



## Surgery + Hypothermia Treatment A Highly Effective Combination

**T**he Miami Project to Cure Paralysis and University of Miami Department of Neurological Surgery completed a Phase I clinical trial in 2009 to learn if inducing hypothermia within the first few hours of traumatic spinal cord or brain injury is neuroprotective and makes a difference in the severity of injury. These detailed findings were published in the articles "Clinical Application of Modest Hypothermia after Spinal Cord Injury," *Journal of Neurotrauma*, March 2009, Allan D. Levi, MD, PhD, et al. and "Clinical Outcomes Using Modest Intravascular Hypothermia After Acute Cervical Spinal Cord Injury," *Neurosurgery-Online*, April 2010, Allan D. Levi, MD, PhD, et al. Based upon evidence from the trial that mild hypothermia is both safe and effective, Jackson Memorial Hospital has adopted hypothermia as a treatment option for spinal cord injury (SCI) patients. It is the only institution in the world conducting regimented hypothermia treatment and follow up for patients with SCI.

A recent recipient of hypothermia treatment, spinal cord injury patient Jorge Valdes, serves as a successful example of the effectiveness of hypothermia and surgical treatment toward restored function and the prevention of permanent paralysis.

Twenty-year-old gymnast Jorge Valdes landed abruptly on his head during a routine practice in February of 2011. Valdes dislocated his neck and herniated his spinal cord, an injury that has left thousands paralyzed.

"I definitely thought I was going to be paralyzed. I got lost in the air and landed directly on my head. I just remember feeling like fire. It was just the worst pain I have ever felt in my entire life," said Valdes.

Valdes was airlifted to Jackson Memorial Hospital's Ryder Trauma Center and immediately received surgery from Dr. Steven Vanni, University of Miami/Jackson neurosurgeon, to repair his bilateral fracture dislocation. At the time of surgery, Valdes was not moving his lower extremities. He underwent intraoperative reduction and fusion.

Valdes was also administered hypothermic treatment to cool his body temperature and to reduce the swelling. Dr. Vanni placed a cooling catheter in the vena cava blood vessel, which allowed for the body to cool to 33 degrees Celsius. The cooling was maintained for a 48 hour period. Dr. Vanni was able to decompress the spinal cord and cool the spinal cord simultaneously. Valdes was then slowly re-warmed at one degree every eight hours.

Three days following the initial surgery and treatment, Valdes slowly began to regain sensation in his toes and feet. Seven days after Valdes was admitted to Jackson Memorial Hospital, he walked out and returned home. Valdes made a complete recovery.

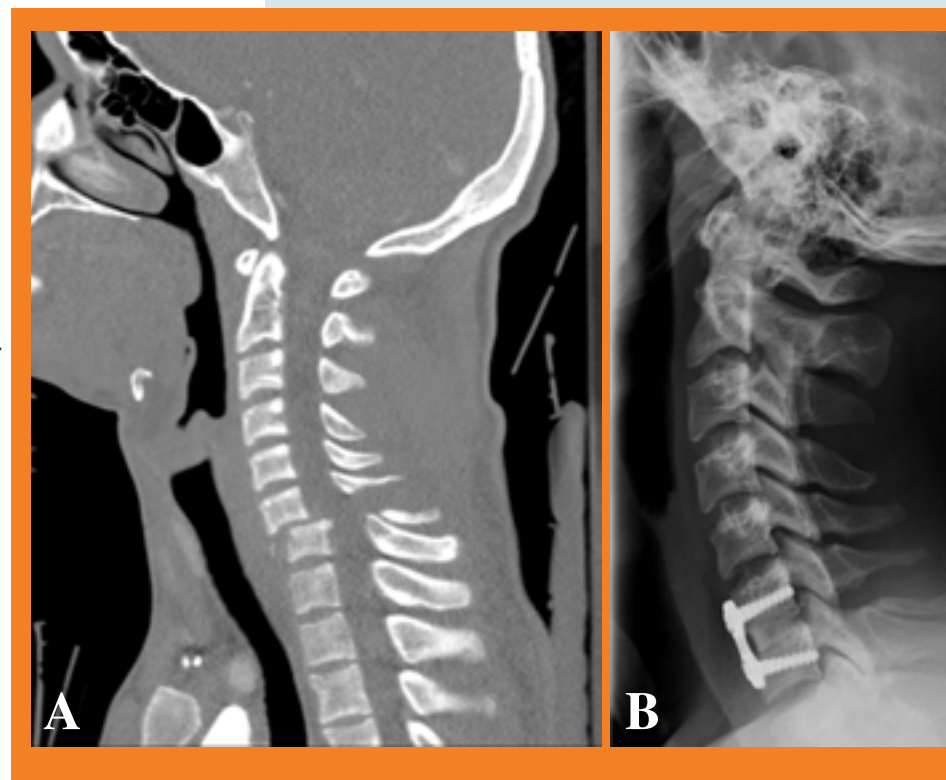
"For someone with a complete spinal cord injury with no motor and sensory function below the level of the injury, to be walking out of the hospital a week later is incredible," said Dr. Vanni.

