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Young Neurosurgeons Committee of the AANS: Training Ground for Future Leaders in Organized Neurosurgery in the United States of America

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Abstract

The Young Neurosurgeons Committee (YNC), founded in 1991 by Dr. Roberto C. Heros, has been a vital component of the American Association of Neurological Surgeons (AANS). It has grown from an opportunity for young neurosurgeons to network with senior neurosurgeons to becoming

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the major voice of young neurosurgeons and a training ground for the future leaders of organized neurosurgery. This article reviews the leadership involvement of 168 past YNC members and briefly highlights the careers of four of these members who have attained leadership positions in neurosurgery.

Keywords

Leadership; Organized neurosurgery; YNC; Young Neurosurgeons Committee

HISTORY OF THE YOUNG NEUROSURGEONS COMMITTEE

Dr. Roberto C. Heros, former co-chair and residency program director for the Department of Neurosurgery at the University of Miami for over 20 years, founded the Young Neurosurgeons Committee (YNC) in 1991.¹ At that time, direct involvement with the American Association of Neurological Surgeons (AANS) was primarily limited to well-established neurosurgeons. However, the president of the AANS, Dr. David Kelly, Jr., recognized a distinct need to elicit the help and involvement of young neurosurgeons to promote a culture of early involvement within organized neurosurgery in the United States of America.¹ He gave Dr. Heros the assignment of developing a committee to fill that role. Initially, the YNC had 10 members, all of whom were appointed by the Board of Directors of the AANS. This has expanded to about 40 full members and 4–6 medical student members. Currently, YNC members are elected by their peers via an annual nomination and national election process. YNC officer positions such as secretary, vice chair, and chair are elected internally by vote of the YNC members.¹ Eligible young neurosurgeons are neurosurgeons who are still in their residency/fellowship or young attendings who are within 5 years of graduation. Much of the early concentration of the YNC focused on networking between junior and senior neurosurgeons.

By 1995, under the leadership of Dr. Karin Muraszko, chair of the Department of Neurosurgery at the University of Michigan, and Dr. Ian McCutcheon, professor of Neurosurgery at University of Texas MD Anderson Cancer Center, the YNC underwent an important restructuring.² Liaison positions were created allowing young neurosurgeons to act as representatives in all the major committees within the AANS.² Positions were initially 1-year assignments but were changed to become 2-year assignments to increase exposure. The chair of the YNC was asked to sit as an active ex-officio member of the Board of Directors of the AANS. The YNC quickly became a major voice of young neurosurgeons to the leadership of the AANS.³

In addition to the liaison positions, the YNC has taken an active leadership role in developing multiple initiatives, including: the annual Young Neurosurgeons Luncheon featuring a prominent, senior neurosurgeon as keynote speaker; the Young Neurosurgeons Research Forum held during the annual AANS meeting; organizing section-specific events aimed at garnering interest from young neurosurgeons; the annual Top Gun Competition; and the Marshal Program. As the YNC has expanded from its initial 10 members to its current 40+ members, it has also begun to expand its influence by providing directed

mentoring to medical students. The YNC, in conjunction with the AANS, has enabled medical schools to apply for an official Medical Student Chapter of the AANS. A select number of medical students are also allowed to join the YNC to serve a 2-year term either by being elected as a Medical Student Representative or by being selected as the annual AANS/YNc Medical Student in Organized Neurosurgery (MISSION) Fellow.

As the YNC has continued to expand and grow in prominence, it has been said that the YNC now serves as “the training ground for the future leaders of organized neurosurgery” (Figure 1). We aim to describe the leadership roles held by past YNC members within organized neurosurgery in the United States while highlighting four select examples. Specifically, we aimed to look at the AANS, Congress of Neurological Surgeons (CNS), Society of Neurological Surgeons (SNS) and Council of State Neurosurgical Societies (CSNS) because of the robust historical information on these societies and ease of accessing past membership and leadership rosters.

UPDATE ON FORMER MEMBERS OF THE YNC

Since 1991 there have been 223 current and former members of the YNC, excluding Dr. Heros because he was already an established neurosurgeon when he was appointed as the first chair of the YNC. Forty-seven of those neurosurgeons are current members of the YNC, six are still participating in either residency or fellowship training, and there were no online data available for two of them. As a result, a total of 168 past members of the YNC were examined for the purposes of this review (Figure 2).

