The MGH Aneurysm/AVM Neurovascular Center continues to thrive.

The cornerstone of the neurovascular group remains the weekly two hour Friday morning conference where patient histories and films are discussed in detail and treatment plans are formulated.

The meeting is also used at times to define educational and research objectives. In 2004 over 400 open neurovascular procedures were performed for intracranial aneurysms, arteriovenous malformations, and cavernous malformations. Patients with Moya-Moya and spinal cord vascular lesions were also treated.

The service continues to perform carotid endarterectomy on a regular basis and is actively involved with national and local protocols regarding the use of intravascular angioplasty and stenting for carotid and vertebral disease. The endovascular service performed 875

Resident research wins awards, grants

Resident research is being undertaken in such areas as nervous system repair, viral gene therapy, molecular genetics, behavioral neurophysiology, movement disorders, learning and memory formation and autonomic control of food intake.

The results have been two NREF fellowships in both 2004 and 2005, a Daman Runyan Cancer Research Foundation fellowship, a Science Research Fellowship awarded by the American Brain Tumor Association to name just a few of the honors achieved by the current MGH residents.

“The quality of research currently being undertaken by our residents is outstanding,” said Chief of Neurosurgery Robert L. Martuza.

In the last two years, two residents have received NREF fellowships -- Dr. Ramin Amirnovin in 2004 and Dr. Daniel Cahill, a third year resident in MGH Neurosurgery in 2005.

Dr. Cahill’s proposed research focuses on the analysis of gene expression profiles of malignant gliomas, with an aim to identify the pathways involved in these brain tumors. Previous studies in his group have characterized the gene expression profiles of approximately 12000 genes in 90 tumors, resulting in a molecular system for identification of tumor type and prediction of clinical outcome.

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Neurovascular update cont’d

Continued from page 1.

Procedures of which 420 were neurovascular interventions.

The Center produces newsletters throughout the year to update community physicians regarding activities and new treatments available at the center.

An annual cerebrovascular meeting is held, with emphasis every third to fourth year on an international meeting to discuss new treatment options for neurovascular disease.

In other years the meeting is geared toward local physicians and emergency room physicians, to help identify patients appropriate for acute interventions at tertiary care centers.

The Center is actively involved with national and international studies including the International Study of Unruptured Intracranial Aneurysms, Familial Intracranial Aneurysms, and national protocols regarding the use of interventional devices.

A monthly neurovascular support group has been instrumental in assisting patients and families in the understanding of their neurovascular disease and treatment options.

This support group has been a great success and has been emulated at other institutions. Patients from throughout the New England area attend the support group to obtain more information about their disease.

The Aneurysm/AVM Center has also been involved in aneurysm awareness for the community. The definition and recognition of signs and symptoms of intracranial aneurysm have been the main targets of an annual aneurysm awareness week which concludes with a symposium that is free and open to the public. The MGH Aneurysm/AVM Neurovascular Center has strong ties to the national Brain Aneurysm Foundation. The Foundation was formed and is run by aneurysm patients and their families.

The Brain Aneurysm Foundation hosts fundraising events such as an annual “Arterial Challenge” road race as well as other activities which raise money to help in the support and education of patients and their families.

It is an exciting time in the management of neurovascular disease. With development of new endovascular techniques for the treatment of neurovascular disease, the MGH Aneurysm/AVM Center remains at the forefront of studies involved with the design and trial of these techniques in appropriately chosen neurovascular patients.

For information about the work being done at MGH contact Dr. Christopher S. Ogilvy, 55 Fruit Street, VBK710 Boston, MA 02114
Dear MGH Neurosurgery Alumnus,

We will meet again during the upcoming AANS meeting in New Orleans, Monday afternoon at 5:30 PM at the Marriott. The Alumni Teaching and Research Fund to which your dues are applied, will be used this year to purchase a cadaver for Larry Borges to conduct resident teaching sessions. Residents will also be sent to various specialty meetings that they otherwise could not afford to attend. I encourage you to continue to support this worthwhile cause by sending in your annual dues. The Congress meeting in October will be in Boston. Bob Martuza plans a special event for alumni at that meeting. Please keep an eye out for additional information and plan to attend. As always, we are open to any suggestions about how to improve or better utilize our alumni association.

