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NEWS OF THE TEXAS MEDICAL CENTER — VOL. 4 / NO. 6 — AUGUST 2017

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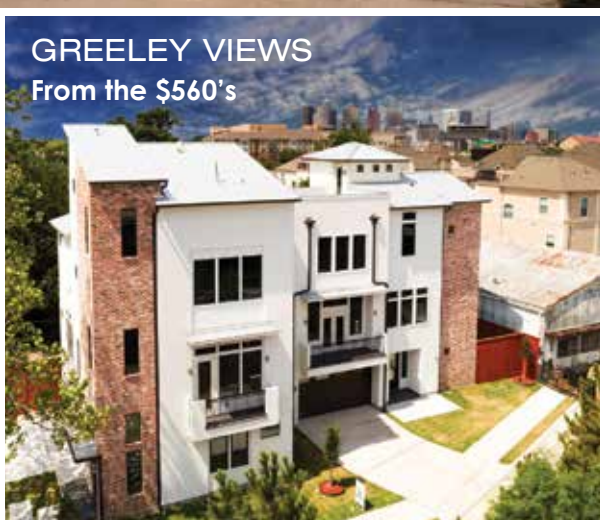
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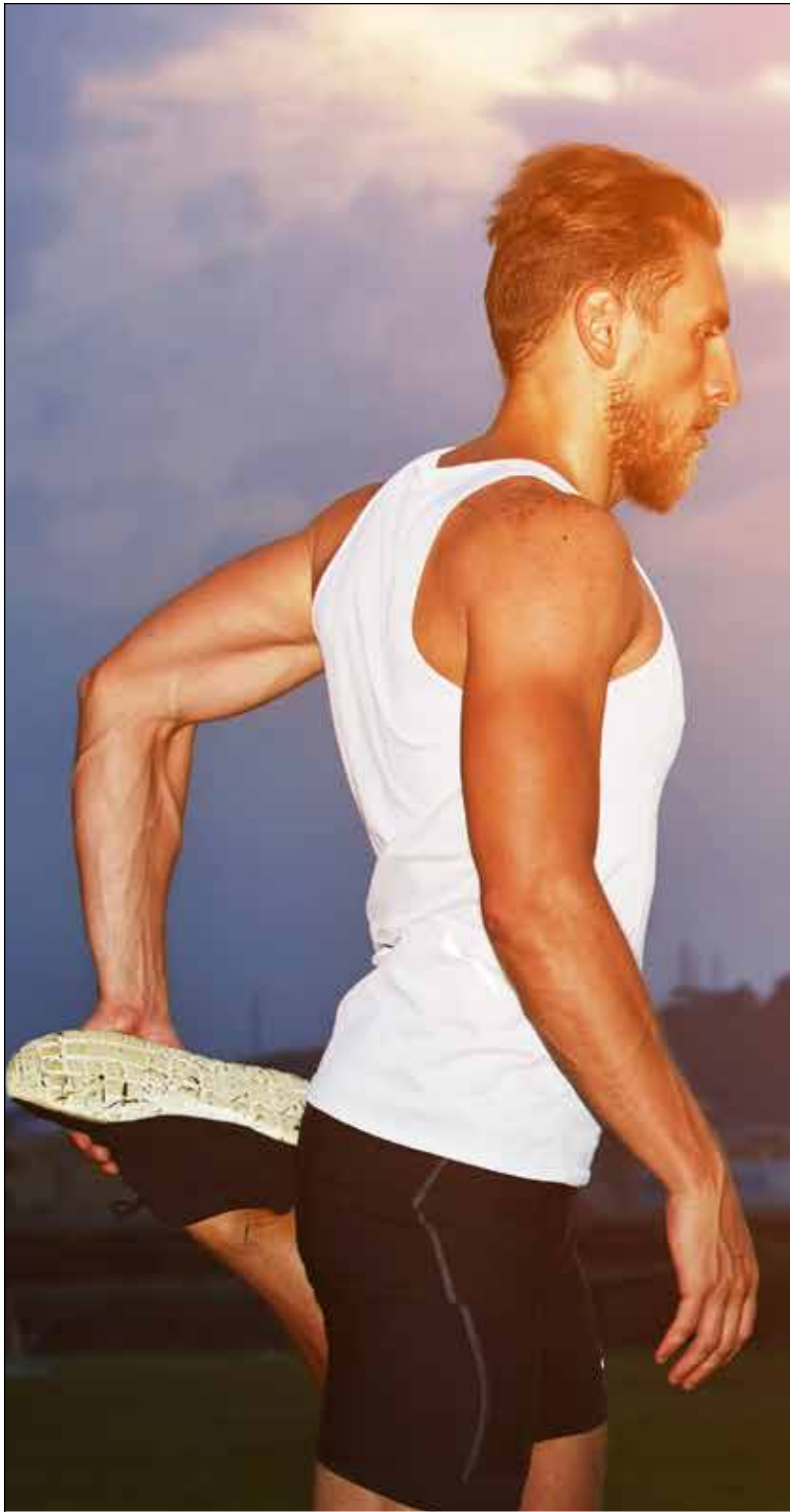
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WILLIAM F. McKEON

President and Chief Executive Officer, Texas Medical Center

Those of us who live and work in Houston are familiar with the vast size of the Texas Medical Center. We serve nearly 10 million patients annually. A baby is born here every 20 minutes. Our doctors perform more than 200,000 surgeries each year across 21 different hospitals. The list goes on and on.

But after joining Houston Mayor Sylvester Turner on a trade delegation to the United Kingdom and Germany this summer, I realized just how difficult it is for our international friends to fully comprehend the enormity of our presence.

Our meetings with leaders from the government, industry and health care sectors were designed to identify opportunities for collaboration between the U.K., Germany and Houston. We explained to our European colleagues that Houston is the energy capital of the world. We explained that we have one of the world's busiest ports and that we pioneered the exploration of space. We explained that we are the most diverse city in the United States and, of course, that Houston is home to the largest medical center in the world. Any one of these features would distinguish a city, but we possess them all.

Describing the Texas Medical Center can be daunting. Most people assume a medical center consists of a hospital and a few medical office buildings. The Texas Medical Center, however, is so much more. I explained that we're the destination for patients around the country—and around the world—to receive life-saving treatment. We're a bustling academic center, where students learn and researchers make critical discoveries. And increasingly, we're a business hub advancing the creation of cutting-edge medical technologies.

It was interesting to observe the faces of people in those European audiences as they started to grasp the scope of our work and the extent of the opportunity here.

Barbara Bush once said, "the Texas Medical Center is Houston's gift to the world."

It was an honor to join Mayor Turner and tell the Texas Medical Center's story internationally. Before our meetings, most of the Europeans we met with were simply unaware of the size, stature and history of innovation in this incredible medical city. Now that they know, we expect many of them will be eager to join us as we grow.

A handwritten signature in black ink that reads "William F. McKeon".



With Mayor Turner on BBC Radio in London.

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Elephant-Sized Problem

Carfentanil, an opioid, hits Houston's streets

BY SHANLEY CHIEN

This summer, city officials announced a crackdown on the opioid epidemic after a highly dangerous opioid emerged for the first time in Houston.

The substance was originally thought to be methamphetamine when first responders tested it in the field, but the Houston Forensic Science Center determined the suspicious powder was, in fact, carfentanil, an extremely lethal form of fentanyl primarily used as a tranquilizer for elephants and other large animals.

According to Warren Samms, Ph.D., director of toxicology and chemistry at the Harris County Institute of Forensic Sciences, carfentanil “is quite possibly one of the strongest medications

out there.” It only takes 2 milligrams of fentanyl to be lethal and less than 1 milligram of carfentanil—an amount virtually undetectable by the naked eye—to have fatal side effects.

To put it into perspective, fentanyl is 50 to 100 times more powerful than morphine, whereas carfentanil is 10,000 times more powerful than morphine. It’s also cheaper to produce.

“Chemists found that it’s very cheap to clandestinely make fentanyl. You take two or three ingredients, mix them together and now you’ve got several pounds of extremely potent opioids,” Samms said. “This started being mixed into the heroin supply in some areas or sold outright as powder bricks of fentanyl elsewhere.”



Posters comparing lethal amounts of heroin, fentanyl, and carfentanil, on display during a news conference at Drug Enforcement Administration headquarters in Virginia.

When fentanyl, carfentanil or any other fentanyl analog enters the bloodstream, it binds to opioid receptors, which are responsible for modulating pain. These drugs can cause itchiness, sedation, nausea and confusion, but the most life-threatening side effect is respiratory depression, Samms said.

“Your normal respiration rate, 12 to 20 breaths per minute, can drop very much lower to the point where you worry that the body isn’t getting enough oxygen,” Samms said. “That’s what we have to worry about if somebody gets exposed.”

Given the potency of carfentanil and other fentanyl analogs, stricter handling protocols are necessary. Lab workers are required to wear personal protective equipment, gloves and masks around powdered substances, which are handled in fume hoods to prevent exposure.

In addition, the lab carries an opioid antagonist, called naloxone or Narcan, which is also used by emergency room physicians and paramedics to reverse respiratory depression.

During a press conference, Houston Police Chief Art Acevedo said that his department will be implementing similar safety measures for handling illicit substances, as well. For instance, personnel will wear thicker, more protective gloves and masks to prevent them from accidentally inhaling substances; personnel in the crime lab will be required to wear double layers of

gloves; and officers will carry Narcan.

“There really should be no reason for officers and first responders to risk their lives by touching this stuff and not being safe,” Acevedo said. “I want, more than anything else, our family members, including the public, to go home to their families at night. If you’re a member of the public, by not taking these illegal drugs that more and more frequently have this deadly substance in it. And for our first responders by not taking any chances.”

According to county officials, there have been close to 30 cases of fentanyl-related deaths in Harris County within the past 19 months. While this is the first time the city of Houston has reported carfentanil in the community, the drug itself is not new. Last year, the U.S. Drug Enforcement Administration issued a nationwide public warning about the health and safety issues surrounding carfentanil.

The emergence of this drug is part of a much larger problem.

“We have these classifications of ... designer drugs, and they change with such frequency that it’s literally a game of whack-a-mole,” Samms said. “You identify what this one is, you identify what it does to the body, you put legislative controls in place to try and dissuade people from using it. By the time that machinery gets going, you never see it again; something new comes out.” ■

“Your normal respiration rate, 12 to 20 breaths per minute, can drop very much lower to the point where you worry that the body isn’t getting enough oxygen. That’s what we have to worry about if somebody gets exposed.”

— WARREN SAMMS, PH.D.

Director of toxicology and chemistry at the Harris County Institute of Forensic Sciences

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Fit After 50

Make time for exercise, read food labels and sleep, experts say

BY CHRISTINE HALL



By the end of his professional football career in the 1990s, Mark Adickes weighed about 325 pounds. Pretty typical for a 6-foot-5-inch lineman.

It was also pretty typical for him to gain some “sympathy weight” with his wife during her five pregnancies.

“The next thing I know, I’m working hard as an orthopedic surgeon and finding it very difficult to work out,” said Adickes, chief of the division of sports medicine and associate professor of orthopedic surgery at Baylor College of Medicine. “I’m 345 pounds, and I read an article—I was 50 years old at the time, now I’m 56—that says, ‘whatever you weigh when you are 50 is what you are going to weigh when you die.’”

The article was upsetting to him, to say the least. While playing for the Kansas City Chiefs and Washington Redskins, he spent hours working out, pushing himself further and further for longer periods of time. When he stopped playing professional football, he didn’t feel like pushing himself as far or spending hours working out. Before Adickes knew it, a month would go by without exercising.

So when his daughter challenged him to work out for 30 days in a row, he accepted. But finding time to do it was tough. Adickes started his days quite early—clinics began at 7 a.m. and operating room days started at 6 a.m. Often, he had to leave the house by 5:30 a.m.; getting up at 3 a.m. to exercise was just not an option.

“I made a deal with my wife that the minute I walk in the door, I would go upstairs and work out,” he said.

After that 30-day challenge, and down some pounds, he found that he felt better, he slept better, his food tasted better and even the air smelled better. Adickes turned his weight around in his 50s.

