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Essay

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Brief History of Neurosurgical Spine Societies in the United States: Part 2

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In a previous essay,¹ we examined the intertwined history of United States (US) spine surgery pioneers and achievements, and the emergence of domestic spine societies. In this follow-up article, we look towards the future and highlight the critical role of US spine societies in *education*, *research*, and *advocacy*.

Advancing spine care through *education* is a priority of larger US spine societies. The American Association of Neurological Surgeons (AANS)/Congress of Neurological Surgeons (CNS) Section on Disorders of the Spine and Peripheral Nerves (DSPN) was the first neurosurgical spine society in the US. The leadership for the annual spine section meeting from 2010–2021 is listed in Fig. 1. The first meeting of the DSPN chaired by Barth Green and George Sybert in 1985 included lectures and hands-on courses in spinal instrumentation to address the educational needs of a growing subspecialty of neurosurgery focused primarily on spine surgery. The DSPN annual meeting has since evolved from a small intimate group to a larger meeting of > 500 domestic and international spine surgeons presenting innovative research, case-based debates, subspecialty symposia, intersociety panel discussions, and surgical technique cadaver labs. Since 2016, the DSPN bestows the Journalistic and Academic Neurosurgical Excellence Award to the senior neurosurgical resident or fellow in an American neurosurgical program that has been academically productive in the previous 12 months and has achieved the top manuscript submitted to the annual DSPN Spine Section meeting (Table 1). Similarly, the Charles Kuntz Scholar awards the top neurosurgical residents or fellows who author outstanding abstracts (Table 2). The rapidly growing number of residents and fellow trainees attending this meeting signifies the critical role of spine societies in not only educating current members, but mentorship and professional development of the next generation of spine surgeons.

Looking to the future, advancing technology may change the way in which education is delivered by societies. Neurosurgery and spine societies in the US have developed robust online educational opportunities. Examples include CNS NEXUS (a repository of neurosurgical operative techniques and approaches), The Neurosurgical Atlas, NASS video library, AO spine webinars, videos, and podcasts. Content is created and/or curated online by experts in their respective fields. *The Neurosurgery Podcast* by Michael Wang and John Kolcun is an example of a popular weekly audio program with guest neurosurgeons sharing expertise in the field of neurosurgery and spine. The clear benefit of digital media is the ability to provide education that is not limited by conventional constraints of geography and travel costs. Further, online education can often be accessed easily via mobile technology



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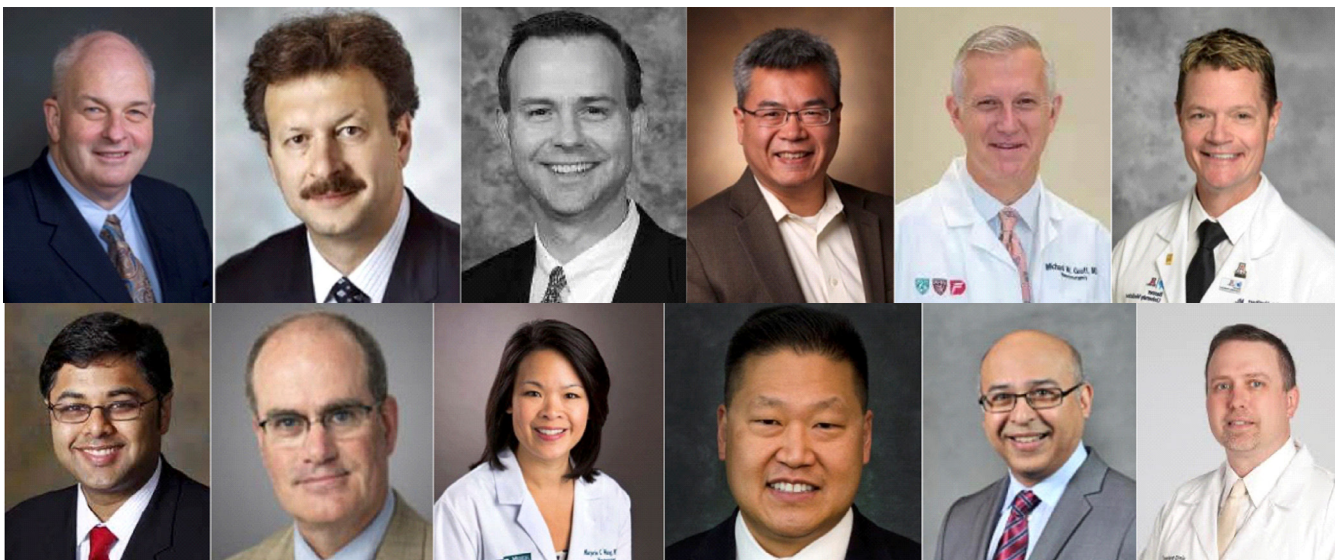


