

cnsq IS THE OFFICIAL NEWSMAGAZINE OF THE CONGRESS OF NEUROLOGICAL SURGEONS

Congress Quarterly

SUMMER 2025

Human Performance + Wellness, the Next Level of **NEUROSURGERY**



CNS

4 Sprinting Marathons: How
Neurosurgical Training
Prepares the Mind and Body
for Endurance Athletics

16 The Impact of Mindset/
Meditation on Training-
Jordan Hatfield

EDITOR

Theresa Williamson, MD, MPH

EDITORIAL BOARD:

Rushna Ali, MD
Hoon Choi, MD, PhD
Rimal Dossani, MD
Aladine Elsamadicy, MD
Jeremy Hosein, MD
Rosalind Lai, MD
Michael Lawton, MD
Grace Ng, MD
Khoi D. Than, MD
Scott D. Wait, MD

MANAGING EDITOR:

Julie L. Chan, MD, PhD

EDITORIAL STAFF:

Michele Hilgart
Erica L. Bryant

DESIGNER:

Steer.Design

**CONGRESS OF NEUROLOGICAL SURGEONS
2024-2025 OFFICERS**

PRESIDENT:

Daniel J. Hoh, MD, MBA, FCNS

PRESIDENT-ELECT:

Martina Stippler, MD, FCNS

VICE-PRESIDENT:

Brian V. Nahed, MD, FCNS

SECRETARY (21-24):

Lola B. Chambless, MD, FCNS

TREASURER (23-26):

Ashok R. Asthagiri, MD, FCNS

PAST-PRESIDENT:

Alexander A. Khalessi, MD, MBA, FCNS

CEO:

Regina Shupak

contact: 847-240-2500 or

info@cns.org

CONGRESS OF NEUROLOGICAL SURGEONS MISSION STATEMENT:
The Congress of Neurological Surgeons exists to enhance health and improve lives through innovative neurosurgical education, advancement of clinical practice & scientific exchange.

Congress Quarterly is the official newsmagazine of the Congress of Neurological Surgeons, located at 10 North Martingale Road, Suite 190, Schaumburg, IL 60173. Members of the Congress of Neurological Surgeons may call 847.240.2500 with inquiries regarding their subscription to Congress Quarterly.

© 2025 by the Congress of Neurological Surgeons. No part of this publication may be reproduced in any form or language without written permission from the publisher. Published free of charge for the Congress membership with additional distribution. Send address changes to Congress Quarterly, 10 N. Martingale Road, Suite 190, Schaumburg, IL 60173.

EDITOR'S NOTE



Theresa Williamson
Editor



Julie L. Chan
Managing Editor

In this edition of *Congress Quarterly*, we are excited to preview highlights of the upcoming Annual Meeting in October and dive into the theme of personal and professional growth through wellness and human performance.

At this year's Annual Meeting in Los Angeles, we are proud to hold our 3rd annual 5K. Alex Schupper, one of the co-founders of the event, discusses how neurosurgical training can prepare the mind and body for endurance athletics. We will welcome the return of the CNS Wellness Retreat with updates from Pilin Anice and Theresa Williamson on page 6.

As we focus on wellness, we must consider what is reasonable. Keenan Piper discusses modest goals and unstructured play, and Myron Rolle discusses his philosophy in his book, "The 2% Way: How a Philosophy of Small Improvements Took Me to Oxford, the NFL, and Neurosurgery."

We also hear from Joseph Maroon reflecting on the strategies that have kept him at a high level of performance throughout his long career. Patrick Codd discusses mindfulness as a tool for navigating change and building resilience.

Our success as neurosurgeons often extends beyond the operating room and clinic, and Ian Rose discusses how financial wellness can set the stage for overall balance. Mandy Rollins discusses how Professional Coaching can improve performance. Julie Chan and Brian Nahed examine the broader concept of human performance in neurosurgery and how future CNS programs will be designed to support it.

Neurosurgery Publications Fellow, Georgios A. Maragkos and Editor-in-Chief Douglas Kondziolka highlight how scheduling, education, and publication play an important role in balancing performance with well-being. Lola Chambless provides an update from the CNS Foundation.

Finally, we share a tribute to the remarkable legacy of Michael Groff, as his colleagues reflect on his distinguished career and the example he set in balancing achievement with humanity.



CNS

CONTENTS



Editor's Note

Theresa Williamson, Julie Chan

President's Message

Daniel Hoh

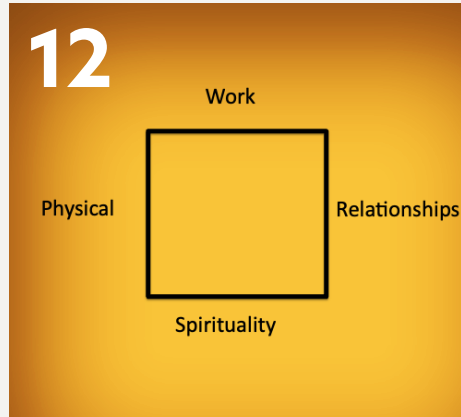
CNS ANNUAL MEETING HIGHLIGHTS

- 4** Sprinting Marathons: How Neurosurgical Training Prepares the Mind and Body for Endurance Athletics
Alexander J. Schupper

- 6** Listening Before It Yells: A Neurosurgical Reflection on Rest, Identity and Resilience
Theresa Williamson, Pilin Anice

- 8** The Intersection of Pickleball, Fitness and Neurosurgery
Mark P. Redding

- 9** An Argument for Modest Goals and Unstructured Play
Keenan Piper



- 10** The 2% Way, Neurosurgery, and Football
Myron L Rolle

- 12** The Aging Neurosurgeon
Joseph C. Maroon

- 14** In Memoriam Michael Groff: Wisdom from a Simple Country Neurosurgeon
Muhammad M. Abd-El-Barr E. Antonio Chiocca, Kevin T. Huang, Benjamin R. Johnston, Yi Lu, Praveen V. Mummaneni, Michael Y. Wang, Hasan A. Zaidi

- 16** The Impact of Mindset/ Meditation on Training
Jordan Hatfield

- 18** Financial Wellness for Neurosurgeons
Ian Rose

- 20** Professional Coaching for Improving Your Performance
Mandy Rollins



- 22** Performance Optimization for Neurosurgery

Julie L. Chan, Brian V. Nahed

- 24** Journal Feature: Wellness by Design: Scheduling, Education, and Publication in Neurosurgical Training
Georgios A. Maragos, Douglas Kondziolka

INSIDE THE CNS

- 26** Washington Committee Update
Alex Khalessi, Charlotte Pineda

FOUNDATION UPDATE

- 28** Foundation Update
Lola B. Chambless

CNSQ INSIDE BACK COVER

Images in Neurosurgery

PRESIDENT'S MESSAGE



Daniel J. Hoh, MD, MBA, FCNS
President, Congress of Neurological Surgeons

Dear Colleagues,

As neurosurgeons, we are trained to prioritize others. But to deliver the best care to our patients, lead effectively, and sustain our performance over time, we must first care for ourselves. Human performance and wellness are not ancillary to our profession—they are foundational. This issue of Congress Quarterly highlights that truth, showcasing a range of perspectives that underscore how wellness, in its many forms, can strengthen our physical health, sharpen our minds, and deepen our sense of purpose. This topic is deeply relevant to every neurosurgeon—no matter your stage of training or career—and it reflects one of the central themes of our upcoming 2025 CNS Annual Meeting in Los Angeles.

The CNS is proud to put wellness at the forefront of the 2025 Annual Meeting. We are designing the meeting experience to include opportunities that refresh the mind and energize the body, in addition to the world-class educational and scientific content you've come to expect. This year's meeting in Los Angeles will feature a dedicated wellness retreat—which Theresa Williamson and Pilin Anice highlight in their article on page __ of this issue—as well as a 5K run, an on-site pickleball area, and a keynote lecture by Dan Buettner, bestselling author of *Blue Zones*, who will share insights on longevity, purpose, and the habits that support well-being.

This meeting will also offer numerous ways to recharge through connection—with old friends, new colleagues, and mentors who inspire us. These moments of community are often the most nourishing of all.

The articles in this issue of *Congress Quarterly* offer a thoughtful and diverse look at the ways in which wellness and performance

intersect with neurosurgical life. In recognition of the CNS 5K event, Alex Schupper's article on page 4 explores how neurosurgical training, often likened to an endurance sport, shapes us mentally and physically for long-term resilience—and even prepares many of us for athletic achievements outside of medicine. On the other hand, Keenan Piper's article, "An Argument for Modest Goals and Unstructured Play," reminds us that not all wellness must be structured or goal-oriented. There is joy and restorative power in play for its own sake.

Neurosurgeon and former NFL safety, Myron Rolle, draws on lessons from elite athletics and neurosurgery to champion the idea of continuous, incremental progress. His reflections challenge us to embrace growth in small, sustainable steps. Joseph Maroon and Jordan Hatfield similarly share insights on how mindset, meaning, and purpose shape our neurosurgical practice—beginning with training and throughout our careers. Neurosurgery Editor-in-Chief Doug Kondziolka and fellow Georgios Maragkos explore how we can redesign the systems in which neurosurgical trainees learn and grow to better support human performance and well-being.

Financial well-being is an essential, and often overlooked, pillar of wellness, which Ian Rose addresses in his article on page 18. And executive coach Mandy Rollins illustrates how professional coaching can unlock new levels of leadership, communication, and balance in your neurosurgical career.

I am most excited to share with you CNS' latest initiatives in the area of human performance, which will be previewed this fall in Los Angeles. Julie Chan and Brian Nahed highlight our plans for to address neurosurgeon performance across mental, physical, and emotional domains.

The CNS is proud to put wellness at the forefront of the 2025 Annual Meeting. We are designing the meeting experience to include opportunities that refresh the mind and energize the body.



I hope this issue gives you not just ideas, but encouragement. Wellness is not a luxury or a reward we earn after hard work—it is part of the work itself. As we prepare for an inspiring CNS Annual Meeting, I invite you to begin now: reflect on how you care for your own performance and well-being, and consider how we can support one another in that effort.

I look forward to seeing you in Los Angeles. 🇺🇸

Warm regards,

Daniel Hoh, MD, MBA, FCNS

President, Congress of Neurological Surgeons

STAY CONNECTED



https://twitter.com/CNS_Update



<https://www.facebook.com/cns.update>



https://www.instagram.com/cns_update



<https://www.youtube.com/user/cnsvideolibrary>



Alexander J.
Schupper, MD

SprintingMarathons:

How Neurosurgical Training Prepares the Mind and Body for Endurance Athletics

"What do you mean you ran a marathon in London yesterday?" the scrub technician asks as we drape our patient preparing to start a complex skull base tumor case. As I go over the itinerary of the weekend—red eye flight Friday, arrive in England Saturday, race the London Marathon Sunday, straight to the airport to be back for Monday morning's case—I realize that the hectic schedule is par for the course as neurosurgeons. We face competing interests daily, and between clinical and academic duties, life with family and friends, and hobbies, we somehow fit it all in, giving the perception that we operate on more than the 24 daily hours our mortal counterparts exist.

