

JOURNAL

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Improving the Patient and Employee Experience: TIRR Introduces a New Rehabilitation Model of Care Initiative

TIRR MEMORIAL HERMANN HAS launched a new Rehabilitation Model of Care to improve patient-centered care processes, increase communication between interdisciplinary teams, integrate nursing and therapy services and provide an overall better experience and environment for patients and employees. Developed over the past year, the new initiative is already showing positive results, including improved patient, physician and employee satisfaction.

“The initiative began with a Performance Excellence project in our Brain Injury and Stroke Program,” says **Rhonda Abbott, P.T.**, NeuroRecovery Network administrator, director of therapy services and program manager for the Spinal Cord Injury, Amputee, Neuromuscular and Multiple Trauma programs. “We asked ourselves how we could offer therapy in a way that maximizes the amount each of our inpatients receives. In the process,

we also looked at how therapy and nursing could work together more effectively to facilitate the best possible recovery, and how offering different shift options might increase employee satisfaction. Our method of developing the Model of Care was very grassroots.”

A team was created to oversee the initiative, and members began meeting with therapists to gather their feedback and listen to suggestions for improvement opportunities. The key challenges that emerged were related to communication, the amount of time therapy is offered to patients each day and the ability of staff members to solve problems with scheduling. Once the needs were identified, the model began to take shape.

Before piloting new processes that addressed the opportunities for improvement, one change was made hospitalwide: The time that therapy is scheduled each day was extended from 8 a.m. to 4:30 p.m., to 7 a.m. to 6 p.m. In January, Unit 3, which serves traumatic brain injury patients, was selected to pilot the initiative and a unit-based team was created,

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**CELEBRATING
FIFTY YEARS
1959~2009**

Transforming Lives Interrupted by Disability: TIRR Celebrates 50 Years of Breakthroughs

We continue our 50th anniversary celebration with five stories of former TIRR Memorial Hermann patients who have made remarkable recoveries.

TIRR
MEMORIAL
HERMANN
Rehabilitation & Research

We have a new name and a new look.

Breakthroughs in Rehabilitation is now *TIRR Memorial Hermann Journal*. We're excited about our new name and format which underscore our focus on clinical, scientific and educational achievement. We hope you like it, too.

TIRR Memorial Hermann Journal is published four times a year by TIRR Memorial Hermann. Please direct your comments or suggestions to Editor, *TIRR Memorial Hermann Journal*, TIRR Memorial Hermann, 1333 Moursund, Houston, TX 77030, 713.797.5946. For employment opportunities, visit memorialhermann.org.

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Fall 2009

MESSAGE FROM THE CEO

As we begin TIRR Memorial Hermann's 51st year of caring for people whose lives have been interrupted by disability, I would like to thank each of our employees and affiliated medical staff for the role they played in



Carl E. Josehart, CEO

our recent recognition by *U.S. News & World Report*. We're celebrating our 20th consecutive year of recognition as one of the top rehabilitation hospitals in the nation, an achievement made possible by the hard work, dedication and close collaboration of our patients and families, physicians, therapists, nurses and support staff.

In this issue of the *TIRR Memorial Hermann Journal*, we introduce a new name and format which underscore our focus on clinical, scientific and educational achievement.

The lead article discusses our Rehabilitation Model of Care initiative, which integrates nursing and therapy services using a unit-based approach that advances our ability to care for patients with complex injuries. Developed over the past year, the Model of Care has improved patient care processes, increased communication between our care teams and improved patient, physician and employee satisfaction.

This issue also marks the end of our yearlong 50th anniversary celebration with five stories that represent the scope and variety of patients we care for at TIRR. While all five former patients inspire us to our very best, one in particular has embraced our mission of going beyond our four walls in ways that help people reconnect with meaningful parts of their lives.

Following a diving accident that resulted in tetraplegia, Chad Waligura returned to the sport he loved, earned two college degrees and created a Web site on outdoor activities for people with disabilities. He also volunteers with TIRR PEERS, whose members share experiences, insights

and information with patients recovering from spinal cord injuries.

In closing, I would like to congratulate the nine TIRR physical therapists who were recently certified by

the American Board of Physical Therapy Specialties. They exemplify our commitment to advancing our level of knowledge and skill and reaching for greater heights in clinical excellence.

Carl E. Josehart
Chief Executive Officer
TIRR Memorial Hermann

OUR REHABILITATION MODEL OF CARE INITIATIVE INTEGRATES NURSING AND THERAPY SERVICES USING A UNIT-BASED APPROACH THAT ADVANCES OUR ABILITY TO CARE FOR PATIENTS WITH COMPLEX INJURIES.

