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TIRR MEMORIAL HERMANN RECOGNIZED FOR ADVOCACY WORK BY ALEXANDER JFS

REELABILITIES FESTIVAL PROMOTES ACCESSIBILITY AND INCLUSION

TIRR MEMORIAL® HERMANN
Rehabilitation & Research

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Brandon's Story: Playing Music Once Again

In May 2017, Brandon Ray was rushed into surgery to save his life after he suffered a ruptured aorta, the major artery that carries blood from the heart. He underwent surgery at a Houston-area hospital: during the procedure, he suffered a major stroke. Shortly after the surgery, he had several acute strokes. Although he survived, he lost his ability to walk, to speak and, most importantly, to sing. Brandon has been a musician for most of his life; until the medical crisis, he had been working as a semi-professional singer in the Houston area.

But with the love and support of his wife and personalized help from the specialists at TIRR Memorial Hermann, Brandon has found his voice again and is sharing it on stage once more.

"My wife has been my biggest fan and my champion from the beginning," said Brandon. "Once I was medically stable, she insisted that I be transferred to TIRR Memorial Hermann."

"I started listening to recordings of myself before my stroke," said Brandon. "That was when I realized how much I missed singing. So, my therapists helped me find new ways for me to play my guitar."

After leaving acute care, Brandon went to TIRR Memorial Hermann in the Texas Medical Center to begin his rehabilitation. He then transferred to TIRR Memorial Hermann-The Woodlands, which was closer to home. When he arrived at TIRR Memorial Hermann-The Woodlands, Brandon was just beginning to walk and stand. He was unable to use his right arm, and he could not see out of his right eye. He participated in physical therapy, occupational therapy, recreational therapy and speech therapy as part of his recovery.

"His quality of life was very poor. He's a musician and loves singing, and not being able to use his voice and sing was heartbreaking for him. But through therapy, he has done great things and was able to return to singing," said Lindsey Duckworth, SLP.

His occupational therapist, Oscar Dayaon, OTR, added, "Brandon is a hard-working young man who is goal oriented and has a 'never-give-up' attitude. Among other goals, we worked on his return to leisure, like singing his songs and playing his guitar again. Not only did he play his guitar and sing, but he played and sang for everyone in the clinic! He is such an inspiration."

After six weeks as an inpatient, Brandon had re-learned how to walk and had regained the use of his right arm. He transitioned to outpatient therapy and visited several TIRR Memorial Hermann locations to attend therapy sessions, including TIRR Memorial Hermann-The Woodlands and TIRR Memorial Hermann-Greater Heights. At each location he continued to make progress.

"I started listening to recordings of myself before my stroke," said

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Brandon. "That was when I realized how much I missed singing. So, my therapists helped me find new ways for me to play my guitar."

He wrote a song with the lyrics, "I lost my voice late last May… without a choice, I lost my voice…" and practiced it relentlessly.

He was discharged from outpatient therapy in September 2018, and today he continues to sing and play music. One of the organizations he performs with is ReelAbilities Houston, a citywide film and arts festival dedicated to showcasing films, art exhibitions, performances and speakers that celebrate the lives, stories and talents of people with disabilities.

When he is not playing music, he can be found spending time with his wife and family and playing with his rescue dogs.

"All of the therapists that I worked with at TIRR Memorial Hermann were wonderful," said Brandon. "Their combined efforts made my recovery more efficient and effective. They treated me how I know I deserved to be treated!" ■

ADVOCACY

TIRR Memorial Hermann Recognized for Advocacy Work by Alexander JFS

TIRR Memorial Hermann has received the prestigious Community Investment Award from Alexander Jewish Family Service (Alexander JFS), a 110-year-old social service agency that serves people of all faiths and backgrounds and is dedicated to transforming the lives of individuals, families and communities in the Houston area.

The award, which was established in 2021, is presented to a company, foundation or non-profit that prioritizes the goal of making the communities they serve better and empowering the people in them to strengthen and improve their lives. Honorees also strive to infuse their organization's operational culture with values and actions that align with these aspirations, and their contributions–both financial and otherwise–support this goal.

"This wonderful award is a testament to the legacy of the relationship that's existed between Alexander JFS and TIRR Memorial Hermann for many, many years."

"At Alexander JFS, we wanted to honor TIRR Memorial Hermann's commitment to reaching outside the walls of the hospital to create more welcoming spaces for people with disabilities throughout the Houston region," said Carl Josehart, MSW, the CEO of Alexander JFS and former CEO of TIRR Memorial Hermann.

Previous recipients of the Community Investment Award include grocery store chain HEB and Amegy Bank. Each honoree conducts active philanthropy and community engagement to better the lives of the communities they serve. TIRR Memorial Hermann received the honor during the JFS LiVE! event on November 16, 2023.

TIRR Memorial Hermann, a national leader in medical rehabilitation and research, has long strived to be a driving force in creating inclusive communities where their patients can return and continue their healing journeys, and has served as a powerful advocate for the full inclusion of people with disabilities into society. The health system has worked closely with community partners such as the Houston Mayor's Office for People with Disabilities and the JFS Alexander Institute for Inclusion as part of these efforts, according to Rhonda M. Abbott, PT, FACHE, who is TIRR Memorial Hermann's senior vice president and CEO.

She explained that TIRR Memorial Hermann's efforts continue the legacy of the hospital's leadership, including former executive and disability rights activist Lex Frieden, who has been called the "chief architect" of the Americans with Disabilities Act and remains a driving force behind Houston's efforts to enhance accessibility and inclusion.

Since 2013, TIRR Memorial Hermann has served as the founding lead sponsor of the ReelAbilities Film and Arts Festival in Houston, which is produced by the JFS Alexander Institute for Inclusion.

Left to right top row:
Claire Williams, Toi Harris, Jean Woo, Katherine O'Brien, Alison Haralson

Bottom row:
Deborah Gordon, Rhonda Abbott, Blake Abbott, Greg Haralson

Left to right: *Mark and Karen Edelman, Rhonda Abbott, Todd and Sylvia Riff and Carl Josehart*

Rhonda M. Abbott and Carl Josehart

"The health system's leadership and investment have been vital toward advancing the festival's mission and making it among the most successful ReelAbilities events in the nation," said Josehart.

"The festival has dramatically changed the landscape in Houston, demonstrating that if you capture people's hearts through stories and art, then their heads will follow in building an inclusive community," he added.

Indeed, over the past decade, the annual citywide festival has become a transformative event that reaches tens of thousands of Houstonians, including students of all ages, during nearly a month of programming. By using the arts to change perceptions of people with disabilities, ReelAbilities has created, and continues to nurture, a diverse community of advocates for inclusion and accessibility, Abbott said.

"This wonderful award is a testament to the legacy of the relationship that's existed between Alexander JFS and TIRR Memorial Hermann for many, many years," Abbott added. "It highlights the commitment of the two organizations to work together to make lives better for people with disabilities. Here at TIRR Memorial Hermann, we strive to be a health care provider that isn't just providing health care, and partnerships like the one we have with Alexander JFS are integral to that." ■

National Designation Will Preserve Future of Rehabilitation Care

The passage of legislation naming TIRR Memorial Hermann as a national rehabilitation innovation center reflects the culmination of more than a decade of advocacy work and will allow for the preservation of cutting-edge rehabilitation for generations to come, officials with the health system say.

The Dr. Joanne Smith Memorial Rehabilitation Innovation Centers Act (P.L. 177-341), the development of which was spearheaded by TIRR Memorial Hermann, was signed into law by President Joe Biden on Jan. 5, 2023.

"Work on this process began in October of 2011, and the passage of the legislation is the result of more than 11 years of work with multiple presidential administrations and hundreds of members of Congress," says Freddy Warner, the chief government relations officer with the Memorial Hermann Health System.

"It was a long journey," Warner adds, joking that he could likely write a book on the process and the different barriers that must be overcome to get a piece of legislation passed.

"At the end of the day, the pride that all of us feel is in the fact that we didn't lose focus," he notes. "We wanted to have an acknowledgment of the things being done at TIRR Memorial Hermann and at a small number of freestanding inpatient rehabilitation facilities across the country. We are treating the most complex patients, providing the opportunity for physicians, nurses, researchers, clinicians, therapists to practice at the top of their fields."

"There are very few organizations across the country that deliver rehabilitation care and beyond the way we do at TIRR Memorial Hermann and the colleague sites that are part of the coalition," adds Rhonda M. Abbott, PT, FACHE the senior vice president and CEO at TIRR Memorial Hermann.

According to Warner, the legislative effort began during 2010, with passage of the Affordable Care Act. The Act has allowed for significant changes in both health care delivery and reimbursement and caused experts at TIRR Memorial Hermann and other high-level rehabilitation centers to approach lawmakers with a proposal for a "center of excellence" type designation that eventually was renamed the national rehabilitation innovation center.

Along with TIRR Memorial Hermann, the original group of centers included the Rehabilitation Institute of Chicago, which has since been renamed the Shirley Ryan AbilityLab, as well MedStar National Rehabilitation Hospital in Washington, D.C., the University of Pittsburgh Medical Center and the Rancho Los Amigos in Los Angeles. Since then, Spaulding Rehabilitation Hospital in Boston, Spain Rehabilitation Center in Birmingham, Ala., and Mount Sinai Rehabilitation Center in New York City have been added.

"There are very few organizations across the country that deliver rehabilitation care and beyond the way we do at TIRR Memorial Hermann and the colleague sites that are part of the coalition." says Rhonda M. Abbott.

"We were interested in finding a way we could demonstrate to the federal regulatory agencies that our facility is different, and that reimbursement needs to be protected," Warner says. "We wanted there always to be incentives for research and the work done to try to motivate and incentivize organizations and individuals to practice at the top of rehabilitation medicine."

He adds: "These centers are global destination facilities for patients, and anyone involved with rehabilitation medicine wishing to be in venues where they are going to treat the most complex patients and have opportunities to work side-by-side on care teams that are at the pinnacle of rehabilitation medicine."

Inspiration came from legislation developed during the 1970s and 1980s that focused on top cancer hospitals. With the assistance of several members of Congress, including Dick Durbin, D-Ill.; Mark Kirk, R-Ill.; Pete Olson, R-Texas; Gene Green, D-Texas; Bill Cassidy, MD, R-La.; Kevin Brady, R-Texas; and Garrett Graves, R-La., the team began to develop proposed legislation focused on engendering support and acknowledging the unique nature of these facilities.

With much time and effort, the Act began to take shape. "It took such a long time that you begin to think it won't happen during your career, if ever," Abbott recalls. "It still surprises me what a small number of sites across the country meet the criteria for this level of research and care." She continues: "Without these unique rehabilitation tion centers in the country who are evolving and innovating care, what rehabilitation is and looks like could be negatively affected. Fast forward 10 or 20 years and who knows what the face of rehabilitation could look like for these patients with these life-altering catastrophic injuries and illnesses, if we don't recognize that there are centers that do this differently and preserve the capability for the long haul."

The passage of the legislation will provide recognition for these organizations, financial support for critical research and a promise to patients that innovative care will continue far into the future.

"When something becomes law, it is a different declaration that stands the test of time," Abbott says. "We have an obligation to help other practices through sharing and dissemination of knowledge– this formalizes that and provides additional structure regarding how we may help continuing the creation and sharing of these resources." ■

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ReelAbilities Festival Promotes Accessibility and Inclusion

The ReelAbilities Houston Film and Arts Festival, a three-week event that showcases the lives, stories and talents of people with disabilities, uses film, arts, music and educational initiatives to change the culture of Houston's workplaces, places of faith and organizations and to promote inclusion and accessibility for all.