Females represented 16.5% of past YNC members. The most commonly attended residency programs were the University of Pittsburgh (9), Johns Hopkins University (8), University of Michigan (7), Mayo Clinic (6), and Columbia University (6). However, 67 residency programs were represented among the members of the YNC. About 63.2% of active residency programs have had at least one YNC member. Just under 75% of YNC members completed at least one fellowship, and 65.5% are currently practicing in an academic setting.

LEADERSHIP OF FORMER YNC MEMBERS

Of the 168 neurosurgeons who participated in the YNC there have been two presidents of the Congress of Neurological Surgeons. Fifteen past YNC members (8.8%) have chaired one of the Joint AANS/CNS Sections (Cerebrovascular, Neurotrauma and Critical Care, Pain, Pediatric, Spine and Peripheral Nerve, Stereotactic and Functional, or Tumor), while 51 (30.4%) former members of the YNC have participated in some leadership role within a Joint AANS/CNS Section. Two of the past nine chairs (22.2%) of the CSNS were former YNC members. Four YNC members have participated as officers of the American Board of Neurological Surgery (ABNS), with two of those neurosurgeons participating as the chair of the ABNS.

Of the 28 female YNC members, 12 (42.9%) participated in leadership within the AANS/CNS Section on Women in Neurosurgery (WINS), with 6 (50.0%) of those leaders serving as chairs of WINS. Two of the female YNC members (7.1%) have become program

directors, while one (3.6%) chairs a department of neurosurgery. An additional five (17.9%) female YNC members went on to serve in leadership roles within a variety of other Sections.

Additionally, 13 (7.7%) YNC members have gone on to serve as a chair of a department of neurosurgery at a major academic center. Eleven (6.5%) have acted as residency program directors. The Society of Neurological Surgeons membership includes 25 (14.9%) former YNC members, one of whom has served as president and one as president-elect of the Senior Society.

Looking specifically at the former 15 chairs of the YNC, 26.7% were females. Almost half of the former YNC chairs are members of the SNS (46.7%), 26.7% have been program directors, and 26.7% have been department chairs.

SELECTED EXAMPLES OF FORMER YNC MEMBERS

From among the 168 neurosurgeons who previously served on the YNC, four exemplary individuals are highlighted below. These four individuals demonstrate the diversity of sex, neurosurgical specialty of focus, training program, and career pathway which exists among past and current members of the YNC.

Karin M. Muraszko

Dr. Karin M. Muraszko graduated from Columbia College of Physicians and Surgeons in 1981 with Alpha Omega Alpha distinction. She remained at the New York–Presbyterian/Columbia University Medical Center for her internship, neurosurgical training, and pediatric fellowship. She completed her training as a senior staff fellow in the Surgical Neurology Branch, National Institute of Neurological Disorders and Stroke, National Institutes of Health (NIH). In 1995, Dr. Muraszko was elected chair of the YNC. In 2005 she was chosen to succeed Dr. Julian “Buz” Hoff as chair of the Department of Neurosurgery at the University of Michigan, becoming the first female to chair an academic neurosurgical department in the United States. She was instrumental in the creation and expansion of WINS. She was also appointed as the first female director of the ABNS. Dr. Muraszko is currently president-elect of the SNS. In honor of her exemplary career, she was awarded the CNS Distinguished Service Award in 2015 and the AANS Humanitarian Award in 2016. She has said that “it cannot be over emphasized how valuable it is to be on a committee and be hardworking and thoughtful. Such exposure leads to other positions and eventually opportunities to lead.”

B. Gregory Thompson

Dr. B. Gregory Thompson graduated from the University of Kansas School of Medicine with Alpha Omega Alpha distinction before his neurosurgical residency at the University of Pittsburgh. During residency, he served as a medical staff research fellow under Dr. Edward Oldfield at the NIH and received the Robert G. Siekert Young Investigator Award in Stroke from the American Heart Association for his research. Dr. Thompson completed a fellowship in cerebrovascular and skull base neurosurgery with Dr. Robert Spetzler at the Barrow Neurological Institute. Dr. Thompson served as the vice-chair of the YNC from 1997 to 1999 and then as chair from 1999 to 2001. He demonstrated a true commitment to

continual education by completing a fellowship in interventional neuroradiology at Thomas Jefferson University after being in practice for 10 years. He has remained actively involved in organized neurosurgery through serving on the Executive Committee of the CNS and the Board of Directors of the AANS. He was also chair of the AANS/CNS Joint Cerebrovascular Section and director and chair of the ABNS. Currently he is a member of the Senior Society. Dr. Thompson was program director at the University of Michigan for many years and currently holds the tenured John E. McGillicuddy Professorship.

