President’s Message

NANS Leadership Reflects on Growth of Neuromodulation

Robert Foreman, PhD

I want to extend my warmest greetings to each of you as I write my first President’s Message. I am honored to accept the responsibilities of serving as president of this prestigious and growing society. Thank you for your commitment to supporting NANS through your membership and participation in meetings. The influence of this society has proliferated under the outstanding leadership of Dr. Jaimie Henderson during the past 2 years. I admired his passion and compassion to advance and strengthen NANS. Thus, it is an awesome challenge for me to follow in the footsteps of Dr. Henderson and all the past presidents who transformed NANS from a fledgling organization to the premier neuromodulation society.

I am also humbled to be the first basic scientist to serve in this position. I raise this point because it makes an important statement about the mission of the society, which is to promote collaboration among clinicians, scientists, and engineers. The goal of this collaboration is to advance neuromodulation through research, education, innovation, and advocacy.

Translational research has become the buzz phrase in government circles, academia, and the private sector. Our society is in an ideal position to promote the desire to translate innovative research from bench to bedside. In fact, the 2009 NANS Annual Meeting truly reflected how this collaboration can occur through symposia, plenary sessions, platform presentations, and posters, where all members can participate in sharing their basic and clinical findings that advance the field of neuromodulation. These collaborations will help us focus on research that may be clinically relevant. Although new findings sometimes seem irrelevant, they may, through further research, evolve into an important treatment for a specific disease. It is imperative that scientists, clinicians, and engineers in this exciting field make every effort to share creative ideas that expand and improve therapy.

Our society has reached a critical node point in its maturation in which it has become important to establish a strategic plan that would direct the growth and prominence of our society in the future. To that end, Dr. Henderson and the NANS Board of Directors met for 2 days in early October 2009 to develop a strategic plan that will shape the future direction of NANS. The result was an outstanding strategic plan that includes a definition of neuromodulation, a mission statement, and a vision statement.

The definition states “Neuromodulation is the application of targeted electrical, chemical, and biological technologies to the nervous system in order to improve function and the quality of life.” This definition is supported by our mission statement: “The North American Neuromodulation Society (NANS) is dedicated to being the premier organization representing neuromodulation. NANS promotes multidisciplinary collaboration among clinicians, scientists, engineers, and others to advance neuromodulation through education, research, innovation and advocacy. Through these efforts NANS seeks to promote and advance the highest quality patient care.”

Our vision statement consists of eight critical points. Eight committees have been established to achieve the goals of our vision statement. These committees are:

- Emerging Technologies Assessment Committee
- Membership Committee
- Advocacy Committee
- Research and Education Committee
- Government Affairs and Therapy Access Committee
- Annual Meetings Committee
- Scientific Programs Committee
- Web Site Committee.

Committees are currently being formed and the chairs are looking for members eager to participate. Please contact Executive Director Chris Welber if you are interested in serving on one of these committees, and he will forward your name to the appropriate committee chair. He can be reached by e-mail at cwelber@connect2amc.com.

The decisions being made by Congress as well as by state legislatures and other organizations already have and will continue to have a tremendous impact on the field of neuromodulation. Therefore, it is important that our society interact with government officials. In evaluating how this process could be done more effectively, it was decided that our society would become involved with engagement efforts of sister organizations that share similar goals. To make this happen, NANS is partnering with the American Society of Interventional Pain Physicians (ASIPP) both financially and personally to support efforts for members of both societies to meet with key Congressional leaders in June. The purpose of these meetings is to raise awareness of important issues impacting our field.

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Feature

Professional Pain Societies: An Overview

Jeff Gehret, MD; Dajie Wang, MD

The North American Neuromodulation Society (NANS) is one of many professional organizations available to physicians who treat patients with pain disorders. The various societies have different emphases such as research, education, interventional procedures, and management of chronic pain conditions. Some of the organizations are also recognized as political advocates for pain professionals. This review will highlight several of these organizations and discuss some of their overall goals.

