

Pathways

THE POWER OF PHILANTHROPY

UT Southwestern
Medical Center

Summer 2021



HIGH-
INTENSITY
FOCUSED
ULTRASOUND

HIFU

Cutting-edge brain surgery involves no cutting at all.



Campus Paths

Nearly two dozen LED-illuminated acrylic tubes make up *Forest of Light*, a donor-funded sculpture by Tom Orr and Frances Bagley that winds across the fourth-floor rooftop garden of West Campus Building 3.

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Clements Third Tower Opening

Prioritizing the patient experience, UT Southwestern's new inpatient home for the O'Donnell Brain Institute houses state-of-the-art technology for brain-related specialty care.



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Pathways

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Philanthropy Elevates Our Mission

Dear Friends: As a generous supporter of UT Southwestern, you enhance the incredible work of our faculty in their efforts to address some of the greatest challenges in science and medicine. Thank you for helping us advance our core mission to improve health that enables individuals to achieve their full potential.

We are excited to share with you the inaugural issue of *Pathways*, a quarterly publication that was conceived through feedback from donors like you. Your partnership with UTSW has made a collective impact, resulting in many significant achievements. Our scientists continue to make important discoveries across a broad range of areas – from basic principles of cell function to those that tie very closely to current clinical challenges. Brain science continues to remain a top priority at UTSW, where state-of-the-art technologies enable us to treat diseases and restore health in ways we never thought possible. Your support for the expansion of William P. Clements Jr. University Hospital will help us become a destination for people facing serious brain disorders – and become their beacon of hope.

Thanks to you, we have gained momentum in all important areas of discovery and health care despite living and working through the most challenging health crisis of our time. You helped us rise to the challenge of COVID-19. With nearly 300 research projects launched and more than 26 clinical trials in the works, together we are advancing the understanding and treatment of COVID-19, deploying vaccine distribution, caring for patients, and getting the community on a path back to normalcy.

The pandemic has only crystallized what we knew about the remarkable public health needs of our region and state. We have all learned valuable lessons about the weaknesses in our health care system and how we can improve public health. Your gifts help ensure that every person who seeks care at UTSW receives the highest level of patient-centered care.

You are part of a remarkable chapter in the story of UT Southwestern. We appreciate the important role you play in the totality of our success to deliver on our mission.



Daniel K. Podolsky, M.D.
President, UT Southwestern Medical Center

Philip O'Bryan Montgomery, Jr., M.D. Distinguished Presidential Chair in Academic Administration

Doris and Bryan Wildenthal Distinguished Chair in Medical Science



With its arresting angles and bright color forms, *Untitled*, a sculpture by New York artist Joel Shapiro, is one of the latest public art installations at UT Southwestern's Dr. Donald Salein Plaza. The cast aluminum sculpture is a gift from Nobel Laureate Dr. Joseph Goldstein, Chair of Molecular Genetics and Professor of Internal Medicine.

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NEWS

Around Campus



Rendering of planned Biomedical Engineering and Sciences building

PLANS ANNOUNCED: Biomedical Engineering and Sciences Building

UT Southwestern Medical Center and UT Dallas are joining together to create a new Biomedical Engineering and Sciences building that will bring technology to the bedside. The facility will accelerate deeper collaboration between the two institutions and the advancement and translation of medical technologies into clinical applications, training, and education for students. Construction of this centralized facility will begin on the UTSW campus this fall, which will enable the two institutions to leverage their shared research strengths in basic and applied biomedical and engineering sciences to advance patient care.



UTSW nurses prepare COVID-19 vaccines.

Combating COVID-19

UTSW has been tackling COVID-19 from every angle. Nearly 300 research projects have been launched, ranging from basic understanding of the virus and its effects on the body to drug screening, clinical trials, social and behavioral aspects, and more. UTSW has been vaccinating the general public since early February and expanded sites to include underserved communities in southern Dallas. Among the numerous different clinical trials underway at UTSW is one testing the efficacy of a drug called atovaquone, which was discovered by three UTSW basic researchers to potentially have antiviral properties against SARS-CoV-2, the virus that causes COVID-19.

UTSW Welcomes New Chair of Neurological Surgery



Nader Pouratian,
M.D., Ph.D.

On April 1, Nader Pouratian, M.D., Ph.D., began his appointment as the new Chair of the Department of Neurological Surgery.

Dr. Pouratian, who holds the Lois C.A. and Darwin E. Smith Distinguished Chair in Neurological Surgery, is working synergistically with William T. Dauer, M.D., Director of the Peter O'Donnell Jr. Brain Institute, and his colleagues to enhance programmatic development for various neurological and psychiatric conditions. Joining us from the David Geffen School of Medicine at the University of California, Los Angeles (UCLA), Dr. Pouratian brings a strong clinical and research background that will further elevate UTSW as a national hub for excellence in neuroscience discovery and clinical care.

Academic Endowment Appointments

Congratulations to UT Southwestern's newly named endowment holders for their outstanding leadership on campus and in their fields. We celebrate their extraordinary achievements and their commitment to the UTSW mission to educate, discover, and heal.



Christoph Lehmann, M.D.
Willis C. Maddrey, M.D.
Distinguished Professorship
in Clinical Science

These faculty appointments were made from January to March 2021.



