

# Stereotactic and Functional NEUROSURGERY



Spring 2003

## AANS/CNS Section on Stereotactic and Functional Neurosurgery and American Society for Stereotactic and Functional Neurosurgery

Editor: Philip A. Starr, MD

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It has been a great honor to serve as your American Society for Stereotactic and Functional Neurosurgery president. The organization has gone through an intense reevaluation of its mission and programs. Your board has worked hard to improve

membership communication, publications, meetings, awards, and scientific programs.

We are planning an exciting meeting May 18-21 in New York at the Plaza Hotel. Andres Lozano, MD, and his scientific program committee have come up with a superb educational group of topics and speakers. Abstract submission has been excellent. Patrick Kelly, MD, has ensured that the local arrangements will be the best ever. I had the opportunity to do a site visit at the hotel several weeks ago. The meeting rooms, restaurants, and hotel are vintage New York and of the highest quality. Although New York can be an expensive location for a meeting, we have negotiated a very favorable room rate for such a grand meeting venue, and I encourage you to take full advantage of this opportunity. New York in May should be a wonderful place to bring your spouse for theater, shopping, museums, art, and of course, neurosurgery.

David Roberts, MD, the new editor of *Stereotactic and Functional Neurosurgery*, has worked to streamline manuscript review and to help with more timely publication. We hope that the journal will be broader in scope, more efficient, and continue its international flavor. The new journal format will be implemented in 2003. The ASSFN will recognize Philip L. Gildenberg, MD, and our longtime partner in publishing, Thomas Karger, as recipients of the society's Distinguished Service Award when we meet in New York.

Under the leadership of Michael Schulner, MD, the ASSFN Web site has remained current and the best way for the society to communicate with its members. Online abstract submission proceeded

smoothly, and meeting registration can be performed there as well ([www.assfn.org](http://www.assfn.org)).

G. Rees Cosgrove, MD, the ASSFN vice president, has been working with the office of the American Association of Neurological Surgeons (AANS) regarding a proposal for new society administration. As you know, society dues are collected by our publisher, Karger (based in Switzerland), which manages the membership data. We believe that the organization would be better served with administrative assistance closer to home. The question is cost. We are in discussion to see if our needs can be met without incurring extra expenses. The society has no plans for a dues increase.

The ASSFN has been asked to comment on the reimbursement and the present status of deep brain stimulation for movement disorders. We have asked the Centers for Medicare and Medicaid Services to be efficient in its evaluation of data so that a safe and appropriate decision can be made on behalf of patients and neurosurgeons. At the same time we have emphasized the degree of work and effort performed by the neurosurgeon in placing one or two deep brain stimulator systems and that reimbursement should be appropriate, particularly given the fact that many hours are spent in the operating room inserting these systems. Ali Rezai, MD, Jaime Henderson, MD, and Michael Dogali, MD, have worked hard along these lines. Dr. Rezai, with our support and with the support of the Congress of Neurological Surgeons, is beginning an initiative to write guidelines for deep brain stimulation. This document will be created together with neurologists from the movement disorder community.

Douglas Kondziolka, MD, MSc, FRCSC, FACS  
Professor and Vice-Chairman  
Department of Neurological Surgery  
Suite B-400, UPMC  
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Pittsburgh, PA USA 15213

# Stereotactic and Functional Neurosurgery at the 2003 AANS Annual Meeting



The 71st Annual Meeting of the American Association of Neurological Surgeons, themed "Cultural Connections: Bringing Global Perspective to Neurosurgery," will be held April 26–May 1, 2003, at the San Diego Convention Center. For the most up-to-date program listings and registration information, check online at [www.neurosurgery.org/aans/meetings/2003](http://www.neurosurgery.org/aans/meetings/2003).

## Monday, April 28, 2003

### Scientific Session III

2:45–5:15 PM

MODERATORS: Steven L. Giannotta and L.N. Hopkins

2:45–3:00 PM

#### 724. Selective Peripheral Denervation for the Treatment of Intractable Spasmodic Torticollis: The Mayo Clinic Experience With 168 Patients.

Aaron A. Cohen-Gadol, Eric J. Ahlskog, Joseph I. Matsumoto, Mary A. Swenson, Robyn L. McClelland, Dudley H. Davis.

DISCUSSANT: Robert I. Grossman.

3:00–3:15 PM

#### 725. Primary Dystonia Is More Responsive Than Secondary Dystonia to Pallidal Interventions.

Hazem A. Eltahawy, Nir Giladi, Jean Saint-Cyr, Anthony Lang, Andres Lozano.

