A View From Puget Sound

The field of Neurological Surgery remains a dynamic and evolving effort to improve patient outcomes through innovation, technological sophistication, basic research - and hard work. Our superb and dedicated young faculty and residents are often at the forefront of these efforts, and in this issue of the newsletter we present some of their accomplishments.

The more established faculty remain just as hard at it as demonstrated by Professor Laligam Sekhar’s efforts to refine the treatment for unruptured AVMs. Even though he is officially now a Professor Emeritus, John Silber continues to be very engaged in both clinical and basic research, and Bob Rostomily and his lab are still gathering new grants aimed at better treatments for the ever difficult to manage glioblastomas.

We also introduce some of our remarkable mid-level practitioner team, without whom the acute care service at Harborview could not function. Readers will be both surprised and delighted by the depth and breadth of experiences these people bring to our department.

After 24 years and many residents come and gone, Sharon Andrews has retired from the UWMC office and will be sorely missed. Sharon was the glue that held together the UWMC service. We will also miss a wonderfully warm, skilled neurological surgeon who graduated our program, Dr. Charlie Kuntz, a Professor at the Mayfield Clinic in Cincinnati who died unexpectedly, and far too young. Last, we held our First Annual Conversation with the Community, and look forward to this dynamic exchange of ideas in future years.

Sincerely,
Richard G. Ellenbogen, MD, FACS
Professor & Chairman, Department of Neurological Surgery

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One of our bright lights and close friends has died unexpectedly. Our former resident Charlie Kuntz passed away suddenly on February 26, 2015. Dr. Kuntz was born and raised in Cincinnati. He was a rising superstar even as a high school student. He graduated with honors from Cincinnati’s Xavier High School and was a chemistry scholar at the College of the Holy Cross in Worcester, Mass. graduating Magna Cum Laude and Phi Beta Kappa. He received his medical degree from Case Western Reserve University School of Medicine in 1991 and was inducted into Alpha Omega Alpha, the national medical honor society. He was a resident at the University of Washington and completed orthopedic and neurosurgical fellowships in London and Seattle. His years of medical training complete, he joined the Mayfield Clinic, the UC College of Medicine, and the Neurotrauma Center at the UC Neuroscience Institute in 2000.

He was a formidable spine surgeon taking care of the most challenging deformity patients who traveled long distances to seek his expertise. He would labor tirelessly on patients with the goal of changing their life to one of productivity and less pain. He was beloved by his friends, his mentors and his patients. He rose rapidly to heights of full Professor at the Mayfield Clinic and was sought throughout the world as a Visiting Professor. And he was extremely active on the national scene. As Praveen Mummaneni, MD, Chair of the AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves noted in his tribute:

“Charlie was the Chair-elect of the American Association of Neurological Surgeons/Congress of Neurological Surgeons Joint Section on Disorders of the Spine and Peripheral Nerves. His passing is a great loss for this national organization. He served ably as an officer of our board for many years.” His many friends at the AANS/CNS Spine Section have created and donated to the Charles Kuntz Fund of the Neurosurgery Research and Education Foundation (NREF) in his honor. ...Charlie will be honored with the Kuntz Memorial Session at our annual meeting going forward.

A sense of Dr. Kuntz’ character and impact can be found in the dozens of moving comments from his colleagues and patients collected on the Mayfield Clinic’s very fine memorial page “Remembering Dr. Charles Kuntz: Reflections from Patients and Colleagues” - Read the tributes here: http://www.mayfieldclinicblog.com/remembering-dr-charles-kuntz-reflections-from-patients-and-colleagues/

We will miss Charlie. As our colleague, Gavin Britz, MD, Chair, Houston Methodist Hospital reminded us, he was a talented, warm, compassionate and kind human being. His family, friends and patients will miss him. He will always be remembered for the goodness he brought to our lives. His fellow University of Washington Resident Anthony Avellino speaks for all of us when he writes:

“Charlie was a remarkable and compassionate surgeon, colleague, friend, and father. He cared deeply about others and will be missed dearly…”

Image Credit: The Mayfield Clinic

The design and conclusions of “A Randomized Trial of Unruptured Brain Arteriovenous Malformations” (ARUBA) trial remain controversial, and its structure limits analysis of potentially treatable patients.

