Neurosurgery at Mount Sinai is published for colleagues and friends of the Department of Neurosurgery at The Mount Sinai Medical Center. Please contact Debbie Wren, Deborah Wren@montysinhalu.org for submissions, suggestions or questions. Visit our website, www.mssm.edu/neurosurgery/index.html.

**Grand Rounds Conference Schedule for March**

**8-8:50 AM: Elmhurst Case Presentations**
Simone Betchen, MD, Jamie Ullman, MD

**8-8:50 AM: “Management of Poor Grade Aneurysm Patients”**
H. Richard Winn, MD
March 3 in GP-2nd Floor, Conference Room B

**8-8:50 AM: Quality Assurance**
Wesley King, MD
March 17 in Annenberg 5 - Boardroom

**7-7:50 AM: (Faculty Meeting)**

**7-7:50 AM: Spine Conference**
Tanis Chauvin, MD

**7-7:50 AM: “Anesthetic Effects on Cerebral Circulation and Dynamics: A Review for Neurosurgeons”**

**8-8:50 AM: “Urokinase Plasminogen Activator Receptor, an Initiator of a Proteolytic Cascade and a Signaling Partner: Role in Cancer Invasion and Dormancy”**
Liliana Ossowski, PhD, Mount Sinai Dept. of Medicine
March 24 in Annenberg 5 - Boardroom

**7-7:50 AM: Tumor Conference**
Isabelle Germano, MD

**7-7:50 AM: Practical Review of Neurophysiological Testing**
Mark Sivak, MD, Mount Sinai Dept. of Neurology

**8-8:50 AM: Neuropathology Conference**
Humayun Gultekin, MD, Mount Sinai Dept. of Pathology
March 31 in GP - 2nd Floor, Conference Room B

**8-8:50 AM: Neuropathology Conference**
Heisook Kim, MD, Department of Pathology

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The History of Neurosurgery at the Mount Sinai Hospital


Founded in 1852 as the first Jewish hospital in the United States, “The Jew’s Hospital in New York” was renamed The Mount Sinai Hospital in 1886 to reflect the nonsectarian policy of patient care. Originally located on West 28th Street, the hospital moved to Lexington Avenue and 65th Street in 1879, and in need of more space, to its present location at 100th Street between Madison and Fifth Avenue in 1901. Although there was no designation for neurosurgery patients in the late 1880s, there were some neurosurgical procedures performed at Mount Sinai in 1885 an urologist successfully extracted a “pelvic ball” from a patient’s, in 1888 there were reported operations on brain tumors, and in 1896 a temporary skull resection was performed. In the 1930s the improvement in antisepsic technique allowed more complex surgery including more frequent opening of the cranium. The practice of a surgeon performing his first craniotomy in the operating room gave way to the practice of antiseptics and antisepsis. In fact, in 1888 general surgeon Dr. Arpad G. Gerster, an recent immigrant and immigrant and the most active of the four surgical chiefs, published Rules of Aseptic and Antiseptic Surgery. Interested in neurosurgery, Dr. Gerster pioneered surgery for epilepsy. He was responsible for the early training of Dr. Charles Elsberg and Dr. Ernest Sachs, who ultimately became the world’s first professor of Neurosurgery at Washington University Medical School.

In 1914, in a major reorganization of the Surgery Department, beds were designated for four surgical specialties, one of which was Neurosurgery. Dr. Charles Elsberg, a general surgeon who had been called “Father of Neurosurgery” at Mount Sinai, was assigned the “specialist” for Neurosurgery. As Chief of the Service, he instituted changes that included specialized instruments and drapes, nurses with specialized neurosurgical training and separate operating room for neurosurgical cases.

Dr. Elsberg’s work and interest soon became synonymous with the growth of neurosurgery in New York. A native New Yorker, he held this internship at Mount Sinai after finishing medical school at Columbia and held positions at Mount Sinai as associate surgeon and then attending surgeon. Having taken an active role in the planning of the building and operating rooms, in 1909 Dr. Elsberg helped to found the Neurological Institute of New York, which later became part of Columbia University’s College of Physicians and Surgeons. He was appointed to the staff of Mount Sinai, and in 1922 began the Mount Sinai Hospital to devote his time to that institute. In the interim, he co-founded the Society of Neurological Surgeons with Drs. Harvey Cushing and Charles Fraser in 1920 and served as its third president in 1923. His many inventions included several rongeurs for performing laminectomies and special cannulas and grooved directors for using...
brain abscesses. Among his four major texts and over 150 medical articles were reports on topics of interest in neurosurgery, including cerebello-pontine angle tumors and laminectomies. His books, Diagnosis and Treatment of Surgical Disease in the Spinal Cord, published in 1916, and Cerebello-Pontine Angle Tumor, one of the Spinocerebellar Tumors of the Spinal Cord (1925), contributed to the advancement of surgery of the spinal cord.

