Snyder and Theresa Williamson expanded the SANS flashcards offerings and oversaw the content updates to our extensive SANS question database. Jeffrey Mullin and Kunal Vakharia continued to expand the Nexus repository with new surgical cases and approaches. Meanwhile the Membership Committee, under the leadership of Sharona Ben-Haim, reached a new membership record of 11,663. Nicole Bentley and Laura Snyder restructured and expanded the

Resident Committee to engage 97 resident volunteers in essential work of the CNS.

Looking ahead to 2025, the future of the CNS is bright. Our Executive Committee and dedicated CNS volunteers are hard at work delivering greater CNS community building, innovation, and professional development to meet the needs of our members across career phases and practice settings. Our 2025 Annual Meeting committee, under the leadership of Chair Edjah K. Nduom, Scientific Program Chair, Khoi D. Than and Vice Chair, Akash Patel, is focused on delivering an incredible scientific program, which is sure to advance your practice and career. We will expand the CNS Leadership Institute with new leadership tracks for residents in training, and for system and enterprise level senior executives. We will build upon the CNS Innovation Institute, allowing our community of scientists, inventors, and entrepreneurs to showcase their innovations. And our CNS Wellness committee will expand offerings at the CNS Annual Meeting to recharge, activate, and drive peak performance.

All of this is possible only because of our team of talented and dedicated volunteers and staff. I am especially grateful for the support of our CEO Regina Shupak, whose leadership powers our continued growth and success.

I remain deeply honored and humbled by the confidence you have placed in me to serve as CNS President, and to lead this organization in 2025. I look forward with great enthusiasm to welcoming you to the CNS Annual Meeting in Los Angeles, October 11-15, 2025.

— MESSAGE FROM THE CEO —



Regina Shupak

CEO, Congress of Neurological Surgeons

This was my tenth year as the CEO of this incredible organization, and it remains a great honor and privilege to serve the Congress of Neurological Surgeons and our members every day. I am proud to share these 2024 highlights with you.

I must acknowledge that none of these accomplishments would have been possible without the leadership of our 2024 CNS President, Dr. Alex Khalessi, whose passion and dedication shaped our direction this year. Congratulations to Dr. Khalessi on meeting—or surpassing—every goal you set for the CNS. I am grateful for the opportunity to work with you and the dedicated, hardworking members of the 2024 Executive Committee, and I am so proud of all we have achieved. Thank you to each one of you for your contributions.

2024 was an incredible year of energy, growth, and deep engagement. At the beginning of the year, we set out to

deepen CNS' leadership in neurosurgical innovation, while continuing to provide the unparalleled educational experiences the CNS is known for.

The 2024 CNS Annual Meeting in Houston delivered on that promise and exceeded our expectations. From record medical attendance to the more than 3,500 abstracts presented, the Annual Meeting showed the incredible impact the CNS and its members have on the field. Thank you to everyone who joined us in Houston and especially to the hundreds of volunteer faculty members who dedicated their time and expertise to bring value to our members. Your participation and commitment to neurosurgery makes us the essential organization we are and expand our impact exponentially.

We launched a new Innovation Institute highlighting the CNS' investment in supporting and demonstrating innovation, as well as a groundbreaking AI-enhanced interface integrated into the new CNS+ app, which delivers results 90% faster. At the same time, Dr. Akash Patel and the Education Division continued to cultivate our catalog of live courses, virtual and on-demand programs, allowing our members to access the exact content they need when and where they need it.

Our Editor in Chief, Dr. Doug Kondziolka, also lead the *Neurosurgery* Publications in a year of tremendous growth, debuting the Global Neurosurgery Essentials Review Series in Neurosurgery, which covers clinical practice, research, education and training, and advocacy & policy implementation. Dr. Kondziolka and his team continued to grow submissions across the portfolio, achieving an all-time high annual submission rate for *Neurosurgery Practice*, our newest title. By raising the profile of *Neurosurgery Practice* and strengthening our international impact, Dr. Kondziolka has kept the *Neurosurgery*

Publications portfolio at the forefront, and I am grateful for his vision and leadership this year.

The CNS Foundation (CNSF) had another strong year, awarding more than \$740,000 in awards and grants! The impact these awards will have, not only on these surgeons' practice and careers, but also on their patients and global health cannot be overstated. The Foundation also brought back the successful Pathway to Neurosurgery program, giving another 40 high school students an immersive look at the field of neurosurgery. Congratulations to Foundation Chair, Dr. Martina Stippler.