Temple Howell-Stamper, M.D., MBA, FACP
Cissy and W. Plack Carr, Jr.
Professorship in Medical Education



Vanessa Sperandio, Ph.D.
Jane and Bud Smith Distinguished
Chair in Medicine



Vikram Shakkottai, M.D., Ph.D.
Dedman Family Distinguished
Chair in Neurological Disease

UTSW's School of Public Health

UT Southwestern has established a new School of Public Health that will become a training ground for the next generation of leaders who will protect the health and well-being of communities everywhere. The COVID-19 pandemic has crystallized the critical need to prepare more leaders in fast-growing North Texas and across the country to oversee public health programs such as cancer screenings, vaccinations, and disease interventions in rural communities. The new research-intensive school will be dedicated to furthering science that addresses population health challenges and provides evidence-based input for policymakers navigating chronic and emerging public health crises. Approved by the UT System Board of Regents earlier this year, the School of Public Health is UT Southwestern's fourth school. UTSW expects to begin admitting students to its first master's and doctorate programs in 2023 and complete the school's accreditation process by 2024.

Researchers Capture the Big Idea

*Three UTSW research teams won prizes at the Big Idea Competition, one of the most celebrated nights of entrepreneurship in North Texas held at UT Dallas. Finalists pitched their ideas to panels of business leaders, entrepreneurs, and venture capitalists for cash and scholarship awards. Congratulations to Dr. V. Vinod Mootha, Professor of Ophthalmology and in the Eugene McDermott Center for Human Growth and Development, who won the \$50,000 grand prize for **developing a compound to treat a genetic defect that can cause blindness**; Dr. Yang Xie, Professor of Population and Data Sciences in the Lyda Hill Department of Bioinformatics, who won \$12,500 for **creating an algorithm that uses artificial intelligence to improve cancer diagnosis**; and Dr. Karanjit Kooner, Associate Professor of Ophthalmology, who advised a team of students that won \$25,000 for **designing an implant to treat glaucoma**.*

UTSW Honored With Diversity Award

UTSW was honored with the 2020 Health Professions Higher Education Excellence in Diversity (HEED) Award from INSIGHT into Diversity magazine and was featured in its December 2020 issue. The award recognizes U.S. medical, dental, pharmacy, osteopathic, nursing, veterinary, allied health, and other health schools and centers that demonstrate an outstanding commitment to diversity and inclusion. This marked the third consecutive year that UTSW received the national honor.



For the third year in a row, *INSIGHT into Diversity* magazine honored UTSW for its commitment to diversity and inclusion.

LEADERSHIP Q&A

Dr. Eric Peterson joined UT Southwestern in November as the inaugural Vice Provost and Senior Associate Dean for Clinical Research. He also serves as Vice President for Health System Research and holds the Adelyn and Edmund M. Hoffman Distinguished Chair in Medical Science. In these new roles, Dr. Peterson is working to enhance UT Southwestern's growing clinical research enterprise and achieve new levels of excellence across the organization.

Prior to coming to UT Southwestern, Dr. Peterson spent more than 25 years at Duke University, where he was the Fred Cobb Distinguished Professor of Medicine in the Division of Cardiology and served as Executive Director of the Duke Clinical Research Institute. An internationally acclaimed leader in cardiovascular research, Dr. Peterson has been published in over 1,400 peer-reviewed articles and ranks among the top 1 percent of highest-cited researchers in the world.



What convinced you to join UTSW?

I had been at my home institution for my entire career, but the opportunities to contribute to transformational change in clinical research at UT Southwestern were just too great to pass up. I truly see UT Southwestern at an inflection point with regard to clinical research. The institutional leadership is committed to transformational change – I wanted to be part of that.

Where do you see the most potential to grow our clinical research?

Fundamentally, I believe that data science will be key to the success of all areas of science across the research spectrum. From basic and translational research to clinical and population health studies, all researchers can benefit by having leading computational, data science, and analytics capacities. Additionally, UT Southwestern health care will strive to be the model for integrating novel discoveries back into practice, remembering that the real goal of research is to improve the lives of our patients. The field of implementation science – the study of methods to promote the adoption and integration of evidence-based practices, interventions, and policies into health care and public health settings – shows great promise for an institution as big and diverse as ours.

What are your goals in this new role?

My first goal is to get to know the existing researcher community and culture here to better understand both existing strengths and future opportunities for improvement. Second, I plan to work with leaders from across the organization to develop a unified vision of the future of clinical research at UT Southwestern. In parallel, I'll be actively recruiting faculty and staff to deliver on our future goals.

As the fourth largest market in the U.S., do you see Dallas-Fort Worth as fertile for fast growth of clinical research?

Absolutely! Between William P. Clements Jr. University Hospital, Parkland Memorial Hospital, and Children's Health, as well as the broader Texas Health Resources health system, we have remarkably large and diverse patient populations to study and learn from. Additionally, we have great opportunities to take these learnings and apply them back to improve clinical care and, ultimately, enhance medical outcomes of patients.



Gift

MEYERS STRENGTHENS NURSING EXCELLENCE AT UTSW

Howard Meyers created The Rory Meyers Advanced Education Program for Nursing Excellence at UT Southwestern to celebrate the life of his wife of 46 years, Rose-Marie (Rory) Mangeri Meyers.

By Sharon Reynolds

Rory was an accomplished nurse leader and humanitarian with a deep understanding of the transformational role that nurses offer to patients across their life span.

With support from a generous \$5 million endowment, the program will provide tuition support for UTSW nurses to pursue advanced degrees and certifications that will prepare them for expanded leadership roles in UTSW's growing health care system. **The gift will support the development of future leaders in nursing while helping to solidify UTSW's role as a national leader in nursing excellence.** UTSW has achieved Magnet designation for nursing excellence, the highest honor awarded by the American Nurses Credentialing Center.

"The family of Rory Meyers has created a lasting legacy as a tribute to her lifelong commitment to the nursing profession that will inspire our nurse colleagues at UT Southwestern for generations to come," said Dr. Daniel K. Podolsky, President of UT Southwestern.

