#### UNIVERSITY of WASHINGTON SCHOOL of MEDICINE

# The Montlake Cut



A Newsletter from the Department of Neurological Surgery July 2009, Volume 1, Number 3



Montlake Cut - Opening Day Windermere Cup Races - May 2, 2009

## Coils, Stents, Particles and Glue

Over the past 100 years, surgeons and interventionalists have continuously developed (or stumbled upon) innovative methods for expanding treatment options via less invasive routes, including through blood vessels. Endovascular approaches to neurosurgical problems are one major effort of the neurosurgery service at Harborview. Since Dawbain et al injected a weird concoction of melted paraffin and petrolatum (petroleum jelly) through the external carotid to starve a tumor in 1904, endovascular therapy has so advanced that we now do more and more through less and less. In fiscal year 2007, a total of 348 vascular cases were treated at Harborview. Of these, we occluded 123 aneurysms with coils and 101 by craniotomy and clipping. Interventionalists treated 60 AVMs endovascularly and surgeons removed 30 more. Stereotaxic radiosurgery was employed to treat another dozen AVMs, and surgeons evacuated 22 non-traumatic hematomas in the OR.



The neurovascular team directed by Drs. Laligam Sekhar and Louis Kim at Harborview Medical Center now use a variety of approaches to treat not only aneurysms and AVMs, but also to disrupt the blood supply to fistulas and tumors. The endovascular therapy of brain arteriovenous malformations, dural arteriovenous fistulas, carotidcavernous fistulas and vein of Galen malformations is now routine in our department.

**Left:** top CT showing intraparenchymal hemorrhage from dural AVM, followed by angiogram of the AVM pre-embolization.

Below: shows post-embolization with Onyx.



While coiling some aneurysms is a therapeutic option at many larger centers, rapid advances in agents and delivery systems now also enable safe embolization of other vascular malformations with Onyx, a liquid ethyl vinyl alcohol co-polymer (see previous page right).

Endovascular procedures are rapidly expanding therapies for cerebrovascular diseases and neoplasms of the head and neck because they are not only less invasive, but also often more effective. In addition, the blood supply to cranio-cervical neoplasms is sometimes amenable to disruption. These latter techniques involve super selective catheterization of the feeding arteries with infusion of embolic particles to saturate the tumor bed in the hopes of inducing necrosis. At our institution over the last 3 and a half years, 18 convexity tumors, 42 skull base lesions, 19 intrinsic brain tumors and 23 extra cranial neoplasms were embolized by our endovascular team. Such pre-treatment often, but not always, results in the reduction of bleeding during surgery, and makes removal easier and more complete. We have had no major complications from the embolizations.

Endovascular procedures are rapidly expanding therapies for cerebrovascular diseases and neoplasms of the head and neck because they are not only less invasive, but also often more effective. However, because of potential anastomoses between the extra cranial and intracranial circulations, experience and familiarity with the anatomy is key to minimizing the risk of profound neurological deficits.

An interdisciplinary team approach at centers with sufficient patient volume and experience results in uniformly improved outcomes in this population.



John Loeser, MD

#### FACULTY PROFILE John Loeser

In 1957, John Loeser graduated magna cum laude and Phi Beta Kappa from Harvard--in Social Relations, a fusion of anthropology, psychology and sociology. While this is the sort of major that would have delighted Herbert Spencer, the British philosopher who promoted the idea of social Darwinism, it delighted the Harvard faculty only briefly. How that beginning metamorphosed into an exceptional career in neurosurgery might, at first glance, appear conflicted. While medicine is at least in part a scientific pursuit, taking care of sick people proves Hamlet's assertion that there is "more on heaven and earth, Horatio, than is dreamt of in your philosophy." Perhaps his wandering in the humanities is what led John to the study of pain, that rabbit warren of human suffering so confounding to philosophers and theologians since the Greeks began to ponder ontology.

