



Spine Surgeons

SUNY Upstate's Department of Orthopedic Surgery welcomes two fellowship-trained spine surgeons, both with impressive backgrounds in clinical and laboratory research, as well as expertise in a full range of spine procedures.

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Stroke Recovery

A new clinical trial examines the impact of electrical stimulation on stroke recovery.

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The Diagnostic Power of Volume CT

The causes of chest pain can be diagnosed more quickly, thanks to revolutionary new equipment available at University Hospital's Emergency Department. Volume-computed tomography (VCT) provides highly powerful CAT scans, diagnostic tools that are especially valuable at the region's only level-one trauma center.

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\$1 Million for the Children's Hospital

A \$1 million gift from Bristol-Myers Squibb ensures a "park-like" refuge at the Golisano Children's Hospital at University Hospital.

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SUNY UPSTATE MEDICAL UNIVERSITY
& University Hospital Syracuse, New York

The Institute for Spine Care

leads in the treatment
of spinal pathology.

SUNY Upstate Medical University's Institute for Spine Care, under the longtime leadership of Hansen A. Yuan MD and Bruce E. Fredrickson MD, has added two fellowship-trained spine surgeons: Amir H. Fayyazi MD, who joined the faculty in 2004, and Mike H. Sun MD, who joined the faculty in 2006. The addition of these two spine surgeons builds on the strength of the nationally ranked Department of Orthopedic Surgery at University Hospital and SUNY Upstate Medical University.

Treatment Options

Drs. Fayyazi and Sun offer a full range of procedures for the treatment of adult and pediatric spinal pathologies including **trauma and deformity, and degenerative diseases such as stenosis and disc herniation**. Fayyazi has a special interest in **minimally invasive procedures** of the spine and treatment of spinal deformities. Sun's special interest focuses on the treatment of **complex cervical diseases**.

"The services available at University Hospital allow us to safely treat complex pathologies such as fractures, spinal

deformity and tumors," says Dr. Fayyazi. One of these advantages is the availability of the **neuromonitoring technology** provided by SUNY Upstate's Department of Neurosurgery. This state-of-the-art technique allows real-time monitoring of the spinal cord during spinal procedures, significantly decreasing the risk of spinal cord injury during the surgery.

