



Photo by Emma C. Vought

Cyclists ride over the Ravenel Bridge connecting downtown Charleston to Mount Pleasant as part of the 50-or 100-mile LOWVELO routes offered during the inaugural outdoor bike ride to raise money for cancer research that attracted more than 600 riders.

Riders bond, push hard during LOWVELO event

BY DAWN BRAZELL

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Ninety-seven miles into a 100-mile bike ride, Rita Barbagallo of Georgia ignored the pain in muscles that she didn't even know she had. She had just three miles left in what was her first century ride. She psyched herself up. She could do this.

But then, something felt way off. She pulled off to the side to check out her bike. She had a flat. "OK. That's it," she thought.

It was just the excuse she needed to climb into the support and gear (SAG) truck that was following her and be taken to the finish line. Everyone was waiting on her so they could go home as she was the last rider on the Jerry Zucker 100-

mile route – one of three available to the nearly 600 riders participating in LOWVELO, an outdoor bike ride held Nov. 2 to raise funds for cancer research at Hollings Cancer Center at MUSC.

As the SAG driver helped her fix her tire, she told him she had done enough and was packing it in. But he just shook his head. "He would have none of that," she says, smiling.

"If it weren't for that push, I wouldn't have made it. You don't realize the difference one person can make. I was exhausted," she says. "Sometimes in life we get so insular – just the fact that there was this one person pushing me helped me finish that ride. It showed how there really is

See LOWVELO on page 15

Google search for better health in small town gets results

BY HELEN ADAMS

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On a recent Tuesday morning, Anita Ramsetty, M.D., and Kristen Hood Watson, M.D., traded their white doctors' coats for black aprons. And instead of working in a clinic, they stood in a classroom at St. Stephen Elementary School in rural Berkeley County.

Fourth graders filled chairs and a sofa as they watched the MUSC Health doctors, who were standing by a portable kitchen. The room smelled like baked goods and the kids were curious. They soon learned that zucchini muffins were on the menu as part of a lesson about healthy cooking.

"A lot of times, people got to the doctor because they're already not feeling well. But really, we like to see you when you feel good, so we can keep you feeling that way," Ramsetty said. "We have a project we're going to work on. It's decorating these very healthy muffins."

"Can we eat them?" somebody asked.

Watson answered. "Before we eat them, we're going to talk about how to keep them clean. How do we keep from getting

See COOKING on page 13



Dr. Kristen Hood Watson assists Berkeley County fourth graders in a lesson about healthy cooking.

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Patient funds
beginning of center.

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Invention helps patients
during stressful times.

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Right doctor at right time: Geriatricians focus on healthy aging for older adults

By LESLIE CANTU

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In just 15 years, people in the U.S. over the age of 65 will outnumber children for the first time in history, according to the U.S. Census Bureau.

The aging population comes with a new set of health care challenges. This month's news of former President Jimmy Carter's hospitalization after his third fall this year may feel familiar to middle-aged adults trying to help their parents navigate a new stage of life.

Geriatricians, doctors who are specially trained to care for older adults, can be an invaluable resource.

"A geriatrician has specialized medical training for older adults," said Amanda Overstreet, D.O., who is board certified in geriatrics and oversees geriatrics education for internal medicine residents at MUSC Health. "One reason it's important is the physiology of an older adult is different than the physiology of a younger adult."

Despite the aging population, geriatrics remains an undervalued specialty, Overstreet said. Medical students aren't exposed to many geriatric specialists simply because they are few and far between. For example, she said, she joined the faculty of MUSC in 2016 and "that year, I was the only new geriatrician in the state of South Carolina. So that just gives you a sense of – there are just not many of us."

But MUSC is working to change that. It launched a new geriatric fellowship program

in July, said Mark Newbrough, M.D., a geriatrician who oversees the fellowship.

The fellowship will be a cornerstone for program development that will help MUSC better meet the needs of the community, he said. The program has two slots, one of which is filled this year. He expects that specialists trained through this fellowship will likely remain in South Carolina. The program also will facilitate development of additional programs and training of other health care professionals in addition to physicians.

In addition to training geriatricians, MUSC incorporates geriatric training for family and internal medicine residents. Overstreet supervises the internal medicine residents, all of whom complete one-month rotations working with her and her patients in an outpatient setting, as well as in the neurology, memory and movement disorders clinics and the Community Living Center at the Ralph H. Johnson VA Center and on the hospital consult service.

Overstreet, whose patients are all over the age of 70, said they run the gamut from frail centenarians to people in their 70s who regularly play golf and tennis. Although some patients come to her because they're worried about possible signs of dementia or because they need help managing a health condition, others just want someone familiar with the health needs of older people.

"I think some patients recognize that their bodies feel different as they age, and they want someone that specializes in caring for older adults," Overstreet said.

Geriatricians focus on healthy aging by

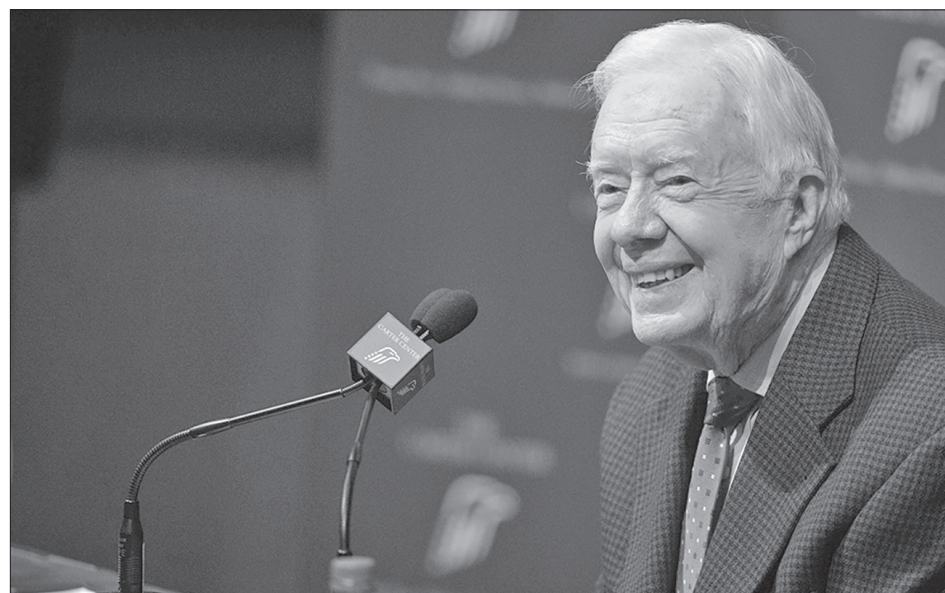


Photo by Michael A. Schwarz/The Carter Center

Former President Jimmy Carter has shared some of his health problems that have arisen because of aging. Carter recently underwent surgery Nov. 12 to address bleeding on the brain after two falls.