We are grateful for our corporate partners and sponsors, and especially to our member companies of the CNS Industry Allies Council for the ongoing support of the CNS and its educational mission. These partnerships are critical in helping the CNS expand our educational offerings and develop the tools and services our members need at every stage of their careers.

The CNS Executive Committee, the CNS Committee member volunteers, and I would like to extend a sincere thanks to our dedicated and professional staff. We are all very excited about the future of the Congress of Neurological Surgeons and honored to continue serving the CNS, our members and our many volunteers in 2025.

I am personally looking forward to working with our 2025 CNS Executive Committee and CNS President, Dr. Daniel Hoh—a visionary leader and expert collaborator.

As always, I encourage you to reach out to me and the CNS Officers with your ideas and suggestions for how we can better serve you this year.

— 2024 EXECUTIVE COMMITTEE —



FRONT ROW (L TO R): *Nader Pouratian, Ashok R. Asthagiri, Elad I. Levy, Alexander A. Khalessi, Martina Stippler, Regina Shupak, Daniel J. Hoh*
SECOND ROW (L TO R): *Khoi D. Than, Garni Barkhoudarian, Edjah K. Nduom, Akash Patel, Laura A. Snyder, Clemens M. Schirmer*
THIRD ROW (L TO R): *Theresa Williamson, Sharona Ben-Haim, J. Nicole Bentley, Brian V. Nahed, Mohamad Bydon, Jason Ellis, Jeffrey P. Mullin,*
BACK ROW (L TO R): *Eric Oermann, Kunal Vakharia, David Berg, Ellen L. Air, Anand Veeravagu, Lola B. Chambless, Joseph Osorio, Tiffany Hodges*
NOT PICTURED: *Peter Nakaji*

Officers

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Alexander A. Khalessi, MD, MBA

President-Elect

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Vice-President

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Martina Stippler, MD

Treasurer (23-26)

Ashok R. Asthagiri, MD

Past President

Elad I. Levy, MD, MBA

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J. Nicole Bentley (23–25)

Jason Ellis (23–25)

Jeffrey P. Mullin (23–25)

Edjah K. Nduom (22–24)

Ex-Officio Members

Ellen L. Air

Garni Barkhoudarian

Mohamad Bydon

Lola B. Chambless

Tiffany R. Hodges

Brian V. Nahed

Peter Nakaji

Theresa L. Williamson (22–24)

Laura A. Snyder (21-23)

Khoi D. Than (21-23)

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Eric K. Oermann

Joseph Osorio

Akash Patel

Clemens M. Schirmer

Khoi D. Than

Anand Veeravagu

Kunal Vakharia

Historian

Christopher E. Wolfla, MD

CNS Executive

CEO

Regina Shupak

CNS Executive Office

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Toll-free: 877.517.1CNS

Email: info@cns.org

www.cns.org

— 2025 EXECUTIVE COMMITTEE —



FRONT ROW (L TO R): *Khoi D. Than, Edjah K. Nduom, Ashok R. Asthagiri, Brian V. Nahed, Martina Stippler, Daniel J. Hoh, Lola B. Chambless, Alexander A. Khalessi, Nader Pouratian, Garni Barkhoudarian, Akash J. Patel, Regina Shupak*
BACK ROW (L TO R): *David Berg, Joseph Osorio, Jeffrey P. Mullin, Anand Veeravagu, J. Nicole Bentley, Tiffany R. Hodges, Sharona Ben-Haim, Rushna Ali, Laura A. Snyder, David Dornbos III, Eric K. Oermann, Julie L. Chan, Theresa L. Williamson, Jason Ellis*
NOT PICTURED: *Mohamad Bydon, Kunal Vakharia*

Officers

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Daniel J. Hoh, MD, MBA

President-Elect

Martina Stippler, MD

Vice-President

Brian V. Nahed, MD, MSc

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Lola B. Chambless, MD

Treasurer (23-26)

Ashok R. Asthagiri, MD

Past President

Alexander A. Khalessi, MD, MBA

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Rushna Ali (24–26)

J. Nicole Bentley (23–25)

David Dornbos III (24–26)

Ex-Officio Members

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Garni Barkhoudarian

Mohamad Bydon

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– 2024 ANNUAL REPORT –