Valdes experienced a dramatic recovery from this type of injury. His success underscores the efforts of the Miami Project, which is currently trying to institute a multi-center hypothermia clinical trial that will be available nationwide, not only in hospitals but also in the field, allowing the treatment to be administered by paramedic first responders.

Additional information regarding SCI and hypothermia can be found by visiting: [www.miamiproject.miami.edu](http://www.miamiproject.miami.edu). ■

Fig. A-Preoperative X-ray showing the patient's fracture dislocation.

Fig. B-Postoperative X-ray demonstrating successful realignment.



Dr. Steven Vanni greets Jorge Valdes as he walks out of Jackson Memorial Hospital one week after his paralyzing injury.

## WHAT'S INSIDE

- Pg. 2 - UM Neurologist Advocates Prescribed Diet Plan for Alzheimer's Patients  
National Neurotrauma Symposium  
Clinical Trials
- Pg. 3 - UM Neurologist's Expertise Draws International Formula One Driver
- Pg. 4 - In The News  
What's Next  
Spotlight Graduation 2011



## NEUROLOGY

### ESSENTIAL TREMOR

Essential Tremor (ET) is the most common tremor disorder, currently affecting an estimated 2.9 million Americans. The most common symptoms are tremors occurring during movements that involve the hands and head. While ET is more common in older adults, many individuals develop their first symptoms in adolescence or early adulthood. Both the causes of ET and the mechanisms of treatment response are poorly understood. The Laboratory for Functional Imaging of Neurodegenerative Disorders is conducting an NIH-sponsored study to understand both the causes of ET and how various treatments work. Up to 50 individuals with ET will be enrolled in this study and will receive a complete clinical evaluation and research MRIs. Unaffected individuals are also needed to serve as controls and will undergo similar testing at no cost.

PI – FATTA NAHAB, MD

For more information on neurology clinical trials, please call 1-877-977-7724.

## NEUROLOGICAL SURGERY

### SAFETY AND PHARMACOKINETICS OF RILUZOLE IN PATIENTS WITH TRAUMATIC ACUTE SPINAL CORD INJURY

The primary aim of this study is to develop acute care safety and pharmacokinetic profiles of riluzole in patients who have sustained a traumatic spinal cord injury. Secondary objectives are to conduct exploratory analyses of functional outcomes for purposes of planning a subsequent Phase II b Phase III randomized study of the efficiency of riluzole for the treatment of acute spinal cord injury.

Patients who are eligible for this study:

- Are 18-70 years of age
- Are willing to give written informed consent to participate in the study
- Have no other life-threatening injury
- Have Spinal cord injury at the neurologic level from C4 to T12
- Are ASIA Impairment Scale level A, B or C
- Have no cognitive impairment which would preclude an informed consent (including moderate or severe traumatic brain injury)
- Are able to receive riluzole within 12 hours of injury (Less than 12 hours since injury)

PI – JAMES GUEST, MD, PhD ■

For more information on neurological surgery clinical trials, please call 1-800-996-3783.

## UM Neurologist Advocates Prescribed Diet Plan for Alzheimer's Patients

**A**s an adjunct to the standard FDA-approved drugs, Dr. Richard Isaacson, associate professor of clinical neurology, and Alzheimer's specialist at the University of Miami Miller School of Medicine, has developed a 20-step plan for Alzheimer's Disease (AD) treatment, and a 10-step plan to possibly delay the onset of AD.

"The non-pharmacologic approaches that balance safety with scientific evidence are as important as the standard medicines we use today," Dr. Isaacson stated.

Dr. Isaacson advocates regular follow-ups with a patient's primary care physician, aggressive vascular risk factor control, physical exercise, specific cognitive stimulation, socialization, music therapy and a comprehensive approach to diet and nutrition.

Dr. Isaacson places his patients on a 9-week AD diet plan that starts with education, and includes a slow and step-wise approach to decrease high-glycemic carbohydrates and saturated fats, and increase antioxidants and the consumption of fish that are high in the Omega-3 fatty acid DHA. His patients complete weekly food logs, and their blood and radiological biomarkers, and cognitive outcomes are also tracked over time.