understanding how the body changes with time, she said. As people age, they lose body water and lean muscle, regardless of whether they exercise. Kidney and liver function naturally decline with age. These changes mean that older adults are more susceptible to dehydration and their bodies metabolize medication differently, so doses that might be fine for a younger adult could be unsuitable for an older adult. Skin becomes less elastic, so minor bumps that might not have caused injuries in the past can now cause tearing.

When it comes to hospital admissions, older patients are more at risk of certain complications like delirium. To help manage care, Newbrough provides a geriatric consultation for surgeons and other doctors. He primarily works with trauma and general surgeons but also consults with services like neurosurgery and urology.

Not only are geriatricians trained in

the physical aspects of caring for older adults, they can also help people deal with the unwelcome challenges of aging, such as not being able to live independently. Geriatricians can also provide counseling and care coordination around end-of-life issues, Overstreet said.

With changing population demographics, the need for these specialists will only increase. There's already a greater need for community support systems, Overstreet said.

"How do we help people live as well as they can? Some of that comes from having the right doctor, but some of that comes from having the community supports in place, which we struggle with in this state," she said.

However, Newbrough noted that as reimbursement models change, it makes sense for health care institutions to develop their geriatric workforce to provide efficient, holistic care for older patients.

MUSC CATALYST news

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Humanitas 2020 submissions due Dec. 1

Submissions are being accepted for the 2020 issue of Humanitas, MUSC's literary journal. All members of the MUSC community (students, faculty, staff and volunteers) are invited to submit their original visual art, literature, music and works of art for Humanitas (volume XXIV).

Submissions for 2020 Humanitas will be accepted until Dec. 1. No extensions. To submit your work, visit <https://education.musc.edu/students/cae-and-writing/office-of-humanities/humanitas> or email questions about your submissions to humanitas@musc.edu. Submissions will not be accepted via email.

MEET LOUIS



Louis G. Kunasek

Department; How long at MUSC
Facilities Zone East; Almost 5 years

How are you changing what's possible at MUSC

Every call I go out to, I try to figure out a way that I can prevent problems from happening again.

Family, pets and their names

Wife, Marilyn; sons, Brandon, Dustin and Windle; daughter, Kristina; and puppy, Cheech


Military branch you served and years
U.S. Army, 82 Airborne Infantry; 7 years

What Veterans Day means to me

I love Veterans Day because it allows veterans to be worthy and not forgotten. It also allows people that have never served to better understand what some people have gone through to preserve our way of life, our country and our freedom.

Cities or countries you have lived in

Traveled from Toronto, Canada, to Mexico, and have lived in Puerto Rico during high school. My mother is Puerto Rican and my parents bought a home there.



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AMERICAN EDEN

Victoria Johnson, PhD, is Associate Professor of Urban Policy and Planning at Hunter College of the City University of New York (CUNY), where she teaches on philanthropy, nonprofits, and the history of New York City.

RSVP AT
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A reception will follow in Porcher Medicinal Garden. The lecture is free and open to the public. Reservations are recommended.

BACKGROUND IMAGE:
 From Hosack's 1811 publication, *Hortus Elginensis*, or A catalogue of plants, indigenous and exotic, cultivated in the Elgin Botanic Garden, in the vicinity of the city of New-York: established in 1801. Retrieved from Internet Archive: <https://archive.org/details/2557025R.nlm.nih.gov>



South Carolina Clinical & Translational Research Institute



Order Your 2020 SCTR Pet Calendar

MUSC's South Carolina Clinical & Translational Research Institute's Staff Council is now accepting orders for its 2020 SCTR Pet Calendar. All featured pets in the calendar are family members of our own SCTR staff! Proceeds will be given to MUSC's Pet Therapy Program, providing hope, comfort and healing to patients and loved ones.

All orders and payments must be submitted before November 22. Payments can be dropped off in the Roper Medical Office Building, Suite 140.

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Changing What's Possible

Her junior high sweetheart grew up to become her ‘monster’

Domestic abuse survivor overcomes dangerous odds

By HELEN ADAMS

adamshel@musc.edu

Lynn Reilly stands at a podium at MUSC, an inexperienced public speaker whose passion for her subject outweighs her nervousness.

“I went to bed last night feeling OK about this,” she tells the crowd at the Intimate Partner Violence Rally. “I had a speech, things written out. I woke up this morning and said, ‘You know what? Just go with your heart.’ It’s my truth. And no one can tell it better than me.”

Her story begins when she was 14 years old. She’d just moved to New York state and started going to a new school. “With that comes meeting people, making friends. I wanted to fit in, and there he was. We spent that school year just becoming friends. Getting to know each other. I was 14 and didn’t really like boys then.”

By the time summer came, she decided she liked that boy. They started dating and stayed together until their senior year, Reilly says. “We decided to remain friends, knowing we’d be married one day. We wanted to experience life and get that out of the way.”

Reilly moved away. About five years later, she was back and ran into her former boyfriend at a party. “We spent the next three days together nonstop. It was like we did not even have any time in between where we were apart. It was right back to the way things were. Back then, there was no abuse. He was my best friend. He’s who I grew up with. He’s who I knew. He was my home, my protector.”

They married. “About a year later, all that changed,” Reilly says. “He slapped me in my face. I was raised where if someone puts their hands on you, you hit them back. So that’s what I did. I punched him in his face.”

He left, and when he came home, Reilly says, he brought flowers and apologies. “I remember him saying to me, ‘You know, I want to thank you for yesterday. You taught me something.’”