Since 2013, the first year of the festival in Houston, TIRR Memorial Hermann has served as the founding and lead sponsor of the event, in keeping with the health system's emphasis on and advocacy for "full inclusion for people with disabilities," according to Jamie Paul Weiner, the Alexander Jewish Family Service's (JFS) manager for disability services and an officer of the Houston JFS Alexander Institute for Inclusion. JFS, founded in 1913, is a Houston-area human service organization dedicated to transforming the lives of individuals, families and communities with services ranging from job placement to counseling and disaster response, and produces the event in conjunction with the Mayor's Office for People with Disabilities.

"At its heart, the ReelAbilities Film Festival uses the arts to reveal the journeys of people with disabilities," Weiner notes. "Our goal is to change hearts and minds through the arts, to really encourage people to rethink how they view people with disabilities, in the workplace and in the community. We strongly believe the arts are one of the most powerful ways to do that."

Although there are ReelAbilities festivals in several cities across the United States, the Houston festival,

along with New York City, is among the largest–reflecting the city's leadership role in improving the lives of people with disabilities, she adds.

"TIRR Memorial Hermann has been key to that as well," Weiner says. "When we started the festival here, we dreamed large and had big goals; and TIRR Memorial Hermann, with its focus on full inclusion for people with disabilities in the community, kept challenging us to add more innovative elements to it. From the beginning, they truly understood how this citywide effort could reach people in new and different ways."

"The festival is so meaningful to me personally, because it's something my family and I look forward to attending every year," adds Rhonda M. Abbott, PT, FACHE, the senior vice president and CEO at TIRR Memorial Hermann. "It really shows that the care offered at places like TIRR Memorial Hermann is so much larger than health care within the four walls of the hospital. It's about service to the world."

The Festival

Thanks to this bold vision, the ReelAbilities Film Festival in Houston now goes beyond its original mission of showcasing movies made by and/or about people with disabilities to include music, art and educational programs.

The three-week event, scheduled for Feb. 4-28, 2024, kicks off with ReelArt, an exhibition of the work of artists affiliated with the Joan and Stanford Alexander Celebration Company, which is a program to provide supportive and transitional employment and life skills for adults with disabilities. The exhibition will be held at Houston's Sawyer Yards and feature 30 artists. There is always a guest artist, and some have been former patients at TIRR Memorial Hermann.

The festival continues with the ReelPeople: UP Abilities speakers' program, an evening of talks delivered by world-class authors, activists and athletes. The 2024 program will feature chef Eduardo Garcia, athlete and activist Daniel Barvin and activist Gabriel Cordell. This dynamic program will be held at the United Way headquarters.

That's followed by the ReelAbilities Film Festival, held at the Regal Edwards Greenway Grand Palace theater in Houston. The program showcases films made by and/or about people living with physical and mental disabilities, with a different movie featured each night.

ReelAbilities Houston's film week concludes with ReelMusic at White Oak Music Hall, which features performances by musicians with disabilities. The idea isn't just to highlight their talents, but to help launch their careers as professional musicians, notes Carl Josehart, MSW, the CEO of Alexander JFS.

"ReelMusic started as a way for musicians with disabilities to build their resumés," he explains. "We have found that the more these talented musicians are out there playing, the more opportunities they have. However, these performances also really open doors for the next generation of musicians with disabilities because they break down barriers."

One former TIRR Memorial Hermann patient who has been featured in the ReelMusic program is Brandon Ray, who initially lost his ability to walk, speak and, most importantly, sing after a series of strokes in 2017. The long-time, semi-professional singer eventually regained his voice and his ability to play guitar with the help of specialists at TIRR Memorial Hermann, and became a ReelMusic favorite.

Although the ReelArt Crawl on February 25th marks the festival's conclusion, another program, ReelEducation, continues throughout the festival and beyond, bringing

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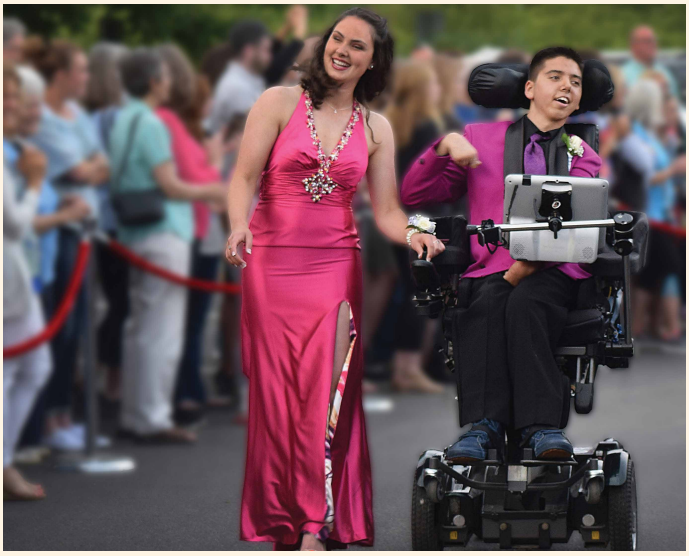
Rhonda Abbott serves as emcee of ReelPeople: UP Abilities. In 2023, UP Abilities featured Dr. Jennifer Arnold and John Bramblitt.

speakers and exhibitions to more than 5,000 students, from grade school through college, in the Houston area. Past speakers include Enrique Oliu, a broadcaster for Major League Baseball's Tampa Bay Rays who is blind and has also been the subject of a documentary titled "Henry O!" shown at a past ReelAbilities Film Festival. He will be in Houston again in 2024 for ReelEducation presentations.

Another ongoing program emanating from the festival is ReelWorkplace, which engages business leaders from "companies that have made a commitment to recruiting and hiring people with disabilities," according to Weiner. This year, ReelWorkplace will take place on February 28th and will feature four professionals whose experiences of accomplishment will put the spotlight on how businesses can partner with their employees for mutual success.

"We have seen that the festival has helped us create new collaborations with business and organizations that yield an impact that lasts way beyond the festival," she says.



"We have found that the more these talented musicians are out there playing, the more opportunities they have. However, these performances also really open doors for the next generation of musicians with disabilities because they break down barriers."

All About Accessibility

The primary driver of the success of the ReelAbilities Film Festival in Houston has been the "three-way partnership between Alexander JFS (specifically the Alexander Institute for Inclusion), TIRR Memorial Hermann and the city itself, the latter through the Mayor's Office for People with Disabilities, Weiner says.

"Houston is a leading city in disability advocacy in the country, and in the world–as well we should be given the diversity of our population" she adds.

That tradition stems from the work of community leaders such as disability rights activist and former TIRR Memorial Hermann executive Lex Frieden, who is credited with pushing for the creation and passage of the Americans with Disabilities Act. Frieden continues to be a driving force behind Houston's efforts to improve accessibility in public spaces, including mass transit and city parks.

"I've been a part of the festival for about seven years, and the respective missions of the event and the health system really align with each other," explains Christine Adair, MOT, OT, FACHE, the vice president of operations at TIRR Memorial Hermann. "Through the ReelAbilities Film Festival, people can share their stories in a way that educates others, changes perceptions and celebrates inclusion, while also showcasing talent and artistry. By the nature of how it functions, the festival also brings people together through commonalities, and it creates a fun place for people while providing a sense of inspiration and hope for people who are new to the disability community. The event teaches them they can get up on stage or get behind a camera and produce a film and that they can create art. It may be in a different way than before, but it's still beautiful."

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This message is particularly important for Adair, whose work as an occupational therapist focuses primarily on helping patients with disabilities resume normal activities of daily living following hospital discharge. She sees training in the arts, for those who wish to pursue it, as an "integral part of holistic care" for patients, and ReelAbilities provides a venue for showcasing the fruits of these efforts.

"There is a real focus on advocacy and community reintegration," Adair says. "The more we can create partnerships with members in the community to help patients leave our walls to become productive, happy, healthy members of the community, the more it helps everyone–the patients, their families and society as a whole."

"Before coming to TIRR Memorial Hermann, many of these patients had the experience of physicians telling them, 'You can't; you won't,'" Josehart adds. "At TIRR Memorial Hermann, health care professionals are focused on possibilities, and this festival champions not only the successes of artists but of real people in real life."

Perhaps not surprisingly, given this history and focus, Houston has embraced the ReelAbilities Film Festival. After all, one in four people in the United States will have a disability in their lifetime, so the issue touches the lives of most Americans, and Houstonians are no different, according to Abbott, TIRR Memorial Hermann's senior vice president and CEO.

Mayor Sylvester Turner and members of the City Council not only have attended the festival but create public service announcements for radio and television in support of the event and spread the message through social media. As a result, more than 8,000 people are expected to attend the 2024 festival.

Once at the various venues, those attendees will benefit from the "most accessible arts festival in the country," both in terms of its infrastructure (seating, ramps, etc.) as well as use of technology to enable everyone to enjoy the programming, including customized audio descriptive recordings of the featured films for visually impaired individuals, according to Weiner.

In addition to TIRR Memorial Hermann, 40 local sponsors help ensure that the art, film and music events that are part of the festival are free to the public, she says.

Part of that service is the continued growth of an impressive citywide cultural event that reaches thousands

of people and leads them to become advocates for inclusion. The impact of this effort lasts well beyond the festival, and initiates conversations and collaborations that will make a real difference in Houston and across the country, Weiner explains. TIRR Memorial Hermann has been instrumental in this success.

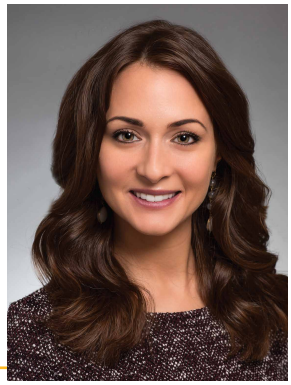
"Over the 10 years of the festival, we have seen it create continuous attention to this subject and a conversation year-round," she says. "The festival is a huge celebration of possibility, but also a realistic lens into the lives of people with disabilities, and that can only help as we strive to create more welcoming, inclusive and accessible communities." ■

Christine Adair, MOT, OT, FACHE

To learn more about the festival, to arrange a screening at your business or school or to register for an event, please visit ***ReelAbilitiesHouston.org***

Neurobehavioral Program Reduces Use of Restraints, Improves Recovery for Patients With ABI

Christopher Falco, MD



Lindsey Harik, PhD

The neurobehavioral program at TIRR Memorial Hermann provides unique services to patients recovering from acquired brain injury (ABI).

"Any hospital that works with patients with brain injury is going to get patients who are agitated or who have some other challenging behavior that limits their therapy participation, so we created the neurobehavioral program with the intent of having a structured, dedicated team to care for these patients," says Christopher Falco, MD, the clinical chief of the program and affiliated physician at TIRR Memorial Hermann. "In doing so, we feel that it provides not only a better rehabilitation experience for the patient but also greatly facilitates safety and coordination of care and communication, among other things."

The neurobehavioral program offers rehabilitation services in the least restrictive manner possible for patients with ABI, explains Lindsey Harik, PhD, neuropsychologist and program manager.

"Being able to engage in a full, aggressive rehab program is incredibly necessary for a good recovery following these injuries, which can be very challenging due to the nature of the behavior," Dr. Harik says. "We are uniquely poised to be able to allow patients to participate in a really rigorous program despite these challenging behaviors that they come to us with."