"Recent studies by Drs. Robert Krikorian (associate professor of clinical psychiatry, University of Cincinnati), Suzanne Craft (professor of psychiatry and behavioral sciences, University of Washington), and Carl Cotman (professor of neurology, University of California, Irvine), combined with epidemiologic data, have demonstrated the potential for significant memory benefits using these dietary approaches. The Krikorian study in Neurobiology of Aging was the first to show that mild cognitive impairment patients treated with a low carbohydrate diet

could improve memory performance with diet alone," said Dr. Isaacson.

Dr. Isaacson also recommends vitamins, including Folic Acid for AD treatment and Vitamin D for AD prevention.

"A small randomized, double-blind placebo controlled trial by Dr. Peter Connelly (professor of psychiatry, University of Dundee, Murray Royal Hospital, UK) and colleagues showed that adding folic acid may increase the efficacy of cholinesterase-inhibitor drugs."

Dr. Isaacson recently authored an article on Neurogenetics of Dementia in the American Academy of Neurology Continuum series. The article reviewed recent data supporting the use of DHA and the medium-chain triglyceride caprylidene in the management of AD.

"Pharmacogenomic data suggests that these interventions may preferentially work in APOE-4 negative patients, comprising ~40-45% of my practice. If a patient or caregiver asks me to try 'anything and everything, as long as it is generally safe,' I will listen to them. While we have yet to find a magic pill, combination therapy using the strategies above may yield the most benefit."

For more information or collaboration opportunities for future studies on diet and AD, call 305.243.2120

Dr. Isaacson was recently featured on Today Health for his recommended diet and nutrition tips for AD patients. You can view a complete list by visiting: [http://today.msnbc.msn.com/id/43644095/ns/today-today\\_health/t/why-cant-i-remember-anything-tips-boosting-brain-power/](http://today.msnbc.msn.com/id/43644095/ns/today-today_health/t/why-cant-i-remember-anything-tips-boosting-brain-power/).

## National Neurotrauma Symposium Experts Gather to Exchange the Latest Advancements in the Field

**T**he 29th National Neurotrauma Symposium (NNS), held in Fort Lauderdale, Florida, July 10th-13th, brought together clinicians and basic scientists from across the world to discuss the major expansion in research for regeneration and repair of the injured nervous system. The NNS 2011 Symposium had a total of 667 delegates from 26 countries in attendance. The symposium drew expertise from medical and scientific communities, including scientists, physicians, postdoctoral fellows, residents and graduate students.

The three day symposium was hosted by M. Ross Bullock, MD, PhD, professor of neurological surgery, director of clinical neurotrauma at the University of Miami Miller School of Medicine, chief of neurotrauma at Jackson Memorial Hospital and the 2010-2011 president of the National Neurotrauma Society. Members of the local scientific organizing committee were: W. Dalton Dietrich III, PhD, Helen M. Bramlett, PhD, Dan J. Liebl, PhD, John R. Bethea PhD, Jonathan R. Jagid MD, Gillian A. Hotz, PhD, Barth A. Green, MD, Allen D. Levi, MD, PhD, Mary B. Bunge, PhD, Robert W. Kean, PhD, Shelly D. Timmons MD, PhD [AANS/ CNS president], Ross D. Zafonte, DO [IBIA], Nathan D. Zasler, MD [IBIA].

The scientific program included clinical pathophysiology, treatment strategies, basic research models and molecular approaches involved in neurotrauma. Sessions included topics such as New Techniques in Neuroscience Applicable to Neurotrauma Research, Recent Advancements in TBI Rehabilitation and Cumulative Brain Damage after Sports Concussions.

As in previous years, the conference featured a forum for young investigators to present selected abstracts. This year the student competition finalists included Michelle Theus, who received the Michael Goldberger Award; Gregory Hawryluk, who received the Murray Goldstein Award; Daya Alexander, who received the Women in Neurotrauma Research Award; Tapan Patel who received the Alan Faden Award and Kendall Walker who received the Anthony Marmarou Award.