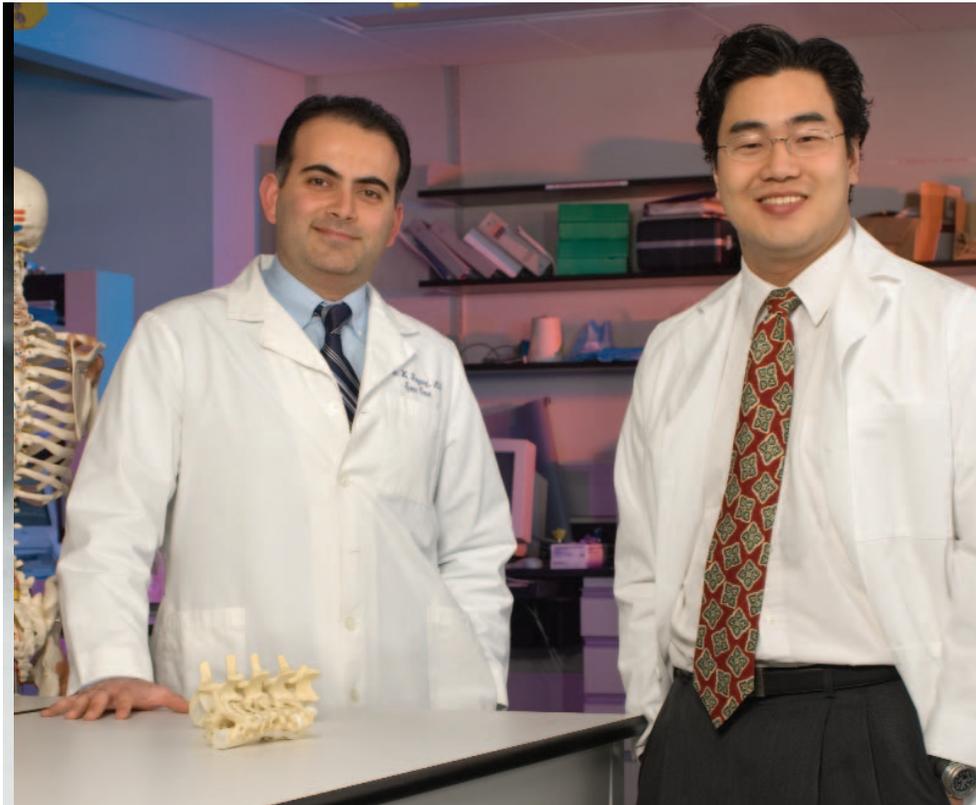
Research Interests

In addition to their clinical practices, both surgeons are involved in laboratory research at the Institute for Human Performance and clinical research at SUNY Upstate Medical University. "The Institute for Spine Care has always been on the forefront of emerging technologies for the treatment of spinal diseases," notes Sun. "One such area is the application of motion-preserving technology to the treatment of spinal pathologies. Another example is the lumbar-disc replacement which has been FDA-approved. Other motion-preserving procedures being studied include cervical-disc replacement and dynamic lumbar stabilization.

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Fellowship-trained spine surgeons Amir Fayyazi MD (left) and Mike Sun MD.

Amir H. Fayyazi, MD

- **Fellowship:** Rush-Presbyterian, St. Luke Medical Center, Chicago
- **Residency:** Milton S. Hershey Medical Center
- **MD:** Washington University School of Medicine
- **BS:** Johns Hopkins University Department of Engineering
- **Selected Publications:** *The Spine Journal, Journal of Spinal Disorder and Technique, Journal of Bone and Joint Surgery, American Journal of Orthopaedics, Current Opinion in Orthopaedics, Foot & Ankle International, American Journal of Physiology, Circulation*

Mike H. Sun, MD

- **Traveling Fellowship:** 2005 Cervical Spine Research Society
- **Fellowship:** Case Western Reserve University
- **Residency:** University of Chicago
- **MD:** Baylor College of Medicine
- **BS:** Yale University
- **Selected Publications:** *Current Gene Therapy, Gene Therapy, the Journal of Cellular Biochemistry*

Spine Procedures

- Cervical, Thoracic and Lumbar Decompression, Fusion and Instrumentation
- Minimally Invasive Procedures (Lumbar Discectomy, Lumbar Fusion, Cervical Laminoforaminotomy and Kyphoplasty)
- Lumbar Total Disc Replacement
- Cervical Total Disc Replacement (Research Study)
- Posterior Dynamic Stabilization (Research Study)

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Stroke Recovery Trial Focuses on Cortical Stimulation

The impact of electrical stimulation during stroke rehabilitation is the focus of a new clinical trial at SUNY Upstate Medical University: “Safety and Effectiveness of Cortical Stimulation in the Treatment of Upper Extremity Hemiparesis,” also known as the “Everest” study.

Patients are being recruited for the trial, according to Charles J. Hodge MD, chair of the Department of Neurosurgery and SUNY Upstate’s principal investigator for the multisite study.

The study will measure the safety and effectiveness of electrical stimulation delivered by an implantable pulse generator (IPG) to the cerebral cortex during rehabilitation activities, Dr. Hodge explains.

The cerebral cortex is believed to be an important site for neuroplasticity, a process of reorganization in which new areas of the brain assume the function of stroke-damaged areas. Findings from previous laboratory and clinical studies suggest that cortical stimulation therapy is safe and appears to increase motor function in stroke survivors, more so than rehabilitation alone.