What came next stunned her. “He told me, ‘You taught me the next time I’m going to have to beat you like you are someone out in the streets.’ I couldn’t wrap my head around it. Who is this person?”

Her first hospitalization came after a fight at a friend’s house. “It started with a little push, a shove, fighting, screaming, punching. I don’t remember too much of it, but I do remember

**Contact the crisis line at
My Sister’s House, 843-744-
3242, or National Domestic
Violence Hotline,
1-800-799-7233.**

his hands around my neck. I remember thinking, ‘Who’s going to tell my dad that I’m dead?’”

She woke up in a hospital room with her jaw wired shut and her eyes so swollen it was hard to see. Reilly panicked. That’s when a nurse came in, she says, and spoke to her. “‘Ms. Reilly, you’ve got to calm down. You’re in the hospital. And your adoring, loving husband is the one who brought you in. He’ll be right back. He’s getting something to eat and drink. You’re so lucky to have such a loving husband. And junior high sweethearts, that’s amazing.’”

Reilly felt hopeless. “I couldn’t ask for help, not just because my jaw was wired shut, but who’s going to believe me? She wasn’t. Because he just spun his story, right? He told them I got jumped, and he found me.”

She says years of abuse followed. “The fights got more intense. Whether it was a gun to my head, a knife to my throat, hit by a car, thrown from a car, I’ve been through it all. And a lot of people say, ‘Why did you stay?’”

It’s complicated, she says. “I was married. You know, honor, obey, sickness and in health. Goodness, rich, poor. That’s one reason I stayed.”

She also feared that no matter what, the husband she now saw as a “monster” could get to her.

But with her father’s help, Reilly eventually moved out of state and wound up in South Carolina in 2012. That’s where she heard a scary statistic. In 2012, South Carolina ranked No. 2 in the U.S. for the rate of women murdered by men. “I said, ‘Oh my God, how am I going to be safe here?’”

She stayed because she’d found a new partner who she describes as adoring, loving and understanding, and South Carolina is where he wanted to be.

Then, about a year ago, something horrifying happened. Reilly’s former husband was accused of murder in Connecticut. The victim has been described in news reports as his former partner and housemate.



Photos by Sarah Pack

Lynn Reilly wears a purple shirt as she speaks at MUSC, standing by a purple dress. The color is associated with the push to end domestic violence. The dress represents a woman murdered by her significant other last year.



Janice Bennett looks at shirts and dresses representing men and women allegedly murdered by domestic partners last year.

Reilly has survivor’s guilt. “That takes a toll on you. It’s not just something that affects me. It affects everyone in my life.”

She copes by doing volunteer work at My Sister’s House, which is a shelter for victims of domestic violence in Berkeley, Charleston and Dorchester counties. She has also resolved to tell her story in hopes of helping other victims.

“I come to things like this where it’s important for people to know there are people ready to listen. There is help out there. You’re

not alone. Even if they don’t ask the right questions, say something. Because even if it’s not you, they may move on and it may be the next person whose life they take. And that’s almost harder to live with.”

South Carolina continues to rank among the deadliest states for women.

MUSC has multiple resources for victims of domestic violence, including a Sexual Assault Services program and the National Crime Victims Resources and Treatment Center.

Green Labs program recognize excellence, sustainability

BY ABIGAIL HUTCHINSON

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Environmental standards and expectations have only become more pressing in recent years as visible signs of climate change have begun to reveal themselves. John Brooker, communications specialist for MUSC Sustainability and Recycling Program, is well attuned to the impacts of waste on the environment within the realm of research. As a former employee in the Darby Children's Research Institute and lab technician, Brooker has seen firsthand the level of waste that research generates. Laboratories are found to use a profoundly higher level of energy than typical office buildings or homes. This combined with the fact that there are around 500 labs on MUSC's campus required a unique call to action.

"As a former lab technician myself, you are dealing with almost an environmental guilt. The research is vital, but there is a lot of plastic involved," Brooker said.

In an effort to confront these issues, Brooker, along with a team of many others, including principal investigators, safety specialists and interns from the College of Charleston, worked to initiate the Green Lab certification program. The program was modeled after a national program and offers the opportunity for MUSC personnel to participate in laboratory training courses and certification. Unique in its priority to tailor its offerings specifically toward laboratories, the program emphasizes collaboration in an effort to save resources.

"Collaborating is such a big part of the program because it not only saves resources, but collaborating and meeting your neighbors, so to speak, in the laboratory setting has been shown to build these collaborating networks, so then people can know what others are doing and help out by joining in," Brooker said.

The Green Labs certification program resembles the recycling program, established only a few years prior, which was a LEAN project aided by the Performance Improvement office on campus. Before the start of this program, recycling in the laboratory was virtually unheard of. Through this project, recycling was integrated into laboratory operations, based on a training program in which participants are taught

how to sort and mark glasses for recycling properly.

Today, the Green Labs certification program serves as a space to provide education on sustainability and give recognition to laboratories on campus that are implementing this knowledge. With the six-month Green Lab certification program, which guides laboratories toward sustainable suggestions and external opportunities for environmental engagement, participants are able to walk away with new best practices.

After a year of revisions before being officially launched as a program, the Green Lab certification program successfully kicked off on campus with four inaugural labs: Reichel Lab, Guttridge Lab, Lee Lab and Otis Lab.

"It's a pretty small group, so it was kind of a pilot group. We started with four labs, and now we have 10," Brooker said.

The lab of Carmela Reichel, Ph.D., within the Department of Neuroscience, was awarded "outstanding achievement" in the Green Labs program, endorsed by the provost and vice president of research. Reichel's team, including M.D.-Ph.D. student Stewart Cox, laboratory manager Angela Kearns and research specialist Jordan Hopkins, were immediately engaged with the initiative and remain fully committed to its sustainability.

Beginning June 28, the Reichel lab initiated the start of a glove recycling program on campus, which provided a previously vacant space to send gloves for recycling to, rather than landfill.

"I believe that we started off with five glove recycling boxes, and I think one of them is full, so you can see in just that short time that the boxes are filling up. We will replace them as needed," Reichel said.

As like-minded people, the lab members were already committed to searching for ways to become more conscientious in the lab. Through the process of the six-month Green Lab certification program, the Reichel lab team found itself able to stay more easily organized, adopting a sustainable mindset.