The i-LIMB Hand: A New Prosthetic Device Gives Patients Greater Functionality

Three former outpatients at TIRR Memorial Hermann are reaping the benefits of an advanced prosthetic device that offers capabilities never before available: a lifelike myoelectric hand with five individually powered digits.

Developed by Touch Bionics, the i-LIMB™ Hand looks and functions like a real human hand. The prosthesis uses a traditional two-input myoelectric to open and close the lifelike fingers. As in older generation upper-limb prosthetics, myoelectric controls use the electrical signal generated by muscle contractions in



the remaining portion of the patient's arm. Electrodes that sit on the surface of the skin pick up and transmit the signals.

“The main difference with the i-LIMB and older myoelectrics is the capability to isolate finger movements and perform modulated grasps at different strengths,” says **Jenelle St. Vincent, O.T.R.**, a staff occupational therapist at TIRR Memorial Hermann Kirby Glen. “The fingers conform to the shape or size of the object you're grasping. The stronger the muscle

contraction, the stronger the grasp. You can also rotate the thumb, which results in greater functionality. Patients using the i-LIMB can perform a variety of grasp-and-pinch fine motor control and dexterity tasks.”

The i-LIMB Hand has other advantages over traditional myoelectrics. It decreases the need for compensatory movements and allows normal movement patterns and proper biomechanics. It also enables social interaction.

“For me, one of the most moving aspects of the device is that it gives patients greater self-confidence and an improved self-image,” St. Vincent says. “Cosmetically and aesthetically, it's an enormous advance. You can also use the prosthesis expressively to shake hands, give a hug or clap at a performance.”

Seventy-one-year-old **Wilbert Carlile** is pleased with the changes the i-LIMB has brought to his life. Following the amputation of his right hand in March 2004, Carlile used a traditional myoelectric until May 2009, when he switched to the i-LIMB.

After a month of two-day-a-week occupational therapy sessions, he could use the hand fully in everyday activities and in the pursuit of his hobby of building and operating remote radio-controlled, gas-engine model cars.

“The difference between the i-LIMB and the electric hand I used previously is like day and night,” he says. “I can pick up money out of my hand, hold a Styrofoam cup without crushing it, write and use a phone. I can use my right hand like I did before the accident and actually better in

some ways than before the accident. I can give the thumbs-up sign, wave goodbye and shake hands at church without worrying about hurting anyone. A lot of people don't even notice it's a myoelectric. It's a wonderful thing.” ♦

TIRR Recognized by U.S. News & World Report

FOR THE 20TH CONSECUTIVE YEAR, TIRR Memorial Hermann has been recognized by *U.S. News & World Report* as one of the nation's leading providers of rehabilitative care. In 2009, TIRR holds the No. 4 position for the third year in a row.

“We are pleased to be recognized among the premier rehabilitation

hospitals in the nation,” says Carl Josehart, CEO. “The distinction reflects the knowledge, compassion and dedication of our staff members who either provide direct patient care or support those who do.”

U.S. News & World Report evaluates the quality of patient care in institutions based on a variety of categories, including a hospital's teaching status, reputation with physicians, mortality rates and advanced technological capabilities. ♦



Jose Delaluz

After sustaining a brain injury caused by a ruptured aneurysm in February 2002, Jose Delaluz made a complete recovery and returned to work. But a CT scan had also revealed a large arteriovenous malformation



(AVM) in the left frontal-parietal area of his brain. In August of the same year, he had a two-part surgery to remove the AVM. When he came out of anesthesia following the second surgery, he was unable to move the right side of his body. In October 2002, he began treatment in the TIRR Memorial Hermann Kirby Glen Challenge Program, a community reintegration program for brain injury and stroke survivors.

“Being in the Challenge Program was such a positive experience that I remember everything in great detail,” Delaluz says.

“Despite my physical problems, I had fun. I was able to focus 100 percent on my rehab, I took a positive attitude toward it and I started making progress right away. I was fortunate to have very supportive family, friends and co-workers.”

Now 42, Delaluz runs at least twice a week and competes regularly in 5K and 10K races. “I run with family members, including my baby sister,” he says. “She’s been a huge positive factor in my recovery and rehabilitation from day one and now she pushes me to maintain my health and get out there and run.”

Delaluz notes that the most important factor in his recovery was acquiring a positive attitude. “My experience taught me how powerful the mind can be.”

After seven months of therapy, Delaluz returned to full-time employment with the Harris County Juvenile Probation Department. In June 2003, the Texas Rehabilitation Association honored him with the Promethean Award in recognition of “his self-motivation and personal courage in overcoming his disability.” He was also recognized by the TIRR Challenge Program as the Employment Track Client of the Year and by the Juvenile Probation Department for “strength in the face of adversity.”