The TCS London Marathon did not play out as planned. The majority of a 16-week training block was disrupted by tough clinical rotations and many workouts that took place at the culmination of sleepless nights. Most international runners arrive mid-week to acclimate to the time zone and climate, not on a red eye that arrives hours before the race. Following a busy week as a chief resident, including multiple late nights in the operating room, the prospect of a personal record (PR)

performance seemed like a long shot. On top of the stacked odds, I was fortunate to be sponsored by Puma as part of their Project3 team, adding the pressure of a professional contract and will to perform. Fortunately, the stars aligned; a six-minute PR was broken, including my first career negative split, meaning the second half marathon was faster than the first. After the race, conversations with family, friends and teammates circled one common theme: how do you break down this substantial barrier despite all the obstacles in your path? The answer was automatic, “neurosurgical training demands resilience.”

Former marathon world record holder and the first human to break the sub-two-hour marathon barrier Eliud Kipchoge has said, “Where the marathon starts is after 30 kilometers—that’s where you feel pain and only the most prepared and well-organized athlete is going to do well after that.” The marathon, as Kipchoge describes, is only conquered by those who dedicate the time and attention to thoughtful, consistent training. Few journeys in life confer a familiarity to this demand as neurosurgical training. Preparation is an integral part of neurosurgery training that residents become familiar with from day one. More specifically, preparation under suboptimal conditions is all too common in our field. For trainees and attending neurosurgeons alike, we are often called upon in less-than-ideal situations to perform technical challenges at all hours of the day, regardless of how much sleep debt or hunger has been accumulating. Despite our physical, mental or emotional condition, perfection is demanded by our patients, their families, our peers and by ourselves.

Many commonalities can be drawn between the journey of neurosurgery and endurance athletic endeavors, whether it is training for a marathon, an Ironman, or summiting a peak such as Everest. Delayed gratification is what motivates us on a daily basis. In the operating room or on the track, we spend years repeating technical maneuvers before achieving mastery. Failure, a concept we become all too familiar with in training, is an invaluable part of our development. Michael Jordan famously said “I’ve missed more than 9,000 shots in my career. I’ve lost almost 300 games. Twenty-six times, I’ve been trusted to take the game-winning shot and missed. I’ve failed over and over and over again in my life. And that is why I succeed.” In sport, failure

is in the fabric of our journey to strive to perfection, as is our plight toward technical excellence. No one remembers Jordan for his misses, or neurosurgery giants for the times they fell short, but the greats will attest that these failures built the foundation for their success.

As neurosurgeons, we all have the innate patchwork of what it takes to succeed in endurance athletics. In many ways, doing what we do on a daily basis is in itself an athletic achievement. We spend our careers obsessing over the relentless pursuit of mastery, whether of technique, patient outcomes or academic prowess. Despite the obstacles in front of us, we excel at maintaining clarity under pressure, even in the bleakest of times. We have the uncanny ability to channel our focus for extended periods of time, while maintaining a high degree of execution. Athletes who have trained for and competed in high octane endurance competitions will tell you that the same demands are true in sport. The mind directs the body, and only the toughest, most focused minds will carry a pain-stricken body through the finish line.

When people describe the physical challenges of racing a marathon, they often describe the notorious “wall”—the point in the race when the body begins to shut down, and the mind must take over. For runners of all capabilities, this can be the point of no return, and an early end to the culmination of months of preparation. However, as neurosurgeons, we are often asked to perform at peak performance despite the constant fight from our minds and bodies. When entering the *pain cave* at the steady climb on mile 23 down 5th avenue in the New York City Marathon, or attacking Heartbreak Hill at mile 21 in Boston, the ability to settle in and refocus comes from years of neurosurgical training. Waking up in the middle of the night to place an EVD on a patient with subarachnoid hemorrhage or starting a long skull base case after a full day of operating, the ability to be in touch with our mind and body and refocus is a skill we have mastered time and time again.

Is it reasonable to think that all neurosurgeons can be elite athletes? Unlikely. However, I will posit that we are our unique brand of elite performers at the top of their game, and that deserves to be celebrated. 🏆

Special acknowledgement to Sydney A Schupper, for her unrelenting support and patience to allow the impossible to become reality.

CNS 5K

Monday, October 13 | 6:30 am

Tuesday, October 14 | 5:00 pm

Join us in Los Angeles for the CNS 5K! Organized group runs will be held on Monday and Tuesday, departing from the lobby at the JW Marriott Los Angeles L.A. LIVE! Advance registration is required and includes a CNS 5K t-shirt. You may also run a 5K autonomously while you are in LA and track your time in the Strava app.

Industry 5k Sponsor: Johnson & Johnson Medtech



Pilin Anice

Theresa Williamson,
MD, MPH, FCNS

Listening Before It Yells: A Neurosurgical Reflection on Rest, Identity and Resilience



“Listen to your body whisper before it has to yell.”

For years, I lived by the unspoken mantra of our profession: push through. No matter how tough the call night or overwhelming the clinical volume, I reminded myself—as many of us do—that the patient is always having a harder day. And it’s true. But somewhere along the way, I conflated perseverance with self-neglect.

Even as I write this, I hesitate. Will this come across as too soft? Too indulgent? Not rigorous enough for our field or for the patients we serve? I've built a career on being relentless—on staying late, signing up for more and outperforming expectations. Rest, by contrast, has always felt like a foreign concept, or worse, a betrayal of excellence.

It's only recently that I've begun to question that framework. A canceled case no longer automatically turns into paperwork catch-up. Sometimes, it becomes a nap. Or a yoga class. And when I tell my family I'm coming home early or extending maternity leave, the responses are telling: "But you'll still be doing some research, right?" or "You'll probably pick up some committee work." They know my drive well. But have I shown them that I can rest, too? Maybe the harder truth was that I hadn't shown myself.

"Each time you judge yourself, you break your own heart."

— Swami Kripalu

At the 2023 Congress of Neurological Surgeons Annual Meeting in Washington, D.C., I met Pilin Anice, a wellness facilitator, yoga teacher and, at the time, a Lululemon ambassador. Together with Korey Rowe, she led a stretching session and a pre-run warm-up before the CNS 5K. I was surprised and moved by how many

neurosurgeons showed up. I heard so many stories that mirrored my own—stories of chronic stress, back pain, poor nutrition, and the quiet acceptance of co-dependence with chaos and exhaustion.

Pilin and I clicked immediately. She understood the stakes of our profession and the internal resistance many of us carry toward stillness. She invited me to a retreat at Kripalu, where she is lead faculty. There, surrounded by others navigating similar questions, I began to rethink what excellence really means. I asked myself: What would it look like to not only do meaningful work, but to enjoy it fully? To rest without guilt? To model for my children a definition of success that includes self-compassion?

I left that weekend with a quiet vow: to rest while others are watching—not in defiance of our culture, but in leadership within it.

Because let's be honest: This is hard work. It's hard to recalibrate the habits that brought us here. But it's also essential. We cannot serve others if we are disconnected from ourselves.

As a wellness leader and neurosurgeon, I've come to believe that rest is not the opposite of drive—it's what sustains it.

Last year, the CNS Wellness Committee partnered with Pilin to facilitate wellness events and host the first Neurosurgeon Wellness Retreat at the CNS Annual Meeting. The retreat, funded in partnership with Wellwithall, was a huge success. Surgeons left feeling physically restored, connected to breath and equipped with practical tools to support and sustain wellness.

The body always whispers first. Let's learn to listen—together. Please join us in L.A. 📍

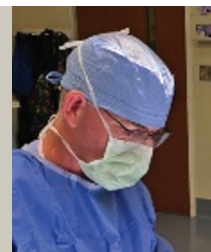
CNS WELLNESS RETREAT

Sunday, October 12 | 7:30 am-2:30 pm at JW Marriott Los Angeles L.A. LIVE

Join us in L.A. for an immersive one-day experience to rejuvenate your mind and body with yoga, meditation, and stress-relief techniques. Learn practical wellness tips for pain management, healthy eating in the OR, and work-life balance. Space is limited, so register early to secure your spot.

<https://www.cns.org/annualmeeting/program/wellness>





Mark P. Redding, MD

The Intersection of Pickleball, Fitness and Neurosurgery

Pickleball, a fast-growing sport blending tennis, badminton and table tennis, has transcended its recreational roots to become a powerful tool in promoting physical fitness and cognitive health. With its low-impact, accessible design, pickleball appeals to a wide range of ages and abilities. Beyond its fitness benefits, the sport has intriguing implications for neurosurgery and neurological health, as studies increasingly reveal the link between physical activity, brain function and surgical outcomes.

My own pickleball journey began during the early years of COVID-19. The game offered a unique way to socialize across demographics, develop new mental strategies, and train both fast- and slow-twitch muscles. I delved into concepts like Cognitive Vision Training (CVT) and Active Video Game Playing (AVG), as they relate to pickleball and brain function. This journey ultimately led me to compete at the Senior Pro level.

Physical Fitness and Its Neurological Impact

Pickleball demands coordination, agility and endurance, making it an effective cardiovascular workout. Regular play improves aerobic capacity, circulation and blood pressure. These physiological benefits are particularly important for neurological health, as consistent blood flow supports brain function and resilience.

Moreover, the quick reflexes required to return volleys stimulate neural pathways associated with motor skills and decision-making. These exercises contribute to neuroplasticity, the brain's ability to reorganize and form new neural connections. Neurosurgeons have long emphasized the importance of neuroplasticity to recovery after surgery, trauma or neurological disease.

The Role of Pickleball in Cognitive Health

Pickleball also engages cognitive functions such as strategic planning, spatial awareness, and problem-solving. The split-second decisions demanded by the sport encourage the brain to process information rapidly and efficiently. For neurosurgical patients, this cognitive stimulation can be invaluable. Research has shown that activities combining physical and mental engagement can mitigate the effects of neurodegenerative diseases like Alzheimer's and Parkinson's, while improving outcomes after surgery.

The sport's repetitive, varied movements also engage the basal ganglia, the region of the brain associated with motor control and habit formation. Neurosurgeons treating patients with basal ganglia-related diseases, such as Parkinson's, may find pickleball an excellent recommendation for rehabilitation.

Balance, Coordination, and Fall Prevention

One pivotal advantage of pickleball is its ability to improve balance and coordination. The sport's lateral movements, quick pivots, and weight shifts bolster the body's ability to maintain stability. For neurosurgical patients, improved balance can significantly reduce fall risks and complications during post-operative recovery. Falling is a major concern for individuals with compromised motor control, and pickleball offers a safe, controlled environment for regaining confidence and physical competence.

