Dear Spine Section

Welcome to the 2020 AANS edition of the DSPN Newsletter!

It was great to see everyone in Las Vegas for the Section Annual Meeting. I hope that everyone is staying safe in these hectic times. Although we will not be convening in Boston for AANS, your Media Committee still wanted to produce the spring issue of the newsletter. As you’ll see, this issue is packed with interviews of Zo Ghogawala, Volker Sonntag, Dan Resnick, Dan Riew, and David Kline. There are also timely updates from our members on the Washington and Fellowship Committees. And, as always, excellent material from our peripheral nerve group.

I look forward to seeing everyone in Miami, hopefully. Never hesitate to reach out with comments and suggestions for the newsletter.

Sincerely,
Khoi D. Than, M.D. khoi.than@duke.edu

Interview with Dr. Zoher Ghogawala, Past Chair of the Spine Section

Khoi D. Than, M.D.

Dr. Ghogawala, congratulations on an excellent year as Section Chair. Thank you for your leadership, and thank you for taking the time to answer some questions for the newsletter.

How did you become interested in spine surgery? Who were your mentors?

Dr. Ghogawala: I trained at the MGH, which was a heavily cranial-focused program. Complex spine was managed more by orthopedic surgeons. Spine attracted me because I saw enormous opportunity to make an impact on a field that promised significant improvement in quality of life, but lacked evidence to direct patients and surgeons to the optimal use of surgical approaches and technology. Larry Borges was an early mentor. Volker Sonntag, Fred Barker, Bob Heary, Dan Riew, Jeff Wang, and David Polly have been great mentors as well. In addition, I have been extremely fortunate to have Ed Benzel and Dan Resnick as career mentors who have opened many doors for me and continue today to provide valuable guidance.

What accomplishment are you most proud of from the past year?

Dr. Ghogawala: The Spine Section had one of its greatest years in 2019 with an attendance of 605 spine-focused physicians. We had significant numbers of orthopedic surgeons, interventional spine specialists, and residents in addition to neurosurgeons who attended this past meeting in Las Vegas. I am enormously proud of what Lou Tumialan and the scientific program committee
Interview with Dr. Ghogawala

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accomplished this year. We had a program that focused on data-driven innovation and included real cases from members and provided a forum for open discussion at the meeting.

Speaking of data, I really enjoyed your Chair’s Address that focused on its importance. What do you see as the major question/s spine surgeons need to answer in the decade ahead?

Dr. Ghogawala: In my opinion, the major question that spine surgeons must address in the decade ahead is how to personalize spine care for our individual patients. This means that we’ll need to collect the right information about each patient that we treat and be able to collaborate with data scientists, including artificial intelligence people, to develop predictive models that will apply to individual patients with spinal disorders. I think we will be moving away from saying things like “fusion is the best treatment for all patients with spondylolisthesis” and will be talking about what fusion looks like in a particular individual patient with lumbar spondylolisthesis, for example. We can do these things. The data is available. We need to harness it in the right ways and work with the right people to generate useful predictive models.

What are the biggest challenges that the Section faces in the year/s ahead?

Dr. Ghogawala: Education is changing. We are going online for so many things these days. I think the Section will need to balance the importance of in-person meetings with the reality that CME can be obtained more and more from online sources. We started this year to create more of a forum for open discussion. I think that openly discussing the evidence as well as reviewing actual cases in the company of peers is what meetings are all about. We learn from each other.

You have really become the world’s expert on spondylolisthesis. Can you please share how that interest started, and the path to your recent NEJM publication?

Dr. Ghogawala: I started my career in the Connecticut/New York metropolitan area. I was struck by the variation in practice and by the increasing utilization of lumbar fusion amongst spinal surgeons. I remember calling Larry Borges and asking him how to begin to study this phenomenon. He told me to focus on something that surgeons understood and something that we were good at treating – lumbar spondylolisthesis. Little did I know at that time that degenerative spondylolisthesis was something that we really did not completely understand. I immediately spoke with Ed Benzel and Volker Sonntag and started to develop a study protocol that ultimately became the SLIP study. I was heavily influenced by Sepi Hanjani and Fred Barker, who advocated for an RCT and for the use of validated patient reported outcomes. As we started the process of doing an RCT, we decided to use surgeon clinical variation to develop a spine expert panel to establish clinical equipoise. This real time demonstration of equipoise allowed us to complete the RCT comparing decompression alone to laminectomy with fusion. I also learned how important it is to have biostatistics partners along the way. Jim Dziura at Yale was an invaluable expert who provided sound guidance both during the trial as well as later when we began to analyze the trial’s results.