In an effort to evaluate the results of a consecutive series of patients with unruptured brain arteriovenous malformations (BAVMs), including a subgroup analysis of ARUBA-eligible patients, we treated one hundred five patients with unruptured BAVMs over an 8-year period. From this series, the study retrospectively reviewed 90 adult patients and a subgroup of 61 patients determined to be ARUBA eligible, including a subgroup analysis for Spetzler-Martin grades I/II, III, and IV/V. The study employed the modified Rankin Scale to assess functional outcome.

Persistent deficits, modified Rankin Scale score deterioration, and impaired functional outcome occurred less frequently in ARUBA-eligible grade I/II patients compared with grade III to V patients combined. Twenty-two of 39 patients (56%) unruptured grade I and II BAVMs were treated with surgery without and with preoperative embolization, and all had a modified Rankin Scale score of 0 to 1 at the last follow-up. All patients treated with surgery without and with preoperative embolization had radiographic cure at the last follow-up.

The results of ARUBA-eligible and unruptured grade I/II patients overall show that excellent outcomes can be obtained in this subgroup of patients, especially with surgical management. Functional outcomes for ARUBA-eligible patients were similar to those of patients who were randomized to medical management in ARUBA. On the basis of these data, in appropriately selected patients, the study favors treatment for low-grade AVMs.

We have treated over 250 ruptured and unruptured AVMs at HMC over the last 10 years. Management was multidisciplinary consisting of observation only, embolization with ONYX, microsurgical resection, or radiosurgery. Two neurosurgeons, two neuroradiologists, and one radiation oncologist comprised the team. John Nerva, a Neurological Surgery resident, and Jason Barber, a biostatistician managed analysis.

The ARUBA trial conditions were very different from the approach taken in major neurological surgery centers in the USA, which consisted mainly of embolization only with a view to cure, surgery being performed as the last resort. This led to a very high complication rate in their patient cohort, and was a major reason that the ARUBA trial did not show a positive result for the “treatment arm.” Highly skilled microsurgery and targeted embolization with a major aim to make the AVM amenable for further treatment without producing major complications was the important difference in the cohort of patients treated at UW-HMC.

The group of patients with ruptured AVMs, and a large series of pediatric patients with AVMs are both being currently analyzed.
This last May, *Smithsonian* magazine printed an article entitled, “*Inside the Science of an Amazing New Surgery Called Deep Brain Stimulation.*” In it, the author describes an operation in which an awake patient undergoes electrode implantation for essential tremor, lauding it as “the most futuristic medical treatment ever imagined...”

In truth, Deep Brain Stimulation (DBS) has been performed routinely since the 1970s, and the history of surgery for movement disorders is as old as modern neurological surgery itself. In the 1890s, Sir Victor Horsely successfully treated athetosis with extirpation of motor cortex, achieving an admittedly Pyrrhic victory over tremor at the cost of hemiparesis. Refinement of destructive procedures over ensuing decades did lead to the symptomatic relief of movement disorders without debilitating neurological deficits. Prior to the advent of advanced imaging such as CT or MRI, such precision relied on the technique of microelectrode recording (MER). By passing a thin electrode multiple times through the brain, the neurosurgeon could ascertain the optimal location at which to create a small lesion by mapping the activity of single or small groups of cells. This technique requires an awake and behaving patient, as well as specialized equipment and the expertise to use it.

Concurrent advances in hardware allowed the development of reliable neuromodulation with electrical current, and by the 1990s, ablative therapies for movement disorders was largely supplanted by the putatively reversible therapy provided by high-frequency stimulation known as DBS. Even today, however, most neurosurgeons rely on the practice of MER to localize targets for stimulation, continuing the tradition of passing wires several times through brain tissue.

Imaging technology has progressed to the point where high-resolution MRI can identify targets for DBS. It is now possible to obtain high-resolution imaging with CT inside any operating room, which allows for direct identification of real-time targets within the brain during surgery. Techniques and protocols for performing image-guided implantation of DBS electrodes have been developed and validated in recent years.

We are now implanting DBS electrodes using these new image-guided techniques at the UWMC and Harborview. Adopting these techniques is not embracing technology for its own sake. Image-guided DBS permits patients to be asleep during the procedure, enhancing their comfort, and making this therapy available to patients who might otherwise be unwilling or unable to participate in awake surgery. The use of intraoperative CT scanning to provide real-time imaging allows precise localization of intracranial electrodes, and does not necessitate multiple brain penetrations to confirm electrode position. This reduces the risk of potentially catastrophic hemorrhage during electrode implantation.