Because Dr. Harold Neuhof, Dr. Elsberg’s successor, became interested in thoracic surgery, he assigned responsibilities for neurosurgery to Dr. Ira Cohen in 1929. Dr. Cohen received his medical degree from Columbia, interned at Mount Sinai Hospital, worked as a surgical resident at the New York Polyclinic from 1930 until 1932, and served as department head of Neurosurgery until 1940. During World War II, when he was a major in the army assigned to the Mount Sinai Unit, Bascom Hospital Number 15 in France, he established a surgery for broken limbs by looking in a mirror and instructing his colleagues as they dismembered and repaired his wounds. Under Dr. Cohen’s leadership, the Neurosurgical Service became a distinct department in 1932. Dr. Cohen believed that a separation from general surgery was warranted because the diagnostic and surgical needs of neurosurgical cases differed from those of general surgery. He established the formal residency in Neurosurgery in 1947 but was able to accept only one applicant before his retirement in 1956. His first resident, Dr. Aron Beller, became Chairman of the Department of Neurosurgery at the Hadassah Hospital in Israel. The second full-time resident was Dr. Leo Davidoff, the only Jewish neurosurgeon trained by Dr. Cushing. After Harvard College, Harvard Medical School, and a two-year service in World War II, he began his surgical career in 1947 as a Lieutenant in the United States Army Medical Corps. After a year of service in the Pacific theater, he was assigned to the 43rd Casualty Clearing Station in Hawaii and then to a neurosurgical unit in Japan. He returned to the United States in 1948 and completed his residency in neurosurgery at the Mount Sinai Hospital in 1950. Dr. Davidoff was appointed Assistant Professor of Neurosurgery in 1952 and Associate Professor in 1956. He was designated as the department’s first Chairman in 1959.

The next full-time Chair of the Department was Dr. Leo Davidoff, the only Jewish neurosurgeon trained by Dr. Cushing. After Harvard College, Harvard Medical School, and a two-year service in World War II, he began his surgical career in 1947 as a Lieutenant in the United States Army Medical Corps. After a year of service in the Pacific theater, he was assigned to the 43rd Casualty Clearing Station in Hawaii and then to a neurosurgical unit in Japan. He returned to the United States in 1948 and completed his residency in neurosurgery at the Mount Sinai Hospital in 1950. Dr. Davidoff was appointed Assistant Professor of Neurosurgery in 1952 and Associate Professor in 1956. He was designated as the department’s first Chairman in 1959.

The son of a physicist father and a psychoanalyst mother, Joshua B. Bederson, MD, grew up in Larchmont, New York, the oldest of four boys. He pursued interests, developed in grade school, of both gymnastics and sculpture. In high school he captained the gymnastics team and became involved with neuroscience research. At Columbia University College of Physicians and Surgeons, he participated in clinical and basic neurosurgery research and graduated with honors (Alpha Omega Alpha). After an internship at Columbia University, he joined the faculty at the University of California at Los Angeles and later became Chairman of the Department of Neurosurgery at the University of California at Los Angeles. During this time, he developed an interest in pituitary tumor surgery. With Seymour Reichlin and Ivor Jackson, he published The Pituitary Adenoma textbook in 1980. In 1980, he was elected to the National Academy of Sciences and the Institute of Medicine. He has been President of the American Neurological Association and Chairman of the American Heart Association Guidelines Writing Group on Subarachnoid Hemorrhage.

Tanvir F. Choudhri, MD, was born in Toronto to two physicians and soon after moved to the United States where he was raised. He attended Phillips Academy in Andover, Massachusetts, graduated summa cum laude in neuroscience research in cerebral ischemia. Taking his first medical school to study subarachnoid hematomas and to complete his residency under Charles Wilson, MD, while a resident, he published his first paper on stroke—and at the age of 30 years, he has been able to show his skills in pituitary surgery. He is currently an Associate Professor and Section Head of Neurosurgery at the University of California at Los Angeles. He is a resident in Neurosurgery and their daughter is an attorney, making three generations of Posts in those professions!