Can you please talk about your role as Chair of the Department of Neurosurgery at Lahey Clinic? What are the different joys and struggles that come with that role?

Dr. Ghogawala: Being Chair at Lahey has given me the opportunity to help to develop the careers of younger neurosurgeons. I have recruited Rob Whitmore and Andrew Yew into the department. Both are already leaders on the Spine Section EC. Rob Whitmore has also been nominated to serve on the CNS EC. It has also helped me to understand the current landscape in healthcare. Being a leader in neurosurgery is no longer about being a surgeon expert and leading by example. It has much more to do with listening and communicating with hospital administrators as well as surgeons, developing business plans, motivating people towards growth, improving quality, and measuring outcomes. One of the struggles for me is to learn the skill of listening for what motivates different people and then to help create a path towards individual growth based on these individual motivations.

What advice do you have for younger spine surgeons who want to make an impact?

Dr. Ghogawala: I think that there are so many different pathways to having an impact: 1) developing new techniques and publishing outcomes results early, 2) developing a laboratory and collaborating

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on basic science research, 3) providing leadership for clinical research, or 4) being an outstanding clinician. All of these pathways are valid. Perhaps the one most important thing to remember is that it is wise to choose one or more mentors. Mentorship is a two-way street. It is vital for young people to have mentors and very rewarding for more experienced people to have people to guide and mentor. It is also very important to develop a strategy for obtaining funding for one’s research program. Leveraging resources at the Spine Section to learn about applying for NREF grants is important. Learning about how to leverage philanthropy is also vitally important.

Thanks again for your time, Dr. Ghogawala. Your wisdom is much appreciated by all of us in the Spine Section!

Kuntz Scholars Memorial Awards: Celebration of Excellence in Spine Research at the Spine Summit

John H. Shin, M.D.

Dr. Charles Kuntz, IV, known fondly as Charlie, was a dear friend to the AANS/CNS Spine Section. Charlie was born and raised in Cincinnati. He graduated with honors from Cincinnati’s St. Xavier High School and was a chemistry scholar at the College of the Holy Cross in Worcester, MA, graduating magna cum laude and earning induction into Phi Beta Kappa. He received his medical degree from Case Western Reserve University School of Medicine in 1991 and was inducted into Alpha Omega Alpha, the national medical honor society. He performed his neurosurgery residency at the University of Washington and completed orthopedic and neurosurgery spine fellowships in London and Seattle. He practiced at the Mayfield Clinic and the University of Cincinnati Neuroscience Institute.

Charlie passed away on February 26, 2015, and as a tribute to his legacy, the Spine Section leadership inaugurated an annual awards program for the top abstracts submitted by students, residents, and fellows to the Spine Section annual meeting. Since 2016, more than 100 Kuntz Scholars have been recognized with the opportunity to present their work as oral presentations at the annual meeting.

The list of Kuntz Scholars is featured prominently in the annual meeting program and many of these abstracts have subsequently been published as peer-reviewed manuscripts in Neurosurgery and the Journal of Neurosurgery: Spine. Charlie’s spirit and memory lives on in the inspiring work presented each year.
Interview with Dr. Volker Sonntag

Laura Snyder, M.D.

One of the major disappointments of the AANS meeting cancellation this year was seeing the Sonntag symposium postponed. Although no longer operating, Dr. Volker Sonntag travels the world as a guest speaker and one of the ultimate experts in spine surgery. He has been an active member of the AANS/CNS DSPN Section for over 20 years. Dr. Sonntag served as the AANS/CNS DSPN Section President in 1995. While on the Board of Directors for the AANS, he served as the AANS Liaison for the AANS/CNS DSPN Section Executive Committee. This year, he starts his new role as the AANS/CNS DSPN Section Historian. I was lucky enough to catch up with Dr. Sonntag for an interview.

Why did you choose spine surgery as a subspecialty?

Dr. Sonntag: It was more by default than by choice. I started out in solo practice, and I was looking for business. At that time, most neurosurgeons weren’t interested in taking care of trauma spine patients because the only treatments we had were bedrest and halo placement, which didn’t pay much. So when I said I would take care of those patients, they were happy to give them to me. Then, when I became part of a neurosurgical group, out of the original eight, I was one of the best suited for spine surgery, and thus I would take those cases.

What was a major challenge in your career and how did you overcome it?

