Young Neurosurgeons' News

Spring 2011

Chairman's Message

by G. Edward Vates, MD, PhD, FAANS, FACS

"This is the coolest thing ever!"

This is what Hector said to me. Hector is a sophomore at the University of Rochester and he wants to be a doctor. His grandmother raised him in California and before he left for college she died. This motivated him to consider a career in medicine but he never had an opportunity to talk with a doctor about that career until a Saturday meeting of the Student National Medical Association here in Rochester. The meeting was organized to educate minority undergraduates about what it's like to be a doctor. Hector was one of the students attending the lunch seminar that I gave and a few days later he contacted me about shadowing in the operating room and the clinic.

Two weeks after the luncheon, Hector came to my neuroendocrine clinic, where he learned about patients with pituitary tumors. He asked great questions, which may have slowed me down, but his excitement was palpable and I was happy to spend the extra time. The next week, Hector came to the operating room to watch a craniotomy for brain tumor. He's the one in dark blue scrubs in the photo.

Hector had never seen surgery, had never been in an operating room, had never seen the living human brain…and from beginning to end he was hooked. Even though he just started his introduction to neuroscience course, he knew enough to ask intelligent questions and for three hours his eyes never wavered from the surgical field. As the last staples were placed, and the drapes were coming down, Hector turned to me and said, "This is the coolest thing ever!"

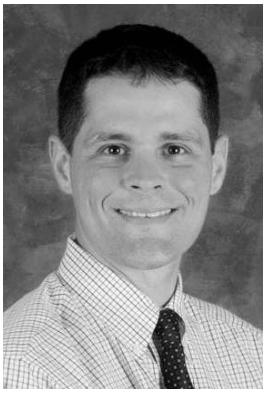
Most of us can probably remember a similar moment in our own careers, and these are the moments that remind us why we became neurosurgeons. They also emphasize why mentorship is one of the highest callings in neurosurgery.

As I finish my term as chair of the Young Neurosurgeons Committee (YNC), I look back and know I would not be where I am now without mentors. My high school biology teacher; my professor in college who first told me about MD-PhD training; Geoff Manley who showed me how to be a neurosurgeon and a scientist; Charlie Wilson, Mitch Berger, and all the faculty at UCSF who made me a neurosurgeon; and Art Day, a gentleman and teacher of the highest order, all these people and many more gave freely of their time, intellect, and experience to form me.

As a member of the YNC, I learned about leadership, listening, consensus building, navigating a large organization, and marshaling the energy and skills of a group of highly motivated partners to achieve an agenda. I learned these from my colleagues who preceded me as chairs, and from many other members who came and went from the YNC. I also learned from the opportunities to serve on various committees within the AANS that the YNC provided.

Mentorship is one of the most critical functions that the YNC serves, giving young neurosurgeons an opportunity to learn about service and leadership. My mentors in the YNC have included Mark McLaughlin, Larry Chin, Brian Subach, Eve Tsai and Jon Friedman who showed me how to succeed and serve effectively. It is this kind of training ground that the YNC provides to young neurosurgeons interested in participating in national organized neurosurgery.

Ultimately, Hector may not become a neurosurgeon, but I know he will never forget that day he saw brain surgery for the first time. I also know that I would not be where I am now without the great mentors I have had during my career, and this debt of gratitude can only be repaid by paying it forward to the students, residents, and younger colleagues I encounter in my future. The YNC harnesses this energy for the good of its members and for the good of organized neurosurgery, and for the opportunity to serve as its chair I am forever grateful. I wish the best to my colleagues and friends in the YNC…keep up the great work!



Secretary's Message
by Edward Smith, MD, FAANS

Every year it seems that the Young Neurosurgeons Committee grows. The 2011 AANS meeting serves as an example of that growth. Given the tremendous increase in committee member responsibilities over the past few years, changes in the structure of the YNC have been introduced. These changes begin to take effect this April. Under the leadership of Chairman **Ed Vates**, these changes are designed to increase the opportunities for engagement in the organization. Participation in committees, liaison positions, and leadership structure have all been streamlined to maximize member activity. Terms of service are more equitably distributed and formalized. These changes have recently been approved by AANS leadership and will allow the YNC to better serve its growing constituency.