Kalman D. Post, MD, is the son of a physician father and an attorney mother. Story has it that he originally considered a career in law but could never win an argument with his mother and decided on medicine! He pursued his entire education in New York from Great Neck High School to the University of the State of New York at Albany where he was elected to Phi Beta Kappa and graduated summa cum laude. He later attended the University of Pennsylvania Medical School at the University of Pennsylvania Medical School where he was elected to Alpha Omega Alpha. He began his surgical career in 1980, an Associate Professor, and joined the faculty at the University of California, Los Angeles. He received his medical degree from the University of Pennsylvania Medical School where he was elected to the Alpha Omega Alpha, and completed his residency under Charles Wilson, MD. While a resident, he held a fellowship in Italy at the University of Torino under Daidie Fisher, MD. During internship, he married and raised two daughters, a son, and a daughter; they are now the Post children.

Dr. Post is internationally known for his work and results treating pituitary and parasellar tumors, as well as cerebellum pontine angle tumors, particularly acoustic neuroma with hearing preservation. He is a member of the Endowed Chair of Neurosurgery at Columbia University, Board of Directors of the Pituitary Society, and was a tenured faculty of the New York Chapter of the American Neurosurgical Society. With his busy schedule, he still finds time for an occasional golf game, ski vacations and books with historical themes. He married the first lady, an attorney and biochemist, having married children and two grandchildren. His son is a resident in Neurosurgery and their daughter is an attorney, making the generations of Posts in those professions!
Born and raised in Karachi, Pakistan, Paloma A. Shah, PhD, earned an MD in Pharmacy from the University of Karachi in 1987, then trained in the Abbott Pharmaceutical Laboratories and returned to the University to do research at the NIH Institute of Medicine. Following in the footsteps of her father and brothers, who had achieved advanced degrees in the United States, she came to the United States in 1990 for graduate study in pharmaceutical sciences at St. John’s University, where she earned both an M.S. and a Ph.D. While at St. John’s, she combined her studies with a taste for travel from 1990 until 1997. She also joined the Cardiorenal Laboratory of Neurosurgery at Mount Sinai as a postdoctoral fellow in 1997 and in 2003, became an Assistant Professor. She has been awarded a three-year American Heart Association Scientist Development Grant for Microvascular Mechanisms in the Acute Pathophysiology of Subarachnoid Hemorrhage and a sabbatical investigator on an NIH, NINDS/R01 for the Role of Nitric Oxide in Pathophysiology of Subarachnoid Hemorrhage. Dr. Shah loves playing squash and basketball and disdains the activities of a seven-day trip of white water rafting on the Colorado River. This summer’s goal is an ice-climbing trip in Alaska.

Arturo L. Jenkins, III, MD, grew up in Philadelphia. He received a B.A. in Biochemistry from the University of Pennsylvania and an M.D. from that same institution’s School of Medicine. His post-doctoral training in cardiovascular pathology at NYU Medical Center/Bellevue Hospital and an internresidency in general surgery at the Mount Sinai Medical Center followed by a fellowship in surgical pathology at Mount Sinai Hospital in Boston. Upon completion of his fellowship in 2001, he was appointed Assistant Professor of Neurosurgery at Mount Sinai with attending responsibilities at both Mount Sinai and Elmhurst Hospital Center. Jenkins was named Director of the minimally invasive neurosurgery, Dr. Jenkins’ clinical interests span the treatment of spinal disorders and injuries as well as peripheral neuropathy and general neurosurgery. He has authored numerous chapters on spine-related topics in Neurological Surgery (Youman’s 5th Edition) and two chapters for Neurosurgical Techniques. His clinical research focuses on advances in minimally invasive procedures, intraoperative imaging and image-guided surgery, and treatment of spine-related disorders and injuries as well as peripheral neuropathy and general neurosurgery. He has authored numerous chapters on spine-related topics in Neurological Surgery (Youman’s 5th Edition) and two chapters for Neurosurgical Techniques. He has received a B.Sc. degree magna cum laude from Villanova University, where he was a player on the tennis team, and in 1993, a member of AOA, received his M.D. He stayed at UCLA until 2003 for postgraduate training, completing not only a neurosurgery residency but also a fellowship in endovascular therapy/interventional neuroradiology. During his fellowship, he was assigned as an instructor of radiology at UCLAN. He then joined the Mount Sinai Hospital Department of Rehabilitation Medicine in 2005. He currently supervises and participates in the care of patients with neurologic injuries and diseases. He has been honored as one of the “Top Doctors: North America” in the Castle Connolly Guide. He and his wife, Nihara, an attorney and author, have a son and enjoy living in the Upper East Side. Dr. Jenkins’ outside interests include sports (basketball, running, golf), traveling, photography, and reading.
Patients with complex neurovascular disorders such as aneurysm, arteriovenous malformation and stroke often present the greatest challenge to the neurovascular surgeon. Endovascular therapy offers unique potential for providing elegant solutions to neurovascular problems. In addition, endovascular therapy provides minimally invasive alternatives to traditional surgery for the treatment of many vascular and neurovascular central nervous system disorders.