Get moving

Fifty-year-olds can work out like 20- or 30-year-olds, but the way they fuel their bodies and recover from that fitness becomes an important part of the exercise regimen, said Kimberly Gandler, human performance coordinator with Memorial Hermann IRONMAN Sports Medicine Institute.

“Be smarter about planning your exercise,” Gandler said. “Don’t push yourself as hard, make injury prevention a priority and fuel up with protein to build muscle.”

Maintaining physical activity helps in the healing process should you fall or break a bone, she said. And when a doctor puts a patient on an exercise plan to keep from getting a blood clot, for example, a more active person will have less trouble moving around than a person who is mostly sedentary. Exercise should be a mix of cardio, strength training and improving flexibility.

Following exercise, a good recovery plan will decrease the chance of an injury. Gandler recommends taking a day off between heavy exercise sessions, or at least focusing on a lighter intensity exercise to avoid over-stressing the body. In addition, exercising in the heat requires water and rest for recovery, she added.

Common injuries she sees are knee problems, the result of other areas of the body—including the core, hips and glutes—being weak. Shoulder injuries and Achilles tendon strains are also prevalent.

“As we get older, we think we are still 20, so we tend to ignore signals that say something hurts,” Gandler said. “But you need to listen to your body. There are days when you will feel great, but there are days when you won’t, especially if you don’t recover correctly.”

Starting around age 40, people lose between 3 to 5 percent of their muscle mass per decade if they don’t do some form of physical activity.

In addition, schedules tend to get busier as we age, so we become more prone to skipping meals, which can pose a metabolic challenge. You need to balance your food intake to efficiently burn calories throughout the day.

“It makes it more difficult to manage your weight, especially in the midsection, so people in that age range tend to pack on the belly fat,” said Kari Kooi, a registered dietitian nutritionist with Houston Methodist Weight Management Center.

Muscle mass helps drive the body’s basal metabolic rate (BMR), or the number of calories required to keep your body functioning at rest. Even if you

“I’m in the best shape I’ve been since playing professional sports.”

— MARK ADICKES, M.D.

Chief of the division of sports medicine and associate professor of orthopedic surgery at Baylor College of Medicine

EATING RIGHT IN MIDDLE AGE

Kari Kooi, a registered dietitian nutritionist with the Houston Methodist Weight Management Center, offers nutrition guidelines:

LIMIT SODIUM

Limit intake to 2,300 milligrams per day, which is one teaspoon. Most dietary salt intake comes from processed foods.

HYDRATE

Drink plenty of water to optimize your metabolism and avoid waistline-expanding liquid calories. Swapping out just one regular soda for water per day could help someone lose around 25 pounds in a year. The best indicator of hydration is urine color: Clear to lemonade color signals hydration. If it's an apple juice shade, you are dehydrated.

EAT BREAKFAST

Metabolism burns higher in the morning; breakfast fires up the metabolism and helps control appetite through the day.

BRUSH THOSE TEETH

Your mouth is the gateway to health. Maintaining good oral hygiene is a key to systemic health. Floss daily and get teeth cleanings at least annually to prevent gum disease.

GET MORE CALCIUM

Incorporate two to three servings of low-fat dairy per day to get bone-strengthening calcium. Try to get enough calcium through foods first, before resorting to supplements, and always speak to your physician about taking supplements.

BECOME BERRY SMART

Blueberries have been dubbed "brain berries" because studies have shown that the antioxidants in blueberries can help protect the brain from oxidative stress, thereby protecting against memory loss.

FOCUS ON PLANTS

Colorful fruits and vegetables contain age-fighting antioxidants. Watermelon has lycopene, an antioxidant that protects against ultraviolet rays. Beta-carotene, an antioxidant found in orange-colored fruits and vegetables, targets and repairs skin damage. Vitamin C, an antioxidant found in high concentrations of foods such as strawberries, citrus fruits, broccoli and bell peppers, assists with collagen formation, helping to keep skin firm.

AVOID TRANS FAT

Mostly found in processed foods, trans fat can cause inflammation and increase bad cholesterol. Products that list partially hydrogenated oil in the ingredients list contain trans fat.

stay in bed all day, your body expends energy doing all sorts of things, like breathing, blinking and flipping through a magazine.

Strength training and aerobic exercise are key to increasing the BMR; the higher the BMR, the more calories you burn, even while at rest. Kooi said spending 10 to 15 minutes on strength training two to three times a week, focusing on different muscle groups each time, will help build muscle and can even reverse bone loss.

She has seen reports that suggest

sitting is the new smoking, so she recommends increasing daily movement by taking the stairs, walking around while talking on the phone, exercising between commercials—anything to keep your body moving. Little activities can have a cumulative effect on your daily calorie burn.

"I've seen articles that say adults past 50 are forming a new 'STD' known as 'Sitting To Death' disease," Kooi said.

As we age, many of us tend to sleep less, as well. This is particularly true of women, whose sleep is disrupted by

menopause, which typically begins in a woman's late 40s or early 50s. Seven hours of sleep is recommended, with sleep deprivation considered to be six hours or less, she said.

"When you are sleep deprived, it has a cascading effect on the body's ability to function properly," Kooi added. "It can also affect weight by causing an imbalance in appetite-regulating hormones like ghrelin, which stimulates hunger, and leptin, which signals fullness."

Lack of sleep is a double whammy to

the body—we are extra hungry and we don't feel full. What's more, sleep-deprived people have less impulse control when it comes to food selection and tend to gravitate toward processed, sugar-concentrated foods because they are looking for a quick energy source, Kooi said.

Food factor

In addition to getting ample exercise and sleep, middle age is a good time to pay close attention to food labels.

(continued)



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Adickes in his office with patient Leslie Vogel.

Protein is an important nutrient for this age group because adequate dietary protein assists with maintaining muscle mass, Kooi said. Since it takes the most calories to burn through digestion, compared to carbohydrates and fat, protein helps to rev up the metabolism. Kooi suggests eating 25 to 30 grams of protein at a meal and 8 to 12 grams in a snack, which could come from foods like lean meats, eggs or yogurt.

But here's where the label-reading comes into play: Many foods are high in protein, but also high in sugar.

"The grams of protein should be nearly equivalent to sugar for an

energy-boosting power snack, but if grams of sugar are significantly higher than grams of protein, this could cause your blood sugar to spike and then dip, leaving you with an energy slump," Kooi said.

Blood sugar spikes are something to avoid, since pre-diabetes is a risk factor for this age range. Remember the belly fat that accumulates as we age? Well, abdominal fat creates inflammation and insulin resistance, which can set the stage for diabetes, Kooi said. What can help keep that at bay is swapping out processed foods for whole, plant-based foods such as whole grains in place of refined grain products,

as well as eating more fiber-rich fruits and vegetables.

Eating better also helped Adickes lose more weight, thanks to his daughter and another one of her 30-day challenges.

He had tried all kinds of diets—low-carb, shakes, calorie-counting—but without seeing solid results. "Some would work great for a couple of days," he said, "but would make me lose concentration."

His daughter recommended a program based on eating foods in their natural state and cutting out sugar and caffeine. He said it was the first diet that he actually liked being on because it fit with the foods he was already eating, so it was easier to stay committed.

Adickes stuck to the 30 days and dropped another 25 pounds. In all, since he started exercising and eating better, he has lost 65 pounds.

"I'm in the best shape I've been since playing professional sports," he said.

In addition, the leafy greens and fruits that have become a staple in his diet are anti-inflammatory foods, which help with some of the injuries sustained from years of playing football. Adickes

has had a knee replacement and lives with hip arthritis and a sore neck. However, after changing his eating habits, getting up in the morning no longer involves painful muscles or joints, he said.

"It is never too late to change the way you move or eat," Adickes said. "When I talk to people who are out of shape, I tell them to start by getting on a stationary bike and ride for 5 minutes. Work your way up and put tension on that you are comfortable with. At the end of the day, you can get what you need in less than an hour." ■



Adickes still wears his ring from Super Bowl XXVI, when the Washington Redskins beat the Buffalo Bills.

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HOW TMC EMPLOYEES SPEND THEIR SPARE TIME

Nadim Nasir Jr., M.D., is an expert in treating irregular heartbeats and the heart's electrical system, which transmits signals that tell heart muscles when to contract.

"If you say that cardiologists can be plumbers or electricians, I'm a cardiac electrician," Nasir said.

When he's not in the operating room implanting pace-makers or performing ablations to treat atrial fibrillation, Nasir grabs his Perazzi MX 8 12-gauge shotgun and heads to the Greater Houston Gun Club for a few rounds of sporting clays—the closest thing to field shooting in shotgun sports.

Nasir, 57, is more than a sporting clay aficionado; he is a national and international champion, specializing in the European form of the sport, known as the *Fédération Internationale de Tir aux Armes Sportives de Chasse*, or FITASC for short.

Sporting clays is a form of clay pigeon shooting that simulates game hunting. A typical course contains 10 to 15 shooting stations sprawled across natural terrain. Whereas targets in trap and skeet shooting are launched at the same distance, sporting clay targets can range anywhere from 5 yards to 65 yards away at varying speeds, distances and target sizes. These variations have earned sporting clays the nickname "golf with a shotgun."

A typical shooting match consists of 100 targets—25 per four stations—shot over one or two days. International competitions shoot 200 targets over the course of four days.

Nasir had his first taste of clay target shooting in 1986 as a fourth-year medical student at The University of Texas Southwestern Medical School in Dallas. Although he didn't enjoy shooting at first, he gave the sport a second chance in the mid-1990s when he accompanied a friend to the local shooting range.

"Now I haven't played golf in 20 years because, if the weather's



Credit: Thaddius Bedford

.....
NAME: Nadim Nasir Jr., M.D.
.....

.....
OCCUPATION: Cardiac electrophysiologist at Houston Methodist Hospital
.....

.....
INTEREST: International sporting clay shooting
.....

.....
nice enough, I'll go out and target shoot," he said.

Nasir has been highly competitive in the sport over the last 17 years, but more so since he joined the veteran age group. Since 2015, he has traveled around the world to compete against top shooters. He has won numerous championships, including the FITASC World Championship in 2015, the U.S. Open in 2016 and the North American Championship in 2017.



Credit: Thaddius Bedford

Nasir made the U.S. shooting team the past three years and is currently the team captain for his age group. In June 2017, he was inducted into the Texas Sporting Clays Association Hall of Fame.

His secret to success?

"You've got to get tired of losing," he said. "I'm somebody who always tries to shoot for perfection in what I do at work. A lot of that part of my personality also applies to my target shooting. In the pursuit of perfection, we hope to achieve excellence."

As a cardiac electrophysiologist, hand-eye coordination is key. Nasir is used to examining minor details on a computer screen while his hands maneuver the catheters going through his patients. His keen spatial orientation is critical to his success as a doctor and as a shooter.

But not everyone can shoot perfect rounds in a match in international sporting clays.

It takes skill and mental discipline to consistently shoot with precision and accuracy.

"I used to let it frustrate me, but now I understand that everyone's going to miss," Nasir said. "It's just minimizing that and focusing on being oriented to perfecting the process of shooting, as opposed to trying to have a perfect outcome."

Nasir tries to squeeze in four to six hours at the shooting range each week to stay on top of his game. When he's training for a competition, he'll spend an average of 10 hours training, mainly over the weekend.

Last month, at the 2017 World FITASC Championship in Hungary, Nasir won his second consecutive Beretta World Cup. The award recognizes consistent excellence and aggregates performances from the World Championships, Continental Championships and National Grand Prix.

"People say I'm competitive, but I always say, 'I'm never competitive as long as I'm winning,'" Nasir said. "I just look to do my best. If that results in victory, then I've been blessed to achieve it." ■

ON THE SIDE

BY SHANLEY CHIEN

The Truth About Dry Drowning

Look for coughing, confusion or trouble breathing

BY SHEA CONNELLY

As the temperature creeps above 90 degrees nearly every day, pools throughout the Houston area are filled with children seeking respite from the heat, shrieking with laughter as they play. While kids splash around without a care in the world, a recent news story has many parents watching the water anxiously, not just for signs of immediate distress, but for more subtle hints of danger to come: a condition referred to as “dry drowning.”

