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NEWS OF THE TEXAS MEDICAL CENTER — VOL. 6 / NO. 2 — MARCH 2019

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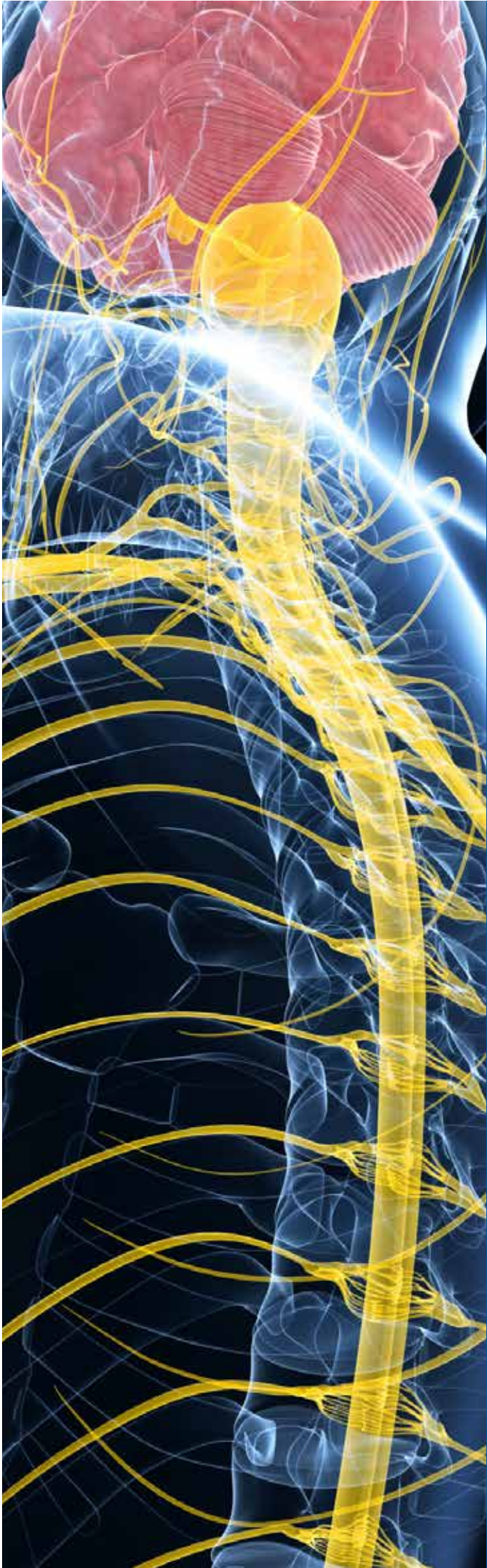


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5th Annual Neuromuscular Disorders Seminar

Advances in Neuromuscular Care and Regulations

Baylor St. Luke's Medical Center–McNair Campus
Course Director: Aziz Shaibani, MD, FACP, FAAN, FANA

Overview

At least half of all cases of neurological disease are categorized as neuromuscular disorders, which are responsible for common symptoms such as fatigue, weakness, numbness, dizziness, loss of balance, and blurred vision. These disorders impose constant diagnostic and therapeutic challenges to practicing and academic neurologists alike. Several new medications were approved for neuromuscular disorders over the last two years, and new genetic testing panels and diagnostic methods have reached commercial use. Also, the Center for Medicaid and Medicare Services (CMS) created new regulations for the practice of neurology, which create additional challenges. This seminar is designed especially for the busy neurologist who desires to remain current on the diagnosis and treatment of neuromuscular disorders.

April 13, 2019
7:30 am - 5:30 pm

Baylor St. Luke's Medical Center–McNair Campus
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For more information and to register, please visit
BaylorCME.org/CME/1591.

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WILLIAM F. McKEON

*President and Chief Executive Officer
Texas Medical Center*

I have always been a person who needed very little sleep—or so I thought.

For most of my adult life, my routine has been to stay up late, sleep four to five hours and wake up without an alarm, starting each day anew with no apparent effect on my productivity. Adults typically require seven to eight hours of sleep per day—a third of our lives—which always troubled me. I always viewed those hours in bed as a terrible waste of time and prided myself on the efficiencies I gained while others slept.

Today, I'm not embarrassed to say: I was wrong.

I've learned that sleep plays an important role in our lives, helping our bodies rejuvenate by repairing tissue and synchronizing hormones. While each of us requires a different amount of sleep, getting enough sleep is a key determinant of a healthy life.

During sleep, our bodies release hormones that slow our heart rate and breathing and relax our muscles. Both the body and mind slow down so that more energy can be dedicated to reparations.

Of course, we experience periods of sleep deprivation throughout our lives—when we cram for college exams, when we welcome a new child and when we start a new job, for example. Our bodies recover fairly quickly from these episodes once they subside. However, long-term sleep deprivation can jeopardize both our physical and mental health. Sleep disorders are often linked to weight gain and anxiety, among other health issues. Simply put: sleep matters.

Like many people, I find that regular exercise helps me to sleep deeper and longer. And I now know better than to dismiss sleep as a waste of time, as I once did. Today, I view sleep as a priority in my life and a key contributor to both my mental and physical well-being.

It's not always easy to get enough sleep, of course. We face competing demands for our time from work, family and friends. But cutting down on sleep isn't a healthy way to find those extra hours.

When you go to bed this evening, I wish you a "good night." But even more importantly, I wish you sufficient sleep.

A handwritten signature in black ink that reads "William F. McKeon". The signature is fluid and cursive, with a long horizontal stroke at the end.

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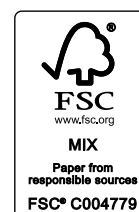


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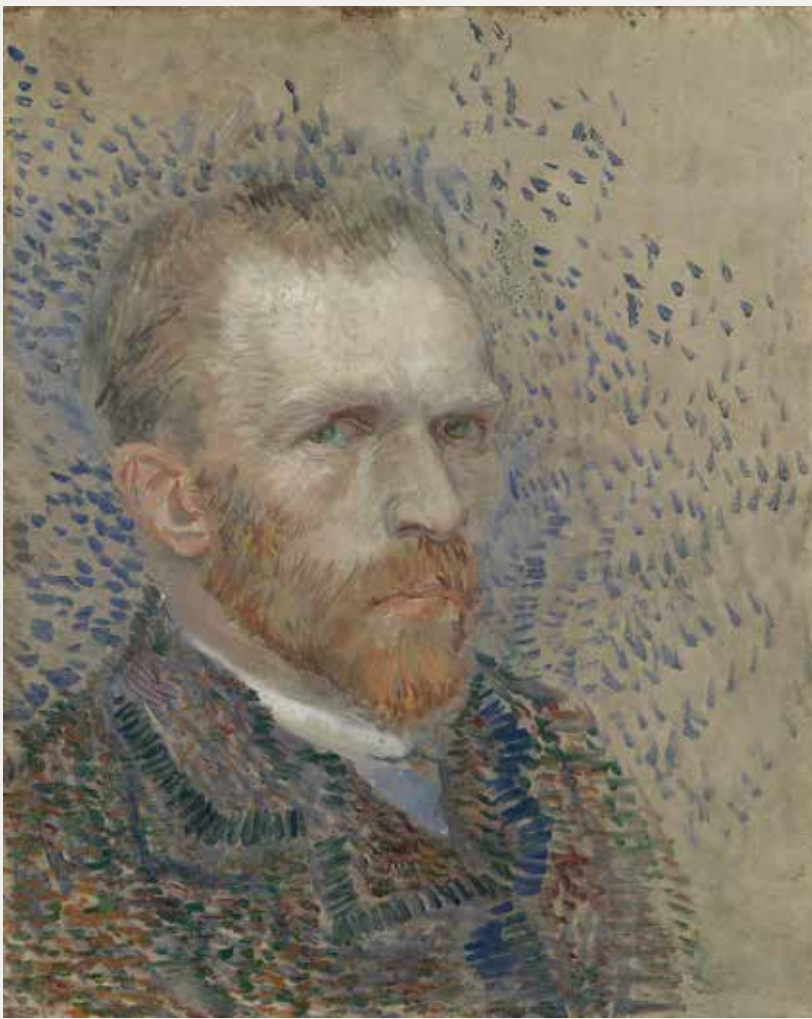
ON THE COVER: Cowboy Anthony Thomas works out at a ranch in Humble, Texas.



CURATED

The Intersection of ARTS and MEDICINE

By Britni R. McAshan



Credit: Courtesy of Museum of Fine Arts, Houston

Paintings included in the MFAH exhibit: Self-Portrait, March-June 1887 (above); A Pair of Leather Clogs, Autumn 1889 (right); In the Café: Agostina Segatori in Le Tambourin, January-March 1887 (below).

Vincent van Gogh left behind an astounding collection of art created over just one decade. More than 50 pieces by the iconic Dutch painter will be on display at the Museum of Fine Arts, Houston (MFAH) starting March 10.

“He is a unique combination of intensity, technique and amazing imagery, which is why we love him today,” said David Bomford, the Audrey Jones Beck curator in the department of European art and chairman of the department of conservation at the MFAH. “What is amazing about van Gogh as an artist is the extraordinary brevity of his career. In this exhibit, we are looking at the entire 10-year career from when he became an artist to when he died.”

Vincent van Gogh: His Life in Art takes viewers through the artist’s novice drawings, his discovery of Impressionism in Paris and continues on to the end of his career in the south of France—when he created

some of his best-known and most loved paintings.

“When he moved to the south of France, suddenly, this astounding clarity, brilliance and radiance took over his art,” Bomford said. “The combination of color and brushwork is something that had never been seen before.”

But while van Gogh was creating rich, colorful paintings of the French countryside, he was struggling with severe mental health issues.

“His mental state intrigues us,” Bomford said. “We don’t know exactly what mental conditions he had—there are theories as to what

psychological state he was in, but clearly he was unstable. That instability, that extraordinary mental passion, just made his art all the more intense.”

Some experts have speculated that van Gogh suffered from bipolar disorder, manic depression and anxiety. In 1888, after a breakdown that led him to cut off part of his left ear, the artist was admitted to a mental health hospital in Arles, France. He was diagnosed with acute mania and generalized delirium.

“You can see changes in his works based on his mood at the time, but it is possible to read too much into that,” Bomford said. “If you look at his final works that were done just outside of Paris, they become very jagged, very angular and fierce, with dramatic brushstrokes. It is possible to read into that the severe state of his mind at that stage and it is tempting to make connections between the imagery and his mental state.”

One of van Gogh’s final paintings, *Wheatfield with Crows*, seems to foreshadow the artist’s eventual suicide. A reproduction of the painting will be on display at the MFAH.

“It is sort of a path going into a wheatfield and stopping, while these incredibly dramatic, sinister

crows circle and wheel overhead,” Bomford said. “This piece is often perceived as being the final statement of his amazingly disturbed mental condition and it seems



like a final painting before he shot himself.”

Weeks after creating *Wheatfield with Crows*, van Gogh apparently took his own life at age 37.

“What would he have gone on to do? That’s the most intriguing question of all,” Bomford said.

The MFAH exhibition goes far beyond the collection of paintings van Gogh created in the last few years of his life and is unlike anything that has been seen in Houston before. The exhibit is a collaboration between the Van Gogh Museum in Amsterdam and the Kröller-Müller Museum in Otterlo, The Netherlands.

“It is very unusual these days to have an exhibit like this in the United States,” Bomford said. “Van Gogh’s works are quite fragile and in great demand, so they travel less and less. We have made a special relationship with these two museums—which are the greatest van Gogh collections in the world—to get these precious works here in Houston.” ■

.....
Vincent van Gogh: His Life in Art will be on display from March 10 to June 27 at the Museum of Fine Arts, Houston, Audrey Jones Beck Building, 5601 Main St. Information: 713-639-7300
.....



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OPEN SECRETS

Are we ready for what DNA kits reveal?

BY ALEXANDRA BECKER



Early last year, Jan Moore of Brownsville, California, opened a kit from Ancestry.com and swabbed the inside of her cheek. She then carefully placed the sample in the vial provided and mailed it off for processing, expecting to confirm the heritage she'd learned growing up—that she was part Russian, Lithuanian, Polish and Austrian. What she discovered, however, came as a complete shock.

