On October 3rd, 2012, noted neurosurgeons from three different continents visited LSU Health Shreveport to participate in the inaugural Woodard Symposium, the first international colloquium of its kind in the state of Louisiana.

Jose Alberto Landeiro, MD, PhD, Neurosurgery Chairman at Universidade Federal Fluminense in Rio de Janeiro, Brazil, spoke about “Tumors in and around the sella. The rationality of the endoscopic approaches.” Torstein R. Meling, MD, PhD, Neurosurgery Head at The National Hospital, University of Oslo, Norway, gave a presentation entitled “Intraoperative Neuromonitoring During Surgery For Tumors Around and In the Brain Stem.” Jeffrey V. Rosenfeld, MD, MS, Surgery Head and Neurosurgery Director at Central Clinical School, Monash University, Melbourne, Victoria, Australia, presented on “Multi-electrode cortical prosthesis for vision restoration in the blind.”

Following their presentations, the renowned neurosurgeons engaged in discussion with the faculty and students of the Department of Neurosurgery, reviewing several of the department’s more notable or perplexing cases.

The Woodard Symposium is made possible by a generous endowment established by Mr. Scotty Woodard, whose wife Larene was a patient at LSU Health Shreveport. After an operation successfully prevented an aneurysm from bursting in her brain, the Woodards wanted to show their appreciation for the work done by the faculty, staff, and students at LSU Health Shreveport. The couple made two $100,000 gifts to the LSU Health Sciences Foundation, establishing the Scotty and Larene Woodard Professorship in the Department of Neurosurgery. Thanks to the Woodards, the physicians, students, and staff at LSU Health Shreveport will benefit from the shared knowledge and expertise provided by visiting lecturers for years to come.

The faculty, staff, and students are grateful to Scotty and Larene Woodard for their generosity and support of both LSU Health Shreveport’s and the Department of Neurosurgery’s educational mission.

Also responsible for the symposium was this year’s sponsor, Globus Medical.

Woodard Family Honored by October Symposium

The Louisiana Board of Regents has approved funding for a $1 million endowed chair honoring Dr. Donald Smith, a pioneer and pillar of University Neurosurgery.

Dr. Smith established the first Neurosurgical Service at LSU Health Shreveport in 1977, while still in private practice. He joined the university faculty full time in 1996 and helped develop the residency training program.

Dr. Smith and his wife Kathryn made a $600,000 gift to the university in 2009 to create an endowment for research on spinal treatment. Their contribution was then selected by the Board of Regents for their highly competitive endowed chairs program, which provides a 40% match to a private gift to create the endowment.

The $1 million chair created by this endowment will be used to develop a program for comparison studies and follow-up of patients diagnosed with various disorders of the spine to help determine the most effective treatments.

Dr. Smith is a retired member of the U.S. Air Force Reserves, where he held the rank of Colonel. He completed his neurosurgical training in the military at Walter Reed Army Hospital in Washington, DC. His military service also included tours in Vietnam and Desert Storm.

Prior to entering private practice, he served on the faculty at George Washington University Hospital in Washington, DC. He has served as president of the Shreveport Medical Society as well as president of the Willis-Knighton Medical Staff. He earned a Master’s Degree in Health Care Administration from Trinity University.

Smith Chair to Support Studies and Research at LSU Health

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Greetings from the Department of Neurosurgery!

Despite the ominous budgeting cuts and difficulties, we continue to survive if not flourish, and are still busy with clinical care, education, and research. Our case numbers are up and we are grateful to our referring doctors, nurses and patients.

Our department is delighted to welcome two new neurosurgery residents—Jared Garrett from University of Arkansas in Little Rock, and Ramil Hanif from Vanderbilt Medical School. Additionally, we recently hosted the inaugural Woodard Symposium, the first international neurosurgical colloquium of its kind in Louisiana. The symposium brought neurosurgeons from three continents to speak on the LSU Health Shreveport campus.

As always, if you have any questions, comments, or criticisms kindly feel free to call me. Please also feel encouraged to let me know if there are any problems in terms of patient care satisfaction or transfers.

Wishing you a wonderful holiday season!

Sincerely,

Anil Nanda, MD, FACS
Professor and Chairman
Department of Neurosurgery
University of Arkansas
Little Rock, AR 72204

**Department Recent Publications**


A 2-year-old boy who was reportedly jumping on the bed and subsequently fell off was brought into the emergency room by his parents. He was found to be in no acute distress but had a large AC/DC adapter plug embedded in his forehead. His mother stated that the child had fallen off the bed and landed directly on the plug (Fig 1). She denied any loss of consciousness by the child. On examination, the child was awake and alert. He followed commands and answered questions appropriately. His left pupil was round and reactive to light; his right pupil was unable to be assessed secondary to the plug obscuring his eye. A cat scan (CT) was performed which showed the two metal prongs of the plug embedded in the skull (Fig 2). The medial prong was just lateral to the sagittal sinus while the lateral prong had penetrated the inner table with a very small amount of intracranial extension. There was no evidence of hemorrhage on the scan.

