



Neuromodulation News: Summer 2012

A Message from the President

I am writing to you after previewing the location of our 11th World Congress on Neuromodulation, Technology Transforming Chronic Illness Management, which will take place 8 – 13 June, 2013 in Berlin, where the INS Board of Directors met in July.

There were many positive comments about the convenient conference and lodging location and easily navigated, pleasantly inviting city. The society appears ready for a successful meeting next June that will address many developments in our growing field. Careful theming of sessions with in depth breakout sessions during the congress will help present the most comprehensive breadth of all fields of neuromodulation.

The INS Full Board discussed several features that add value to INS membership. Our Public Education strategy has yielded impressive results in the past six months with expanded patient education materials available to members to personalize, and an upcoming series of moderated online discussions through our Expert Panel. Progressive upgrading of information has resulted in rising website traffic. More people are getting to know us and our field.

In addition, *Neuromodulation: Technology at the Neural Interface*, increased frequency from four to six times a year in 2011, and will expand to eight issues annually in 2014. Now in its 15th volume, the journal has just been MEDLINE indexed all the way back to the first issue in 1998.

Despite the increased number of issues, content remains strong and is continually strengthening. The just-released impact factor climbed from 1.057 for 2010 to 1.186 for 2011, reflecting the quality of papers accepted for publication. This growth in Impact Factor will continue not only because of the increasing quality of submission and critical appraisal by the new editorial board but also due to the back indexing of all previous editions.

With the journal's expansion, it has become apparent its editorial support must also expand. The board agreed to extend the journal's editorial assistant position from halftime to fulltime. Meanwhile, the INS Executive Office will need to relocate from its current space in the medical offices of journal founder and past president Elliot Krames, MD, when he retires in the spring of 2013. The INS enjoyed highly competitive rental terms. Every effort is being made to find competitively priced premises for rental and continuing to combine wherever possible with a virtual office.

To address those needs, the INS board voted to raise dues at the beginning of September to \$150 (with the journal portion increasing from \$85 to \$100 per year, and the executive office portion rising from \$40 to \$50 per year).

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Our strategy is to plan to increase now and to not increase dues again for some time to come. In fact, INS dues have not risen for more than 10 years. Society income is made up of membership dues, journal royalties and any surplus from our biennial meeting. We have also benefited from educational grants from key manufacturers. This latter source of income has been vital to our survival, particularly as we only hold a congress every other year, and having increased our presence and impact. The Full Board hopes for the INS to become independent of such grants in the future.

Our reduced INS meeting rate is a popular benefit for members. As a newly developed related benefit, the INS has reached an agreement to provide reciprocal meeting fee discounts with the American Association of Stereotactic and Functional Neurosurgeons. We also are looking for other organizational partnerships.

Speaking of meetings, I hope many of you will prepare now to submit abstracts for the 2013 World Congress (they are due 14 January 2013), that many more will plan to attend our congress in June in Berlin. The INS 2013 content planning has allowed for more high quality oral presentations of abstracts. This is your meeting and more of you need to be able to express your science and not rely upon the invited programme. This is a fine balance to tread, so please, submit your abstracts early.

Finally, I want to encourage members far and wide to actively participate in the upcoming Expert Panel discussion forums, hosted on our website at www.neuromodulation.com.

With best wishes for a fruitful end of summer,

Dr Simon Thomson, MBBS, FFPMRCA
President of INS

Your Participation is Requested in an Online, Members-Only Expert Panel Discussion on Peripheral Nerve Field Stimulation and More, Aug. 29 - Sept. 12, 2012

The International Neuromodulation Society is pleased to announce the next round of online discussions and expert panel consultation on selected neuromodulation topics.

Since this concept was launched following INS 2011 conference in London, it received significant attention and praise from those who took part in our early interactive discussions. The next online discussion will take place from Aug. 29 until Sept. 12 of 2012; [it may be entered through INS website](#) at www.neuromodulation.com and is accessible for all INS members (to enter please login and use members-only section of the website, the link above shows screen shots of the process).

This unique benefit of INS membership gives our members an opportunity to get expert opinion from world-famous neuromodulation practitioners. At this time, INS is happy to introduce [Dr. Giancarlo Barolat](#), one of the founders and past president of INS, as discussion moderator.

The forum-like format combines individual and group discussions on various practical aspects of two specific topics – “Peripheral Nerve Field Stimulation” and “Avoiding Lead Migration in Spinal Cord Stimulation.” We

look forward to your participation and hope that you find this INS initiative useful!