In early June, 4-year-old Frankie Delgado died nearly a week after swimming with family in Texas City. Frankie’s parents said they were told their son had fluid in his lungs and may have died from dry drowning. The Delgados’ story made national headlines as a cautionary tale about the phenomenon of dying from a swimming-related injury long after leaving the water.

This is not the first time stories that mention dry drowning have gone viral. Every June for the past five years, the phrase has seen a spike in popularity as a search term, according to Google Trends, with the biggest spike happening after Frankie’s death. What most coverage fails to mention, however, is that “dry drowning” and “secondary drowning,” terms often used interchangeably, are not medically accepted conditions. Organizations including the Centers for Disease Control and

Prevention and the World Health Organization caution against using those words, noting that “drowning” doesn’t necessarily mean death. Instead they refer to drowning as a spectrum: nonfatal drowning, nonfatal drowning with injury and fatal drowning.

Dry drowning stories have many parents imagining scenarios in which their children exhibit no signs of distress during a day at the beach or pool, or even during a bath, and then die suddenly, hours or days after inhaling water. Corrie Chumpitazi, M.D., an emergency medicine physician at Texas Children’s Hospital, said this is extremely unlikely.

“There has never been a published case where a patient was initially asymptomatic and later deteriorated or died,” Chumpitazi said. And while it is possible for a person to die from



drowning after leaving the water, “most would be expected to have symptoms within four to six hours,” she added, noting that patients have come to the emergency room days after swimming with concerns about dry drowning that have turned out to be a respiratory virus or cold.

Additionally, parents would likely observe something out of the ordinary while their children are in the water.

“The way I would think about it is, if your child was in the pool and had to be pulled out because maybe they had a little trouble. They have some amount of coughing or problems breathing after, those are some of the scenarios,” said Robert Lapus, M.D., an emergency medicine physician with Children’s Memorial Hermann Hospital and The University of Texas Health Science Center at Houston (UTHealth). “Definitely more than someone shooting them with a water gun or just playing in the bathtub.”

Parents who notice a scenario like the one Lapus described should keep an eye on their child for the next several hours, looking out for symptoms like coughing, confusion or trouble breathing, with indicators like chest retractions and flaring nostrils.

“There has never been a published case where a patient was initially asymptomatic and later deteriorated or died.”

— CORRIE CHUMPITAZI, M.D.
Emergency medicine physician at
Texas Children’s Hospital





An instructor at Wolfies Swim School helps a young student float on her back.

Staying safe in the water

While some of the concern surrounding dry drowning may be misplaced, drowning is the second leading cause of death by unintentional injury in children in the United States, according to the World Health Organization.

“The heartbreaking thing about drowning is that it is almost always preventable and it could happen to anyone,” Lapus said.

The best ways to keep children safe are to ensure they cannot access pools or bodies of water alone, to be vigilant while they are swimming and to know how to perform CPR.

“A four-sided fence with a gate that is not easily unlatched is key for keeping kids safe,” Chumpitazi said. “Pool alarms or pool covers are not substitutes for fences, which should also be hard to climb.”

Lapus said children who are swimming should be monitored by at least one undistracted adult at all times.

“It’s important to have a dedicated pool watcher whose sole job is to have their eyes on the kids in the pool,” Lapus said. “They should not be talking with other adults or otherwise distracted.”

Another major piece of the puzzle for keeping kids safe near water is ensuring they know how to swim. The American Academy of Pediatrics (AAP) says “most children age 4 and older should learn to swim,” and that children may start swimming lessons as early as a year old.

Wolfies Swim School holds swimming lessons at the West University

Place Recreation Center for children starting at 18 months, as well as parent-child water classes for infants as young as 4 months.

“We teach basic survival skills—flipping on their back, how to get to a wall or get to safety if they were to fall in a pool—and also technical skills like side breathing, backstroke, breaststroke,” said Brenell Ashton, aquatics director at Wolfies Swim School. “We also encourage them to practice at home. After our lessons we talk to parents about everything we worked on and what they can do.”

While knowing how to swim lowers the risk of drowning, even children and adults who are strong swimmers can struggle in the water.

“We’ve seen kids come in even with adults standing by the pool paying attention, suddenly they notice the toddler is at the bottom of the pool,” Chumpitazi said. “I only looked away for a second—that’s all the time that’s needed for them to get in distress.”

Lapus noted that in addition to happening quickly, true drowning does not typically look like the drowning portrayed in movies or on TV.

“We always think about drowning like splashing around, crying for help, but a lot of times kids are too focused on trying to stay above water, and it’s often silent,” Lapus said. “That’s why it’s important to always remember to be watching closely. Depending on the age of the kid, you should be within arm’s length.” ■



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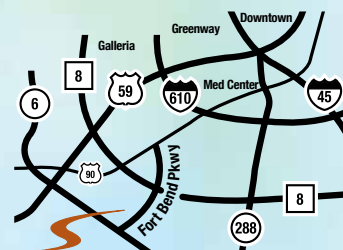
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So You Want to Be a Surgeon

College student Lauren Reppert made the most of the Michael E. DeBakey Summer Surgery Program

BY CLAUDIA FELDMAN

As the plastic surgeons bent over their patient, ready to begin the nasal reconstruction, Lauren Reppert leaned in, too.

Occasionally, she whispered a question or answered the operating room phone. But mostly, she watched from her stool behind the doctors, no matter how many hours passed, no matter how much her recently repaired knee ached.

"I like to see things all the way through," said the 20-year-old, wearing scrubs and a surgical mask. "I don't want to miss anything."

Reppert and 15 other college students, lucky participants in the Michael E. DeBakey Summer Surgery Program, were testing their resolve to become doctors in the famed heart surgeon's mold. For eight weeks, they had supervised access to Baylor College of Medicine surgeons, their operating rooms and their patients. Few other programs offer college-age students such an intense look at the world of surgery, Baylor physicians say.

"Dr. DeBakey thought teaching was very important," explained surgeon Charles McCollum, M.D., the department's unofficial historian. "He wanted the best and the brightest students, and he believed in recruiting young."

Just back up

On a sticky morning in early June, surgeons Shayan Izaddoost, M.D., Ph.D., and Bradford Scott, M.D., hustled into the conference room on Baylor's fourth floor. McCollum was there, too.

Orientation day. The physicians hadn't met the assembled summer students yet, but Izaddoost read their applications and felt as if he knew them. Two hundred and forty-three students sought spots in the program, but these 16 were chosen for their grades, recommendations and personal statements.

Izaddoost, program director, stood at the front of the room.

"You all have what it takes," he said



Reppert speaks with a Baylor College of Medicine physician before observing surgery for nasal reconstruction.

generously, "and we hope to inspire you to become surgeons. But if you decide, 'Oh my God, there's no way I want to do this,' that's OK, too. It's better to figure it out now."

Many of the students would don scrubs and watch operations right after lunch. But first they heard

the ground rules, which are the same year after year: Starting time is 6 a.m., Monday through Friday. Average workdays last 12 hours. No, they are not paid. Yes, they do have to pay for parking.

Students may leave for a few days if they have a personal issue or even a family vacation. Just tell us, said Scott,

the surgery department's vice chair of education. There was that one student way back when who disappeared after the first day and failed to return until the very end.

The eight weeks are divided into two four-week rotations. Students are assigned a surgeon/mentor, a Baylor teaching hospital, and a specialty in early June. All of that changes in early July.

"If you don't like your rotation, come talk to me," Scott said. "This should be fun. If it's not, we'll figure it out."

Put your phones away, Izaddoost told the students. And, he added, no social media. Don't take pictures, don't gossip about patients, don't ever forget their privacy is of the utmost importance. Medical students, even residents have broken those rules at their own peril.

Come to surgery prepared, Izaddoost instructed. That means students should bone up on gallbladders if they're about to see one removed.

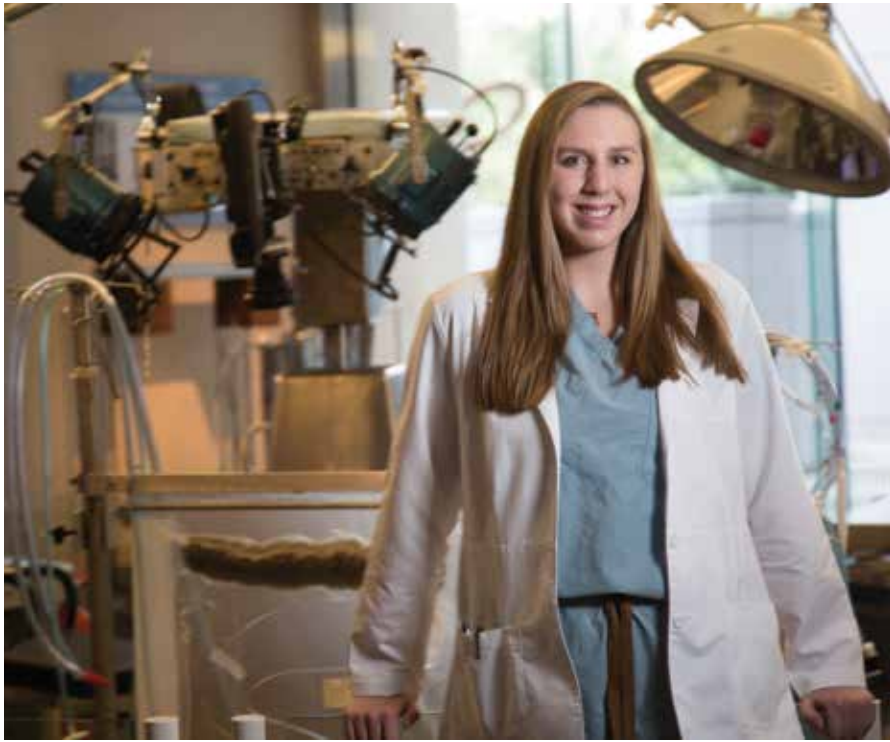
Which reminded him. "How much health care do you know?" he asked the students. "That's right. Zero. So help when the residents ask. But you're not delivering health care. You're here to observe."

Which may be harder than it sounds, Scott said.

"The first time you see someone cut open, the normal reaction is, 'Oh my God.' If you have warm saliva, just back up, back up against a wall, and someone will find you a chair," Scott said. "I remember two summer students who hit the floor. Realize that's a possibility. Don't be embarrassed."

The students let those images sink in as McCollum, who knew DeBakey for decades, took the floor. He showed a film about his old friend, the father of modern cardiovascular surgery, then took the group downstairs to the DeBakey museum and library.

"Dr. D" died in 2008. But clearly, McCollum and the rest of the Baylor



“ I like to see things all the way through. I don’t want to miss anything. ”

— LAUREN REPPERT
Michael E. DeBakey Summer Surgery Program participant

staff cherish his memory and describe him as a medical pioneer, a perfectionist who recognized and nurtured talent wherever he found it. That explains why they continue to support the program even though it costs them many hours of extra work.

Science fair winners

Back in his office, McCollum made a brief attempt to find the exact year the program started. But it was futile. Baylor surgeons were always proud of their summer program, but they didn’t keep records for posterity.

McCollum could say this for sure: DeBakey launched the program in

the late 1950s after receiving a phone call from the president and editor of the now-defunct Houston Post. Oveta Culp Hobby had sponsored an annual science fair for high school students, and she wanted to offer the winners some sort of meaningful prize. She asked DeBakey if he could host those accomplished students at Baylor over the summer.

Early on, a handful of students spent a few weeks in Baylor’s research labs. Over the years, the number of students grew, college students seemed a better fit for the evolving program than high school students, and they moved out of the lab and into the operating room.