A community outreach session entitled "Meet the Neuroscientists, Discover the Latest Research Breakthroughs" was held for the public to take advantage of the concentration of neurotrauma experts. Topics included Understanding Head and Spinal Cord Injury, Living with Head and Spinal Cord Injury

# UM/Jackson Neurologist Expertise Draws International Formula One Driver

**S**tephen Olvey, MD, associate professor of clinical neurology at the University of Miami Miller School of Medicine and director of the Neuroscience Intensive Care Unit at Jackson Memorial Hospital is highly regarded in the world of racing as a foremost expert in motor sports medicine. With more than 35 years of experience in the treatment of racing injuries, he is often sought out by racing teams across the world for his expertise in the evaluation and treatment of Traumatic Brain Injury (TBI). Team Ferrari turned to Dr. Olvey to evaluate one of their top drivers following a nearly fatal accident on a European track.

On July 25, 2009, Formula One driver Felipe Massa's helmet was struck by a piece of debris that had fallen from another driver's car during the second round of qualifying for the Hungarian Grand Prix. He suffered multiple skull fractures and lost consciousness causing his Ferrari to run into a protective barrier on the track. Following the accident, he underwent a decompressive craniectomy and was hospitalized in Hungary for nine days. In September of that same year, he came to Miami to be examined by Dr. Olvey and his colleagues at UHealth Sports Medicine's Concussion Program and the Bascom Palmer Eye Institute for clearance to return to training for the 2010 Formula One racing season.

Massa's injuries caused doubt regarding whether he would be able to drive again. The management at Ferrari felt that Dr. Olvey, one of the only physicians worldwide who understands the physical effort involved in high end motor sports competition, and the other medical experts at the University of Miami Miller School of Medicine and Jackson Memorial Hospital, were the best option for his evaluation to return to racing. Dr. Olvey coordinated the series of tests required to satisfy the FIA, the world governing body of motor sports. FIA was responsible for determining if and when Massa would be able to compete again.



Race car driver Felipe Massa's evaluation team of specialists (from left), Gillian Hotz, PhD, Stephen Olvey, MD, and Byron Lam, MD.

Bascom Palmer physicians, Byron L. Lam, MD, neuro-ophthalmologist, David Tse, MD, retinal specialist, along with Gillian Hotz, PhD, associate research professor of neurological surgery and director of Neurotrauma Outcome Research for The Miami Project to Cure Paralysis, administered ImpACT, a computerized neurocognitive test and BESS, a balance test. Following evaluation by these specialists and recommendations by Dr. Olvey, Felipe Massa had made sufficient recovery to begin testing his Formula 1 car in January of 2010. He finished second

in his first race of the season and fifth in the standings at year's end.

"It is a real honor to have been chosen by Ferrari to evaluate Felipe Massa. Ferrari's decision is a clear indication of the international acclaim of both the Bascom-Palmer Eye Institute and University of Miami Miller School of Medicine," said Dr. Olvey. ■



(from left) M. Ross Bullock, MD, PhD, National Neurotrauma Society president, thanks Marc A. Buoniconti, Yasniel Ravelo and Arturo Cepeda for sharing their experiences as TBI and SCI patients.

and Injury Prevention. Gillian Hotz, PhD, associate research professor, Department of Neurological Surgery and co-director of the Pediatric Brain & Spinal Cord Injury Program at The Miami Project to Cure Paralysis, presented a session regarding concussion analysis and

prevention. As the director of the Concussion Program, Dr. Hotz discussed her comprehensive program which includes neuroimaging, neurologic evaluation and neuropsychological testing. As a certified administer of ImpACT, a computerized neurocognitive screening test,

Dr. Hotz emphasized training high school and college trainers and coaches on a yearly basis so that the signs and symptoms of concussion can be readily identified.

The conference concluded with a Patient Perspective session in which survivors of traumatic brain injury (TBI) and spinal cord injury (SCI) gave firsthand accounts of their lives post injury. The patients included Yasniel Ravelo, who experienced a TBI as a result of an AK-47 bullet to the brain and was treated at Jackson Memorial Hospital. Ravelo communicated that despite the complexity of his case, he has made a full recovery and experiences little to no side effects. Arturo Cepeda, another patient, experienced a TBI due to an impact during a severe automobile accident. His recovery was also dramatic and he has returned to his career as a full-time banker. Marc A. Buoniconti, president of The Miami Project to Cure Paralysis and the Buoniconti Fund, closed the conference with an inspirational speech encouraging experts in the field to continue searching for a cure to paralysis so that those, who are paralyzed like him, may someday walk again.