The patient was taken to the operating room for removal of foreign body. A bicoronal incision was performed just behind the hairline. The scalp was mobilized anteriorly down to the level of the plug. An assistant then withdrew the plug from underneath the drapes. Once the plug was removed, two cranial defects were noted. A small craniotomy was turned to incorporate both cranial defects. The lateral prong had minimally penetrated the dura (Fig 3). There was no underlying contusion or hemorrhage. The dural tear was repaired with suture and the bone flap was re-secured using Synthes absorbable plates. Bone source was placed along the craniotomy edges as well as within the prong holes to yield a good cosmetic result (Fig 4). The patient was discharged home on POD # 3 without any neurologic deficit. At six month follow-up the child was doing well with good cosmetic results and without neurologic deficit (Fig 5).
Congenital hydrocephalus results from a complex interaction of genetic and environmental factors and is present at birth. Though it might not be recognized and diagnosed immediately, congenital hydrocephalus is now often diagnosed before birth through routine ultrasound. Hydrocephalus diagnosed in adulthood may have existed since birth and can still be considered congenital and may be referred to as compensated hydrocephalus. Acquired hydrocephalus develops after birth as a result of neurological conditions such as head trauma, brain tumor, cyst, intraventricular hemorrhage or infection of the central nervous system.

The most common cause of congenital hydrocephalus is aqueductal stenosis. When the long, narrow passageway between the third and fourth ventricles is narrowed or blocked (perhaps because of infection, hemorrhage, or a tumor), fluid accumulates “upstream” from the obstruction, producing hydrocephalus. Another common cause is a neural tube defect. Open myelomeningoceles usually lead to the Chiari II malformation, which causes part of the cerebellum and the fourth ventricle to push downward through the opening at the base of the skull into the spinal cord area, blocking the flow of cerebrospinal fluid (CSF) out of the fourth ventricle, producing hydrocephalus. In Dandy-Walker syndrome, another cause of congenital hydrocephalus, the fourth ventricle becomes enlarged because its outlets are partly or completely closed. As a result, part of the cerebellum fails to develop.

An intraventricular hemorrhage, which most frequently affects premature newborns, may cause an acquired form of hydrocephalus. When small blood vessels alongside the ventricular lining rupture, blood may block or scar the ventricles or plug the arachnoid villi, which allow CSF to be absorbed. When the CSF can’t be absorbed, hydrocephalus results.

Symptoms of untreated hydrocephalus are variable. During pregnancy, a routine ultrasound can detect enlarged ventricles. Infants may have signs such as rapid head growth, full or bulging fontanelle, dilated scalp veins, widened cranial sutures, vomiting and irritability. The most common initial diagnostic test to determine hydrocephalus at any age is an image of the brain (CT Scan or MRI) to identify the enlarged ventricles within the brain.

While there is no known cure, there are two forms of surgical treatment currently used to manage hydrocephalus. In the last 50 years, there have been incremental advancements in the diagnosis and treatment of hydrocephalus. However, long term health outcomes for individuals with hydrocephalus remain unpredictable. Often repeated neurosurgical operations are necessary to treat hydrocephalus. The most common treatment for hydrocephalus is the surgical implantation of a device called a shunt. A flexible tube and valve system, a shunt drains cerebrospinal fluid from the brain to another part of the body.

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A second treatment option is a surgical procedure called endoscopic third ventriculostomy (ETV). An endoscope is used to puncture a membrane in the floor of the third ventricle creating a pathway for CSF flow within the cavities in the brain. ETV is an important alternative to shunting for obstructive hydrocephalus and may be useful in other cases as well.

Shunt obstruction and malfunction occur in approximately one third of children in the first year after a shunt-related operation and studies have shown that ETVs can close up after time. We cannot overstate the importance of learning the signs and symptoms of treatment failure. Staying in close contact with neurosurgeons if you have a shunt or an ETV is critical.

Some facts about shunts:

- About 40,000 shunt-related operations are performed every year in the US for hydrocephalus
- Shunt operations for hydrocephalus cost over $1 billion a year in the US.
- 50% of shunted individuals require a revising operation within two years.
Anthony Sin, MD

Traditional approach to spinal operation has intimately paralleled orthopedic and neurosurgery - spinal fusion/instrumentation for orthopedic spinal surgeons and decompression for neurosurgeons. The two separate fields have mutually respected and maintained certain barriers over the years until recently. Every neurosurgery training program in the United States provides residents with excellent instruction in performing fusion/instrumentations in degenerative/trauma cases. However, adolescent idiopathic scoliosis (AIS) has been and still is treated mostly by orthopedic spinal surgeons.