A FAMILY OF NURSES

Stephanie Huckaby, Director of Nursing, Inpatient Surgical Specialty Services at UTSW, is one nurse who hopes to benefit from the Meyers' generosity.

A registered nurse for more than 28 years, Mrs. Huckaby joined UTSW as a Nurse Manager in 2001 and was promoted to her present position in 2009. Starting with an associate degree, she has been a lifelong learner, later earning bachelor's and master's degrees while balancing the demands of a full-time job with raising three children. She was still paying off her own college debt when her children decided to follow in her footsteps and pursue nursing careers. Two of her children are now nurses at UTSW, and she hopes to someday see them all pursue advanced nursing degrees.



Nursing is a family calling for Stephanie Huckaby, third from left, pictured here with her children and their spouses, from left, Hayden and Courtney Huckaby, who both work as nurses at UT Southwestern's Clements University Hospital; Kaley Huckaby, a medical-surgical nursing resident at Methodist Charlton Medical Center in Dallas; and Chelsea and Jeremy Cronin, who both work as nurses at Methodist Charlton.

In 2017, Mrs. Huckaby began work toward a doctorate in nursing but quit school due to lack of financial resources. "Tuition support lessens the financial burden for nurses seeking advanced degrees," she said. "Advanced training enables nurses to understand how to keep current on best practices in patient care and apply those practices in ways that improve patient care and outcomes."

"Advanced training promotes excellence in leadership, not only in clinical care but also in nursing education and research. We are grateful for this extraordinary gift that celebrates elevating the care of our patients and our institution as a whole."

From a young age, Rory exhibited a deep passion for helping others. She was born in the Bronx in New York City and was the first in her immediate family to graduate from college. She worked as a registered nurse with the New York City Department of Public Health and Education, Medical Health Clinic at the Mobil Oil headquarters, and in various hospitals in New York City, often in the emergency room, which she found most rewarding.

In 1974, after Rory and Howard married, they relocated to Dallas. Rory found great purpose in raising her two sons, Craig and Kevin. Always full of compassion, she gave generously of herself to many civic and community organizations supporting early childhood education,

medical causes, ecological initiatives, and the development of the Rory Meyers Children's Adventure Garden at the Dallas Arboretum. **Family and friends described her as a woman with a heart of gold who embodied the virtues of grace and empathy.** She was a gifted chef, an avid gardener, and a loving dog-mom.

"More than 19 years ago, Rory recognized that she had a form of dementia. Her condition significantly deteriorated over the last six years of her life. On Dec. 28, 2020, she passed away peacefully at our home with family at her bedside. Through this gift to support nursing excellence, Craig, Kevin, and I are grateful to preserve her beloved memory," said Howard.

Dr. Podolsky holds the Philip O'Bryan Montgomery, Jr., M.D. Distinguished Presidential Chair in Academic Administration, and the Doris and Bryan Wildenthal Distinguished Chair in Medical Science.

CLEMENTS UNIVERSITY HOSPITAL

Third Tower Opening

By Ashley Gentry

In January, the new third tower of William P. Clements Jr. University Hospital fully opened, enhancing UT Southwestern's exceptional level of patient care. The new 12-story tower brings the hospital's bed count to about 750; includes specialty units for acute stroke care, epilepsy monitoring, and specialized psychiatric services; and serves as the new clinical home for the Peter O'Donnell Jr. Brain Institute.

Through philanthropic support, the new tower was conceived and developed with a patient-centered philosophy while deploying the most advanced technology available today. Take a peek inside the newest addition to the UT Southwestern campus.



Rose Garden

Thanks to a gift from Gay and Bill Solomon, the psychiatric unit features an extensive outdoor space. The Rose Garden – named in honor of Deedie and Rusty Rose – takes a holistic approach to treating mental health, featuring 5,000 square feet of outdoor space and a wellness garden that provides a positive care environment and a place for recreation.

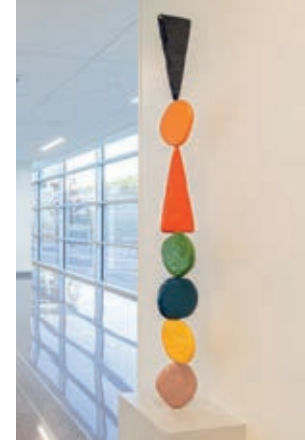


Myriad sculpture

A gift from Barbara Thomas Lemmon in honor of her late husband, Mark L. Lemmon, M.D., *Myriad*, by Danielle Roney, hangs in the atrium lobby of the new tower. The sculpture (shown in detail on opposite page) is comprised of more than 5,000 stainless steel spheres suspended by steel cables.



Surgical suite One of the great strengths of UT Southwestern is our multidisciplinary approach to care by teams of physicians and other providers, particularly during procedures. Surgical areas in the new tower provide a team-based environment with technologies coalescing around the patient.



Art

The new tower added 100 pieces of original art. A large and diverse art collection is spread throughout the building – in public spaces, staff areas, patient rooms, and corridors. The art was selected with two principles in mind: promoting healing and representing innovation.



Helipad

A new helipad is just steps away from the entrance to the angio suite, where patients receive time-sensitive interventional care.





Ramesh and Kalpana Bhatia

'Our Way of Expressing Thanks'

Moved by compassionate care, Bhatias give back to support hospital expansion and brain science

By Andrew Marton

Ramesh and Kalpana Bhatia have focused their philanthropy on causes with global impact, including health care and medical research. Their latest gift puts UT Southwestern at the top of the list.

The couple donated \$5 million to support construction of the third tower at William P. Clements Jr. University Hospital and an additional \$2 million to establish the Ramesh and Kalpana Bhatia Family Foundation Distinguished University Chair in Brain Science. In recognition, UT Southwestern named the second floor atrium in the hospital's new third tower the Ramesh and Kalpana Bhatia Family Foundation Atrium.