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dedicating nurses, therapists, rehabilitation techs, patient care assistants and managers to that specific unit, rather than extending their responsibilities to multiple units throughout the hospital.

“Since we’ve started using unit-based teams, therapists, nurses and other team members know each other better and have developed a stronger rapport,” Abbott says. “As a result, we’ve dramatically improved our communication.”

New tools were introduced to improve interdisciplinary communication, including team huddles, a communication notebook and a central scheduling board. Five-minute team huddles are facilitated by a team leader and allow nurses and therapists to review processes, problems and patient issues. The communication notebook is a binder with dividers for each patient room. Kept on the unit, it gives staff across all shifts the opportunity to ask one another direct questions and share answers about specific patients.

Better communication between therapists and nurses has opened the door to new opportunities to problem solve, says **DeAnn Roberts, R.N.**, director of nursing for the Brain Injury and Stroke Programs and the Neuromuscular Disorders and Multiple Trauma Programs. “Nursing was unit based and therapy wasn’t. Having therapists assigned to the unit gives us more eyes and ears, which is especially important with our brain injury patients. If the therapists don’t feel qualified to address issues that arise, they ask the nurse.”

In addition to introducing tactics that improve communication among caregiver team members, community

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dining for patients was implemented to facilitate socialization in a real-life setting. An out-of-bed team comprised of rehabilitation technicians who help prepare patients for therapy in the mornings, and an Activities of Daily Living (ADL) team were established to increase the patient's ability to address functional skills needed for returning home.

"We're still in the beginning phases of the hospitalwide rollout, but initial Press Ganey data and feedback from patients is demonstrating positive results in the pilot unit," says **Kelly Ramsey, SLP**, a clinical program manager who has worked closely with the Model of Care initiative. "The most substantial improvement has been in the goal of meeting our requirement of 180 minutes of therapy. TIRR has achieved an overall 36 percent increase. The next steps will be to look at more data and see where further improvements can be made as the initiative is rolled out to other units."

Physicians are also pleased with the results. In the April and May 2009 physician satisfaction survey, Unit 3 was the highest rated in the hospital with 100 percent positive comments.

"There's nothing mysterious about the new Model of Care," Abbott says. "It encompasses everything within the facility that makes care more efficient, more effective and better for our patients. We've accomplished a great deal in a short time, but there's still work to be done."

"In many ways the Model of Care is a culture change, which doesn't happen overnight," Roberts adds. "But we're making good progress. The winners at the end of the day are our patients, employees and physicians." ♦

ACCOLADES

Physical Therapists Receive ABPTS Certification

Nine TIRR Memorial Hermann physical therapists were recently certified by the American Board of Physical Therapy Specialties (ABPTS), eight as Neurologic Clinical Specialists (NCS) and one as a Pediatric Clinical Specialist (PCS).

Inpatient staff members who have received their NCS certification include **Kim Atkinson, P.T.**, **Nova Sbrusch, P.T.**, **Julie Welch, P.T.**, and **Margaret Marquart, P.T.** They join **Diane Wege, P.T.**, for a total of five inpatient NCS-certified therapists at TIRR.

At TIRR Memorial Hermann Kirby Glen, four outpatient physical therapists earned the NCS certification – **Kristen Prejean, P.T.**, **Michael Furtado, P.T.**, **Jenny Amonette, P.T.**, and **Samantha Dewey, P.T.** – and **Kelly Phelan, P.T.**, earned her PCS certification. They join **Teresa Cramer, P.T., P.C.S.**, and **Anna de Joya, P.T., N.C.S.**, for a total of two pediatric-certified specialists and five neurologic clinical specialists at the outpatient facility.

ABPTS certification promotes the highest level of care for individuals seeking physical therapy services in each specialty area by ensuring that the therapists certified have attained an advanced level of knowledge and skill. Certified therapists also serve as a resource in specialty practice for the American Physical Therapy Association, the physical therapy profession and the healthcare community.

Cindy Ivanhoe, M.D., Nominated to WE MOVE Subcommittee

Cindy Ivanhoe, M.D., attending physician in TIRR's Brain Injury and Stroke Program, associate professor of physical medicine and rehabilitation at Baylor College of Medicine and an adjunct associate professor at The University of Texas Medical School at Houston, has been nominated to a new subcommittee of the WE MOVE Education Committee. The group will help guide WE MOVE in educating healthcare professionals and patients about the benefits of botulinum toxin.

WE MOVE is a not-for-profit organization committed to creativity, innovation and collaborative approaches that improve awareness, diagnosis and management of movement disorders among people living with these conditions and the professionals who care for them.