The YNC is an organization dedicated to the needs of the medical students, residents, and new faculty who are beginning their careers in neurosurgery. The YNC provides a framework for meeting colleagues, an entry point for participation in organized neurosurgery, and an easy place to find resources specifically targeted to this population of neurosurgeons. The articles here highlight efforts to provide mentoring for young neurosurgeons (with the Real World Course), to facilitate grants for research (through providing a streamlined method of identifying and applying for relevant funding opportunities), to foster new friendships through competition (through the Neurosurgical Top Gun event), to recognize the achievements of our colleagues (through the YNC Public Service Citation), and encourage communication and education through venues such as this newsletter.

In the past year, we have started a major initiative to get YNC members involved in the organization Think First, a head injury prevention group currently led by former YNC member Mark Proctor. We have evolved the Real World course to incorporate aspects of practice not usually discussed in academic meetings – the role of physician's assistants, private practice, and solo practice. We are expanding our roles interacting with levels of organized neurosurgery across the US and we invite those of you with interest to participate.

On behalf of the YNC executive committee, we would like to recognize and thank all the members of the YNC who have helped this organization flourish as a result of their hard work over the past year. **To all young neurosurgeons, we would invite you to come to our meeting on Monday, April 11, from 5:00-7:00 pm at the Hyatt Regency Denver in Centennial Ballroom F.**

Neurosurgical Top Gun

One of the most popular events among the members of the YNC at the AANS Annual Meeting is the Neurosurgical Top Gun competition, which is comprised of a series of stations where residents and fellows can compete providing an opportunity for learning, camaraderie, and a fun challenge. These stations test various types of neurosurgical brain and spine operative techniques. This immensely successful event results from the hard work of many members of this committee, led by YNC members **Anand Germanwala** and **Prashant Chittiboina**.

This year new stations being added include a brain tumor resection and ventriculostomy simulator. Look out for the cash prizes for individual station winners, overall winner and their residency program. In addition, the competition will be supporting NREF initiatives starting this year. Compete early to collect free Neurosurgical Top Gun t-shirt!

At the 2010 competition, residents and fellows from several programs nationally and internationally competed in Philadelphia for Neurosurgical Top Gun Honors. Congratulations to all participants and we look forward to an even bigger and better event for 2011.

Supporters of the 2011 innovative competition are Anspach Companies, Aesculap Inc., Codman (a Johnson & Johnson company), DePuy Spine (a Johnson & Johnson company), Medtronic, National Research Council of Canada, and University of Florida.

The European Young Neurosurgeons Meeting Experience of a Young American

by Andrew W. Grande, MD

I recently had the opportunity to attend the European Association of Neurological Surgeons' (EANS) Young Neurosurgeons Meeting in Innsbruck, Austria, February 12-14, 2011. This was the first of such meetings organized by the EANS Young Neurosurgeons Committee. It was intended to serve as a forum for young European neurosurgeons to come together, share experiences, and to learn from one another. Overall the meeting was a great success in bringing together participants from all over the world who listened to talks by some of Europe's leading neurosurgeons, sharing their own experiences, and forming friendships.

Highlights of the meeting included talks by some of today's most prominent neurosurgeons and interventionalists like Jacques Moret (France), Juha Hernesniemi (Finland), Vladimir Benes (Czech Republic), André Grotenhuis (Netherlands) and Zvi Ram (Israel). Having trained in the United States with minimal exposure to the international neurosurgery community, I was embarrassed with my own naïve views. Listening to these legends describe their experiences, which rival many American series, I was impressed with the level and quality of neurosurgery that exists around the world. I suppose this should not be that astonishing as this is where neurosurgery began with the studies of cerebral localization by David Ferrier, Charles Sherrington, and John Hughling Jackson as well as the pioneering work of William Macewen and Victor Horsley, to name just a few. Sitting, listening to many of the speakers I was energized by the global neurosurgery community that I had just discovered!