American Society of Interventional Pain Physicians and the International Spine Intervention Society

The American Society of Interventional Pain Physicians (ASIPP) and the International Spine Intervention Society (ISIS) promote the development and practice of safe, high-quality yet cost-effective pain management interventions for the diagnosis and treatment of pain-related disorders. They also work to ensure patient access to these interventions. ASIPP and ISIS accomplish these goals through political advocacy, educational programs, publications, and physician certification. These organizations constitute a forum for the exchange of ideas and promotion of clinical and basic research. Their primary goals are to advance developments in diagnostic and therapeutic interventional procedures, identify and resolve controversies of current pain treatments, and recommend standards of clinical practice based on scientific research. For more information, visit their Web sites at www.asipp.org and www.spineinjection.com.

American Academy of Pain Medicine

The American Academy of Pain Medicine (AAPM) is a medical society involved in education, political advocacy for patients and physicians, and research in pain medicine. This society advocates an important concept of chronic pain management, which is a multidisciplinary approach, incorporating various specialties to ensure the comprehensive evaluation and treatment of the pain patient. AAPM represents the diverse scope of the field through its membership from a variety of specialties including anesthesiology, internal medicine, neurology, neurological surgery, orthopedic surgery, physiatry, and psychiatry. Visit www.painmed.org for more information about AAPM.

Neuromodulation Therapy Access Coalition

The Neuromodulation Therapy Access Coalition (NTAC) is a national coalition initiated by interventional medical professional societies to ensure access to neuromodulation therapies through advocacy and public education. This coalition works to promote the ideas of many pain organizations and collectively utilize their resources to advance the field of neuromodulation. NTAC members currently include AAPM, ASIPP, ISIS, and NANS. Visit www.neuromodulationaccess.org for more information about NTAC.

American Society of Regional Anesthesia and Pain Medicine

The American Society of Regional Anesthesia and Pain Medicine (ASRA) is the organization that addresses the clinical, educational, and research needs of physicians and scientists treating acute and chronic pain syndromes. ASRA is recognized as a primary source of education in the anesthesia community. This society is recognized as the authoritative association for physicians utilizing regional anesthesia techniques. Visit www.asra.com for more information about ASRA.

American Society of Anesthesiologists

The American Society of Anesthesiologists is an educational, research, and scientific association of clinicians. The goal of this society is to recommend and maintain the standards of medical practice and improve patient care in the fields of anesthesia and pain management. The society’s achievements have made it an important advocate for all patients who require anesthesia or relief from acute and chronic pain syndromes. Visit www.asahq.org for more information.

North American Spine Society

The North American Spine Society (NASS) is a multidisciplinary medical society that promotes spine research; educates spine care professionals; assists its members to provide high-quality, cost-effective care for patients with spinal disorders; and informs the public about spine health issues. The Spine Journal, the official journal of the NASS, is an international and multidisciplinary journal that publishes basic science and clinical articles. Visit www.spine.org for more information.

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Occipital Nerve Stimulation for Medically Intractable Migraine Headaches

Reviewed by Yinn Cher Ooi

Medically intractable headache is a challenging diagnosis to manage. Although this condition has previously been treatable only with cranially invasive or neurally destructive methods, occipital nerve stimulation (ONS) presents as a promising emerging alternative treatment modality for this chronic, debilitating condition.

The effects of an activated lead on subcutaneous tissue were first observed and described by Dr. Richard L. Weiner, who subsequently developed the technique of neurostimulation for occipital neuralgias. More than 17 years ago, Dr. Weiner was attempting to place a peripheral nerve stimulator by dissecting toward the target nerve in a morbidly obese patient when he encountered some difficulty locating the target nerve secondary to patient body habitus. Despite the patient reporting a constant positive tingling sensation with test stimulations via a needle introducer and a wire electrode, dissection toward the tip of the electrode consistently failed to reveal the target nerve. It was these observations that led Dr. Weiner to discover that placing a stimulating electrode into the subcutaneous tissue would cause stimulation of the nerve, innervating the alleged tissue. He would further refine this technique by placing an electrode in the subcutaneous tissue over the occipital area in patients with occipital neuralgia, which amazingly brought relief to their headaches. He later collaborated with Dr. Peter Goadsby, who performed a positron emission tomography study on eight of his patients who had a successful ONS therapy, which revealed that many of these patients actually had transformed migraines. The basis of these seminal works led to phase II and III studies by Boston Scientific and Medtronic.