Mr. and Mrs. Bhatia, who hail from India, consider their Foundation to be a family affair and share much of the decision-making with their two children. Mr. Bhatia is currently retired after having sold ATCO Rubber Products, the world's largest manufacturer of air ducts.

"The new tower of Clements University Hospital represents an exciting chapter in our history," said Dr. Daniel K. Podolsky, President of UT Southwestern. "We are deeply grateful for the generosity of the Bhatia family, which has helped make this possible and with it our ability to deliver the very best care possible to our patients needing access to treatments not available anywhere else in Texas and beyond."

Last year, Mrs. Bhatia sought treatment from a spine specialist at UT Southwestern and, over the summer, Mr. Bhatia was admitted to Clements University Hospital after suffering a stroke. The couple was impressed with the knowledgeable physicians and attentive teams who cared for them.

When they learned that UT Southwestern's expansion of Clements University Hospital would include space for neuroscience and brain-related specialties, they wanted to make a difference.

"Our giving is our way of expressing thanks to everyone – the front-line workers, nurses, doctors, and all the staff who helped our entire family get better and took great care of us," Mr. Bhatia said. "And we want to wish you all the best and to help make this hospital as successful as possible."

Mrs. Bhatia echoed her husband's excitement.

"This new facility is state-of-the-art," she said. "To have contributed to it as we did is truly an honor."

Dr. Podolsky holds the Philip O'Bryan Montgomery, Jr., M.D. Distinguished Presidential Chair in Academic Administration, and the Doris and Bryan Wildenthal Distinguished Chair in Medical Science.



Haddock Dining Room

With more than 400 seats available in the Haddock Dining Room, named in honor of Sandi and Ron W. Haddock to recognize their generous support, the first-floor space offers ample seating for visitors and staff to enjoy a meal.

Epilepsy patient room

Patient rooms in the epilepsy monitoring unit are uniquely outfitted with safety harnesses suspended from the ceiling to help patients independently move around their rooms and prevent falls.



CLOSER TO A CURE

Hamon Charitable Foundation fuels promising cancer immunotherapy research

By Sharon Reynolds

A \$1 million gift from the Hamon Charitable Foundation is advancing research at UT Southwestern that could set the stage for the creation of a universal treatment for a wide range of cancers.

This exciting work using the body's immune system to destroy cancer cells is being led by Nobel Laureate Bruce Beutler, M.D., an immunologist and geneticist best known for his pioneering molecular and genetic studies of inflammation and innate immunity. Dr. Beutler is enthusiastic about the possibilities of his research on the future of cancer therapy, which he believes could be quite revolutionary.

"The most powerful cancer fighters of all may reside within us – the cells of our own immune system," said Dr. Beutler, Regental Professor and Director of the Center for the Genetics of Host Defense at UTSW. "In fact, a patient's immune system is potentially more precise and more effective than any anti-cancer drug. Cancer immunotherapy treatment uses the immune system's natural ability to find and attack cancer cells and has markedly prolonged the lives of patients with many cancer types."

Not all cancers respond to immunotherapy. Currently approved immunotherapies target one specific mechanism by which tumors hide from the immune system, and thus far, scientists have just scratched the surface in terms of what is possible. Dr. Beutler's research team has discovered new mechanisms, including two possible targets.

"Right now we're working on two gene mutations that cause mice to be cancer-resistant. Our findings were very unexpected. These mutations will allow mice to cure themselves of cancers that are ordinarily lethal. Both mutations affect the immune system, but in very different ways. We hope the two mutations synergize to create a strong broad-based type of immunotherapy in humans," he said.

T-cell receptors within the immune system play a key role in fighting cancer. **Dr. Beutler's team is developing a special human T-cell receptor that will attack and destroy practically all cancers without hurting any of the body's healthy, normal tissues.** Through their research, they have developed a mouse model that is able to reject many different tumors, an

indication that they are able to target cancers better than any existing immunotherapies. Although not yet tested in humans, the team hopes this immunotherapy approach could be applicable to many types of cancer in humans, as well as mice.

"I am very grateful to the Hamon Charitable Foundation for their funding to help develop these targets. We are at a critical phase where we need more data to advance the work to a point at which it is widely accepted. Oftentimes, this type of research can only be done with philanthropic support. **The Hamon Charitable Foundation has helped us take our research to the next level,"** Dr. Beutler said.

Dr. Beutler holds the Raymond and Ellen Willie Distinguished Chair in Cancer Research, in Honor of Laverne and Raymond Willie, Sr.

Dr. Podolsky holds the Philip O'Bryan Montgomery, Jr., M.D. Distinguished Presidential Chair in Academic Administration, and the Doris and Bryan Wildenthal Distinguished Chair in Medical Science.



Dr. Bruce Beutler listens to students following a lecture.

HAMON CHARITABLE FOUNDATION

Mrs. Nancy B. Hamon was a San Antonio native who worked in Hollywood during the 1940s before returning to Texas and marrying legendary oilman Jake Hamon in 1949. Mrs. Hamon grew to be one of the region's most generous philanthropists and established the Hamon Charitable Foundation in 1998. Since its inception, Jack Roach worked side by side with Mrs. Hamon, leading the Foundation and serving as an officer.

As a longtime friend of UTSW, Mrs. Hamon has given more than \$68 million in support of various programs, brick-and-mortar projects, and research. Mr. Roach was a trustee of Southwestern Medical Foundation for 37 years and witnessed many medical advances and accomplishments at UT Southwestern. He passed away in 2018, and since then, his son Kelly Roach has

followed in his footsteps as President of the Hamon Charitable Foundation.