Yes, her DNA test showed that she was Lithuanian and half Ashkenazi Jewish, exactly what she thought. But the other half mapped out English, Welsh, Irish and Scottish ancestry. Moore stared at her Ancestry.com results for a while, unable to comprehend. Then she scrolled down the page to her list of relatives and saw a woman's name with the designation "first cousin."

But Moore knew all of her first cousins, and she had never heard of this woman. She clicked on the button to send her a message.

"Who are you?" Moore wrote.

The woman emailed back and they arranged to speak on the phone. During that first conversation, the woman asked Moore a series of questions.

"Were you born in Baltimore?"

"Yes," Moore answered.

"Are you Jewish?"

"Yes," Moore said.

Then the woman paused and asked, "Do you want to know?"

Moore nervously answered yes.

"Well," the woman began. "I'm not your cousin, I'm your niece. And my father is your half-brother."

Moore felt all the color drain from her face.

"I almost fell to the floor," she said. "Everything stopped."

It turns out, Moore's half-brother is Thomas Wheeler, M.D., chair of the department of pathology and immunology at Baylor College of Medicine. The well-informed niece is Danica DeCosto, Wheeler's oldest child.

Wheeler's father, now deceased, was a prolific sperm donor in the 1960s, when he was a medical student and surgical intern at Johns Hopkins School of Medicine in Baltimore. At that time,

Wheeler's father was working with a doctor who helped pioneer artificial insemination and took clients who were primarily married Jewish couples with fertility issues.

Unbeknownst to Moore, she was one of the children born from those efforts, a secret her mother and father—who have both passed away—never planned to reveal.

Brave new world

Stories like Moore's are becoming increasingly common now that direct-to-consumer genetic testing has become widely available, thanks to its convenience, relatively low price and the tantalizing promise of learning something new about one's life. The kits are helping to expose family secrets that would otherwise die along with those who kept them.

Individuals can sign up with a company—23andMe, FamilyTreeDNA, Ancestry.com, AncestryDNA and MyHeritage are among the most popular—and a kit shows up on their doorstep with instructions to either spit into a tube or swab their cheeks and return the samples via postal service. Results are usually available within a few weeks. ➞



Jan Moore surrounded by her half-brothers, left to right, Steve, Bob, CJ and Thomas Wheeler, M.D., at a Wheeler family wedding in September 2018.

Most of the companies offer information about a person's ancestry or genealogy, including ethnicity and genetic connections between other individuals who have also completed genetic tests. The kits can also confirm kinship if both parties purchase a kit and their genealogy matches. Some genetic tests are also now providing information about predispositions for certain diseases and conditions, including heart disease, breast cancer, Parkinson's, Alzheimer's and carrier status for cystic fibrosis and sickle cell disease. Information that was once only available through appointments with specialists is now just a drop of saliva away.

But what happens if, like Moore, you learn something completely unanticipated?

"Sometimes, unexpected ancestry information can be more upsetting than getting unanticipated health risk information, because it can really disrupt family relations," said Amy McGuire, J.D., Ph.D., director of the Center for Medical Ethics and Health Policy at Baylor College of Medicine. "Some of those well-kept secrets that people thought they'd go to their grave with are no longer sustainable."



Amy McGuire, J.D., Ph.D., sits in her Baylor office.

It is impossible to predict how people will process new genetic information.

"It's often difficult to anticipate how people are going to react, and different people will react to the same situation differently," said Jessica Roberts, J.D., director of the Health Law & Policy Institute at the University of Houston. "You can imagine finding out your father is not your father could be very disruptive to a family unit, but then I've also heard anecdotes of a person saying, 'We uncovered misattributed paternity,' and the person was relieved because they never liked their dad or they never felt connected."

As for Moore, she feels devastated that she never had the chance to meet her biological father, who, like the parents who raised her, has also passed away. Growing up, Moore said, she never quite felt like she belonged, but she never imagined it was because of a missing biological link.

"My whole life, I always wondered, *Who do I take after? Who do I look like?* I didn't fit really with anybody," Moore said. "I never got to meet my father. That was taken from me, and who had the right to do that?"

Wheeler told Moore how disappointed his father had been that he never knew any of the potentially hundreds of children his sperm donations had helped bring to life, and that his father had always hoped there was a daughter out there in the world.

Not long after their discovery, Wheeler was also matched with a half-brother who, like Moore, had no clue about his hidden family lineage.

"They invariably say the same things, like they never really felt like they belonged in some kind of weird way," Wheeler said. "It was like they were robbed of that potential identity."

Wheeler's family has embraced Moore and tried to help her feel connected. She has been both surprised and delighted to learn just how much she and her birth father share.

"It was like all these little tiny things that I do, that you think are your own personality and that are learned socially—it's not," Moore said. "It's like everything that I am is exactly how he was, and I never met him. The interesting part to me was realizing how much of yourself is already pre-wired. You almost don't have a choice."

Moore has connected with other donor-conceived children through Facebook groups and said that her feelings are not uncommon.

"There's thousands of us, and every single person feels the same way. They're angry and they're confused," she said. But, she added, she is one of the lucky ones, as she has gained a new family in the Wheelers.

"Knowing my new family—that part is awesome," Moore said. "It was like the secret I'd been looking for my whole life."

Not all donor-conceived children have such a straightforward response.

Both McGuire and Roberts cited news stories about individuals who discovered their ancestry traces back to a group toward which they harbored animosity, but that the information led to more tolerance or positive change.

While some people are happy to embrace a whole new culture, others choose to maintain what they've always known, Roberts said.

"I think that we really don't know how to deal with these things until we have more experience with them," she said, "which makes it exciting but also creates unanticipated risks."

Disease risk and reactions

Perhaps highest among those risks is the burden of health information, which may include a predisposition to certain diseases. Individuals don't always give much thought to what it might mean to learn that they are predisposed to, say, Alzheimer's.

"I worry about people going in unwittingly and getting health information without realizing what they're getting—especially for those buying the test to get their genetic ancestry and deciding to throw in the health screen as an added bonus," McGuire said. "It's the very subtle ways in which having this information might change how we think about ourselves, how other people think about us, or how we live our lives. How, on a psychological level, are we going to handle this information?"

“ Sometimes, unexpected ancestry information can be more upsetting than getting unanticipated health risk information, because it can really disrupt family relations. Some of those well-kept secrets that people thought they'd go to their grave with are no longer sustainable. ”

— AMY MCGUIRE, J.D., PH.D.

*Director of the Center for Medical Ethics and Health Policy
at Baylor College of Medicine*

McGuire, who had her own genome sequenced, hosted a TEDMED Talk about her decision at the time to *not* find out her results. She already knows that certain diseases run in her family—her mother has Parkinson's and her grandfather had Alzheimer's—but she wasn't ready to get the results until she could be sure that whatever they were, they wouldn't change how she lives her life.

"I know that I'm at risk because I have family history, but I wondered how I was going to feel if I had a genetic predisposition to a serious disease. Might I think about myself differently? Would I expect different things of myself? That's what I worried about, but I think it's a very individualized thing." ➡

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“ When I first started doing this work over 10 years ago, one of the things that I wrote about was the potential to form a genetic identity—that we might have some sort of identity tied to our genetic information the way we do to, say, our race or culture or gender or religion. As we see genetic testing becoming more widespread ... the possibility of a genetic identity is becoming something that’s very real. ”

— JESSICA ROBERTS, J.D.

Director of the Health Law & Policy Institute at the University of Houston

Those questions have hovered over genetics for decades, especially with regard to children. The World Health Organization published a paper in 1998 stating that genetic tests should be offered in such a way that individuals and families had a say in how—or if—they learned the results, and that children should only be tested in the context of advancing their medical care. To date, the consensus in the field remains that children have a “right to an open future,” to borrow a phrase from philosopher and ethicist Joel Feinberg, and should be protected from having others make important life choices for

them before they are mature enough to make those choices for themselves.

It becomes even more complicated, McGuire noted, when parents order direct-to-consumer genetic tests for their children. While most companies state that their tests are intended for adults, there is nothing to prevent parents from ordering the test, collecting a sample from their child and sending it off.

There are some diseases that experts say should remain wholly exempt from over-the-counter genetic testing, such as Huntington’s disease. For many diseases, genetics can hint at a predisposition or risk, but the presence of a single abnormal gene associated with Huntington’s, a heritable and fatal neurological illness, indicates a diagnosis.

“Many people do not want to know if they’re going to get Huntington’s,” McGuire said, “and it’s hard to test a family member when another family member doesn’t want to know. We had an interesting case at Baylor years ago where somebody came in whose father had Huntington’s, but he didn’t want to know his own status. His wife was pregnant and they wanted to do the prenatal testing to see if the fetus was positive, but first we had to explain to the individual that if the fetus was positive, he was definitely positive.”

Presently, no direct-to-consumer genetic tests offer screening for Huntington’s, in part because of



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the limitations of their technology. According to information published by 23andMe, their test is not designed to analyze for certain conditions associated with repeats, insertions, rearrangements or deletions in DNA, of which Huntington's is included.

Context and privacy

To further muddy the ethical waters, the interpretation of results in direct-to-consumer genetic kits can be misleading because the tests provide only partial information about overall health. Environment and lifestyle choices play key roles in health, but those factors are not often highlighted in the literature accompanying the kits.

"When you're looking at things like breast and ovarian cancer, it matters what your family history is, it matters what your personal history is, and it needs to be put into context," McGuire said. "When you're just getting this information from a direct-to-consumer test, oftentimes without input from a genetic counselor or a clinician, the contextual information may not be fully there. That doesn't mean that people can't go and get that contextual information—and I hope they do—but it's not built into the system necessarily."

Testing for variants in the BRCA gene, for example, underscores some of the system's potential flaws. Hundreds of variants in that gene could indicate an increased risk for breast cancer, but most of the direct-to-consumer companies test for only the most common two or three variants.

"Just because you don't have the variants they are testing for doesn't mean you don't have any BRCA variants," McGuire said. "Some people worry that consumers are not going to fully appreciate that information and think they're safe or that they don't need to be as diligent with their mammograms."

Privacy is another sleeping giant that genetic testing has provoked.

Most testing companies use the genetic data they acquire for large health databases and to support research. Law enforcement, though, uses the information to solve crimes.

In April of last year, investigators arrested Joseph James DeAngelo for rapes and murders committed in the 1970s and 1980s after using a public genealogy website to connect evidence from the crime scenes to DeAngelo's distant relatives. The "Golden State Killer" is one of many cold cases solved with help from genetic databases, prompting conversations around ethical and privacy concerns.

And in February, FamilyTreeDNA became the first commercial testing company to voluntarily provide law enforcement with access to user data.

Still, there are some safeguards in place for individuals. In 2008, Congress passed the Genetic Information Nondiscrimination Act, which bars health insurers from denying coverage or charging higher premiums to people based on genetic predisposition. It also prohibits employers from even

requesting a person's genetic information, much less using the results to make decisions related to employment or job status.

Despite all the risks and surprises that come with genetic testing, many people believe that it is their right to know their genetic information—no matter what it reveals.

"When I first started doing this work over 10 years ago, one of the things that I wrote about was the potential to form a genetic identity—that we might have some sort of identity tied to our genetic information the way we do to, say, our race or culture or gender or religion," Roberts said. "As we see genetic testing becoming more widespread and we gain the ability to learn even more from our genetics about our relationships and our health and our ancestry, the possibility of a genetic identity is becoming something that's very real."

So far, research suggests that uncovering these genetic secrets—no matter how life-altering they may seem—is a positive experience for most.

"An early concern was that providing all of this information about disease risk would make people anxious; some worried they would get depressed, but we've actually found that that's not true," McGuire said. "We've done studies and people don't suffer clinical anxiety or depression after getting results. We're pretty adaptable as human beings, and we generally do well with this information." ■



Jessica Roberts, J.D., directs the Health Law & Policy Institute at the University of Houston.

Making childbirth safer for women around the globe is the mission of **LISA M. HOLLIER, M.D.**, president and interim CEO of The American College of Obstetricians and Gynecologists. A professor in the OB-GYN department at Baylor College of Medicine, Hollier (pronounced OH-lee-ay) is chief medical officer for OB-GYN at the Texas Children's Health Plan and medical director of OB-GYN at The Center for Children and Women. She also chairs the Maternal Mortality and Morbidity Task Force, a multidisciplinary group within the Texas Department of State Health Services. Hollier has spent most of her career working with underserved populations.