Stress Reduction and Mental Health

Pickleball's social component plays a major role in mental well-being, a factor not to be underestimated in neurosurgical contexts. The camaraderie and community fostered by the sport create a supportive environment that can alleviate stress and anxiety, and endorphins released during play act as natural mood elevators. These positive psychological effects can complement surgical interventions, creating a holistic approach to treatment and recovery.

Conclusion

The intersection of pickleball and neurosurgery highlights the powerful relationship between movement and brain health. From promoting neuroplasticity and cognitive function to reducing fall risks and enhancing mental well-being, pickleball is far more than a pastime—it is a gateway to holistic brain and body health. For neurosurgeons, it is an innovative tool for both preoperative preparation and postoperative recovery. As researchers continue to uncover the myriad benefits of physical activity on the brain, pickleball stands out as a compelling example of how engaging the mind and body can propel us toward better health and resilience. 

Mark Redding is a practicing neurosurgeon in North Carolina and a Joola Sponsored Senior Professional Pickleball player

Pickleball is Coming to Los Angeles!

This fall at the 2025 CNS Annual Meeting, you can keep your wellness goals on track with a fun and competitive twist! In addition to popular offerings like the 5K and Wellness Retreat, Pickleball is making its debut. This new onsite activity offers a unique way for attendees to recharge and connect through movement. Don't miss your chance to participate in this exciting, wellness-focused experience. Watch cns.org/2025 for more information!



Keenan Piper, MD

An Argument for Modest Goals and Unstructured Play



Neurosurgeons are experts at setting goals and achieving milestones. It's probably one of the things we do best. It is therefore natural for us to translate this into all aspects of our lives, including fitness and wellness. While aspiring for personal bests and feats of fitness is admirable, I would argue that this attitude can dissuade us from taking the first step out of the door and can steal the joy from short periods of play.

As a college athlete, I dedicated around 50 hours a week to developing my fitness. I'd run upwards of 80 to 100 miles per week, and obsessed over every calorie, every stretch, every rep, every night's rest. My relationship with athletics is dramatically different now.

I now run without a timer, play pickup sports whenever I have the opportunity, and lift weights for ten minutes between cases. I no longer know my mile time and I'm certainly done counting my hours of sleep. Yet, exercise remains my greatest outlet, even as unstructured as my training has become.

But it wasn't always like this. Transitioning from medical school to intern year, I went from daily workouts to going weeks—sometimes months—without exercise. I fell out of shape and, more importantly, I became ashamed of my lack of fitness. The fear of being bad at something prevented me from getting out the door and trying. Rather than acknowledging the deterioration of my fitness, I could just ignore it, eat dinner, hang out on the couch, and go to sleep. Perhaps even more so than my physical health, this abrupt change had a profoundly negative effect on my mental health.

What brought me back into a healthy cycle of exercise was lowering my expectations. I may not feel up to a 6-mile run after a long day at work, but I could manage a mile jog while dinner cooked. If I told myself that was enough; it got me out of the door. The more of these days I could string together, the more my mental health improved.

Maintaining a humble outlook on my fitness journey has also allowed me to stay open to more diverse forms of play. I play basketball on a whim when I find a pickup game, no matter how rusty my shot has become. If a friend invites me on a bike ride, I accept, knowing well that I am about to get whooped. Need an extra kickball player for your Sunday league? I don't know the rules, but I'm in.

Some people manage to maintain semi-professional training regimens as neurosurgeons. I don't know this secret recipe, but I admire those who do. I carry no shame about my middling fitness, because to me, exercise is not another task—it's a chance to move, clear my mind and play. Our jobs require such intense focus that running aimlessly without tracking pace or distance feels like the perfect antidote.

That said, just because the play is unstructured, it doesn't mean that your schedule has to be. I am still intentional about structuring my days to allow for short periods of play. As a junior resident, I hydrate during sign out, drink liquid calories when I finish a case, and (subtly) stretch whenever I have a free moment. These preparatory actions give me the energy and will to resist the intense pull of the couch at the end of the day. If I come home exhausted, dehydrated, hungry, and sore, it's a battle I'm unlikely to win.

Another way I integrate exercise is by inviting my partner to join me when her schedule allows. During intern year, I felt guilty spending my few free hours exercising alone. By inviting her to meet me at the gym or on a jog, we stay active and spend time together.

Exercise can be one of the most powerful tools for maintaining wellness during the rigors of a career in neurosurgery. There's nothing wrong with setting lofty goals, but they can discourage more than motivate. Instead of setting a goal to complete a triathlon or set a personal record, start with a plan to get out the door five days next week and move. It can be for two minutes, two miles, or two hours. Just get out the door. If you can string together enough of these weeks, you may just meet that lofty goal after all. 🍷



**Myron L. Rolle, MD,
MSc**

The 2% Way, Neurosurgery, and Football

Neurosurgery is a lot like football. Both use a team. A timeout. A huddle. A game plan. They both have defined steps. And there are intrinsic traits that are incredibly valuable to both fields such as communication, coachability, overcoming adversity, being adaptable, mitigating pressure, focus, discipline and being a team player. These similarities have allowed me to seamlessly transition from the National Football League to neurosurgery. But that transition is not successful without something my football coach at Florida State University called the 2% way.

The 2% way is an ideology. At every practice, Mickey Andrews, the defensive coordinator at Florida State University, would challenge me and my teammates to improve 2% each day—2% better in our backpedaling, 2% better in our ability to high-point the football, 2% better in disguising our blitz packages. He felt that these small incremental gains were manageable and realistic. He often would tell us that no football player can get 100% better in a day. So, we focused on small gains. Small wins each day to becoming a better player and more competitive against our rival opponents such as the Florida Gators or the Miami Hurricanes. He would go so far as to write on the whiteboard in the locker room whether a player achieved 2% increase in practice. It held us accountable and made this esoteric philosophy a true reality. I enjoyed that ideology so much that I extrapolated it to life. That meant that any book I read, any person I met, any experience I had, I was trying to extract 2% from those moments. And that 2% could be added to my journey moving forward.

The journey moving forward was neurosurgery. I knew this field of medicine would be difficult. I knew that it would take extensive hard work and commitment. But hard work and commitment were not foreign concepts to me. I figured if I could tackle an angry, charging 250-pound fullback in the open field and survive three-a-day practices in sweltering Florida heat, then I can make it through ward rounds at the hospital. Nevertheless, the neurosurgical learning curve was steep, and I needed a formulaic process that could quiet the background noise and force me to lock in to self-improvement. I went back to what had worked for me in the past. And that was the 2% way.

From a technical standpoint, one of the first neurosurgical procedures where I utilized the 2% way was a ventriculoperitoneal shunt. As a burgeoning pediatric neurosurgeon, I knew that cerebrospinal fluid diversion through shuntology would be a mainstay of my practice. And I knew that I had to master abdominal access of the peritoneal space. As a junior resident, recognizing

that I needed to improve, I enlisted the help of the 2% way. I called mentors for advice. I watched operative videos. I read academic articles from our robust medical library. I reviewed the steps with my attendings and chief residents. I performed the surgery in my mind when I showered in the mornings through mindful visualization. I explained, with simplicity, the procedure to a layperson and had them repeat back to me what I just taught them. I felt that if I could clearly elucidate the steps of the operation to an unfamiliar person, then I would have true command over the operation. I went to our skills lab and worked with a senior general surgical resident on the layers of the abdomen. Every day I improved 2% in the goal of trying to master the ventriculoperitoneal shunt operation. And by the time I became a senior resident, these small daily steps added up to great confidence and comfort in performing any and all kinds of shunt operations, especially for pediatric patients.

The utility of the 2% way was quite evident in my career decisions within neurosurgery. I always knew I wanted to do pediatric neurosurgery, but I felt that a career which married my operative prowess with my community and advocacy interests would be the most fulfilling pathway forward. So, I took small steps to block out the background noise and quiet the distractions. Where my colleagues were doing remarkable basic science research and being awarded some of the most prestigious scientific grants in the world, I stayed steadfast in my 2% process towards my future, my goals, my vision and my passion. I scrubbed into every pediatric case during my residency. I attended webinars from the leading pediatric neurosurgeons around the world. I matched at my number one choice for pediatric neurosurgery fellowship with world-renowned thought leaders and technical giants in pediatric neurosurgery. I connected with health department officials, lobbyists, public health advocates and fellow community-minded surgeons to convene on topics which could prevent serious neurosurgical disease. I applied for and earned a \$30,000 grant to implement preventive traumatic brain injury interventions in a low resource setting for children. I've drafted legislation and met with lawmakers around the folate fortification of culturally specific foods consumed by vulnerable immigrant populations in the state of Florida to prevent spina bifida. These 2% wins have truly defined my purpose in neurosurgery. And it has allowed me to remain focused on my service in this remarkable field of medicine.

Neurosurgery is a lot like football. Both are hard. Both demand perfection. Both require a unique subset of skills. And both have an

ultimate goal—one to win a game and one to save a life. The 2% way, that process of daily small incremental growth, is a methodology that has worked to defeat opponents on the field and to defeat obstacles in the way of being the best neurosurgeon I can be. Daily edification with a steady, forward-leaning posture maintains the inertia necessary to not only withstand neurosurgical pressure but thrive in it. The 2% way is the key to unlocking it all and I implore others to consider it as a path to being the best version of yourself. 📌

“Neurosurgery is a lot like football. Both are hard. Both demand perfection. Both require a unique subset of skills. And both have an ultimate goal...”



Annual Meeting Spotlight The 2025 Walter E. Dandy Orator: Dan Buettner

World Renowned Explorer, National Geographic Writer, and Founder of Blue Zones

Monday, October 13, during the General Scientific Session

Dan Buettner is renowned for identifying the five regions of the world—known as Blue Zones—where people live exceptionally long and healthy lives.

As the founder of Blue Zones LLC, Dan has worked with city governments, hospital systems, and insurance companies to transform communities by applying the longevity principles he uncovered in his groundbreaking research.

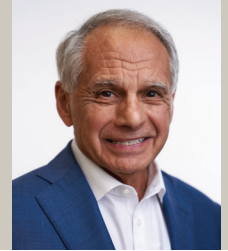
Member Spotlight / Ryan Kitagawa, MD, FCNS

Associate Professor, Vivian L Smith Department of Neurosurgery, University of Texas Health Sciences Center of Houston (UTHSCH)/Memorial Hermann Hospital

“I joined the CNS to be a part of the greater neurosurgical community and for my commitment to education. At the beginning of my career, it was an opportunity to learn from the luminaries in our field, and as my own career has progressed, it was an opportunity to pass along that knowledge combined with my own experience.”

The CNS has allowed me to form lasting relationships and friendships among my peers in neurotrauma. It has given me the opportunity to assume leadership roles as the secretary of the Joint Section on Neurotrauma and Critical Care, course director for the CNS Neurosurgical Emergencies Course, and neurotrauma section editor for SANS, NEXUS, and Neurosurgery Survival Guide.”