Fig. 1. Disorders of the Spine and Peripheral Nerves (DSPN) Chairperson 2010–2021. Top row from left to right 2010–2015 DSPN Chairpersons: Christopher Shaffrey, Ziya Gokaslan, Christopher Wolfa, Joseph Chang, Michael Groff, R. John Hulbert. Bottom row from left to right 2016–2021 DSPN Chairpersons: Praveen Mummaneni, John Knightly, Marjorie Wang, Micheal Wang, Zoher Ghogawala, Michael Steinmetz.

Table 1. J.A.N.E. Award winners 2016–2020

Year	J.A.N.E. Award winner
2016	Scott L. Parker
2017	Owoicho Adogwa
2018	Nitin Agarwal
2019	Andrew Chan
2020	Jetan H. Badhiwala

J.A.N.E., Journalistic and Academic Neurosurgical Excellence.

and when convenient based on the learner's schedule.

The ongoing coronavirus disease 2019 pandemic has accelerated recent adoption of teleconferencing by spine societies and members. The absence of in-person meetings in 2020 and the potential for lingering travel restrictions for the foreseeable future may further establish digital media as a viable educational outlet. Despite these advantages of online education, a notable loss is the important camaraderie of shared experiences that occurs with live, in-person meetings and events. This social aspect of in-person meetings was clearly a cherished quality dating back to the first DSPN meeting in 1985 and should be preserved moving forward.

In addition to education, *research* is an integral mission of spine societies. Societies have established funds through charitable donations, and annual meeting and corporate sponsorship revenue to support researchers with grants and fellowships.

A clear priority of spine society supported research is advancing clinical spine care through clinical trials, comparative effectiveness research, and evidence-based guidelines. As healthcare costs in the US continue to rise, comparative effectiveness and patient-centered outcomes research have increasing importance in informing surgeon practice. Six of the 100 national priorities identified by the Institute of Medicine relate directly to spine surgery.²⁻⁴

As a result, spine societies have partnered to create surgical registries to objectively measure and demonstrate quality of care. These nation-wide registries collect longitudinal patient reported outcome measures to identify clinical efficacy for various surgical interventions and indications. A pioneering example in neurosurgery was the National Neurosurgical Quality Outcomes Database (originally N2QOD, now QOD). The spine registry component of QOD has accumulated over 25,000 patients across > 50 sites and has accounted for numerous research presentations and publications.⁵ More recently, the AANS and the American Academy of Orthopaedic Surgeons have partnered to create the American Spine Registry, which will incorporate QOD into a broader platform involving neurosurgery and orthopedics.⁶ Neurosurgeons and orthopedic spine surgeons have a shared interest in advancing spine clinical care, and joint collaborative registries are an opportunity to increase study populations across a spectrum of practice patterns. An important directive in the near future is to increase our knowledge base