Q | How did you end up so focused on maternal mortality? Was there some moment or incident that crystallized your interest and commitment?

A | When I was a resident in Dallas, a woman came into the hospital. She'd had a totally uncomplicated pregnancy. She was young—early 20s. I was about the same age. She came in with the worst headache of her life. She got to the labor room and, unfortunately, she lost consciousness. When she lost consciousness, her baby's heart rate just plummeted. So they scooped her up, rushed her to the delivery room, did an emergency Caesarean delivery and delivered a baby girl. Her daughter was fine but the mom did not wake up. She went to the intensive care unit after her delivery and that's where I took over her care. She had suffered a massive intracranial hemorrhage. I worked alongside multidisciplinary teams and really there was nothing we could do. She passed away. And one of the pictures that has stuck with me in my career was actually her husband, when he was leaving the hospital with their baby. It's supposed to be the happiest day, but he was alone and he was going to raise their daughter alone. He was just so lost. I can still see his face.

Q | Do your colleagues have similar stories?

A | One of the things that struck me when I was in Washington, D.C., meeting with legislators a lot last year, was all of the doctors who were there had been through the loss of a patient that was just devastating. And it's just ... we need to make it better.

Q | What is the biggest public misconception about maternal mortality you and your colleagues have encountered?

A | The biggest problem is that nobody really believed us when we started talking about the problem. We are the most incredible nation with the best medical care ever—how could we possibly have a problem with maternal mortality? In 2011, a group of us who primarily at that time were working with Harris Health System and The American College of Obstetricians and Gynecologists (ACOG) first went to the state legislature and said maternal mortality is a huge problem and it's getting worse. There was a proposal for a maternal mortality review that never even got out of the public health committee. Nobody was talking about it. By 2013, we were able to start to raise some awareness of the issue, but there still wasn't this national outcry. By 2016, the publication of some articles in major OB-GYN journals really brought a lot of attention to a number of areas and one of those was the state of Texas.

Q | What is the most important next step?

A | Saying, 'Yes we have a problem' was the first step. The next step is: 'What are we going to do about it?'

Q | The Alliance for Innovation on Maternal Health, or AIM, has played a major role in promoting safe and consistent maternity care. What can you tell us about it?

A | AIM is a national initiative, with 24 states participating, that works with hospital systems

or states on bundles. Bundles are best practices based on four Rs: readiness, recognition, response and reporting. AIM got funding from the Health Resources and Services Administration to implement these best practices.

Q | How would the "four Rs" address the problem of postpartum hemorrhaging in the delivery room?

A | The 'hemorrhage cart' is under the 'ready' bundle. If you prepare, then your facility is ready. Another example would be team-based training in your facility—not just the doctors, but the nurses and anesthesiologists and, in some places, your front desk staff who are manning the phones. All those people have to be aware because you might have to contact the blood bank, for example. Recognition is the next part of the bundle. How do you recognize that bleeding is happening? Blood doesn't always come out of the vagina; a mother could be bleeding in her belly. The next piece is protocols for how you respond: when everybody has practiced together they can respond quickly and in the same way every time with applicable meds that are ready on the cart. And then you just have to keep track. How did you do? Did the patient rally? Were there complications? The bundles are a set of best practices that can be modified by each facility. But in every case, it's: be ready, recognize a problem when it happens, respond quickly and appropriately and keep track of how you do.



Q | Although you will step down as president of ACOG in May, you will continue to act as interim CEO of the nonprofit, a post you accepted when the previous CEO retired last October. Does this mean you spend a lot of time in Washington, D.C.?

A | I moved to D.C.

Q | How has your life changed over the past year?

A | It has been an amazing opportunity to have a chance to act on issues related to improving women's health on an international scale. We are developing programs and adopting policies that affect women across the globe. We completed a program in partnership with Baylor College of Medicine to reduce death from hemorrhage in Malawi. You know, I started on a local level, then on a state level and then, as president of ACOG, on a national level, and now as interim CEO, I'm working on this international scale to influence improvements in women's health.

Q | How often do you get back to Houston?

A | It's really variable. I try to be here a couple of times a month, and I still work remotely. My husband [Larry H. Hollier Jr., M.D., surgeon-in-chief and S. Baron Hardy Chair in Plastic Surgery at Texas Children's Hospital] teases me because I'm always working. He's still here.

Q | Do you have children?

A | One son. He's 19. He's a freshman at Duke this year and he wants to be a pediatric plastic surgeon, just like his dad.

Q | When you became president of ACOG, you announced three initiatives you planned to roll out, one of which had to do with pregnancy and heart disease.

A | When I was president-elect I started a multidisciplinary task force on pregnancy and heart disease, because we know that cardiac causes account for one in four maternal deaths. The idea with that was to update the clinical guidance that ACOG provides to clinicians. We pulled together cardiologists, high risk pregnancy specialists, general OB-GYNs, nurse practitioners, midwives, ER physicians—everyone who was going to touch these women was brought into the same room and we came up with guidelines. And that new guidance will be released, we believe, in May. My own practice identified two women with cardiac disease because of implementing these new guidelines. ➡

Q | What are the pregnancy-related contributions to lifelong cardiovascular problems? Does being pregnant take a toll on your heart?

A | There are certain pregnancy complications that are very strongly *associated* with long-term cardiovascular risk. I use that word very purposefully. It's thought that perhaps for these particular women, pregnancy doesn't necessarily cause the problem, but it unmasks it. Pregnancy is like a stress test that lets you know that particular groups of women are at higher risk. It's a window to future health. These are the women who have high blood pressure during pregnancy, preeclampsia—these women basically have a doubling of their risk of heart disease over the long term. Women who have gestational diabetes also have a higher risk for heart disease.

Then there's another group of women who've maybe had high blood pressure for 10 years. Maybe they've developed diabetes. Those women have cardiac disease that can get significantly worse during a pregnancy. What we're really seeing in the postpartum period is about 10 percent of maternal deaths are caused by

cardiac dysfunction—cardiomyopathy. There's something pathologic with the muscle of the heart. We don't completely understand why that's happening but we are seeing that more frequently.

The good news is there are a lot of people now specifically studying that. We have experts on that in the task force. When we talk about older women, high blood pressure, obesity, those things are associated with maternal deaths more broadly.

Q | In 2016, two independent reports suggested that maternal mortality rates in Texas had doubled over 10 years. A 2018 study, however, corrected those numbers and showed the rate was less than half of what was previously reported, in part because dozens of women were identified incorrectly on their death certificates as being pregnant at the time of death. How can we be sure this won't happen again?

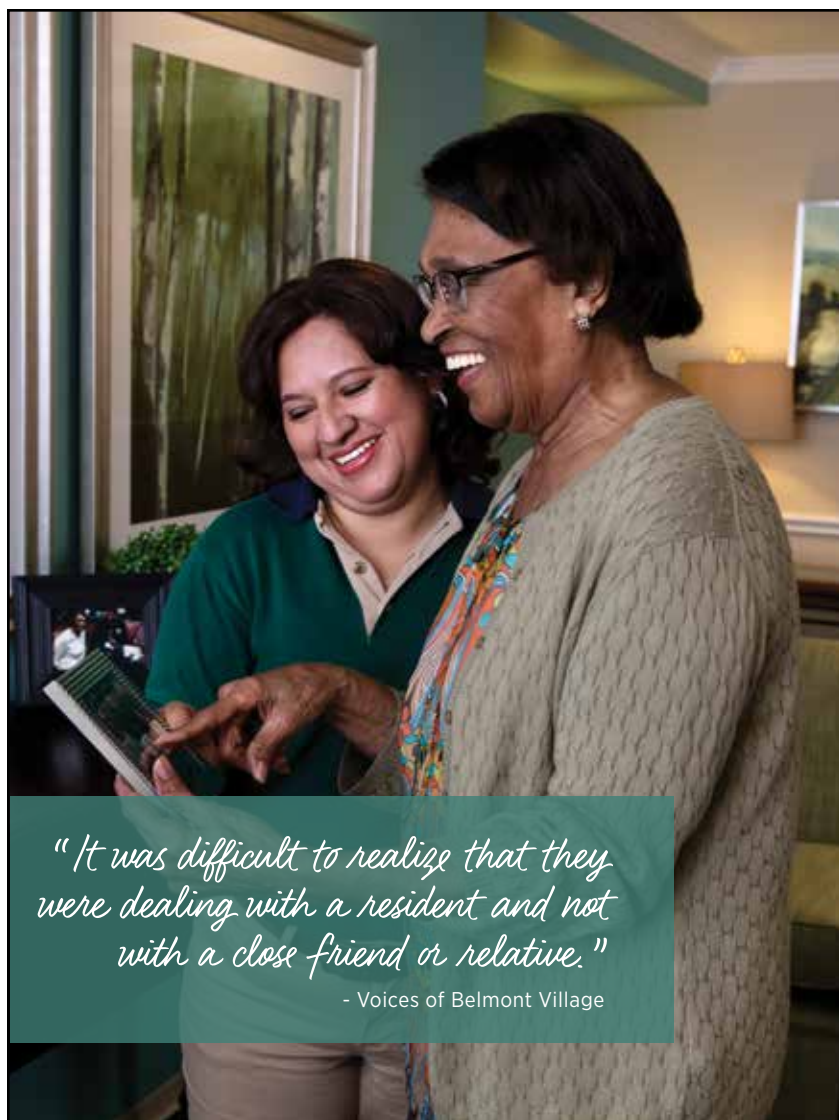
A | The Preventing Maternal Deaths Act of 2018, which became law in December, recognizes the need for state-based maternal mortality reviews that go beyond the vital statistics we get from death certificates. We saw how limited that was

in Texas; the numbers were bad. When you can do state-based reviews like we have been doing, you get to move beyond the cause of death on a death certificate and really look in depth at what happened that day. That is the question the task force asks: Was this death preventable? And when we looked at our Texas data, we ended up grading about nearly 80 percent of our maternal deaths as preventable. That percentage varies from state to state. Most are 60 to 70 percent of deaths being preventable through reasonable actions.

Q | Is this new law a kind of umbrella for all these state initiatives?

A | Yes. It says everybody needs to do these detailed reports, and then it provided funding for a number of these states. We were able to start it here in Texas, but there were other states that had not been able to. Now they have resources that will help them build the infrastructure they need. ■

Lisa M. Hollier, M.D., was interviewed by Pulse editor Maggie Galehouse. The conversation was edited for clarity and length.



"It was difficult to realize that they were dealing with a resident and not with a close friend or relative."

- Voices of Belmont Village

Cami can tell you the names of all of Mary's grandchildren — in order, from youngest to oldest. As a Belmont Village caregiver, she's passionate about enriching the lives of our residents through personal, skillful and thoughtful attention to every detail. From daily care to choosing the perfect birthday gift for the littlest grandchild, we're there for our residents whenever — and however — they need us.

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Four Days in Haiti

Urogynecologists travel to the tropical country to treat women with pelvic floor disorders and train local surgeons

BY SHANLEY PIERCE

Women in Haiti do not have access to medical care that could alleviate the pain and embarrassment surrounding many pelvic floor disorders. To remedy that, a team of Houston doctors traveled to the island to treat women suffering from these conditions and teach Haitian doctors different procedures and surgeries specific to the pelvic floor.

“It’s so important to be able to open people’s eyes to the state of health care on a global scale,” said Tristi Muir, M.D., professor and chair of the Houston Methodist Hospital OB-GYN department and one of four Methodist urogynecologists on the mission trip to Pignon, Haiti. “It gives you another view on thinking about health care resources and how we use them in this country—how you can be innovative



Houston Methodist urogynecologists Tristi Muir, M.D., Fiona Lindo, M.D., Danielle Antosh, M.D., and Shweta Pai, M.D., traveled to Pignon, Haiti, for a medical mission trip.

when you’re in a country with fewer resources.”

Pelvic floor disorders include a range of conditions caused by weakened or damaged pelvic muscles,

ligaments, connective tissues and nerves attached to the pelvic organs. Urinary incontinence (lack of bladder control), fecal incontinence (lack of bowel control) and pelvic organ

prolapse (a weakening of the supporting muscles and tissues around the pelvic organs that causes the pelvic organs to drop into or out of the vagina) are all examples of pelvic floor disorders.