DISCUSSANT: Andres M. Lozano.

3:15–3:30 PM

#### 726. Gamma Knife Radiosurgery for Treatment of Movement Disorders: 11 Years' Experience.

Ronald F. Young, Dean B. Jacques, Brian Copcutt, Francisco J. Li.

DISCUSSANT: Stephane Palfi.

3:30–4:00 PM

Invited Lecture: Neurostimulation Frontiers.

SPEAKER: Alim L. Benabid.

4:00–4:15 PM

#### 727. Surgery for Parkinson's Disease in the United States, 1996-2000: Practice Patterns, Short-Term Outcomes and Hospital Charges in a Nationwide Sample.

Emad N. Eskandar, Leslie A. Shinobu, G. Rees Cosgrove, Fred G. Barker.

DISCUSSANT: Richard Deren Penn.

4:15–4:30 PM

#### 728. A Prospective Randomized Surgical Placebo Controlled Trial of Human Fetal Tissue Transplantation for the Treatment of Parkinson's Disease.

Thomas B. Freeman, Christopher G. Goetz, Jeffrey H. Kordower, James H. Godbold, Jon Stoessl, Warren Olanow.

DISCUSSANT: Robert E. Breeze.

4:30–4:45 PM

#### 729. Trigeminal Neuralgia in Patients With Multiple Sclerosis: Is There a Role for Microvascular Decompression?

Ajay Sinha, Patricia Littlechild, Mohsen Javadpour, Paul Eldridge, TRK Varma.

DISCUSSANT: John M. Tew Jr.

4:45–5:00 PM

#### 730. Evaluation of the CyberKnife Radiation Delivery System for Frameless Stereotactic Radiosurgery for Spinal Lesions: A Series of 50 Patients.

Peter C. Gerszten, Steven A. Burton, Cihat Ozhasoglu, William C. Welch, Shalom Kalnicki.

DISCUSSANT: Jack P. Rock.

5:00–5:15 PM

#### 731. Deep Brain Stimulation for Intractable Chronic Cluster Headache: Results, Neuroimaging and Neurovegetative Assessment.

Broggi Giovanni, Franzini Angelo, Bussone Gennaro, Ferroli Paolo, Leone Massimo, Dones Ivano, Marras Carlo.

DISCUSSANT: Jeffrey A. Brown.

## Wednesday, April 30, 2003

### AANS/CNS Section on Stereotactic & Functional Neurosurgery

2:45–5:30 PM

#### Special Symposium—Transplantation: Lessons Learned and Future Directions

2:45–3:30 PM

MODERATORS: Andres M. Lozano, Ali R. Rezai.

SPEAKERS: Thomas B. Freeman, Douglas S. Kondziolka, Roy A.E. Bakay.

### ASSFN Meeting

Andres Lozano, MD



The Quadrennial Meeting of the American Society for Stereotactic and Functional Neurosurgery will be an exciting event in the rapidly advancing field of stereotactic and functional neurosurgery. The meeting will take place May 18-21, 2003, at the illustrious Plaza Hotel in New York City. The meeting will feature workshops, keynote lectures and open papers on the topics of technology in stereotactic surgery, restorative surgery, stereotactic tumor surgery, stereotactic radiosurgery, movement disorder surgery, pain, and the newly reemerging field of surgery for psychiatric disorders.

The meeting, planned under the auspices of ASSFN President Douglas Kondziolka, MD, will be a place where the experts and those new to the field can present their views and where discussions of controversies and of coming therapies and technologies will be encouraged. The theme of the scientific program is "Peering Into the Crystal Ball." It will emphasize what is in the pipeline and where we will be in stereotactic and functional neurosurgery in the near future.

The ASSFN meeting will uphold the saying that "Nothing unimportant ever happens at the Plaza." Meeting registration can be completed online at [www.assfn.org](http://www.assfn.org).