The ability to engage in a rigorous rehabilitation program also leads to positive outcomes for patients, according to Drs. Falco and Harik. When patients begin the program, they are often under physical restraint and are taking multiple medications that were previously "necessary but are probably hampering their ability to participate in their rehab programs and make functional gains," Dr. Harik notes. "By the time they leave us, they're often free of the vast majority of those things. I think that's a really important thing that we do."

Patients who are treated within the neurobehavioral program receive nonpharmacologic therapies that allow them to better engage in their recovery.

"That's a major aspect of the philosophy of our program; it's quite a bit different than any similar programs," Dr. Falco says. "We do such amazing things on the nonpharmacologic side of things that it gives me, as the physician, great freedom to optimize the medications in a way such that it facilitates cognitive recovery and functional recovery rather than just having to use a variety of medications that are going to impair them cognitively or sedate the patient."

Clinicians in the neurobehavioral program are continually developing new methods to improve rehabilitation services for their patients. Recently, the team developed a behavioral rating tool that helps objectively assess changes in patient behavior. The TIRR Memorial Hermann researchers shared this tool with other collaborating facilities in the hope of improving patient assessment and ultimate treatment outcomes.

Another innovative evaluation method used within the program is the behavior observation tool. This tool allows staff members to chart and describe patient behavior along with the time the behavior was observed, the location where it occurred, the individuals who were present, the intervention used to manage the behavior and the outcome of the intervention.

"This is incredibly important because they can do this charting 24 hours a day. We can't effectively treat a behavior that we don't know is happening or that we don't understand what might be the antecedent or the trigger for that behavior," Dr. Harik explains. "Being able to understand what's been trialed across different staff members and what's effective helps us become really lean in terms of developing an effective behavior plan for treating these behaviors. As far as we are aware, that is unique to our facility."

The stars of the neurobehavioral program are the frontline staff–the

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nursing staff and therapists–who spend hours with these patients every day, according to Dr. Falco. "It wouldn't be possible to have such a successful program working with this challenging patient population without their dedication and their expertise," he says. "Our patient care technicians [PCTs] do amazing things that are so far above their pay grade at times. They're just essential to the success of the program. And I couldn't be prouder of the amazing group of PCTs that we have working in the program."

The neurobehavioral program treats from one to three patients at a given time, with a focus on patients for whom the primary driver of challenging behavior is related to the acquired brain injury, and not primarily psychiatric in origin. A combination of innovation and dedicated staff have contributed to very positive outcomes for these patients, according to Drs. Falco and Harik.

"We are rather proud of how successful our patients are, not only in terms of their rehab outcomes but their discharge disposition," Dr. Falco notes. "We're discharging a very high percentage of our neurobehavioral patients back to home and back to the community. They're doing remarkably well functionally; the vast majority are highly ambulatory at discharge."

"We hear from folks who just express that, when they got here, they thought there would be no way that they would be able to bring their loved one home," Dr. Harik adds. "And in many cases, in just in a matter of a few weeks, they feel ready to do that, and that they can do that safely. We give them the opportunity to do something that they never even thought was going to be an option." ■

Patient Overcomes Behavioral Challenges After Intracerebral Hemorrhage

December 14, 2022, should have been an ordinary day, but Elroy Chandler and his wife Natalie woke to a strange situation. Elroy had been pacing around the house performing repetitive tasks and had made an uncharacteristic mess in the kitchen while making coffee.

"There was sugar everywhere. He had spilled sugar and coffee all over the counter," Natalie recalls. "I went to the dining room, and there was coffee spilled all over the dining room table. I picked up the coffee cup that he was drinking out of, and I took it to the sink. And when I poured it out, it was halfway full of sugar. I asked him what was wrong and how he was feeling, and he just kept repeating what I was saying. Repeating, repeating. I said, 'Oh, no, let's go. Let's go right now.'"

She rushed her husband to her local emergency department. "He must have asked me 10 times in that 30-minute drive, 'Where are we going? What are we doing?'"

In the emergency department, Elroy was diagnosed with a brain bleed and was taken by helicopter to a nearby hospital where neurosurgeons found a ruptured aneurysm on the left side of his brain and a stable aneurysm on the right side. After a successful surgery to place a clip on the left side and a coil on the right side, Elroy spent 10 days on a ventilator.

While her husband was intubated, Natalie noticed that he would attempt to remove his breathing tube anytime he began to wake up from sedation. When he was extubated and placed on oxygen on Christmas Eve, she went home for the night, only to return the next morning to find he had removed all his medical equipment.

"I would recommend TIRR Memorial Hermann to anyone. If they can get my husband better, they can get anybody better, because he was so uncooperative and so impulsive, but they still made it happen."

"He had pulled everything out," Natalie says. "He was trying to walk around; he was trying to move around. He couldn't talk, but he was pulling out everything. He was using his left hand; he couldn't use his right hand."

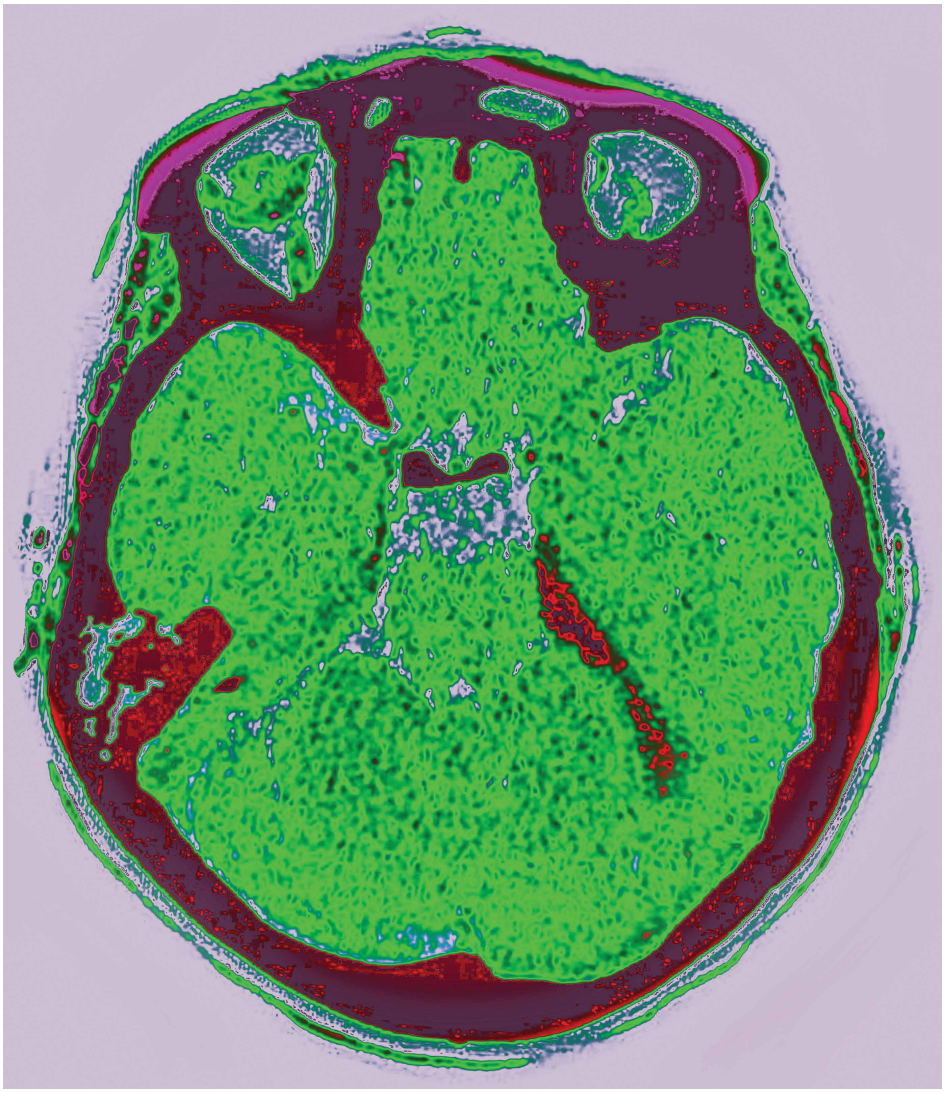
Before his injury, Elroy was very physically active and capable, as both a veteran who had served in Operation Desert Storm in the U.S. Army Special Forces and a third-degree black belt in karate. While the injury affected his ability to use the right side of his body, he remained physically capable after the injury.

"He was always trying to escape, always," Natalie says. "So, they had to put him in a locked unit with a one-on-one person. He managed to get out of that locked unit. His care team told me that they were going to try to get him into TIRR Memorial Hermann for

their neuro rehab. I said, 'That would be fabulous.' It's a nice unit, it's locked. He can walk around, he can move around freely, and he still can't get out."

The staff at TIRR Memorial Hermann were impressed by Elroy's physical strength. For example, he was able to lift a toilet from its bolted position on the floor and he snapped a sink faucet in half. He scaled the brick wall in the cafeteria courtyard, requiring three staff members to pull him down to safety.

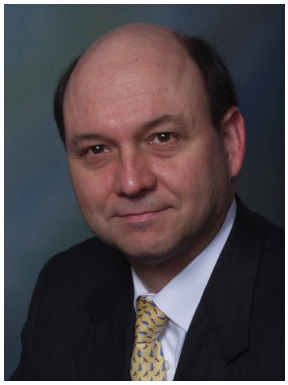
"They worked so well with him," Natalie notes. "He was hard to deal with. He was very, very, very, very agitated. He tried to break the windows with a chair. They had to take the faucets out of the room because he was trying to break the faucets. The only thing he had was the bathroom. He had a TV and a bed. And that's it."



Elroy's aggression was almost exclusively related to his desire to leave and was rarely directed at staff; when not agitated, he was playful and friendly and appeared to enjoy socializing with staff. In all, he was admitted to the neurobehavioral program for less than three weeks. In that time, the team kept him safe and was able to minimize physical restraints, avoid chemical restraint entirely, optimize medication to the point that no PRN medications were required for agitation and reduce supervision from 2:1 staffing to 1:1 staffing. Eventually, Elroy was able to be discharged home.

"I can't tell you how great that team is at TIRR Memorial Hermann. I cannot express it to you. All the staff there–I cannot tell you how grateful I am. He is practically normal now," Natalie says. "My husband is a miracle. And that's because of all their hard work. They did not quit on him no matter what he did. He was immersed in physical therapy, occupational therapy, speech therapy, and it helped him so much. There was not a time that someone wasn't trying to help him. There was always somebody there, always."

She adds, "I would recommend TIRR Memorial Hermann to anyone. Anyone. If they can get my husband better, they can get anybody better, because he was so uncooperative and so impulsive, but they still made it happen." ■



John Bertini, MD

James Harris, MD

Prominent Urologists Stepping Back From Clinical Work

The Urology Department at TIRR Memorial Hermann is undergoing a few changes in 2024, with affiliated physicians John Bertini, MD, and James Harris, MD, each taking a step back, but not completely retiring, from clinical work.

Drs. Bertini and Harris have both led extremely successful careers at TIRR Memorial Hermann and have profoundly impacted the world of urologic and urodynamic services.

Dr. Bertini entered private practice after graduating from and completing a urology residency at McGovern Medical School at UTHealth Houston and has since spent 41 years caring for patients. At TIRR Memorial Hermann, he has played a pivotal role in advancing urologic services for people with disabilities, particularly those with spinal cord injuries (SCI).