These disorders are common—approximately 24 percent of women in the U.S. are affected—but can be successfully treated with physical therapy, medication and surgery. However, women in Haiti—the poorest country in the Americas, according to the World Bank—don’t have access to this type of care. Without it, their quality of life deteriorates.

Muir first visited Pignon, a community of about 30,000 people in northern Haiti, in May 2016 with Keith Reeves, M.D., emeritus professor of obstetrics and gynecology at Houston Methodist. Both of Muir’s trips were funded by Houston lawyer Derek Potts through the Potts Family Foundation. Potts, whose father was an ear, nose and throat physician, is a leading attorney in transvaginal mesh litigation.

The four-doctor team—Muir, Fiona Lindo, M.D., Danielle Antosh, M.D., and Shweta Pai, M.D.—began planning their trip at the end of 2017.

“I utilized our hospital to get supplies and started collecting things that [the hospital] didn’t use that hadn’t expired—everything we could think of so we could actually provide care for these women,” said Lindo, medical director of urogynecology at Houston Methodist Willowbrook Hospital, whose experience running national mobile clinics helped prepare the team for Pignon. “For us, as a urogynecology division, we are so focused on teaching and expanding the field of urogynecology, not only locally, but globally.” ➡

The Hospital Bienfaisance de Pignon, where the team treated patients during their trip, runs on a single generator.



Credit: All Haiti photos courtesy of Houston Methodist

The doctors packed 50 pairs of medical gloves, 40 surgical gowns, Foley catheters, IV fluids, needles and a portable cystoscope—a tube inserted into the urethra that allows them to see inside the bladder—into 15 pieces of luggage.

“It was actually the same equipment that we use in the operating room here,” Muir said. “We were able to take all of that with us, but if we had not done that, I think we would’ve been hard-pressed to be able to do anything.”

On Oct. 29, the team flew from Fort Lauderdale, Florida, to Haiti’s capital, Port-au-Prince. From there, they boarded 5-seater planes for the last leg of the journey, heading 87 miles north to Pignon.

“We couldn’t even take all of our luggage with us on the plane. We ended up getting ground transportation—eight hours from Port-au-Prince to Pignon—to get the rest of our supplies. The weight was too heavy. We had too many supplies to make it fit all on the plane,” Lindo said.

As the plane descended into Pignon and landed on a small, grassy runway, the doctors looked out the window and soaked in the landscape.

“There’s just one building that serves as the airport, with basically no security or anything like that,” Muir said. “It’s completely different than anything we have in the United



Lindo, Antosh and Pai in the operating room in Pignon, Haiti.

“It takes a lot of time to do these trips, but the fact of the matter is, women here in Houston have access to physicians who can help them, but there are a lot of women in a lot of places in the world who don’t have access to care.”

— FIONA LINDO, M.D.

Medical director of urogynecology, Houston Methodist Willowbrook Hospital

States. Just going into town, there are huge potholes that could almost swallow a car.”

When the doctors arrived at the local hospital, Hospital Bienfaisance de Pignon, they found a modernized 65-bed facility equipped with two operating rooms, a laboratory, X-ray machine and pharmacy. Still, resources were limited. The team

soon discovered the hospital had no antibiotics or anesthesia.

“We had to pay for and procure that over the course of about 24 hours,” Muir said. “It’s definitely a very different setup than what we’re used to, where everything’s at our fingertips.”

The Methodist team found the medication after calling around to

hospitals that were a half-day to a full-day drive away.

Finally, their operating room was ready for patients.

One of the first women treated was a 37-year-old who had developed a 3.5-centimeter cyst around her urethra, causing excruciating pain during urination and intercourse. Another patient, 34, had suffered a severe straddle injury that had become infected after two months and damaged her sphincter muscle.

Many women in Haiti endure discomfort and even embarrassment because of untreated pelvic floor disorders. Over four days in Pignon, the Houston Methodist team evaluated 13 patients and performed six surgeries that vastly improved each patient’s quality of life.

“Every time I take care of a patient and I see the joy on their face because they don’t have a problem anymore, it continues to push me to continue to offer care,” Lindo said. “It takes a lot of time to do these trips, but the fact of the matter is, women here in Houston have access to physicians who can help them, but there are a lot of women in a lot of places in the world who don’t have access to care.”

Another goal of the trip was education. The doctors worked alongside local surgeons, training them on specific procedures. In addition, the Methodist doctors delivered lectures to medical residents from Port-au-Prince on topics including urinary incontinence, fecal incontinence and pelvic organ prolapse.

“The most poignant part [of the trip] is creating the relationships with the physicians there in Haiti and being able to, by establishing those relationships, reach more and more women in the future,” Muir said. “That was probably, to me, the number one accomplishment.”

The team flew back to Houston on Nov. 2, 2018, but have already committed to returning to Pignon.

“The success of this trip will be the fact that we’ll be going back,” Lindo said. “Once you plant a seed, you have to go back to water it so it can grow.” ■

Antosh walks with a local family in Pignon.



Keeping your hair during chemo

Hair loss, a common side effect of chemotherapy, tends to take an emotional toll on cancer patients. But scalp cooling systems can help some people hang on to most of their hair.

Scalp cooling causes the constriction of blood vessels and hair follicles, which restricts chemo from getting delivered to the hair, said Julie Nangia, M.D., assistant professor in Baylor College of Medicine's Lester and Sue Smith Breast Center.

Nangia led a three-year study of the Paxman Scalp Cooling System at Baylor that involved patients with Stage I and II breast cancer who were being treated with chemotherapy.

The Paxman system is a mobile refrigeration device connected to a silicone cap filled with a gel coolant that brings the scalp temperature down to 60 degrees. An outer cap holds this cooling cap in place. Patients receiving chemotherapy wear the caps for 30 to 45 minutes before treatment, during

treatment, and for 60 to 90 minutes after.

Richard Paxman, whose father developed refrigeration systems for breweries and created the scalp cooling system after his wife lost her hair during chemo, now runs the company. The British firm, which was part of the TMC BioBridge program and has office space at TMCx+, teamed up with Nangia to commercialize the product.

Nangia's three-year study found that about half of the women who used the Paxman system lost less than half of their hair. All 47 women who did not use the system lost more than half of their hair.

The Paxman system was approved by the U.S. Food and Drug Administration in April 2017, only the second such system in the country approved for use on patients with solid tumor cancers.

The system is now used in 180 locations across the U.S., including The University of Texas MD Anderson Cancer Center and Houston Methodist Hospital. ■





RODEO REHAB

How one cowboy is coming back after injuries

STORY BY ALEXANDRA BECKER • PHOTOS BY CODY DUTY

Bareback bronc rider Anthony Thomas has dreamed of being crowned world champion since he was a young teenager in Australia taming wild horses.

But before he can reach that milestone, there's one thing he must do. Heal.

Two and a half years ago, Thomas suffered what he believed to be a broken elbow during a competition. He didn't even fall off the bronc—the rodeo term for a horse that bucks—but the sheer force from the animal was so extreme that something snapped.

He didn't know what or in how many places—all he knew was that he would have to ride through the pain. And that's exactly what he did for 18 months.

"That was my first ride for that week, and I had to ride another three, so I think I broke it pretty good by the end of the week, and it really didn't get any rest for another year and a half before I got it fixed," Thomas said. "I kept competing with it because I had to keep making a living and trying to make my goals a reality. In rodeo, you don't get paid unless you win."

Eventually, though, Thomas lost all feeling in his arm from the bicep down, which meant he had lost his grip. In bareback bronc riding, the rider grips a leather handle attached to

rigging that wraps around the horse's shoulders. During competition, the rider uses only one hand to grip the handhold and hang on.

Thomas finally scheduled X-rays and, after competing in the RAM National Circuit Finals Rodeo in April 2018, headed to Fort Worth for what was supposed to be a straightforward surgery.

It turned out, however, that Thomas was suffering from far more than a broken bone.

A pre-surgery MRI revealed a laundry list of problems, including recurrent hyperextension injuries, a minimally displaced anterior medial coronoid fracture, and an ulnar collateral ligament (UCL) tear—something commonly seen in professional pitchers. Thomas had torn his UCL on both the proximal and distal sides, which required an extensive repair. His MRI also showed chronic entrapment of his radial, medial and ulnar nerves, indicating that the three major nerves running down his forearm were surrounded by scar tissue, decreasing their ability to send electrical signals to his hands and, thus, reducing his grip strength. He also suffered from scar tissue and stiffness in his elbow joint, as well as bone spurs, which triggered a sharp pain every time a horse bucked and his elbow straightened. ➡

Facing page: Anthony Thomas ropes a horse that he's working to break.



The surgeons in Fort Worth did their best to repair the damage, cleaning out the areas around the nerves, removing the bone spurs, taking out the pieces of fracture that hadn't healed and reconstructing his UCL. It was a major surgery—so extensive that it could have ended a riding career. But Thomas was determined to get back in the arena, his sights unwavering and set on the National Finals Rodeo in Las Vegas, where the world champions are crowned.



Tailor-made program

A friend recommended Thomas get in touch with Brian Duncan, a physical therapist and the director of human performance at Memorial Hermann IRONMAN Sports Medicine Institute in Houston. Thomas was willing to try anything, plus the gym was located less than 30 miles southwest of the ranch in Humble, Texas, where he works with horses.

Left: Thomas tightens his chaps before working at a ranch in Humble where he breaks horses. He wears chaps to protect his legs while he's moving around on the horse. **Below:** Thomas brushes Bamm-Bamm before riding her at the Humble ranch. **Facing page left and bottom right:** Thomas works with Brian Duncan, a physical therapist and the director of human performance at Memorial Hermann IRONMAN Sports Medicine Institute in Houston. **Facing page top right:** Thomas lifts weights with help from Blaine Schmidt, a performance coach at the institute.



After a series of conversations and consultations, Thomas began seeing Duncan and his team regularly at the institute's Human Performance Lab starting in October. By that time, he had lost a substantial degree of strength and the muscles in his arm were so stiff that he couldn't straighten his elbow.

"Our first goal was to try to get his range of motion back, because after the surgery, his elbow was really bent, so we tried to strengthen and just avoid as much pain as we could," explained Blaine Schmidt, a performance coach at the institute who has worked closely with Thomas. "After that, it was trying to get all of his strength back, because he was out for months with almost no physical activity."

Schmidt and Duncan's team studied bareback bronc riding; they combed through videos and took notes of how the body moves on a bucking horse. Then they set to work designing a rehabilitation program tailor-made for Thomas' injuries and his sport.

"We took what us physical therapists and strength coaches know about the biomechanics of other sports and then Anthony walked us through the biomechanics and requirements of his sport and where people get into trouble—what positions and things like that. And so that allowed us to better design his strength and conditioning and his rehab," Duncan said. "It's definitely not something we necessarily study in school."

Riding a bucking bronc bareback takes a huge toll on the entire body. In terms of gravitational force, or G-force, it is comparable to crashing a race car.

The team scrutinized what a bareback rider's back, abs and shoulders need to withstand to sit in the right position—the position that doesn't lend itself to injury. They learned that every time a horse bucks, the rider must let his legs relax, then move his knees up towards his shoulders before snapping his legs down and catching his spurs in the horse to—as Duncan put it—"grip like crazy."

"It looks like they're just getting thrown all around but they're relaxing at the right moments and then snapping back into position," Duncan said. "Anthony would go frame-by-frame with us and explain what he was doing. He'd say, 'I've got to stay on my saddle. I've got to have my elbow tucked in and my shoulder retracted back. I've got to have my wrist here and my chin tucked because if my chin goes back, then my whole body will follow my head and arch back and then the horse will buck. And if I'm not tight through my abs, I'm not ready for the next buck and then I'm out of position and I can't hold on, and then I'm off the horse.'"

In bareback riding, there's no muscle in the body a rider doesn't use, Thomas said. But what has impressed him about Duncan and his team is that they've learned precisely how he should use each muscle to be as well conditioned as possible for competition.

"They've done a really good job helping me out," Thomas said. "And they've done an even better job of learning my sport and studying it every day and learning how my body works for my event and which parts of my body to train in different ways than they would for other athletes." ➡

▶ VISIT [TMCNEWS.ORG](https://www.tmcnews.org) TO WATCH A VIDEO FEATURING ANTHONY THOMAS.