See you in New Orleans – April 18th 5:30 p.m.

Karl
Manucher Javid MD

Manucher Javid MD received the Manfred E. Swarsensky Humanitarian Service Award in 2001; and the Emeritus Faculty Award, U of Wisconsin Alumni Association, 2000; He was featured in a profile article in Persian Heritage Magazine. An endowed professorship in his name was established in 1998. A conference room was dedicated to Dr. Javid in 1998 by the Dept of Neurosurgery at U of W; AOA Honor Medical Society. Dr. Javid’s accomplishments and contributions to the field of neurosurgery are numerous. He trained 50 neurosurgeons during his tenure as chairman and program director at the University of Wisconsin where he established the Dept of Neurosurgery. Since his retirement in 1998, he has been active in Hospice care, the Millenium Committee and Challenges of the Elderly. Dr. Javid now has the time to pursue his avocation—the study of world religions. He is a member of the Haha’I faith. Upon his retirement, the chairman of the Religious Studies program at the University asked Dr. Javid to join his group as a guest lecturer. He continues to enjoy this association.

Hoon Kim Jeong MD PhD: Dr. Kim was promoted to Associate Professor in 2002 and specializes in brain tumors, especially neuro-oncology.

Yogish Kamath is head of the neurosurgical service at the VA Hospitals in Boston, MA.

Dimitris Karacostas MD was appointed Asst. Prof of Neurology in 2001 where he specializes in stroke. He has been at the Department of Neurology at AHEPA University Hospital, Aristotle University School of Medicine since 1981. He has been organizing an experimental lab aimed at 1) Multiple Sclerosis (stem cells transplantation) and 2) Stroke rat model (progenitor cells transplantation and trophic factors in the ischemic MCA zone.

Hirakawa Kimiyoshi MD: Retired in 2000 as the Chief of Neurosurgery at Tokyo Medical and Dental University and now works for private hospitals in and near Tokyo.

David M. Klein MD: retired in 1994 from pediatric neurosurgery at SUNY-Buffalo.

Yuji Miyazaki MD is a Councilor, Board of Trustees, Japan Neurosurgical Society, Member, Board of Directors, Japan Association of Neurosurgical Clinics

Richard Morawetz MD has been the Director of the Division of Neurosurgery since 1988 and Vice-Chairman of Dept of Surgery at UAB since 1999. He is Director of the American Board of Neurological Surgery and Vice-President of the American Academy of Neurological Surgery

Hubert Morgalla Matthias MD Ph.D. received a PhD in 2000. Current activities are research in neurotraumatology, neuroprotection and coma.

Christopher S. Ogilvy, MD was promoted to Professor of Surgery(Neurosurgery) in 2003.

Burton Onofrio MD was named Professor and Chair at the Mayo Clinic in Neurosurgery, LaCrosse, Wisconsin. He spends a great deal of his time as “professional crate maker” for his wife Judy’s art.

Curtis N. Nelson MD PhD is engaged in the private practice of neurosurgery in Rochester NY and teaches part time at the University of Rochester.

Richard G. Nilges MD retired from neurosurgery in 1984 and from office and consulting practice in 1986. He studied all aspects of brain death (medical, philosophical and theological) and published on this topic. Returned part-time as an examiner for the Indiana Disability Determination Bureau, but retired in 2002 due to health reasons at the age of 82. He is co-editor and contributor of a chapter to “Beyond Brain Death”, Kluwer Academic Publishers, 2000 with Michael Potts and Paul A. Byrne.

Kenneth Ott MD is currently Chief, Section of Neurosurgery at Mercy Hospital 2003-2005 Director, San Diego Gamma Knife Center, La Jollas, CA

Howard A. Richter MD: retired from neurosurgery July 1999. He served a one-year term as President of the Pennsylvania Medical Society. Currently is Director of a Professional Liability Insurance Company named PMSLIC and very involved in claims management, underwriting and rate setting. He is enjoying his grandchildren.