Joseph C. Maroon MD

The Aging Neurosurgeon

Following residency and up to age 40, I was consumed with climbing the “first mountain” described by David Brooks—the mountain of success, achievement, ego-defined self, and the pursuit of approbation, validation, financial rewards and titles.¹

A radical change occurred when my father, 20 years my senior, died prematurely of a massive heart attack at age 60. The same week, my marriage ended, disrupted by my unrelenting pursuit of “success.” I became unable to safely operate and had to quit neurosurgery.

This cataclysmic “life quake” took me from chief of neurosurgery at a university hospital, performing awake craniotomies one week, to being a pump jockey the next—filling up 18-wheelers and flipping hamburgers at a dilapidated, heavily mortgaged truck stop bequeathed to my mother.

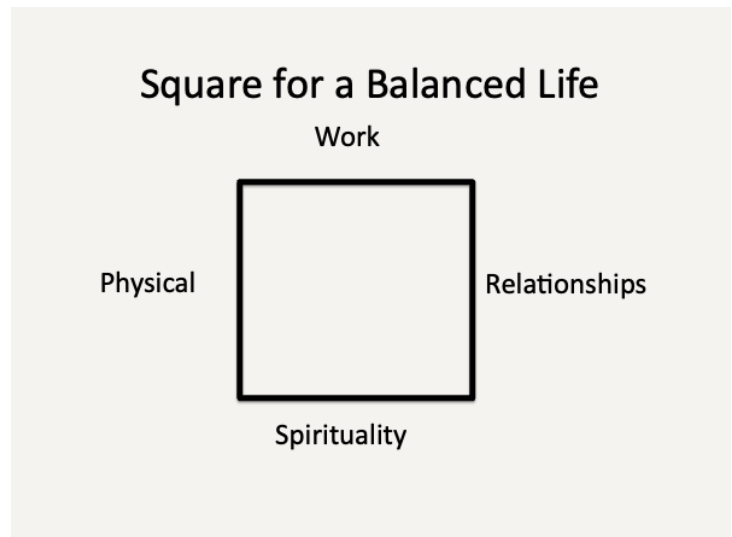
Like the mythical Icarus, my flight, pursuit, and acquisition of “success” resulted in the striver’s curse. Soaring too high with my success—and hubris—the wax melted from my ego and I plummeted into a sea of depression, anxiety and diminished self-worth.

I figuratively passed through the valley of the shadow of death and was forced to question the essence of success and life itself.

It was at this point that I began the trek up the “second mountain.” It required shedding the ego, losing the self, and finding true meaning in life—one connected with a purpose that was rational, intimate, personal and relentless.

William Osler, in his address *Aequanimitas*, urged physicians “to cultivate that degree of equanimity (or balance) that would enable them to meet the exigencies or hardships of practice without

hardening the human heart by which we live.” I had no awareness or insight into the absence of balance in my life until I picked up William Danforth’s classic book, *I Dare You*. In it, he urges the reader to draw a square with the four most important factors in life on each side.



Then, he instructs, draw a line along each side—the length of which is proportional to the effort devoted daily to each factor. At the time, mine resembled a flat line, like an EKG, devoted entirely to work, with a virtual absence of family, spirituality and physicality.

I HAVE DISTILLED THE THREE MOST IMPORTANT PURSUITS IN LIFE - AT ANY AGE:

1

A healthy mind and body -
mens sana in corpore sano

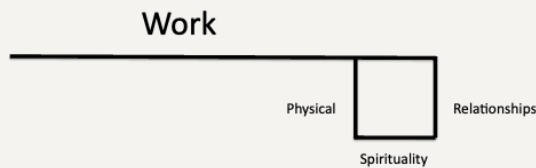
2

Relationships - with God,
family, friends and colleagues

3

Carpe diem - “We know not
the day nor the hour...”

My Square



And I had **no awareness** into how I had gotten so completely out of balance!

With this newfound awareness, I slowly reconstituted the physical side and began to run. I soon discovered aerobic exercise was the best antidepressant and a natural reboot for our “feel good” neurotransmitters. Feeling stronger, I repurposed my life by taking control of essential **epigenetic factors**.

I adopted a Mediterranean **diet** with intermittent fasting and appropriate supplements; incrementally added aerobic, flexibility and resistance **exercise** (eventually completing eight Ironman-distance triathlons); **avoided environmental toxins**, smoking, alcohol and drugs; managed stress through **spiritual** and **family** practices including meditation and prayer; and prioritized adequate **sleep**—all factors shown to increase health span, prolong life and reduce neurodegenerative disease risk.

My friends Reg Haid and Dan Barrow encouraged me to share these insights on stress control and longevity, which I summarized in *Square One: A Simple Guide to a Balanced Life*, a book highly recommended by our colleague, Dr. Sanjay Gupta.²

Unfortunately, structural entropy comes with aging: our windows cloud, sounds are muffled, the foundation creaks and cracks, water leaks, pipes clog, joints fail and the roof becomes threadbare. Fortunately, replacement parts and procedures can preserve function and longevity. I’ve benefited from most. As a result, I’ve transitioned from Ironman to “Tin Man” triathlons!

Now, at age 85, I recognize it wasn’t genetics but conscientious control of epigenetic factors—along with medical innovations—that granted me 25 years beyond my father. Now, in what I call the fourth quarter (actually, overtime), what’s next?

In 1971, Raymond Cattell posited two types of intelligence: fluid and crystallized. All hardworking, creative people possess abundant **fluid intelligence** early in their careers. They are innovators, filled with new ideas—most great breakthroughs occur before age 40 (Newton, Einstein, Gates, Zuckerberg). Fluid intelligence, however, declines after 40. Osler referred to this as *le crise de quarante ans*—the crisis of 40.

But not all is lost after 40.

Crystallized intelligence—based on accumulated knowledge and experience—increases through one’s 40s, 50s and 60s, and may never decline. This is wisdom. With it came greater sensitivity toward patients, a purer commitment to service, and a natural desire to mentor the next generation.

As Khalil Gibran wrote, “We give but little when we give of our possessions. It is when we give of ourselves that we truly give.”³

After a career of immense relevance to others, aging neurosurgeons must grapple with maintaining a sense of relevance themselves. The path forward is deeply personal and should be considered before retirement—if that is your choice. For now, I’ve chosen not to retire, not to “go gentle into that good night.”

With the support of the university and my chairman, Dr. Robert Friedlander, I am truly blessed and enjoying research without the pressures of surgery or the anxieties created by the plaintiff’s bar.

Today, my time is devoted to the study of immunotherapy and novel cancer treatments (Syncromune.com); the use of hyperbaric oxygen therapy for brain and spinal cord injuries (Aviv.com); and, alongside my colleague Dr. Pravat Mandal, the investigation of biomarkers and potential treatments for oxidative stress in neurodegenerative diseases and repetitive brain injuries through magnetic resonance spectroscopy.

With further contemplation and simplification, I have distilled the three most important pursuits in life—at any age:

1. A healthy mind and body - *mens sana in corpore sano*
2. Relationships - with God, family, friends and colleagues
3. *Carpe diem* - “We know not the day nor the hour...” 🍷

References:

1. Brooks, David. *The Second Mountain: The Quest for a Moral Life*. Random House, 2019.
2. Maroon, JC: *Square One-A Simple Guide to a Balanced Life*, Mascot press, 2018.
3. Gibran, Kahlil. *The Prophet*. Knopf, 1971



CONTRIBUTORS: Muhammad M. Abd-El-Barr MD, PhD; E. Antonio Chioocca, MD, PhD; Kevin T. Huang, MD; Benjamin R. Johnston, MD, PhD; Yi Lu, MD, PhD; Praveen V. Mummaneni, MD, MBA; Michael Y. Wang, MD, FACS; Hasan A. Zaidi, MD

IN MEMORIAM MICHAEL GROFF:

Wisdom from a Simple Country Neurosurgeon



Dr. Michael Willem Groff, MD was a luminary in the field of neurosurgery and spine surgery. He was known throughout our community for his singular qualities as a surgeon, mentor, and friend. In his over 30 year neurosurgical career, he was called to lead in a number of ways: he served as the Chief of the spine division and Vice-Chair of neurosurgery at Brigham and Women's Hospital, the president of the New England Neurosurgical Society, Chair of AANS/CNS Spine Section, chairman of the Board of Directors for the Neurosurgery Research and Education Foundation, and co-chair of the editorial board of the *Journal of Neurosurgery: Spine*.

Tragically, his life was cut short when his plane crashed on April 12th, 2025, along with his wife, two of his children, their respective partners. The family members were laid to rest on April 16th, 2025, in Wayland, Massachusetts. He is survived by his youngest daughter, who was thankfully not on the flight.

He will always be remembered for his kind heart and sharp wit. To honor his memory, we have compiled some of his more memorable quotes that continue to live on in the hearts of his friends and former students:

"I'm just a simple country neurosurgeon trying to get along."

Mike was incredibly sophisticated, smart, and worldly. His humility and humor shined in his everyday practice. When someone was causing him trouble, he enjoyed playing the humble yeoman, "Look, I'm just a simple country neurosurgeon trying to get along."

"There is always enough time to do the right thing / it's never too late to do the right thing."

It is not hyperbole to say that Mike hated rushing. He had no tolerance for cutting corners. Whenever there was a decision point that would take more time/effort he willed the team to do the right thing by saying, "there is always enough time to do the right thing." Aside from the lessons about fatherhood, this may be his seminal lesson. With the increasing pressures, felt by all of us—whether internal or external—you could always count on Mike to do 'the right thing'.

"When the kids want you, they want you."

Mike put his family first in everything he did. His favorite stories were about his kids and their independence. He had the wisdom to know how to be present when needed. This was one of his phrases when he was discussing his role as both a very hard-working surgeon and a father.

“Please give me a piece of bone wax shaped like a grain of Basmati rice.”

Mike was very proud of being married to his wife Joy and his embrace of Indian culture. He would ask for bone wax in this way to fill the hole left from a Caspar pin. It was a nod to his wife in every ACDF.

“A trip of a thousand miles starts with a few steps.”

I learned so much from Mike surgically. He was a master technician. He had a gift for breaking down complicated cases into smaller, achievable parts. I also learned so much from him about how best to take care of patients—how to make sure to listen to the patient to see what their major ailment was and to concentrate on that.

“There are three steps” to using the Kerrison: slide in, bite strongly, lift gently.”

Mike was a gifted teacher. He would instruct how to use every instrument better. If you didn’t “show” him the steps we would correct immediately. Mike was incredibly vigilant and watched every bite to ensure it was done right.

“What the eye can see, the hand can do”

Mike was very proud of the technical feats that neurosurgery had accomplished and especially enjoyed telling the story of how our field embraced the operating microscope.

“The good guys are winning.”

Positive almost to a fault – Mike would always find a way to call out when he saw a pivotal point in the case turning in the right direction.

“Commander”

Mike had a way of empowering his trainees and making them feel like they could do anything. When deputizing one of them in the operating room, he would refer to them in this way, both as a term of respect and endearment. “Janetta was so nice to me... and he had no business being nice to me”

Mike would often speak fondly of his medical student years at the University of Pittsburgh. In particular, he adored his mentors there, and was eternally grateful for their guidance and mentorship.