Having traveled to Europe this year for training as the AANS Van Wagenen Fellow, it seemed like Hernesniemi was talking directly to me when he said "Go around the world. Go and see the best way to do things." and "Sit in the cold corners of the world's operating rooms." He emphasized the importance of embracing neurosurgical opportunities around the world. He said "Look east to learn bypass surgery, the best bypass surgeons are from the east." He encouraged training the best young people to be better than us and that to do this, one must expose young neurosurgeons to global opportunities and training. This message was reinforced by Professor Grotenhuis who recommended visiting China and India where neurosurgeons are accumulating large patient series in various subspecialties of neurosurgery.

Over the course of the three days, I was reminded that we are training and practicing in a world in which travel, communication, and technology are increasing the ability to bring neurosurgeons closer together. Sharing experiences with other young neurosurgeons, I was astonished with the differences that exist between the neurosurgical training and practice experience in the United States and other countries.

In particular, outside the United States academic neurosurgery is much more hierarchical. In many countries there

remains the "professor" for whose practice essentially everyone in the department works. Interestingly, as I have visited some departments here in Europe, one finds only the chairman's name listed on the department nameplate at the entrance to the department. While just a simple observation, I think it highlights the anonymity which prevails for many young academic neurosurgeons around the world.

In these countries the chairman is often substantially involved in the process of mentoring and guiding young faculty towards various neurosurgical subspecialties. Young faculty are frequently paired with more senior neurosurgeons for several years as they progress to full independence. The structure of many programs, however, is such that many young faculty are not exposed to complicated intracranial cases until later in their careers.

While it is easy to understand the potential benefits of mentoring, there is also the perceived detriment (by some) of being overshadowed by senior colleagues during this period, highlighting some of the inherent dichotomies that are shared by many training programs throughout the world.

There are also ramifications for residents-in-training. In many countries the length of training is not fixed. One finishes training when determined by the chairman, similar to the way it was in the United States years ago. Surgical exposure is limited, especially autonomous exposure. The expectation is that this type of experience will come when one begins practice as a junior attending, again paired with a senior neurosurgeon.

I also notice many positive differences. Many young neurosurgeons around the world are very in touch with the well-known neurosurgeons. Not only do they know who they are, but they frequently visit them to learn specific skills from different "masters". Trainees also rotate among different training programs, again with the idea of a broader education. I have been astonished with the vast number of courses offered internationally for teaching surgical skills and sharing ideas. Many trainees and young faculty rely on these for gaining specific skills like endoscopy, peripheral nerve, vascular, and skull base surgery.

One of the more unique types of courses offered in Europe is the Helsinki Live Demonstration with Juha Hernesniemi. Here visiting professors like Vinko Dolenc, Ugur Ture and Ali Krisht operate while other neurosurgeons have the opportunity to observe and learn. This course best highlights the idea that prevails internationally that neurosurgical education stretches beyond ones' training program, where trainees often travel to learn from the best surgeons observing them in their own operating theaters.

I have learned that in the United States we are given great opportunities. In particular, we are exposed to a large number of surgical experiences early in our training and are taught a variety of surgical skills so that as practicing young neurosurgeons we can perform independently and at a high level. In many countries, neurosurgeons-in-training are not afforded these same opportunities. As such, many trainees have to take advantage of the courses that are offered around the world and invitations to visit "masters" to watch them work. In the end, however, this produces great neurosurgeons as exemplified by speakers at this conference.

Reflecting back on this meeting, I think Hernesniemi is right in that we should embrace the neurosurgical opportunities around the world. We should visit and learn from great "masters", and we should encourage our trainees to do so, as well. If we do, then certainly those we train in subsequent generations will be better than us.