(continued)



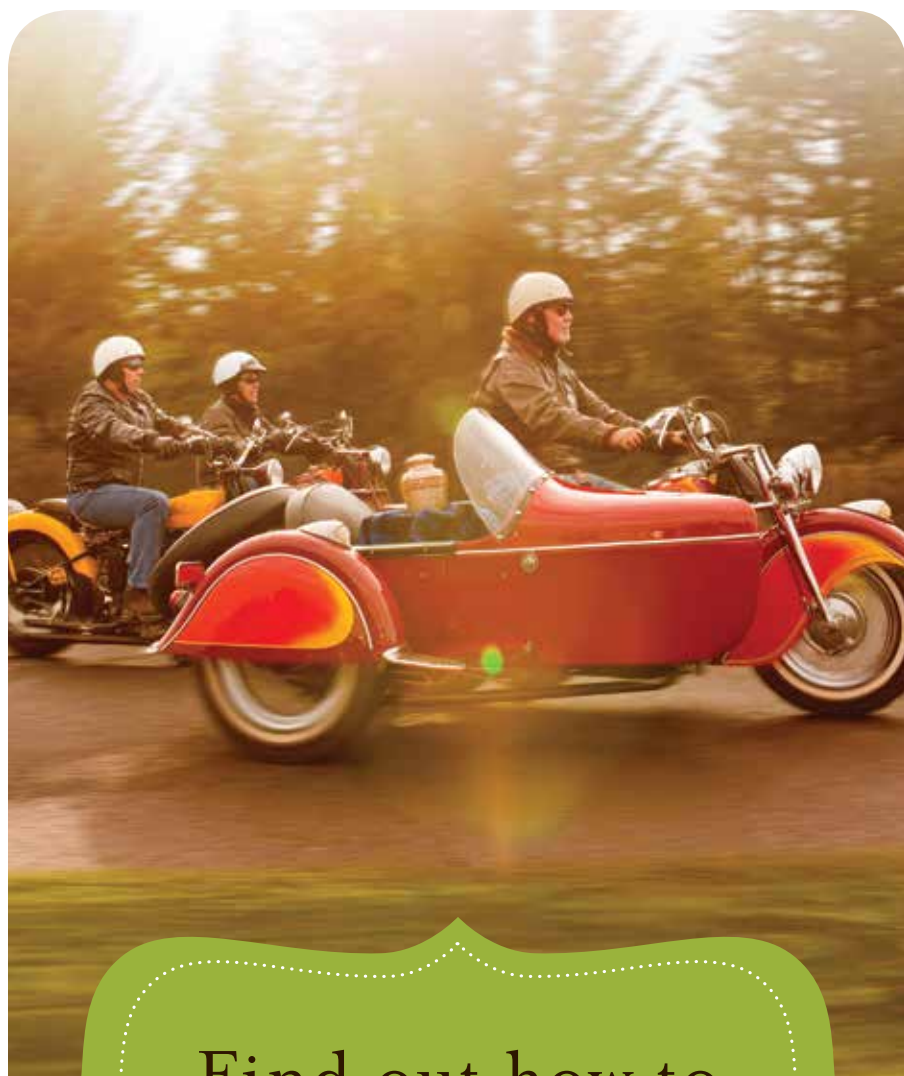
Michael E. DeBakey, M.D., center, surrounded by students in the summer surgery program in 1970.



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“You all have what it takes, and we hope to inspire you to become surgeons. But if you decide, ‘Oh my God, there’s no way I want to do this,’ that’s OK, too. It’s better to figure it out now.”

— SHAYAN IZADDOOST, M.D., PH.D.

Director of the Michael E. DeBakey Summer Surgery Program

Though they don’t advertise, McCollum said, the program attracts students from all over the country. Some of them will return to Baylor for medical school and advanced training.

The appeal of a specialty in surgery, McCollum said, is instant results. “Say a patient has acute appendicitis. You take it out, then he’s well.”

On the phone a few days later, Izaddoost said surgeons love their jobs at least in part because they form such tight and trusting bonds with patients.

“They don’t stand naked in front of everybody,” Izaddoost said. “Maybe a mom, a dad, their husband or wife. Nobody else has that kind of privilege, that special relationship.”

Surgery obsession

Of all the aspiring surgeons in the summer program, the doctors found Lauren Reppert, a Houston native and junior at Amherst College, among the easiest to read.

“Her enthusiasm is palpable,” said Edward Reece, M.D., chief of adult plastic surgery at Baylor. “Just imagine who all she is going to touch and inspire.”

During the first rotation, Reece and Reppert worked together at Ben Taub Hospital. She showed an unwavering interest in whatever he or the other plastic surgeons were doing and watched 40 different operations in just a month’s time. At every opportunity, she was back in the OR and back on her stool.

She loved the teamwork, the commitment, the efficiency. And she was ready to listen when the usually stoic surgeons shared their thoughts.

Reece told her, “As a surgeon, you’re responsible for someone’s life. And before you operate, you have to be sure that you’re going to impact that life for the better. That’s why surgical training takes so long. Young doctors have to learn judgment.”

Reppert gulped and nodded. When she was not working, she was

eating or sleeping at her parents’ home in Tanglewood.

They are oil and gas professionals.

“Where did you come from?” they teased her when she was in high school at The Kinkaid School and obsessed with idea of becoming a surgeon.

The Kinkaid School encourages mini internships, and Reppert took the opportunity to spend three weeks shadowing Bruce Moseley, M.D., an orthopedic surgeon.

“I loved every second,” Reppert said. “I was there for every single procedure, the whole day until very late. That’s when I knew I wanted to do something in medicine, I thought for sure sports medicine. But plastics is really cool, too.”

Reppert spent the second half of the Baylor program in pediatric surgery at Texas Children’s Hospital. Everything was different from Ben Taub, she said, from the look of the hospital interiors to the types of surgeries to patient follow-up. She had hoped to meet, for example, the woman who had nasal reconstruction at Ben Taub and a second patient who underwent arduous hand reconstruction.

“That was somewhat of a frustration,” Reppert said. “The surgeries were really successful, but sometimes the patients didn’t come back for their appointments. Sometimes they didn’t even show for their scheduled surgeries.”

For Reppert it was a life lesson. Not all lives are as relatively orderly as hers.

Getting in to medical school

If Reppert and her new friends had one burning question, it was this: What can we do to get into medical school?

At a question-and-answer session held at lunch in early July, Karen Johnson, M.D., a Baylor critical care physician and associate dean for admissions, told them participation in the summer program was an excellent place to start.



Reppert peers over the shoulders of Baylor College of Medicine surgeons during a nasal reconstruction at Ben Taub Hospital.

During her pep talk, Johnson also shared some sobering data: 55,000 students apply to medical school every year. About 21,000 are accepted.

At Baylor, about 7,600 students apply each year, 850 are invited for interviews and 300 are offered spots. Of the 300 invited to attend last fall, 186 accepted.

It's no secret, Johnson said, how to earn one of those coveted acceptances.

Of course, do well on the medical school entrance exams, take the requisite science classes and maintain sparkling grade point averages in college. Or, if your GPA is shaky early on, show signs of discipline and improvement. In addition, be involved in your community, pursue your genuine interests and keep up with the critical issues in health care today. And, if you're invited to a medical school interview, know something about that school before showing up.

Just before the hour was up,

Johnson answered one question the students didn't ask.

If by chance any of them got in trouble, particularly legal trouble, there are places on the applications to note that.

"We shouldn't hear about these things from anybody but you," she said, adding that medical schools do criminal background checks. "We all make mistakes. Just be honest because you don't know what might follow you, what might haunt you."

All of the young people in the conference room were outstanding. Yet she left them sitting in thoughtful silence.

Teamwork

After lunch, but before Reppert returned to Texas Children's in search of more surgery, she ran into Scott.

He'd just found out that they share a passion for team sports. He used to play competitive basketball and volleyball. She plays varsity volleyball at Amherst.

The link between sports and

surgery? Johnson stressed the importance of teamwork at lunch. Scott and the other surgeons brought it up regularly, too.

Luckily, when Reppert filled out her summer program application last winter, she devoted most of her personal statement to the teamwork theme. She described her high school experience shadowing the orthopedic surgeon:

"I remember observing a specific surgery and witnessed how the surgeon and the assistants operated. They were completely in sync and appeared to function as a well-oiled machine. Just like on the court, we know that our teammates will execute their roles whether they are diving for balls and preventing the other team from scoring or pounding the ball and hoping to score on the other team. All six players on the court move in harmony with each other ... just like a successful surgical team."

For a moment, Scott and Reppert

just stared at each other. When he reads medical school applications, he looks for student athletes, for those who know what Reppert knows.

She's still a junior. She's going to need at least one extra year of college to squeeze in all those volleyball practices and games and take the time-intensive lab courses required before applying to medical school.

But it sure did seem, at least for eight weeks this summer, that she had a jump start on her dream. ■



Claudia Feldman is a freelance writer living in Houston.

Structurally Unsound

Sarrah Hannon wants to demystify Ehlers-Danlos Syndrome

BY MARY VUONG



Sarrah Hannon, whose condition leaves her with excessively loose joints, with her dogs at a dog park near her home.

Sarrah Hannon once led an active life of triathlons, marathons and rock climbing. Now she refrains from lifting a gallon of milk.

Hannon, 30, lives with Ehlers-Danlos Syndrome (EDS), a group of genetic connective tissue disorders. The most abundant protein in her body, collagen, is failing her.

“Imagine building a house out of rotting wood, rusty nails, and less dense concrete; this is what it is like to have a body with EDS,” Hannon said.

Often called an invisible illness because its effects are not discernible to the eye, EDS can cause complications

in every organ. Collagen makes tissue strong and elastic, within a safe limit. But no such limit exists for Hannon, whose body cannot make or process healthy collagen.

EDS has 13 subtypes, but only Hannon’s type cannot be identified by a genetic test—hypermobile EDS, characterized by excessively loose joints and stretchy skin. Daily joint dislocation is common.

Hannon lived with her symptoms for 25 years before an official diagnosis. She had her first knee surgery at age 11, when she tore cartilage doing gymnastics. She tore it again and again, each

time resulting in more surgery. No one suspected a tissue disorder.

Just reaching over her head can cause joint dislocation. She actively keeps her arms close to her torso. “When I open a door, I keep my elbow tucked into my hip or else my shoulder will dislocate,” Hannon said.

Because EDS ravages the whole body and saps so much energy, Hannon must plan her day with care and caution. She wakes at 4 a.m. for work as a forensic toxicologist and takes the first of 39 pills before caring for her dogs. Hannon gets dressed based on how she feels—literally. Tender hips means it’s a

leggings day. If her hands are sore, she doesn’t want to fuss with shirt buttons. If her costochondritis flares up, causing cartilage inflammation between her ribs, she wears a wire-free bra.

Driving is exhausting. An early morning commute minimizes heavy traffic, and Hannon can monitor blind spots without too much neck movement thanks to concave mirrors. Before the drive home, she lies down to rest and consumes food with sugar or a caffeinated energy tablet. She takes pain medication and another break after she gets home.

Because Hannon’s job involves

ample paperwork and computer data analysis, she has a standing desk and wears prism glasses to avoid bending her neck. But she loves her career, and doesn't want to quit.

At least 13 medical specialists at the Texas Medical Center help her navigate and manage EDS symptoms.

Shweta Dhar, M.D., medical director of the Adult Genetics Clinic at Baylor College of Medicine, is her traffic cop. "She's in charge of making sure if I have a new symptom, she's sending me to the right doctor," Hannon said.

Dhar runs a monthly EDS clinic. She has an 18-month waitlist with close to 150 prospective patients from Texas and surrounding states.

Hypermobile EDS is difficult to diagnose because it devastates the whole body and causes numerous symptoms. Clinical criteria for diagnosing hypermobile EDS was updated this year by The International Consortium on Ehlers-Danlos Syndromes & Related Disorders, the first time in two decades.

"On the rare occasion I allow myself an ER visit," Hannon said, "I usually bring journal articles and/or have websites ready to explain my EDS, because they simply don't remember it from medical school."

Dhar didn't encounter many EDS patients during her medical genetics residency. Within the last eight years, however, more patients began detailing the same non-associated complaints. They include gastrointestinal problems, muscle pain, easy bruising and bleeding, headaches/brain fog, sleep disturbances and menstrual problems.

Although EDS can afflict men and women equally, it appears more women are affected due to their hormones, with symptoms typically starting right after puberty, Dhar said. Women generally have weaker muscle mass, and muscles must work in overdrive to control hypermobile joints.