Dr. Sonntag: There have been a few. One of the first challenges I had was having spine surgery be recognized in neurosurgery as a respectable subspecialty. When I started operating, most neurosurgeons didn’t care about spine. The residents didn’t care to learn about it. They would leave the cases when the orthopedic surgeon started instrumenting, and I would stay to help. This allowed me to learn instrumentation, and prepared me for another major challenge: proving to our hospital that I should be allowed privileges to perform spinal instrumentation. The hospital had a third party committee review my first ten spinal instrumentation cases and compare them to ten consecutive cases of an orthopedic surgeon (who had been practicing for years). They found that my outcomes were better than those of the orthopedic surgeon, and thus I was allowed to practice spinal instrumentation. The third major challenge was our fight with the FDA regarding the use pedicle screws, which I presented at Spine Summit this year.

What do you see as some of the major challenges spine surgeons face today?

Dr. Sonntag: In spine surgery, new technology and new techniques have quickly been developed to provide better care, but there are so many that it can be hard to keep up and learn to use all of them proficiently. Even if a surgeon does learn how to use all of the new technology and new techniques proficiently, developing the judgment to determine which patient should have what is a challenge.

Is there anything you wish you had done differently in your career?

Dr. Sonntag: I wish I had not struggled so early in my career. When I first started as a neurosurgeon, I practiced in Ohio, and my wife, Lynne, hated it. We wanted to move back to Phoenix, which we loved, where both our mothers were, and where we could see ourselves raising a family. I had written to the director of BNI, who wrote me back, “If you come to Phoenix, you’ll starve to death.” He was nearly right. I had no privileges in Arizona for two years and could make very little money. While other neurosurgeons were driving fancy cars, I was driving a Vega.

What is your advice for young neurosurgeons early in their careers?

Dr. Sonntag: 1. When you are finishing residency, think hard about where you
want to practice and whether you want to choose an academic or private practice route. Where you want to practice and how you want to practice is important, and if you have a significant other, make sure that person is okay with that.

2. Having a satisfied home life is very important, don’t forget to make time for that.

3. You need a good support system to succeed. Surround yourself with people you care for and those that care for you, including family, friends, and colleagues.

What were you most looking forward to during the Sonntag symposium?

Dr. Sonntag: It is a huge honor to see a whole day of talks that you are interested in being named after you, especially when the speakers are some of the most respected spine surgeons from around the world. I was looking forward to reconnecting with former residents, fellows, and colleagues. I was looking forward to the “Monster Show” cases, slapping high-fives, the roast, and hearing a lot of “Chiefy!” But right now we all need to buckle up and help fight the spread of the coronavirus. Then in the future we can continue to advance spine surgery.

CAST Spine Fellowship Updates

Praveen Mummaneni, M.D., Rory Mayer, M.D.,
Michael Wang, M.D., Marjorie Wang, M.D.,
and Vincent Traynelis, M.D.

The Senior Society of Neurological Surgeons (SNS), which hosts the CAST Committee, has moved its administrative office and is now housed at the CNS headquarters, while CAST administrative and support activity will now be housed in the ABNS office.

Further refinements have been made regarding spine fellowship requirements. Currently, the CAST approved spine fellowship programs should have a broad experience. Participating institutions shall be limited to those providing a 12 month fellowship experience with minimum 6 months on the clinical service. Furthermore, each participating institution should have a spine caseload in excess of 200 operative spine cases per year, of which at least 100 must involve spinal instrumentation. Each fellow must complete at least 150 cases during the 12 month experience. CAST will NOT pursue super-subspecialty designation (i.e. Fellowship in Spinal Oncology, Deformity, etc.) and all CAST accredited fellows must have completed a Chief Resident Year in Neurological Surgery or Orthopedic Surgery at an accredited institution. At this time, CAST approved fellowships are only available at institutions with an ACGME Neurosurgery Residency Program.

Currently, CAST is concerned about multiple spinal fellowships (whether CAST approved or not) within a single institution.

A CAST approved fellowship should be a designation that assures a quality experience for the fellow. It is important to note that CAST is now also responsible for verifying that fellowships (CAST approved or not) do not adversely impact the resident experience. Multiple CAST (or not) spine fellowships within a single institution is possible for high volume training programs with significant quality spine cases.

In determining the merit of additional fellows, the CAST Committee will consider the following: the presence of a faculty of national stature in spinal neurosurgery, the quality of the educational program, the quality of clinical care, the total number and spectrum of cases, the quality of clinical and research programs, facilities, the quality of fellows trained by the program, and the impact of fellows on the clinical and educational experience of the neurosurgical residents within the sponsoring program.