**Philip C. Gildenberg Resident Award.**

RECIPIENT: *Nikunj K. Patel.*

3:30–3:45 PM

# 4th Arctic Stereotactic Meeting

**Alain de Lotbinière, MD**

3:45–4:00 PM

**847. Continuous Intraputaminial Infusion of GDNF (Glial Derived Neurotrophic Factor) for the Treatment of Parkinson's Disease.**

*Nikunj K. Patel, Peter Heywood, Gary R. Hotton, David J. Brooks, Clive N. Svendsen, Karen O'Sullivan, Steven S. Gill.*

4:00–4:15 PM

**848. Analysis of Infections in Implanted Deep Brain Stimulation Hardware.**

*Joshua M. Rosenow, Monica Binder, Steven M Gordon, Wendy S. Armstrong, Jaimie M. Henderson, Ali R. Rezai, Nicholas Boulis.*

4:15–4:30 PM

**849. Surgical Disconnection of the Epileptogenic Zone in Intractable Pharmacoresistent Epilepsy.**

*Alim L. Benabid, Abdelhalim Morsli, Stephan Chabardes, Adnan Koudsié, Ahmad Ashraf, Dominique Hoffmann, Lorella Minotti, Jean François LeBas, Basile Pasquier, Philippe Kahane.*

4:30–4:45 PM

**850. Neuronal Transplantation for Motor Stroke From Basal Ganglia Infarction: Results From a Phase II Clinical Trial.**

*Douglas Kondziolka, Gary K Steinberg, Lawrence Wechsler, Carolyn Meltzer, Elaine Elder, James Gebel, Sharon DeCesare, Ross Zafonte, David Tong, Michael Marks.*

4:45–5:00 PM

**851. The Toronto Western Experience in Neurosurgery for OCD.**

*Erich O. Richter, Andres M. Lozano, Clement Hamani.*

5:00–5:15 PM

**852. Deep Brain Stimulation in Dystonia.**

*Broggi Giovanni, Franzini Angelo, Nardocci Nardo, Marras Carlo, Zorzi Giovanna, Ferroli Paolo, Dones Ivano, Sinisi Marco, Maccagnano Elio.*

5:15–5:30 PM

**853. Gamma Knife Radiosurgery for Treatment of Large Lesions.**

*Ronald F. Young, Rufus Mark, Dean B. Jacques, Brian Copcutt, Francisco J. Li.*

**Business Meeting**

5:30–6:30 PM

Following a highly successful 3rd Arctic Stereotactic Meeting in Svalbard, Norway, plans are in the making for another arctic meeting in 2004. Ilulissat, birthplace of the arctic ethnographer and explorer Knud Rasmussen, has been chosen as an ideal location for the meeting. In case some of you might wonder where this heavenly location lies, it is situated on the balmy shores of Western Greenland, above the arctic circle at the mouth of a fiord that delivers more icebergs into the sea than any other glacier in the Northern Hemisphere.

The meeting will be held in mid-September, thereby allowing us to experience the aurora borealis at night and to visit the surrounding areas during the day. Apart from the scientific program, we will have experts available to talk to us about the arctic flora and fauna, the local Inuit culture, glaciology, and the northern lights. Trips by boat to neighboring communities and helicopter flights to the Greenland icecap will be part of the program as well as an evening of local dance and song.

We will be staying in the Arctic Hotel, a five-star hotel with saunas, a superb restaurant and a conference facility, overlooking the Greenland sea. Further information about the hotel can be found on the Web ([www.hotelinformations.ch/greenland/ilulissat/arctic\\_hotel.phtml](http://www.hotelinformations.ch/greenland/ilulissat/arctic_hotel.phtml)). Those who have a serious interest in this one-of-a-kind adventure should make their intentions known by contacting Alain de Lotbinière, MD, at the address below.

Alain C.J. de Lotbinière MD, CM, FRCSC, FACS  
Department of Neurosurgery  
Yale University School of Medicine  
333 Cedar Street  
New Haven, CT 06511 USA



**ASSFN Web Site**

**Michael Schulder, MD**  
[www.assfn.org](http://www.assfn.org)

This is the URL for the American Society for Stereotactic and Functional Neurosurgery (ASSFN) Web site. The site is meant to be a direct and no-nonsense portal for society members. Content includes membership applications, meeting information, updates on stereotactic topics of interest, and useful links for stereotactic neurosurgeons. For example, there is a link on the main page to our journal, *Stereotactic and Functional Neurosurgery*, which provides many abstracts free of charge (members can have complete online access for a small additional fee).

The site is ready to post stereotactic case reports of interest. If you have a case that we all could learn from—a technical, clinical, or imaging pearl—please prepare it for posting. Keep in mind that images and/or video should be saved for Web access with the smallest possible file size, and please arrange the text and images as they should appear online. To make contributions or suggestions, feel free to contact me at [schulder@umdnj.edu](mailto:schulder@umdnj.edu).