An estimated 1 in 5,000 individuals has a form of EDS.

This is not a condition that necessarily causes permanent disability, Dhar said. "We try to minimize the ups and the downs."

Hannon lived in painful confusion for decades. After she almost fainted at



Hannon waits for physical therapy at Memorial Hermann Sports Medicine & Rehabilitation.

a job—just one of many EDS episodes—a colleague with a medical degree urged her to give him a detailed medical history.

"He said, 'Hey, just for fun, tell me everything that's ever been wrong with you,'" she recalled. It took her 1 ½ hours. He suggested possible causes, including EDS.

"I thought I had heard it before," Hannon said. "It's genetic. My cousin just got diagnosed with this."

Her dad was diagnosed this year.

Hannon underwent her 10th surgery in February. Fraser Henderson, M.D., a Maryland-based neurosurgeon, has performed four spinal surgeries on her. He recently fused her cervical spine from C1 to C7 after diagnosing her with cranio-cervical instability. "I was dislocating my C1 on my C2 and endangering very vital vertebral arteries," Hannon said.

Henderson has encouraged Hannon to fuse her skull to her cervical spine, but she fears that could end her ability to work. After neck surgery, Hannon began working with Monica Shroff, a physical therapist at Memorial Hermann Sports Medicine & Rehabilitation who treated her first patient with EDS a few years ago.

"It can be a little different than treating other people," said Shroff, who offers more rest breaks to patients with EDS.

Often, EDS patients must learn entirely new ways of doing something. Proper form and quality of movement are critical, Shroff said.

Lifestyle modifications are vital, as well. Hannon drinks with straws because she can't fully tilt her head. She sits on the floor to eat dinner at her coffee table or on the couch with a propped tray, positions that don't require her neck to bend. Her boyfriend handles most household chores, but when she lived alone, dirty dishes would collect for a week, laundry for up to a month, until she had the energy to tackle them.

Even "showers wipe me out," Hannon said. "My blood pools in my feet since my blood vessels are lax. Plus, putting my arms above my head to wash my hair is super painful."

Sleep is a big priority on weekends. Hannon "may spend one afternoon at the dog park," she said, "but otherwise it's all about recovery for me."

Yet she uses her limited energy to spread the word about EDS. May is widely recognized as Ehlers-Danlos Awareness Month and both this year and last, Hannon convinced Texas Gov. Greg Abbott to sign an official proclamation recognizing this special month in the state of Texas.

"It took me 25 years of pain and confusion and doctors and people not believing me before I finally was diagnosed," she said. "I want to raise awareness so that the next person doesn't have to wait 25 years before they finally find out that they are not crazy, they are not hypochondriacs; they have a genetic disorder and they must act now to preserve what they have." ■

Mary Vuong is a freelance writer living in Houston.

“Showers wipe me out. My blood pools in my feet since my blood vessels are lax. Plus, putting my arms above my head to wash my hair is super painful.”

— SARRAH HANNON

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Facing TB in Houston

STORY BY BRITNI N. RILEY



Sitting on the porch of her home in Houston's Sunnyside neighborhood, Lila White loves nothing more than watching the cars drive up and down Scott Street and seeing what her neighbors are up to.

This time last year, the porch was her only respite from the isolation imposed by the health department after she tested positive for tuberculosis.

White, 57, landed in the emergency room at Ben Taub Hospital in July 2016. She thought she was dying. Normally a trim 115 pounds, she was down to an emaciated 99. Short of breath and unable to sleep, she had seen several doctors over several months, none of whom had diagnosed her properly. But when the ER doctors at Ben Taub examined her chest X-ray, they knew.

White remained in the hospital for nine days, her bed wrapped in plastic to keep her from infecting other patients. When they sent her home, it was with strict instructions.

"I had to stay in my house for about two months," White said. "I was glad to be out of the hospital and back at home. Most of the time I stayed in my room. I might come out and sit on the porch, but I had to wear a mask at all times."

An ancient ailment

Tuberculosis (TB) is an infectious disease that usually affects the lungs but can travel to other parts of the body. It is caused by bacteria that spread through the air when individuals with active TB cough, sneeze or spit. Although it is an ancient ailment—one study published in the journal *Nature Genetics* shows that TB originated in Africa some 70,000 years ago—it remains difficult to diagnose.

Not everyone infected with TB becomes sick. People with latent TB infection do not feel sick, do not have symptoms and cannot pass the disease to anyone else, according to the Centers for Disease Control and Prevention. One third of the world's population carries the infection; of that group, roughly 10 percent will go on to contract the disease.

If left untreated, though, TB can be deadly. Cavities can form in the lungs that bleed or fill with pus, blocking airways and making it difficult to breathe. Individuals most vulnerable to TB are those with weakened immune systems, which means people with cancer, hepatitis C, HIV/AIDS, diabetes and individuals who have received organ transplants. Also at high risk: those who live in poverty or use tobacco.

TB causes permanent damage to the lungs and can spread to other parts of the body through a process known as dissemination. The worst cases of disseminated TB are those that spread to the bones. Once this happens, the disease becomes extremely difficult to treat and can cause permanent disability.

"I always say, tuberculosis loves human misery," said Jeffrey Starke, M.D., a professor of pediatrics at Baylor College of Medicine and a staff physician at Texas Children's Hospital, where he also runs a tuberculosis clinic. "TB goes up during war, famine. Anything that stresses the human condition tends to lead from the progression of TB infection to TB disease."

In May, four cases of active TB were confirmed at George Bush High School in Fort Bend County.

"These things always happen at the end of the school year—always," Starke said. "It is the rule of least convenience."

Although Fort Bend health officials won't discuss details, Starke explained what typically happens in an active TB investigation.

"The way they do these investigations is called concentric circles," Starke said. "We start with the patients and the characteristics of their disease and their relationships with other people. Usually the first circle is whether or not TB was transmitted in the home. Then we interview the patients and their families and find out what the next circle might be."

Every year in the Houston area, roughly 400 people test positive for TB, according to Starke. Because of this, health departments must launch roughly 400 investigations every year.

"Think about what that means in households, places of work, schools and how sensitive this is," Starke said. "The letter that goes out can't state the person's name because of privacy concerns. It just says: 'We believe you may have been exposed to TB.'"

Harris County's TB rate is more than twice the national average: 7 cases per 100,000 people. In the United States as a whole, the average is 3 cases per 100,000 people.

"If you look at the diversity of our population, it's not surprising," Starke said.

Of the roughly 1 million people who immigrate to the United States legally each year, around 30 percent have TB infection, Starke said.

"They are immigrants, they are vulnerable, they don't have health insurance, they don't have medical homes, so how do you find them? How do you test them? How do you get them treated? That's the problem and we have no good mechanism for doing that." *(continued)*



Lila White, left, and above with Patricia Johnston in the kitchen of their home in Sunnyside.



White in the examining room at the Smith Clinic, part of Harris Health System.



White gets a chest X-ray at the clinic.

'It's a crappy test'

Although TB is preventable, treatable and curable, it is one of the top 10 causes of death worldwide. According to the World Health Organization, TB kills close to 1.5 million people annually.

Traces of the disease, known for centuries as consumption, have been found in the remains of Egyptian mummies. TB claimed the life of 19th-century English poet John Keats, at a time when the "white plague" was rampant and romanticized. Eleanor Roosevelt died from complications of TB.

Perhaps because it has been around for so long, many people assume TB has been eliminated.

"When my wife and I got engaged, her father asked what I do and she said, 'Well, he takes care of kids with TB,'" Starke said. "Her father looks at her and goes, 'Well, he doesn't have a future.' And that was 38 years ago. Most people think it is gone, but there are still 10,000 cases per year in the U.S."

TB kills more people every year than AIDS, though the American public sees and hears much less about it. It takes high-profile cases—like the high school students in Fort Bend County—to pull the disease out of the shadows and into the news cycle.

For White and her partner of 27 years, Patricia Johnston, the diagnosis was shocking.

"I call her 'doctor freak' because she just loves getting up and going to the doctor," Johnston said of White. "She's always telling me, 'You gotta take care of yourself.' And that's why I don't understand how she got so sick. She had been going to the doctor for two years to see what was wrong and they told her it was cancer because of the damage on her lungs. But it wasn't."

At Ben Taub Hospital, White was treated by Elizabeth Guy, M.D., medical director of pulmonary clinics at the hospital and an assistant professor of medicine at Baylor College of Medicine. Guy was surprised Smith wasn't diagnosed sooner.

"She had developed some lung lesions we were investigating and, in fact, we could not prove that she had latent TB at some point in the past," Guy said. "It seems like she must have had it,

but our tests are quite imperfect and did not pick up on it."

A chest X-ray and a sample of sputum (phlegm) are needed to determine whether a person has active TB. A positive TB skin test or TB blood test only shows that a person has latent TB infection.

Misdiagnosis is all too common in the world of TB. Testing is antiquated and unreliable.

"The skin test is a bump on the arm," Starke said. "It's a crappy test."

The skin test, which dates back to the 19th century, involves injecting TB protein (antigens) under the top layer of skin on a patient's inner forearm. If the patient has been exposed to TB, a firm red bump develops within 48 hours.

"We used to do medicine by reading bumps on people's heads—phrenology—and that was in the Dark Ages," Starke said. "It's a horrible test. It's hard to place, hard to read. It takes special expertise and people are bad at it."

Even if a skin test is administered and read properly, it can take six to eight weeks after a person is exposed to TB for a positive infection to be identified.

Moving toward early detection

Jeffrey Cirillo, Ph.D., a professor at the Texas A&M Health Science Center College of Medicine and director of the Center for Airborne Pathogen Research and Imaging, has been working on a rapid diagnosis test to detect active TB in real time. Still in clinical trials, the TB REaD takes a sample of sputum from the regularly administered test and mixes it with a chemical compound that allows Cirillo and his team to spot the bacteria in a matter of minutes. TB REaD delivers a diagnosis of positive or negative in about half an hour.

"Worldwide, people don't get diagnosed until they've already transmitted the infection," Cirillo said. "The idea would be to detect them very early on when they first visit a clinic. The process of testing has been an issue because no one had a method for sensitively detecting tuberculosis during the early stages of the infection."



White and her primary doctor, Elizabeth Guy, M.D., embrace after White learns she has completed all her TB treatments.

Cirillo and his team have worked to detect the infection when the bacteria is very low. Compared to the smear or sputum test, which has a threshold detection of 10,000 bacteria, the TB REaD test produces results by detecting as few as 10 bacteria in roughly 10 minutes, according to Cirillo.

“It’s almost like magic,” Cirillo said. “Many people don’t believe you can detect that few bacteria in that short of time, but it all comes down to the fact that the enzyme is so robust and you get reaction from the bacteria being alive.”

Once White’s TB diagnosis was confirmed, she began the long journey toward regaining her health.

Because TB is a respiratory infection that travels through the air and can be highly contagious, it is considered a matter of public health. After White was diagnosed, a public health investigator from the Houston Health Department was assigned to her case. City health officials require any individual with active TB remain in isolation until they are no longer a threat to public health. When is that? Once the individual has received three consecutive negative sputum tests.

In addition to isolation, White was placed on an intense antibiotic treatment plan.

“I was so little to take all of those pills,” said White, who is 5-foot-4 and weighed 99 pounds when she returned home from the hospital. “I was taking nine pills a day, seven days a week, and I couldn’t handle what my body was going through.”

The TB treatment plan is intense and time-consuming—lasting three months to one year for most patients. Because of this, directly observed treatment has been implemented for TB patients across the country.

Directly observed treatment, short course, or DOTS, is defined by the World Health Organization as a specific strategy to improve adherence to TB medication by requiring health workers, community volunteers or family members to observe and record patients taking each dose.

White’s community health worker, Berta Perez, senior public

health investigator for the city of Houston, came to her house every day for eight months and then every three days to deliver her medication and physically watch White take it. As an added precaution, the health department also requested White’s partner and her son undergo an antibiotic regimen.