"We are pleased to carry on the long-standing tradition of support the Hamons gave to UT Southwestern and continue to align the projects provided by UT Southwestern with the mission and goals of the Hamon Charitable Foundation," said Kelly Roach.

"UT Southwestern has shared an extraordinary partnership with the Hamon

Charitable Foundation, whose gifts continue to propel discovery and innovation on our campus that imparts our community with worldwide research. The Foundation's support of Dr. Beutler's research is indicative of the bold and important philanthropic support they provide to our innovative researchers," said Dr. Daniel K. Podolsky, President of UT Southwestern.



MRI-guided high-intensity focused ultrasound opens
new paths to noninvasive treatment of brain disease

By Andrew Marton

MAKING
WAVES

with
HIFU

For years, brain surgery has involved anesthesia, scalpels, drills, and sometimes wires implanted into the brain. Today, some cutting-edge treatments involve no cutting at all.

One of the latest methods uses high-intensity focused ultrasound (HIFU) waves to penetrate the brain and remove unhealthy tissue. It's similar to how children use a magnifying glass to focus the sun's rays and burn a scrap of paper – only instead of sunlight, you're using ultrasound.

Now technological advances are taking this treatment to the next level. **Guided by MRI, physicians can precisely target specific parts of the brain, locating groups of cells and aiming the ultrasound waves with far greater precision.** This noninvasive method can be used to treat tumors and other diseases typically treated with radiation or surgery.



Jimmy Hiner and his wife, Frances, talk about Mr. Hiner's condition with an interviewer in their home.

The combined technologies have an unwieldy acronym: MRgHIFU. It's short for magnetic resonance-guided high-intensity focused ultrasound.

"MRgHIFU technology can potentially eliminate the need for invasive surgery," said Dr. Bhavya R. Shah, Assistant Professor in the Division of Neuroradiology at the Peter O'Donnell Jr. Brain Institute, who is the pioneering researcher at the forefront of this innovative treatment. "High-intensity focused

waves can be focused across the skull under real-time MRI guidance to ablate or burn away diseased tissue without the necessity of opening up the skull."

Finding innovative ways to make a difference in people's lives with technology is central to Dr. Shah's work as Director of the Neuro Focused Ultrasound Program. As a child, he gained a love of working with devices from his father, an ophthalmologist who developed new ways to use laser technology for cataract surgery.

Dr. Shah uses MRgHIFU to treat patients with movement disorders such as essential tremor or Parkinson's disease. The Food and Drug Administration has approved it as an effective tremor treatment for both.

"With today's technology, a patient wears a helmet that focuses ultrasound beams onto a precise point in the brain," he said. "There is no implantable hardware, no general anesthesia, and no incisions at all."

The technology is also used to treat cancers. Prostate cancer was one of the earliest forms treated using MRgHIFU, but the technique might also be applied to breast or bone cancer.

"Pairing HIFU with our advanced imaging methods ensures you locate the appropriate targets in each patient and avoid damaging other structures," Dr. Shah said.



Jimmy Hiner listens to Dr. Bhavya Shah, foreground, during a medical appointment at UT Southwestern.

A first for Texas

The technology's impact on the way physicians treat brain diseases could be seismic.

The National Institutes of Health estimates that essential tremor impacts as many as 10 million Americans. Parkinson's disease affects a million more.

Fewer than two dozen hospitals in the U.S. offer treatment using MRgHIFU. Its steep price tag has limited widespread adoption.

UT Southwestern is the first hospital in Texas with the capability, thanks to an anonymous donor's \$5 million gift to the O'Donnell Brain Institute. The equipment is housed in the newly opened third tower of William P. Clements Jr. University Hospital, which has specialty care units for patients with brain diseases and is the clinical home of the O'Donnell Brain Institute.

"MRgHIFU technology can potentially eliminate any kind of highly invasive surgery."

The first patient procedure using the equipment took place in early March.

Jimmy Hiner, age 73, had suffered from debilitating involuntary tremors for decades before undergoing treatment at UT Southwestern. The retired long-haul truck driver and avid photographer first noticed the condition at age 17.

"Over the years, there were so many little things you just couldn't do anymore because of the tremors. It got so bad I couldn't write anymore. I couldn't hold a camera steady to take a picture," he said.

Dr. Shah treated Mr. Hiner using MRgHIFU. Immediately after, Mr. Hiner showed noticeable improvement. "Today, it's slicker than a whistle," he said. "The shaking is gone. It is just amazing the difference that it has made and how fast it happened. It's just like they flipped the switch and it went away."



Jimmy Hiner flips through a set of photographs he took during his days traveling the country as a long-haul trucker.

The successful procedure marks a significant moment, even for an institution accustomed to being on the leading edge. **Tremor and Parkinson's patients from as far away as the Middle East and Europe have expressed interest in traveling to Dallas for the procedure.**

"We are at the forefront of brain science because of the visionary generosity of our supporters, innovation of our scientists, and outstanding care provided by our clinicians," said Dr. Daniel K. Podolsky, President of UT Southwestern. "This gift enables us to bring a technology with great promise to Texas and surrounding states, expanding our capacity to pursue groundbreaking research and opening up new treatment possibilities for patients in Texas and beyond."

An extensive team of UT Southwestern leaders collaborated across brain research, radiology, and neuroradiology to bring this project to fruition. The Neuro Focused Ultrasound Program works with physicians in Neurology, who initially evaluate patients. Since the new procedure is not appropriate for everyone, Dr. Shah consults with

"There is no implantable hardware, no general anesthesia, and no incisions at all."



Bypassing the blood-brain barrier

colleagues in Neurology and Neurosurgery to decide on the best candidates. MRgHIFU is one of several types of next-generation "neuromodulation" therapies being advanced in the O'Donnell Brain Institute.