Moreover, continuing advances in imaging such as diffusion-tensor tractography and resting state functional connectivity are also contributing to our understanding of how DBS affects the network architecture of the brain. These imaging modalities are being incorporated into surgery at the UW to more accurately predict clinical outcome and side effects of stimulation. This notion of “connectomic” surgery is revealing new targets for stimulation to treat diseases such as OCD and depression. A study at the UW testing new technology that makes it possible to tailor DBS to patient activity, providing stimulation only when needed, has been recently approved by the IRB, potentially changing how this therapy is employed for the first time since the 1990s.

So, while DBS may not be new, this therapy continues to be amazing, and the UW is poised to help ensure that it will be well into the future.
**Christoph Hofstetter, MD, PhD**

Christoph Hofstetter and colleagues will soon publish a proof of efficacy paper in the *Journal of Clinical Neuroscience* concerning endoscopic treatment of foraminal stenosis. Such narrowing is thought to cause radiculopathy in approximately 10% of patients suffering form lumbar degenerative spondylosis. A decrease in disc height, osteoarthritic degeneration of facet joints, cephalad subluxation of the superior articular process, buckling of the ligamentum flavum, or protrusion of the annulus fibrosus may all contribute to foraminal stenosis and limb pain. Surgical decompression of stenotic lumbar foramina requires partial resection of the osteophytes, hypertrophic superior articulate process, and superior margin of the adjacent caudal pedicle which forms the borders of lumbar foramina.

Excellent clinical outcome following endoscopic foraminotomy has been previously reported in 12 patients by Ahn et al. At a mean follow-up period of about one year, 10 patients (83.3%) reported excellent or good relief of symptoms. However, no quantitative data on the amount of foraminal decompression have been reported to date. Thus, there is a need to investigate the efficacy of endoscopic decompressive procedures in the lumbar spine. In this study, Hofstetter evaluated the radiographic outcome of endoscopic lumbar transforaminal decompression in cadaveric specimens. A marked increase in the cross sectional foraminal area was noted at all the studied levels.

**Christine Mac Donald, PhD**

We are pleased to introduce Dr. Christine Mac Donald, who joined our department in 2014 as an Assistant Professor. Born and raised in California, she was previously a Mechanical Engineer working in the Aerospace industry in Silicon Valley before completing her Master’s and Doctorate in Biomedical Engineering at Washington University in Saint Louis. She did a postdoctoral clinical research fellowship in civilian brain injury and initially was appointed to a faculty position in the Department of Neurology also at Washington University. There, she managed and directed clinical research studies with Active Duty US Military following combat-related brain injury, exploring new imaging techniques for utilization in the acute critical care environment. She then lived and worked at Landstuhl Regional Medical Center in Germany, the primary triage site for all casualties of war before completing a 2012 study with colleagues directly in the combat theatre at Kandahar Air Field and Camp Leatherneck in Afghanistan.

Her research is focused on advanced MR methods for the evaluation of traumatic brain injury both in the civilian and military populations. She brings creative neuroimaging expertise to our department and a wealth of computationally minded information as it pertains to both preclinical models and the clinical application of new imaging methods to brain injury and other neurodegenerative diseases. An avid commuter cyclist, runner and triathlete, when she is not in the office, you can find her exploring the outdoors and enjoying the mountain trails all over our Evergreen state. She has already engaged in synergistic collaborations with many of our clinicians and has obtained both Department of Defense and NIH funding for her work since joining our department. We enthusiastically welcome Dr. Mac Donald and anticipate her further contributions in many areas of research.

During her first year with us, she received a major award for an effort entitled, Evaluation of Longitudinal Outcomes in Mild TBI Active-Duty Military and Veterans - The EVOLVE Study. The goal of EVOLVE is to evaluate the long term impact of concussive TBI on US military service members and leverage existing early clinical and imaging data in these individuals to develop models of predictive outcome. This is a five year $3M award for the period 04/04/2015 - 03/31/2020. Congratulations to Dr. Mac Donald and her collaborators.
Research Professor Emeritus **Dr. John Silber** is a brain tumor biologist with a long and productive history in our department. Although officially “retired” he continues to make substantial contributions to our research and teaching mission, and we are grateful, not only for his past service, but also his ongoing contributions.