“In the United States, we use directly observed treatment, but that comes at a high cost,” Guy said. “In other countries where there are not as many resources, people go to a central location to get their medicine and usually once they start feeling better, they stop going.”

‘Assume they are infected’

Starke’s tuberculosis clinic at Texas Children’s is a microcosm of the city of Houston. Held regularly on Tuesday and Friday mornings, the clinic welcomes all children—whether they are from Sunnyside or Somalia.

“We also started doing something at Texas Children’s many years ago,” Starke said. “If we have a kid show up who might have TB, we do immediate chest X-rays on the parents, at our expense. The idea behind it is, if the child really has TB, he or she got it from someone and it is likely somebody close to them. That person might not have been diagnosed yet, and it might even be a parent.”

(continued)



Jeffrey Starke, M.D., examines a patient at Texas Children’s Hospital.



After finishing treatment for TB, White relaxes with her family at home.

The results of this new procedure were astounding. Initially, they found that 15 percent of adults accompanying the children to the hospital had undiagnosed TB disease, according to Starke.

In the United States, it has been common practice to require family members and people residing in the same household as an infected person to begin antibiotic treatment—much like White’s family did once she was diagnosed.

“For 40 years, the World Health Organization has said the following: if you have Uncle Eddie at the house, look at all the kids in the house less than five,” Starke said. “If they’re sick, go get them diagnosed. If they are well, give them six months of Isoniazid. In other words, treat them for TB infection. Even if you don’t give them a blood or skin test, assume they are infected and treat them.”

Despite this long-standing recommendation, high-burden countries are just now beginning to comply, Starke said. China and India have been labeled high-burden because their rates of TB are 30 to 50 people out of 100,000, accounting for one-third of the world’s TB.

“It’s been a resource issue, but now they are starting to wake up to the fact that, oh wow, we can prevent a lot of this with pretty simple, easy and cheap measures,” Starke said.

Like White, though, many people do not know where or how they contracted the disease.

“Right before I was diagnosed with TB, I found out I had hepatitis C,” White said. “And after I had TB, I found out I had diabetes. ... My whole body started breaking down.”

Starke said TB is a question of bulk and degree.

“There are just that many people who are infected who go on and develop the disease,” he said. “If the world suddenly got smart and woke up and decided it wanted to go out and find people who

had the infection and treat them so they wouldn’t develop the disease, which is particularly true for children, we could very rapidly knock down the number of people developing the disease.”

In addition to finding an effective vaccine, the real breakthrough for care would be identifying patients with TB infection—diagnosing and treating them before it spreads.

“I think one of the themes here, if you will, is that the face of TB is changing,” Starke said. “The Texas Medical Center, including Ben Taub, may take care of more TB patients than any other single health facility in the United States. We have tremendous expertise here and there is a rich history of care going back decades.”

During her last visit with Guy, nearly one year to the day of her diagnosis, White found out she no longer needed to take her tuberculosis medication. She was, for all intents and purposes, cured.

Although she will always have scars on her lungs, White is enjoying the fact that she is free of TB and can go back to doing some of her favorite things—fishing, going on long walks and enjoying Johnston’s home cooking.

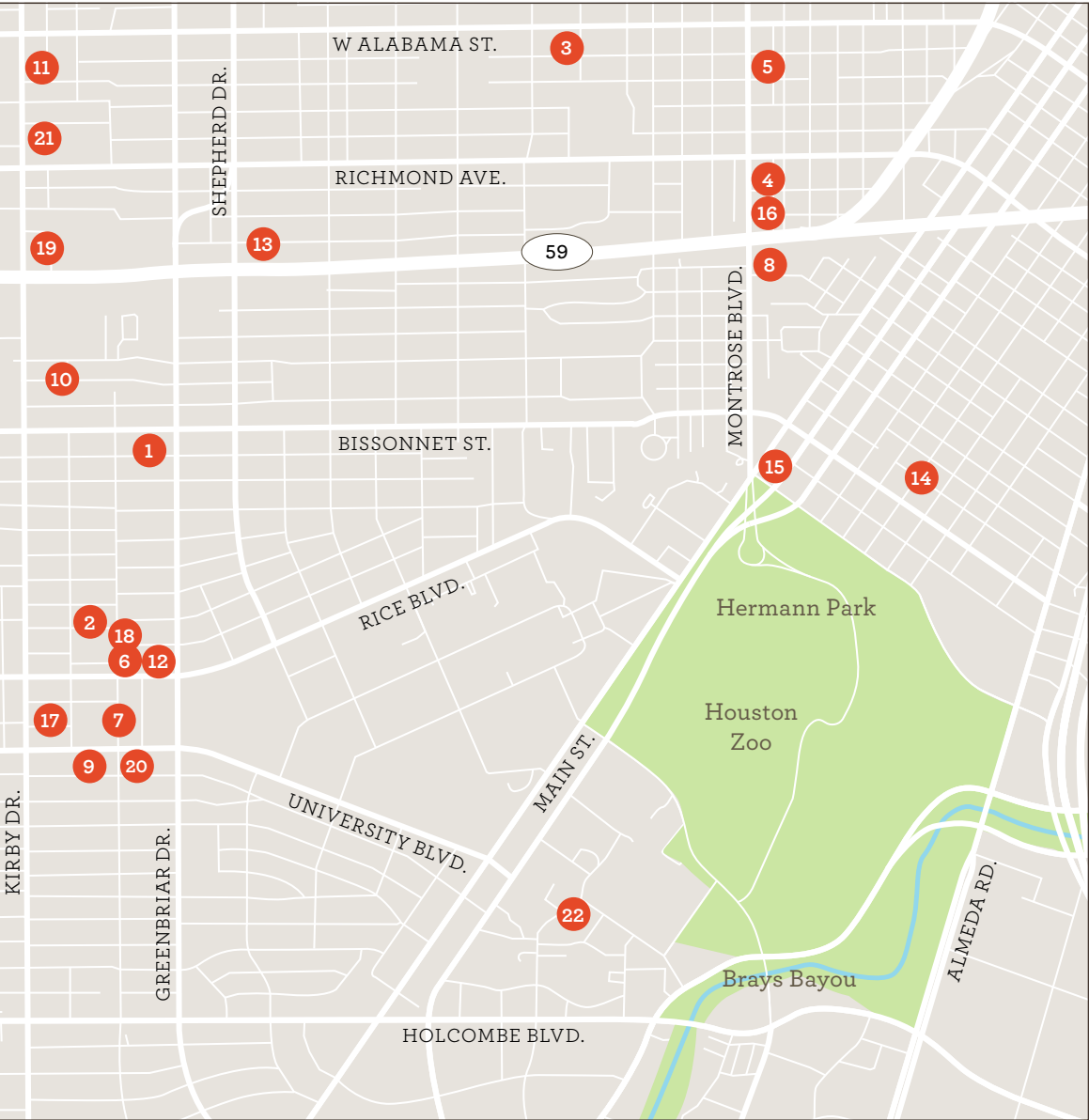
“I have a life now,” White said. “I think we are going to celebrate. Go pig out—maybe have some rice and beans and oxtail and go swimming in my pool.” ■



Houston Restaurant Weeks

Grab a meal near the Texas Medical Center

BY CHRISTINE HALL



Houston Restaurant Weeks, which runs Aug. 1 through Sept. 4, is an annual five-week fundraiser for the Houston Food Bank. Hundreds of participating restaurants in the area offer specially priced meals, from \$22 brunches to \$45 three- or four-course dinners, and donate a portion of the proceeds directly to the Houston Food Bank.

The map on this page shows some participating restaurants close to the Texas Medical Center. For more information and a complete list of restaurants, visit houstonrestaurantweeks.com.

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2424 Dunstan Rd.
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1513 W. Alabama St.
- 4 **Cafe Azur**
4315 Montrose Blvd.
- 5 **Canopy**
3939 Montrose Blvd.
- 6 **Coppa Osteria**
5210 Morningside Dr.
- 7 **D'Amico's Italian Market Cafe**
5510 Morningside Dr.
- 8 **Danton's Gulf Coast Seafood Kitchen**
4611 Montrose Blvd.
- 9 **El Meson Restaurant**
2425 University Blvd.
- 10 **Goode Company Armadillo Palace**
5015 Kirby Dr.
- 11 **Grace's**
3111 Kirby Dr.
- 12 **Hungry's**
2356 Rice Blvd.
- 13 **The Lexington Grille**
2005 Lexington St.
- 14 **Lucille's**
5512 La Branch St.
- 15 **Monarch Bistro at Hotel ZaZa**
5701 Main St.
- 16 **Pax Americana**
4319 Montrose Blvd.
- 17 **Prego**
2520 Amherst St.
- 18 **Punk's Simple Southern Food**
5212 Morningside Dr.
- 19 **Ruggles Black**
3963 Kirby Dr.
- 20 **Sud Italia**
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The Hole in Medicaid's Safety Net

Some young adults with chronic conditions aren't covered

AN ESSAY BY ARTHUR GARSON JR., M.D., M.P.H.

Medicaid provides a critical safety net for children in low-income families.

But many of those kids face a stark reality: Once they turn 19, they'll be unlikely to receive coverage unless they are identified as "disabled." That's a high bar. Essentially, to meet that threshold, one must be in such bad shape that he or she can't work at all.

When Medicaid was created in the mid-1960s, it was intended to cover low-income children, the disabled and those over 65 who needed long-term care. Medicaid wasn't really intended for working-age adults who could work and pay for insurance themselves or with subsidies provided by their employer. But today, health care is no

longer affordable for low-income people, even if they work.

The situation is especially tough for those born with chronic conditions that require costly, lifelong treatment.

Take the patient I treated in the 1980s, who was born with congenital heart disease. He made it through high school, but was clearly incapacitated. He looked for work, but was unable to find a job.

My patient, despite having no income, could not be covered by Medicaid unless he was declared disabled. He filled out the required disability questionnaire and answered the questions about heart disease symptoms honestly, but they were aimed at adult patients. For example,

he acknowledged he didn't have chest pain—which didn't make his condition any less serious.

My patient died six days after receiving his denial from Medicaid that essentially said he wasn't sick enough to qualify for coverage.

I have seen many people die because they were unable to access Medicaid coverage they desperately needed for treatment of manageable, chronic conditions.

These cases arise, ironically, because modern medicine is a victim of its own success. People born with conditions like congenital heart disease are living longer and thus need lifelong treatment. Today, there are more adults with congenital heart disease than children. We have the medical knowhow to take care of them, but too often, we lack public policies that ensure they're able to access that treatment.

The obvious fix is to make affordable, adequate health insurance available to everyone—and it would not matter if someone had a chronic condition.

One way to do that is by putting patients with complicated conditions in a high-risk pool. High-risk pools should bundle these types of patients together and subsidize their costs.

Designing the structure of these plans is critical to their success. But so far, here in Texas, the high-risk pool is not appropriately funded. As a result, the premiums are high—about double what premiums would be for typical patients. The pool has a rule that prevents anyone with a pre-existing condition from getting coverage for 12 months. By definition, everyone applying for the pool has a pre-existing condition, so this seems a blatant way to reduce the expenses to the pool by reducing benefits. It's no surprise that just 2.6 percent of eligible patients participate in this poorly designed system. A better system is the one in Maine, which is appropriately funded and offers affordable premiums.

We can also change the disability rules so they don't exclude those who don't fit the stereotype of "disabled." A 20-year-old with congenital heart disease—or any number of chronic conditions—doesn't look like a 60-year-old with the same diagnosis. He may be able to work and perform other activities relatively normally, if he has proper treatment. It doesn't make sense that our Medicaid system often won't cover the 20-year-old until he has deteriorated to the point that he is no longer able to work.

We should also develop job training programs specifically tailored to adults like my patient who have physical limitations but are capable of working. Some job programs are helping veterans, but they need to be broadened. These programs would pay for themselves because they allow people to become productive workers who are contributing to the economy. With an average cost of \$1,200 per worker, these programs are relatively affordable.