Book Reviews

The Greenberg Rapid Review

Kranzler, LI. Thieme; 7th edition (November 1, 2010)
Reviewed by Bradley A Gross, MD

Ubiquitous across residency libraries and finding itself in innumerable white coat pockets, Greenberg's *Handbook of Neurosurgery* has ingratiated itself as a "must-have" among rising young neurosurgeons. Densely packed with encyclopedic volumes of neurosurgical knowledge, it serves as a facile reference, albeit a challenging study tool, owing to the density of information presented in a highly concise fashion. *The Greenberg Rapid Review* by Kranzler serves as an attempt to facilitate consolidation of the information presented in the *Handbook of Neurosurgery* and even serves as an excellent stand-alone study tool for students, residents, and neurosurgical clinicians alike.

Presented in thirty-five concise chapters, the book closely references each question to the *Handbook of Neurosurgery*, using a variety of question formats and a subtle but important degree of redundancy to reinforce key concepts. Each topic-specific chapter is further subdivided to allow for easy reference. Question formats include fill in the blank, open-ended questions, true/false, matching, and identification of various elements of diagrams/figures. The latter prove particularly useful and memorable. Answers are provided adjacent to questions in a way that the reader cannot accidentally "cheat" and see the answer but can quickly reference it, allowing for more expedient learning. An obvious, intensive effort is made to help the reader with mnemonics and timely, but intentional, repetition. This overall extremely reader-friendly, yet comprehensive format makes the book useful not only to neurosurgeons but also to our neurology, neuroanesthesia, and trauma surgeon colleagues as well.

Although the vast majority of the chapters contain up-to-date information, it does seem that the vascular sections contain some "controversial" answers that less experienced readers may accidentally take as dogma. For example, Hunt Hess 3 patients are described as being "managed till patient improves" (as opposed to intervention for the aneurysm)—this is not the case at many institutions. The text still teaches the original, retrospective ISUIA study figure of a "0.05%" annual rupture risk for asymptomatic aneurysms < 10 mm (1). Contrary to what is suggested, recent literature suggests that not all SAH patients should be placed on anticonvulsants (2). The text suggests that there is no increased risk of re-bleeding after AVM rupture— based on the original study of Ondra et al. (3) that was recently overturned by the same patient database when re-analyzed almost 20 years later (4). Lastly, the text cites that AVMs are the most common type of angiographically occult vascular malformation (AOVM) —a finding in older studies (5) that is no longer seen in more modern studies that confirm cavernous malformations as the most common AOVM (6,7).

Nevertheless, this book serves as a wonderful example of how to turn the classic Greenberg text into a study guide rather than an encyclopedic reference to young neurosurgeons. Using a variety of question formats presented in a well-organized fashion, it serves as an excellent review of a panoply of neurosurgical topics.

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Idiopathic Scoliosis: The Harms Study Group Treatment Guide

Newton et al. New York: Thieme, 2010, 433 pp.
Reviewed by Sarah Jernigan, MD

Idiopathic Scoliosis: The Harms Study Group Treatment Guide gathers the information and knowledge from the Harms Study Group database and condenses the many aspects of historical development and current treatment thoughts on idiopathic scoliosis into a concise text which provides up-to-date guidelines for practitioners.

The editors of the text are six members of the Harms Study Group and the authors include other esteemed members of this study group as well as renowned experts in scoliosis treatment. The first few chapters review not only the historical treatment of scoliosis but also its pathogenesis and epidemiology, and evaluation and treatment principals. The next group of chapters delves into biomechanics, bracing and surgical basics, and anesthesia considerations. The second half of the book focuses in detail on surgical interventions for specific scoliosis patterns with the final few chapters reviewing treatment outcomes, surgical complications, surgical treatment of adults for either untreated scoliosis or undergoing revision surgery, and adjuvants like osteobiologic agents, electrophysiological monitoring, and genetic research.