Dr. Konstantin Slavin
Expert Panel lead

INS to Collaborate with the American Society for Stereotactic and Functional Neurosurgery

The INS is eager to collaborate with organizations that share similar goals. One of our most recent developments of this type is an agreement that provides our members access to meetings of the American Society for Stereotactic and Functional Neurosurgeons (ASSFN) at the same discounted rate that their members pay. At the same time, the INS will provide members of the ASSFN the INS member-discount rate for our 11th World Congress in Berlin, June 8-13, 2013.

"It is hoped that this reciprocal agreement will encourage other potential avenues of our collaboration in the future," noted Dr. Konstantin Slavin, who serves as an INS director-at-large and president of the ASSFN, "such as joint educational initiatives, conferences, congresses and symposia, as well as research and professional outreach programs."

Planning for Presentations at the INS 11th World Congress

The INS 11th World Congress, Technology Transforming Chronic Illness Management, begins June 8 -9, 2013 with two preconference sessions, and follows June 10-13 with comprehensive invited talks, oral presentations, breakout sessions and poster presentations.

INS President, Dr. Simon Thomson, is chairing the entire INS Congress in Berlin and is guiding and participating heavily in the development of the Pain program. The INS President-Elect, Dr. Timothy Deer, INS Secretary, Dr. Marc Russo, and North American chapter President, Dr. Ali Rezai, have graciously agreed to chair the 11th Scientific Program on Pain and Brain respectively.

Since there were 250 abstract submissions at the last conference in 2011 in London, planners for the coming Berlin congress are allotting additional time for oral abstract presentations. Remember, all accepted abstracts will be published in the INS journal *Neuromodulation: Technology at the Neural Interface*, and indexed in MEDLINE. **Abstract submissions are due January 14, 2013.** (See <http://www.neuromodulation.com/ins-congress>.)

Meanwhile, the first preconference session on June 8, 2013 will be on, "Solving Problems at the Neural Interface," and is being organized by past-president and journal founder Elliot Krames, MD, and Dominique Durand, Ph.D. The second preconference session on June 9, 2013, "Innovations in Neuromodulation," is being organized by Dr. Krames and INS President Simon Thomson, MD. **If you know of new companies or startups that may wish to participate in our innovations session, please contact Tia Sofatzis at inscongress@neuromodulation.com.**

The main congress takes place June 10-13, 2013, and will thoroughly address neuromodulation for pain, and include concurrent daily breakout sessions covering headache, functional electrical stimulation for neuro-rehabilitation, as well as neuromodulation for brain, neurocardiovascular, gastroenterological, genitourinary, and colorectal disorders.

All 2013 congress activities will be conveniently located at the Hotel Estrel in Berlin, Germany, along the Spree River; Berlin's main sites are an easy train or taxi ride away. We are very pleased to be collaborating with Dr. Werner Braunsdorf, President of German chapter, der Gesellschaft für Neuromodulation (DGNM), and his colleagues in the local chapter --stay tuned for information about the DGNM's ancillary activities.

The INS 12th World Congress is Scheduled for Montreal, Quebec in 2015

Early plans are being laid for the 12th World Congress in 2015, which will take place in Montreal, Canada. The INS has secured a meeting location at the Fairmont Queen Elizabeth Hotel in central Montreal, which can accommodate more than 1,000 delegates and has more than 50,000 square feet of meeting space. The hotel is easily accessible with a train station and underground complex of shops beneath, while the city itself has many direct airline routes to major cities in the U.S. and Europe. Please watch for more information as the time approaches.

Our Canadian chapter has enthusiastically offered to plan ancillary activities prior to the congress.

Sacral Neuromodulation in Pelvic Floor Disorders

Background

Electrical neuromodulation of the lower urinary tract began over a century ago, but it was the pioneering work of Tanagho and Schmidt in the late 1980s that demonstrated electrical activation of efferent nerve fibres to the striated urethral sphincter inhibited detrusor contractions. Stimulation of the third sacral root (S3) has been shown to be effective in stimulating the urethral sphincter. Positive results from a large clinical trial of chronic stimulation of the S3 nerve led to approval by the Food and Drug Administration in October 1997. Over 100,000 neuromodulators have so far been implanted for approved urinary and bowel indications, paradoxically including both overactive bladder/bowel symptoms and functional non-neurogenic urinary retention or chronic urinary retention (CUR), voiding dysfunction secondary to urethral sphincter overactivity (USO) and evacuation bowel dysfunction. Indeed, sacral neuromodulation (SNM) has been shown to be a most effective therapy in patients with all these conditions. How SNM works remains to be clearly determined, but it is the work on women with CUR and USO that has shed some light on the matter. It is thought to restore normal micturition habits in these women, by resetting brainstem function [1]. SNM was first described as a treatment for CUR in the mid-1990s. The first stage of SNM was an initial test procedure, known as a percutaneous nerve evaluation test (PNE) which if found to be positive and restore voiding ability, was followed by the implantation of a permanent sacral electrode. Success rates for women with retention for this method were reported at 40 – 50% for the PNE, with approximately 60%