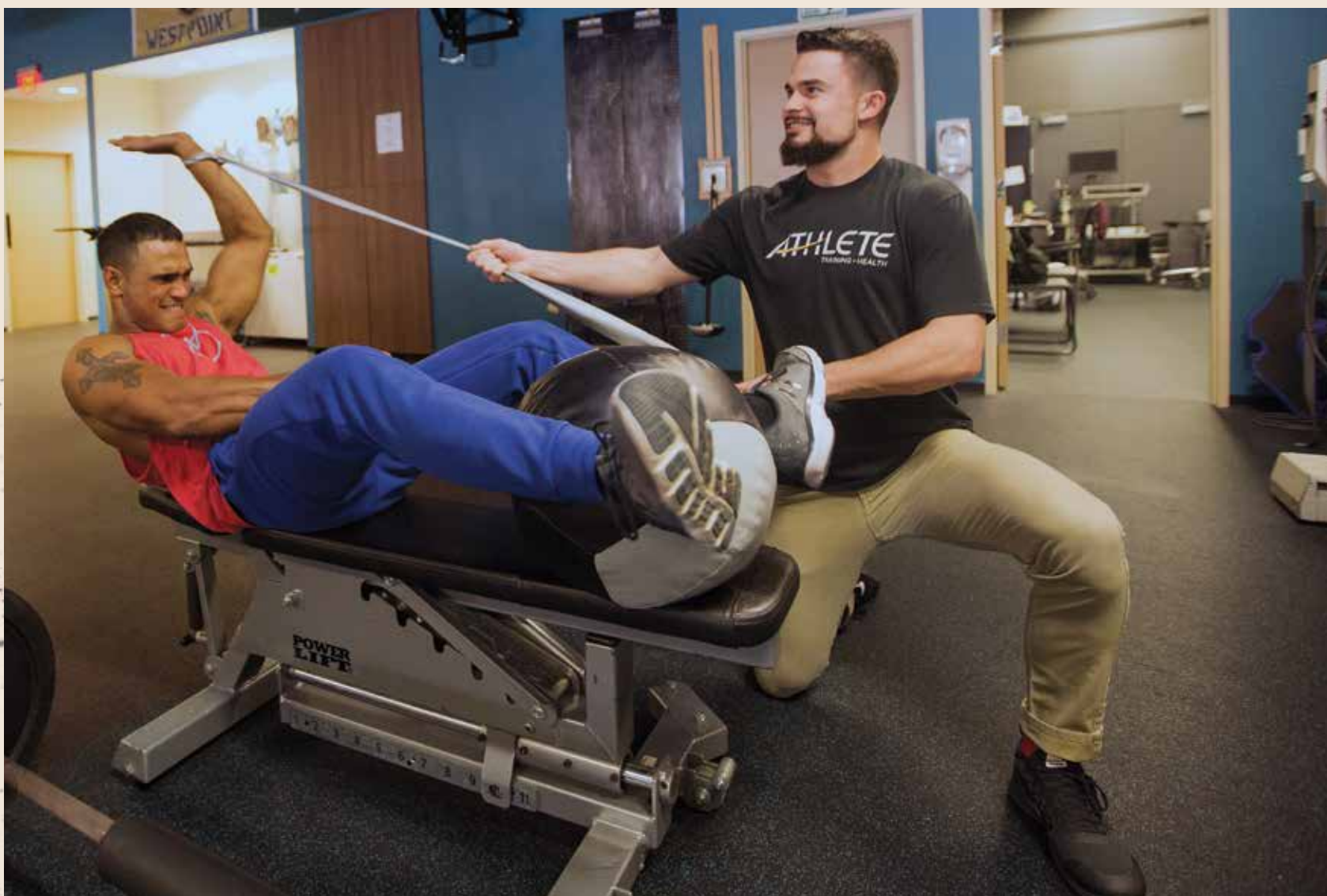
Eight seconds

When he's not riding, Thomas goes to the Human Performance Lab to work out every weekday for hours at a time. He starts with physical therapy to loosen his muscles, a routine that often includes an ultrasound to warm the muscles and a therapy called Graston Technique, which is essentially a deep tissue massage to treat scar tissue. He then focuses on his elbow joint, some lower level strengthening and muscle activation exercises.

When Thomas is finally warmed up, he starts a full-body workout, which often includes incline dumbbell presses, hip thrusters and reverse fly exercises using a resistance band. Many of the unique exercises his trainers created mimic the position of riding a horse, or even being bucked. During one such routine, Thomas will hold a free weight against a towel pressed against his head, then move back and forth exercising the muscles in his neck and shoulders.

"Bareback riding is eight seconds of very high-intensity work, so we have been structuring his program to get progressively more intense. We'll have hard days and easier days and days that really focus on grip strength and days that focus on whole body strength, including a lot of neck and back work," Duncan said. "Anthony also

Left and below: Schmidt guides Thomas through an exercise routine designed to work the same muscles used for bareback bronc riding. Thomas has competed in the Houston Livestock Show and Rodeo for the past three years, but he didn't make the list this year because his injuries kept him from competing enough to qualify. **Facing page:** Thomas preps his saddle and rope before starting work on his horse.



had a couple of hip surgeries he'd never rehabbed—both hips were reconstructed—so we're working on those, too. It's hard to recover in rodeo. You ride and then you're off to the next rodeo, you sleep on the way, then you're riding again."

Duncan and Schmidt monitor Thomas' schedule and progress regularly, even on the weekends when they're not at work. Schmidt has also created a warm-up schedule for Thomas to complete before each competition to reduce the risk of injury and help with soreness and inflammation.

"I used to get much sorer and more inflamed before I did the competition workout he made for me," Thomas said. "We might drive 12 or 14 hours or something and ride a bucking horse and use everything we have and use all our adrenaline and the lactic acid is flowing, and then we have to jump back in the car and sit for another 10 or 12 hours, so you get sore and stiff easily."

It's an incredible amount of strain on a body, but for Thomas, it's worth it.

Growing up in Western Australia, Thomas was first introduced to horse riding when he was 12 years old.

"I kind of had a bit of a rough childhood and I decided to move away from home. I went to agricultural boarding school in the middle of nowhere," he said. "I ended up moving to a cattle station with friends of mine that I went to school with, and we had a lot of wild horses and wild cattle, so I was kind of drawn to the danger of it and I never really got hurt that much and it was something that I just always had a craving for and something I was good at."

He fell into rodeo after that, competing and winning at local competitions. He decided to move to the eastern states in Australia, where the pro-rodeo circuit was and set small goals for himself.

He ended up winning the pro-tour title there in 2011, so he moved to Canada in 2012 and then entered the United States on a sports visa in 2013.

"I've been back and forth for the last six years riding full time on the professional circuit," Thomas said. "I moved to the United States to make the national finals and be a world champion one day."

Despite his injuries, Thomas is more certain than ever that he'll get there.

"I'm definitely more fit and agile and fast and stronger than I've ever been," he said. "These guys went to school to study how the human body works in a performance aspect, and once they put that together with an understanding of the rodeo event that I do, they've helped me target the muscle groups that I need specifically for what I do. There's no amount of training you can do to prepare yourself for a bucking horse—you can't simulate the violence that the bucking horses have toward your body in a gym. You just can't. But what we do in here is we prepare so that I'll have full control over my body so it'll minimize injury."

Maintaining health and fitness year-round is the key to success. In rodeo, the most consistent guys win, Thomas said.

"It's just being flawless in your technique and being able to ride every single kind of horse," he added.

Despite 15 surgeries prior to the last one in Fort Worth, Thomas had never undergone any type of physical therapy before arriving at the IRONMAN Sports Medicine Institute. And that just may hold the key to his championship title.

"I've never rehabbed before in my life," Thomas said one day at the gym.

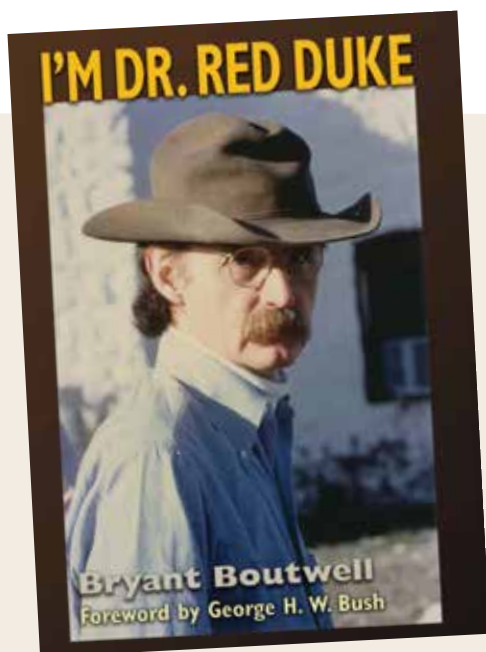
"So he's a true cowboy," Duncan observed. ■



I'm Dr. Red Duke

An excerpt from Bryant Boutwell's biography

The late James H. “Red” Duke Jr., M.D., was a Texas original. A trauma surgeon at The University of Texas Health Science Center at Houston (UTHealth) and Memorial Hermann, Duke also launched Memorial Hermann’s Life Flight program and appeared in a popular nationally syndicated television spot in the 1980s and ’90s. In his recent book, *I’m Dr. Red Duke*, Bryant Boutwell, a former professor at UTHealth’s McGovern Medical School, examines the man behind the legend.



Working with Red Duke always involved a few hidden sermons on patient follow-through and perseverance. More than a few of his surgical students remember his Duke-speak directive: “You take them, you raise them.”

For the students who responded to his stock question, “Who’s the most important person in this OR?” by answering “the surgeon” rather than “the patient,” a reprimand that would make Red’s irascible father proud was soon to follow. Linda Mobley, a veteran nurse who worked beside Red for years, recalls, “I’d see the new residents tell Dr. Duke that the surgeon was the most important person in the room and just cringe behind my mask as he spared no mercy reprimanding [them]. Working with Red was always, without compromise, giving your best and putting your patient first.”

In surgery Red could entertain, teach, and pontificate on the problems of the world without missing a beat on the procedure at

hand. Country music might be playing and the atmosphere relaxed, but he was dead serious when it came to attention to detail.

His Seldin training in internal medicine [Donald Seldin, M.D., was a mentor of Duke’s] married to practiced skills with the scalpel gave him a reputation for saving patients others considered beyond hope. He could bark at a team member and call someone out in strong language when occasion arose, but generally he approached the teachable moment with a constructive message.

Many veteran surgeons marveled at his ability to work long hours, far longer than most. One surgery stands out as his longest—fifty-four hours. “Yes, fifty-four hours without sleep.” The procedure was not typical, fortunately. The victim was a deputy constable serving papers on a member of the criminal element in Houston when things went wrong.

*And somebody shot him right here
with a shotgun [pointing to his belly*



Left: Tank commander Lt. James Duke, Jr., Texas A&M University. **Middle:** Duke and his first wife, Betty, on their wedding day in 1953. **Right:** Duke in surgery.

button]. His belly was full of green stuff. I honestly believe that guy had eaten a quart of guacamole. And it hit the vena cava and his duodenum and pancreas—bad injury. So, hell, what do you do? And then when you have a pancreas and duodenum that messed up, and you take that out—you take out the duodenum, the head of the pancreas, and then you’re supposed to put it all back together so that the bile drains into the jejunum. . . . And because he was so contaminated, I decided to remove his entire pancreas which is not that hard to do, [but] if that connection between the pancreas and the jejunum leaks, you got a mess.

In telling the story Red was lost in the moment, describing intricate details of the epic procedure while simultaneously sketching on a napkin his approach and multiple complications along the way. Clearly he was not going to give up on his patient and did not

(the patient survived, as best he remembered). Why attempt such a long procedure? “Yes, that’s crazy, but there wasn’t anybody else to do it.”

For many procedures, improvisation and bucking the status quo were not out of the question. Afghanistan, the army, and the Boy Scouts had taught him that if you don’t have what you need, you make do. For years Red’s surgical residents would hear him preaching during surgery on the value of leeches and maggots for cleaning wounds and brown sugar to promote healing. One surprised resident was sent from the operating room to the grocery store during a long surgical procedure to buy additional brown sugar. “Brown sugar, not white sugar,” Red yelled out the door as his student headed for the store scratching his head. It worked time after time, and Red rejoiced in proving his point. He also pointed to support in the medical literature for the position that alternative medicine should not necessarily be dismissed out of hand.