After receiving his BS in Physics from the University of Florida in 1971 Dr. Silber completed his PhD in Radiation Biology and Microbiology from the same institution in 1977. After beginning his post-doctoral work at the Fox Chase Cancer Center in Philadelphia, he moved with his mentor Lawrence Loeb to the University of Washington in 1978 to continue work supported by Fellowships from NIH and NIA. From 1986-1990 he was a Senior Associate at the Howard Hughes Medical Institute at the University of Washington and then joined our Department as a Research Assistant Professor to begin translational work in brain tumor biology in collaboration with Dr. Mitchel Berger. He has been an active researcher who has developed a national reputation by characterizing the contribution of individual DNA repair activities to resistance to radiation and chemotherapy in adult and pediatric gliomas. The long-term goal of these studies was to identify potential targets for novel strategies to overcome resistance to contemporary standards of care for malignant gliomas. To that end, Dr. Silber is now collaborating closely with colleagues in the Department of Materials Sciences to develop nanoparticles capable of delivering chemical and genetic inhibitors of essential DNA repair proteins specifically to gliomas. He also continues more basic studies addressing the role of the mutator phenotype in gliomagenesis, the evolution of tumor aggressiveness, and association of tumor proliferation and oxidative stress on DNA repair capability. Over the years, his work has been supported by 10 NIH and foundation awards on which he was Principal Investigator and has resulted in 55 peer reviewed publications in high value journals and 6 book chapters. His national and international responsibilities include invited presentations at conferences and other universities, participation on numerous ad hoc study sections and serving as a reviewer for leading oncology publications.

John’s emeritus status has been no barrier to his ongoing scientific productivity. He has maintained long-term collaborations with faculty at UW and other institutions, routinely attends the weekly Neuro-Oncology Tumor Board and collaborates extensively with clinicians and scientists in our department. He takes particular interest in the education of undergraduate students in whom he tries to instill an appreciation for the molecular basis of disease. For the last 25 years he has served as the Principal Investigator of the Neuro-Oncology Tissue Bank and is responsible for maintaining tissue associated clinical data from approximately 2,000 patients as a dedicated resource for Neurological Surgery faculty and their collaborators.

Dr. Silber has had a productive and rewarding career in the Department of Neurological Surgery. He is exceptionally well liked and his ongoing involvement in our training program, mentoring junior faculty as well as research activities brings great depth to our department.
Robert C. Rostomily, MD

Professor of Neurological Surgery, Robert C. Rostomily, has just received an NIH R01 (concurrently his 3rd) for his project entitled Therapeutically Relevant Targets of Twist1 Dimers in Glioma. This is a 5-year, $2M study for the period 02/15/2015 - 01/31/2020.

Glioblastoma (GBM) is among the most lethal human cancers, but despite extensive efforts over many decades, median survivals remain at one year, or less. New treatment approaches are needed to address this incurable brain cancer. In this research, Dr. Rostomily’s team will develop therapeutic strategies to target a transcription factor, TWIST1, which plays a central role in the invasion and survival of glioblastoma stem cells, unique tumor forming cells which are highly resistant to therapy and drive tumor progression. This research investigates a novel approach to targeting the TWIST1 transcription factor in GBM. Dr Rostomily’s lab was the first to identify TWIST1 as a novel mediator of glioma invasion and glioma stem cell phenotypes. He and his colleagues have extensive experience with human GBM stem cell characterization, molecular manipulation and xenograft models to study invasion and tumor phenotypes. With this research award, Dr. Rostomily and his exceptional team of investigators hope to identify promising new approaches to GBM therapy, which might also have implications for many other cancers.

The Practitioner Team

Over the course of the past ten years, the structure of the in - and out - patient Harborview mid-level practitioner team has changed and grown, both in terms of FTE and responsibilities. There are now some 12 FTE dedicated, skilled, and very hard working practitioners who manage the neurological surgery ward and clinic patients along with the residents, neurohospitalists and neurosurgeons. In general, they are an amazing, accomplished group with a variety of skills and interests. We are taking the opportunity in this issue of the newsletter to introduce a few of them to you; there will be more introductions in the future. We are all lucky to have them on our team.