In 2006, Boston Scientific launched a phase III randomized control trial known as the PRISM (Precision Implantable Stimulator for Migraine) study to evaluate the safety and effectiveness of an implantable device, more specifically occipital nerve stimulators for medically intractable migraine headaches. It was a multicenter, prospective, double-blind randomized trial involving 139 patients. The safety and efficacy of ONS was studied in comparison with sham transcranial stimulation, with subjects reporting migraine symptoms through an electronic diary. The study was recently completed with preliminary results showing an equal efficacy with reduction in migraine days as the primary end point. A subgroup analysis revealed several candidate predictors for a favorable response, including a positive response to percutaneous stimulation trial, not overusing headache medications, and not using opiates.

A similar study, known as the ONSTIM (Occipital Nerve Stimulation for the Treatment of Intractable Migraine) study, was conducted by Medtronic, Inc., and was the first prospective, randomized, blinded control study on ONS. It was a feasibility study of 110 patients to obtain preliminary safety and efficacy data on ONS for chronic migraines. Provisional results from the ONSTIM study suggest its effectiveness over sham stimulation. Results from both studies suggest that ONS may be a promising therapeutic modality for patients who have not had success in treating their chronic intractable migraines and continue to live with this chronic debilitating condition.

Although nerve stimulation for chronic pain has been used since its introduction in the 1960s, the mechanism in which neurostimulation results in pain relief is still not completely understood. Electrical stimulation of the occipital nerve appears to have both peripheral and central nervous system effects that modulate nociception. Despite the lack of complete understanding of the mechanism of pain relief by ONS, it has been shown to have many significant benefits over current standards for treatment of severe headache, including relieving patients of chronic opioid therapy and other pharmacologic treatments. It also presents as a low-risk procedure when compared to more invasive procedures such as hypothalamic deep brain stimulation. Successful ONS often leads to a decrease in the amount of medication needed by patients, reducing exposure to side effects and the risk of developing tolerance toward medications.

ONS represents the frontier for treatment of chronic severe headaches. Although it remains an uninsured and off-label treatment modality, reserved for patients with the most severe medically intractable headaches, this technique may be potentially life changing for those who suffer from this chronic, debilitating condition. Many other studies involving ONS are on the way and their results are highly anticipated, including a study by Advanced Neuromodulation Systems, a division of St. Jude Medical. The real challenge, however, remains in identifying a subgroup of patients suffering from chronic debilitating headaches that would best benefit from occipital nerve stimulation.

References
As the Neuromodulation Therapy Access Coalition (NTAC) embarks on our new fiscal year, the coalition continues to grow and positively impact neuromodulation therapy access. Here are some highlights of our work and strategic initiatives.

**Neuromodulation Leadership Development Program**

We are pleased to report that NTAC’s leadership has endorsed the launch of a new advocacy leadership development program, which will likely launch later this year. This program, modeled on a highly successful program designed by NTAC’s Executive Director during his tenure with the American Academy of Neurology, will provide in-depth training for 20–25 neuromodulation physicians on public/media relations, political advocacy, and implementing effective advocacy “action plans.”

The support of NANS leaders is greatly appreciated, and we look forward to working closely with NANS to nominate candidates for this important new program.

**Clinical Treatment Guidelines**

NTAC has provided unrestricted grant funding to support a major, multi-society effort—managed by the American Pain Foundation—to develop new clinical treatment guidelines for spinal cord stimulation (SCS) and intrathecal drug delivery systems (IDDS). Expert evidence panels led by Joshua Prager, MD, Paul Kreis, MD (SCS), and Todd Sitzman, MD (IDDS) are hard at work on this project, with the goal of issuing completed guidelines by mid to late summer.

The completed guidelines will offer physicians comprehensive clinical guidance on these essential treatments for chronic pain. For more information, contact Mike DeVito of the American Pain Foundation at mdevito@painfoundation.org.