Looking back, Red summed up his teaching career with satisfaction. “I’ve had some really great students over the years, and I can proudly say not a one was taught to do half a surgery or to think of anything beyond the patient as the focus of everything we do.” ■

Dwight C. Andrews, McGovern Medical School at UTHealth



Bryant Boutwell reads an excerpt from his book at a UTHealth event.

Obesity's Link to Cancer

Texas has the highest mortality rate for liver cancer in the nation

BY BRITNI R. McASHAN

For years, health officials have warned Americans about the link between obesity and heart disease, diabetes and other chronic conditions. But a lesser known fact is that obesity is also linked to cancer.

Adult obesity rates now exceed 35 percent in seven states, according to the State of Obesity report, an annual collaborative project of the Trust for America's Health and the Robert Wood Johnson Foundation. Texas has the 14th highest adult obesity rate in the country, 33 percent, and the seventh highest obesity rate among 10- to 17-year-olds, 18.5 percent. In a study funded by the American Cancer Society and National Cancer Institute that was published in *The Lancet* journal in early February, researchers also found that the risk of obesity-related cancers was significantly higher for young adults than the elderly.

“The liver is a very resilient organ. It has a huge amount of reserve, which means that one can lose 80 to 90 percent of liver function without showing any signs or symptoms.”

— HASHEM B. EL-SERAG, M.D.

Director of the Texas Medical Center Digestive Diseases Center and chair and professor of the Margaret M. and Albert B. Alkek Department of Medicine at Baylor College of Medicine

“Obesity and obesity-related cancers are a major problem not only in Texas, but around the country, because the obesity epidemic has skyrocketed,” said Kent Osborne, M.D., director of the Dan L Duncan Comprehensive Cancer Center at Baylor College of Medicine. “The two that are most concerning here—they are still a little bit uncommon, but they are the most rapidly rising

cancers in Texas and nationally—are liver cancer and esophageal cancer.”

Texas has become the state with the highest mortality rate for liver cancer in the nation.

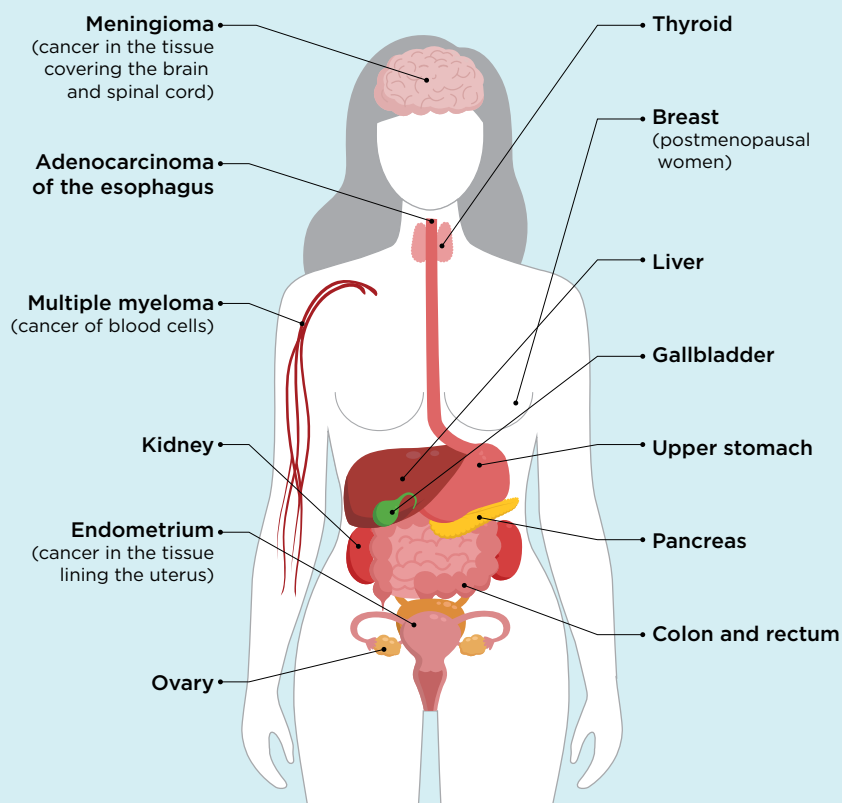
“Several pockets around Texas, particularly border counties, have some rates that rival those of China. China has the highest rates of liver cancer in the world,” said Hashem B. El-Serag, M.D., M.P.H., director of the Texas Medical Center Digestive Diseases Center and chair and professor of the Margaret M. and Albert B. Alkek Department of Medicine at Baylor College of Medicine.

Recent data from the Texas Cancer Registry found that the incidence of liver cancer was 65 percent higher in the Houston metropolitan area compared to the nation overall. Every racial-ethnic group included showed higher incidence of liver cancer compared to their counterparts around the country.

“We compared all of the rates from the Houston metropolitan area to the U.S. and we looked at trends and what has changed over time,” said Melissa Bondy, Ph.D., associate director of cancer prevention and population sciences at the Dan L Duncan Comprehensive Cancer Center. “We were interested in obesity because we know that obesity is a problem in our catchment area and it is related to multiple cancers. It is also a significant source of other chronic diseases.”

Because Texas is a multiethnic, multicultural state, the study was able to shine a light on the risk of liver cancer in different populations. Latinos, particularly in south Texas, have become the group with the highest risk of developing liver cancer, according to El-Serag.

CANCERS ASSOCIATED WITH OBESITY



Source: Centers for Disease Control & Prevention

“Not only does Texas lead the nation, but south Texas Latinos lead Texas in the risk of liver cancer,” El-Serag said. “The question is why and theories are abounding. We believe it is a combination of multiple risk factors led by obesity and diabetes, both of which increase the risk of fatty liver which alone can cause liver cirrhosis and liver cancer, but also worsens the impact of other factors like hepatitis and alcohol drinking.”

El-Serag’s research has been funded by the Cancer Prevention Research Institute of Texas. He’s also part of the Texas Hepatocellular Carcinoma Consortium, founded in 2015. Together, investigators in Houston, Dallas, San Antonio and the Rio Grande Valley have assembled a large representative cohort of patients with cirrhosis—the condition that predisposes to liver cancer—to examine risk factors and the biomarkers related to the development of liver cancer. The group is looking at these risk factors with a special emphasis and focus on obesity and the related metabolic factors, such as diabetes, high triglycerides and insulin resistance.

“It is estimated that one in four adults in the state of Texas would have fatty liver disease and, among Latinos, it is estimated that one in three adults would have fatty liver disease,” El-Serag

said. “It is quite common and we don’t know the risk of progression from this very common disease to liver cancer. We have a disease that impacts virtually a third of adults. What makes some of them progress to complications of cirrhosis and liver cancer?”

Importantly, liver cancer does not present with obvious symptoms until the disease has progressed substantially.

“The liver is a very resilient organ. It has a huge amount of reserve, which means that one can lose 80 to 90 percent of liver function without showing any signs or symptoms,” El-Serag said. “When symptoms arise, it is typically too late—these symptoms include jaundice, edema, generalized fatigue, muscle weakness, spontaneous bleeding. The early manifestations are best detected through biochemical testing.”

The Dan L Duncan Cancer Center treats patients from Texas Children’s Hospital, Ben Taub Hospital, the Michael E. DeBakey VA Medical Center, Houston Methodist Hospital and CHI St. Luke’s Health. In addition to the alarming liver cancer rates across Texas, researchers have noticed upward ticks in other cancers in the Houston area, too.

“One is breast cancer, for which obesity is a

risk factor, and particularly for triple-negative breast cancer in African-Americans—that is a more aggressive type of breast cancer,” Osborne said. “Prostate cancer in African-American men is problematic and aggressive. Another cancer that is increased with obesity is pancreas cancer.”

Osborne is also deeply concerned about the rise in esophageal cancer.

“Esophageal cancer, cancer of the distal esophagus, is the most rapidly growing cancer in white males because of abdominal obesity,” he said. “The beer belly, if you will, pushes on the stomach and the stomach juices and the gastric acid refluxes back into the esophagus and burns it.”

To properly address these cancers, doctors know tackling the obesity crisis is essential.

“One of the ways to reduce these cancers is to reduce the obesity epidemic and find ways of beating obesity that can range from behavioral science all the way up to surgery that results in weight loss,” Osborne said. “We cover the whole waterfront in the obesity epidemic and, last year, we put all of these people together in a unified program at the cancer center called the Obesity Working Group, where they can collaborate and address the problem from different angles.” ■



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A New Mogie in the House

Ronald McDonald House Houston welcomes an apricot Labradoodle puppy

BY CINDY GEORGE

There's been a "passing of the bone" for Mogie, the mascot and most famous resident of Ronald McDonald House Houston. Now retired to life in a private home, he has bestowed his responsibilities upon a new house dog.

The golden-locked Australian Labradoodle, who spent a decade comforting young patients and their relatives, made his final appearance as a mascot at the Trafigura Run for the House on Dec. 1, which coincided with his 10th birthday weekend. In February, he met the new Mogie—an apricot Labradoodle puppy born in July 2018—for a playground photo shoot with their benefactors, Louis and Marilyn Mogas.

The couple won the silent auction for the first Mogie at a Ronald McDonald House Houston fundraiser in 2009. Last October, they won the silent auction for the second Mogie at the organization's Boo Ball gala.

The idea for a house dog came from a former Ronald McDonald House Houston CEO who wondered how having a pet at Holcombe House, the organization's temporary residence for sick children and their families, would improve the experience for guests. Around the same time, Marilyn Mogas, a longtime volunteer and her husband,

Louis, founder and chairman of Mogas Industries, stayed at the Fairmont Copley Plaza Hotel in Boston, which has its own canine ambassador.

Investigating options for a non-shedding dog of the right size and temperament led to a search for a cross between a Labrador retriever and a poodle. A call to Lone Star Labradoodles was returned by Lanie Smith, who had experienced long days and nights in hospitals with an ill child.

"My oldest son had cancer. We battled it for eight years and spent a lot of time up at the Texas Medical Center," Smith said.

When that call inquiring about a dog came in 2008, she quickly decided to donate.

"I'm an animal lover. You'll be in the waiting room and clowns will come in or people come in and do crafts, but I wanted to see a dog. I never saw a dog," said Smith, who lives in The Woodlands. "I knew dogs came into the hospital for therapy work. That's what would have made me feel better."

Her son passed away in 2010 at age 20.

Mogie the friend and celebrity

Mogie quickly became Ronald McDonald House Houston's most popular amenity.

"He's touched a lot of lives," said Marilyn Mogas, a board member and past president who started volunteering at the house three decades ago with Houston Junior Woman's Club.

Bringing a furry bundle of personality to the Houston facility has been transformational for the Mogas family.

"Most likely it's the most wonderful experience we've ever had," Louis Mogas said, as his face reddened and his eyes welled with tears. "The whole place lights up and everybody wants the dog to sit on their lap."

Mogie's care has been a family affair.

"Our daughter is a veterinarian and so she has taken care of him over the years," Marilyn Mogas said.

On his recent visit, Mogie did not forget to comfort guests or to indulge in some treats brought by volunteer Laura Hopeck.

Mogie's departure coincided with the expansion and renovation of Holcombe House, the flagship facility of Ronald McDonald House Houston. Holcombe House reopened in late 2018 with 20 new bedrooms, bringing the total to 70.

Marilyn Mogas also served on the committee tasked with finding a new dog, but members agreed to keep the name.

After winning the auction in 2009 with a bid of \$40,000, which helped cover the care and feeding of Mogie for a decade, the Mogas bid prevailed again last year for \$60,000.

Smith stepped up again by donating another dog.

The new Mogie, whose rambunctious nature signifies his age, took over duties at the house in November. He exercises his bark, as puppies do, but training is expected to reduce that inclination.

After the February photo shoot, a boy in a wheelchair was surprised to see both Mogies scamper into the building, though his comment was doubly meaningful: "I want Mogie."

That energy motivates sad, fearful or exhausted children to move, to play and to be happy.

Regardless of generation: Mogie is in the house. ■



The 10-year-old Mogie, right, who retired in 2018, returned to Ronald McDonald House Houston in February for a photo shoot with the new Mogie, left.

Credit: Marc Morris, Ronald McDonald House Houston



Does a new Alzheimer's study hold the secret to early diagnosis?