"Almost all patients with SCI have some dysfunction in the bladder, either in its storage function or its elimination function," Dr. Bertini explains. "If that doesn't get addressed, they can have renal injury and renal failure, and all that goes with that. Urination is really as complex of a neurologic function as walking. We just do it to a great extent reflexively, have had it under control from childhood and we often take it for granted."

As Dr. Bertini reflects on his career working with people with disabili-

Continued Focus on Patients With Disabilities:

Research Studies on Neurostimulation of the Bladder

Argyrios Stampas, MD, MS, the spinal cord injury medicine research director at TIRR Memorial Hermann, is investigating a novel approach to urologic care for patients with spinal cord injuries (SCI).

Neuromodulation, in which the tibial nerve is electrically stimulated, has proven successful for patients with overactive bladder, and Dr. Stampas is evaluating this approach for patients with neurogenic bladder.

"I thought that this tibial nerve stimulation would be a great solution; but in its current form, it requires people to come into the office three times a week. That's not feasible for a population that has difficulty accessing health care as it is," he says.

To overcome this hurdle, Dr. Stampas adapted the stimulation technology to be used at home, swapping out needles for adhesive electrodes. Pilot studies have shown that the treatment was feasible, safe and seemed to be effective.

Encouraged by the results of the pilot trial, Dr. Stampas and his research team have assessed the device's safety and feasibility among patients with SCI. Dr. Stampas only aimed to learn whether it would be possible to teach patients how to use the device and have them use it correctly at home, but was surprised to see a clinical impact as well.

"After about a week of using the device, I started reducing the overactive bladder medications," he recalls. "Sure enough, before and after decreasing the medication, nothing changed in the patient diaries, but they had reduced bladder medications. So, we're basically substituting a portion of their bladder medications with electric stimulation."

Dr. Stampas is currently investigating the optimal parameters for the electrode treatment. He is optimistic about the impact this option will have for patients and is excited to see where the research leads the team. ■

ties, he has found working with the comprehensive rehabilitation care team at TIRR Memorial Hermann to be particularly gratifying.

"For patients who have had either SCI, an accident of some sort with a brain injury, a malignancy, or a chronic or acute disease that affects the nervous system, getting high-quality rehabilitative services is critical," he says. This service integrates many different specialties, including neurology, gastroenterology, plastic surgery and urology–providers that understand the peculiar and particular needs of a patient with a neurogenic condition. TIRR Memorial Hermann has mustered a long and proven tradition of providing that care at a very high quality. In addition to his clinical work, Dr. Harris has served on the clinical teaching faculty of McGovern Medical School, sharing his expertise and compassion with students.

Dr. Harris is also stepping back from clinical work, but not completely. After completing his urologic training at the University of Colorado School of Medicine in Denver, Dr. Harris entered private practice, where he specialized in the surgical treatment of cancers of the male urologic system, urinary incontinence and helping patients obtain prosthetics. In his nearly 40 years serving patients, Dr. Harris has focused not only on treating their medical issues but has placed special emphasis on improving quality of life. In addition to his clinical work, Dr. Harris shares his expertise and compassion with students at The University of Texas Medical School at Houston's Division of Urology.

At this time, Dr. Harris intends to reduce his schedule, but with the large volume of patients seeking care in the urology department, he will continue to regularly see patients at TIRR Memorial Hermann.

While he is stepping back from urology service, Dr. Bertini is moving his focus to a subset of patients he is particularly concerned with: men with sexual and reproductive issues stemming from SCI and other neurologic maladies.

"My particular interest is one that can easily be overlooked or, certainly, is difficult to openly encounter with the patient," Dr. Bertini says. "They're often devastated, especially by SCI. What I've done with my semi-retirement is step back from full clinic days and full days in the operating room to working with the folks at TIRR Memorial Hermann to focus on the patients and to pull my time and talents into addressing those particular concerns. Especially the SCI population, which typically often has its fair share of young men who are in the prime of their reproductive and relational life–it can be a great source of depression and anxiety as a very important part of their manhood appears to have been robbed from them."

With Drs. Harris and Bertini reducing their respective workloads, several new faculty members are joining the TIRR Memorial Hermann urology service as Drs. Bertini and Harris step back. Travis Green, MD; Justin Luse, MD; and Grant Redrow, MD, are accomplished urologists who share the same passion for compassionate patient care and innovative research.

Drs. Bertini and Harris have both led extremely successful careers at TIRR Memorial Hermann and have profoundly impacted the world of urologic and urodynamic services.

"Dr. Green did a fellowship in men's health for sexual medicine and urologic sexual medicine, Dr. Redrow did a fellowship in robotics, and Dr. Luse is very interested in gender urology and is going to be spending a lot of his time over here at TIRR Memorial Hermann," Dr. Bertini notes. "They bring a lot of talents that can be applied to treating the patient population here, and they have a familiarity with TIRR Memorial Hermann, its systems, its people. As I draw back, the capacity for urology at TIRR Memorial Hermann is going to increase very significantly."

The TIRR Memorial Hermann Urology Department celebrates the careers and dedication of Drs. Bertini and Harris as it looks toward the future of urology service with great excitement. ■

TIRR Memorial Hermann Researchers Lead Study of Digital Problem-Solving Training for Traumatic Brain Injury

Shannon Juengst, PhD

New research being conducted by the Brain Injury Research Center (BIRC) at TIRR Memorial Hermann is investigating the utility of electronic problem-solving training (PST) for improving mental health and well-being of individuals with traumatic brain injury (TBI).

Furthermore, the project, which received funding via a grant from the Department of Defense, will directly engage TBI survivors and care partners in the decision making and planning of the study.

"This builds on research I have been conducting over the past six years to study the effects of PST on outcomes among care partners, though the evidence for PST extends even further back," says Shannon Juengst, PhD, a senior scientist and clinical investigator in the BIRC, and an associate professor of physical medicine and rehabilitation at The University of Texas Health Science Center at Houston and UT Southwestern Medical Center in Dallas. "My prior mentor at UT Southwestern, Dr. Kathy Bell, studied the effects of PST among service members with TBI."

"Further, much of my research since 2015 has focused on how we can leverage mobile health to better reach people with TBI who are living in the community and managing the chronic effects of their injury," she adds.

The current project, Development and Pilot Testing of eHealth Problem Solving Training for Adults with TBI, builds on the combined work of Drs. Juengst and Bell.

PST is an intervention technique that teaches a standard, step-by-step strategy that can be used to solve problems or achieve goals.[1]

"This strategy could be applied to whatever everyday problems and goals a person chooses, making it flexible and adaptable to every individual," Dr. Juengst notes. "By supporting goal achievement and a person's ability to solve daily problems, we could improve function, health and overall quality of life of veterans and/or service members and civilians with TBI."

While PST is already delivered remotely, either over the phone or by video call, it still requires time from a trained therapist, as well as coordination of times for a therapist and the individual with TBI to meet. Making the process digital may ease access and allow for enhanced outcomes.

"With more people having access to and comfort using mobile devices, more people could benefit from PST if we could adapt it to an electronic format," Dr. Juengst says. "This project will adapt the evidence-based PST intervention so that it can be delivered using web-based modules and a mobile health smartphone app. It seeks to address the critical need for more widely available, accessible and effective supports for persons living with the chronic psychological health consequences of TBI."

PST is an intervention technique that teaches a standard, step-by-step strategy that can be used to solve problems or achieve goals.[1]

There are six steps:

1. **A - Assess**
2. **B - Brainstorm**
3. **C - Consider and Choose**
4. **D - Develop and Do**
5. **E - Evaluate**
6. **F - Flex**

The initial 18 months of the study will focus on adapting and developing the electronic PST (ePST).

Specifically, Dr. Juengst and her team will be partnering with collaborators who have expertise in experiential and learning design, behavioral health interventions and TBI as well as a commercial app developer.

And key to this project will be the establishment of a community advisory board (CAB) made up of a diverse group of people with lived TBI experience, such as survivors and care partners; community partners, including professional organizations serving people with TBI; people from the community with disabilities; and TBI researchers in both civilian and military settings.

"Our CAB will codesign and codevelop our ePST intervention, inform pilot testing and iterative adaptations and actively participate in disseminating and implementing ePST at the end of the project," Dr. Juengst says.

"What's especially unique about this is that the CAB are not just advisors, but active partners and collaborators with equal say in all decisions," she adds. "We'll work with CAB members to include them as co-authors, co-presenters and future co-investigators."

During the second 18 months of the project, the team will test three versions of the intervention: The first will focus on six sessions of traditional one-on-one PST with a coach/therapist, conducted over the phone or via video conference. The second intervention will consist of a hybrid ePST approach, which includes completing online ePST modules, followed by three one-on-one sessions with a coach/therapist. The third approach will be fully digital, using the self-guided ePST and the app, which is being labeled STEPS.

"This intervention will consist of completing the online ePST modules and then using the STEPS app to practice the strategy," Dr. Juengst says.

To Dr. Juengst, the project offers an exciting opportunity to explore novel approaches for aiding those with TBI and the people who aid in their care and reflects the ongoing status of TIRR Memorial Hermann as a center for cutting-edge clinical research.

"The BIRC at TIRR Memorial Hermann has a decades-long program of research that has focused on community participation, mental health and health disparities, which this work extends," she notes. "BIRC research has always prioritized the needs and viewpoints of persons with lived experience, but the community-based participatory research approach formalizes and extends that to a new level.

"This project incorporates the innovation of mobile health technology with the needs and preferences of persons with TBI to have simple, accessible and easy-to-use tools to help them live meaningful lives and engage in self-management of their health and well-being," she adds. ■

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TIRR Memorial Hermann-Led Study Looks Into Abuse Among Individuals With Spinal Cord Injury

My spinal cord injury changed my relationship with people almost immediately... and I inherited a new vulnerability for abuse–dependency on others.
~ Quote from a study advisor

Researchers at TIRR Memorial Hermann's Spinal Cord Injury and Disability Research Center (SCIDR) have received funding from the U.S. Department of Defense (DOD) to conduct a detailed study of interpersonal violence and its effects on psychosocial health in men and women with spinal cord injuries (SCI). The study is being conducted in collaboration with researchers at the University of Montana and UTHealth Houston.

The work will follow up on findings from a previous report, published in November 2022, which showed that a majority of women with SCI had been abused during their lifetime.[1]

That publication, titled "Interpersonal Violence Against Women with Spinal Cord Injury: Adding Insult to Injury," resulted from data collected from 175 women who participated in a randomized controlled trial studying an online psychological health promotion intervention.

Among other questions, the study briefly asked whether the participants had been subjected to abuse during their lifetime. A shockingly high percentage reported a history of abuse.

A total of 55% of the surveyed women reported having experienced abuse. Of these, 43% reported physical abuse, 32% sexual abuse, and 23% disability-related abuse. Sixteen percent reported having been the victim of all three types of abuse.

"We were startled and disturbed to find that the majority of women in our study had experienced abuse," says Susan Robinson-Whelen, PhD, an assistant professor of physical medicine and rehabilitation at Baylor College of Medicine in Houston and a scientist at TIRR Memorial Hermann's SCIDR. Dr. Robinson-Whelen was also lead author of the report.

"We know there is a need for research in the area," she adds. "It's not something that is getting any attention and yet we know these folks are at risk."

Dr. Robinson-Whelen emphasizes that there are many reasons why people with disabilities may be particularly vulnerable or at risk for abuse. They include physical vulnerability, perceptions of powerlessness and social isolation. Those with SCI often are dependent on others for care and financial support, and care for people with SCI often includes intimate care assistance.