We've developed a way for people with complicated conditions to live longer, but we haven't developed a way to ensure they can afford the lifelong treatment they need. For those who are disabled, let's not make their lives miserable with inappropriate denials. Let's celebrate the adults who were born as sick children and today are capable of not just surviving, but thriving, with a little bit of help. ■



Arthur "Tim" Garson Jr., M.D., M.P.H., is director of the Texas Medical Center's Health Policy Institute. Follow Garson at @HealthPolicyTMC.

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TMC SNAPSHOTS

A PHOTO ESSAY BY CODY DUTY



A | A man walks along the water wall at the John P. McGovern Commons. **B** | The face of James “Red” Duke Jr., M.D., is part of the city’s Mini Murals project, which turns electrical control boxes into art. This box is near Fannin St. and Braeswood Blvd. **C** | A flock of plastic flamingos in front of CHI St. Luke’s Health - Baylor St. Luke’s Medical Center. **D** | A North American porcupine from the Houston Zoo visits the rose garden at MD Anderson Children’s Cancer Hospital. **E** | A woman crosses Bates St. on a rainy morning.

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Building Better Doctors

McGovern Medical School at UTHealth is one of many medical schools updating its curriculum

BY SHANLEY CHIEN

Since the beginning of the 1900s, most medical education has been divided into two parts: two years of basic science training followed by two years of clinical experience.

That format was the status quo for more than a century, but medical schools began to recognize that students needed to engage with patients earlier in their training. By waiting until the third year of medical school to interact with patients, students didn't have as much time to translate what they learned in the classroom into a meaningful connection with a real-life patient.

In recent years, medical schools across the country have started to put their programs under the microscope. McGovern Medical School at The University of Texas Health Science Center at Houston (UTHealth) was among those seeking a better curriculum.

Established in 1969, McGovern Medical School—then known as UT Medical School at Houston—first changed its curriculum in the 1970s when it shifted from a three-year program, in which students met six days a week, to the traditional four-year format. But as the seventh-largest medical school in the country, more change was necessary to keep a competitive edge.

“For those of us who have been teaching for a long time, you always do what you can within your discipline and within your scope to try to keep up with the times,” said Leonard Cleary, Ph.D., vice chair of the curriculum committee, chair of the curriculum revision subcommittee and assistant dean for educational programs at McGovern Medical School. “But at other schools, they had taken a broader perspective and asked what they needed to do with the curriculum as a whole. That’s where we needed to go at McGovern.”

A group of faculty members, staff and students joined forces in 2012 to develop a new curriculum that reduced



Medical student David Savage interviews a standardized patient as Eugene Toy, M.D., assistant dean for educational programs at McGovern Medical School, looks on.

the pre-clerkship curriculum by two months, integrated overlapping components into a single course and—most importantly—introduced students to patient care during their first year.

Another goal was to use the new curriculum “as a recruiting tool for our incoming students in terms of what they’re interested in, as well as preparing them best for what we think is the future of medicine, which is obviously rapidly changing,” said Philip R. Orlander, M.D.,

associate dean for educational programs and chair of the medical school’s curriculum committee.

Under the new curriculum, implemented Aug. 1, 2016, basic science elements that were once taught separately are integrated into a single course, “Foundations of Medicine,” during the first semester.

This change marked a significant departure from the traditional siloed approach that proved—more often than

“It’s not just about getting the best board scores or about getting the best residency matches. It’s about making the best possible physicians for future patients.”

— DAVID SAVAGE

M.D. and Ph.D. student at McGovern Medical School and member of the curriculum revision subcommittee

not—to be tedious, time-consuming and ineffective.

“In the old system, students just took classes in these individual science disciplines, like biochemistry, anatomy, physiology, etc.,” explained David Savage, an M.D. and Ph.D. student at McGovern Medical School and member of the curriculum revision subcommittee. “A lot of times, there was not much collaboration between the people who ran those courses. They just taught the thing they always taught, so you would sometimes get exposed to something two or three times over the course of several different classes.”

The school even changed the curriculum at a pedagogical level by using a “flipped classroom” approach. Before, professors would lecture to a largely vacant classroom because students watched the recorded lecture videos in lieu of attending. However, in the flipped classroom model, students are assigned to watch video lectures on their own and then apply them to exercises, projects and discussions in class.

“I think this is the start of a gradual process of faculty members changing the way that they are interacting with the students,” Cleary said. “Just giving a lecture, which is a summary of textbooks or other sources, is not going to generate that interaction with the students.”



Jammie Barnes, M.D., assistant professor of internal medicine, leads a discussion with McGovern Medical School students.

Vaccination against cynicism

The most significant change to the curriculum is earlier patient interaction. Students are assigned to a McGovern Medical School clinical faculty member in the physician's clinic starting their first year, instead of waiting until their third year for clinical rotations.

To prepare for the clinic, students learn the basic skills of medical practice—such as taking patient histories and conducting physical exams—during their first semester. They are then paired with a physician to shadow and assist during their second and third semesters. Students even interact with “standardized patients,” actors who portray different medical conditions.

By allowing students to work directly with patients their first year, the curriculum synchronizes the classroom lessons and the clinical experience. For example, while students learn about cardiology and the physiology of the heart and vascular system, their clinical skills session will focus on conducting cardiovascular examinations on patients and listening for heart murmurs.

“My belief is that it's important to have students learn these skills very early on,” said Eugene Toy, M.D., professor of obstetrics, gynecology and reproductive sciences and assistant dean for educational programs at McGovern Medical School. “That way ... they have a direct application of those basic science principles to the patient.”

Offering a clinical experience at the beginning of medical school also reinforces the humanity of medicine, something students may lose amid the pressure to succeed in such a competitive environment.

“What we have to do as educators is to approach the teaching of medicine differently so that ... the human aspect, the compassion aspect, remains a priority,” Toy said. “I kind of see my courses largely as a vaccination—so to speak—against some of the cynicism.”

For Toy, this means bringing patients into the lecture area, showing videos of real people who are affected by different diseases and “constantly reminding the students that the reason they are here and the reason why this will be fulfilling for them as a career is helping people.”

The new curriculum also focuses on quality assurance and patient safety. McGovern Medical School is one of 10 medical schools selected to participate in an Association of American Medical Colleges (AAMC) pilot project that assesses 13 activities all medical students are expected to perform upon entering their first day of residency, such as gathering patient history, performing physical exams, interpreting common diagnostic and screening tests, and obtaining informed consent for tests and procedures.

“In the past, we probably just hoped that everybody did these well because we assumed we taught them well,” Orlander said. (continued)

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Leonard Cleary, Ph.D., working with students.

“ I think this is the start of a gradual process of faculty members changing the way that they are interacting with the students. Just giving a lecture, which is a summary of textbooks or other sources, is not going to generate that interaction with the students. ”

— LEONARD CLEARY, PH.D.

Assistant dean for educational programs at McGovern Medical School

Recent studies have shown a performance gap between the transition from medical school to residency training, according to the AAMC. Program directors across the country have grown increasingly concerned that medical students are not well prepared to make the transition to residency.

Although all accredited schools are required to delineate educational objectives and competencies, the Liaison Committee on Medical Education, which accredits medical education programs in the United States and Canada, does not yet have a core guideline of behaviors and skills that all graduating medical students are expected to perform.

As part of the pilot project and the new curriculum, preceptors observe and evaluate students performing basic skills to ensure they are ready for their first days as doctors.

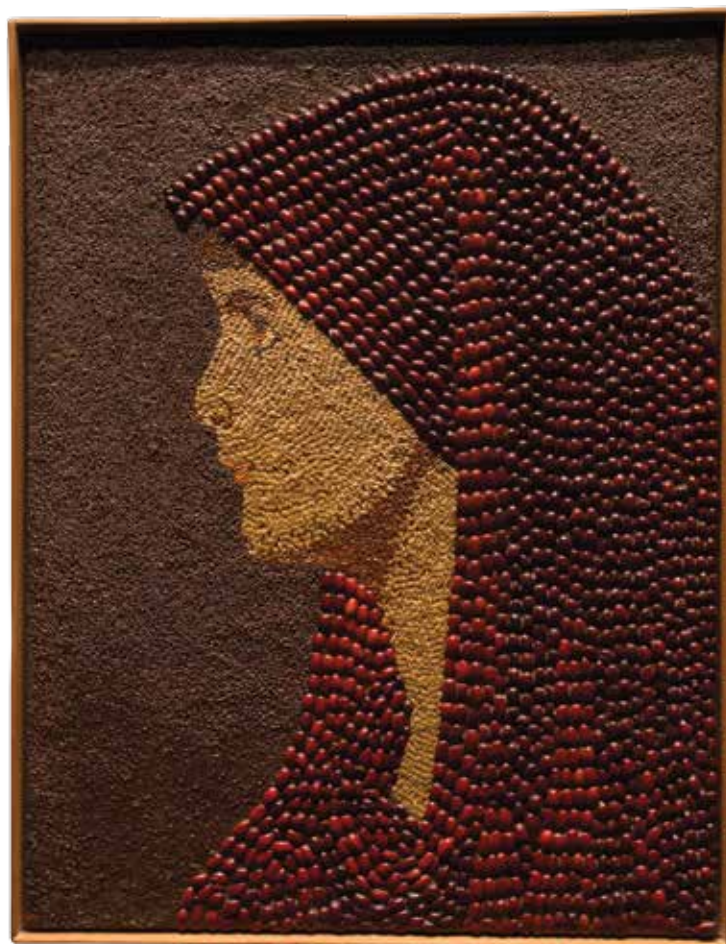
“You can talk about that all day in a classroom, but until you throw a student in and allow them to experience firsthand the physician-patient and physician-family dynamics ... then I think that makes the medical student that much more prepared as a resident,” Savage said.

A new tradition

Change can be difficult to embrace. The old curriculum was entrenched in tradition, and some faculty members at McGovern Medical School were resistant to the idea of moving away from the model that had produced high test scores and residency match rates for more than 30 years.

But 93 percent of U.S. medical schools implemented or were in the process of implementing a curriculum change between 2012 and 2013, according to the AAMC. In addition, the American Medical Association launched the Accelerating Change in Medical Education initiative in 2013, providing \$11 million in grants to stimulate major innovations at 11 of the nation's medical schools. Since then, the initiative has expanded to 32 schools across the country and continues to work toward modernizing medical education.

“It's not just about getting the best board scores or about getting the best residency matches,” Savage said. “It's about making the best possible physicians for future patients.” ■



CURATED

The Intersection of ARTS and MEDICINE

By Britni N. Riley

Francis Alÿs, a Belgian artist, moved to Mexico City in the early 1990s in search of Picassos for pennies on the dollar. He never found inexpensive paintings by the Spanish master, but he did find hundreds of replicas of a portrait of St. Fabiola, the patron saint of nurses and abused spouses.

The portraits, which depict a veiled woman in red, vary in size, shape and material. One is even made from rice and beans. And all are hanging on the back wall of the Byzantine Fresco Chapel in Houston, part of the Menil Collection.

"This great wall idea, I thought of Baroque churches in Italy, southern Austria, Germany and Mexico, where there is this tendency to overwhelm with images, some of which are way above eye-level," said Toby Kamps, curator of modern and contemporary art at the Menil. "I thought we could echo that in this installation."

Francis Alÿs: The Fabiola Project is made up of nearly 500 amateur portraits of St. Fabiola, a

fourth century precursor to Mother Theresa who built a hospital in Rome and nursed the sick.

"She was a noblewoman who married a bad guy," Kamps said. "It was an abusive relationship. She got a divorce and married again. After her second husband died, she returned to Christianity and repented for the sin of divorce. She used her fortune to open the first hospital for the poor and she was friends with St. Jerome, who recorded her deeds."

But no one knows what St. Fabiola looked like. No one painted her portrait before her death in 399 A.D. It wasn't until a Spanish-born priest in England, Cardinal Nicholas Wiseman, published a book about St. Fabiola in 1854 that her image began to appear in art.

"She was almost a forgotten saint until the mid-19th century, when Cardinal Wiseman kind of resurrected her story for a revival of Catholicism in England," Kamps said. "In 1885, the French painter Jean-Jacques Henner painted a portrait of St. Fabiola, and it is a profile view of a very beautiful woman in a red veil seen from the side. This was just at the advent of color printing technologies, and it was a top-selling postcard at the shop at the Louvre and it was very widely reproduced."