David A. Roth MD: Currently in a full-time private practice in Melrose, Massachusetts, limited to spinal microsurgery after 39 years.

Andrew G. Shetter MD is practicing at Barrow Neurological Associates in Phoenix.

Hikaru Sasaki MD received the Japan Neurosurgical Society Award in 2003 and the Keio Sanshi-Kai Award in 2002.

Fredric M. Sonstein MD retired from surgery, but still has an active office practice. Had 2nd cervical fusion (now C4-7 done with plate). Residual myelopathy (how ironic!) somewhat limited. Best wishes to all. --Fred

Stephen B. Tatter MD PhD: Leading accruer to NABTT neurosurgical brain tumor trials!!

**Join Us!!**

**April 18, 2005**

for the **MGH Neurosurgery Alumni Reception**

during the **2005 AANS meeting in New Orleans**

**5:30 – 7:30 p.m.**

**Balcony Salon N**

**The New Orleans Marriott**

**555 Canal Street**

**RSVP**

mpiggott@partners.org or 617-726-8583
The group is now using detailed analyses of this dataset to identify oligodendroglioma-specific genes. Study of these genes will provide insight into the molecular genetic basis of oligodendroglioma growth and chemosensitivity, ultimately resulting in the identification of specific targets for therapeutic intervention.

Dr. Cahill spoke enthusiastically about receiving the award, and his high hopes for success in his research. He said: “The NREF Research Fellowship has provided the unique opportunity to pursue my interest in the molecular genetics of brain tumors. Hopefully, these studies will provide insight into the genes underlying brain tumors.”

Dr. Manish Aghi, a fourth-year resident will receive the Ronald L. Bittner Award for the best brain tumor research by a resident or junior faculty member at the American Association of Neurological Surgeons (AANS), 2005 for his talk “Increased Ratio of T2-Bright MRI Volume to T1-Enhancing Volume in EGFR-Amplified Glioblastoma”; the American Brain Tumor Association (ABTA), Postdoctoral Fellowship, 2004-2006; the Preuss Award - best basic science research - “Generation of Brain Tumor Neovasculature from Transplanted Bone Association of Neurological Surgeons (AANS), 2005.

Ziv Williams, who in 2003 received the Congress of Neurological Surgeons Resident Award, Stereotactic and Functional Neurosurgery and the American Parkinson Disease Association Scholarship, has had articles on his work appear in Nature Neuroscience in December 2004.

“Functional neurosurgery caught my interest early on when I began working with primates in Dr. Eskandar’s lab,” said Dr. Williams. “I found it incredible uncovering some of the mysteries of how the brain functions, and answering questions such as how does learning occur and how are decisions made. I came to MGH because I knew that this was a place that cultivated such thinking and had people such as Dr. Eskandar who enjoyed asking these types of exciting questions. Recently, we had the opportunity to record single neuronal activity in patients undergoing planned surgical cingulotomy. By having them perform a simple task during surgery, we demonstrated that the dorsal anterior cingulated cortex plays a key role in processing strategic decisions based on reward

For a listing of all recent awards, see page 8.
Dr. Emad N. Eskandar Director of Functional and Stereotactic Neurosurgery

Dr. Emad N. Eskandar is the new Director of Functional and Stereotactic Neurosurgery at MGH.

After completing his residency at Mass General in 1999, Dr. Eskandar joined the clinical faculty as an Assistant in Neurosurgery.

He is a leader, both in his clinical endeavors, and as a Principal Investigator at the MGH Laboratory for Sensorimotor Integration. Dr. Eskandar’s work focuses on the functional circuitry involved in motor control in order to provide better treatment for Parkinson’s disease and other movement disorders.

Dr. Eskandar is eager to expand and develop the functional and stereotactic neurosurgery program. He notes: “It’s exciting to work in MGH Neurosurgery, where there is such a rich opportunity for research that can help to improve our patients lives.