"Additionally, there are lots of barriers to reporting and getting help," Dr. Robinson-Whelen says. "Many shelters are not accessible, and individuals may have fears about retaliation or losing the care that they feel they need."

"Understanding abuse better and being able to begin to help address it warrants more attention, energy and effort," she adds.

With the newly funded DOD project, which had a start date of Sept. 1, 2023, Dr. Robinson-Whelen and her colleagues will be able to do exactly that, via a broad-ranging, detailed look into the abuse: what types of abuse are experienced, who are the perpetrators, what are the barriers to reporting and seeking

help and what may be done to facilitate help-seeking.

The study will use a mixed-methods approach. First, the team will conduct a qualitative interview study to look in depth at the people who do report prior abuse. Individual interviews with this small sample will then inform a national survey of 350 people, including men and women from across the United States.

"We will ask broad questions focused on types of abuse and personal experiences, who perpetrators were, the nature and type of abuse, how long it lasted, and when it occurred," Dr. Robinson -Whelen says.

Using these data, the researchers will focus on what impact the abuse had on the participants' psychosocial health.

"There aren't studies which really get at this," Dr. Robinson-Whelen notes. "Our study will allow us to better understand these complex issues." ■

Reference

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Susan Robinson-Whelen, PhD

Message from the Chief Medical Officer

Gerard E. Francisco, MD

At TIRR Memorial Hermann, our care services go beyond rehabilitation. Ultimately, our goal is community reintegration following hospital discharge, meaning that patients continue their recovery as active, engaged members of the larger community.

The health system's involvement as founding sponsor of the ReelAbilities Film Festival typifies this philosophy. The 10th film festival, in February 2024, will see several former TIRR Memorial Hermann patients and other artists sharing their creative work in media ranging from film, of course, to the arts and music.

The 2024 festival, previewed in the following pages, will once again bring the entire Houston community together. I am proud to say that many of my colleagues, as well as former patients and their families here at TIRR Memorial Hermann, will be involved in bringing this unique event to the city: an event that reinforces the message that we strive to send early and often as we care for patients–that pursuits not typically associated with people with disabilities can be enjoyed by people with new disabilities due to stroke, traumatic brain injury, etc.

Another example of this is our adapted sports program, led by Peggy Turner. As noted in this issue of the *TIRR Journal*, Peggy and her program have been recognized nationally for the work they do in using sports and physical activity to enhance rehabilitation and reintegrate people with disabilities back into the community.

Although many rehabilitation hospitals nationally have adapted sports programs, few have offerings with the breadth and scope available here at TIRR Memorial Hermann.

We know that the arts and sports can benefit a person's well-being regardless of their health status. At TIRR Memorial Hermann, we see them as an integral part of the care services we offer, but we also know that they can bring much joy to our patients and their families, as well as the communities we serve. ■

Gerard E. Francisco, MD
Chief Medical Officer, TIRR Memorial Hermann

TIRR Memorial Hermann Researchers Assess the Impact of Opioid Exposure on Patients With SCI

Pain due to spinal cord injury (SCI) reduces patient quality of life and can be difficult to treat. Opioids are an effective tool for managing neuropathic pain, but research in animal models suggests that opioids may do more harm than good in patients with SCI. An ongoing research project at TIRR Memorial Hermann is exploring the impact of opioid exposure on patients recovering from the condition.

"The hypothesis came from animal research," explains affiliated physician Argyrios Stampas, MD, MS, the director of spinal cord injury medicine research at TIRR Memorial Hermann. "When rats are administered morphine, their spinal cord injuries are bigger than those that aren't administered morphine. There are receptors for opioids that increase the inflammatory response around the injury and cause further damage in the early period of spinal cord injury."

In addition to larger spinal cord lesions, animals exposed to opioids also had trouble walking, had more pain and were more likely to experience depression. Dr. Stampas uses these animal data to help patients decrease their opioid exposure during recovery from SCI.

"Because of the opioid epidemic, part of my role when I was admitting patients with spinal cord injury was to help them come off of opiates because many patients would come from the acute care hospital to rehabilitation on opioids," Dr. Stampas says. "It was very difficult because they do have pain. I would tell patients what we've seen in animals and that it's very likely to be happening in humans to some extent. If you really want to optimize your chances of recovery, one of the first things I would stop would be opioids if possible, or at least reduce or limit them. I found that to be the most successful argument, but I didn't have that human data."

At TIRR Memorial Hermann, Dr. Stampas performed a retrospective study to evaluate how medication administered at the scene of an accident or within 24 hours of an injury affected outcomes. In this study, Dr. Stampas saw effects like those reported in animals, but more data are needed.

"We found that the people who are given the highest dose of opioids within 24 hours of injury had worse pain scores at one year and they are at higher risk for depression at one year," Dr. Stampas notes. "We did not find the change in motor recovery, but I think that's a limitation to the small number of people in our initial study."

Message from the Chief Executive Officer

Rhonda Abbott, PT, FACHE

Throughout its more than 60-year history, TIRR Memorial Hermann has taken a unique approach to patient care and research that goes beyond the four walls of the hospital and into the communities we serve.

This tradition is part of the reason why the health system has been designated a national rehabilitation innovation center under the Dr. Joanne Smith Memorial Rehabilitation Innovation Centers Act of 2022. Yes, we believe our health care professionals provide excellent treatment services to the most complex patients in the country, but this designation also highlights our dedicated research programs as well as our commitment to training the next generation of providers.

Closer to home, we are delighted and honored to have received the prestigious Community Investment Award this year from the Joan and Stanford Alexander Jewish Family Service (JFS), the Houston-based social service organization dedicated to transforming the lives of individuals, families and communities of all faiths and backgrounds in the region.

This wonderful award is a testament to the legacy

Now, through the Texas SCI Model System program, funded by the National Institute on Disability, Independent Living and Rehabilitation Research (NIDILRR), TIRR Memorial Hermann is leading a research program that will expand its access to patient data and bring in other study sites for researchers to examine whether opioids given at the scene of an accident affect outcomes of spinal cord injury in humans.

As part of NIDILRR's Model Systems program, participating centers must conduct one study on their own and also collaborate on Module projects with others in the program. TIRR Memorial Hermann's Module project on opioids has been selected as primary among the four presented for the next funding cycle.

Data collected from hospitals in Boston, Cleveland, Dallas and Washington, D.C. will include the medications administered within 24 hours of the injury, as well as those given at the hospital and at admission and discharge from rehabilitation.

"There are tremendous implications for this study," Dr. Stampas says. "From what I can tell, these opioids are being administered in a way that I can't see a pattern. People receiving the highest doses of medication don't necessarily have the highest pain scores. If the opioid administration is based on the discretion of the administrators of these medications, then it is very likely that we can make a big difference if this knowledge holds up to be true. People could consider fewer doses or less-strong medications."

Dr. Stampas is looking forward to the information that will be gained from this study and anticipates that it will have a positive impact on patient care.

Argyrios Stampas, MD, MS

"It's an important time during which we can make an impact," Dr. Stampas notes. "Managing traumatic events like spinal cord injury, similar to stroke, requires doing something quickly.

It's important to look at the things that we may take for granted–the usual care practices that could be causing harm. I think it's worthwhile to look at simple clinical trials that could help us answer these types of questions." ■

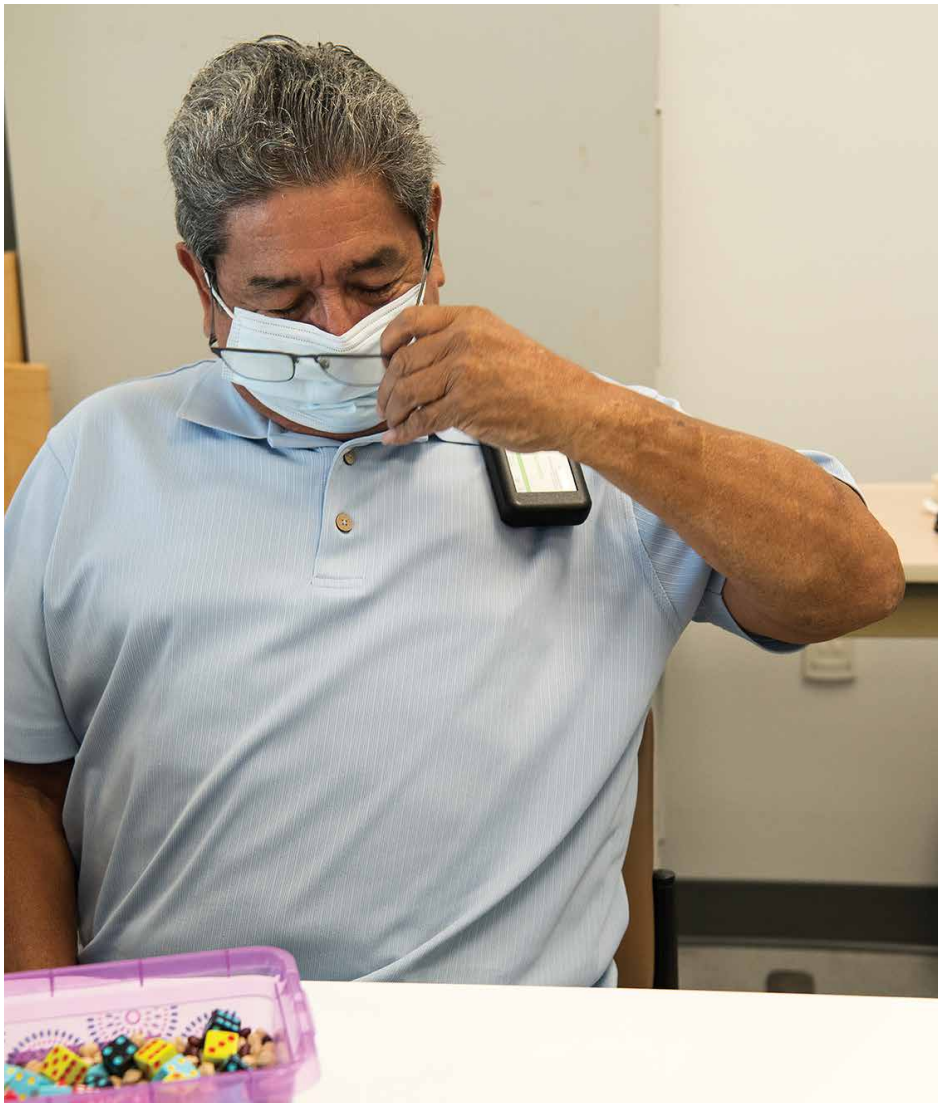
of the relationship that has existed between Alexander JFS and TIRR Memorial Hermann for more than a decade. Part of this relationship is our partnership on the ReelAbilities Film Festival, which is featured earlier in this issue. The 2024 festival, scheduled for Feb. 4-28, will include an expanded roster of creatives with disabilities, working in media ranging from film, as the name suggests, to the arts and music.

At TIRR Memorial Hermann, we remain passionate about being a powerful advocate for the full spectrum of people with disabilities in society. Using the arts to change perceptions of individuals with disabilities is part of what ReelAbilities is all about, and TIRR Memorial Hermann is proud to serve as the founding and lead sponsor of the festival in Houston.