Occupational Therapists Participate in SmartWheel Videos

TIRR Memorial Hermann staff members **Suzanne Andrews, O.T.R.**, and **Rafferty Laredo, O.T.R.**, are featured in new marketing videos for the SmartWheel®, which is available at



TIRR's Wheelchair Seating and Mobility Program. By measuring every push on the hand rim, SmartWheel produces

data that helps therapists quantify wheelchair prescriptions, assists

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Lexie Bolds

In April 2006, while visiting a friend in Jasper, Texas, 11-year-old Lexie Bolds was injured in an accident that left her with a broken arm, a broken neck at C2-C4 and a spinal cord injury at C4. Rushed to Children's Memorial Hermann Hospital by Memorial Hermann Life Flight® helicopter,



Lexie underwent surgery to fuse her cervical spine. She spent the next three weeks in the hospital's Pediatric ICU.

Paralyzed from the neck down, she was transferred to TIRR Memorial Hermann in May. Over the next six weeks, under the medical direction of physical medicine and rehabilitation

specialist Juan Latorre, M.D., she relearned how to sit, stand, walk and feed herself.

"I was the youngest patient in the hospital," Lexie says. "What I remember most is how welcoming the staff was and how they made therapy fun. Dr. Latorre, the therapists and the nurses were so kind and patient, which made the experience memorable for me."

A month after her discharge, she returned for six weeks of day rehabilitation at TIRR to improve control of her hands and fine motor skills. "We're so thankful that Lexie was placed at TIRR and grateful that her recovery has gone so well," says her mother Jennifer Amonette.

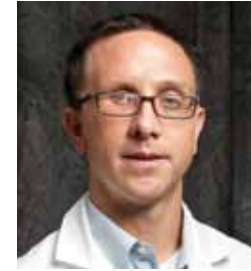
Now a 10th grader, Lexie plays on her high-school soccer team. An honor student, she's working toward her goal of becoming a neurologist.

"Sometimes the smallest decisions change your life forever," she says. "If I had given up instead of deciding to do what it took to recover, I would be a tetraplegic. But I'm not. I keep working out and get stronger every day."

TIRR Welcomes New Recruits

Two physicians have joined the medical staff of TIRR Memorial Hermann and the faculty of The University of Texas Medical School at Houston and Baylor College of Medicine.

Jeffrey Berliner, D.O., an assistant professor of physical medicine and rehabilitation at the UT Medical School, joins the TIRR team following completion of a fellowship in Spinal Cord Injury Medicine



Jeffrey Berliner, D.O.

at Baylor College of Medicine in Houston. Dr. Berliner received his medical degree at Nova Southeastern University College of Osteopathic Medicine in Fort Lauderdale, Florida, in 2004 and completed his residency in physical medicine and rehabilitation at Rusk Institute of Rehabilitation Medicine in New York City.

In addition to his clinical activities, Dr. Berliner will assist **William H. Donovan, M.D.**, in directing TIRR's Spinal Cord Injury Program, which has been a National Institute on Disability and Rehabilitation Research-funded Model System for spinal cord rehabilitation for more than three decades. He will also participate in research activities as a co-investigator of the Spinal Cord Injury Robotic Study, supported by TIRR Foundation's Mission Connect, and the Neuro-Recovery Network project funded by the Christopher and Dana Reeve Foundation. He is a member of the Association of Academic Physiatrists, the American Academy of Physical

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Medicine and Rehabilitation and the American Osteopathic Association.

Lisa R. Wenzel, M.D., an assistant professor of physical medicine and rehabilitation at Baylor College of Medicine, received her medical degree in 2004 at Wake Forest University School of Medicine in Winston-



Lisa R. Wenzel, M.D.

Salem, North Carolina.

Following an internship in internal medicine at Harbor Hospital Center in Baltimore, Maryland, she

completed her residency at the Baylor College of Medicine/The University of Texas Medical School at Houston Physical Medicine and Rehabilitation Alliance. She completed a fellowship in Spinal Cord Injury Medicine at the Alliance in 2008.

As an attending physician at TIRR, Dr. Wenzel's focus will be on caring for inpatients and outpatients with spinal cord injuries. She is a co-investigator in the NeuroRecovery Network project and is involved in a urologic study evaluating the effect of botulinum toxin use on the urinary sphincter of acute SCI patients in an attempt to prevent detrusor sphincter dyssynergy. She is a member of the Academy of Academic Physiatrists, the American Academy of Physical Medicine and Rehabilitation, and the Texas Medical Association.