Early detection of Alzheimer's would be the holy grail for aging Americans, as one in 10 people age 65 and older is afflicted with the degenerative brain disease. After decades of costly clinical trials, however, Alzheimer's research remains riddled with setbacks and failures.

But in February, researchers in Europe and Australia published a study in *Science Advances* that showed 10 different plasma proteins helped determine which people are likely to develop Alzheimer's. Individuals with high levels of beta-amyloid in their brains—a protein fragment that accumulates and kills brain cells—were classified as having preclinical Alzheimer's.

The study, which compared 238 cognitively healthy individuals, offers a glimmer of hope in a field with no survivors.

How could this study improve the detection and treatment of Alzheimer's in the future?

Previous generations assumed that if individuals were cognitively unimpaired, they didn't have beta-amyloid in their

brains. However, positron emission tomography (PET) scans debunked that notion. Researchers can now capture high-quality images of amyloid plaques in the brain and show the presence of beta-amyloid even in the brains of cognitively healthy patients.

Currently, scientists use PET imaging and cerebrospinal fluid to identify biomarkers in the blood for Alzheimer's. However, PET imaging is highly expensive and is only available at specialized centers. Spinal taps to extract cerebrospinal fluid, though less expensive, are extremely painful for patients.

A blood test to screen for preclinical Alzheimer's—much like routine blood tests to measure cholesterol or glucose levels—could be inexpensive and widely available.

"It would be nice if we could draw a blood test when you're 50 or 60, monitor you every five years, be alerted of your amyloid levels, and [prescribe] a pill or infusion that's going to help stave off Alzheimer's," said Joseph Shimon Kass, M.D., director of neurology at Baylor College of Medicine's Alzheimer's Disease and Memory Disorders Center.

"We're nowhere near that, but this study brings us closer to that possibility."

Given that biological changes occur in the brain 10 to 20 years before there are any clinical symptoms of Alzheimer's, early detection could also help alleviate the economic burden the disease weighs on the health care system.

"Financially, if all Americans today who have Alzheimer's or who will get Alzheimer's were diagnosed in the mild cognitive impairment stage (before they develop full-blown dementia), it could collectively save up to \$7.9 trillion in health and long-term care cost," said Julie Kutac, Ph.D., professional education and research specialist at the Alzheimer's Association's Houston & Southeast Texas Chapter.

How is the new blood test different?

Researchers claim that theirs is the first study to consistently use non-targeted techniques to analyze any protein that could potentially serve as a biomarker throughout the different phases of testing. Instead of searching for specific proteins researchers

believe are associated with Alzheimer's, a non-targeted approach can measure many more proteins. Scientists found 560 proteins associated with beta-amyloid pathology, then narrowed it down to 10 proteins that helped them determine which cognitively unimpaired individuals in the study had high enough levels of beta-amyloid in their brains to qualify as preclinical Alzheimer's.

What are the caveats of the new study?

This test "probably has some value," said Joseph C. Masdeu, M.D., Ph.D., director of the Houston Methodist Nantz National Alzheimer Center, but additional studies with larger sample groups will need to be performed to validate these claims.

The European group consisted of 59 participants who were beta-amyloid negative and 35 who were beta-amyloid positive. The Australian group consisted of 100 participants who were beta-amyloid negative and 44 who were beta-amyloid positive.

Although the test had an overall accuracy of 89 percent and positive predictive value (meaning the chances that a patient receives a positive result) of 85 percent, the test groups were too small to make any profound pronouncements.

Nonetheless, this study is a step in the right direction.

"Research on this disease is moving faster now than ever before," Masdeu said. "The data is coming in very quickly and, with it, the hope that we will very soon have something that we can offer our patients as a treatment." ■

Replacing a Pill with an App

Digital therapeutics could be part of your doctor's next prescription

BY SHANLEY PIERCE

On Aug. 25, 2017, Elizabeth Newlin, M.D., watched from her office window as rain engulfed the city. She was part of The University of Texas Health Science Center at Houston (UTHealth) ride-out team during Hurricane Harvey, the catastrophic storm that unleashed more than 50 inches of rain over six days, displacing more than 30,000 people and prompting more than 17,000 rescues.

"We knew after a disaster of that magnitude there would be an increase in demand for mental health care. At the same time, we knew that resources were already limited," said Newlin, who serves as the associate executive director at UTHealth's Trauma and Resilience Center. "Many people lost their cars, for example. Transportation to get to appointments became more of a challenge. ... In the immediate hours and days following the storm, I started thinking, 'Wow, we're going to need to really think about how to triage and reach people in innovative ways because the needs are going to be overwhelming.'"

In response to the mental trauma left in Harvey's wake, Newlin spearheaded an effort to create an app for mobile devices that would provide patients with the same psychiatric support they would receive in the clinic.

UTHealth partnered with Magellan Health to create the On to Better Health app, which officially launched in January 2019. The app, which is available to all UTHealth Trauma and Resilience Center patients free of charge, offers six different programs: MoodCalmer for depression, which helps break the cycle of negative thinking; FearFighter for anxiety, panic and phobias, which helps users confront and change their thoughts; ComfortAble for chronic pain; Restore for insomnia and sleep problems; OCFighter for obsessive compulsive disorder; and Shade for alcohol and substance abuse. Each module contains between 4 and 10 sessions that last from 25 to 50 minutes.

"It's not unusual for me to recommend an app to one of my patients," Newlin said. "There's an app for just about everything now."

The app has undergone 12 clinical trials and covers the selected conditions because of their prevalence among the adult population, said Summer Danner, program coordinator at UTHealth.

"These conditions are present in over 25 percent of all adults and make up 90 percent of behavioral health complaints," Danner said.



Credit: Xiaomeng Yang

The app uses cognitive behavioral therapy (CBT), which is considered the gold standard of psychotherapy for treating a wide range of mental health issues. Experts tout it as an extremely effective, evidence-based intervention for psychological disorders without a high price tag or potential side effects from psychotropic drugs (including antidepressants, antipsychotics and mood stabilizers), which work by influencing the neurochemicals that regulate emotions and thought patterns.

"CBT is a type of talk therapy that helps people identify and develop skills that help them change their negative thought patterns and behaviors," Newlin explained. "By changing their negative or distorted thoughts or behaviors they've developed over time as a result of living with pain, for example, they can change their awareness and develop better ways to cope with that pain—even if their actual physical level of pain stays the same. In other words, the focus can shift from 'I have to get rid of this pain. I have to stop this pain' to 'How can I live more effectively and experience my life differently despite this pain?'"

A spoonful of software

UTHealth's On to Better Health app is just one example of a new, emerging trend in medicine called digital therapeutics.

"[Digital therapeutics] is a digital product delivering an intervention to a patient with a goal of preventing, managing, or treating a disease and optimizing medication," said Megan Coder, executive director of the Digital Therapeutics Alliance, a non-profit trade organization.

Delivering personalized medicine with a few taps and swipes on patients' smartphones is the next medical frontier.

According to McKinsey & Company, a global management consulting firm, there are two types of digital therapeutics: digital companions, used to augment treatments along with a health care provider; and replacement therapies, which—as the name suggests—potentially replace traditional pharmaceutical drugs.

Much like UTHealth's On to Better Health app, the U.S. Department of Veterans Affairs (VA) developed several digital



companion apps for veterans suffering from post-traumatic stress disorder (PTSD), substance abuse, anger management and concussions, to use in conjunction with a health care professional. The VA's PE Coach app uses prolonged exposure to teach veterans how to confront PTSD-related memories, fears and situations. Using the app, patients can record their PE therapy sessions, track PTSD symptoms and access homework and exercises to decrease anxiety.

But can software code replace pharmaceuticals?

One digital therapeutic that replaces a drug is Akili Interactive's video game to treat children with autism spectrum disorder (ASD) and attention deficit-hyperactivity disorder (ADHD). While antipsychotic drugs and stimulants are used to treat ASD and ADHD, respectively, Akili's video game uses software as a primary treatment. The game targets specific cognitive neural systems in the brain to deliver sensory and motor stimuli. As the child plays the game, the program trains the brain to filter out distractions, focus on multitasking and improve memory.

"We're always looking for drug alternatives—things that will reduce the risk of adverse effects or long-term effects that medications are having on patients that we still don't necessarily know a lot about, particularly in the mental health space," said Lance Black, M.D., associate director of the TMC Innovation Institute. "There are mechanisms of action that we don't quite understand how these drugs are working, quite frankly, when it comes down to the biochemical processes. We just know that they have positive effects on some patient populations. But it's always concerning when there are questions around what else the drug is doing—not just immediate adverse effects, but long-term. Is it changing the neurochemistry? Is it causing things that we won't recognize until five, 10, 15 years later?"

Not to be confused with health and wellness apps

Digital therapeutics shouldn't be confused with apps like FitBit or Calm, the meditation and relaxation tool. Unlike the 320,000-plus health and wellness apps flooding the marketplace, such as sleep trackers and fitness guides, digital therapeutics sets itself apart by conducting pre-market randomized clinical trials to demonstrate a very real and measurable clinical value.

"Health and wellness products are fantastic," Coder said. "But digital therapeutics are assumed to be in that health and wellness space only, so they may not be given the recognition they need. ... This is not just an app. This is a health care delivery tool that is as clinically validated as should be expected."

Education is one of the biggest issues facing digital therapeutics.

"Trying to convey to patients, providers and payers and regulatory agencies what these are and what these are not is really important," Coder said. "It's going to be a shock for providers and patients when these are prescribed."

In addition, technology advances faster than regulators can keep up.

"Historically, health care has been slow to implement disruptive technology tools that have transformed other areas of commerce and daily life, such as ride-sharing apps and virtual home assistants," said Bakul Patel, associate director for digital health at the U.S. Food and Drug Administration's (FDA) Center for Devices and Radiological Health. "These digital health products are creating an opportunity for medicine and health care to reach patients outside the clinic and deliver therapies that can be personalized to the individuals. One factor that can allow this potential to be realized, among many, is the regulation that accompanies medical products." ➡

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In 2013, a group of global medical device regulators formed the Software as a Medical Device Working Group to develop policies and a common framework for this new and nebulous application of existing technology. Chaired by Patel, the group established key definitions, framework for risk, and more.

Since then, the FDA has taken steps to encourage more development and greater innovation in the digital health arena. In 2017, the agency launched the Digital Health Innovation Action Plan to establish policies, add expertise and implement a software precertification pilot to bring clarity and efficiency to the regulation of digital health products.

Investors poured a staggering \$12.5 billion into digital health ventures in 2017 and 2018—representing a 230 percent increase in investments compared to 2013 when Software as a Medical Device was formally introduced, according to PricewaterhouseCoopers Health Research Institute's annual report.

In many ways, this sets up 2019 as a pivotal year for digital therapeutics. While there are already several apps that have been cleared by the FDA—among them, Pear Therapeutics' opioid use disorder treatment program reSET-O and WellDoc's mobile diabetes management platform BlueStar—the massive injection of money into digital health has lit a fire under the FDA.

In January 2019, the FDA announced the Digital Health Software Precertification (Pre-Cert) Program test plan, part of the Digital Health Innovation Action Plan, to establish a regulatory framework for evaluating new digital health products.

"Our approach to regulating these novel, swiftly evolving products must foster, not inhibit, innovation," Patel said. "This requires us to take modern, flexible, risk-based approaches to regulation in this area, which we hope will reduce the time and cost of market entry, while assuring appropriate patient safeguards are in place."

David versus Goliath

Digital therapeutics tout a variety of benefits. These apps eliminate the physical barriers of accessing health care, minimize the risk of side effects from drugs and can track and generate real-world patient results and data—all while driving down health care costs.

Sleepio, Big Health's CBT app to treat insomnia, costs about \$400 a year, whereas Ambien, a prescription sedative often prescribed for sleeping disorders, costs \$73 for six tablets, according to *MIT Technology Review*. And instead of paying \$63 for a 30-tablet Xanax prescription, UTHealth's On to Better Health app offers anxiety treatment for free. Studies conducted by Magellan Health showed that patients who used the On to Better Health app experienced a 63 percent reduction in symptoms and a 49 percent reduction in direct costs.

Yet digital therapeutics start-ups must be prepared to face off against the pharmaceutical industry in a David-versus-Goliath battle.

"When drug companies start to compete against things like digital therapeutics, watch out because it's a huge industry," Black said. "They not only have the money, they have the influence, the power, the downstream assets—everything a company that's new and up-and-coming will have difficulty struggling against."