Common After-Effect

Weakness on one side of the body is a common consequence of stroke and often prevents stroke survivors from performing basic daily activities. Rehabilitative therapy is the standard treatment for this motor deficit, but

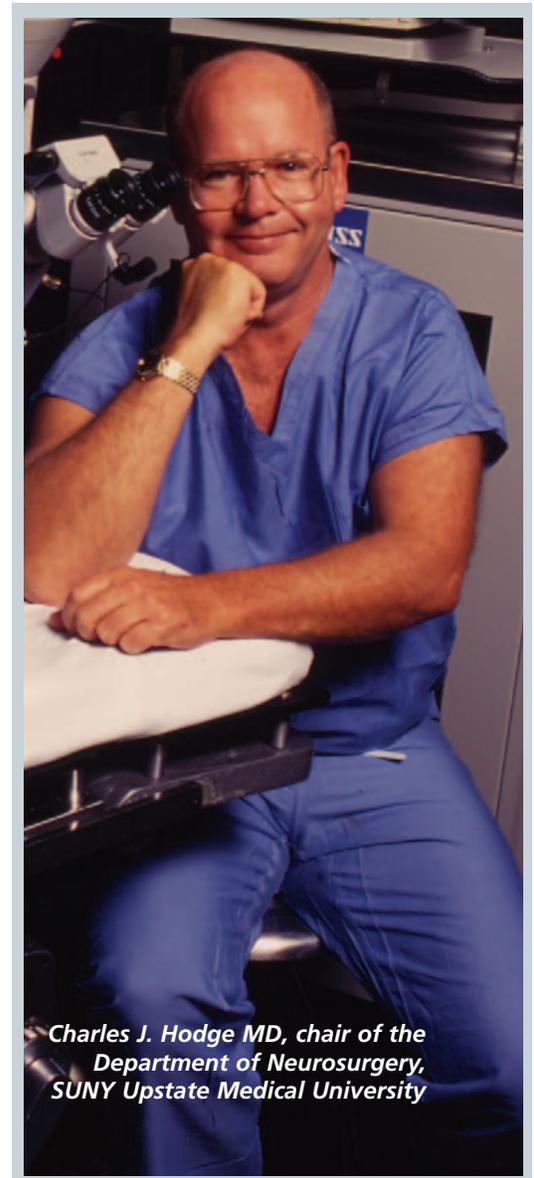
some patients achieve little, if any, improvement of motor function.

“The study will provide further evidence needed to determine if this proposed method of treatment – electrical cortical stimulation given concurrently with rehabilitative activities – is safe and effective for stroke survivors,” Dr. Hodge explains. “If successful, as evidenced by improved motor recovery and associated activities of daily living in stroke patients, it would likely have important health, quality-of-life and economic benefits for many people.”

The time commitment for the study is approximately eight months, consisting of up to two weeks for baseline activity, such as general health assessment and motor function testing; six weeks for rehabilitative treatment with or without the use of the implantable system; and six months for follow-up.

Up to 330 patients will be enrolled in all of the investigational sites to obtain a total of up to 174 volunteers appropriate for the study. Up to 110 of these volunteers will be part of an investigational group which receives the implanted stimulation system and undergoes targeted electrical stimulation concurrent with rehabilitation therapy.

Up to 64 patients will be randomized to the control group – but without concurrent electrical stimulation.



Charles J. Hodge MD, chair of the Department of Neurosurgery, SUNY Upstate Medical University

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“Everest” Study

Stroke Recovery Trial Patient Criteria

- Among other criteria, study volunteers must be 21 years of age or older and have experienced an ischemic (transient ischemic) stroke at least four months ago, causing muscle weakness in the shoulder, arm, wrist and hand on one side of the body. Candidates must also be medically and neurologically stable, able to undergo magnetic resonance imaging (MRI) and an implant procedure; and sign an informed consent.
- The participants will be assessed by standardized and validated tests of function, disability, and quality of life by raters who will not be apprised of to which group each volunteer is assigned. Study participants will conceal evidence of the device implant and refrain from discussing study procedures with the raters.
- The implanted device system is used only during rehabilitation activities and will be removed approximately eight weeks following the completion of rehabilitation therapy. None of the implantable components directly touches the brain. The FDA approved all components for use in this study.
- The system, designed to minimize risk to the volunteers, includes features to ensure negligible electrical risk to the patient and the ability to rapidly terminate therapy if needed. Trained study personnel initiate and monitor cortical stimulation via a handheld device. The device delivers personalized stimulation appropriate to the functional ability of each participant. A nurse or physician will be available for the duration of the rehabilitation session.
- Joining Dr. Hodge on the study team from SUNY Upstate are Charles Bradshaw PhD, clinical associate professor of neurology; Margaret Turk MD, professor of physical medicine and rehabilitation and pediatrics; and Michael Vertino MD, assistant professor of neurology. Study coordinator is Lorraine Padden CNR, ANP.