A CAST Specific Spine Data sheet was approved by the AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves last year. It must be completed by each fellow and the institution yearly. It is more granular than the ACGME form. The CAST Specific Spine Data Sheet is necessary to be certain the spine fellowships are of quality and do not adversely impact the resident experience. Case documentation will include region of the spine (e.g. subaxial cervical spine or lumbar spine) and case type (e.g. ACDF versus arthroplasty).
Interview with 2020 AANS/CNS DSPN Meritorious Award Recipient
Dan Resnick, M.D.

John H. Shin, M.D.

This year at the Spine Summit in Las Vegas, we had the pleasure of sitting down with this year’s Neurosurgery Meritorious Award Recipient—Dan Resnick, M.D.

Dr. Resnick is currently Professor, Vice Chairman, and Residency Program Director of Neurological Surgery at the University of Wisconsin School of Medicine and Public Health. He completed his undergraduate education at Princeton University, followed by medical school at the University of Pennsylvania and residency training at the University of Pittsburgh. Dr. Resnick is an internationally recognized spinal surgeon, researcher, educator, and musician! His research focuses on improving patient outcomes. He is Past President of the AANS/CNS Spine Section, Congress of Neurological Surgeons, and North American Spine Society.

What does receiving the Meritorious Award from the AANS/CNS Spine Section mean to you?

Dr. Resnick: This is a huge deal for me. The section is made up of folks who I respect immensely. I see the membership as my peers and the leadership as role models. I remember serving under my heroes. I learned as much about leadership, compassion, and fair play as I did about spine surgery. To be lumped together with this band of brothers and sisters is a tremendous honor.

What are some of the challenges you think spine surgeons will face in the next 5 years?

Dr. Resnick: It seems as though the ship has been sinking since I attended my first meeting as a resident in the early 1990s. We have faced repeated challenges on the reimbursement front, repeated regulatory challenges, and repeated self-inflicted wounds due to our own poor behavior. These challenges will continue but I am optimistic that continued work by our skilled professionals in Washington and dedicated work by well-informed and motivated volunteers will continue to keep the specialty afloat, even if we do get wet from time to time.

What advice would you give to surgeons coming out of residency and fellowship?

Dr. Resnick: One of the biggest challenges to our specialty that I did not mention above is the changing landscape of employment opportunities for our graduating residents and fellows. Because of pressure brought to bear by the ACA, there has been a substantial coalescence of medical systems resulting in the job market now being dominated by hospital employed positions. This situation is very dangerous because spine surgery remains as much an art as a science, and poorly aligned incentives combined with a lack of available mentoring is a recipe for potential disaster. I cannot stress strongly enough the importance of mentorship for junior surgeons. I am very afraid that the economic landscape is stifling the ability of senior surgeons to become mentors and similarly inhibiting the ability of junior surgeons to seek mentorship.

What do you enjoy most about the section and the annual meeting?

Dr. Resnick: The section served as my on-ramp into organized neurosurgery. The exclusive focus on spine meant that I was constantly surrounded by folks who were seeing the exact same problems as I was and who were developing creative and unique solutions to “boots on the ground” issues. The sense of community within the section is palpable and extremely enjoyable. I really feel like that I am among friends at the section meetings. I am also very happy with the size of the section and hope that it does not get much bigger; the ability for folks to stand up and ask questions, the accessibility of the faculty after sessions and at social events, and the ability to hear multiple viewpoints expressed by folks who respect each other is wonderful and may be lost if the section meeting grows too much larger.
Organized neurosurgery’s advocacy efforts remain agile in this upcoming year as we focus our attention on how best to care for our patients and colleagues in the midst of a global pandemic. This unprecedented challenge for the modern health care system has only underscored the importance of health care policy advocacy, including reimbursement policy, to preserve our patients’ timely access to care. Reimbursement drives budgets, and budgets represent value. The Washington Committee continues working hard to ensure that neurosurgical care is appropriately valued so it can meet societal needs. While the AANS and the CNS are pursuing a legislative and regulatory policy agenda that includes streamlining prior authorization, medical liability reform, expanding coverage to the uninsured and increasing funds for graduate medical education, two issues have jumped to the top of neurosurgery’s list — global surgery payments and surprise medical bills.