"Even in terms of turning off lights when we leave the room, it's just a gentle reminder of things that we need to do," Kearns said.

The program has supported the lab through encouragement and the offer of suggestions for ways to be more sustainable that perhaps were never taught in the past.



Photo Provided

Neurosciences research lab members Stewart Cox, from left, Jordan Hopkins and Angela Kearns join Dr. Carmela Reichel in celebrating their lab's certification as an MUSC Green Lab. The group is among three other inaugural labs (Drs. Denis Guttridge, Kyu-Ho Lee and James Otis) that have completed the six-month certification process at MUSC. For more information, visit <https://web.musc.edu/about/facilities/sustainability/energy-and-water/musc-green-labs>.



Department of Neuroscience's Dr. Christopher Cowan, left, and Sustainability and Recycling's John Brooker, right, recognize Dr. Reichel at the department's Oct. 1 staff meeting.

Photo by Cindy Abole

"The laboratory waste has always bothered me, but in some cases there's nothing you can do about it," Reichel said.

While there are some materials used in the lab that don't yet have a way to be recycled in the city of Charleston, such as pipettes, the lab searched for companies that offered any opportunity to reuse resources rather than let them go to waste.

In addition, Reichel and her team were diligent in getting involved in the community and in their own homes by signing up for at-home composting programs and choosing more environmentally friendly transportation methods when possible.

"They were one of the first ones to sign up for the program and role models for

laboratory sustainability," Brooker said.

Of the labs that joined the program later, the Sucov and Wilson labs upgraded some laboratory equipment, which will lead to large amounts of energy being saved on a continual basis. By virtue of these two laboratories upgrading their ultra-low temperature freezers to more efficient models, Brooker estimates they will save \$1,131 a year.

The Green Labs program has encouraged a new wave of sustainability efforts in a space that is historically in high demand for environmentally friendly revisions. With the influence of the Green Labs program in place on campus, Brooker encourages the furtherance of critical research with an eye toward a lower cost to the environment.

MUSC Health ambulatory leaders bond over firefighter exercises

By **LESLIE CANTU**
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Cat Burns jumps through hoops and puts out fires every day as practice manager for MUSC Children’s Care in North Charleston and Moncks Corner.

Metaphorically, that is. But on Oct. 10, she was at the North Charleston Fire Department training grounds hopping through an open window and, yes, learning how to put out fires. Not to mention practicing entering a dark, smoky building to rescue a trapped mannequin.

It was all part of a first-of-its-kind team building exercise for managers and directors in MUSC Health’s Ambulatory Services. And while the physical drills had the managers wondering if they’d be able to walk into work the next day, the ride on the firetruck, sirens blaring, had them grinning like little kids.

Erik Modrzynski, manager of Safety, Security and Emergency Programs for Ambulatory Services, came up with the idea during planning of an active shooter drill with local first responders, including the North Charleston Fire Department.

Modrzynski was a firefighter for 15 years in Lexington County, so he understands firsthand how firefighters have to work as a team. He thought that giving ambulatory managers a small taste of the life of a firefighter could be a good way to enhance teamwork – and a lot more fun than most team building exercises.

Administrator Alice Edwards said Ambulatory Services has about 100 clinic locations. The division is relatively new – only about three years old – and was organized when health leaders realized that ambulatory locations were scattered about the organizational chart, all reporting to different units. Creating the division provided more structure and support. Burns said she likes being part of a group of managers, rather than feeling like she’s all alone.

Because of their geographic range, several of the 30 or so leaders at the event hadn’t met before.

“I’ve been talking to Tammy, who’s a practice manager, on the phone, and today I got the opportunity to meet her,” said Benita Curnell, who manages the Ambulatory Resource Team.



Photos by Sarah Pack
Jamie Spann, background, watches as Nicole Dagostino runs the fire hose through the course during a team competition.

“I think this was a great opportunity for all of leadership to come together,” she said.

“To get the team together like this is really special and awesome bonding,” agreed Sean Nelson, director of Ambulatory Services Primary Care.

The group started the day with a lecture

about the fire service. Then it was on to skills training, and finally, they put their skills to the test in a team competition.

In teams of four, they walked through the job-related physical abilities test that a recruit

*See **FIRE** on page 14*



Tammy Truel, left, and Ruta Buckhorn practice rescuing a dummy from a smoke-filled structure.

Matt Long prepares to leap through a window as part of the team competition of firefighter skills.



Heartfelt gift helps fund amyloidosis care at MUSC

Gordon Darby wants to help others also suffering from the heart condition that he has

By MIKIE HAYES

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Darby. It's a familiar Lowcountry name. And tucked away in an unassuming part of Mount Pleasant is an office building that bears the name.

A Darby and a Boykin named Sassy promptly greet you as you enter. Soon, you'll meet other members of the family — just more subtly.

A Mount Pleasant native, Gordon Darby sits behind his desk in a manly yet understated office. He's surrounded by photos of beloved family members — whose names it gives him joy to speak — their images a constant reminder of the important roles they play in his life. Wildlife art paints the wall, save for the spot with the big-screen TV that has a business network silently running in the background. Even from the solitude of the woods, the world of high finance is never terribly out of sight.

The epitome of a true Southern gentleman, he rises from his chair, as spryly as he would have 40 years ago. If his joints bother him, they do not betray his hospitality. Standing displays the physique of a college athlete, a testament to a life spent on the gridiron, exercising and eating right.

When he set out on his own in 1968, he didn't have much more than a few dollars in his pocket, he said. Today, it appears, he has quite a few more than that. Still, the irony does not escape him that despite all his healthy efforts and the good Lord blessing him abundantly with family, looks and success, he is dealing with a rare and life-threatening condition that is completely out of his control.

Amyloidosis.

But Darby, never one to sit back and wait, plays both offense and defense these days. He's educated himself on the disease. He's sought the finest care. And he's invested half a million of those hard-earned dollars to try to help tackle a disease for which there is no cure, having recently funded the beginnings of the MUSC Amyloidosis Center of Excellence.