In addition to removing tissue, Dr. Shah is currently leading clinical trials at UT Southwestern to determine whether MRI-guided focused ultrasound is effective for delivering drug therapies and diagnostic agents into the brain – past the blood-brain barrier.

Acting as part of the body's defenses against toxins and diseases, the blood-brain barrier is a type of wall that separates the brain from the bloodstream. Essential nutrients delivered by the blood can pass through the barrier, but larger particles, such as bacteria or viruses, cannot.

The shield works so well it's hard for physicians to deliver therapies to the brain.

Injecting drugs directly into the bloodstream is not effective for treating the brain because the blood-brain barrier stops them. Alternatively, when injected directly into the brain, drugs do



Images from an MRI, shown on the monitors above, are used by physicians to target precise areas of the brain where ultrasound waves can be focused to remove diseased tissue.

MRgHIFU results



Jimmy Hiner, above, draws a spiral on a clipboard held by a member of the UT Southwestern care team before undergoing the MRgHIFU procedure. Drawings are made before and after the procedure, as shown in the example images below, to compare the improvement in the patient's tremors.



Before

After

not extend very far beyond the injection site. And as Dr. Shah pointed out, "Anytime you put a needle close to the brain there is always the chance of injury."

Those risks aren't a factor with MRI-guided focused ultrasound.

One of the best ways to penetrate the blood-brain barrier is to inject a series of small gas-filled bubbles into a vein. When they reach the brain, they can be targeted with focused ultrasound. Instead of using higher intensity waves that can destroy cells, this technique substantially reduces the intensity of the waves. **When the ultrasound waves interact with the bubbles, the bubbles gently vibrate and push open the blood-brain barrier. Diagnostic agents and other therapies can be delivered through the opening, directly to the brain.**

"What we're now doing is turning the ultrasound wave energy level way down ... to not destroy any tissue but rather to interact with microbubbles to open the blood-brain barrier," he said. "This process can then deliver drugs or diagnostic agents to a specific target in the brain."

Through his clinical trials, Dr. Shah sees potential to use focused ultrasound to deliver therapies to targeted parts of the brain in patients suffering from Alzheimer's and brain tumors. He also anticipates using the technique to deliver immunotherapy and gene therapies in patients with neurodegenerative diseases, movement disorders, and genetic diseases. "The future of personalized medicine is in using MRI-guided focused ultrasound to deliver gene therapy, chemotherapy, and immunotherapy to specific regions of the brain instead of destroying brain tissue. These noninvasive procedures could be a game-changing, clinical breakthrough."

Dr. Podolsky holds the Philip O'Bryan Montgomery, Jr., M.D. Distinguished Presidential Chair in Academic Administration, and the Doris and Bryan Wendenthal Distinguished Chair in Medical Science.



GROOMING THE 21ST CENTURY ENTREPRENEUR:
UT SOUTHWESTERN UNVEILS

BLACKSTONE LAUNCHPAD

By Sharon Reynolds

UT Southwestern students and researchers hoping to turn their scientific discoveries into successful startup businesses are now getting a boost from the Blackstone LaunchPad & Techstars network. Funded through a grant from the Blackstone Charitable Foundation, as one of eight campuses in The University of Texas System to offer the program, the expansion to UT Southwestern will bring the initiative's network and resources to a more diverse set of students and provide critical access to resources, opportunities, and mentorship.

"We are incredibly excited to help student entrepreneurs bring their ideas to fruition," said Amy Stursberg, Executive Director of the Blackstone Charitable Foundation. "LaunchPad provides an invaluable experience by helping students acquire entrepreneurial skills that will help them contribute to Texas' economic growth and prepare them for today's workforce."

Through the program, students, postdoctoral researchers, and faculty can learn how to build a startup and will have access to investors and mentoring from coaches and experts with experience in launching and operating innovative startups in health care and the life sciences.

The entrepreneurial mindset

LaunchPad helps students learn how to think creatively, communicate effectively, and work as a team to build companies using the three pillars of an entrepreneurial mindset:

- Take ownership.
- Be proactive.
- Be resourceful.

Thinking like an entrepreneur can elevate anyone's performance, whether they want to start a business or be a doctor.

"Science is world-class at UT Southwestern, where we have had tremendous success in basic research and advancing some of our technologies to the commercial market. **Providing entrepreneurial tools, programs, and resources will help students understand what it takes to get technologies to the market and help them build a solid entrepreneurial foundation for their future,**" said Bradley Phelan, Director of Technology Commercialization and Blackstone LaunchPad & Techstars at UT Southwestern.

Mr. Phelan describes the road to entrepreneurship as a "learn by doing" experience that cannot come from a book. LaunchPad forces participants out of their comfort zone and into the unknown. "One of the things about being an entrepreneur is nobody really knows what they are doing until they have gone and done it," he said. "By the end of the program, participants will be able to decide whether their technology has a viable commercial opportunity to build a business, whether it is viable but needs adjustments, or whether it is not a suitable idea."

RIDE FOR LIFE



*A child's battle with cancer
inspires a grandfather to hit the open road*

By Andrew Marton



Jim Clarahan shares a quiet moment reading with his 3-year-old grandson, Dray.



Mr. Clarahan, right, poses for a photo with UT Southwestern lipodystrophy expert Dr. Abhimanyu Garg in Dallas.



Mr. Clarahan takes a selfie with his motorcycle on the campus of UT Southwestern.

Jim Clarahan has two passions: Harley-Davidson motorcycles and his 3-year-old grandson, Dray.

Last summer, he logged 11,232 miles on his bike, spending two months traveling the eastern half of the United States.

All of it was to help his grandson.