In 2020, the Centers for Medicare & Medicaid Services (CMS) will launch revised office and outpatient visit codes and documentation requirements, and the values of these evaluation and management (E/M) services. Further, CMS will be implementing a new add-on code for more complex office visits, and office-based physicians, including primary care and non-surgical specialties such as neurology and rheumatology, will benefit the most from these changes. Unfortunately, although the global surgery codes include post-operative E/M services covering neurosurgical patient care up to 10- and 90-days following surgery, CMS is not implementing a corresponding adjustment to the E/M portion of the global fee. Because of Medicare’s budget neutrality requirement, increases in office-based physician reimbursement means decreases for the surgical specialties. Neurosurgeons will, therefore, likely experience at least a 6% Medicare pay cut in 2021, which comes on the heels of declining reimbursements when adjusted for inflation over the past decade. The Washington Committee has and will continue vigorously to oppose this unfair — and likely illegal — inappropriate de-valuation of neurosurgical services, which would impose additional challenges to caring for our aging population.

“Surprise” out-of-network medical billing remains a significant concern for Americans, and organized neurosurgery is committed to protecting patients by keeping them out of the middle of billing disputes between insurers and physicians. The Washington Committee is also committed to protecting patients, physicians and the health care system from poorly-conceived rate-setting policies that penalize physicians who provide vital on-call coverage and could result in delayed or unavailable care in medical emergencies. Legislative solutions must consider the growing market power of insurers, particularly as they impose progressively more onerous prior authorization requirements on in-network physicians and refuse to negotiate in good faith. While the COVID-19 crisis has upended the Congressional schedule, Congress is nevertheless working to pass surprise medical bills legislation before the end of the year. Rest assured that your Washington Committee remains one of the most respected advocacy voices shaping the debate to ensure that the final solution protects patients from surprise medical bills, while at the same time establishes a fair system for physicians and health plans to resolve payment disputes.
Interview with Dr. Dan Riew
2020 Meritorious Award Recipient for Orthopaedic Surgery

Griffin Baum, M.D., M.Sc.

Dan, congratulations on winning the 2020 Meritorious Award for Orthopaedic Surgery from the Joint AANS/CNS Spine Section at the 2020 Spine Summit. As part of our biannual newsletter, I’ve been asked to do an interview with you and publish your responses.

Dr. Riew: Thanks, Griffin.

How have enjoyed your involvement with the Joint AANS/CNS Spine Section over the years and what does an award like this mean to you at this point in your career?

Dr. Riew: I have always felt that it was important for neurosurgeons and orthopedic surgeons to work together and to learn from each other. So it has always been a great meeting for me. That’s why it was such a great honor for me to receive this award. But it was also humbling, as I know that there are a lot of previous awardees that I don’t measure up to and many others out there who are much more deserving of such an award than I.

What has been your observation about collaboration versus competition between Orthopaedic Spine Surgeons and Neurosurgeons in the field of Spine Surgery over your career?

Dr. Riew: Things have definitely changed a lot over the last 25 years. Back then, the relationship was much more competitive and contentious than it is today. Fortunately, things have taken a dramatic turn for the better. While there are still some troglodytes in both specialties that disparage the other, I’m happy to see that the vast majority of the younger generation are not like that at all.

What is your vision for the future of Spine Surgery and what steps can young spine surgeons take now to help achieve that goal?

Dr. Riew: I would love to see spine surgery become its own department someday. Currently, both neurosurgeons and orthopedic surgeons spend way too much time learning skills that they will never use as spine surgeons. Wouldn’t it be much better if we spent an equal number of years only training in spine surgery? In our fellowship, we train both neurosurgeons and orthopedic surgeons. Because neurosurgeons have trained for seven years and have a lot of experience doing Spine during their residency, the average neurosurgery fellow is more technically competent than the average orthopedic surgeon at the beginning of their fellowship. So the orthopedic surgeon needs more practice to get to the same level, since they have two years less training overall and much less training in Spine during their residency. But neither specialty would do better than one in which all of the training was focused just on spine surgery. We would produce far better spine surgeons immediately following their training than what we are producing today.

How has the current CoV ID-19 pandemic affected your practice, and how do you foresee the field of spine surgery changing as a result?

Dr. Riew: Two weeks ago [mid-March 2020], I canceled all of my cases, as well as office hours. New York City is now inundated with cases and the hospitals are bursting at the seams. One good thing that has come out of this has been a greater use of telemedicine. Although I have not fully availed myself of this technology, I do see some advantages for some types of patients. I believe that we are going to be using a lot more telemedicine technology in the future as a direct result of how much
we are using it today. We certainly will be using it for much of this year, as I believe that we may have to be locked down for several months and then it may start all over again in the fall.