Table 2. Charles Kuntz Award winners 2016–2020

Year	Charles Kuntz IV Scholars	
2016	Nitin Agarwal	Michael Mcdowell
	Andrew Chan	Catherine Miller
	Ekamjeet Dhillon	Nelson Moussazadeh
	Doniel Drazin	Rory Murphy
	Benjamin Elder	Tianyi Niu
	Gurpreet Gandhoke	Aria Nouri
	Ezequiel Goldschmidt	Alp Ozpinar
	Randall Graham	Brenton Pennicooke
	Kiyoshi Ito	Kavelin Rumalla
	Ricky Kalra	David Salcetti
	Darryl Lau	Hesham Soliman
	Rory Mayer	Zachary Tempel
	Marcus Mazur	Alexandar Tuchman
	Todd Vogel	Anand Veeravagu
2017	Vincent Alentado	Michael Karsy
	Michael Cloney	Evan Lytle
	Doniel Drazin	Allan Martin
	Benjamin Elder	Meghan Murphy
	Rory Goodwin	Aria Nouri
	Peter Grunert	Vijay Ravindra
	Daipayan Guha	Ahilan Sivaganesan
	Ibrahim Hussain	Vijay Yanamadala
	Christian Iorio-Morin	Michael Yang Scott Zuckerman
2018	Mark Attiah	Darryl Lau
	Yi-Ren Chen	Jay Nathan
	Lee Chieng	Tianyi Niu
	Michael Cloney	Imran Noorani
	Shashank Gandhi	Eric Sankey
	Jakub Godzik	Ganesh Shankar
	Jian Guan	Corey Walker
	Allen Ho	Vijay Yanamadala
	Ibrahim Hussain	Juneyoung Yi
	Katie Krause	Hesham Zakaria
2019	Owoicho Adogwa	Anthony Mikula
	Mohammed Alvi	Aria Nouri
	Oliver Ayling	Zachary Sanford
	Andrew Chan	Allison Teles
	Islam Fayed	Zoe Teton
	Shashank Gandhi	Jamie Wilson
	Jack Haglin	Michael Yang
	Allen Ho	Hesham Zakaria
	Sertac Kirnaz	Scott Zuckerman
	Mohamed Macki	
2020	Oliver Ayling	Anshit Goyal
	John Burke	Michael Karsy
	Andrew Chan	Mena Kerolus
	Ken Chang	Darryl Lau
	Lee Chieng	Allan Martin
	Samuel Farber	Anthony Mikula
	Nida Fatima	Harry Mushlin
	Yaroslav Gelfand	Roberto Perez Roman
	Jakub Godzik	Checai Wang
	Jacob Hoffman	Michael Yang

from information garnered via these registries that ultimately translates to improved patient care.

Last, *advocacy* has emerged as a critical mission of spine organizations to ensure patient access to spine surgical care. Spine societies advocate for patients and surgeons through guidelines taskforce committees, payor response committees, and the AANS/CNS Washington Committee. The undue pressures of the current healthcare climate often render individual spine surgeons unable to adequately express their concerns. The AANS/CNS Washington Committee serves as an important voice representing neurosurgeons and spine surgeons before the government and policymakers on issues related to accessibility of care, reimbursement, and health policy. Current initiatives include addressing unnecessary prior authorization practices by insurance companies, serving as surgeon representatives on common procedural terminology coding committees, confronting medical liability reform, and the creating of guidelines to standardize practice. With the increasing healthcare economic burden in the US, it is imperative for spine societies to serve as advocates protecting spine surgeons and their ability to continue to deliver quality care.

In his 2010 CNS presidential address, Gerald “Rusty” Rodts⁷ emphasized that if we “do not improve the medical evidence for our treatments, and if we do not improve our training process to better standardize the rates and indications for spinal surgery, the federal government and private insurers will certainly redefine how we care for patients.” Led by spine surgeons, spine societies are at the forefront of education, research, and advocacy. With the uncertain healthcare landscape, spine societies will continue to have a central role in supporting US spine surgeons and advancing spine surgical care.

CONFLICT OF INTEREST

The authors have nothing to disclose.

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