After graduating from NYU Medical School in 1961 (that incorporated a year doing research in a pharmacology lab at Stanford), John interned in surgery at UCSF. He trained in neurosurgery with Arthur Ward at UW between 1962 and 1967. Following two years in the US Army Medical Corps, which included a tour in Vietnam, John joined our faculty, attending in both pediatric neurosurgery and pain management. In 1975, along with Drs. Ron Lemire, Buster Alvord and Richard Leech, he helped to write the remarkable text *Normal and Abnormal Development of the Human Nervous System*.

Since then, he's authored or co-authored six other books about pain. In 1981, John became Professor of Neurosurgery and, by the end of that decade, also Professor of Anesthesiology and Pain Medicine. He was a founding member of the American Pain Society, the American Academy of Pain Medicine, and the International Association for the Study of Pain. Moreover, Dr. Loeser has been Assistant Dean for Curriculum at UW, Director of the Multidisciplinary Pain Center, and Chief of Neurosurgery at Seattle Children's Hospital and Medical Center. In 1989-90, he was a senior Fulbright Scholar in Australia. In addition to the books, John has published more than 300 scholarly articles. He is an honorary member of six international pain societies and a Fellow of the American Association for the Advancement of Science. He has been visiting professor at 18 institutions, on the editorial board of 13 journals, and has had three lectureships established in his name. Somehow in the midst of all this, John has been PI or co-investigator on 22 grants. And, he's still professor emeritus of both Neurological Surgery and Anesthesiology.

... other faculty members sat us down in their offices and carefully explained their experimental interests.

John took us outside on a beautiful summer day -- and explained life. Bob Dunn and I met John on a walk behind the University Hospital along the Montlake Cut in July of 1973. We had just started the residency, and were trying to figure out what research we were going to do over the next five years, and who we were going to do it with. All the other faculty members sat us down in their offices and carefully explained their experimental interests. John took us outside on a beautiful summer day -- and explained life. Those young men and women who had the chance to make rounds with him, operate with him, or take a walk with him will remember John Loeser for the depth of his thought about all those issues confronting doctors, the breadth of his learning, and his absolute commitment to the humanism inherent in the practice of medicine.

John and his wife Karen have a combined family of four grown children, all living in Seattle. Two sons are attorneys, and a daughter teaches in the Seattle Public Schools. The youngest son, twenty-four, is waiting for the economic down turn to end. There are also seven grandchildren to be taught to ski, and, of course, to be indulged.



Mikhail Gelfenbeyn, MD, PhD

### MISHA GRADUATES - again... Mikhail Gelfenbeyn, M.D., Ph.D.

Imagine that you'd graduated from medical school thirty years ago, done an internship and residency, then a PhD, married, started a family, and had established yourself in an important neurosurgical position. Then imagine someone told you that you had to do it all over.

That's what happened to Misha Gelfenbeyn.

For twenty years in Moscow, Misha was a neurosurgeon recognized for his talents and advancing his promising academic career. Then he had to leave Russia.

Misha was one of about twenty neurosurgeons on the staff at the Sklifosovsky Research Institute of Emergency Medicine, known to Muskovites as Sklif. Their original building, constructed over 200 years ago as a hospital and alms house, faced out on the Garden Ring Highway. I'm not sure how many readers of this newsletter could have done that, but I know for sure the editor couldn't have. After the neurosurgery department was founded there in 1960 by V.V. Lebedev, Sklif rapidly became one of the three major neurosurgical teaching and research centers in Moscow, specializing particularly in subarachnoid hemorrhage. When then Chairman V.V. Krylov expanded the department and moved into a new building, he split it into two sections, and Mikhail Gelfenbeyn was made the head of one. At the same time, he was appointed to the editorial boards of the Russian language journal *Neurosurgery* and the better known German *Neurosurgical Review*. His Ph.D., awarded in 1991, concerns the prevention of ischemic complications after extra-cranial bypass surgery. Before he even started to satisfy the US licensing requirements, Misha had already published 80 papers and after he came to Seattle he translated Greenberg into Russian (although the pace of the Russian publishing industry has still failed to rush it into print).