voiding to completion with formal implantation [2, 3]. At our institution our experience has been comparable, with two thirds of patients continuing to void without need for catheterization at a follow up of 5 years. However, we no longer use PNE as an evaluation test, as our results with the staged procedure are superior.

Mode of Action

Various theories abound regarding its mode of action. Two components have been identified (i) activation of efferent nerve fibres to the urethral sphincter with negative feedback to the bladder (pro-continenence reflex) and (ii) activation of sacral spinal afferents resulting in inhibitory reflex efferent activity to the bladder. Reflex pathways at the spinal cord and supra spinal levels are thought to be modulated to achieve these effects [4, 5]. The prolonged beneficial effects of the stimulator, after it is switched off, support this observation. Further support for this hypothesis was provided by a functional MRI study of the brain, where brain responses to bladder filling in USO patients were abnormal [6]. The overactive urethral sphincter was thought to generate an abnormally strong inhibitory afferent signal, thus effectively blocking bladder afferent activity at the sacral level and deactivating the higher centres. Hence, there would be a loss of bladder sensation and voiding ability. SNM is postulated to interfere with the inhibitory afferent activity arising from the urinary sphincter and thus restoring the sensation of bladder filling and the ability to void [7].

Overactive Bladder

Sacral neuromodulation is a well-recognised therapy for overactive bladder (OAB); a condition typified by urinary frequency, urgency and incontinence. It is recommended by the National Institute for Clinical Excellence (NICE) in the United Kingdom. SNM studies have shown promising results in improvement in clinical symptoms in 64-88% of patients with OAB [8, 9]. It is believed that SNM controls bladder muscle overactivity by inhibiting sacral nerve activation. Thus, it restores bladder function to normal and reduces urgency and frequency of micturition, both of which are manifestly troublesome symptoms in OAB, as shown in QoL studies. In most cases, standard treatment is associated with deleterious adverse effects and thus many patients become non-compliant. SNM is known not only to improve lower urinary tract symptoms and QoL scores [10], but it appears to be better tolerated in the long term. Unsurprisingly, SNM is now also used in chronic bowel and pelvic floor dysfunction.

Bowel Dysfunction

There is evidence that SNM also works well in patients with bowel dysfunction. SNM can effectively reduce irregular bowel movements in patients with faecal incontinence (FI) by 59% [11] and conversely also improve evacuatory dysfunction [12]. Although the literature shows promising results in ameliorating bowel symptoms after SNM, the data is limited currently. It is even more inadequate in patients with double incontinence and indeed very few studies have addressed its effect on them.

Sexual Dysfunction

The impact of SNM on sexual function showed a mean improvement in the total Female Sexual Function Index (FSFI) score in women being implanted for OAB [13]. It correlated well with improvement in bladder symptoms. In contrast, other studies could not find any correlation between FSFI scores and urinary symptom improvement. Hence the impact of the SNM on

female sexual function is not fully understood, but nonetheless very important to determine.

Conclusion

With the advent of other peripheral neuromodulation techniques, and an increasing scope for the application of this technology, the role of SNM in the pelvic floor surgeon's armamentarium is becoming increasingly important.

By Sohier Elneil, B.Sc (Hons), MBChB, PhD (Cantab.), MRCOG,
Consultant in Urogynaecology and Uro-neurology
National Hospital for Neurology and Neurosurgery, Queen Square, London,
England

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Journal Presents Ischemic Disorder Virtual Issue

Neuromodulation: Technology at the Neural Interface has begun presenting a series of online virtual issues focused on specific topics. The first special online issue features seven full-text articles from 2009 - 2011 about [neuromodulation in ischemic disorders](#), of special interest to cardiologists, vascular surgeons, or referring physicians. Let your colleagues in these fields know!

Especially for Members: Customize Patient Fact Sheets - See Link to Spring 2012 Newsletter

The INS now has **fact sheets written by INS members** available in our members-only section that can be customized with contact information. One copy was pictured in the [Spring 2012 issue](#) of the INS newsletter, which also covered news about chapters in development in Poland and Russia, the new Argentinean Chapter's website, and a review of spinal cord stimulation in neuropathic pain by INS President Simon Thomson, MD.