Bob S. Carter

Dr. Bob S. Carter obtained his MD and PhD degrees from the Johns Hopkins University School of Medicine with Alpha Omega Alpha, Phi Beta Kappa, and Delta Omega distinctions. He completed residency at the Massachusetts General Hospital (MGH) and went on to complete a fellowship at the Whitehead Institute, Massachusetts Institute of Technology, with Dr. Richard Mulligan. He served on the YNC from 2002 to 2006. Dr. Carter was named chief of neurosurgery at the University of California San Diego (UCSD) in 2010 and spearheaded the development of UCSD's Department of Neurosurgery. He acted as the chair of that Department until he was recruited to serve as the chair of neurosurgery at MGH. He is currently an editorial board member for *Neurosurgery* and *Journal of Neurosurgery*. He has remained active in organized neurosurgery by serving on the Executive Boards of the AANS/CNS Joint Cerebrovascular Section, the New England Neurosurgical Society, and the California Association of Neurological Surgeons. He was elected into the Senior Society in 2011. As an NIH-funded surgeon-scientist who has been cited 20,000 times in the literature, Dr. Carter has been an advocate for young neurosurgeons to remain engaged in clinical and basic research as a means of improving care and outcomes in neurosurgery.

Stacey Q. Wolfe

Dr. Stacey Q. Wolfe graduated from a combined BA/MD program at the University of Missouri in Kansas City. She completed a neurosurgical residency and fellowships in cerebrovascular and skull base neurosurgery and interventional neuroradiology at the University of Miami under the mentorship of Drs. Roberto Heros, Jacque Morcos, and Ali Aziz-Sultan. Dr. Wolfe served as a commander in the United States Navy as chief of neurosurgery at Tripler Arm Medical Center. She served as secretary of the YNC from 2011 to 2013 and then as chair from 2013 to 2015. In 2013, Dr. Wolfe was recruited to the Department of Neurosurgery at Wake Forest School of Medicine to serve as their residency program director. She is an editorial reviewer for *Journal of Neurosurgery*, *Neurosurgery*, *World Neurosurgery*, and *Journal of Neurointerventional Surgery*. Additionally, she has served on the CNS Executive Committee, as chair of WINS, and chair of the CSNS AANS Caucus. She was elected into the Senior Society in 2017 and was recently selected to be an ABNS Scholar. She was awarded the Young Neurosurgeons Public Service Citation to honor her dedication to humanitarian work in Haiti, Venezuela, and Nicaragua.

DISCUSSION

Since its inception in 1991, the YNC has served an increasingly vital role in ensuring that the voice of young neurosurgeons is heard and considered by the AANS Board of Directors. The YNC has served the AANS by representing its constituency in many forums as delineated above, and, in doing so, the YNC has widely expanded the younger membership of the AANS. This has been a fruitful, symbiotic relationship that the AANS has fostered to create a training ground for neurosurgical leadership.

Brock⁴ utilized a questionnaire to demonstrate that leaders within neurosurgery were ambitious, honest, and hardworking, and excelled academically. Additionally, the author cited an awareness that required mental readiness that resulted in overall excellence. According to Brock, the separating factor is an awareness of situations and surroundings. The YNC may help direct and utilize that awareness to actively develop young neurosurgeons who have already demonstrated interest in advancing their leadership skills. Schulz et al.⁵ utilized surgical leadership development that was rooted in techniques taught at West Point emphasizing initiative, integrity, responsibility, self-discipline, and accountability. While neurosurgical training promotes excellence in these arenas, the YNC may provide an extra layer of increased responsibility, initiative, and self-discipline, which leads to further refinement of integral leadership qualities.