**Washington State Health Technology Assessment Process**

The Washington State Health Technology Assessment (HTA) program is the first agency in the United States with the authority to render coverage or noncoverage determinations for technologies covered by all state-funded healthcare programs (ie, workers’ compensation, Medicaid, state employee health plans). As some may recall, this agency undertook a review of IDDS and, in 2008, determined not to cover this important therapy for patients suffering from noncancer pain. Currently, SCS is on the HTA’s docket with a decision expected in August of this year. NTAC is very engaged in this process and is working closely with local implanting physicians to ensure that the evidence is fully and fairly evaluated by the HTA’s clinical committee and that experts in the therapy are utilized in the committee’s decision making.

**New York Workers’ Compensation Guidelines**

Our coalition’s advocacy work in New York State has resulted in some great news. Specifically, the state Workers’ Compensation Board (WCB) made a critical change in their earlier draft treatment guideline language on SCS, changing their recommendation from “not recommended” to a qualified recommendation, allowing SCS for properly selected patients.

NTAC continues to work to realize the implementation of this decision in new rulemaking, which has been delayed due to shifting political landscape in the state. However, we are optimistic that this draft determination on SCS will be formalized by the state in the months to come.

For more information on NTAC or any of these initiatives, please contact Eric Hauth, NTAC Executive Director, at eric@neuromodulationaccess.org or 651/278-4238.

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### Call for Article Submissions

NANS is seeking submissions for upcoming issues. Suggested article topics include

- local and regional challenges
- new technology
- treatments, surgery, and therapy options for various disorders
- clinical trials
- ethical dilemmas and controversy in the field
- members in the news
- tips and strategies
- case studies
- informed consent
- determining risks and benefits
- conflicts of interest
- best practices in neuromodulation
- respecting the rights of patients and families.

Contributions should be 500–1,500 words in length. To submit an article or to suggest topics for upcoming issues, please contact Editor in Chief Ashwini Sharan at ashwini.sharan@jefferson.edu.
NANS Membership Benefits

Are you getting the most out of your NANS membership? Do you know how to describe the benefits of NANS membership to prospective members? Like the other pain societies reviewed, NANS serves a distinct group of clinicians who treat pain.

NANS is dedicated to being the premier organization representing neuromodulation. NANS endeavors to promote multidisciplinary collaboration among clinicians, scientists, engineers, and others to advance neuromodulation through education, research, innovation, and advocacy. Through these efforts NANS seeks to promote and advance the highest quality of patient care.

NANS offers many benefits to its members. For starters, NANS is a chapter of the International Neuromodulation Society (INS), which has neuromodulation society chapters located in 13 countries worldwide. As such, when an individual joins NANS, they also become a member of the INS. This membership entitles members to access a comprehensive database of all members from these other chapters for collaboration and networking.

Currently, NANS has more than 600 members representing a variety of medical specialties including anesthesiology, basic science, cardiology, gastroenterology, internal medicine, neurology, neurological surgery, orthopedic surgery, physiatry, and psychiatry. In addition, members receive quarterly issues of the society journal, *Neuromodulation*, and biannual issues of the *NANS Newsletter* that focus on the latest information concerning neuromodulation, including stimulation, infusion, radiofrequency systems, and members in the news. NANS members also receive discounts for attendance at any annual conference conducted by one of the related INS chapters. In addition, the Society provides resources to members on issues of reimbursement, access to care, and practice governance. NANS is also increasing its involvement in advocacy efforts at both the state and national level.

Finally, the NANS Web site is undergoing a redesign that will enhance its features and allow the site to serve as a greater resource for members. Visit www.neuromodulation.org often for updates.

Overview of Pain Societies  
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American Pain Society
The American Pain Society (APS) is a multidisciplinary community that comprises a diverse group of scientists, clinicians, and other professionals to increase the knowledge of pain and transform public policy and clinical practice to reduce pain-related patient suffering. Their contributions in psychological intervention and medical management have significantly advanced the field of chronic pain treatment. Visit www.ampainsoc.org for more information.

There are many pain management and related societies that offer a multitude of different options and perspectives on approaching acute and chronic pain issues. Although a merger of these organizations is unlikely, hopefully the future will bring a continued drive toward working collaboratively in research, education, and clinical care. Organizations such as NTAC are making an effort to bring multiple societies together to help provide a more comprehensive approach to treating chronic pain disorders. Future advancement of the diagnosis and treatment in pain management will undoubtedly rely on the cooperation of these key societies.