Black, who has shepherded dozens of start-ups through the TMCx accelerator, said digital therapeutics companies need to accept a "cold dose of reality."

"What I think people oftentimes fail to see, especially in the health care industry, is that even though you're better, it doesn't mean you're going to get the lion's share of the market," Black said. "If you discover a medication, for instance, that's better than the current standard of care, it's really challenging to be able to get that market share to sustain that company. Digital therapeutics faces that same challenge. They could be better than an antidepressant medication, for instance, but they're going up against large companies that have an established base and have millions of patients." ■



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Seeking Nature in the Hospital

Real and virtual green space could improve patients' lives

BY BRITNI R. McASHAN

For years, dietitian Renee Stubbins, Ph.D., and oncology infusion nurse liaison Ashley Verzwylt have dreamed of transforming an unused rooftop space at Houston Methodist Hospital's outpatient center into a lush therapeutic garden for patients.

"When I first started here six years ago, I saw these signs all over saying there was a rooftop garden on the 21st floor," said Stubbins, a senior research oncology dietitian. "I was really excited and then I found out that there is no garden there—it's just a big open space."

Stubbins and Verzwylt work with cancer patients at Houston Methodist's infusion center, where some patients will spend up to eight hours a day receiving chemotherapy. Both women have a bit of a green thumb and hoped a garden could reduce their patient's pain and stress.

"Oncology patients are in chronic pain. Some of our patients are veterans, on Medicare, they are already stretched thin," Stubbins said. "To get pain medication, it might mean another co-pay for them. They will have to physically go get the prescription in person and they might have transportation issues. There are so many barriers and many of our patients want alternatives."

Last Fall, Stubbins and Verzwylt submitted a proposal for the rooftop garden to the Center for Health & Nature, a new center housed at Houston Methodist that is anchored by the belief that nature is essential to healing and well-being. The center is a partnership between Houston Methodist, Texas A&M University and Texan by Nature, a nonprofit conservation group founded by former first lady Laura Bush.

Stubbins and Verzwylt wanted to find out if access to a garden would improve their patients' hospital experience, but the committee overseeing the proposals wanted the duo to expand their research beyond literal greenery. The committee introduced Stubbins and Verzwylt to two virtual reality experts: Ann McNamara, Ph.D., associate professor and associate head of the department

of visualization at Texas A&M, and Xiaohui Xu, Ph.D., department head and associate professor of epidemiology and biostatistics at the Texas A&M School of Public Health.

"At first, I was a little skeptical because I thought the whole point was to get people outside," Stubbins said, "but Dr. McNamara brought up the fact that many people can't go outside and not all of our rooms have windows. So why not bring nature indoors through virtual reality?"

McNamara designed a virtual reality program with a 360-degree view of any number of landscapes—a beach, a waterfall, a forest, and so on. Each interactive landscape will be paired with sounds to fully immerse the patient in the experience of nature while sitting in a hospital room.

"It is heartbreaking to see a patient in pain and all you can do is tell them to try this or that or tell them to speak with a social worker," Stubbins said. "There are so many hoops to jump through."

If funded, Stubbins and Verzwylt's team will conduct a six-cycle trial with 35 oncology patients suffering from different types of cancers. Each patient will have two visits to three different rooms while receiving regular chemotherapy treatments: a room with a view of the proposed rooftop garden; a control room with no windows; and a room where the patient will experience nature via the virtual reality headset. The team plans to examine each patient's pain scale, distress scale, saliva cortisone levels, heart rate and blood pressure to see if having some interaction

with nature improved his or her experience.

The study would be reviewed by the Institutional Review Board and fully disclosed to all patients participating.

At the Center for Health & Nature's inaugural symposium in February, Stubbins and Verzwylt were among the finalists who pitched their proposal to the audience, which included researchers, doctors, wildlife experts and Laura Bush.

"Like many of you, I was inspired by the conservationists and naturalists in my life, including my mother-in-law [Barbara Bush] who was proud of her cottage garden in Kennebunkport, Maine," Bush said to the symposium audience in February. "In Midland, I learned to enjoy the outdoors from my mother who, if she was not reading, could be found outside. My mother was a knowledgeable, self-taught naturalist who remembered the name of every wildflower and was passionate about birds."

Bush went on to say that the individuals in attendance at the symposium were leaders in their communities who could help prove "that the connection between health and nature truly makes people happier, healthier and more prosperous."

Stubbins was heartened by the opportunity to pitch the proposal. She should hear about funding on April 30.

"If we get funded—hopefully, we do—it will be a year-long project," she said. "We had several people come up to us at the symposium and

offer their help, so hopefully we will get it. But either way, we have ignited a flame and we will pursue it and make it happen for our patients." ■



1 | Texas Children's Hospital employees Dan DiPrisco, executive vice president; Mary Jo Andre, senior vice president and chief nursing officer; Manisha Gandhi, M.D.; David Muigai, M.D.; Michael Belfort, M.D., Ph.D., OB-GYN-in-chief; Nan Ybarra, R.N., director of inpatient services; Liz Bold, R.N., assistant clinical director of inpatient nursing; and Lynda Tyer-Viola, R.N., director of nursing at the Pavilion for Women, celebrated the opening of a four-bed maternal intensive care unit at **TEXAS CHILDREN'S PAVILION FOR WOMEN**—the only one of its kind in the state—with a ribbon-cutting ceremony.



1

2 | **MARK TORRES, PH.D.**, assistant professor of Earth, environmental and planetary sciences at Rice University, was one of two Rice faculty members selected as a 2019 Alfred P. Sloan Research Fellow. **MING YI, PH.D.**, assistant professor of physics and astronomy, was selected for physics. The two-year, \$70,000 fellowships seek to stimulate fundamental research by early-career scientists and scholars.



2

3 | **HELEN COHEN, ED.D.**, professor of otolaryngology – head and neck surgery at Baylor College of Medicine, received the Award of Merit from the Texas Occupational Therapy Association.



3

4 | **KATHY ERDMAN**, a Distinguished Fellow of the American Academy of Physician Assistants, has been named director of the Physician Assistant Program in the School of Health Professions at Baylor.



4

5 | A rendering of The Ion shows a transformation of the historic Sears building on Main Street into a centerpiece for a new innovation district, slated to be completed in late 2020. The Rice Management Company, which manages the **RICE UNIVERSITY** endowment, is spearheading the project. A network of the area's institutions of higher learning—including Rice, the University of Houston, UH-Downtown, the University of St. Thomas, Houston Community College, Texas Southern University, Houston Baptist University, San Jacinto College and the South Texas College of Law—will provide programming within The Ion. Station Houston, a technology accelerator that has partnered with the **TMC INNOVATION INSTITUTE** to support local entrepreneurs, will oversee public programming.



5

Credit: Nos. 2, 3, 4, 6, 7, 9, 10, 11, courtesy photos; No. 1, Paul Vincent Kuntz, Texas Children's Hospital; No. 5, SHoP Architects/James Carpenter Design Associates; No. 8, Jason Hinestroza



6



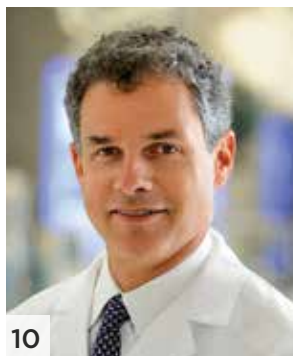
7



8



9



10



11



12

6 | ANNA MESSNER, M.D., has been named chief of otolaryngology at Texas Children's Hospital. Previously at Stanford University Medical Center and Lucile Packard Children's Hospital Stanford, Messner is president-elect of the American Society of Pediatric Otolaryngology.

7 | PATRICK BROWNING, J.D., a department administrator for The University of Texas MD Anderson Cancer Center department of neurosurgery, was recently named a Fellow of the American College of Healthcare Executives.

8 | Astros second baseman TONY KEMP speaks with patient Gracie about her rehabilitation at **SHRINERS HOSPITALS FOR CHILDREN - HOUSTON**.

9 | Baby Micyah Jimenez, a CHILDREN'S MEMORIAL HERMANN HOSPITAL patient, received a red hat made by one of the many volunteers for the American Heart Association who celebrated American Heart Month by knitting and crocheting red hats for babies born in February. Children's Memorial Herman participated in the Little Hats, Big Hearts program, which raises awareness of heart disease, the number one killer of Americans, and congenital heart defects, the most common type of birth defect in the country.

10 | TODD ROSENGART, M.D., chair and professor of the Michael E. DeBakey Department of Surgery at Baylor, was named the 2018 president of the Society of Surgical Chairs, a managed program of the American College of Surgeons.

11 | KJERSTI AAGAARD, M.D., PH.D., the Henry and Emma Meyer Chair in Obstetrics and Gynecology at Baylor, has been honored with a 2018 Nature Award for Mentoring in Science. With the prize money, she will establish the Aagaard Research Mentorship Award in Pregnancy and Women's Health.

12 | THE TMC INNOVATION INSTITUTE welcomed 21 digital health companies into its eighth accelerator cohort on February 11. The companies were selected from more than 150 digital health applications.

Do you have TMC photos you would like to share with *Pulse*?
Submit high-resolution images to: news@tmc.edu



March 2019

3/7

Procedural Medicine in the Digital Age

French American Innovation Day

Thursday, 7 a.m. – 7 p.m.

Texas Medical Center Innovation Institute

2450 Holcombe Blvd., Suite X

Register at eventbrite.com

faidhouston2019@ambascience-usa.org

3/14

Hypertension Guidelines

Heart and Vascular Center Grand Rounds

with Robert Phillips, M.D., Ph.D.

Thursday, 8 – 9 a.m.

Houston Methodist Hospital

Dunn Rio Grande

6565 Fannin St.

tbarsamian@houstonmethodist.org

346-238-5391

3/19

Surgical Advances from War Experience

History of Medicine lecture series

featuring Kenneth Mattox, M.D.

Tuesday, noon – 1 p.m.

Baylor College of Medicine

Cullen Auditorium

1 Baylor Plaza

bridget.angel@bcm.edu

713-798-6590

3/21

Building and Repairing the Heart: Coronary Artery Development and Regeneration

James T. Willerson, M.D., Cardiovascular

Science Seminar with Kristy Red-Horse, Ph.D.

Thursday, 4 p.m.

Texas Heart Institute

6770 Bertner Ave.

vsweed@texasheart.org

832-355-9144

3/25, 27-29

Special Performances in honor of National Physician's Week

Houston Methodist Center for

Performing Arts Medicine

Monday, Wednesday, Thursday and Friday, 11 a.m.

Houston Methodist Crain Garden

6565 Fannin St.

mjgallop@houstonmethodist.org

713-394-6088

3/26

Social Determinants of Health

Texas Medical Center Health Policy Course

Tuesday, 5:30 – 7 p.m.

Third Coast Restaurant

6550 Bertner Ave.

Free; registration encouraged

To register and view a live stream of the event:

www.tmc.edu/health-policy/course/

rholewell@tmc.edu

713-791-8809

For more events, visit TMC.edu/news/tmc-events

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PRECONCEPTION AND PRENATAL HEALTH:

Integrate best practices for preconception health care and counseling into preventive medical checkups.

Content on the Texas Health Steps Online Provider Education website has been accredited by the Texas Medical Association, American Nurses Credentialing Center, National Commission for Health Education Credentialing, Texas State Board of Social Worker Examiners, Accreditation Council for Pharmacy Education, UTHSCSA Dental School Office of Continuing Dental Education, Texas Academy of Nutrition and Dietetics, Texas Academy of Audiology, and the International Board of Lactation Consultant Examiners. Continuing Education for multiple disciplines will be provided for some online content.



Vanderbilt

West University, \$4.6+ mil.
Cathy Blum, 713.320.9050



Pine Valley

River Oaks, \$2.8+ mil.
Colleen Sherlock, 713.858.6699



Del Monte

River Oaks, \$2.7+ mil.
Mary Hale McLean, 713.553.4255



Aberdeen Way

Braes Heights, \$2.4+ mil.
Jan Yardley, 713.882.1885



Long Timbers

Hunters Creek, \$2.3+ mil.
Sharon Ballas, 713.822.3895



Sheridan

Rice/Museum District, \$2.2+ mil.
Amy Johnson, 832.541.4805



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