You were an internist before you were a spine surgeon – what are the most important physical exam skills for a spine surgeon in training to perform on each patient they examine?

**Dr. Riew:** The physical exam is important for a number of reasons. First, the physician’s touch is known to have healing powers. Second, in Spine, it is absolutely critical to make a diagnosis. It is well known that one can have markedly abnormal MRIs and CTs and be completely asymptomatic. So unless the history, physical exam and the imaging studies all correlate, the diagnosis remains in question. Third, it is important to find out where the patient hurts, especially when it comes to interscapular pain. Most patients refer to this as neck pain. Many surgeons have been trained to ignore neck pain as something that is not amenable to surgical treatment. It was only in the last several years that I began to understand which level was responsible for a given area of interscapular pain. Fourth, it is important to know how to do a thorough hand exam. This is necessary to differentiate peripheral nerve compression syndromes from a primary psychopathology. Fifth, it is important to know how to differentiate between a primary shoulder pathology and a cervical spine pathology. Sixth, it is important to do a dynamic exam. Reflexes, pain, numbness and weakness can all change with the neck in different positions. Seventh, subtle findings of the eyes such as vertical nystagmus can suggest a vertebral artery injury or a Horner’s syndrome can suggest an upper thoracic root compression.

**As a fellowship director, what changes have you noticed in the applicants and candidates for Spine Surgery fellowship positions and what are the ideal qualities that you wish for every Spine Surgeon just starting their practice?**

**Dr. Riew:** The fellows are far better-trained, smarter, and much more extensively published than I was when I applied for fellowship. The ideal qualities that every spine surgeon starting out should have include compassion, empathy and caring for their patients. They must be able to take a thorough history, perform a comprehensive exam, read images as well as or better than a radiologist, have outstanding surgical skills, acquire judgement and follow their patients carefully and caringly in the post-op period.

If you could change one thing about the field of Spine Surgery, what would it be?

**Dr. Riew:** It is about what I said earlier: that Spine become a specialty of its own.

What are you most thankful for in 2020, and what are your goals for this coming year?

**Dr. Riew:** I am most thankful that I have a healthy and happy family, with a loving wife, who is my best friend. Professionally, my goal in the coming year has to do with our expansion to the Eastside of Manhattan. This year, the Och Spine Hospital is expanding from the Columbia campus of New York Presbyterian Hospital System to the Cornell campus. When the COVID-19 epidemic is over, I will be relocating my practice to the Cornell campus. I will have an honorary appointment in the neurosurgery department of Cornell-Weill medical school, along with my current appointment as a professor in the department of orthopedic surgery at Columbia. So the Och Spine Hospital will be made up of neurosurgeons and orthopedic surgeons from Columbia along with neurosurgeons from Cornell.

Thank you so much for your time Dan, and congratulations again on the well-deserved award!
Can you talk a bit about how you started in PN surgery, your mentors, and what drew you to the field?

Dr. Kline: I’ve had so many mentors that I’ve been privileged to work with during my career. Dr. Richard Davis was one of my first mentors at Penn [University of Pennsylvania] as a medical student. He was such a patient, humble man, whom I admired greatly. He gave me advice about the field of neurosurgery (NS) and possible training sites. My first real experience doing PN research came at Walter Reed with Dr. George Hayes and his residents at that time such as Ludwig Kempe, as well as the faculty at the Army Institute of Research. At the University of Michigan, which is where I had returned to complete my training after Walter Reed, I learned a great deal from Drs. Edgar Kahn, Richard Schneider, and Elizabeth Crosby (a neuroanatomist). Each were experts in their field, and I’m immensely grateful for the time they, as well as that that their younger trainees such as Jim Taren, Sid Farhat, and Bud DeJonge, spent with me. Of course, after Michigan I went to Louisiana right after Dr. Peter Jannetta started in 1967. I had a lot of mentors and colleagues there, too. It had been Jannetta, in addition to Drs. Isadore Cohn (Chair of Surgery), Dr. Paddison (Head of Neurology), and Dr. Dean Echols, who convinced me to come to New Orleans.
What were a few of your most memorable cases?