Darby Cruz Joins TIRR as Manager of Respiratory Therapy

DARBY CRUZ, R.R.T., R.C.P., was appointed manager of respiratory therapy at TIRR Memorial Hermann effective July 6, 2009. Cruz comes to TIRR from Memorial Hermann-Texas Medical

Center, where she served as a respiratory therapist on the acute-care hospital's Rapid Response team, and relief supervisor and coordinator of the intensive care unit for transplant and burn patients.

Prior to joining Memorial Hermann-TMC, Cruz was a staff therapist and new employee preceptor at Sentara Leigh Hospital in Norfolk, VA, from 1992 to 2007. From 1996 to 1998, she also served as onsite clinical instructor at Tidewater Community College in Virginia Beach, VA.

Among her goals are developing therapist-driven protocols that allow respiratory therapists to tailor therapy to each patient's needs. "With protocols in place, we can serve our patients better and faster," she says. Other goals include ensuring that TIRR's 21 respiratory therapists have access to the most advanced technology and work together as a cohesive team with other disciplines. "Closely coordinated care gets patients home and reintegrated into the community faster. Everyone benefits."

First Class of Neurologic Physical Therapy Residents Arrives on Campus

In July 2009, TIRR Memorial Hermann, in collaboration with Texas Woman's University and The University of Texas Medical Branch at Galveston, welcomed its first class of residents in a new neurologic physical therapy residency program designed to advance physical therapists' knowledge and skills in caring for patients with neurologic diagnoses.

Two residents, **Jennifer Hale, P.T., D.P.T.**, and **Ashley Dennis, P.T., D.P.T.**, are spending 52 weeks rotating

through four clinical sites within the Memorial Hermann System: the Mischer Neuroscience Institute at Memorial Hermann-Texas Medical Center, which houses a dedicated neuro unit and the largest and busiest neuro ICU in the region; TIRR's Neuromuscular Disease and Multi-

Trauma Programs, Brain Injury and Stroke Program and Spinal Cord Injury Program; the Outpatient Rehabilitation, Day Rehabilitation and

Challenge Programs at TIRR Memorial Hermann Kirby Glen; and Children's Memorial Hermann Hospital's pediatric acute care and neonatal intensive care units.

"Having the opportunity to participate in the delivery of care in a variety of clinical settings is what really makes this program unique," says Hale, who has spent the past two years as a physical therapist on TIRR's inpatient Brain Injury and Stroke team. "We're learning from a broad group of specialists and subspecialists in the field, including adult and pediatric neuropsychologists, neurologists and neurosurgeons who are also researchers. And we're supplementing the hands-on skills we're gaining in the acute care and rehabilitation settings with knowledge from the classroom."

Dennis, whose work experience includes a year in the Neurorehabilitation Center and 10 months in the Spinal Cord Injury Unit at Magee Rehabilitation Hospital in Philadelphia, says the program is giving her a broader perspective on the patient experience. "The residency program

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WE'RE LEARNING FROM A BROAD GROUP OF SPECIALISTS AND SUBSPECIALISTS IN THE FIELD, INCLUDING ADULT AND PEDIATRIC NEUROPSYCHOLOGISTS, NEUROLOGISTS AND NEUROSURGEONS WHO ARE ALSO RESEARCHERS.

has opened my eyes to a whole new aspect of the patient experience,” she says. “My goal is to be able to treat any patient who comes to me with a neurologic diagnosis. The residency program is giving me a broad perspective on the patient experience through the entire continuum of care that will ultimately enable me to provide better therapy.”

“Our goal is to develop expert clinicians who are compassionate and skilled at using leading-edge interventions to achieve the best clinical outcomes,” says **Kim Atkinson, P.T., N.C.S.**, residency program director at TIRR. “We’re focusing on developing our residents’ problem-solving, decision-making and case management skills, all in a collaborative, evidence-based, interdisciplinary environment.”

Atkinson says she’s pleased that TIRR has begun the first year of the residency program, which is one of only six neurologic physical therapy residencies in the country. “This type of program promotes an atmosphere of continual learning for both residents and staff and increases the number of clinicians in the hospital with an advanced skill set,” she says. “It also offers us the opportunity to collaborate with two local universities in research and education.”

For more information about the residency program, contact Atkinson at 713.797.7627 or kimberly.atkinson@memorialhermann.org. ♦

IN THE LAB

UT PM&R Receives Mission Connect Grant for Robotic Research

The department of Physical Medicine and Rehabilitation at The University of Texas Health Science Center at Houston has received a \$120,000 grant from Mission Connect to study the effect of robotic-assisted therapy on upper-limb motor recovery in people with incomplete spinal cord injuries (SCI). The study will be conducted at the new Motor Recovery Lab at TIRR Memorial Hermann.