Katie Moore, RN, Helicopter Pilot

Katie Moore was raised in Port Angeles, on the Olympic Peninsula and worked for the Olympic National Park in helicopter and emergency management for five years during college. Initially she went to college on a full tuition piano performance scholarship, but then decided to become a helicopter pilot. She took fixed wing and rotary lessons until her grandmother (and college financier) suggested this was an “unladylike” profession. Katie then found her way to a bachelor’s degree in nursing from the UW and a Master’s in nursing from Seattle University. She reports that she still plays piano, most recently accompanying the Seattle Gay Youth Choir; but that otherwise her skills are mostly utilized in sing-a-longs with friends. Early in her nursing career, she took time off for international aid work: missions to Cambodia, tsunami disaster response in Sri Lanka and eventually a semi-permanent position for World Vision in Darfur, Sudan. She was evacuated by the UN after 4 months due to escalating violence against NGO employees. She has worked at HMC for 11 years, the last 5 as an ARNP for Neurological Surgery. Katie is married to Sean, and their son Colin is now 4. Sean works for the UW Foster School of Business (campaign development) and Colin works playing garbage trucks and riding his tricycle.

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Amy Diaz, BA, RN, MSN, FNP-C

Amy is a board-certified Family Nurse Practitioner with the American Academy of Nurse Practitioners and is a member of the Sigma Theta Tau International Honors society. She was born and raised on the Puget Sound in Olympia, Washington. She attended the Evergreen State College as an undergraduate, and balanced coursework in Cultural Anthropology with Fine Art studies and traveling abroad. After college, she worked in various areas of healthcare including Emergency Medicine and Oncology. Following several years working as an EMT and Emergency Department Technician, she earned an advanced degree in Nursing. She received her RN and Masters of Science in Nursing from Seattle University.

Amy enjoys traveling with her husband, snorkeling, swimming, reading and painting. She loves spending time with her 7 year-old stepson, and welcomed her own baby boy in June of 2014. Her favorite aspect of Neurological Surgery acute care is the opportunity to support patients through the complexities of their hospital stay and optimize post-operative recovery.

Jenny Choi, DNP, ARNP

Jenny was born and raised in Seattle, and earned her Bachelor’s degree in nursing from Seattle Pacific University, and her Master’s degree and doctorate from the University of Washington. She has experience working in primary care as well as Neurological Surgery. Jenny originally joined the Neurological Surgery practitioner team as a new grad in 2007, left for other adventures for two years, and then returned in 2013 (and we’re very glad she did). She is a hiking and yoga enthusiast, and last year went on mission to North Korea where, thankfully, she was not arrested.

Charles Vaughan, ARNP

Charles Vaughan is a Nurse Practitioner with several years of experience as a Critical Care RN at UWMC. He obtained his MN and BSN at the University of Washington. His experience at Harborview includes volunteering in the Emergency Department and Pioneer Square Clinic prior to his academic progression in Nursing. In his first life, he completed a successful 30-year career as an engineer with work in aerospace and biomedical engineering, and holds a PhD in Mechanical Engineering from Colorado State University with a specialization in biomedical engineering. Charles is married, has 3 daughters, and is an avid outdoors man, an active scuba diver, skier, cyclist, hiker and climber.
In July of 1988, our family moved to the Northwest from San Diego where I had worked in the Department of Anesthesiology at the University of California, La Jolla. My husband was an elementary school special education teacher. For two years I worked in Anesthesiology at UW and then accepted a position as a supervisor in our department at UWMC. In those days the RR744 office was two shades of competing orange, and an orange shag carpet of a third hue graced the floor. The staff was all temporary, except for me, which was challenging. It was my pleasure then to work with Drs. George Ojemann, John Loeser, Basil Harris, and also Frank Webster, the administrator at that time. I also worked with Marc Mayberg and had the opportunity to attend the CNS meetings twice when he was President and Past President. Dan Silbergeld was then a resident and I have enjoyed supporting him as his assistant for over a decade. I have been asked how I could work in the same place for 24 years, but our department has never been boring to me. In fact, adjusting to changes in staff and administration has been interesting and much like family dynamics.

Our two daughters have grown up during these years and because of this influence they have chosen healthcare professions. Laura is a Nurse Practitioner Midwife at Swedish Hospital in Issaquah, and Erin is a CRNA at the UWMC. After retiring, I will change my title from “Program Operations Specialist” to “Gigi” and join my husband, Doug, in caring for our grandchildren while their parents work, in hopes of giving them special relationships that neither of us experienced. We plan to travel and already made some definite itineraries. I’m also planning to write a book about our family heritage.

I treasure my time here, the lifelong friends I’ve made, and feel blessed to have been a part of such a wonderful group of people! Thank you!