“The support that I receive here is unparalleled.” said Dr. Eskandar

Dr. William Curry Joins Faculty, receives NREF Grant

Dr. William T. Curry, Jr. who completed his residency at MGH in 2002, has won an NREF Young Clinician’s Award for 2005. The award was created by the Neurosurgery Research and Education Foundation of the AANS in 1985 to support rising clinician-investigators by funding pilot studies. Dr. Curry joined the MGH staff in 2003, and is researching the development of novel biological and immunologic therapies for malignant glioma.

“Overcoming immunological tolerance to tumor cells is the ultimate goal of cancer immunotherapy,” said Dr. Curry, adding “Low levels of tumor-cell MHC and an immunosuppressive tumor microenvironment allow the growth of cancer cells that escape innate immunity. G207 (engineered by Dr. Martuza and collaborators) is a mutamutated replication-conditional herpes simplex-1 that selectively replicates in tumor cells, has attenuated neurovirulence, and, in

Dr. Jeffrey Macklis receives Senator Javits Award

The National Institutes of Neurological Disorders and Stroke (NINDS) has awarded one of eight Senator Jacob Javits Award in the Neurosciences to Jeffrey D. Macklis, HMS Associate Professor of Neurology at Massachusetts General Hospital. Macklis will receive seven years of funding from the NINDS, a component of the National Institutes of Health.

Dr. Macklis has made significant contributions to the understanding of neuronal replacement and cellular repair of the brain following injury. His research shows that, contrary to previously held beliefs, the reconstruction of complex networks in the brain’s cerebral cortex can be achieved in adulthood. He hopes to identify the best conditions for the integration of neurons into existing networks of the

Continued on page 7
**William T. Curry cont’d**

*Continued from page 6*

addition, to its oncolytic properties, is able to stimulate specific and lasting anti-tumor immunity in mice."

The hypothesis of Dr. Curry’s group is that pulsing immature dendritic cells with G207-infected tumors cells is a potent activating stimulus for antigen presentation and generation of antitumor immunity, to be demonstrated by vaccine treatment in mice bearing subcutaneous and intracranial Neuro2a tumors. Also, the group proposes that increasing the number of dendritic cells in tumors, either by coinjection of ex vivo generated cells, or by systemic mobilization from the bone marrow by Flt3L, a growth factor, increases antitumor immunity in the context of oncolytic virus infection. "I became very interested in the antitumor immune response that is provoked by oncolytic herpes virus," said Dr. Curry. "Not only does the virus kill the tumor cells themselves, but also it kicks off an immune response against the tumors. I'm looking at ways of, one, understanding that, and two augmenting the effect."

Dr. Curry is excited and pleased to have won this award, especially in the context of his position at MGH. He said:

"Here, more than any other place, I imagine, I have the opportunity to focus on building an academic neurosurgery career with great mentorship, and also with excellent opportunities for clinical and basic research. I have great role models...the whole environment fosters the development of young investigator-clinicians. In particular, my research is very generously supported by my department and by Dr. Martuza.

**Neuroscience Series centers on functional, stereotactic**

The 2004-5 Neuroscience Series expanded to include the Massachusetts Eye and Ear Departments of Otolaryngology and Ophthamology in addition to the MGH departments of Neurosurgery, Neurology and Psychiatry.

The 2004-5 series was organized by Dr. Emad N. Eskandar. Speakers in the Neurosurgery section of the series were:

**Learning and Memory**
**Mechanisms of the Basal Ganglia**, Ann Martin Graybiel, PhD Walter A Rosenblith Professor of Neuroscience, Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology in the Department of Brain and Cognitive Sciences

**Computing with Neural Ensembles**, Miguel AL Nicolelis, MD, PhD, Professor

in the Departments of Neurobiology, Biomedical Engineering and Psychological and Brain Science Co-Director, Center for Neuroengineering at Duke University Medical Center in Durham, North Carolina.