These accolades highlight that, for patients at TIRR Memorial Hermann, their care is not just about their experience within a hospital rehabilitation environment, but also about providing them with the support they need to stay active in their communities and live happy, healthy and productive lives. We will continue to strive–for another 60 years, and beyond–to keep evolving and creating new treatment paradigms for people with disabilities. ■

Rhonda Abbott, PT, FTPTA
Senior Vice President and Chief Executive Officer
TIRR Memorial Hermann System Executive for Rehabilitation Services, Memorial Hermann Health System

"These are patients who have been determined to have plateaued in their recovery and exhausted other treatment options," Dr. Francisco continues. "Now, we are able to offer them something that can further their recovery."



Paired VNS Approach Yields Marked Improvement in Upper Arm, Hand Function in Stroke Patients

Integrating vagus nerve stimulation (VNS) into a home exercise program produces significant improvements in arm and hand function among chronic ischemic stroke survivors, safely and with minimal side effects, according to a study led by researchers at TIRR Memorial Hermann.

In the study, published in August by the journal Archives of Physical Medicine and Rehabilitation, 15 adults with chronic ischemic stroke who had moderate to severe arm and hand impairment underwent a surgical procedure to implant a VNS device in the chest cavity. The device is designed to deliver small electrical pulses to the vagus nerve in the neck.[1]

After the procedure, participants underwent six weeks of in-clinic physical therapy followed by three months of home-based rehabilitation, as part of an approach called paired VNS therapy.

One year after paired VNS therapy, participants saw, on average, improvement of over nine points on the Fugl-Meyer Assessment for Upper Extremity (FMA-UE), a commonly used, 226-point scale designed to assess patients' ability to perform activities of daily living, functional mobility and pain. At two- and three-year follow-ups, participants' FMA-UE scores improved by an average of 11.4 and 14.8 points, respectively.

"The significance of the finding is not only that we have documented that this combination of two currently available therapies can facilitate recovery in people with stroke, but that we achieved this level of recovery in patients with chronic stroke," notes Gerard E. Francisco, MD, affiliated physician and the chief medical officer at TIRR Memorial Hermann. Dr. Francisco was the lead author of the study.

"These are patients who have been determined to have plateaued in their recovery and exhausted other treatment options," he states. "Now, we are able to offer them something that can further their recovery."

VNS is an FDA-approved therapy for drug-resistant epilepsy and depression. VNS devices have been implanted in more than 100,000 patients.[2]

For this study, Dr. Francisco and his colleagues used the Vivistim® Paired VNS™ System, a device approved by the FDA in 2021 for the treatment of moderate to severe upper limb motor deficits in chronic ischemic stroke survivors. In 2021, Dr. Franciso's team published results after one year in this same treatment group of patients.[3]

In both studies, participants performed self-administered, home-based VNS therapy by swiping the magnet over the chest wall to activate a half-second pulse every 10 seconds for a 30-minute session, at least once daily. As part of both in-clinic and at-home rehabilitation, a physical therapist designed repetitive functional tasks based on everyday activities to facilitate gross arm movement, hand and wrist movements and finger dexterity.

In addition to the improvement in FMA-UE, participants saw 0.21- and 0.42-point increases in average Wolf Motor Function Test (WMFT) scores at years 2 and 3, respectively. The 75-point WMFT is designed to assess dexterity, strength and upper extremity function. There were no serious long-term adverse events reported by study participants.

Based on these findings, most patients with hand and arm impairment due to chronic ischemic stroke could benefit from the paired VNS approach, according to Dr. Francisco. However, those with some residual movement in the hand, particularly in the fingers, will likely see even more improvement, especially if they are highly motivated to perform the repetitive movement exercises that are key to the approach, he says.

"Although VNS is an important part of this therapy, I really look at it as an adjunct to repetitive exercise," Dr. Francisco notes. "Yes, people who underwent the paired approach saw the most improvement in our study, but those who did the exercises alone also made significant gains."

He and his colleagues are already assessing long-term results in study participants and investigating potential use of the paired VNS approach in patients with spinal injuries.

"We're hoping that paired VNS will be part of standard of care for stroke survivors as well as others with hand and arm impairment caused by other injuries and/or trauma," Dr. Francisco says. "After months of rehabilitative therapy, many times clinicians believe these patients have plateaued when they haven't–it's that we haven't offered them something that can help unlock further potential. We see paired VNS as being able to do j ust that." ■

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3. *Dawson J, Liu CY, Francisco GE, et al. Vagus nerve stimulation paired with rehabilitation for upper limb motor function after ischaemic stroke (VNS-REHAB): a randomised, blinded, pivotal, device trial. Lancet. 2021;397(10284):1545-1553.*

Vahidy Assumes Leadership Role as AVP for Research and Chief Scientific Officer

For Farhaan S. Vahidy, PhD, MBBS, MPH, FAHA, his appointment last summer to dual leadership positions at TIRR Memorial Hermann represents an exciting new chapter in his career-long quest to improve the quality of life for individuals living with disabilities. Dr. Vahidy has been named the associate vice president for research and the chief scientific officer at TIRR Memorial Hermann, a national leader in stroke epidemiology, outcomes and recovery research.

"Although it was very rewarding to treat and save the lives of those under my care, I found myself longing to make a broader impact on the practice of medicine and the betterment of health for humankind."

"My appointment provides me with an amazing opportunity to utilize my expertise and experience to lead and grow the outstanding research programs at TIRR Memorial Hermann and enhance its national and global reputation by fostering innovations in care for those with disabling medical conditions and injuries," he says.

Dr. Vahidy developed his passion for research after beginning his career in emergency and trauma medicine at the turn of the century. He served for more than a decade as an emergency medicine physician for the naval and armed forces in Pakistan and the Middle East before embarking on his quest to make a deeper impact on humanity.

"Although it was very rewarding to treat and save the lives of those under my care, I found myself longing to make a broader impact on the practice of medicine and the betterment of health for humankind," Dr. Vahidy notes.

This prompted him to move in a new direction: He began to redesign his career by focusing on public health. "I was fascinated by public health, among other things. It introduced me to the fields of clinical research and data science as ways of studying treatment outcomes and wide-ranging factors such as the social determinants of health that influence the risk of disease, the outcomes of disease and broader wellness of populations," Dr. Vahidy explains.

He became enamored with exploring and developing solutions to health and health care issues that make large-scale improvements in patient outcomes–to the extent that he decided to dedicate his career to the synthesis of new knowledge by specializing in research and data science.

For the past 13 years, Dr. Vahidy has led a wide range of research programs, big data enterprises and quality-of-care initiatives focused on the neurological consequences of COVID-19 and neurological diseases such as stroke, brain hemorrhage, cerebrovascular diseases, Parkinson's disease and multiple sclerosis, first at McGovern Medical School at UTHealth Houston and later at Houston Methodist.

Dr. Vahidy is an ardent proponent of developing robust learning in health care systems. "Being able to conduct, test and validate research that leads to improved outcomes, enriched experiences and enhanced quality of life for patients and their

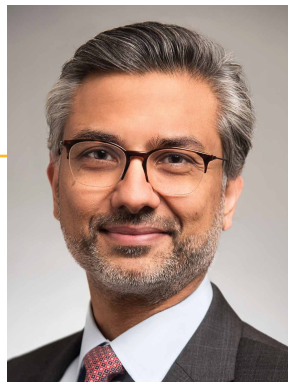
caregivers is extremely rewarding," he says. "The process that creates new knowledge leading to the development, implementation and validation of evidence-based interventions is the embodiment of a learning health care system."

Another hallmark of Dr. Vahidy's career has been his passionate dedication to developing, educating and mentoring the next generation of clinical researchers and data scientists. "I have been fortunate to have received the highest levels of education, advanced training at world renowned institutions and enriching global experiences. I have walked over the bridge connecting the clinical enterprise to a research and innovation world," he notes. "Dedicated mentoring that is solely driven by passion of developing and enabling clinical research careers is truly a selfless act of giving back and leaving a legacy–a legacy that will continue beyond one's individual influence in ensuring that population health and patient outcomes and experiences perpetually remain the center of our value systems."

continues on page 29

Over the past decade, Dr. Vahidy has:

- Served on the faculty at UTHealth Houston, Houston Methodist and Weill Cornell Medical College in the departments of neurology, neurosurgery, population health, data sciences and evidence-based medicine; Authored more than 100 peer-reviewed publications on cerebrovascular disease, stroke, population health, health care disparities, COVID-19 and other clinical domains.
- Led federal and industry-funded research in outcomes, recovery and rehabilitation for patients with stroke and/or cerebrovascular diseases.
- Created training programs and directed coursework in advanced research methods and data analytics for neurology residents, vascular neurology fellows and clinical faculty at the institutional and national levels.
- Mentored graduate students and doctoral-level professionals.
- Participated in a leadership program sponsored by the National Institutes of Health in which he educates and mentors junior clinical investigators about stroke and cerebrovascular disease.
- Led the development of research programs in cerebrovascular disease and COVID-19 based on the principles of learning health care systems fueled by big data and analytics pipelines.



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Peggy Turner, CTRS • Focusing on Inclusivity in Sports

Adapted Sports Program Honored for Augmenting Rehabilitative Care

Peggy Turner, CTRS

Peggy Turner believes in the power of sports to boost self-confidence and to build community, and in exercise to improve physical and mental health, particularly in people with disabilities.

Over the past year, her work in the field of adapted sports–which strives to provide and support programs designed to enable people with disabilities to participate fully in accessible recreation, fitness and wellness activities–has earned national recognition.

Turner, who is the athletics community liaison and adapted sports coordinator at TIRR Memorial Hermann, doesn't see the accolades as highlighting her specifically, but rather as an affirmation of the powerful tool that sports can be in the rehabilitative process.

"When done right, sports can really be an important resource for people with disabilities," she says. "When you're living with a disability or chronic condition, being part of a team can be an invaluable source of support and, of course, physical activity can boost strength, balance, energy and so much more. We have seen so many patients at TIRR Memorial Hermann 'graduate' into adapted sports programs that really set them up for the rest of their lives." ■

About Adapted Sports

Turner has spent her entire career (over 40 years) focusing on inclusivity in sports. As a child in a small Kentucky town, she was an avid sports fan who wanted nothing more than to play on the field.

Unfortunately, those were the days before Title IX, the legislation passed in 1972 that prohibits gender-based discrimination in any school or any other educational program that receives funding from the federal government, including athletics.

"The changes I've seen over the course of my lifetime, like Title IX and the Americans with Disabilities Act (ADA), have only strengthened my belief that sports can be a tool for social change and help people improve their lives," Turner says. "My life's work has been devoted to using sports for education and rehabilitation."

To that point, the goals of the TIRR Memorial Hermann Adapted Sports and Recreation program include using sports to:

1. Reduce patients' risk for readmission to a medical facility due to lack of accessible physical activity; and,
2. "Bridge the gap," as Turner puts it, and reduce the time it takes for a patient to be discharged from a rehabilitation facility like TIRR Memorial Hermann and reenter community physical activity.

The program does this by organizing accessible sports, recreation, fitness and wellness initiatives for people with disabilities and by partnering with similar programs within the community, both locally and nationally.

It also works to partner, collaborate and or foster relationships with service providers, individuals, organizations and other accessible adapted sports, recreation and fitness programs in the region to ensure people with disabilities have opportunities to be fully included in community sports recreation and wellness activities.

"What we do is a continuation of the rehabilitative process, because we work in tandem with rehabilitation services," Turner explains. "But really our goal is to help people become active and engaged and prevent them from needing outpatient rehabilitation services in the future. Essentially, we're saying, 'Hey, if you want to drive again, or go back to work or gain independence, come out and try sports and get stronger."