A child is determined to have abnormal curvature of spine if the degree of deformity on the coronal plane (AP standing/sitting x-ray of spine) exceeds 10 degrees. Adolescent idiopathic scoliosis is defined as development of abnormal curvature in children between 10 and 16 years of age. Many young people are being screened through school programs. Once a child is suspected of having abnormal curvature of spine, a referral is made to a specialist.

The most basic and important study is the standing x-ray of spine. Cobb angle is measured from the vertebrae at the beginning of the curve to those at the end. Any angle more than 20 to 25 degrees should be treated with a fitted brace if the child is not bony mature. Serial follow-ups with repeat x-ray studies should be done to monitor the curve closely. The role of the brace is to prevent further progression, not to correct the curve in any way. Once the child is bony mature he or she should be monitored without any type of brace since the probability of further progression is minimal. If the Cobb angle is more than 40 to 45 degrees, a surgical consideration should be discussed with patient and parents because there is a high risk that the curvature will worsen even if the patient is bony mature.

The determination of bony maturity is usually made using the Risser grade. The crown of the iliac crest is evaluated and given grades based upon the stage of bone development. If there is any question of bone maturity based on the Risser grade alone, wrist films are done to assist in the decision making process. Young adolescent girls usually achieve full bone maturity after 2 to 3 years following their first regular menses.

As advances are made in spinal instrumentations, surgical intervention evolves. The latest trend among deformity spinal surgeons is to utilize posterior segmental instrumentations with pedicle screws that have the ability to individually de-rotate and compress/distract each vertebra to achieve a curvature that is as close to normal as possible.

Case

11-year-old girl with progressive double major AIS was treated with pedicle screws to correct her abnormal curve.

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Levy Conference: Sharing Latest Advances in Neurosurgery

Local healthcare professionals learned about the latest advances in movement disorder surgery at the 9th Annual Mary Louise and Ben Levy, Jr. Visiting Professorship in Neurosurgery this past April.

Dr. Kim Burchiel from the Department of Neurological Surgery at Oregon State Health Science Center in Portland, Oregon joined faculty, residents, medical students and community healthcare providers at LSU Health - Shreveport on April 27, 2012. Dr. Burchiel is recognized worldwide for his expertise in pain, functional neurosurgery and trigeminal neuralgia.

The Levy Conference was held in the Main Auditorium at LSU Health - Shreveport. Dr. Burchiel gave a presentation entitled “Functional Neurosurgery 2012.” The event resumed in the afternoon with research and case presentations by the Department of Neurosurgery residents.

The Department of Neurosurgery also hosted a reception at the home of Dr. and Mrs. Anil Nanda. The reception honored the featured speaker, Kim Burchiel, as well as graduating residents Shashikant Patil, MD, Prashant Chittiboina, MD, MPH and Cedric Shorter, MD. “We look forward to the Levy conference every year,” said Ben Brown, MD, seventh year resident in the Department of Neurosurgery, “we always learn something, and it’s a nice way to celebrate the graduating residents.”

Mary Louise and Ben Levy, Jr. instituted the Visiting Professorship in 2004 as an enduring gift to the community. Each year, the Professorship brings a leading expert in the field of neurosurgery to Shreveport to exchange ideas and information with Shreveport healthcare providers.

Dr. Kim Burchiel with department faculty and residents
University Neurosurgery’s multidisciplinary team is pleased to serve you and your patients in the following locations.

Clinics
LSUHSC-Shreveport
1501 Kings Highway
Shreveport, LA 71103
p: 318.813.1555, f: 318.813.1556

Willis Knighton North
Medical Arts Building
2551 Greenwood Rd., Ste. 320
Shreveport, LA 71103
p: 318.635.6363, f: 318.631.5392

Willis Knighton Bossier
2300 Hospital Drive, Ste. 350
Bossier City, LA 71111
p: 318.742.8666, f: 318.742.8488

Willis Knighton Pierremont
8001 Youree Drive, Ste. 830
Shreveport, LA 71115
p: 318.813.1555, f: 318.675.8958

Christus Schumpert Sutton Children’s Hospital
One St. Mary Place
Shreveport, LA, 71101
p: 318.675.8913

Willis Knighton South
2520 Bert Kouns, Ste. 105
Shreveport, LA 71118
p: 318.813.1555, f: 318.675.8958

Gamma Knife Radiosurgery
1501 Kings Highway
Shreveport, LA 71103
p: 318.675.6195, f: 318.675.8944

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Editorial Office: 318.675.5392
Nursing Office: 318.813.1555, 888.740.7246

Department News:

2012 New Residents:

Rimal Hanif, MD from Vanderbilt, and Jared Garrett, MD from Univeristy of Arkansas

Congratulations:

Dr. Bharat Guthikonda and Dr. Anthony Sin passed their oral boards. They are now board certified neurosurgeons.