HEART FAILURE

A word that many are familiar with, amyloid is often associated with the plaque

that causes Alzheimer's. Actually, it's a broad term that covers any protein that misfolds and then deposits and builds up someplace in the body, like organs, interfering with the way the organ's supposed to work.

Like the heart, for instance, where it affects Darby.

Amyloid deposits in the heart cause cardiac amyloidosis, and, as deposits increase, the heart becomes stiffer.

The job of the heart is to pump out (eject) oxygen-rich blood to the entire body. In a healthy heart, the heart muscle relaxes after each contraction and allows the heart to refill with blood. If the heart loses its ability to relax normally between beats because the muscle has become stiff, it can't fill with enough blood. So when the heart squeezes normally but is too stiff to relax and refill properly, that condition is known as heart failure with "preserved ejection fraction" (HFpEF). Studies have shown that up to 15% of patients with HFpEF, like Darby, are found to have various kinds of amyloids in their hearts.

Swelling, fatigue, dizziness and shortness of breath are common when amyloidosis affects the heart, but they are also common to other ailments, so doctors often don't make the amyloid connection early enough.

Beginning around 2015, Darby noticed subtle changes — like his feet would swell.

"I found I was uncomfortable in my shoes and boots. I do a lot of hunting, and that wouldn't do. It was the first sign I experienced; it was sort of an ebb and flow."

He also found himself at the end of the day uncharacteristically fatigued. And he was getting up four or five times during the night, which also concerned him. He saw his urologist.

But it wasn't until his annual physical with William Wingfield, M.D., that anyone put two and two together. Wingfield discussed his findings with Blount Ellison, M.D., Darby's cardiologist, and Ellison made the diagnosis based on Darby's history and echocardiogram.

That, Darby said, really got the ball rolling.

He called his brother, physician Charles Darby, to seek his counsel. A legend in the medical community, he founded the MUSC's Children's Hospital in 1987, and the Charles P. Darby Children's Research Institute was

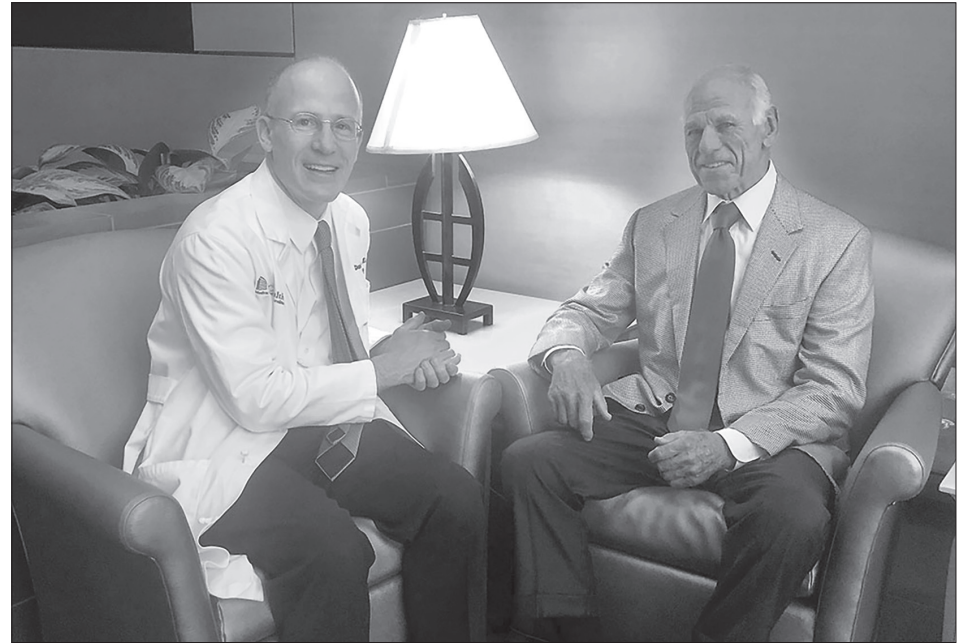


Photo by Mikie Hayes

Amyloidosis expert Dr. Daniel Judge talks with Gordon Darby.

named in his honor in 2005. He suggested that his brother make a trip to Boston Medical, one of the top two centers at the time, for evaluation. There Gordon Darby met Flora Sam, M.D., and the two developed a friendship.

Two years later, nationally renowned amyloidosis expert Daniel Judge, M.D., was recruited and joined the cardiology team at MUSC Heath. His goal was to create a national center dedicated to the study and treatment of amyloidosis. While the two remain friends, Darby told his Boston doctor that he would receive his care at MUSC.

It was a very good decision, he said.

IN GOOD HANDS

In addition to being one of the country's leading authorities on amyloid disease, Judge has combined expertise in heart failure, cardiovascular disease and genetics. As far back as 2004, when he was honing that expertise at The Johns Hopkins Hospital, he developed a database of patients with amyloidosis, participated in clinical research and wrote papers on his findings.

But with no good therapies available to halt the progression of the disease or offer a cure, he was frustrated with how everyone with cardiac amyloid was given the same terrible prognosis.

"When I was training in the late 1990s, when we were able to find amyloid, it was through a biopsy of the heart. The only thing we could tell people was to get their affairs in

order — there is no treatment."

The average lifespan in the late 1990s for someone diagnosed with heart failure due to amyloidosis was approximately six months. Delivering that news was difficult. "It was terribly depressing. It was an awful diagnosis to give a person. Thankfully, this prognosis has changed substantially in the past 20 years."

Today, he said doctors can offer these patients hope.

Judge explained the two main forms of amyloidosis that affect the heart.

The first is amyloid light chain (AL) amyloidosis. Associated with multiple myeloma, a cancer that forms in a type of white blood cell called a plasma cell, it circulates through the blood and can deposit in the heart, kidneys, nerves and other sites.

"That's the worst form, and it has the worst prognosis," Judge added. "But the new treatments that our hem-onc specialists [hematology oncology] now have are way better than they were several years ago. Here at MUSC, we're doing bone marrow transplants for those patients. If the heart is affected, it's more challenging. We do everything we can to optimize their heart care."

"So, the first fork in the road is — is this the cancer kind? If it's not present, the second form we look for is called transthyretin amyloid."

See **GIFT** on page 12

A bundle of energy (efficiency)

BY BRYCE DONOVAN

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The light bulb has turned on – and it's an energy efficient one – at MUSC.