She adds, "For most patients, once they are out of the hospital or outpatient care and into an accessible sports and recreation program, where they can meet with people who have gone through what they've gone through and work together through some of the same challenges, they're hooked."

The recipients of the 2023 Legends and Legacy Community Award are Lucy Bremond; Charlotte Kelly Bryant; Jessica Castillo-Hulsey; Bernard Freeman, also known as Bun B; and Peggy Turner.

Top Teams

TIRR Memorial Hermann Adapted Sports and Recreation offers children, adolescents and adults with physical disabilities an outlet to continue playing sports both competitively and recreationally. Programs include wheelchair basketball, wheelchair rugby, handcycling, wheelchair softball, wheelchair racing, seated throw/field events, powerlifting, fitness programs, tennis and more.

The programs are fun–and organized with an emphasis on strength and rehabilitation–but competitive as well, according to Turner.

As an example, the TIRR Memorial Hermann Junior Hotwheels Wheelchair Basketball team has grown from just five players (when it was founded in 1997) to more than 75 today. The team accepts school-aged players with physical disabilities who are interested in wheelchair basketball, and it has a notable track record of on-court success, with three national championships. In addition, several Hotwheels alumni have received full athletic scholarships to universities that have intercollegiate wheelchair basketball programs.

Other initiatives include TIRR Memorial Hermann Texans Wheel chair rugby, and the TIRR Memorial Hermann Strength Unlimited® program, which offers sport-specific personal training at multiple locations throughout the Houston area, including a Parkinson's exercise group.

TIRR Memorial Hermann also sponsors two wheelchair rugby teams that compete in the United States Wheelchair Rugby Association programs. The wheelchair rugby season runs October through April, and the low-point wheelchair rugby season goes from May through September. Both teams are for

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In addition to his professional strengths in research and data science, Dr. Vahidy brings extensive leadership experience to TIRR Memorial Hermann. "During this time of momentous change and transformation, it's vital to have exceptional, forward-thinking leaders at all levels of health care," he says.

In his new positions, Dr. Vahidy will be focused on setting the direction and research agenda for the organization, improving patient outcomes and amplifying TIRR Memorial Hermann's national and global leadership in rehabilitation and research.

Dr. Vahidy also believes in applying the principles of research to health care operations and envisions leading TIRR Memorial Hermann to be a learning health care organization across all facets of operations, clinical care, research and innovation.

"This means challenging the status quo and exploring new ideas, continually evaluating everything we do with a focus on improving patient experiences and outcomes, identifying process improvement opportunities and utilizing validated big data pipelines and analytics to measure performance. And we will do all this within an environment of caring and support for our patients and team members," he emphasizes.

Given his professional background and clinical interests, Dr. Vahidy says the opportunity to lead research at TIRR Memorial Hermann is the "perfect fit" for him at this point in his career.

"It is like several pieces of a puzzle coming together at just the right time," he adds. "I am honored and humbled to take on this challenge, which fulfills my career-long ambition to make the broadest and deepest possible impact in the field of medicine and enhance the care and rehabilitation of individuals living with disabilities." ■

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adults with physical disabilities age 18 years and older. To be eligible to play wheelchair rugby, participants must have a disability that affects all four limbs. Most players have spinal cord injuries with full or partial paralysis of the legs and partial paralysis of the arms. Players are assigned a sport classification based on their level of disability; teams must field players with a mix of classification values, allowing players with different functional abilities to compete together.

TIRR Memorial Hermann also sponsors (in collaboration with the City of Pasadena, Texas Parks and Recreation Department) an adult wheelchair softball team that competes in the National Wheelchair Softball Association league. The wheelchair softball season runs from April through August, culminating with a national tournament. The team is for adults with physical disabilities age 18 years and older.

Turner helps coach both the wheelchair basketball and softball and manages the wheelchair rugby

The TIRR Memorial Hermann Hotwheels wheelchair basketball team scrimmage during the NCAA Final Four men's basketball championships.

teams, and athletes can participate in the TIRR Memorial Hermann-based programs whether they have been patients of the health system or not.

Indeed, the health system's work in adapted sports extends beyond the teams it sponsors by seeking to connect interested patients with community-based programs. TIRR Memorial Hermann has a long-standing partnership with the Harris County Houston Sports Authority (HCHSA), which manages professional sports events and facilities in the Houston region and supports community-based programs as well. Each September, TIRR Memorial Hermann and the HCHSA host Adapted Sports Day, a free event designed to raise awareness of athletic programs for people with physical disabilities.

Through this and other partnerships, Turner and her colleagues can connect TIRR Memorial Hermann patients with programs in sports and physical activity in the community.

"Recently, we had a patient who wanted to try water skiing, and I was able to connect them with a program," Turner recalls. In addition to TIRR Memorial Hermann's partnership arrangements, she leverages connections made through her 35 years of working with municipal governments as well as U.S. Olympic and Paralympic sports programs in the region and around the world prior to joining the health system.

Turner began her career in 1982 as the manager of sports and recreation for people with disabilities in Pasadena, Texas. During her time there, which lasted more than 20 years, the city had the only adapted sports program in the Houston area.

After Pasadena, she worked as the division manager for adapted sports, recreation and wellness for the city of Houston for four years–while consulting with TIRR Memorial Hermann–before joining the Birmingham, Ala.-based Lakeshore Foundation as the director of its site for recreation, athletics, injured military and U.S. Olympic/Paralympic training. She returned to Houston in 2017 to join the full-time staff at TIRR Memorial Hermann, which under her leadership operates the region's only adapted sports program in a rehabilitation setting.

Over her time in the adapted sports arena, Turner has seen many patients enthusiastically embrace these programs as part of their post-treatment life; however, others are resistant and need the encouragement of their health care teams, as well as family and caregivers, to "get out of the house and get moving," Turner explains.

"Prior to the ADA, few of these programs existed around the country," she recalls. "Now, as things have evolved in terms of diversity, equity and inclusion, disability awareness and social media campaigns have helped elevate people with disabilities and forced communities to realize they have a responsibility to make services, including sports and recreation, available and accessible. As a result, there are more options for people with disabilities to use sports and physical activity to improve their lives and get reengaged with their communities."

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"As much as I'm honored by the recognition, truly all I think about is, 'How can I use this to help further the mission and elevate people with disabilities?' I see this as an opportunity to create visibility for the players–and visibility is vital to athletes with disabilities."

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Awards and Honors

Because of these efforts, last spring Turner was one of five Houston recipients of the 2023 Legends and Legacy Community Award, presented on the court during the NCAA Final Four men's basketball championships, held at Houston's NRG Stadium.

Through the Legends and Legacy Community Award, the NCAA recognizes individuals who have made a positive change in the community through sports.

More importantly, Turner recalled, a few days before the game, athletes from the Hotwheels basketball teams held a scrimmage on the court at the stadium–a first for the program.

In addition, Turner was honored in October during Toyota's Everyday Heroes program, which recognizes women who have made a difference for women and girls in their local communities through sports. She and the other recipient of the award, which was established by espnW magazine and Toyota in 2013, were honored at the espnW Women + Sports Summit, in Ojai Valley, Calif., and Turner received a $15,000 grant to fund her work.

"Awards like this aren't about me," Turner says. "As much as I'm honored by the recognition, truly all I think about is, 'How can I use this to help further the mission and elevate people with disabilities?' I see this as an opportunity to create visibility for the players–and visibility is vital to athletes with disabilities."

Turner's work has heightened that visibility, not just in Houston, but nationally and globally as well. In recent years, she has traveled to Nepal to bring equipment and to train coaches in adapted sports. This year, she and TIRR Memorial Hermann for the first time served as hosts for the week of orientation of the Global Sports Mentorship Program, a leadership development program that focuses on empowering international delegates to serve their local communities by increasing access to and opportunities for participation in sports.

"Peggy is so passionate about what she does, and she believes so strongly in the values at the heart of TIRR Memorial Hermann's adapted sports program–we're thrilled that she has been recognized for her work," says Rhonda Abbott, PT, FACHE, the senior vice president and CEO at TIRR Memorial Hermann and system executive for rehabilitation services within the Memorial Hermann Health System. "These awards are a testament to the important work that she does–work that changes the lives of people with disabilities. Through her work, people come together through sport and accomplish things they never thought possible."

Still, while the honors are welcome, and appreciated, they aren't what drives Turner.

"I've been working in adapted sports for my entire career, and I love what I do," she explains. "Sports has been my platform of choice because I love sports and I believe they can change lives. In our work, if we can help transition one patient out of the hospital or an outpatient rehabilitation program and into the community, where they can be physically active and find meaning and joy in life again while meeting and getting support from other people, then I believe we've truly been an important part of their overall care." ■

Peggy Turner Wins Community Impact Award at Houston Sports Awards

This award recognizes the Houston-area athlete, coach, or sports person who surpasses expectations of sportsmanship. The other nominees were Jeremy Pena from the Houston Astros and Michelle Alozie of the Houston Dash.

McGovern Distinguished Faculty Award for Physiatrist's Clinical Service

Cindy B. Ivanhoe, MD, the director of TIRR Memorial Hermann's Spasticity and Associated Syndromes of Movement (SPASM) program, has been awarded the 2022-2023 John P. and Kathrine G. McGovern Distinguished Faculty Award from the Women Faculty Forum of McGovern Medical School at UTHealth Houston. Dr. Ivanhoe was the first physiatrist from TIRR Memorial Hermann to be presented with this recognition, receiving her award for clinical service.

Dr. Ivanhoe, an affiliated physician at TIRR Memorial Hermann is a board-certified physiatrist and board-certified in brain injury medicine and has a specific clinical interest in tone management, or spasticity and dystonia. She works to support her patients and their families, however long their journey might be. She has known some of patients for over two decades.

"Brain injury is a chronic disease process," she explains. "Certainly, you see the most dramatic increase in improvement right after an acute injury, but one of the things that physical medicine and rehabilitation must do is help shape the trajectory of progress. We have to be able to see the impact of their brain injuries on their future functional capabilities."