“If that’s my wife, tell her that I love her!”

In the OR Mike fielded calls all day from colleagues, friends, and family. When he was able to hear the ring above the din of the OR bustle he would yell with a smile, “if that’s my wife, tell her that I love her!” When it was his wife and the phone was held to his ear he would say, “sweetheart, can I call you as soon as I’m finished?”

“Karennna is something else”

Mike was often mystified about his eldest daughter’s success. Without any bragging he would bring up her accomplishments as if he had no part of them. Mike and Joy served as perfect examples to instill these qualities, but Mike often acted as if nature was the explanation for Karennna rather than nurture.

“Anika runs circles around us.”

Anika had two very accomplished and savvy older siblings. After years of dealing with the older sibling hijinks Mike and Joy thought they had seen it all. Mike would laugh with delight about how Anika would figure out a way to get whatever she wanted and completely foil any plans Mike and Joy had to keep her precocious nature at bay.

“I think that was meaningful.”

Mike believed in what he was doing. During cases he would sometimes make several passes at a task: removing bone, freeing up tissue, removing disk. He would then feel the structure one more time with an instrument and declare, “I think that was meaningful.” He really meant that small parts of the case, small amounts of extra effort, could make all the difference.

Mike Groff lived a meaningful life. ■



Jordan Hatfield, MD

The Ground on Which I Stand

Ritual is an integral part of surgery. It brings us comfort and consistency, operating as an internal checklist. To do the same thing in the same way every time frees our mind for creativity and flexibility. It gives us the cognitive and emotional bandwidth to perform the nuanced, high-level tasks required of us.

A ritual may extend beyond the physical preparation—it becomes a space for moral and spiritual alignment.

Every time I make my way to the metal sinks and stand before the operating room, spilling suds of pink chlorhexidine over my forearms, these are the words that go through my head:

I am of the nature to grow old.

There is no way to escape growing old.

I am of the nature to have ill health.

There is no way to escape having ill health.

I am of the nature to die.

There is no way to escape death.

All that is dear to me and everyone I love are of the nature of change.

There is no way to escape being separated from them.

My deeds are my closest companions.

I am born of my deeds; and I am their heir.

My deeds are the ground on which I stand.



These lines derive from the [Upajjhatthana Sutta](#), a Buddhist discourse that invites reflection on impermanence and anchors us in the present—and in our moment-by-moment impact on the world around us. We are privileged in neurosurgery to experience firsthand the fragile substrate of the human experience. We sit on the front lines and witness the unraveling of the neurocognitive threads that shape perception, memory, language and identity. I believe witnessing this volume and degree of suffering requires a compensatory ritual of compassion and intentionality to stay afloat.

I've been engaging with Zen Buddhism and formal meditation practice for nearly a decade. I find that these daily encounters with suffering, mortality, and uncertainty offer a profound opportunity for reflection, often revealing insights more swiftly than those found alone on the meditation cushion in the beginning of one's practice.

This practice has also been, for me, an antidote to nihilism. It does not always explain or resolve the tragedies we witness, but it provides a framework for transforming recognition of impermanence into purposeful, compassionate action. The practice of zazen—seated meditation—offers the mind an open canvas to explore and process the more challenging moments. It provides the space to experience the emotions that may be sheltered at the time of action and serves as a release valve for the festering feelings of shame, guilt, and self-doubt. Despite the mind's best efforts to hold onto them, even these emotions carry no weight and ultimately fall away to impermanence.

Of the five remembrances, I find the final statement rings the loudest:

**“My deeds are the ground
upon which I stand.”**

In a world with no guarantees, no permanence, and no ultimate control, it reminds us that we are not powerless. Through our actions, we have an infinite opportunity to meet suffering with compassion. One of the best pieces of advice I ever received was from a senior resident, on the eve of joining the junior call pool:

**“There will be times when
you are beyond tired and
overwhelmed. The world
will pull you in a million
directions. In those moments,
remember — your only job is
to take care of the human
being in front of you.”**

As we move through the chaos of this work, I invite everyone to find one small moment in their daily rituals—whether at the scrub sink, the timeout, or during a quiet walk—to reconnect with compassion and intentionality. 🍷



Ian Rose, LACP, CRES

Financial Wellness for Neurosurgeons

“If you fail to plan, you are planning to fail.”

– Benjamin Franklin

Benjamin Franklin died almost 250 years ago, but this saying still carries the same weight today as it did then. In my 20-plus years in financial planning, wealth management, financial advising, holistic planning—or whatever the most recent title of the day is—I’ve always made sure that my clients had a solid financial plan in place before making any important or impactful financial decisions.

This article is not intended to give you all the keys to a comprehensive financial plan. Instead, it’s meant to help position you for success right away by increasing your probability of achieving financial wellness. Whether you’re a PGY-1 or in the final five years of your practice, the same planning principles can have an immediate positive impact.

When it comes to the idea of financial wellness for neurosurgeons, the challenge is always tough. Neurosurgeons typically have the longest runway before beginning their careers, the least amount of available time, and daily clinical and surgical responsibilities. Add in research, publishing, travel, industry workshops, and department meetings, and there’s little time left for personal and family financial planning.

Neurosurgery is among the highest paid medical specialties, but that doesn’t automatically lead to the best financial decision-making. Taking a patient from the first appointment to surgery requires precise planning, testing, preoperative preparation, and technical expertise.

I have personally attended over 500 Neurosurgery conferences, labs, residency & fellowship programs, CME talks, dinners, and more dinners. From those events, I’ve learned that my world and a

neurosurgeon’s world share many of the same characteristics. In my line of work, the more data, openness, honesty, ideas, and goals a client shares, the better the planning and the greater the probability of success. Neurosurgeons don’t typically operate during the first patient encounter (trauma cases aside). The more data points, the better the expected outcome. Sound familiar?

Trying to provide all the financial knowledge I have accumulated over the years into one CNS article is an impossible task. What I hope to do, besides lobbying for a second article, is help you build the blueprint for your financial house. If you need help building that blueprint—or the entire house—my firm and I are here for you.

When I teach CME courses, I usually break them into two sections. The first is the “What, Why, How,” and the second is the “Neurosurgeon Lifecycle.” Each could easily fill a full article. I’ll focus on Section 1 here, as it lays the foundation for addressing your financial questions and goals.

The “What, Why, How” (WWH) Method

This is a recipe I started years ago that’s been refined through hundreds of conversations with neurosurgeon clients. It’s a simple yet effective formula to start the financial planning conversation. Here’s the breakdown:

What – Simply put: What are you trying to accomplish? This could be retirement planning, tax management, college funding, buying a vacation home, or debt reduction. This is the first step in building your financial blueprint. Your “what” can include one goal or many, and you can categorize them by time frame (short-,

Member Spotlight / Anton Alyakin

Medical Student, Washington University in St. Louis



"I joined the CNS to become part of a community that represents the best of neurosurgery—a society where innovation meets tradition and where leading minds collaborate to advance our field. Looking up to mentors like Dr. Eric Oermann and Dr. Douglas Kondziolka, who have been deeply involved in CNS and exemplify its commitment to pushing boundaries while maintaining clinical excellence, inspired me to join. What struck me most was how welcoming and collegial the CNS community is, despite neurosurgery's reputation as an intense specialty—creating a supportive environment where both established surgeons and trainees freely share knowledge and experience.

I'm excited to attend the 75th CNS Annual Meeting in Los Angeles, where I'll teach the Data Science for Neurological Surgeons course and present our research on building neurosurgery-specific AI models that matched GPT-4o's diagnostic performance... Poster sessions remain one of my favorite venues for connecting with colleagues—I'm especially looking forward to hearing diverse opinions from surgeons across different practice settings about where AI can truly enhance neurosurgical care by having a good product-problem fit."

medium-, or long-term) or by focus (estate planning, risk mitigation, tax strategy, etc.). Of course, there are endless combinations to this area as well. Being a little biased, I would recommend using a financial planner to help build these ideas and frameworks into a baseline financial plan for an easier transition to the "why."

Why - Why are you trying to accomplish these goals? This part generates the most conversation because it distinguishes real goals from abstract dreams. It requires data and honesty to determine what's achievable. I've mediated more family disagreements in this section than in any other. Open communication is critical to determine whether or not your "what" goals are feasible.

How - How will you accomplish them? This is about your current and future assets. If you have 10 goals, you need to recognize that your assets will be pulled in different directions, and some goals may not be feasible. Assets don't exist in a vacuum—adjusting one area affects others, for better or worse. This section is the most challenging because it involves making hard, real-world decisions—but it's also the most important in the long term.

I've used the WWH method with every neurosurgeon I work with, and it always helps get the conversation started in a positive direction. As an avid golfer, I like to say, "It's easier to start with a good swing than to fix a bad one."

This isn't meant to be a generic piece about debt, investments, taxes, or inflation. Neurosurgeons are in vastly different financial situations, and there's no one-size-fits-all advice. Instead, I hope to provide a few tips to help start the conversation—often the hardest part. Most financial planning begins after a major life event. I hope these suggestions inspire you to begin planning before one occurs. 

Ian Rose is CEO and founding partner of Surgeons Capital Management, a financial planning firm that works exclusively with orthopedic and neurosurgeons nationwide



Mandy Rollins

Professional Coaching for Improving Your Performance

Neurosurgery is a cognitively demanding and emotionally taxing medical specialty. Today's rapidly changing health care environment can negatively affect how neurosurgeons work. While maintaining clinical excellence and technical mastery, neurosurgeons face expanding leadership roles, increasing administrative demands, mounting clinical responsibilities and the risk of burnout. Their role is multifaceted—serving as clinicians, leaders, educators, researchers and mentors. It's not surprising that neurosurgeons may experience overwhelm, decision fatigue and leadership challenges.

Once reserved for corporate executives, professional coaching can effectively support even the most seasoned neurosurgeons in maintaining peak performance and well-being.

What Is Professional Coaching?

Individual coaching is the most recognized form of professional coaching. Characterized by a collaborative, one-on-one relationship between a trained coach and a client, its purpose is to unlock the client's potential and maximize performance.

Individual coaching is tailored and confidential, providing a dedicated and objective space for clients to reflect on experiences, learn new skills and develop strategies to overcome challenges. The coaching relationship creates a dynamic environment that encourages perspective-taking and sense-making, empowering intentional choices that enhance performance and well-being.

Unlike mentoring or consulting, coaching does not offer advice or prescriptive solutions. Instead, it helps clients draw out their own insights to explore possibilities, clarify goals and build action plans based on their core values and aspirations.