# Current Status of DBS Reimbursement

Kathleen Dunham, Medtronic Inc.

There has been considerable attention paid recently to the inadequate reimbursement for deep brain stimulation (DBS) procedures. The current code for deep DBS, 61862, was implemented in 1999. Initially, following the normal survey process, the American Medical Association Relative Value Update Committee (RUC) made a recommendation to the Centers for Medicare and Medicaid Services (CMS) of a work value of 27.34 relative value units (RVU). CMS reduced this recommendation by 8 RVUs to its current value of 19.34 based on a belief that “the time for intraoperative testing is variable.” There was a general lack of understanding of the procedure and specifically of the roles and interaction between the neurosurgeon and neurologist during microelectrode recording (MER).

In an effort to correct this action, Medtronic funded a data collection project to provide CMS with objective, compelling evidence that would identify the need for change. This data included a detailed time and motion study of the entire operative session with the identification of what services are provided by each physician during the procedure and how much time is involved. A group of 30 patients who have had this procedure at centers around the country

have been so measured, and the analysis of the data has confirmed the involvement and work of both the neurosurgeon (and sometimes only the neurosurgeon) and the neurologist, and the time involved, particularly during the MER portion of the procedure.

This analysis was presented to CMS in a meeting on Sept. 25. As a result of that meeting, a strategy has been developed to request new Current Procedural Terminology (CPT) codes that better define the current differences in the scope of the procedure based on whether MER is or is not part of the actual service provided and whether a second implant is performed during the same operative session (ie, a bilateral implant). After the new codes are approved by the AMA CPT Editorial Panel, they will be forwarded to the RUC for assignment of new work values. For several of these codes, new survey data will need to be obtained to provide support to the current time/motion database due to small sample size. Your help will be necessary if you are a recipient of a request for such survey information.

## Movement Disorders Surgery at MDS

Philip A. Starr, MD

The topic of movement disorders surgery commanded a major portion of the recent Seventh International Congress of Parkinson's Disease and Movement Disorders in Miami, Fla., presented by the Movement Disorder Society. Among the hundreds of surgically oriented abstracts and presentations:

- Philippe Coubes, MD, (Montpelier, France) presented the largest series to date of pallidal deep brain stimulation (DBS) for dystonia: 65 patients, bilaterally implanted. Those with primary dystonia experienced remarkable benefit.
- Warren C. Olanow, MD, (New York, N.Y.) presented the results of the second National Institutes of Health-funded randomized, double-blinded, placebo-controlled trial of intrastriatal fetal dopaminergic allografting for Parkinson's disease. Despite evidence of robust striatal re-innervation, there was not a significant effect on the primary outcome measures in the surgical group, compared to sham surgery controls, at the 2-year point.
- Several groups presented long-term (3-8 years) results of subthalamic nucleus DBS for Parkinson's disease. Many benefits of the procedure appear to be retained. It is not yet clear whether there exists a subgroup of patients for whom DBS alters the progression of the disease.

## Update on MR Safety in Patients With Deep Brain Stimulators

Ashwini Sharan, MD, and Ali Rezai, MD

While it is desirable to perform MRI examinations in patients with implanted deep brain stimulators (DBS), a major safety concern exists regarding the potential for excessive heating secondary to magnetically induced electrical currents. Recently, in vitro evaluation of DBS systems has defined SAR (specific absorption rate) levels at which patients may obtain MR imaging with minimal temperature changes<sup>1</sup>. The manufacturer of the Activa DBS system has similarly published guidelines on how patients may safely obtain MR imaging under certain specific scenarios<sup>2</sup>.

Using a head transmit/receive coil in a 1.5T MR machine, with the impulse generator set to zero volts, the amount of heating can be expected to be clinically insignificant if the whole-body SAR is < 0.1 W/kg. However, these observations are restricted only to the tested neurostimulation system in these references. Work currently underway should provide comprehensive analysis of heating, movement, induced current, and device functionality in a variety of MRI configurations.

1. Rezai AR, Finelli D, Nyenhuis JA, Hrdlicka G, Tkach J, Sharan A, Rugieri P, Stypulkowski PH, Shellock FG. Neurostimulation Systems for Deep Brain Stimulation: In Vitro Evaluation of MRI-Related Heating at 1.5-Tesla. *JMRI* 2002; 15: 241-250.
2. Soletra™ (Medtronic Inc., Minn.) Physician and Hospital Staff Manual—Model 7426, [www.medtronic.com/neuro/et/techmanual.html](http://www.medtronic.com/neuro/et/techmanual.html).