Dr. Kline: One case was a brachial plexus one, and at the time there was a visiting professor with us, Sir Sydney Sunderland. I knew he was coming, and had been referred a patient who had a terrible plexus palsy…just terrible. So, I scheduled him at Oschner [Hospital] purposefully when Sunderland was there, and he spent a day in the OR with me (what a God-send that was). What a terrible case. I think at the seventh or eighth hour, Sunderland said, “David, you’ve done what anyone could possibly do here. It’s time to stop and not do anymore. You know, there are things that you’re just not going to be able to help.” And, of course, that’s true of all surgery, especially true in the field that you’ve [Dr. Jack] chosen. You must make that a portion of your teachings. I don’t know if I was always good at that, but I tried to remember that wise advice.

What would you say is your greatest accomplishment or greatest contribution to the field of PN surgery?

Dr. Kline: Well, you know, I think my teaching and sharing my knowledge with fellows, residents, and other nerve surgeons is a contribution. I think mentorship is an important topic, and it’s hard to answer this without seeming self-serving. It’s not easy, and it’s a fine line sometimes. You have to be present for your trainees, but not too present. It was hard sometimes to let my fellows and residents work on their own because if you let them, they’ll keep working and do too much. You have to have a keen awareness of each individual’s skill-set. It’s like having a medical student examine a patient and tell you what they’ve found, but then you walk into the room and the patient is fully clothed, and it’s obvious the patient has never had their clothes off! Unless you check the student, and teach and show them how to do the exam, then that’s terrible mentorship. You have a responsibility as a mentor and specialist to teach others and pass on your knowledge about things that are good and work for you so the field can advance.

What advice would you give to those just starting their careers and trying to foster the kind of success that you have had with yours?

Dr. Kline: Of course, I think that triad of knowledge, clinical work in a specific area and discipline, and research is important. Also, to find a research niche whether that be laboratory or clinical research. You also
really have to accept the fact that you don’t know it all, nor does any individual. Even Sir Sydney! I don’t know how to say it quite right, but you have to learn to not be the Big Dog even if you are the Alpha Dog. I mean the guy or gal doing the tough aneurysm or head cases. These are extraordinary individuals, but your main goal should focus on excellence in what you do. Maybe that’ll make it harder to be Chair or lead a Department somewhere, but maybe it won’t. Look at some of my fellows and their success without having to act like the Big Dog.

The behavior of being dedicated to the field you’ve chosen will result in others labeling you as a mentor. I mean dedicated not only in terms of knowledge, but also in terms of doing—caring for the patients involved and having the ability to share that with the people learning from you.

You also have to be constantly open to learning from everyone: residents, fellows, and colleagues.

My thanks to my trainees and associates, including my mentors and family, whom with God’s help permitted this professional life to develop. And a special thanks to Line and Andrew for this interview.

I would like to personally thank Dr. Kline and his wife, Nell, for taking the time to talk with me (full interview can be found at: www.spinesection.org). I do not think that anyone could discuss the importance of mentorship better than Dr. Kline, nor do I think there is anyone more appropriate or experienced to discuss such a topic. Although I have only met and spoken with him a couple of times, I have already learned so much from him, and consider myself privileged for this opportunity which will surely stand out for me as a career highlight.

**Foundations of mentorship**
- Openness to learning
- Perseverance, persistence, and hard-working
- Importance of research and inquisitiveness
- Importance of being understated and humble
- Knowledge of fundamental principles (eg: physical examination)
- Making use of resources at your disposal
- Collaboration with colleagues
- Awareness of mentor versus mentee needs
- Importance of independence versus guidance
Peripheral Nerve Learning Corner

Winged Scapula: More than Just Cosmesis

Elias Rizk, M.D., Oliver Mrowczynski, M.D., and Thomas J. Wilson, M.D.

Winging of the scapula is often more than just a cosmetic issue. It may be part of a larger constellation of neurologic deficits, as can be seen in conditions like Parsonage-Turner Syndrome, or may be associated with dysfunction of the upper extremity, particularly shoulder motion abnormalities. Three muscles that stabilize the scapula include the serratus anterior, the trapezius, and the rhomboids. If there is damage to any of these muscles or the nerves that innervate these muscles, the scapula may protrude, or “wing.” Without stabilization of the scapula, movements that require stabilization or rotation of the scapula may be limited.