The university recently began a \$30 million comprehensive energy savings project, one that impacts 58 facilities across its downtown Charleston campus. The project involves the replacement of lighting fixtures with high-efficiency LEDs, the integration of automation into many of the HVAC control systems, upgrading HVAC systems and optimizing chiller plants.

So, new light bulbs, a little computerized automation and new HVAC equipment all makes sense, but what's a chiller plant, you ask? Well, according to MUSC project manager Bob Branson, it's a centralized HVAC facility that cools water to about 42 degrees. This chilled water is then pumped to the air handling units in various buildings to provide for the building's air conditioning. In other words, he says, it's just a fancy way of saying, "we're going to make our A/C work even better."

Officials estimate the project will generate \$2.86 million in annual energy cost savings for MUSC.

"And that's just what we're guaranteed to save," Branson said. "It could end up being more."

The work is being done by Ameresco, an organization that helps organizations meet energy saving and energy management

challenges with an integrated comprehensive approach to energy efficiency and renewable energy.

From clinical areas to maintenance buildings and parking garages, the project will affect a broad range of main campus structures. Some of the work will happen behind the scenes while other work might be as obvious as people coming into a building and exchanging its fluorescent lighting for LEDs.

"We are swapping out a lot of light bulbs. Almost 33,000 of them," Branson said.

According to Branson, the technology in LED lighting has improved so much in the past few years – and with that, prices have dropped considerably – that it's finally worth MUSC's time and money to swap out as many of the old fluorescent lights as possible.

Officials say the project should be done by June of 2021 and the simple payback – or break-even point, for non-engineers – is 9.6 years.

Officials decided to make the move for several obvious reasons: it's good for the environment, it's good for MUSC and it's good for taxpayers. As a part of the contract, Ameresco will also train staff on how to operate and maintain its new equipment and systems in the years that follow.

"Not everybody understands kilowatt hours," Branson said, "but everybody understands money. And by doing something like this, we're saving a ton of it."



Photo by Anne Thompson

MUSC is in the process of becoming more energy efficient. Among the upgrades, LED interior lighting will be installed in more than 50 facilities, including the Dental Clinic.



Photo by Montez Seabrook

Electricians swap out old fluorescent bulbs for newer LEDs in the 135 Cannon Street facility.

Sunscreen dispensers installed around Charleston campus

By **LESLIE CANTU**

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The sun doesn't take many breaks in Charleston. Neither should your sunscreen use. That's why a partnership of campus groups and nonprofits has installed three sunscreen dispensers around campus.

"There are a lot of reasons why we think this is important," said Susan Johnson, Ph.D., director of the Office of Health Promotion.

As a health care institution, MUSC should be raising awareness of skin cancer and sun safety, she said. According to the National Cancer Institute, rates of melanoma of the skin have been rising by 1.5% each year for the past 10 years, while many other cancers have been stable or decreasing.

The Office of Health Promotion encourages employees and students to get outside for wellness breaks, Johnson noted, but going outside comes with its own risks from the sun. In addition, some MUSC employees spend much of their working day outside.

Johnson credited College of Medicine student Chelsea Eason with leading the push to have the dispensers installed.

The dispensers are a project of Impact Melanoma and I Will Reflect, the charitable

arm of The Spa at Belmond Charleston Place.

The MUSC Department of Dermatology and Dermatologic Surgery already partners with The Spa at Belmond Charleston Place to teach massage therapists the signs of skin cancer, Johnson said. Impact Melanoma and I Will Reflect partnered earlier this year with the city of Charleston to install sunscreen dispensers at parks and public spaces on the peninsula.

The three dispensers on the MUSC campus are at the Urban Farm, the Charleston Medical District Greenway and the garden between the main hospital entrance and the library. Johnson said those locations were chosen because they tend to have a lot of foot traffic.

We really focus on the built environment and creating an environment that nudges people to make better choices," Johnson said.

The first three dispensers are a pilot to determine the average annual cost and to see if departments would be willing to sponsor them. Currently, the Office of Health Promotion is sponsoring the dispenser at the Urban Farm, the Greenway is sponsoring its dispenser and the dermatology department is sponsoring the dispenser near the hospital entrance.

Johnson said they also hope to get some information about usage rates. Alan Snyder is



Photo by Sarah Pack

MUSC grounds supervisor Robin Smith checks the sunscreen in the new dispenser at the Urban Farm on the Charleston campus.

studying for his medical degree and a Master of Science in Clinical Research at MUSC, with plans to go into dermatology. He's working with Impact Melanoma and plans to post a QR code on the MUSC dispensers as well as dispensers installed by the city of Charleston that would take users to a citizen science app developed by Chris Metts, M.D., in the College of Medicine.

When people install the app and answer questions, Snyder will be able to collect data

on the demographics of people who use the sunscreen dispensers – which in turn should highlight a public education opportunity to reach out to the people who aren't using the dispensers.

He is also hoping to co-develop an app with Impact Melanoma that would remind people to use sunscreen and advise them of the protection needed based on the UV index for their location that day.

Sun Safety

- Use sunscreen
- Wear long sleeves when possible
- Protect your eyes with sunglasses
- Discourage indoor and outdoor tanning
- Wear hats with a wide brim to protect your face
- Seek shade, especially when the sun is strongest midday
- Know that snow, sand, water and concrete reflect the sun's rays back at you

Source: Centers for Disease Control and Prevention

Veterans with PTSD may benefit from new innovations

By HELEN ADAMS

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New technology aims to improve the treatment of post-traumatic stress disorder by allowing veterans to virtually take their doctor with them during prolonged exposure therapy. The system gives the doctor physical and psychological information about the veterans in real time.

“This is something completely new with PTSD,” says inventor Robert J. Adams, M.D. He’s a professor in the College of Medicine at MUSC and co-founder and president of Zeriscope, the company that developed the system.

Prolonged exposure tries to help veterans get used to being in situations that remind them of something traumatic that happened in the past. With a therapist’s help, they gradually spend more and more time in the stressful situation. The hope is that it will lose some or all of its power over them, so they don’t avoid it anymore.