**Functional Inhibition of Deep Brain Structures by High Frequency Stimulation: Application to Movement Disorders and other Nervous Diseases, and Mechanism of Action**, Professor Alim Louis Benabid, MD, PhD, Professor at Grenoble University, neurosurgery and biophysics, Director of the research laboratory INSERM unit 318, (Preclinical Neurosciences), and has been Head of the Neurosurgery Department at the University Hospital of Grenoble, Professor of Biophysics (exceptional class) at the Joseph Fourier University. Coordinator Claudio Munari center for surgery of epilepsy and movement disorders, at hospital Ni Guardia, Milan.

**Jeffrey Macklis cont’d**

*Continued from page 6*

somatosensory cortex, which receives tactile information from the body, and the motor cortex, which sends out motor control information to the body. Macklis’ findings may lead to the development of cell replacement therapies to treat brain disorders and spinal cord injury.

"This award and extended funding will allow us to continue to take risks in new directions, especially toward the directed differentiation and functional integration of replacement neurons derived from adult neural precursors, also called ‘adult neural stem cells,’” Macklis said.

The $2.8 million award, created in 1983, honors the late U.S. Senator Jacob Javits, who suffered from amyotrophic lateral sclerosis and was an advocate for research on neurological disorders.

"Here, more than any other place, I imagine, I have the opportunity to focus on building an academic neurosurgery career with great mentorship, and also with excellent opportunities for clinical and basic research. I have great role models...the whole environment fosters the development of young investigator-clinicians. In particular, my research is very generously supported by my department and by Dr. Martuza."
Alumni Update from Dr. Martuza

These are difficult times for Neurosurgery and for neurosurgeons whether you are in an academic environment or in private practice. Yet despite these difficulties, I am heartened by the fact that each year we have such high caliber medical students entering our specialty.

At the MGH, we continue to attract the "best of the best". We thank you for your support of these outstanding residents.

I would like to thank everyone who has so kindly donated and pledged towards the Robert Ojemann Professorship. We are still working hard to make this a reality in order to honor someone who was so instrumental to the MGH neurosurgery program and to each of us.

If you have not already pledged, or if you would like to increase your pledge, please contact my office at 617-726-8583.

This October the Congress of Neurological Surgeons is meeting in Boston (October 8-13). This gives us the opportunity to plan a special event for our alumni. Please let us know if there is something special you would like to do.

Our initial idea was to hold the event at the MGH so that those of you who haven’t back in a while can tour our new facilities and see old friends. In particular, we want your input as to WHEN to have this event so that we can minimize any conflicts with other CNS events.

As you can see, our residents continue to lead the way in both basic science and clinical outcomes research. Your dues help to provide a cushion for those residents who may need financial assistance during research periods. So far our residents as you can see, have been extremely successful in gaining grants and fellowships. Once again, we are asking that you support the Neurosurgical Alumni Association and return the form enclosed with your dues.

I look forward to seeing you in April at the AANS and hope that many of you can join us this October in Boston.

RESIDENT AWARDS, FELLOWSHIPS

2005-7- NREF ((Neurosurgery Research and Foundation) 2 year fellowship —D. Cahill
2004- American Brain Tumor Association Basic Science Research Fellowship— M Aghi
2004-6- Daman Runyan Cancer Research Foundation (3 year fellowship)—C. Chen
2004 --Preuss Award for Outstanding Brain Tumor Basic Science Research, presented at annual American Association of Neurologic Surgeons (AANS) meeting—M. Aghi
2003-5-NREF (Neurosurgery Research and Foundation) 2 year fellowship —R. Amrinovin
2003-Congress of Neurological Surgeons Resident Award, Stereotactic and Functional Neurosurgery—Z. Williams
2003-American Parkinson’s Disease Scholarship —Z. Williams
CIMIT (Center for Integration of Medicine and Innovative Technology) Neurotechnology Grant
Annual Award of the American Academy of Neurological Surgery for Resident Research (Honorable Mention) (2)
Annual Award of the American Academy of Neurological Surgery for Resident Research (Invited to present) (2)
William Scoville Resident Award for Best Paper Presented at the New England Neurosurgical Society (Scientific)