Call for Member News

If you or a colleague has recently been honored with an award or other recognition in the field of neuromodulation, the NANS Newsletter would be happy to feature these accomplishments. Please submit a description of approximately 400 words detailing the recognition received and biographical information on the recipient, including professional and educational background, to Editor in Chief Ashwini Sharan at ashwini.sharan@jefferson.edu.
Members in the News

Salim Hayek, MD PhD

Eileen Rose Manabat, MD

Without a doubt, Salim Hayek, MD PhD, is making a positive impact on the rapidly evolving field of pain medicine. He has emerged as one of the leading experts in the field, as evidenced by his extensive clinical and research activities and engagements in national and international forums focusing on advancing knowledge in mechanisms, management, and evidence-based treatment algorithms of chronic and neuropathic pain.

Successful treatment of neuropathic pain continues to be a significant challenge for specialists. Dr. Hayek has dedicated his career to the advancement of mechanistic-based interventional pain medicine. His contributions range from the basic sciences to his clinical work in the operating room to innovative techniques and therapeutic methods in treating patients suffering from chronic back pain, complex regional pain syndrome, visceral pain, and occipital neuralgia. He is nationally and internationally renowned as a pain specialist with interests in various interventional modalities and is frequently invited as an instructor, speaker, presenter, moderator, and course director of workshops at revered organizational meetings. Dr. Hayek is a reviewer for many prestigious peer reviewed journals in anesthesiology, pain, and neuromodulation. He has been a part of various committees on guidelines for pharmacological and interventional pain medicine treatments for the American Society of Interventional Pain Physicians.

Dr. Hayek received his medical degree from the American University of Beirut. He then completed his anesthesiology training at University Hospitals of Cleveland. Subsequently, he graduated best in his class with a PhD in Cellular Physiology at Case Western Reserve University. After his training in pain medicine at the Cleveland Clinic Foundation, he excelled through not only his clinical work but also his drive for novel treatments, as recognized by the 2004 Innovator Award for “Painless Chest Tube” from the Cleveland Clinic Foundation. In 2006, Dr. Hayek became the chief of the division of pain medicine and associate professor of anesthesiology at University Hospitals of Cleveland and Case Western Reserve University. Under his leadership and direction, the division has evolved into a comprehensive multidisciplinary pain management program. Of significance, he has initiated interdisciplinary clinics for two challenging clinical entities, complex regional pain syndrome and chronic pelvic pain. Notable faculty members at University Hospitals Case Medical Center from the disciplines of neurology, psychiatry, psychology, and OB/GYN/Urology participate actively and concomitantly in these clinics.

Although Dr. Hayek’s contributions are multifaceted, his primary interest is advancing the borders of knowledge in the use of neuromodulatory techniques including both intrathecal therapies and electrical neuromodulation, which is reflected in his research and publication portfolio. He has authored several papers, presentations, and posters on intrathecal therapies, peripheral nerve stimulation, and spinal cord stimulation. He has recently been appointed as treasurer for the special interest group of Pain and the Sympathetic Nervous System of the IASP and has previously served on the committee for pain medicine of the American Society of Anesthesiologists. Aside from national and regional service involvements, Dr. Hayek is a consultant and sits on the advisory board of a number of industry-related companies. He is also principal investigator of several past and ongoing clinical research projects. In addition to these, he is section editor of a forthcoming book, Neurostimulation for the Treatment of Chronic Pain. It’s no surprise, then, that he was elected this year to the Board of Directors of NANS as a director-at-large.

Dr. Hayek’s love for teaching manifests itself in the many educational activities he is involved with. He moderates board review sessions, conducts formal lectures, instructs multiple cadaver workshops, and mentors interventional pain medicine fellows and residents at University Hospitals. His passion for work can only be surpassed by his devotion to his family. A true family man, Dr. Hayek attributes all his success to his loving wife and three wonderful children.

What’s Missing?

Is there anything you wish was included in the NANS Newsletter? In an effort to continue to make this publication relevant to our members and the field overall, we are seeking your input about what you would like to see added to these issues.