Misha passed the English language ECFMG exam in 2001, which he took almost twenty-five years after he finished medical school, and where the language of instruction was Russian. He was then eligible for a UW pre-residency fellowship in 2002-03, and a general surgery internship 2003-04. He has this year completed his training in neurosurgery--for the second time.

I'm not sure how many readers of this newsletter could have done that, but I know for sure the editor couldn't have.

Misha will be appointed to the faculty and will attend at the Seattle VA Hospital, which is again to be a part of the UW Department of Neurological Surgery teaching system. So if anyone thinks they're having a tough time, go see Misha.

#### Neurosurgery PGY-1, July 2009

Ryan Morton received his BS, Cum Laude, in Biological Science from Notre Dame University in 2005, and his MD, Summa Cum Laude, from the Loyola University of Chicago Stritch School of Medicine this year. Ryan is a Captain in the United States Army and will be filling his role as resident through the Neurosurgery sponsored Army VA-DOD position. Ryan is a die hard Notre Dame football fan--for now, at any rate.

In 1999, Ali C. Ravanpay graduated with a BA from the University of California, Berkeley in both Molecular & Cellular Biology and Near Eastern Studies. In 2000 he entered the MD/PhD program at the University of Washington. His PhD in Neurobiology and Behavior was awarded in 2007 and his MD from the University of Washington this May. In addition to English, Ali speaks both Farsi and French. He's fond of skiing and traveling, and while he'll likely find some skiing near Seattle, he's probably not going to travel much for the next seven or eight years.



Ryan Morton, MD



Ali Ravanpay, MD, PhD



Tim Lucas, MD, PhD

#### Chief Resident Tim Lucas, M.D., Ph.D.

Tim Lucas once thought he'd go into politics or law, but an internship with a Virginia senator in Washington D.C. cured him of it. He did, though return to the beltway years later for a neuroscience internship at NIH.

Tim's hobbies include sailing, mountaineering, snowboarding, motorcycles (shudder)--and now his newborn, Sophia. He and his wife Patricia sail sloop-rigged vessels and hope to make a trans-Atlantic voyage to the south of Spain after residency. He met Patricia (a Spanish citizen) at St. George's hospital in London.

He's owned several kinds of motorcycles, but currently favors Harley Davidson's. When in Europe, he rode an HD Sportster on a memorable trip from London to Italy and back through the Alps. Most of Tim's mountaineering has been on the west coast: he has summitted Mt. Rainier 5 times and the remainder of the cascade volcanoes on a hand-full of other occasions.

In June, Tim completed his PhD in Physiology & Biophysics and looks forward to an academic career. He's off to a good start, in spite of having once been told by a medical school advisor to bag the PhD as unnecessary. With research interests in epilepsy, language and braincomputer interface, he's already published eleven original papers and been the first author of three book chapters. Tim was recently informed that he won the stereotaxic and functional neurosurgery resident award for the best abstract submitted to the CNS, and he will read the paper concerning motor neuron plasticity and artificial feed-back from a neural implant at the meeting next October in New Orleans.

We expect him to do very well in academic neurosurgery.

#### KUDOS:

"May 2009 records 20 years of service for Janet Schukar in the Department of Neurological Surgery. Janet started her career as a scientific/medical photographer for the department in 1989, which she still does, but is now also responsible for Web design and graphics. Among a lot of other things, this publication would not be possible without her talent."

The Montlake Cut is a quarterly newsletter published by the Department of Neurological Surgery at your University of Washington School of Medicine. We hope to keep the neurosurgeons in the entire WWAMI Region informed about resources available through the university system and, just as importantly, to learn from you any information about your lives and practices that you care to provide. Especially for the graduates of our program, as well as former staff and faculty, we welcome e-mail or letters describing your current activities and reminiscences about your time at UW. We will continue to feature stories about former staff members of the department in the "Where Are They Now?" section, along with news of current faculty, staff and residents.

We sincerely hope that the newsletter will evolve into a collegial method for sharing news and information electronically throughout the region. Please contact us at the addresses below. If you wish not to receive the Montlake Cut, please let us know and we'll remove your name from the distribution list.

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