"I try to stay focused on what is in a particular patient's best interests, because there are a lot of outside pressures, including social determinants of health," she adds. "I try to be authentic, with both patients and their families. I'm fine with saying when I do not know the answer to a

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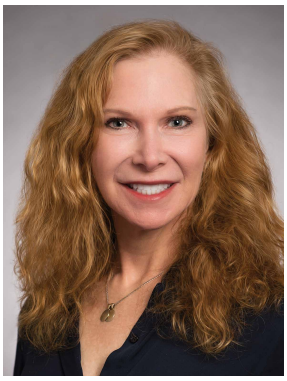
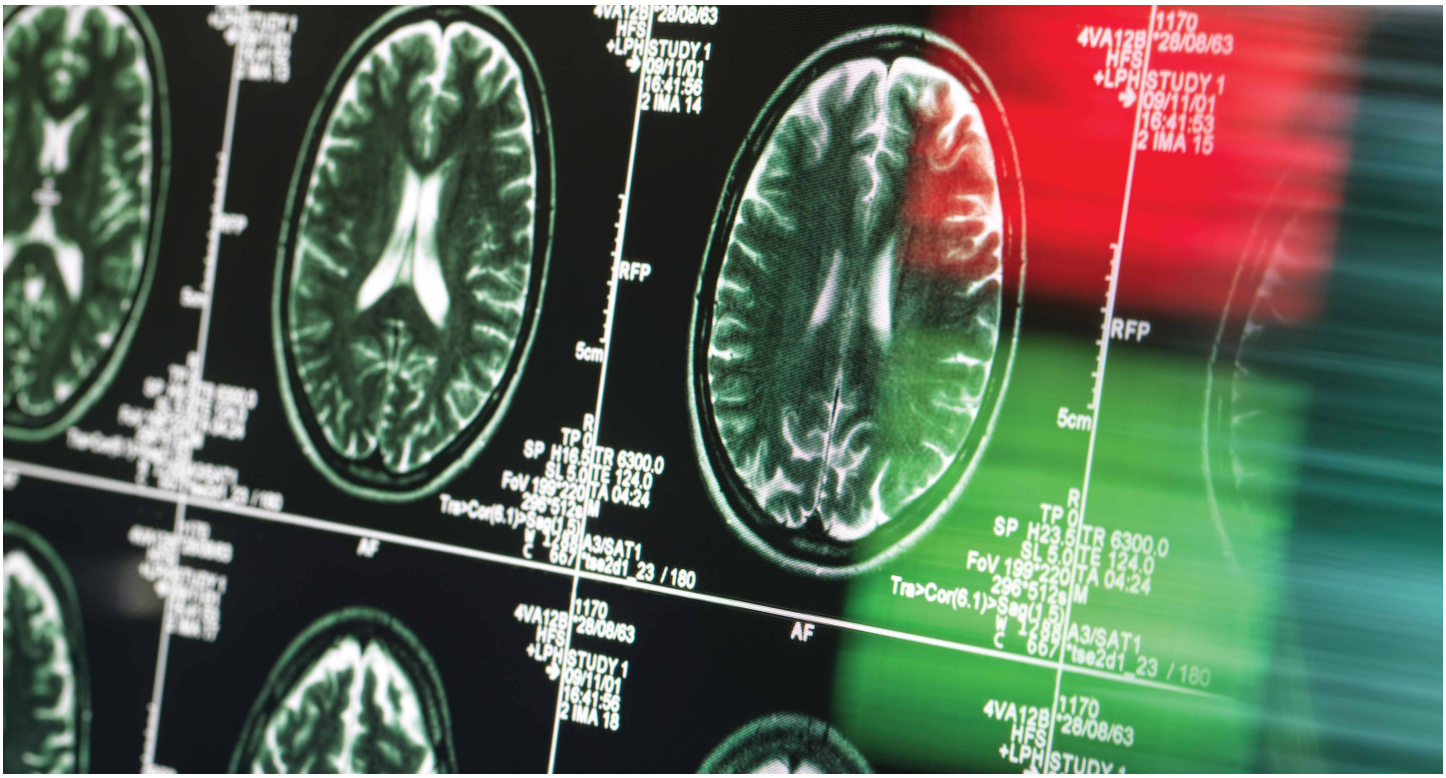


Cindy B. Ivanhoe, MD



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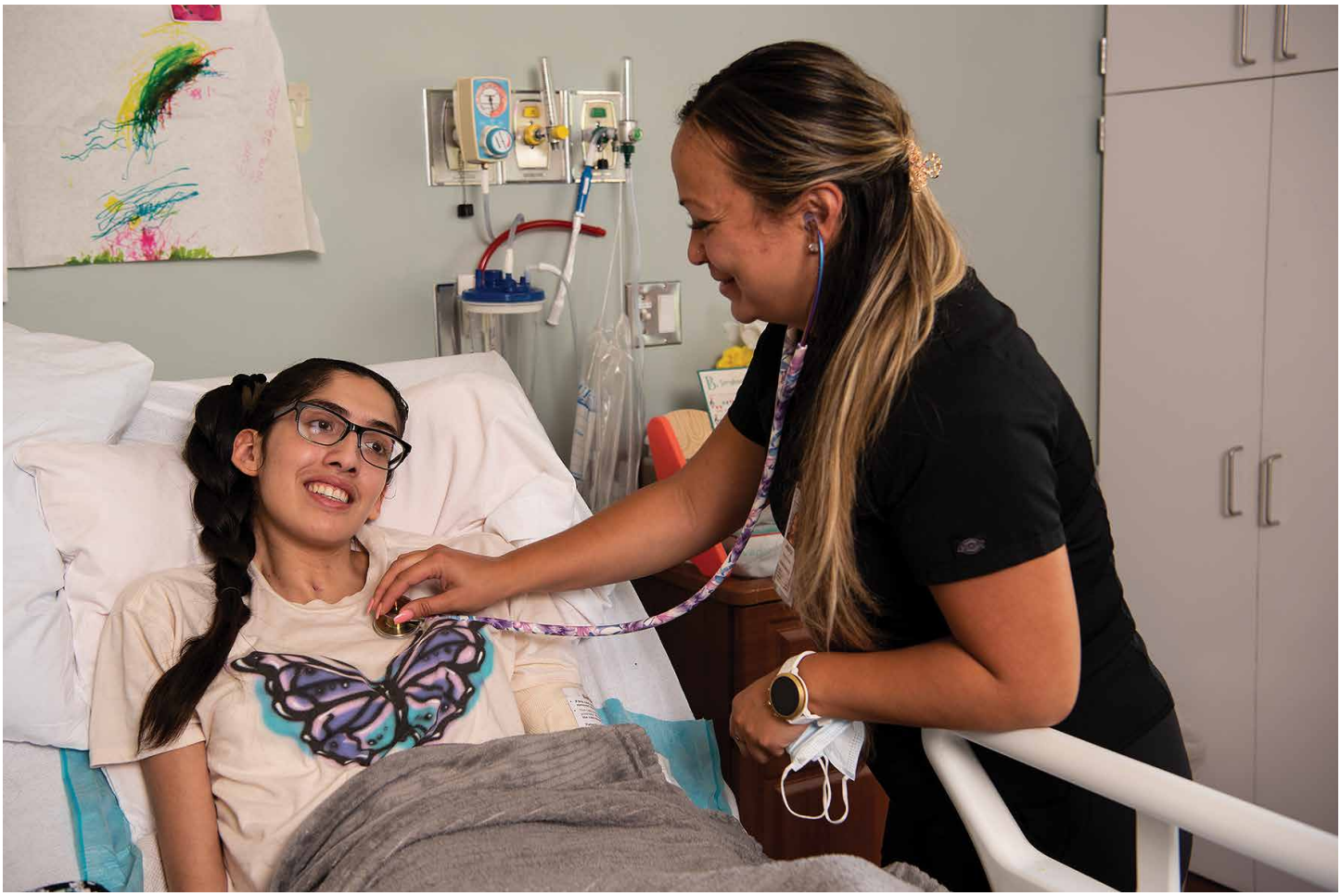
particular question, and I don't put up barriers to open conversations."

The challenge "is finding that balance between being realistic and still hopeful. I believe in having credibility, and that means addressing misperceptions about what it means to have a brain injury and offering a vision for our patients of what they can accomplish," according to Dr. Ivanhoe.

Dr. Ivanhoe is no stranger to recognition of her clinical talents: She won the Distinguished Clinician Award from the American Academy of Physical Medicine and Rehabilitation in 2016 and is regularly included in *U.S. News & World Report*'s Best Doctors list.

Although treatment of brain injuries and related movement disorders remains challenging, the good news is that the care of patients with brain injuries has steadily improved in recent decades, according to Dr. Ivanhoe.

"There have been a lot of advances, and there is a whole new world where doors are opening for these patients," she says. "I also think the field is continuing to grow and the appreciation of what's possible has grown. It's an expanding field of study, and it's exciting." ■



Prestigious IBIA Award Given to TIRR Memorial Hermann Clinical Investigator

Shannon Juengst, PhD, CRC, a clinical investigator and senior scientist at TIRR Memorial Hermann's Brain Injury Research Center, received the prestigious Early Career Investigator Award in March 2023 from the International Brain Injury Association (IBIA). The award was granted at the IBIA's biannual meeting in Dublin.

The award cited two studies, both of which emerged from a research writing group headed by Dr. Juengst. The group meets to collaborate on brain injury research by mining TIRR Memorial Hermann investigators' existing datasets.

The first study cited in the IBIA award was "Emotional, Behavioral, and Cognitive Symptom Associations With Community Participation in Chronic Traumatic Brain Injury."[1]

Dr. Juengst's research often explores community participation outcomes following a traumatic brain injury (TBI). The Behavioral Assessment Screening Tool (BAST), an instrument that was designed and validated by Dr. Juengst, was used in the study to examine self-reported neurobehavioral symptoms (negative affect, fatigue, executive dysfunction, impulsivity and substance use) and their effects on participation outcomes (productivity, social relations and getting out into the community) in community-based individuals with mild to severe TBI. The study found that only the BAST executive dysfunction scale was significantly indicative of less frequent community participation.

"We wanted to know what keeps people with brain injuries from doing things in the community–what are the emotional, behavioral and cognitive issues they have. And it turns out it is not physical problems," Dr. Juengst explains. "The biggest take-home from this study was that it is actually cognitive domains, especially executive dysfunction, that are more associated with participation outcomes."

Armed with the results of this research, a new study now tracks patients with TBI discharged from TIRR Memorial Hermann rehabilitation, using the BAST to better define its predictive capacity for mental health and community participation.

The second study cited in the IBIA award was "Associations of Nightmares and Sleep Disturbance With Neurobehavioral Symptoms Postconcussion."[2]

"We wanted to know what keeps people with brain injuries from doing things in the community–what are the emotional, behavioral and cognitive issues they have. And it turns out it is not physical problems."

In this study, adults with mild TBI completed the BAST, which includes a self-reported frequency of nightmares question as well as a sleep quality measure. The study found that nightmares influenced negative affect, anxiety and impulsivity, whereas sleep disturbance affected depression, fatigue, executive dysfunction and post-concussion symptoms. This study separated the effects of nightmares and sleep disturbances, finding that the former caused an *excess* of normal functioning (e.g., heightened anxiety, impulsivity) whereas the latter caused *reductions* of normal functioning (e.g., depression, fatigue).

"This study looked at whether nightmares predict different outcomes than sleep disturbances," Dr. Juengst notes. "It was our way of separating out how nightmares might be capturing something different than just sleep problems. Nightmares were associated with greater impulsivity and substance use, which is a similar pattern to what we see in people who have post-traumatic stress disorder."

The findings emphasize the benefits of proper sleep in these individuals, but also highlight the lack of effective screening and treatment for nightmares after mild TBI–for which more research is needed. ■

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About TIRR Memorial Hermann

TIRR Memorial Hermann, a leader in rehabilitation, does more than provide therapy. We provide rehabilitation beyond the healthcare setting for children and adults with a disabling injury or illness, and change lives by helping people regain the skills and confidence they need to reintegrate into the community and continue living full and meaningful lives. Our highly trained rehabilitation teams see the potential in every person they work with and develop that potential to the fullest through customized goal setting and treatment planning.

We work to maximize independence, restore function and improve the quality of life for our patients. To achieve these goals, we put the individual patient and their family at the center of the rehabilitation team and provide them with the information and skills they need to transition successfully to community settings.

TIRR Memorial Hermann is the best rehabilitation hospital in Texas and among the best in the nation, according to the *U.S. News & World Report's* Best Hospital rankings for 2022-2023. The rehabilitation hospital's ranking marks its 33rd consecutive year among the magazine's Best Hospital rankings.

To make referrals or schedule an appointment, call 800.44REHAB (800.447.3422) toll-free or 713.797.5942, or fax 713.797.5988.

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