The drawback has been that the veteran has had to go into the situation alone, then tell the doctor how it went at a later appointment. The therapist doesn’t know exactly what happened and can’t be sure the prolonged exposure exercise has been done properly.

Another problem: about a third of people with PTSD who try prolonged exposure therapy don’t respond to it. Others drop out and don’t finish the treatment.

Zeriscope is designed to try to change that. Here’s how it works. A camera that can be disguised as a shirt button will let veterans with PTSD show the doctor what they’re seeing as they go into a stressful situation. It connects to a cell phone. The system will also let them talk with the therapist while sensors monitor heart rate and galvanic skin response, feeding the doctor real-time information. Galvanic skin response measures changes in sweat gland activity when a person is exposed to emotional stress.

The system is about to be tested by veterans in a clinical trial. “We may find that the new system brings about greater therapeutic gains in less time and help reduces dropout,” says Adams.

Company co-founder and CEO Bill Harley says the new technology could have a big impact. “We, on average, lose about 20 veterans a day to suicide. A lot of those patients had PTSD. It’s an absolute human tragedy that we’ve lost more soldiers on U.S. soil due to suicide than we’ve lost in Afghanistan and Iraq.”

He and Adams turned to a psychologist who works with veterans to help with the clinical trial.

Sudie Back, Ph.D., treats patients at the Ralph H. Johnson VA Medical Center and MUSC Health. She’s also a professor in the MUSC Department of Psychiatry and Behavioral Sciences.

“When they approached me with this idea, it sounded like it could be really useful clinically,” she says. “The therapist can virtually accompany the patient during in vivo exercises without having to leave the office.”

She gives some examples of possible scenarios. “Our



Photo by Sarah Pack

Dr. Robert Adams, from left, co-founder and president of Zeriscope; Dr. Sudie Back, psychologist; Will Brown, Zeriscope’s chief operating officer; and Bill Harley, co-founder and CEO of Zeriscope.

military veterans with PTSD are often anxious in crowded places,” Back says. “So in prolonged exposure therapy, we might ask them to go into crowded stores or restaurants, for example. Driving is also difficult for some veterans who have been in IED explosions or witnessed those, so driving can be part of the exposure exercises, too.”

She says it was important to make the system inconspicuous, so a veteran could go into a busy store or festival without standing out. The system’s button-style camera connects to a cell phone linking the veteran to the doctor.

If the Zeriscope system does well in the clinical trial for PTSD, she says it could be considered in the treatment for anxiety disorders as well.

Harley says the research is being funded with a \$900,000 grant from the National Institute of Mental Health’s Small Business Innovation Research program and is the largest grant in its category in South Carolina’s history.

“If this can have any impact on any family or soldier’s life, it’s worth everything we can do. There’s a belief that the use of this new technology during in vivo exposures, where a lot of the healing happens, can improve treatment outcomes and efficiency.”

Adams is pleased to see his concept put to good use. “I’m very lucky and very excited about it. Faculty inventors don’t have much chance by themselves, without help, to get an idea to be tested, much less to become commercial. We think we’re going to do both those things.”

For more information or to ask about enrolling in the clinical trial, call 843-792-HELP (4357).

GIFT *Continued from Page Seven*

Transthyretin is a protein that transports thyroid hormone and retinol (vitamin A) within the blood, forming the hybrid name — trans-thy-retin or TTR.

He explained that TTR amyloidosis breaks down into two main subtypes. The first is genetic, and the other seems to appear out of nowhere, called wild type.

In the first, a genetic tendency can be passed from one generation to the next. Symptoms can begin to develop anywhere between the ages of 20 and 70.

Wild-type TTR amyloidosis does not involve abnormal DNA, so it is not passed on to family members, and it usually affects men in their 70s and 80s.

However, experts have identified an interesting phenomenon. Bilateral carpal tunnel syndrome can actually be a symptom that occurs much earlier, serving as something of an early warning system. When the dots are connected, amyloidosis can be found in individuals as young as their early 50s. Similarly, recent research suggests that lumbar spinal stenosis, rupture of the biceps tendon and bilateral joint replacements — like hip and knee — can also precede cardiac involvement by many years.

Darby feels like the poster child.

In 2003, he had his Boykin Molly tucked in his arm, climbing up to a deer stand. About halfway up, he heard a pop. He'd torn his bicep tendon.

Today he understands that was a telltale sign of amyloid.

"I've learned a lot from Dan Judge. For instance, in 111 people with amyloid, 33% had bicep ruptures prior to diagnosis. Normally, it's only 1 in 1,000. The other connection that's extremely important is joint replacements. I've had a lot of surgeries — all seemingly related to athletics. Both shoulders replaced. Knees. Hands. I mention that to my doctors, talking about amyloid, and they've never heard of it — stare at me like a deer in headlights."

That bothers him.

"I told Dan that we need to start talking about this when they're in med school. Get the word out to the orthopedic community that when patients come in with these things, they need to be checked for amyloid. Putting it into med-school curriculums and starting awareness campaign for orthopods is near and dear to my heart."

Judge agrees. And he believes amyloidosis is much more prevalent than once thought.

"There are a lot of amyloid cases out there; it's just not being recognized. We have a lot of

work to do around this."

Darby isn't leaving that responsibility to someone else. His recent \$500,000 commitment will help to coordinate amyloid care among specialists at MUSC Health and ensure better diagnosis, management and research about this condition and facilitate outreach efforts nationally and internationally.

Judge said that there are three major components to a successful amyloidosis center of excellence. First, making sure patients have not just proper diagnostic strategies but better therapeutic strategies — things that are on the way. Second, research to understand demographics and why it happens.

But it was the third part he couldn't emphasize enough.

"That is the educational aspect of it, both to providers and to communities — the Charleston community, the Southeast, the U.S. — building awareness. If you have heart failure with preserved EF or a stiff heart, you should be asking your doctor about amyloid. If you have carpal tunnel, you should be asking your doctor about amyloid, because there are good treatments."

Luckily, Judge is in a good position to get the word out. He is one of about 10 recognized experts in the U.S. on the subject who are seen regularly on the dais at national and international meetings in the company of distinguished programs such as the Mayo Clinic, Boston University and Harvard's Brigham and Women's.