For neurosurgeons, coaching may focus on issues such as:

- Leading more effectively in practice, department or academic roles
- Improving communication with surgical teams, peers and patients
- Managing conflicts with colleagues and staff
- Engaging in courageous conversations
- Enhancing emotional intelligence and regulation in high-stress situations

- Reconnecting with purpose and professional satisfaction
- Navigating transitions such as leadership roles, academic promotions or private practice shifts

Professional coaching can also include group and team coaching. Group coaching works well when participants share a goal, feel psychologically safe, bring diverse perspectives and are supported by a skilled facilitator. Team coaching is effective when the group is ready to embrace change and committed to improving collaboration and productivity.

The Neuroscience of Coaching

Coaching benefits are grounded in neuroscience. Studies show that effective coaching can rewire neural pathways involved in self-reflection, empathy and cognitive control. Intentional coaching conversations enhance activation in the prefrontal cortex, which improves focus, adaptability and decision-making.

Coaching supports neuroplasticity by interrupting unhelpful thought patterns and reinforcing positive behaviors. This is especially valuable for neurosurgeons who may have developed rigid coping mechanisms. By fostering cognitive flexibility, coaching helps clinicians adapt to the volatility, uncertainty, complexity and ambiguity of their work.

Enhancing Leadership and Influence

Because of their clinical expertise, many neurosurgeons hold formal or informal leadership roles—often without formal leadership training. Coaching offers an opportunity to develop key leadership skills such as emotional intelligence, strategic thinking, communication, resilience and adaptability.

A neurosurgeon leading a multidisciplinary team, for example, may struggle to balance research expectations, budgets, departmental conflicts and faculty management. Through coaching, the leader can work on both what they do—prioritizing and delegating—and how they do it—communicating and building relationships—ultimately creating a healthier work environment.

Preventing Burnout and Sustaining Well-Being

Burnout among neurosurgeons is well documented. Symptoms range from chronic fatigue to depersonalization and reduced professional efficacy. While coaching is not a substitute for therapy or mental health care, it is a proactive, performance-enhancing tool that supports well-being.

Coaching helps neurosurgeons set boundaries, align values, develop work-life integration strategies and build mindfulness and stress-management practices.

Getting Started

Neurosurgeons interested in coaching should seek certified coaches with experience working with health care professionals or high-performance clients. A coach who understands the unique pressures of neurosurgery can offer meaningful perspectives.

Some hospitals and medical schools offer internal coaching programs or subsidize external coaching as part of faculty development. Peer recommendations and professional associations such as the Congress of Neurological Surgeons (CNS) are useful resources. Interviewing multiple coaches can help find the right fit—someone whose experience, style and approach resonate with the client.

Investing in Performance

Professional coaching is an investment in leadership development, performance and well-being. For neurosurgeons, it can mean the difference between surviving and thriving in a high-pressure field.

Coaching isn't easy or a quick fix. But it offers a rare and valuable space for growth, clarity and transformation—helping neurosurgeons lead in every area of their lives. Whether you're a new surgeon defining your path or a seasoned leader seeking renewed purpose, coaching can catalyze your next level of impact. ■

Mandy Rollins, MPH, CPCC, CTPC

Mandy Rollins is a certified executive leadership coach and team performance coach with over a decade of experience coaching hundreds of professionals worldwide including physicians, surgeons, scientists, and healthcare administrators. Her coaching approach blends proven leadership principles, emotional intelligence insights, and practical strategies, resulting in lasting positive change for her clients. Mandy is currently a doctoral candidate in Leadership Studies (EdD), applying leadership theory, behavioral science, and systems thinking to support clinician development, enhance team dynamics, and drive sustainable change in healthcare organizations.



Julie L. Chan, MD,
PhD, FCNS



Brian V. Nahed, MD,
MSc, FCNS

Performance Optimization for Neurosurgery

Surgical training requires a lifelong dedication to developing and refining the skills and judgment necessary to achieve the best clinical outcomes. Historically, training mirrored military and sports training—predicated on learning by repetition, amassing experience, and developing grit. Outside of medicine, human performance has become an integral part of training to ensure optimal outcomes and longevity. The Congress of Neurological Surgeons is exploring human performance initiatives specifically designed for neurosurgery.

Augmenting Performance Outside Patient Care: Redefining Balance in Neurosurgery

Perfection is synonymous with neurosurgery. In the operating room, precision is paramount, and the margin for error is slim. Every decision and action is deliberate. Trained in high-stakes environments, neurosurgeons are required to have technical mastery, focus, and endurance to define success. Yet outside the hospital, neurosurgeons face the more nebulous challenge of maintaining optimal personal and professional performance amid competing, less structured demands. This landscape can easily lead to overextension and burnout.

The concept of “balance” is often discussed, yet difficult to achieve given clinical demands, administrative duties,

academic responsibilities, mentorship roles, and family life. Rather than chasing an ideal, we must reframe balance as a dynamic process: one that prioritizes clarity, intentionality, and sustainability. The goal is not to do everything at once, but to do the right things, at the right time, and in ways that support long-term vitality.

Performance Optimization Mindset

Performance outside the OR is not about doing more; it's about applying a structured approach to managing time, energy, attention and cognitive bandwidth. This begins with the recognition that our capacity is finite and that relentless productivity is often unrealistic—and potentially even counterproductive.

As neurosurgeons, we benefit from performance architecture—framework that aligns personal values, professional priorities, and evidence-based strategies for efficiency. This includes cultivating daily routines that support recovery and focus, understanding our personal biology and physiology, and recognizing when we are cognitively agile to align deep work with peak performance windows.

As we rely on preoperative planning and intraoperative navigation, we must apply similar rigor and structure to our lives outside patient care. Goal clarity, strategic prioritization, and disciplined rest are not luxuries—they are necessities. Performance optimization is not about chasing productivity but about preserving our ability

to consistently contribute at a high level over the span of a long and demanding career.

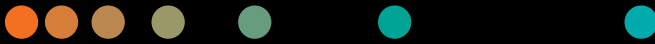
One promising approach to improving human performance beyond the OR is the integration of structured performance optimization. These programs are rooted in neuroscience, behavioral psychology, and high-performance athletics. A performance workshop tailored to neurosurgeons would combine cognitive resilience training, precision habit-building, and evidence-based recovery practices. Specifically, protocols might include sleep tracking, mindfulness training, and nutritional coaching to enhance focus, reduce burnout, and sustain peak function. Participants would begin with a baseline assessment and individualized coaching. Follow-up sessions would support periodic recalibration and help integrate personal performance metrics with ongoing professional demands. Overall, this initiative reflects a broader cultural shift in medicine toward sustainable excellence and serves as a model for cultivating long-term vitality in a field as demanding as neurosurgery.

This innovative new CNS program is entering its final stages of development. At this year's Annual Meeting look for dedicated human performance and well-being sessions, including coaching for pre-, intra- and post-op mindset, as well as physical preparation and recovery. 

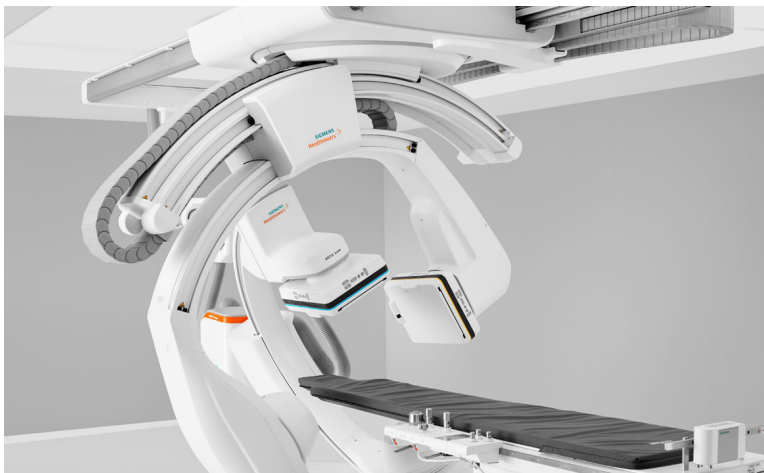
IR-24-NAM-5885

ARTIS icono biplane

**There's a better
way to see the
brain**



Twin Spin allows you to perform 3D acquisitions without the need to park the lateral plane. This can make procedures faster and safer due to less system movement, and it facilitates the utilization of *syngo DynaCT*.



siemens-healthineers.us

SIEMENS
Healthineers



Georgios A.
Maragkos, MD



Douglas Kondziolka,
MD, FCNS

Wellness by Design: Scheduling, Education, and Publication in Neurosurgical Training

In the high-stakes environment of neurosurgical training, the wellness of residents and faculty has become a topic of both urgent concern and strategic opportunity. With increasing awareness of burnout, emotional fatigue, and performance variability, programs are seeking new solutions rooted in structural change. Burnout affects more than 50% of surgical residents, according to national data, making structural solutions not only ethical, but urgent. Emerging evidence suggests that improving the systems in which residents learn and work—including scheduling, education, and a culture that fosters research—can significantly impact both wellness and human performance.

Scheduling is not just a logistical task; it is one of the most visible and emotionally felt aspects of residency life. One of the most compelling examples of systemic reform comes from the University of Florida, where an automated scheduling system was implemented to address inequities and inefficiencies in call assignments. Dubbed the Automated Optimization of Neurosurgery Scheduling System (AONSS), this technology-driven solution replaced manually created call schedules, which had often been sources of resident dissatisfaction, perceived bias, and uneven duty hours. Following implementation, satisfaction scores among residents rose dramatically from 21% to 90%, and perceptions of fairness increased from 43% to 95%. Most notably, perceptions of gender bias were completely eliminated, a significant achievement in a program with a high percentage of female trainees. Residents also experienced more consistent duty hours and greater diversity in their team-based interactions, contributing to a richer educational environment.¹

Educational structure, too, plays a pivotal role in supporting both wellness and academic performance. A 12-year retrospective study from the University of Washington investigated the impact of a weekly, dedicated Resident Education Hour (REH) on American Board of Neurological Surgery (ABNS) written exam scores. Before the introduction of REH, residents scored an average of 319 on the exam; after implementation, average scores rose to 410. Although the effect of REH alone was not statistically significant in isolation, its interaction with practice effects demonstrated a meaningful

improvement in standardized scores, highlighting the value of consistent, structured teaching time.²

These findings collectively emphasize that human performance in neurosurgical training is not merely a function of individual resilience or aptitude, but a direct outcome of the learning environment. Optimized scheduling and formalized education enhance not only academic performance but also morale and satisfaction. These improvements have cascading effects: when trainees feel supported, they are more likely to engage meaningfully in patient care, research, and team-based clinical activities. At the same time, programs that provide “light at the end of the tunnel,” with a balance between heavier and lighter work load rotations, elective time and research, typically are valued more. A long residency needs to finish residents who remain excited about their future career prospects.

Moreover, long-term career satisfaction and academic engagement are closely linked to the alignment between training and the individual’s goals. A national study found that neurosurgical residents who published frequently or pursued fellowships were significantly more likely to enter academic careers.³ Programs that offer mentorship, research infrastructure, and individualized career development foster not only productivity but sustained purpose. Much like coaches guide elite athletes, these supports help trainees navigate complexity and stay aligned with their professional aspirations.