Members of the YNC consistently remained actively engaged in leadership roles within organized neurosurgery. Even though the YNC was only instituted in 1991, past YNC members have already demonstrated extraordinary leadership potential by permeating all levels of leadership within neurosurgery: presidents of the CNS and SNS; chairs of AANS/CNS Joint Sections; chairs and residency program directors of neurosurgical departments; members of the SNS and ABNS; and a variety of other leadership roles in these organizations. As the YNC evolved to include liaison positions to interact with all of the major committees within the AANS, neurosurgeons at an increasingly young age were given a voice and an opportunity to prove their worth to senior neurosurgeons. With the implementation of the medical student representative to the YNC position and the MISSION Fellowship, medical students are also encouraged to engage in organized neurosurgery in an unprecedented manner. This early interaction sets the stage for future involvement and the ability to make connections with prominent neurosurgeons. In the future, we hope to track the results of this early interaction with the YNC. We hope to find that these medical student programs help to build an increased commitment to organized neurosurgery.

This review demonstrated that members of the YNC came from a variety of residency programs. While some of the larger programs in the country—University of Pittsburgh, Johns Hopkins University, and University of Michigan—produced the most YNC members, more than 60 residency programs were represented. The YNC continues to optimize its ability to expand by working to increase the number of young neurosurgeons who are aware of the Committee and are able to serve in official and unofficial roles. The YNC has been enhancing its online presence with robust social media efforts and semi-annual newsletters to increase exposure to the Committee. Additionally, it actively encourages medical students and young neurosurgeons around the country to get involved in its efforts whether they are

elected members or not. As a result of these efforts, the YNC has seen an increase in the number of attendees at the semiannual YNC Meetings, as well as an increase in nominations for full YNC membership.

A number of neurosurgical residency programs have published manuscripts on their institution's history and current trends in leadership.⁶⁻¹¹ It is undeniable that certain residency and fellowship programs have had a particularly strong history of training and producing neurosurgeons who are actively involved in organized neurosurgery.^{12,13} For example, the NIH has produced 23 former and current department chairs.¹⁴ However, the YNC offers a unique leadership experience by bringing together young neurosurgeons from a number of different residency programs to begin interacting with organized neurosurgery in a meaningful way early in their careers. Outside of the United States of America, the World Federation of Neurosurgical Societies (WFNS) and the European Association of Neurosurgical Societies (EANS) both offer similar societies for young neurosurgeons to expand their leadership opportunities.

As would be expected, those young neurosurgeons who rose to positions of leadership within the YNC were likely to remain engaged in organized neurosurgery. This may be due to several factors, including peer recognition of their leadership potential, higher drive and ambition to pursue leadership positions, and a greater willingness to sit and work on committees. Additionally, the ability of the YNC chair to regularly sit and interact with the Board of Directors of the AANS is an invaluable opportunity to learn from the experience and wisdom of senior neurosurgeons. This early interaction may make these young neurosurgeons better suited for future leadership posts than their peers. In the future, tracking leadership development in other young neurosurgeon societies within the WFNS and the EANS may provide information on opportunities for shared leadership development initiatives to encourage young leadership development internationally. All of these young neurosurgeon societies share a common goal of encouraging early leadership development for neurosurgeons beginning their careers. Ideally, these different societies will continue to find opportunities for collaboration and improvement at an international level to allow for increased growth and improved leadership opportunities for their members.

CONCLUSION

The AANS Young Neurosurgeons Committee has served as a vital part of the AANS, representing the voice of young neurosurgeons, serving the AANS with contemporary initiatives, and creating opportunities for leadership. Former members of the YNC have served in many leadership roles throughout organized neurosurgery. Encouragement of involvement in the YNC and similar early volunteer and leadership roles could increase engagement of young neurosurgeons in organized neurosurgery.

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Abbreviations and Acronyms

AANS	American Association of Neurological Surgeons
ABNS	American Board of Neurological Surgeons
CNS	Congress of Neurological Surgeons
CSNS	Council of State Neurosurgical Societies
EANS	European Association of Neurosurgical Societies
MGH	Massachusetts General Hospital
NIH	National Institutes of Health
SNS	Society of Neurological Surgeons
UCSD	University of California San Diego
WFNS	World Federation of Neurosurgical Societies
WINS	Women in Neurosurgery
YNC	Young Neurosurgeons Committee

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FIG. 1.
Seal of the Young Neurosurgeons Committee.

FIG. 2.
Selection of past Young Neurosurgeons Committee (YNC) members.