# ASSFN Membership Report

Michael Schulder, MD

The American Society for Stereotactic and Functional Neurosurgery (ASSFN) has 344 members, 27 of whom have joined in the last year. This includes 13 residents who availed themselves of the opportunity to join for a one-time fee of \$25 for the duration of their training. Full members in academic programs should encourage residents with even a slight interest in stereotaxis to join. This year's resident applicants displayed great interest and enthusiasm for functional stereotactic surgery, so a bumper crop of new young members should be around the corner.

Having recruited new members from the Tumor Section, we will consider identifying members of the Pain Section who are not members of the ASSFN to join. There is little doubt that with the explosion of interest in stereotactic neurosurgery, the ASSFN is the place to learn, contribute, and discuss the latest developments in our exciting field!

# ASSFN Mission Statement

The mission of the American Society of Stereotactic and Functional Neurosurgery is to foster the use of stereotactic and functional neurological methods for the treatment of diseases of the nervous system and to advance stereotactic and functional neurosurgery and related sciences to improve patient care, to support meaningful basic and clinical research, to provide leadership in undergraduate and graduate education and continuing education, and to provide administrative facilities necessary to meet these goals.

Further, the society will provide a forum for the review of the basic form and function of the human nervous system toward the improvement of stereotactic and/or functional neurosurgical procedures that alleviate human disease and suffering through diagnosis or treatment of the function of the nervous system and to establish minimum standards for the performance of stereotactic surgery.

# Membership Application



Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_ Email \_\_\_\_\_

Residency Training: \_\_\_\_\_ Years: \_\_\_\_\_

Medical School: \_\_\_\_\_

AANS Member:  Yes  No      CNS Member:  Yes  No

Interests in Stereotactic and Functional Neurosurgery: (please circle)

Movement Disorders	Pain	Tumors	Imaging
Epilepsy	Computers	Radiosurgery	Basic Science

Annual membership dues for full members are \$325.00 U.S. per year, which includes:

- membership in the AANS/CNS Section on Stereotactic and Functional Neurosurgery;
- membership in the American Society for Stereotactic and Functional Neurosurgery;
- membership in the World Society for Stereotactic and Functional Neurosurgery;
- a subscription (including shipping) to the journal, *Stereotactic and Functional Neurosurgery*; and
- reduced meeting fees.

Annual membership dues for resident members are a \$25.00 U.S. one time fee, which includes:

- all of the above except a subscription to the journal, *Stereotactic and Functional Neurosurgery*.

**Send your completed application and copy of your curriculum vitae to**

Andres Lozano, MD, PhD, Secretary-Treasurer ASSFN  
Toronto Western Hospital, 399 Bathurst St, Rm 4-447  
Toronto, M5T 2S8 Canada  
lozano@uhnres.utoronto.ca

## AANS/CNS Section on Stereotactic and Functional Neurosurgery

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Rolling Meadows, Illinois 60008

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### Call for Nominations for Officers

The leadership of the joint section is soliciting nominations for officers and executive council members for the AANS/CNS Section on Stereotactic and Functional Neurosurgery. The election will be held at the business meeting at the ASSFN Quadrennial Meeting in New York, May 18-21, 2003.

The officer positions open are:

- President
- Vice President
- Secretary-Treasurer

There are two openings for board members to replace those whose terms end in 2003.

Nominations should be forwarded to:

Andres Lozano, MD, PhD  
Secretary-Treasurer ASSFN  
Toronto Western Hospital, 399 Bathurst St, Rm 4-447  
Toronto, M5T 2S8 Canada  
lozano@uhnres.utoronto.ca

### Officers and Executive Council

#### Current Officers

Douglas S. Kondziolka, MD, President  
Philip L. Gildenberg, MD, PhD, Past President  
G. Rees Cosgrove, MD, Vice President  
Andres Lozano MD, Secretary-Treasurer

#### Current Executive Council

Alain J. de Lotbinière, MD (1999-2003)  
John R. Adler Jr., MD (1999-2003)  
Richard D. Bucholz, MD (2000-2004)  
Ali R. Rezai, MD (2000-2004)  
Philip A. Starr, MD (2000-2004)  
Robert J. Maciunas, MD (2001-2005)  
Robert Gross, MD (2001-2005)  
Michael Schuller, MD (2001-2005)  
Ron L. Alterman, MD (2002-2006)  
Samuel J. Hassenbusch, MD (2002-2006)