Taken together, these interventions represent a shift from reactive wellness efforts to proactive structural design. Rather than relying on after-hours wellness seminars or sporadic morale boosters, programs can embed wellness into the architecture of training itself. Automated scheduling systems mitigate fatigue and perceived inequity; protected educational hours enhance learning and confidence; and structured mentorship fosters individual professional growth and sense of accomplishment.

Importantly, this model reflects not a pampering of trainees but a rigorous, evidence-based approach to performance optimization. Neurosurgery programs across the country are beginning to recognize that burnout prevention and human performance are not conflicting

Member Spotlight / Brian Gantwerker, MD, FCNS

The Craniospinal Center of Los Angeles

"Joining the CNS as an attending was one of the first things I did when I graduated residency. I was very proud to join the CNS as I looked upon it as a milestone in my career. The CNS is very plugged into current events in the practice of neurosurgery and works hand in hand with other organizations such as AANS, CSNS, the Washington Committee as an external face of our specialty.



Being a regular contributor on the CNS podcast has really made me feel very special and connected me both with my mentors and colleagues, and meeting new neurosurgeons to contribute to the base of knowledge as well as self knowledge of us as a collective. The CNS Podcast is being revamped to include not only controversies but also discussion on leadership, wellness, and more enjoyable topics, and hopefully enriching our listeners. We are definitely more tuned in to membership so we can not only be serious surgeons but explore our identities as members of the neurosurgical and larger social communities. I think its important to contribute to the larger discussion of how we can work well, work together, and work to improve the health of our patients - and also to just talk and be comfortable and in that, working to improve our own health and state of mind."

priorities. They are, in fact, mutually reinforcing. Trainees perform at their best not when they are constantly tested, but when they are thoughtfully trained, meaningfully supported, and strategically challenged. Like the coach of an elite team, program directors must think holistically: building endurance, cultivating strength, and preventing injury—whether physical, emotional, or intellectual.

Publication can also provide deeper levels of professional satisfaction and meaning. Our work is read not only by our medical peers, but by the broader public. Meaningful research can transform lives on a wide scale, contributing to society beyond individual patient care. At the same time, "having something to say," promotes attendance at meetings and give one the opportunity to travel (often to wonderful locations). Spending time with peers from other institutions and understanding their own career challenges and achievements can be rewarding at multiple levels. Travel is increasingly expensive, and programs must continue to fund these wellness-promoting educational opportunities. Virtual attendance, while useful, is not a substitute for the experience of being there.

As the field of neurosurgery continues to evolve, so too must the systems that train its future leaders. Investing in structural reforms that promote fairness, clarity, and support will not only prevent

burnout but will also cultivate a generation of neurosurgeons who are as resilient as they are skilled. In this context, wellness is not a retreat from excellence—it is its foundation. 📌

References

1. Porche K, Mohan A, Dow J, et al. Automated and Optimized Neurosurgery Scheduling System Improves Resident Satisfaction. *Neurosurgery*. 2024;94(6):1273-1281.
2. Boop S, Durfy S, Bass D, et al. Neurological Surgery Resident ABNS Written Exam Scores Before and After Introduction of a Weekly Didactic Educational Intervention: A 12-Year Single-Institution Retrospective Study. *Neurosurgery*. 2025;96(4):e89-e95.
3. Hulou MM, Park MT, Essibayi MA, et al. Academically Inclined: Predictors of Early Career Trajectory and Avenues for Early Intervention Among Neurosurgery Trainees. *Neurosurgery*. 2023;92(4):854-861.

INSIDE THE CNS



Washington Committee Update



Alex Khalessi MD, MBA, FACS, FCNS
Chair, Washington Committee



Charlotte Pineda, MPP
Vice President, Health Policy and Advocacy

Shaping the 119th Congress's First Budget Reconciliation Package

On March 11, the U.S. House of Representatives unveiled the One Big Beautiful Bill Act (H.R. 1), its FY 2025 budget reconciliation package. Budget reconciliation is a powerful, expedited process that allows Congress to pass certain fiscal legislation with a simple majority and has been used by both parties in previous Congresses. The Washington Committee's engagement has long transcended political cycles, weighing in to reshape these packages to support neurosurgery-led, patient-centered care.

The Washington Committee, led by Chair and CNS Immediate Past President **Alexander A. Khalessi, MD, MBA** launched an advocacy campaign starting with Medicaid. Following boots-on-the-ground lobbying, the AANS and CNS [led a broad physician coalition](#) to Congress urging thoughtful, data-driven Medicaid reforms that strengthen coverage while protecting access for vulnerable populations. The letter, backed by two dozen national specialty societies, acknowledged

several positive proposals under consideration in Congress but warned against shortsighted cost-shifting measures that could disrupt care continuity or burden frontline providers. It emphasized that coverage alone does not guarantee access, especially in the face of chronic underpayment and profit-seeking Medicaid managed care practices. It called on lawmakers to partner with specialty physicians to design smarter, more sustainable reforms. This was [followed by a letter from the Trauma Coalition](#), in which the AANS and CNS warned that some of the proposed funding changes would destabilize emergency departments, especially in rural and underserved areas.

As the reconciliation process evolved, the Washington Committee intensified efforts to protect patients under Traditional Medicare. On June 23, the CNS and AANS [led a 75-member coalition](#) urging Senate Republican leadership to retain a House-passed provision that would establish inflation-based updates to the Medicare Physician Fee Schedule. It was a historic show of unity, bringing together physicians and non-physician clinicians to restore balance to a system increasingly defined by consolidation and the decline of independent practices. The coalition urged Senate leaders to revive the bipartisan Medicare reform group to advance [additional long-term solutions](#). Following the letter and targeted lobbying efforts, the revised Senate package included a 2.5% payment update beginning in 2026. [STAT News credited the Washington Committee's initiative](#) as the driving force behind its inclusion.

The Washington Committee also [weighed in early on student loan provisions](#) in the House reconciliation package, opposing aggressive borrowing caps, and pressed the Senate for changes. A modest increase to the borrowing cap was secured, but it fell short, and advocacy continued for restoring interest-free deferment during residency and other reforms.

Separately, the Washington Committee successfully advocated to the Senate for the restoration of the deductibility of state-level

pass-through entity taxes (PTET), which [had been omitted from the House reconciliation package](#). PTET enables small, physician-led practices to deduct state taxes on their federal returns, helping to sustain financial viability and fair tax treatment.

Neurosurgery Champions Push Prior Authorization Reform in Congress and HHS

In May, the Improving Seniors' Timely Access to Care Act (S. 1816/H.R. 3514) was reintroduced with broad bipartisan support, including 48 Senators and 74 Representatives as original cosponsors. The AANS and CNS, leading members of the Regulatory Relief Coalition (RRC), [applauded the legislation](#), which would streamline prior authorization (PA) in Medicare Advantage and expand transparency and beneficiary protections. Having previously passed the House unanimously, the revised bill cleared budgetary hurdles with a zero-cost CBO score, renewing momentum for final passage.

Recognizing the legislation's popularity, HHS Secretary Kennedy and CMS Administrator Oz held a press conference to announce a voluntary pledge by several major insurers to simplify the PA, largely mirroring provisions in the bill. While this pledge reflects years of advocacy, the AANS and CNS emphasized the need for enforceable standards, pointing to [unfulfilled insurer commitments made in 2018](#). The RRC submitted a formal statement urging Congress to codify these reforms, cautioning that voluntary promises alone will not protect patients from denials, delays, or shifting administrative burdens such as retrospective reviews.

Neurosurgery Blog will launch its prior authorization series on July 1. Stay tuned.

HALT Fentanyl Act Heads to President's Desk

Following coverage in the Spring CNS Quarterly, the [HALT Fentanyl Act](#) - legislation to permanently classify fentanyl-related substances as Schedule I while preserving pathways for legitimate clinical and research

use – has passed both chambers of Congress and awaits the president's signature. It was approved by the Senate on March 14 and passed the House on June 12 with strong bipartisan support.

The AANS and CNS played a key role in building bipartisan support by providing clinical expertise as DEA registrants. Policy letters submitted to the [House Energy and Commerce](#) and [Senate Judiciary](#) Committees offered clinical insights into the implications of fentanyl scheduling as DEA registrants. Committee staff credited this input as instrumental in shaping the final legislative consensus.

The legislation is led by U.S. Senators **Bill Cassidy**, MD (R-LA), **Martin Heinrich** (D-NM), **Chuck Grassley** (R-IA), and **Roger Marshall**, MD (R-KS).

Defending Federal Firearm Injury Prevention Research

Amid growing concerns about potential cutbacks to injury prevention programs, the AANS and CNS [joined over 400 organizations](#) urging Congress to preserve and expand federal funding for firearm injury and mortality prevention research. The letter requested \$35 million for the CDC, \$25 million for the NIH, and \$1 million for the NIJ as part of the FY 2026 appropriations process. The Washington Committee continues to collaborate with the coalition and ensure that these vital research programs are not eliminated.

Recommendations for Improving FDA Device Safety Reporting

On March 18, the AANS and CNS [submitted comments](#) to the U.S. Food and Drug Administration in response to a request for input on its Adverse Event and Product Experience Reporting Program. The letter emphasized the importance of the [Manufacturer and User Facility Device Experience \(MAUDE\)](#) database for monitoring the safety of medical devices, highlighting several concerns, including usability challenges, inconsistent terminology, and reporting burdens. Recommendations included integration with electronic health records, improved search functionality, standardized reporting templates, and streamlined workflows to

make clinician-submitted safety data more actionable and accessible.

Alliance for Specialty Medicine Highlights Anticompetitive Regulations

On May 27, the AANS and CNS, alongside fellow Alliance of Specialty Medicine members, [submitted comments](#) to the Department of Justice in response to [its request for information on anticompetitive regulations](#). The letter highlighted how current Medicare payment policies, excessive regulatory burden under MIPS, and limited opportunities for specialists in alternative payment models contribute to consolidation and restrict access to independent care. It also called for lifting the federal ban on physician-owned hospitals.

Neurosurgery Pushes Back on TEAM Model in CMS IPPS Proposed Rule

On June 9, the AANS and CNS [submitted comments](#) to CMS in response to the FY 2026 Inpatient Prospective Payment System (IPPS) proposed rule. The letter welcomed updated MS-DRG assignments for intracranial neurostimulator implants but urged CMS to ensure reimbursement aligns with clinical complexity and resource use.

The letter also raised strong concerns about the Transforming Episode Accountability Model (TEAM), which is set to launch in 2026. The Washington Committee objected to mandatory participation, inadequate risk adjustment, limited physician leadership, and the misalignment of quality and cost measures. Specific critiques included the use of 30-day episode lengths for spinal fusion, a discount factor that penalizes hospitals up front, and a lack of input from spine surgeons in model design. The letter called for longer episode windows, greater transparency, and the ability of physician groups to lead or share in savings.