As a baby, Dray was diagnosed with lipodystrophy, a rare condition that prevents the body from maintaining healthy fat tissue. Unable to determine the underlying cause, his family sought help from Mayo Clinic.

The team assigned to Dray's case included endocrinologist Dr. Vinaya Simha, who studied with the world's leading lipodystrophy expert, Dr. Abhimanyu Garg, Chief of the Division of Nutrition and Metabolic Diseases at UT Southwestern Medical Center.

When Dr. Simha saw Dray's skeletal frame, he immediately thought of Dr. Garg's research linking lipodystrophy with brain cancer. An MRI revealed a golf ball-sized tumor.

The experience inspired Mr. Clarahan. Last August, he fired up his Harley and departed Peoria, Illinois, on a "Ride 4 Dray" – a **34-state road trip to raise awareness and support for pediatric cancer.**

In Dallas, he stopped to thank Dr. Garg for his groundbreaking work and drop off a \$30,000 donation.

"A gift like Mr. Clarahan's helps keep our position as the leading center in the world where all kinds of patients come to learn what can be done for this rare condition," said Dr. Garg.

Dray completed 60 weeks of chemotherapy in December and, according to his grandfather, his "fun personality is shining through." So far, the tumor has not responded to treatment. Dray is now participating in a new clinical trial and will receive chemotherapy twice a day for the next two years.

Determined as ever, Mr. Clarahan is planning another ride. Next summer he's headed to the West Coast.

It's a chance to redouble his efforts to support pediatric cancer research and Dr. Garg's lipodystrophy work, he said.

"My commitment to UT Southwestern is stronger than ever."

Dr. Garg, also a Professor of Internal Medicine, holds the Distinguished Chair in Human Nutrition Research.



Jim Clarahan stops for a photo with supporters in New York City's iconic Times Square.



Mr. Clarahan holds a banner commemorating the Ride 4 Dray as he stands by his motorcycle along the banks of the Mississippi River outside Dubuque, Iowa.



Mr. Clarahan relaxes along the banks of the Mississippi River in Lake City, Minnesota.



Mr. Clarahan enjoys some quality time with his grandson Dray.

60
DAYS

**Aug. 2 –
Sept. 30,
2020**

34 states
visited

11 CHILDREN'S
HOSPITALS

11,232
miles

Doubling Down

Matching gift jump-starts O'Donnell Brain Institute's Total Care Program

By Andrew Marton

Brain diseases are complex. Their treatment sometimes feels just as complicated.

Oftentimes, when patients are undergoing treatment, their care teams span multiple specialists and include a litany of support staff, appointments, and paperwork.

Building on its reputation for excellent patient care, UT Southwestern Medical Center is making a big move to simplify things.

The new **Total Care Program at the Peter O'Donnell Jr. Brain Institute is creating a more patient-centered experience across the entire health care team**, from physicians and neurologists to social workers and billing professionals.

The initiative has already garnered a \$5 million gift from the O'Donnell Foundation. Founded by Edith and Peter O'Donnell, the organization made the original leadership gift to establish the O'Donnell Brain Institute at UT Southwestern.

The Foundation's latest donation provides a dollar-for-dollar match for new endowment gifts supporting the Total Care Program.

"The Peter O'Donnell Jr. Brain Institute is one of the most important endeavors ever undertaken by UT Southwestern," said William T. Solomon,

President and CEO of the O'Donnell Foundation. "We believe that condition of care and assistance in navigating the health care system is critical for the well-being of both patients and their families."

To date, UT Southwestern has received nearly \$4.5 million toward the \$5 million match. Opportunities remain for donors to support the Total Care Program and double the impact of their gift.

"While the researchers of the Peter O'Donnell Jr. Brain Institute work to find more effective treatments and cures for patients suffering from diseases of the brain, we want to ensure that our patients today are receiving the best comprehensive care now possible through a coordinated approach that integrates medical expertise with ancillary services," said Dr. Daniel K. Podolsky, President of UT Southwestern.

Holistic Care

In addition to the O'Donnell Foundation, other philanthropists have stepped forward to share in their support of the Total Care Program, which is designed to help patients and their families make more informed decisions. In support of the Total Care Program, the Hegi family contributed \$1 million to establish the Hegi Family Patient and Caregiver Education Program.

"Our excitement for the Total Care Program stems from our family's experiences dealing with both Parkinson's and mild cognitive disorder," said Peter Hegi, spokesman for the Hegi family and son of Jan and Fred Hegi.

Patients and their caregivers benefit from understanding their diagnosis and prognosis, making education an important part of the Total Care experience.

"When the family unit or care camp understands what a patient is going through, the love, empathy, and support for that person grows by leaps and bounds. Education is essential in a comprehensive care experience," Mr. Peter Hegi said.

Critical Support

For more than four decades, Virginia "Ginny" Eulich has been an avid supporter of UT Southwestern. Mrs. Eulich's latest gift recognizes the critical role that support services play in helping brain disease patients. Her gift of \$500,000 has established the Ginny Eulich Patient Services Fund to support the Total Care Program.

"I've had very close friends who suffered with Alzheimer's, and it made me want to do something about it," said Mrs. Eulich, whose late husband was Dallas



Virginia Eulich
Ginny Eulich Patient
Services Fund



Linda and Mitch Hart
Linda and Mitch Hart Patient
Navigator Program



Hegi family
Hegi Family Patient and Caregiver Education Program

commercial real estate pioneer John Eulich. "I know the turmoil it can cause in a home for somebody who has it and for those who take care of loved ones."

Patient Partners

Patient navigators ease health care burdens by scheduling medical appointments and connecting patients with financial, legal, and social support.