“This is truly an experimental study,” says **Gerard E. Francisco, M.D.**, chief medical officer at TIRR, chair of the department of Physical Medicine and Rehabilitation at The University of Texas Medical School at Houston and principal investigator of the study. “Most of the work using robotic-assisted therapy has been conducted in traumatic brain injury and stroke patients. We would like to find out if we can replicate these results in people with spinal cord injuries. If we can show that robotic-assisted therapy helps create new nerve pathways in SCI patients, we’ll seek funding for a larger study.”

Twenty participants will be enrolled in the clinical trial over a two-year period. **Marcia O’Malley, Ph.D.**, assistant professor of mechanical engineering at Rice University and a long-time TIRR partner, with input

from other study investigators, **Corwin Boake, Ph.D.**, and **Nuray Yozbatiran, P.T., Ph.D.**, developed the robotic device being used for the study. Dr. Boake is a neuropsychologist at TIRR and an assistant professor of physical medicine and rehabilitation at the UT Medical School. Dr. Yozbatiran is a research scientist in the UT department of Physical Medicine and Rehabilitation.

Mission Connect is a collaborative neurotrauma research project founded, led and funded by TIRR Foundation. Mission Connect identifies and supports research initiatives exhibiting the greatest potential to positively influence the medical outcomes of individuals who have sustained a spinal cord injury, brain injury or stroke. The discoveries achieved with Mission Connect-funded research are shared among a consortium of more than 50 members represented by premier medical and academic institutions, including The University of Texas Health Science Center at Houston. To bring new treatments and cures to the bedside, TIRR Foundation has committed more than \$14.3 million in funding for neurotrauma research. Dr. Francisco’s study was selected by Mission Connect based on its scientific merit and his proven ability to utilize research to develop improved rehabilitative therapies for patients with spinal cord injuries. ♦

their patients in acclimating to their wheelchairs and justifies power equipment recommendations for insurance purposes.

Andrews and Laredo were interviewed by **Ron Boninger**, president of Three Rivers/Out-Front, creator of the SmartWheel. They discuss the

advantages of SmartWheel technology as a tool to assist with clinical reasoning, education and training for manual wheelchair users. The videos can be viewed at www.3rivers.com.

TIRR was one of 40 SmartWheel facilities worldwide selected to participate in the video project based on its therapists’ knowledge and experience

with the device. The hospital will begin uploading clinical data to the international SmartWheel Users Group database this fall to promote further research on the mechanics of wheelchair propulsion to improve efficiency, upper limb preservation and safety. ♦



CELEBRATING FIFTY YEARS 1959~2009

Mark Sherer, Ph.D., Psychotic-type Symptoms in Acutely Confused



Mark Sherer, Ph.D.

Traumatic Brain Injury Patients. Paper presented at the meeting of the American Academy of Clinical Neuropsychology meeting. San Diego, California, June 18, 2009.

Cindy Ivanhoe, M.D., Where's the Healthcare Bill Headed Now? Interview on the current healthcare bill and its effect on neurorehabilitation patients by Fox News on August 17, 2009.

William H. Donovan, M.D., interim medical adviser of the TIRR Spinal Cord Core Groups and director of



William H. Donovan, M.D.

the Spinal Cord Fellowship, will attend the annual scientific meeting of the International Spinal Cord Society (ISCoS)

October 20-24, 2009, in Florence, Italy. Dr. Donovan is the past president of ISCoS (2004-2008) and remains on the Council of Directors and various committees.

Presentations at the Community Integration of Persons with Traumatic Brain Injury, Advances in Research and Implications for Treatment Meeting, held on Saturday, September 26, 2009, in Houston, Texas

Mark Sherer, Ph.D., Impact of Confusion and Impaired Awareness on Therapy. TIRR Memorial Hermann Brain Injury Research Center and

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Jacob Zalewski

Born three months premature, Jacob Zalewski suffered complications during birth, including broken ribs, a brain infection and air supply loss when his umbilical cord wrapped around his neck. He weighed less than 1.5 pounds, and his doctors gave him a 3 percent chance of survival.



Zalewski had been placed for adoption, and his physicians advised his new parents that they should consider adopting a different baby. Instead, they took him to another hospital where many months of care resulted in a return to health.

When he was diagnosed with cerebral palsy at the age of 3, his family sought answers and treatment around the world. By the time he was 18, he had been to countless hospitals, specialists and physical therapists but had failed to gain his independence. After years of being told that nothing more could be done, he began to believe that his disability was permanent.

In 2003, his parents took him for an evaluation at TIRR Memorial Hermann. "After consulting with my doctor, Gerard Francisco, M.D., and my physical therapist, Heather Heyl, I knew there was something special about them," Zalewski says. "The fire in me that had almost died began to spark again. I couldn't wait to start."