The chapters are well organized and clearly written with many radiographic images and diagrams or drawings to supplement the text. Each chapter has brief introduction and conclusion sections providing the reader a good overview of that section's content. The figures and illustrations provide a visual reference, which are key in facilitating understanding of diagnostic tests, surgical techniques, and complex biomechanical principles. Finally, there is an extensive index, which allows for quick reference use.

This text is a well-structured compendium of the most recent thoughts on etiology of scoliosis and its most simple to most complex treatment paradigms as well as covering not only the historical perspective but also the future directions of research and clinical considerations. It is a valuable resource for residents, fellows, or young surgeons with an interest in scoliosis surgery because of the concise manner it goes through basic fundamentals of idiopathic scoliosis treatment up to the most complex cases. It would also be a good addition to any senior surgeon's library as it provides an easily referenced collection of the most up-to-date information on idiopathic scoliosis treatment gained from the Harms Study Group database

Seven Aneurysms

Lawton, MT, Thieme; 1st edition (November 22, 2010)
Reviewed by Patrick J. Codd, MD

The continued expansion of endovascular treatment options for addressing intracranial aneurysms has resulted in an ever-shrinking population of aneurysms treated using open surgical techniques. While great advances in

endovascular technology have been made, they have not replaced the need for microsurgical clipping of certain aneurysms. With the increased use of endovascular methods, neurovascular surgeons face a dearth of the case volume, experience, and technical study essential for appreciating the anatomy and surgical nuance necessary for aneurysm clipping. In *Seven Aneurysms*, Lawton aims to preserve the art of aneurysm clipping through presentation of the operative considerations and technical approach to common aneurysms encountered by neurosurgeons.

As a single author text drawing from an exceptional personal series of over 2,500 aneurysms, this preeminent neurovascular surgeon presents a clear, concise, and systematic instruction in the microsurgical clipping of seven of the most common aneurysms. These aneurysms include PCoA, MCA, ACoA, OphA, basilar bifurcation and PICA aneurysms. While presented in the context of seven common intracranial aneurysms, the beautifully illustrated anatomy, operative planning considerations, microsurgical techniques, and nuances of aneurysm morphology presented here is readily transferable to other aneurysms.

The book is organized in three sections. The first section describes the basic tenets of aneurysms clipping. Starting with the positioning of the microscope and chair, Lawton proceeds to explain in a clear manner principles of subarachnoid dissection, brain retraction, vascular control, and clipping technique. Densely supplemented with excellent diagrams and color illustrations, Lawton provides the reader an invaluable framework for systematically tackling these aneurysms. What then follows is a description of common surgical approaches to the seven aneurysms, including pterional, orbitozygomatic, anterior interhemispheric, and far-lateral approaches. Each chapter reviews the indication for the given positioning and approach, the extra-cranial dissection, craniotomy, and dural opening. For example, in Chapter 11 – "Orbitozygomatic Approach", Lawton presents nicely a description and atlas of the orbitozygomatic osteotomies and craniotomy necessary for this exposure.

By far the most valuable sections of the text come in the third part. Here, Lawton presents the step-by-step approach to the seven aneurysms themselves. Each chapter is organized with the same basic format, which logically and precisely frames the intellectual approach to these neurovascular lesions. A review of the microanatomy is followed by description of aneurysm dissection technique followed by discussion of clipping considerations. These chapters are rife with well-labeled colored illustrations highlighting the microsurgical technique, and are concluded with an associated treasure trove of case examples with associated intraoperative photographs. While images of the associated angiography of the provided case examples might have been helpful in contextualizing the intraoperative images, the lack of such does not substantively detract from the clear value of these chapters.

Overall, *Seven Aneurysms* presents a concise, coherent and insightful description of the microsurgical approach to the seven most commonly encountered aneurysms in Lawton's extensive aneurysm clipping experience. Each chapter is a perfect complement of text and atlas presenting the microsurgical anatomy and operative approach. This text represents a superb presentation of technical insight and operative nuance in aneurysm surgery honed over the author's exceptional career and will stand as an invaluable reference for microsurgical aneurysm clipping in the future.

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