Scapular winging can be divided into two types: medial winging and lateral winging. The table below highlights significant differences between etiologies to aid in diagnosis and optimal treatment. Medial winging of the scapula is due to serratus anterior dysfunction. This can be caused by muscle damage, such as a traumatic avulsion of the muscle or a displaced scapular fracture, or can occur secondary to damage to the long thoracic nerve which innervates the serratus anterior. The long thoracic nerve can be damaged in a variety of ways, including traction injury such as can occur in volleyball players or weightlifters, blunt trauma in a motor vehicle accident, iatrogenic injury during surgery, or brachial neuritis. The long thoracic nerve is commonly involved in Parsonage-Turner Syndrome. Forward arm flexion and the “serratus wall test” cause the inferior medial scapula to elevate and protrude medially and posteriorly. The serratus wall test is performed by asking a patient to face a wall and push against the wall with their palms at waist level. Patients also often have weakness of forward arm flexion and abduction, with abduction frequently limited to 90° or less. When examining the patient, manual stabilization of the scapula will typically improve shoulder abduction.

Lateral scapular winging can occur by two etiologies. The first is due to improper function of the trapezius muscle, which can be due to damage to the spinal accessory nerve. This damage can be iatrogenic and occur during cervical lymph node biopsy or radical neck dissection, but can also occur during trauma with sudden lateral neck flexion, penetrating injury to the neck, or blunt trauma. Arm abduction and external rotation against resistance cause the superior angle of the scapula to be more laterally displaced. The superior medial scapula typically displaces laterally and protrudes posteriorly. Many patients will have restricted shoulder abduction and will note difficulty with overhead activities. The second etiology is due to improper function of the rhomboid muscles, which may be due to damage to the dorsal scapular nerve. Comparatively, the scapular winging associated with rhomboid muscle/dorsal scapular nerve dysfunction is subtle. Usually, there is no limitation to range of motion, and pain along the medial scapula is usually the presenting symptom. When patients perform arm extension from full flexion, the inferior angle of the scapula rotates laterally.

When a patient presents with limited functionality of the upper extremity or scapular pain with winging, it is important to consider the full gamut of potential etiologies. Differentiating medial from lateral scapular winging can help the clinician proceed down the correct diagnostic and treatment path. Scapular winging can be due to damage to the serratus anterior (medial winging), trapezius (lateral winging), or rhomboid (subtle lateral winging) muscles or to the nerves that innervate them, including the long thoracic, spinal accessory, and dorsal scapular nerves, respectively. The findings described can be used to help differentiate the etiology of scapular winging which is critical, as they have significantly different treatment algorithms.
Peripheral Nerve Updates for DSPN Members

Line Jacques, M.D.

1. The Peripheral Nerve Business Dinner during the AANS-Boston has been canceled and will be replaced at the CNS at the Fontainebleau in Miami on Sunday, September 13, 2020. Details TBD.

2. The 2020 Kline lecture will be presented by Dr. Mario G. Siqueira (University of Rio de Janeiro, Brazil) on Wednesday, April 27, 2021, during the AANS meeting in Vancouver, Canada. The lecture title is, “Evolution of the treatment of the neonatal brachial plexus injuries.”

3. The Kline Research Award will be offered again this year to support either basic or clinical research related to peripheral nerves with funding in the amount of $10,000. The research award provides means of peer review for clinical projects, thereby enhancing competitiveness for potential National Institutes of Health (NIH) funding.

4. Dr. Ilyas Elí (Dr. Mark Mahan, University of Utah) will present a talk entitled, “Comparison of rapid-stretch injuries to conventional crush, transaction and repair” on Wednesday, April 27, 2021, at the AANS meeting in Vancouver, Canada.

5. The winner of the 2019 Kline Research Award is Christopher F Dibble from Washington University St. Louis. He will present a talk entitled, “MO on Optimizing Nerve Regeneration” on Wednesday, April 27, 2021, at the AANS meeting in Vancouver, Canada.

6. The winner of the 2020 Kline Research Award is Dr. Daniel Umansky (Dr. Rajiv Midha, University of Calgary). He is studying the use of focused ultrasound for reversible opening of the blood-nerve barrier.

7. Kline NREF “Honor Your Mentor” Fund is on the NREF website. If you would like to contribute to the fund, please visit Kline NREF Fund website: http://www.nref.org/donate

Note that the Peripheral Nerve Division leadership controls the use of the NREF PN funds (including the Kline fund) for research or education, within the guidelines of the NREF.

8. Upcoming meetings

Adrenaline & Repair Complication and Management in Neurosurgery International Course and Conference Klagenfurt, Austria, June 25-27, 2020

WFNS 5th theoretical & practical international course in peripheral nerve & brachial plexus surgery will be in Rio de Janeiro, Brazil, November 20-22, 2020.

ASPN annual meeting, January 15-17, 2021, Grand Hyatt Resort & Spa, Koloa, HI
http://www.peripheralnerve.org/meeting


25th Meeting of the Sunderland Society, TBD