Rishi Wadhwa, MD and Elizabeth Lindley, MD were married on April 20, 2012.

David Connor, DO and wife, Celeste, welcomed their first child, David Connor, III, on May 22, 2012.

Shihao Zhang, MD and Onyx Musgrove were married on June 9, 2012.

Dr. Nanda, Dr. and Mrs. Ben Brown, and Dr. Willis completed the River Cities Triatholon on August 5, 2012.

Alice Edwards, Dr. Nanda’s PA, and husband, Ryan, welcomed Juliana Marie to their family on August 27, 2012.

Richard Menger, MD and Beth Ann Visceglia were married on October 27, 2012.

Dr. Don Smith, left, with his grandson Ryan, and his son, Dane. Three generations of physicians.
Getting caught up in the “daily grind” can sometimes lead us to forget why we initially went into the field of medicine. Making rounds, doing surgery, attending meetings, and training our residents are all vital portions of our day-to-day world and provide service to our patients and education to our residents. Yet the reason that we went into medicine in the first place was to help those patients who need it the most.

This past March, I had the privilege of being a small part of a medical humanitarian mission to Kurdistan of Iraq. A team of seven physicians and one registered nurse embarked from various points in the US and descended upon Kurdistan. Our group was led by Dr. Gazi Zibari, who is the chief of transplant surgery here at LSUHSC - Shreveport. Our team also included two trauma surgeons from Knoxville, TN, one hematology / oncology physician from Shreveport, one surgical resident from Shreveport, and one OR charge nurse from Shreveport. During our ten-day trip, we were able to hold a medical / surgical symposium for physicians from all over Kurdistan and then take care of indigent patients throughout this region.

The discrepancies in health care infrastructure between our usual settings in the US and those in Kurdistan were readily apparent. However, the setup for the physicians in Kurdistan worked well for them and their patients. Thus, we made minor suggestions and focused the majority of our efforts on treating patients with complex pathology who would normally be sent out of the country, usually to Jordan, Iran, Turkey or India, for surgical treatment at the expense of the Kurdish government.

I hope that the patients we cared for in Kurdistan got as much from us as we did from them. They were truly grateful for our presence. It was a pleasure for us to interact with them and their families. The pathology was so plentiful that we did not have enough time to treat everyone during our trip and cases were already being scheduled for a future trip next year!

Though our experience in Kurdistan was fantastic, the story above would likely be similar in many parts of the world where missionary work is carried out and is essential to the medical well-being of a community. I would highly recommend to our residents and colleagues that they take a medical mission trip so that they, too, might be able to impart all that they know to a population where it is so needed.

University Neurosurgery Faculty First in Louisiana to Use Groundbreaking Device

University Neurosurgery faculty member Hugo Cuellar, MD has become the first neurointerventionalist in Louisiana to be fully certified in the use of a new device for the treatment of aneurysms—the Pipeline Embolization Device. Described as a “flow diverter,” the pipeline device blocks blood flow to an aneurysm. Without a blood supply, the aneurysm eventually disappears.

Flow-diverting stents like the Pipeline device provide an alternative to clipping—cutting off an aneurysm’s blood supply by placing a clip on its neck—and coiling—filling an aneurysm with tiny coils that promote clotting and thus closing off the aneurysm. While recanalization, or regrowth of an aneurysm, is uncommon following either procedure, neurosurgeons are always searching for techniques to reduce the risk.

“Pipeline allows us to treat large aneurysms without coiling or clipping, reducing the mass effect as well as the chances of recanalization of the aneurysm,” says Dr. Cuellar.

Like a stent, the Pipeline device is inserted into a parent vessel at the site of an aneurysm via a micro catheter. Made of tiny braided strands of cobalt chromium and platinum tungsten, the device conforms to the shape of the parent vessel while cutting off the...
aneurysm from the flow of blood. Additionally, the device acts as a scaffold for endothelial cells. When the cells grow around the device, they completely seal off the aneurysm from the parent vessel, greatly reducing risk of rupture or recanalization.

Since January, thirteen patients at LSU Health Shreveport have received the Pipeline device; all have enjoyed successful outcomes. According to Dr. Cuellar, many more patients will receive the device in coming months.

“This technology (flow diversion) might become the standard for endovascular treatment of aneurysms in the future, as it allows us to treat effectively all kinds of aneurysms, including those that were not amenable to either surgical [clipping] or endovascular [coiling] treatment,” says Dr. Cuellar.

For more information about cutting-edge techniques and procedures at University Neurosurgery, contact us at 318.813.1555 or visit Dr. Cuellar’s informational website www.vascularneuro.com.