In his first two weeks at TIRR, he improved an astonishing 20 percent. "I had not improved that much in 10 years at other hospitals," he says. "My parents and I were thrilled. I felt that I was part of something important instead of watching my therapy from the sidelines as I had done at other hospitals. They were trying to achieve something that other people hadn't been able to achieve. It was about what we can accomplish together."

Zalewski runs his foundation according to that same principle. As CEO and founder of the One Step Closer Foundation, a non-profit organization dedicated to raising awareness and funds for research on cerebral palsy, he generously donates proceeds from his fundraising efforts to TIRR.

"TIRR is very innovative. They were the first people to believe in me as a patient and to believe in us as a foundation," he says. "My goal is to continue to work with TIRR and the Memorial Hermann Foundation on bigger and better fundraising projects."

Chad Waligura

Chad Waligura grew up hunting on the Texas Gulf Coast, after falling in love with the sport at the age of 12. In the summer of 1986, when he was 17, Waligura dove into a swimming pool and fractured his C-7 vertebra, an



injury that resulted in quadriplegia. He spent three months at TIRR Memorial Hermann, and after his discharge, returned to hunting. Eighteen years later he was named the 2004 Challenged Hunter of the Year by Streamlight & Buckmasters' American Deer Foundation.

Following his accident, Waligura earned a bachelor's in wildlife and fisheries science from Texas A&M University and a master's in counseling from the University of Houston. In 1996, he created a Web site called Follow Me Outdoors, which has grown into one of the most extensive sites for information on outdoors and recreational activities for people with disabilities.

"When I was discharged from TIRR, my first thought was how

I'd return to hunting," Waligura says. "There wasn't much information available online for people with disabilities, which is why I created my Web site."

A freelance writer and contributor to hunting magazines, he has been published in Buckmasters' Magazine, Turkey & Turkey Hunting Magazine, Rack Magazine, King's Hunting Illustrated, Eastman's Hunting Journal, Horizontal Bowhunter Magazine and United Federation for Disabled Archer's Magazine.

Today, Waligura hunts big game across the United States, Mexico, Canada, Africa and Argentina. He is a ranking member of Serve Outdoors, an organization that hosts group hunts, fishing trips and other outdoor activities for people with disabilities. He also volunteers with TIRR PEERS, a group whose members "buddy up" with patients who've had a recent spinal-cord injury and share common experiences, insights and information.

"It's been a privilege for me to share my experiences," he says. "When you're at TIRR, you're dealing with your life 'being over.' It's the people around you – doctors, nurses, therapists, friends and family – who keep you going until you can take over again. TIRR provides stability in the storm."

On the Podium continued from page 9

Baylor College of Medicine.

Angelle M. Sander, Ph.D., Educating Caregivers on How to Manage Cognitive and Behavioral Problems in the Home and Providing



Angelle Sander, Ph.D.

Culturally Competent Rehabilitation. TIRR Memorial Hermann Brain Injury Research Center, Baylor College of Medicine, and Harris County Hospital District.

Margaret A. Struchen, Ph.D., and **Allison Clark, Ph.D.**, Addressing Social Communication Problems in



Margaret A. Struchen, Ph.D.



Allison Clark, Ph.D.

Rehabilitation. TIRR Memorial Hermann Brain Injury Research Center and Baylor College of Medicine.

Monique R. Pappadis, M.Ed. C.H.E.S., C.C.R.P., A TBI Education Program



Monique Pappadis, M.Ed.

for Persons from Diverse Backgrounds. TIRR Memorial Hermann Brain Injury Research Center and the University of Houston.

**An asterisk indicates that the physician is affiliated with TIRR.*

***Yang S, *Grabois M, Bruel B.** A clinical history and physical examination



Stephen Yang, M.D. Martin Grabois, M.D.

with judicious use of appropriate diagnostic modalities are mandatory in identifying what is the likely pain in stroke survivors. *Practical Pain Management*. June 2009:24-31.

***Ivanhoe C.** Botox and post-stroke spasticity of the upper limb. Invited manuscript submitted to *Touch Neurology*.



Cindy Ivanhoe, M.D. *Ivanhoe C. Botox in neurorehabilitation. Invited Ask the Doctor article submitted to the Parkinson's Association.

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This is truly an exciting period for TIRR Memorial Hermann, whose growth is in synergy with the expansion of clinical and research endeavors at UT and BCM. I look forward to updating you further on the progress of this partnership.