Although the original painting by Henner was mysteriously lost after it was sold at auction in the early 1900s—some believe it perished in the San Francisco earthquake of 1906—the iconic painting lives on in countless replicas.

"Why did so many people paint this portrait?" Kamps said. "There is something magical about putting an image through your imagination.

Looking at it, processing it and putting it out there in your own painterly voice. The persistence of that, why all of these people around the world—from Lebanon, from South America, Europe, North America and Mexico—devoted all of the hours it took to paint these is a great question. And that accumulative quality, too. All of those people thinking about this saint ... what does that signify?"

Kamps, who starts a new position as director of the University of Houston's Blaffer Art Museum in September, encourages guests to make a few visits to the free exhibit at the Byzantine Fresco Chapel and connect with the space in a deeper way.

"We have comfy couches, chairs," he said. "It is intentionally quite dark in here. The images are spotlighted dramatically so you walk in from a typical bright Texas day and it takes your eyes a few minutes to adjust. We hope that you slow down, sit down, take a breath and use this like a chapel. We want to be clear that you are invited to come back again and again and see this on different days, different moods and different seasons—much as you would keep reconnecting with a church or meditative practice." ■

.....
The Fabiola Project is on display through May 13, 2018, at the Byzantine Fresco Chapel on the Menil campus at 4011 Yupon Street at Branard Street. Information: 713-521-3990 or menil.org. During the renovation of the main Menil building starting in late February 2018, the campus' other exhibition spaces—including the chapel—will remain open.
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Creative Care

Using wood and other materials, a nurse invents new ways to help elderly patients

BY CHRISTINE HALL

An ongoing challenge for geriatric nurses is identifying the full scope of a patient's capabilities.

Colleen James, a geriatric nurse at The University of Texas Medical Branch at Galveston (UTMB), says that when she enters a patient's room, a flood of questions races through her head: Is the patient hard of hearing? Does the patient wear glasses? Does the patient use a cane? Is the patient on bedrest? Does the patient have trouble swallowing? Does the patient need help getting out of bed and to the bathroom? Does the patient have dementia?

To help answer these questions, James designed a sign that can be mounted on the side of a patient's headboard. The wooden sign includes a series of simple symbols that a nurse can circle to indicate the patient's capabilities and needs. That way, every caregiver who understands the symbols on the board gains access to critical information in a matter of seconds.

"What I tell my students is that we need to think about how we interact with patients," James said. "They could have dementia or delirium, but with the board, I will know at an immediate glance what I'm working with."

At UTMB Health, James coordinates the Nurses Improving Care for Healthsystem Elders (NICHE) program, a national program designed to help hospitals raise the level of care for older adults through nurses and other staff. One of her main goals is to help her young students feel more comfortable with elderly patients.

"I work with nursing students to help them learn how to work with geriatrics—to show them that it is a good area to go into," James said.

Older Americans are living longer, which means that more medical personnel—nurses, doctors and others—are needed to treat the 65-and-older population.

"In general, the country is way behind on preparing enough geriatricians for today's older population, much less that of tomorrow," said Robert Roush, Ed.D., M.P.H., a professor of geriatric medicine at Baylor College of Medicine and director of the Texas Consortium for Geriatrics Education and Care.

In addition, a nursing shortage looms. Although nursing is one of the fastest-growing occupations in the United States, the Bureau of Labor Statistics predicts that 1.2 million nursing job vacancies will arise by 2022.

James is doing her part to bridge the divide between young nurses and elderly patients.

She and her students log a lot of hours in the MakerHealth Space at UTMB, where staffers are encouraged to tinker with different materials—everything from zippers and



James created wooden signs with symbols to let nurses know each patient's capabilities.

buttons to 3-D printers—to find solutions to on-the-job problems. This is where James built the wooden board. The space is outfitted with hammers, pliers, cutters and wrenches of all sizes, lined up neatly in rows along the wall. Washers, nails, screws and bolts are organized by size in a bin with several small pull-out drawers. Bigger pieces of equipment are scattered throughout the space.

For a recent project, James and her students sewed zippers, hooks, buttons and bracelets onto over-the-head aprons that patients can take home from the hospital. The aprons are designed to help patients with cognitive impairment—memory loss, confusion or trouble concentrating—due to illness, medication or dementia. Interacting with the different elements on the apron helps stimulate the brain and boost self-esteem.

"We use this as a volunteer opportunity," James said. "The students are always looking for volunteer hours, and this is something that is also a value add for patients."

James is now working with Andrew Maxwell-Parish, manager of the space, to create a prototype for a waist apron. They are also collaborating on items for the apron that James considers "guy stuff," such as fidget toys, nuts and bolts.

The interactive aprons give younger nurses and elderly patients a point of contact.

"It's a great tool to have the students engaged in a population that I think is underserved," James said. ■



Colleen James, geriatric nurse and UTMB Health's NICHE coordinator, models an activity apron that she designed with her nursing students to help patients with cognitive impairment.

[1] **MELISSA ALLEN, D.O.**, has been named medical director of The University of Texas Harris County Psychiatric Center, the mental health hospital component of The University of Texas Health Science Center at Houston (UTHealth).

[2] **SHARMILA ANANDASABAPATHY, M.D.**, professor of medicine in the section of gastroenterology at Baylor College of Medicine and director of Baylor Global Initiatives, has been selected for the Texas Executive Women's 2017 Class of Women on the Move, which supports programs to advance women and teenage girls in the community.*

[3] In July, **THE HEALTH MUSEUM** became the first Smithsonian Affiliate museum in the Houston Museum District. The Smithsonian Affiliations program helps with the loan of Smithsonian artifacts and traveling exhibitions. More than 8,000 Smithsonian artifacts have been displayed at Affiliate museums.

[4] Executive vice president and CEO of The University of Texas Medical Branch at Galveston, **DONNA K. SOLLENBERGER**, is the new board chair for America's Essential Hospitals, a national association of hospitals dedicated to high-quality care for all.

[5] Molecular endocrinologist **JOHN J. KOPCHICK, PH.D.**, and his wife, **CHARLENE KOPCHICK**, of Athens, Ohio, gave a \$10.5 million gift to The University of Texas MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences. The Kopchicks' gift will fund up to 15 student fellowships at the MD Anderson UTHealth Graduate School, where John Kopchick received his Ph.D. in 1980.*

[6] **MAURO FERRARI, PH.D.**, president and CEO of Houston Methodist Research Institute, was awarded a Doctor of Letters Honoris Causa from the University of St. Thomas, where he helped establish the Master in Clinical Translation Management Program.*

[7] **JAMES M. MUSSER, M.D., PH.D.**, chair of the department of pathology and genomic medicine at Houston Methodist Hospital, is president-elect of the Federation of American Societies for Experimental Biology for 2017-2018.*

[8] Houston **MAYOR SYLVESTER TURNER**, center, led a trade mission to Europe with **WILLIAM F. McKEON**, president and CEO of the Texas Medical Center, far back right, and other members of Houston's medical, arts and energy sectors.*



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Credit: No. 1 and No. 12: Dwight C. Andrews/The University of Texas Medical School, No. 10: Adolfo Chavez III/MD Anderson Cancer Center, No. 11: Allen Kramer/Texas Children's Hospital, *Courtesy photo

DO YOU HAVE TMC EVENT PHOTOS YOU WOULD LIKE TO SHARE WITH PULSE?
SUBMIT HIGH-RESOLUTION IMAGES TO: NEWS@TMC.EDU



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[9] At **ST. DOMINIC VILLAGE**, visitors found a creative way to use the July issue of *TMC Pulse*.

[10] Camp For All 2U came to **MD ANDERSON CHILDREN'S CANCER HOSPITAL** to serve patients who were not able to attend regular offsite camps. Campers canoed, learned about archery, played putt-putt golf, told stories around a mock campfire and enjoyed other camp activities.

[11] Texas Children's Hospital radiologist **VICTOR SEGHERS, M.D.**, was elected vice president of the Pediatric Imaging Council within the Society for Nuclear Medicine and Molecular Imaging. This is a six-year term and Dr. Seghers will become president of the council in 2019.

[12] UTHealth School of Biomedical Informatics professor **DEAN SITTIG, PH.D.**, has been elected to the inaugural class of the International Academy of Health Sciences Informatics.

[13] **HARRIS HEALTH SYSTEM** held a ceremonial ribbon cutting of The Specialty Clinics at Ben Taub Tower, home to 20 specialty clinics that previously occupied the second floor of the hospital. Left to right: Michael Gardner, M.D., executive vice president and administrator, Ambulatory Care Services; Carolyn Truesdell, trustee, Harris Health System Board of Trustees; Elvin Franklin Jr., trustee, Harris Health System Board of Trustees; George V. Masi, president and CEO, Harris Health System; Ewan Johnson, M.D., Ph.D., trustee, Harris Health System Board of Trustees; Daisy Stiner, secretary, Harris Health System Board of Trustees; Kimberly Monday, M.D., vice chair, Harris Health System Board of Trustees; and Stephanie Ramirez, director, Ambulatory Care Services.*

[14] **PEGGY SMITH, PH.D.**, Baylor professor in the departments of obstetrics and gynecology, psychology and pediatrics and director of Baylor Teen Health, received the 2017 David C. Wiley award from the Texas Campaign to Prevent Teen Pregnancy. She also received the 2017 Champions of Children Award from the Children's Defense Fund - Texas. In addition, Smith was named to the Reducing Maternal Mortality Steering Committee of the Houston Endowment.*

[15] **XANDER WEHRENS, M.D.**, professor and director of Baylor's Cardiovascular Research Institute, received the 2017 Outstanding Investigator Award from the International Society for Heart Research.*

[16] Shield O2, a company that created affordable, sustainable patient oxygen in a backpack, won the top prize at the Global Health Hackathon hosted by the **BAYLOR COLLEGE OF MEDICINE** Global Innovation Center.



Fresh, locally grown food is sold at the Rice University Farmers Market.

7
**College of Nursing
Information Session**
Monday, noon – 1 p.m.
Prairie View A&M University
6436 Fannin St.
fdsmith@pvamu.edu
713-797-7031

8
Rice University Farmers Market
Tuesdays, 3:30 – 6:30 p.m.
Rice University
Parking Lot Entrance 13B
5600 Greenbriar Dr.
ricefm@rice.edu

9–12
**Advances in Tissue Engineering,
Short Course**
Wednesday – Saturday
8 a.m. – 5:30 p.m.
Rice University
BioScience Research Collaborative
6500 Main St.
Registration: \$495 – \$1,200
713-348-4204
gns1@rice.edu

17
**James T. Willerson, M.D.,
Cardiovascular Seminar: “The long
noncoding RNA Wisper controls
cardiac fibrosis and remodeling,”
with Ashley Benjamin, Ph.D.**
Thursday, 4 p.m.
Texas Heart Institute
Denton A. Cooley Auditorium
6770 Bertner Ave.
vsweed@texasheart.org
832-355-9144

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Wednesday
August 16 at 12pm OR August 23 at 4pm OR
August 30 at 4pm

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Whole Foods Market On San Felipe and Post Oak
light meal included**

RSVP to: Education@weMEDwellness.com or 713-572-3888 (Extension 6)



weMED Wellness Center
Synergy of Western and Eastern Medicine
For Prevention, Healing & Wellness

18
**Houston Methodist
Cancer Symposium**
Friday, 7 a.m. – 5 p.m.
Houston Methodist Research Institute
6670 Bertner Ave.
John F. Bookout Auditorium
Registration: Complimentary for
Houston Methodist attendees;
\$15 – \$170 for others
events.houstonmethodist.org
713-441-4971

30
Nursing Professional Day
Conference to share knowledge on
pediatrics and women's health care
Wednesday, 7 a.m. – 11 p.m.
Texas Children's Pavilion for Women
4th Floor Conference Center
6651 Main St.
\$40 non-TCH employees; \$20 students
mprofessionalday@texaschildrens.org
832-824-2463

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Apply current immunization schedules and counsel families about how they can protect their children's health.



CHILDHOOD TRAUMA AND TOXIC STRESS

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