Neuroendovascular surgery is based on remote access to neurovascular structures, and interventions are based on agents delivered within these compartments. These interventions include coil embolization for aneurysms, alcoholization for arteriovenous malformations, and devices designed to obstruct blood flow, such as flow-diverting stents. These devices are delivered via the femoral artery and deployed via angiography. Endovascular therapy has proven effective for the treatment of intracranial and extracranial aneurysms, arteriovenous malformations, and other vascular and nonvascular lesions.

Aneurysms
It is estimated that between one and eight percent of the population harbors an intracranial aneurysm. Recent refinements in magnetic resonance imaging (MRI), magnetic resonance angiography (MRA), and computed tomographic angiography (CTA) have increased the number of unruptured aneurysms detected. Most of these aneurysms will be incidental findings and consequently asymptomatic. A decision is made to treat these aneurysms, the primary goal of treatment is occlusion of the aneurysm, eliminating the risk of subarachnoid hemorrhage (SAH). SAH from intracranial aneurysm rupture continues to be a devastating disease with high morbidity and mortality rates. Between 40 and 50% of patients with SAH will die because of their hemorrhage.

The primary purpose of treatment of ruptured aneurysms is to prevent rebleed and provide long-term protection against future aneurysmal rupture by excluding the aneurysm from the circulation. Traditionally this has been accomplished by surgical clipping of the aneurysm. Embolization utilizing blood vessels as natural channels to reach the aneurysm via the endovascular route provides less invasive and potentially safer approach to treatment. Moreover, endovascular treatment of aneurysms may also reduce post-treatment hospital stay and recovery time. The endovascular method utilizes electrically detachable platinum coils. These coils are very soft, allowing the thrombus on the aneurysmal wall to shrink and allowing for maximum packing of the aneurysm sac with a low risk of inducing rupture. Since their first clinical use in the early 1990's, coils have been used in many neuroendovascular centers.

AVMs
An arteriovenous malformation (AVM) consists of a nidus of coiled and tortuous vascular channels shunting blood from arterial feeders to draining veins. Approximately 53% of patients present with seizures and an additional 12% with progressive neurologic deficit. The hemorrhage rate is 1.3 to 3.9%.
Intra-arterial rt-PA is suggested to be more effective than intravenous rt-PA, and may increase the time window for treatment. In local intra-arterial (IA) thrombolysis, fibrinolytic agents are delivered directly to the clot, and an opportunity to carry out gentle mechanical disruption of the clot with the delivery catheter and wire.

IA thrombolysis may be used in the further research is being conducted in the use of mechanical thrombolytic devices as well as laser clot fragmentation. The advantages of these approaches include lack of systemic and hemorrhagic complications. Better public awareness is also needed as fewer than 5% of eligible stroke patients actually receive thrombolytic therapy. In addition, faster diagnosis with MRI diffusion and CT perfusion may help to identify patients who can benefit from thrombolysis.

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In conclusion, neuroendovascular techniques provide exciting and innovative solutions for many neurovascular disorders. Endovascular therapy is a rapidly growing field and the future of cerebrovascular disease.
There are three established lectureships in Neurosurgery.

In May of 1996, Lila Hollin Green established the Sidney A. Hollin, MD Endowed Memorial Lectureship in Neurosurgery in memory of her late husband who had been a cardiovasculature neurosurgeon at Mount Sinai. After completing a residency in Neurosurgery at Mount Sinai, a fellowship in Neuropsychiatry at Queen’s Square in London and training in Neurology at Atkinson Morley’s Hospital in Wembley, Dr. Hollin returned to Elmhurst Hospital from 1961 until 1979; he was the Director of the Neurosurgical Service from 1974 until 1979. He also held an appointment at Mount Sinai School of Medicine from 1966 until his retirement in 1983.