To learn more about the study, call 1-888-546-9779.

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Revolutionary VCT for Heart, Stroke & Trauma

University Hospital is the only hospital in the region to acquire a LightSpeed® VCT, the most advanced computed tomography imaging system available from GE Healthcare. The VCT (Volume Computed Tomography), housed in University Hospital's Emergency Department, produces 64 images in one 0.35-second rotation, providing doctors with new diagnostic power, including CT angiography and rapid tests for help in diagnosing patients with chest pain.

The VCT is maintained and operated by the hospital's Department of Radiology.

According to David Feiglin MD, professor and chair of the Department of Radiology, "University Hospital is the only hospital in the region to have this VCT capability in its Emergency Department, giving doctors and patients immediate access to a highly powerful and accurate CAT scan when needed. This is particularly important since University Hospital is designated as the level 1 trauma center for our region."

Dr. Feiglin says the VCT represents a new era in imaging, offering an innovative way to



**"The most advanced
computed tomography
imaging
system available."**

diagnose cardiovascular disease. "We are currently using the VCT for more traumatic-related injuries," he explains. "Within a few months, we plan to use the system to perform new and enhanced procedures, such as CT coronary angiography, to better evaluate patients suffering from chest pain."

In this capacity, the LightSpeed VCT allows doctors to capture images of the entire heart and coronary arteries in just five heartbeats, providing clearer images of cardiovascular anatomy and a shorter breath hold for sick and elderly patients. In a single fast scan, it also gives physicians the ability to rule out aortic dissection, pulmonary embolism and coronary artery disease – three of the primary causes of mortality in patients with chest pain.

The VCT also has the speed and resolution necessary for rapid imaging of blood vessels in the brain. "This enables physicians to quickly diagnose a stroke and to determine the extent of damage, making a complex procedure easier and more routine for the physician," says Dr. Feiglin.

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Bristol-Myers Squibb Pledges \$1 million to Children's Hospital

The focal point of the Golisano Children's Hospital – the 11th-floor treehouse lobby – will be named for Bristol-Myers Squibb in recognition of its \$1 million donation to the Golisano Children's Hospital at University Hospital.

Bristol-Myers Squibb is a leading international pharmaceutical company with laboratories and manufacturing facilities in Syracuse. The gift is the largest corporate philanthropic contribution in the history of SUNY Upstate.

"The Golisano Children's Hospital will be an exciting place for physicians to work, conduct research and serve our community," commented Ken Dauria, senior director of Syracuse Operations for Bristol-Myers Squibb. He also noted that the Children's Hospital could help attract talented individuals from across the country to work at Bristol and other companies in Central New York.

Gateway

Parents and children will enter the treehouse lobby as they exit the elevator on the 11th floor of the University Hospital expansion. The lobby will include a café, lounges, play areas, and ample seating areas.

According to Thomas Welch MD, chair of SUNY Upstate's Department of Pediatrics, "This will be a place where families and children can go for a break. We hope to create a park-like



Architectural rendering of the "treehouse lobby" of Golisano Children's Hospital at University Hospital. Karlesberger Architects of Columbus, Ohio

atmosphere just steps away from the hospital bed. This gift from Bristol-Myers Squibb ensures that we have the best space possible."

The Bristol-Myers Squibb gift brings the total of the community-wide giving campaign to \$21.5 million. The naming gift for the children's hospital was announced in November 2005 when B. Thomas Golisano, founder and chair of Paychex Inc., personally pledged \$6 million.

In the last two decades, Bristol-Myers Squibb has contributed nearly \$900,000 to SUNY Upstate projects and programs, including cancer research, the Joslin Diabetes Center, the thoracic surgery program and the CNY Children's Miracle Network.

The Golisano Children's Hospital will comprise the top two floors of University Hospital's vertical expansion, which will include new patient care floors for cardiovascular, neurosurgery and oncology services.

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