For more information regarding the National Neurotrauma Conference, including a complete list of presented papers, visit: [www.neurotraumasymposium.com](http://www.neurotraumasymposium.com). ■



## In the News

### Get With the Guidelines Stroke Award

On May 31, 2011, American Heart Association President Ralph Sacco, MD, MS, FAAN, FAHA, presented the American Heart Association/American Stroke Association's Get With The Guidelines®—Stroke Gold Quality Achievement Award to Jackson Memorial Hospital's Stroke Center. The award was presented to Carlos A. Migoya, president and CEO of Jackson Health System and Jose Romano, MD, FAHA, chief of Jackson Memorial Hospital's Stroke Center, in recognition of Jackson Memorial Hospital's commitment and success in implementing a higher standard of stroke care by ensuring that stroke patients receive treatment for at least 24 months according to nationally accepted standards and recommendations.

### Barth A. Green, MD, FACS Receives the AANS Humanitarian Award

In recognition of his unwavering dedication to neurosurgical science and his exemplary humanitarian efforts in Haiti for the past 20 years, Barth A. Green, M.D., FACS, professor and chair of neurological surgery at The University of Miami School of Medicine and chief of neurosurgery at Jackson Memorial Hospital, was awarded the 2011 Humanitarian Award of the American Association of Neurological Surgeons (AANS). The award was presented on April 13th at the organization's annual meeting in Denver, where Dr. Green was introduced by esteemed colleague and last year's winner Roberto C. Heros, MD, professor and co-chair of neurological surgery.

## What's Next

### Dileep R. Yavagal, MD, President of the Society of Vascular and Interventional Neurology (SVIN), to Host Society's 4th Annual Meeting October 21-23rd, Westin Diplomat | Hollywood, Florida

Dileep R. Yavagal, MD, assistant professor of neurology and neurological surgery and director of interventional neurology, is the new president of the Society of Vascular and Interventional Neurology (SVIN), and will organize the 2011 national meeting to be held in South Florida. The 2 day symposium will be a gathering of experts and thought leaders in neurointerventional therapy who will bring the latest technologies and scientific evidence in this field to neurologists, neurointerventional practitioners and trainees. The scientific program will include cutting edge topics including recent neurointerventional trials and technologies in interventional treatment of ischemic stroke.

[www.svin.org/Pages/conferences.aspx](http://www.svin.org/Pages/conferences.aspx)

### Ricardo J. Komotar, MD, to Join Neurosurgery Faculty

Dr. Komotar will be joining the University of Miami School of Medicine as an assistant professor of clinical neurological surgery as of August 2011. He will also serve as the director of surgical neurooncology at the University of Miami Hospital and co-director of surgical neurooncology at Jackson Memorial Hospital/Sylvester Comprehensive Cancer Center. His research interests include clinical trial development and translational neuro-oncologic investigations designed to pioneer new therapies for brain tumors.

## Spotlight Graduation 2011



Neurology residency graduates (from left): Tiesong Shang, MD, PhD; Andres Fernandez, MD; Jennifer Carrasquillo, MD; Corneliu Luca, MD, PhD; Ana Delgado, MD; Jose Gutierrez, MD; Michelle Ferreira, DO; Diogo Haussen, MD; Gary Gualberto, MD; Joseph Diamond, MD.

Carrasquillo, MD, and Diogo Haussen, MD. The first "Resident Research Award" was given to Jose Gutierrez, MD, and the first "Resident Teacher Award" to Corneliu Luca, MD, PhD. "The Walter Bradley Teacher of the Year Award" had two recipients this year, Drs. Kottil Rammohan and Gustavo Ortiz.

The Department of Neurology's 2011 class of residents and fellows officially graduated during a ceremony at the Gordon Center on the University of Miami Miller School of Medicine campus on Friday, June 10th. Following the ceremony, a celebration was held at the Jungle Island Convention Center.

The neurology "Residents of the Year Awards" were presented to Jennifer

The Department of Neurological Surgery's celebrated their 2011 class of residents and fellows graduation on Saturday, June 11th. The faculty, nursing staff, colleagues, friends and family attended a reception in their honor at the Ocean Club Resort in Key Biscayne, Florida.

Barth A. Green, MD, FACS, neurosurgery department chair, presented the "Highest Board Score of the Year" to neurosurgery resident Ramsey R. Ashour, MD, PGY-4. Roberto C. Heros, MD, neurosurgery department co-chair, presented faculty member Ronald Benveniste, MD, with the "Neurosurgery Faculty Teaching Award" for his dedication to the education of residents in the field of neurosurgery.

Our talented class of neurosurgery and neurology graduates is continuing on to various esteemed academic fellowships throughout the country.



Neurosurgery residency graduates (from left): David M. Benglis Jr, MD; Samy A. Elhammady, MD; Chris DeMassi, MD.