Please consider submitting topics regarding research, advocacy, legislation, or any area related to the field of neuromodulation that you believe should be visited and discussed in the biannual newsletter. In addition, please provide feedback on what you believe is effective and ineffective in the current format or any other suggestions about what can make this newsletter more valuable and useful for you and your peers.

Contact Assistant Editor Katie Macaluso at kmacaluso@connect2amc.com. We value your contributions to the newsletter.
NANS, under the leadership of Dr. Joshua Prager, is also working with the Neuromodulation Therapy Access Coalition (NTAC) to address private and public health policies that inappropriately impede patient access to neuromodulation therapies. In March 2010, I attended the Neurotechnology Industry Organization (NIO) Public Policy Tour in Washington, DC, on behalf of NANS. NIO Executive Director Zach Lynch and the NIO arranged for meetings with select members of the House of Representatives. The two goals for this tour were to encourage the members to cosponsor the National Neurotechnology Initiative Act and to request hearings on the current status and effectiveness of neuroscience research and development. The Initiative Act aims “to eliminate wasteful duplication of research across multiple Federal agencies and to significantly impact the enormous economic burden created by brain related illnesses.” The team of 13 NIO members met with more than 30 representatives to champion this legislation. Overall, the support for the legislation and hearings appeared positive.

In summary, the board is working diligently to advance the field of neuromodulation and lead NANS through these very challenging times full of opportunity. None of this could be done, however, without the outstanding leadership of President Elect Ali Rezai, Vice President Dean Willis, Immediate Past President Jamie Henderson, Treasurer David Kloth, Secretary Ashwini Sharan, and Senior Advisor of the Board Joshua Prager. I thank each of you for your willingness to work together as we pursue a common vision to make NANS a premier neuromodulation organization. Your energy and enthusiasm will allow the Society to achieve extraordinary results.

Robert Foreman, PhD
NANS President

Meetings of Interest

NANS members are encouraged to attend these meetings of interest presented by other pain, spine, and neurology associations. Please see the following Web sites for more information.

**June**
- 4th Annual Canadian Neuromodulation Society Meeting
  - Canadian Neuromodulation Society
  - June 4–6
  - Quebec City, QC, Canada
  - [www.azimutsge.com/neuromodulation](http://www.azimutsge.com/neuromodulation)

- ASSFN Biennial Meeting 2010
  - American Society for Stereotactic and Functional Neurosurgery
  - June 13–16
  - New York, NY
  - [www.assfn.org](http://www.assfn.org)

- ASIPP 12th Annual Meeting
  - American Society of Interventional Pain Physicians
  - June 25–30
  - Washington, DC
  - [www.asipp.org](http://www.asipp.org)

**July**
- ISIS 18th Annual Scientific Meeting
  - International Spine Intervention Society
  - July 14–17
  - Maui, HI
  - [www.spinalinjection.com](http://www.spinalinjection.com)

**August**
- 13th World Congress on Pain
  - International Association for the Study of Pain
  - August 29–September 2
  - Montreal, QC, Canada
  - [www.iasp-pain.org](http://www.iasp-pain.org)

**September**
- 15th Annual IFESS Conference
  - International Functional Electrical Stimulation Society
  - September 8–12
  - Vienna, Austria
  - [http://conference.ifess.org](http://conference.ifess.org)

- 19th Congress of the ESSFN
  - European Society for Stereotactic and Functional Neurosurgery
  - September 22–25
  - Athens, Greece
  - [www.essfn2010.org](http://www.essfn2010.org)

**October**
- NSUKI Annual Scientific Meeting
  - Neuromodulation Society of the United Kingdom and Ireland
  - October 4–5
  - Leeds, United Kingdom
  - [www.nsukiasm.org](http://www.nsukiasm.org)

- ASA Annual Meeting
  - American Society of Anesthesiologists
  - October 16–20
  - San Diego, CA
  - [www.asahq.org](http://www.asahq.org)

- NASS 25th Annual Meeting
  - North American Spine Society
  - October 5–9
  - Orlando, FL
  - [www.spine.org](http://www.spine.org)
SAVE THE DATE!

2010 NANS Annual Meeting
North American Neuromodulation Society
14th Annual Meeting
December 2-5, 2010
at Encore, Las Vegas