Neurosurgery Delegation Leads Policy at AMA HOD Meeting

In June, the AANS and CNS participated in the [American Medical Association's \(AMA\) House of Delegates \(HOD\) Annual Meeting](#) in Chicago. Through extensive online testimony submitted ahead of the meeting and focused in-person advocacy,

the neurosurgery delegation played a key role in shaping policy outcomes on several high-stakes federal issues.

The delegation secured adoption of its resolution supporting the inclusion of federal standards for DICOM imaging to ensure that imaging data is fully integrated into national health information exchange frameworks. This effort was [led by CNS Alternate Delegate Laura Stone McGuire, MD](#).

The delegation also led efforts to correct a statutory flaw that jeopardizes access to intrathecal pain pumps. Led by Neurosurgery Delegation Chair **Joshua Rosenow**, MD, the resolution called for restoring federal law to allow compounded syringes of opioid medications to be delivered directly to physician offices. The HOD adopted the resolution as amended, recognizing the urgent need for a legislative fix.

In addition, CNS Delegate **Jason Schwalb**, MD was quoted in [MedPage Today](#) urging the HOD to defend CDC epilepsy funding, stating, “these are patients who already struggle with access – pulling this support would widen the care gap.”

Neurosurgery Blog Honors NINDS on 75th Anniversary

To commemorate the [75th anniversary](#) of the National Institute of Neurological Disorders and Stroke (NINDS), the Neurosurgery Blog released a two-part series celebrating its influence on neurosurgery.

The first installment, [Celebrating 75 Years of NINDS: The Legacy and Impact of the Surgical Neurology Branch](#), written by branch chief **Kareem Zaghloul**, MD, PhD highlights how the branch merged surgical innovation with neuroscience research. The second post, [Celebrating 75 Years of NINDS: Dr. Christopher Getch's Enduring Impact on Neurosurgery and Service](#), authored by friends and colleagues **Joshua Rosenow**, MD, **Bernard Bendok**, MD, and **Hunt Batjer**, MD. They honor Dr. Getch's legacy as a neurosurgeon, educator, and past president of the CNS, deeply committed to public service and federal research engagement. In tribute to his impact, the CNS and NINDS established the Getch Scholar Award to support the next generation of neurosurgeon-scientists through a two-year, \$200,000 award. 

FOUNDATION UPDATE



2025 Foundation Award Winners

The Congress of Neurosurgical Foundation is proud to announce the awardees selected for the 2025 programs. The Foundation continues its mission this year by supporting the training and impactful projects of 21 outstanding neurosurgeons and students from 9 countries.

International Philanthropy

Riju Dahal
International Brain Tumors Observership at
Icahn School of Medicine at Mount Sinai

Milena Haile
International Brain Tumors Observership at
Icahn School of Medicine at Mount Sinai

John Emmanuel Torio
International Endovascular Observership
at Harvard University/Beth Israel
Deaconess

Mikael Aseged Shimekit
International Endovascular Observership
at University of California, Davis

Mehari Wale Alem
International Endovascular Observership
at University of Utah

Gemechu Tena
International Spine Observership at Duke
University

Tomas Wessel
International Tumor Observership at
University of Miami

Florencia Rodriguez Basili
International Visitorship at Stanford
University

Emanuel de Jesus Silva
International Visitorship at University of
Pittsburgh Medical Center

Kamga Jacquier Nkouli
International Visitorship at University of
Pittsburgh Medical Center

Community, Culture, and Engagement

Debraj Mukherjee
Impact Award

Sonia V. Eden
Innovation Pilot Project Award

Julie L. Chan
Scholar on Healthcare Disparities Award

Future Women Leaders

Kristin Huntoon
Future Women Leaders in Neurosurgery Scholarship- Domestic
Amparo Saenz
Future Women Leaders in Neurosurgery Scholarship- International

Clinical Scientist Career Development

TBD - Summer 2025
Sophysa Young Investigator Award

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

Catherine Wang - "Geographical Disparities in Management and
Outcomes of High-Grade Glioma"
CSNS/ CNSF Medical Student Summer Fellowship in Social
Determinates of Care Research

Chiemela Izima - "Machine-Learning Assisted Analysis of Patient-
Centered Social Interventions for Socially Complex Patients
Receiving Spine Surgery"
CSNS/ CNSF Medical Student Summer Fellowship in
Policy Research

Azeez Abdul - "Quantitative and Qualitative Analysis on Recent
Trends in Accessibility of Neurosurgical Care for Hispanic Americans:
A Border Health Perspective"
CSNS/ CNSF Medical Student Summer Fellowship in Policy
Research

Maria Suarez-Nieto - "Exploring Lived Experiences of Financial
Hardships in Patients Undergoing Treatment for Brain Cancer: A
Path Toward Equitable Neurosurgical Care"
CSNS/ CNSF Medical Student Summer Fellowship in Diversity,
Equity, and Inclusion Research

To learn more about how the CNS Foundation is
positively impacting the field of neurosurgery,
please visit foundation.cnsf.org

**Join Our Many Honored Donors
Supporting These Critical Programs:**
Make your gift at Foundation.cnsf.org/donate or
when you register for #CNS2025 in L.A.



IMAGES IN NEUROSURGERY

Placement of Left Middle Cerebral Artery (MCA) Stent for Chronic MCA Occlusion

A 62-year-old female presented with aphasia and right sided hemiparesis (grossly 4/5 strength in right arm and leg) that worsened in a stuttering pattern over the course of one week prior to presentation. The NIH stroke scale score was 5. CT angiogram of the head and CT perfusion demonstrated left middle cerebral artery (MCA) occlusion with global ischemic penumbra in the left MCA circulation (**Figure 1**). MRI of the brain without contrast demonstrated watershed infarct in the left deep white matter with sparing of the cortex (**Figure 2**). Patient was admitted to the intensive care unit with IV heparin, dual antiplatelet therapy and permissive hypertension. Patient continued to have stuttering symptoms over the next 24 hours and decision was made to perform cerebral angiogram and recanalization of left MCA with angioplasty and stenting given concern for chronic MCA occlusion secondary to severe intracranial atherosclerotic stenosis. Diagnostic angiogram demonstrated left MCA occlusion (**Figure 3**). Mechanical thrombectomy of the left MCA was performed but the MCA appeared to deteriorating after repeat angiogram 15 minutes later. A balloon-mounted 2.25x15mm drug-eluting stent was placed (**Figure 4**). Final angiogram demonstrated reconstruction of the left MCA with complete recanalization (**Figure 5**). At 3-month clinic follow-up, patient was independent with fluent speech with trace residual right sided weakness. 

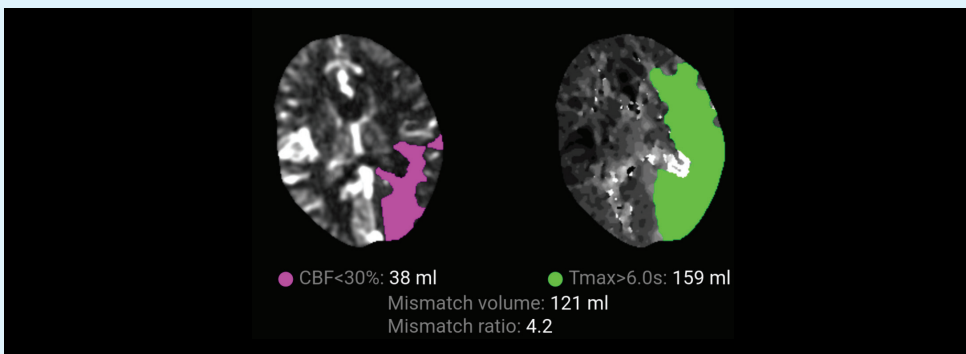


Figure 1: CT perfusion demonstrating global ischemic penumbra in the left MCA territory

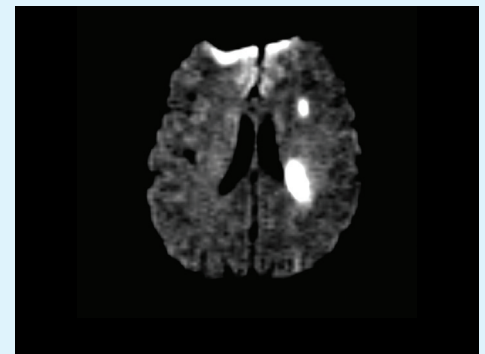


Figure 2: MRI of the brain without contrast demonstrating watershed infarct in the left deep white matter with sparing of the cortex

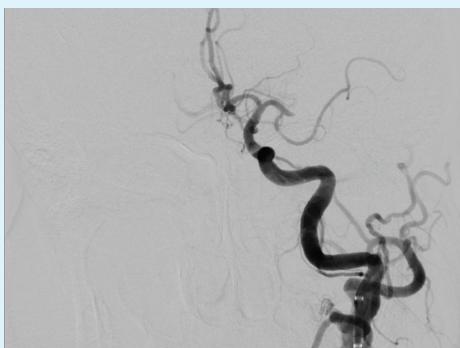


Figure 3: Selective injection of the left internal carotid artery anteroposterior projection demonstrating left middle cerebral artery occlusion

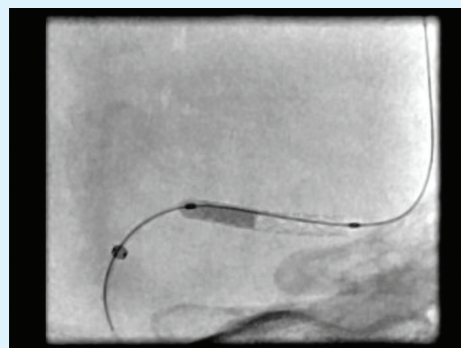


Figure 4: Single anteroposterior fluoroscopy shot demonstrating deployment of balloon-mounted drug-eluting stent

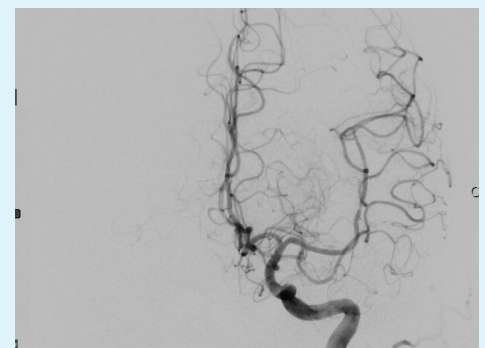


Figure 5: Final selective injection of the left internal carotid artery anteroposterior projection demonstrating complete recanalization of left middle cerebral artery after placement of stent



Congress Quarterly, 10 N. Martingale Road, Suite 190, Schaumburg, IL 60173.

Register Today

CONGRESS OF NEUROLOGICAL SURGEONS 75TH ANNUAL MEETING



CNS | CONNECTS

OCTOBER 11-15 2025
LOS ANGELES
CALIFORNIA

REGISTER AND SECURE HOUSING BY
SEPTEMBER 10 TO SAVE UP TO \$300!

Register
Today at
cns.org/2025