While members of the public can see INS fact sheets at <http://www.neuromodulation.com/for-patients>, versions available for customizing with member contact information are listed below, and can be accessed by logging into the members-only section.

INS members who are interested in contributing patient education fact sheets or web content, or assisting with translation, may contact [Nancy Garcia](#), the INS public education and website manager, at the [INS Executive Office](#).

Contributions to date include:

- [Brain-Computer Interface in Movement Disorders](#) by John P. Donoghue, PhD
- [Complex Regional Pain Syndrome](#) by Marc Russo, MBBS, DA(UK)FANZCA, FFPMFANZCA
- [Deep Brain Stimulation](#) by Nancy Garcia, reviewed by Hong Yu, MD
- [Deep Brain Stimulation Surgery](#) by Nancy Garcia, reviewed by Hong Yu, MD
- [Gastric Disorders](#) by Jiande Chen, PhD
- [Medically Refractory Angina](#) by Christophe Perruchoud, MD, and Mike JL DeJongste, MD, PhD
- [Medically Refractory Headache](#) by Erich O. Richter, MD, Kenneth M. Aló, MD, and Marina V. Abramova, MD
- [Migraine](#) by Nancy Garcia; reviewed by Kenneth M. Aló, MD

- [Neuropathic Pain](#) by Simon Thomson, MBBS, FRCA, FIPP, FFPMRCA
- [Parkinson's Disease](#) by Hong Yu, MD and Konstantin V. Slavin, MD
- [Spinal Cord Stimulation](#) by Nancy Garcia, reviewed by Simon Thomson, MBBS, FRCA, FIPP
- [Urologic Disorders](#) by Magdy Hassouna, MD, PhD, FRCSC

European Brain Council to Continue Plans for European Age of the Brain in 2014, and Expand to North America in 2015 and Asia-Pacific in 2016

Due to the economic crisis, the European Brain Council (EBC) has decided to withdraw from requesting a formal designation by the European Commission for the European Year of the Brain in 2014.

However, since the planning has been under way for some time, the council will continue by seeking pledges of support from individuals and organizations (see an explanatory video and pledge form at www.pledge.yearofthebrain.org - no donation is required to pledge; the information may be used anonymously to indicate levels of support).

Meanwhile, Commissioner Máire Geoghegan-Quinn and the commission's Directorate General for Research and Innovation plan to hold a Month of the Brain in May 2013, and have involved the EBC in the preparation – which presents an opportunity for the INS to also become involved. Please contact us at INS@neuromodulation with any thoughts or ideas for participation.

Looking ahead, the more pledges of support the EBC can obtain that endorse its plans for 2014, the stronger their efforts to raise funds and generate political and public support will be. Beyond 2014, the initiative is now being expanded to include a North America Year of the Brain in 2015 and Asia-Pacific Year of the Brain in 2016. We will have further opportunities to support this worthwhile initiative in 2015 at our Montreal congress.

Key aims of the Age of the Brain are to:

- Create initiatives that will change behaviors and lead to measurable improvements in health
- Increase funding for brain research through framework programs and in member states
- Inform citizens about new, exciting facts about the brain, which may include bringing a road show to cities, towns and villages
- Draw attention to health inequalities in brain diseases
- Influence policy decisions over the next 5 – 10 years

Please feel free to demonstrate your support and share the [Age of the Brain](#) information with others.

News Brief Subscription Option, and Call for News Tips

The popular daily news briefs on the society's home page, www.neuromodulation.com, are also available now as news feeds. For that option, either visit the [INS newsroom](#) link on the home page horizontal menu bar, or check the news feed page, linked from the newsroom tab as a pull-down menu item, <http://www.neuromodulation.com/news-feed>. You may subscribe via a newsreader to receive updates about emerging therapies and diagnostic tools, industry news, or government and regulatory issues.

Meanwhile, don't forget to let the INS Executive Office know, at INS@neuromodulation.com, if you have been featured in the news, are recruiting patients or a clinical trial, or have another newsworthy development. Your update could be a welcome addition to our news stream for others to read about, to help raise and expand awareness of our field.

INS Gains a Public Profile via LinkedIn

The business networking site LinkedIn has increasingly begun to host company profiles. You may find the INS LinkedIn profile at: <http://www.linkedin.com/company/international-neuromodulation-society>. There, members and the public alike may see occasional updates about our member activities, news coverage, virtual journal special issues and more.

If you like what you see and want to become involved in the INS...

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