In the fall of each year the Hollin lecturer is invited to speak about cardiovascular disease. The first speaker, when the lecture ship was inaugurated but not fully funded, was M. Gazi Yasargil, MD, in 1985. This year’s speaker was H. Richard Wines, MD, whose lecture was entitled The Role of Adenosine in Central Bloodflow. Past lecturers include the following distinguished physicians:

1992 Eugenie Flamm, MD: Protecting the Brain from Anoxia and Neurosurgery
1993 L. Nick Hopkins, MD: Vascular Neurosurgery and Neuroendovascular
1994 Bennett M. Sabin, MD: Brain AVMs
1995 Richard F. Spitzer, MD: Challenges in the Management of Giant Intracranial Aneurysms
1996 Joshua B. Badrissan, MD: Cardiogenic Embolism and Cerebral Revascularization
1997 Laligam Sekhar, MD: Central Anomaly Collis, Cardiac Arrest and VPA Grifts
1998 Marc Mayberg, MD: Clinical Research in Cerebrovascular Disorders
1999 J. Michael Fine, MD, PhD: Management of Intraventricular Hemorrhage
2000 Robert H. Rosenwasser, MD: Endovascular Options in Neurosurgery
2001 Philip E. Sling, MD, PhD: Arteriovenous Malformations: Complex Lesions: Comprehensive Therapy
2002 Nikolaos Hasimata, MD: Surgical Management of Arteriovenous Malformations

The Jeannette and Bernard Post Memorial Lectureship was originally established as the Bernard Post Lectureship by Dr. Kalmon Post in 1995. He is a neurosurgeon, the quintessential physician, both a healer and a teacher for over 30 years. Originally a general practitioner, he became board certified in Regenerative Medicine and was clinical associate professor of rehabilitation at Downstate University Medical School. The name of the lecture ship was changed in 2003 to memorialize Dr. Post’s mother Jeannette, a woman ahead of her times. One of the first women in her law school, she became a dogged litigator in an era when most women did not work outside the home. Her philosophy was that concern, love and truth were the basis of life. She fulfilled them and was an inspiration to her family.

1999 Kristjan Ragnarsson, MD: Rehabilitation of Patients with Traumatic Brain Injuries: Findings of the NIH Consensus Conference
2000 Peter Jannetta, MD, DSc: The Aging Brainstem: The Patient, the Internist, and the Neurosurgeon
2001 Martin H. Weiss, MD: Cranial Nerve Injuries: The Patient, the Internist, and the Neurosurgeon
2002 Albert L. Rhoton, MD: The Role of Adenosine in Cerebral Bloodflow
2003 Volker Sonntag, MD: Stabilization of the Surgical Spine

The Ved P. Sachdev, MD Endowed Lecture was established in 2001 in memory of Ved P. Sachdev. Born in India, Dr. Sachdev came from England to the United States and Mount Sinai at the age of 39. Having completed residencies in England in ENT and Neurosurgery, he began another residency under Dr. Sydney Gross (who retired two years later) and completed his training under Dr. Leonard Malis. Dr. Sachdev became Dr. Malis’s associate the day he completed his residency. Well-known for his surgical skills and anatomical knowledge, he was listed in New York Magazine among the best neurosurgeons in New York as well as in America. Also a dedicated teacher, Dr. Sachdev taught the Anatomy of the Peripheral Nervous System at the Medical School. He died on August 8, 2000 at Mount Sinai, where he had worked for 30 years.

2002 Leonard Malis, MD: Growth of Axons and Dendrites in Adult Mammalian Cortex
2003 Young H. H. Lee, MD: Meningiomas Involving the Optic Nerve: Clinical Experience
2004 Paul Seifert, MD: The Role of Adenosine in Cerebral Bloodflow

Updates on Activities of Former Residents

After residency training with Dr. Malis, Manuel A. Caccia, MD (Manny) spent two years as Assistant Chief of Neurosurgery at The Naas Hospital in Boston, Massachusetts, and moved to Indiana where he is still practicing. As past President of the Society of Philippine Surgeons, he has been involved in mission work to third world countries over the past 15 years. He led one such mission in 2003 to Caballero City, Samar Island, Philippines, where they completed 229 surgeries, 72 of which were major. In January 2004, Dr. Caccia took a group of 14 surgeons to many isolated areas in the Philippines; the team completed more than 500 surgical cases. Previously an avid tennis player, Dr. Caccia has also lost his golf which he used to enjoy on his visits. He has decreased his hours and is considering retirement in the near future, partly influenced by escalating malpractice premiums.