Gerard E. Francisco, M.D.
 Chief Medical Officer
 TIRR Memorial Hermann
 Chair, Department of Physical Medicine
 and Rehabilitation
 The University of Texas Medical School
 at Houston

**CELEBRATING
 FIFTY YEARS
 1959~2009**

Laura Snell

In October 2000, nine days after Laura Snell's second baby was born, she became very ill. Doctors at a Houston emergency center diagnosed a urinary tract infection and treated and released her. As she walked to the car, she collapsed.



"My doctor finally arrived and had me rushed to the ICU," Laura says. "The last thing I remember was the doctor putting in a central line. They expected to give me IV antibiotics and release me in the morning. But in the middle of the night they called my husband to tell him they didn't think I was going to make it."

Laura went into septic shock and lapsed into a coma for several days. Her critical care team administered vasopressors to move oxygen from the extremities to the vital organs to increase the output of the heart and raise her blood pressure. Deprived of oxygen for nearly a month, her hands and feet began to die. "I was heavily sedated and in and out of consciousness during my stay in the ICU, but when I

woke up, I knew my legs had been amputated," she says.

Laura was treated in the hyperbaric medicine program at Memorial Hermann-Texas Medical Center to save as much tissue as possible on her arms and hands. She spent Thanksgiving and Christmas in the hospital, and at the end of December, surgeons amputated the thumb and tips of four fingers on her right hand and all but half of three fingers on her left hand.

During seven weeks of rehabilitation in TIRR's Amputee Program, Laura gradually regained her strength. "I've always been very athletic, and I expected to be up and around in the gym on my first day at TIRR. Learning to walk again was one of the hardest things I've ever done."

Today, Laura, her husband and their two sons raise miniature horses at their country home in Chappell Hill, Texas. The family recently bought a historic horse farm in Kentucky that they plan to renovate.

"It's miraculous that I lived," she says. "I remember lying in the hospital bed for four months thinking that if I ever got out, I wouldn't care about anything but living my life, loving my family and being the best mother I can be. The experience really made me appreciate what I have, and TIRR made me realize that I wasn't alone."



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MESSAGE FROM THE CMO

As the new academic year unfolds at The University of Texas Medical School at Houston and Baylor College of Medicine (BCM), we at TIRR Memorial Hermann continue to strengthen our partnership with the medical schools' departments of Physical Medicine and Rehabilitation as they enter an



Gerard E. Francisco, M.D., CMO

exciting phase of growth in clinical service and research. We welcome Jeffrey Berliner, D.O., an assistant professor at the UT Medical School, and Lisa Wenzel, M.D.,

an assistant professor at BCM, to the medical staff at TIRR. They will provide medical leadership of our Spinal Cord Injury Program, which

has been a National Institute on Disability and Rehabilitation Research-funded Model System of Care for more than three decades.

Drs. Berliner and Wenzel will be assisted by William Donovan, M.D., who has agreed to once again serve as our SCI program director. Dr. Donovan retired as executive vice president for medical affairs and medical director of TIRR last fall, following 28 years of service, and has continued in his teaching role as a part-time professor at the UT Medical School.

We also welcome **Sheng Li, M.D.**, and **Nuray Yozbatiran, Ph.D.**, who will play vital roles in the new UT Motor Recovery Lab located at TIRR. Dr. Li, a PM&R resident at UT, has received an R01 grant from the National Institutes of Health to study the effect of electrical stimulation coupled with

breathing on post-stroke motor recovery. Dr. Yozbatiran is a co-investigator, along with Dr. Berliner, Corwin Boake, Ph.D., and Rice University's **Marcia O'Malley, Ph.D.**, in my research project on robotic-assisted therapy to augment upper-limb motor recovery in people with incomplete spinal cord injuries. The study is funded by TIRR Foundation's Mission Connect.

Our academic growth extends beyond the medical schools. Also new on our Campus this year is the first class of residents in our recently established neurologic physical therapy program, designed to advance physical therapists' knowledge and skills in caring for patients with neurologic diseases. The program is expanding TIRR's leadership role in training rehabilitation professionals of the future to partner with physicians as we work together to improve clinical excellence.

CMO Message continues on page 11

About TIRR Memorial Hermann

TIRR Memorial Hermann is a 116-bed nonprofit rehabilitation hospital located in the Texas Medical Center in Houston. Founded in 1959, TIRR has been named one of "America's Best Hospitals" by *U.S. News & World*

Report for 20 consecutive years. TIRR provides rehabilitation services for individuals with spinal cord injuries, brain injuries, strokes, amputations and neuromuscular disorders.

TIRR is one of 11 hospitals in the not-for-profit Memorial Hermann system. An integrated healthcare

system, Memorial Hermann is known for world-class clinical expertise, patient-centered care, leading-edge technology and innovation. The system, with its exceptional medical staff and 20,000 employees, serves southeast Texas and the greater Houston community.