Dr. Richard Ellenbogen: Sharon, until we see you again. Thank you for your years of dedicated service.
Western Neurological Society Annual Meeting

Grand Hyatt Resort and Spa • Kaua‘i, Hawaii • September 10 - 13, 2015

For the 61st annual meeting, the Western returns to the Grand Hyatt Resort and Spa on the Hawaiian Island of Kaua‘i. Direct flights to the Lihue airport on Kauai (17 miles from the resort) are available from many major airports.

More details about the meeting and the meal venues and afternoon activities will be forthcoming. The online room reservation link is https://resweb.passkey.com/go/wns2015

This year, Clinical Professor Emeritus Dave Pitkethly is the incoming Vice President of the WNS, and urges the residents to submit abstracts for the several prizes and for the junior faculty members to join this splendid local organization: http://www.westnsurg.org/default.asp

Department of Good News/Bad News

We are both overjoyed and bereft to announce that our more than wonderful Residency Program Administrator, Aubriana Ard, has been accepted to the University of Washington School of Medicine. She has managed the residents administratively for the past several years, and she has been their guide, friend, and sometimes taskmaster in shepherding them through the often difficult, demanding, and often confusing rules concerning Board requirements as well as their day-to-day responsibilities. While we all know that Aubriana will be as wonderful a doctor as she has been a colleague, she will be greatly missed in the department.

Dr. John Howe Elected to AOA

In honor of his magnificent teaching ability, Clinical Professor John Howe was elected by the final year UW students graduating AOA to membership in that society. John’s teaching abilities may have come from his mother, a long time Professor of English. This is a rare and wonderful recognition to a superb neurological surgeon and teacher.

Welcome Susan Ganger!

Susan Ganger has joined the Department of Neurological Surgery as Assistant to the Chair, supporting Dr. Ellenbogen. Her background includes working for Loyola University, The Gates Foundation and most recently, Microsoft, where she supported a team of over 200 people. We are looking forward to the addition of the wealth of her experience and abilities to our first-rate administrative team at HMC, UWMC, and SCH. Susan is located in the Neurological Surgery offices of the 14th floor of NJB and can be reached at: 206-744-9321 or sganger@uw.edu
The Department of Neurological Surgery’s First Annual Community Conversation

The Department of Neurological Surgery’s First Annual Community Conversation - Revolutionizing Brain Research and Care - was held at the UW’s South Lake Union facility on February 5th, 2015 and received positive reviews from attendees and participants alike. In addition to introductory remarks by Professor and Chair, Dr. Richard Ellenbogen, Neurological Surgery faculty presenters included:

Assistant Professor Christine L. Mac Donald, PhD, who discussed her ongoing TBI research in a talk entitled: Brain Injury and Psychological Health following Combat Deployment: The Invisible Wounds of War.

Associate Professor Samuel R. Browd, MD, PhD, who spoke on Innovation and Commercialization and how we impact patient care through innovation in the areas of Hydrocephalus, Brain Catheters, Concussion, and epilepsy among others.

Associate Professor Louis J. Kim, MD, who spoke on Predicting Aneurysm Treatment Success with Endovascular Flow Measurements and noting that UW-Harborview is changing the future of aneurysm treatment.

Assistant Professor Manuel Ferreira Jr. MD, PhD, whose talk entitled Aneurysm Genome Project: Lessons from the Human and Cancer Genome Projects, reviewed what is known now about the genetics of aneurysms and how increased research may provide new therapeutics directed toward customized treatments for each patient’s aneurysm.

We are pleased to communicate new developments in the field pioneered by our faculty, and next year look forward to bringing you a report on the Second Annual Community Conversation.

From left to right: Manuel Ferreira Jr., MD, PhD, Samuel R. Browd, MD, PhD, Christine L. Mac Donald, PhD, Richard G. Ellenbogen, MD, FACS, Louis J. Kim, MD

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New Puzzler:

New Puzzler: How do you connect leprosy, a “fair pitcher,” and neurosurgery?

Previous Puzzler: The “Neurosurgery’s man of the Century” has never boated on the Moodus Reservoir, but what is their actual connection?

Answer: He studied at Basel University in Basel Switzerland which is the birthplace of Willy Burgdorfer, who found the cause of Lyme Disease which is named for the town of Lyme, CT, where the Moodus Reservoir is located.


We remain eager to publish stories and photos about all aspects and activities of the Department. Please share your memories, ideas and suggestions for stories and news items that expand our common ground. Please contact us at these email addresses:

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