As a U.S. Naval Academy graduate, Milledge A. "Mitch" Hart III, Chairman of the Dallas-based Hart Group, knows how essential patient navigators are to patients and their families. He and his wife, Linda, committed a gift of \$1.25 million to create the Linda and Mitch Hart Patient Navigator Program.

"Patient navigators are crucial caregivers, guiding patients and their families along their health care journeys," said Mrs. Hart, who is Hart Group's Vice Chairman, President, and CEO. "These knowledgeable professionals are vital to achieving the Total Care Program's goal of exemplary patient care."

IMPACT OF GENEROSITY
Donor Pulse



Margo and Jim Keyes

A generous gift from Margo and Jim Keyes increases enrollment of teachers and students in STARS (Science Teacher Access to Resources at Southwestern) and the Summer Research Program (SRP). STARS broadens the knowledge base of science teachers, increases science awareness, and provides instructional aids and ongoing support while stimulating an appreciation of health-related careers. Developed in 1991, the program has improved the quality of science education, serving more than 14,000 middle- and high-school science teachers and an estimated 65,000 students in North Texas. The SRP offers eight weeks of full-time intensive camps for rising seniors and middle- and high-school science teachers, and provides hands-on laboratory experiences and weekly seminars focused on UTSW research. The program benefits high-performing students who have demonstrated an interest in biomedical research and science, including underrepresented minorities and those with lower socioeconomic status. The SRP program has had a strong influence on attendees, with 100% enrolling in college and 70% studying STEM-related fields.

W.W. Caruth Jr. Fund at the Communities Foundation of Texas

A \$550,000 grant from the W.W. Caruth Jr. Fund at the Communities Foundation of Texas supports a 12-month study examining the effects of healthy eating on glucose control in impoverished patients with Type 2 diabetes, currently living with high rates of food insecurity and obesity. Culinary medicine is an emerging field and a new educational and nutritional approach to improving eating behaviors, focusing on skills such as food shopping, storage, and meal preparation. Dr. Michael Bowen is leading the study that will determine the effectiveness of culinary medicine with hands-on, experiential cooking classes versus standard-of-care, clinic-based nutrition education. UTSW is collaborating with other community partners to provide food and access to the classes.



The promising study's interventions have the potential to improve glycemic control of the participant, influence eating practices of family members, and better the health of entire families, leading to potential changes in BMI, blood pressure, and lipids.

Angels Fall Up Foundation

After Ron Rossetti was diagnosed with cancer, he established the Angels Fall Up Foundation (AFU) in 2012 with his wife, Dr. Sarah Collins, to support cancer research and preventive education. An avid long-distance runner and mentor to other aspiring athletes in North Texas, Mr. Rossetti founded the annual Colony Half Marathon to raise funds through AFU.



Dr. Sarah Collins and her late husband Ron Rossetti.

Mr. Rossetti was grateful to have received tremendous care at the Harold C. Simmons Comprehensive Cancer Center. He once told a friend, "After cancer, you see the world with a new perspective. My aspiration is to help victims of serious illness see there is hope always." Mr. Rossetti passed away in 2015.

Dr. Collins, an Instructor of Internal Medicine at UTSW, now directs AFU together with Mr. Rossetti's friends and board members, Joel Ott, Michael Hundt, and Julie Cloud. Since 2014, AFU has supported pancreatic cancer research at the Simmons Cancer Center, with proceeds from the half marathon supporting ongoing research. Although there was no race in 2020, AFU looks forward to bringing the half marathon back in October. Dr. Collins established the Simmons Cancer Center's Pancreatic Cancer Research Fund in 2018 to keep her husband's remarkable legacy alive.



BvB Dallas members present a check at UT Southwestern.

BvB Dallas

BvB Dallas continues to support Alzheimer's disease research and clinical care at UTSW. Its latest gifts include \$80,000 to support Dr. Bhavya Shah's research on the use of focused ultrasound to potentially diagnose and treat Alzheimer's disease. Dr. Shalís investigations in mouse models could someday lead to human clinical trials. An additional gift of \$136,750 supports a two-year postdoctoral fellowship in neuropsychology for Alzheimer's disease, which will help address the national shortage of qualified practitioners to assist patients and families affected by dementia. This is the third two-year fellowship BvB has funded that makes it possible for UTSW to recruit the best and brightest clinician-researchers to the field of Alzheimer's disease clinical care and research. Ongoing funding enables UTSW to continue the legacy of this program and become a model national training program, ensuring talented, young professionals are prepared for careers in the field.



Robbie Watson Raphael

Robbie Watson Raphael established the John A. Raphael Fund for Pancreatic Cancer Research. Her husband, John, was diagnosed with pancreatic cancer in 2016 and received his care at the Simmons Cancer Center. Pancreatic cancer has the lowest survival rate of any cancer, and it was Mr. Raphael's hope that the gift would benefit others through its support of research being done by UTSW's Pancreatic Cancer Prevention Program. Mr. Raphael grew up in Dallas and, after graduating from the The University of Texas at Austin, came home to a long and successful career in commercial real estate. He died of pancreatic cancer in 2017, and his family is proud of his decision to make a gift from his will to help others. Mr. Raphael's generous gift will support vital research that could advance new treatment and prevention efforts and adds to Mr. and Mrs. Raphael's longtime support of UTSW.

The future of medicine, today.

5323 Harry Hines Blvd., Dallas, Texas 75390-8519



Unlocking the brain's mysteries

Inspired by a commitment to world-class research, Lori and Dave Folz joined The Heritage Society by making a planned gift to support brain science at UT Southwestern.

[READ THEIR STORY](https://engage.utsouthwestern.edu/folz) engage.utsouthwestern.edu/folz

The
HERITAGE SOCIETY

Celebrating 25 years of impact