"When I'm giving a lecture on this, I'll ask the audience how many of them have seen amyloid or made a diagnosis of it in the last six months. If not everyone raises their hands, I say to them, 'You've probably missed cases.' There is a really high incidence of it, and it's poorly recognized."

PIECES OF A PUZZLE

Darby is cautiously optimistic about his own future but thinks more about those who can be helped in the years to come. He doesn't want his loved ones to hear the word amyloidosis — let alone worry that there is no hope.

"This damned disease is something... it comes on so gradually," he said. "The symptoms — there are a lot of people who have them that don't know what's going on. They're not real blatant problems — not like high blood pressure or cholesterol where you can get on a med. I never had shortness of breath. Swelling and fluid was it. I'm in great shape for an 81-year-old guy."

That is a huge point of pride for him. He

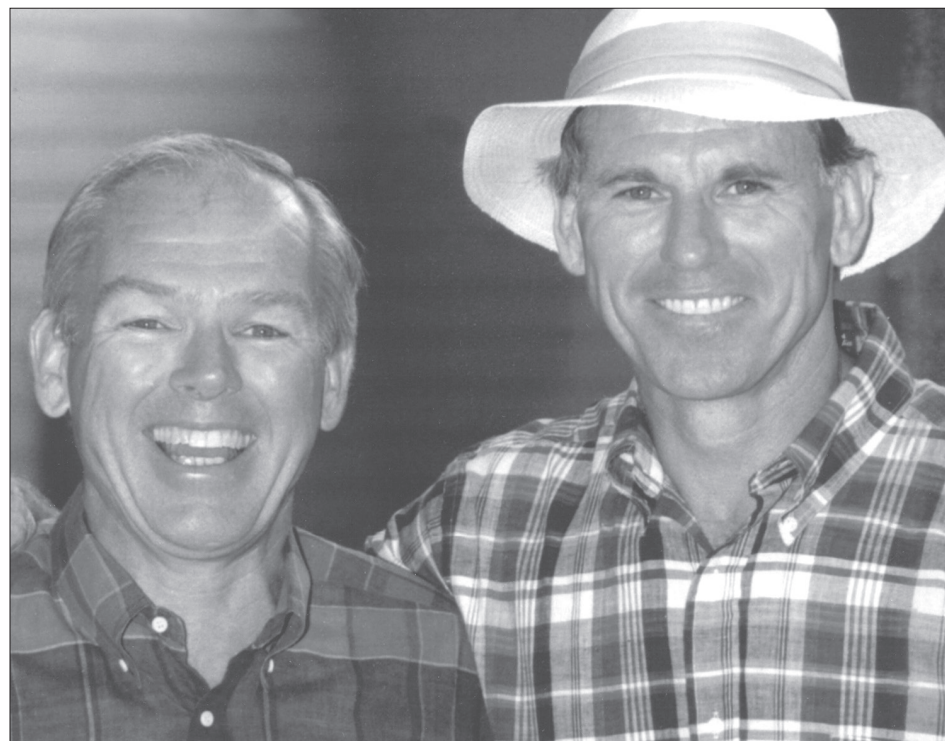


Photo provided

Charlie and Gordon Darby.

was exercising, he boasted, long before it was popular. He was maybe 11 when the workout bug bit him, and he hasn't stopped since. That's partially why it was such a big blow to his ego when he found out he had this disease.

"I was 35 or 40 years ahead of my time with regard to preventive health and exercise. I'm from the generation that smoked, drank and didn't give a damn what they ate. They didn't exercise and thought you were crazy if you exercised. Both my brother and I came up in that era. I believe it was some kind of intervention — divine intervention. I looked at people who exercised and stayed in shape and wanted to be like them."

That's never wavered. He gets up at 4:30 every morning. He goes into the office and conducts business every day. He hasn't had a drink since 1987 and hasn't bought meat from a store in 40 years. He never smoked, and whether he was playing basketball and football in high school and college or he's hunting or gardening now, he's always preferred being active.

His only vice, he said, is he can't turn down pecan pie with a big ol' dollop of whipped cream — and his wife, Anne, well, she makes the best there is from their own pecan trees.

"I haven't told my doctors that yet. I don't know that it matters... at 81, you're getting to the front of the checkout line anyway," he said with a laugh.

He's currently in a trial. He started the trial in September of 2018 and in November, found out that he had been on the drug — not the placebo — from the beginning. For that, he's incredibly grateful.

"I have to say, maybe I'm better. It's a fatal disease. Of course, we're all going to meet our maker at some point. But for me, the important thing is the quality of life. I told Dan when they put me on Eliquis about two months ago — because there were signs of clotting in my heart — that I don't fear death. But I do fear having a stroke."

A MAGIC BULLET?

Every patient hopes for a cure. So do their doctors. Judge's enthusiasm is fueled by the promise of new medications that are emerging for the different forms of amyloid. A year ago, there were no Federal Drug Administration-approved medications available for patients in the United States with amyloidosis. Now, one's in trials, AG10, and another recently approved by the FDA, Tafamidis, has great potential to help, he said.

But there's a hitch. Tafamidis costs \$225,000 a year. In some cases, insurance will pay, but with the bulk of patients on Medicare, there are challenges with copays and donut holes, the coverage gap that limits how much a drug plan will cover, Judge said.

Judge is hoping competition will eventually drive prices down.

See GIFT on page 14



Photos by Sarah Pack

St. Stephens Elementary school fourth graders choose toppings for their zucchini muffins.



Dr. Watson, left, and Dr. Anita Ramsetty lead a class on cooking safety with the fourth-grade students. Ramsetty is among a handful of physicians certified in culinary medicine.

COOKING *Continued from Page One*

germs? “Yes?” she asked a boy who raised his hand.

“Umm,” he said, trying to think of the answer.

Ramsetty, standing by a sink, piped up. “What am I about to do over here?”

“Wash your hands,” the kids answered.

The classroom cooking lesson was part of an 18-month project run by the MUSC Health CARES Clinic, which treats people who don’t have insurance. The project is funded by a \$115,000 grant from Google. The tech giant has a data center in Berkeley County not far from St. Stephen, a town of about 1,800 people with a poverty rate of almost 40%. <https://censusreporter.org/profiles/16000US4562755-st-stephen-sc/>

But on that Tuesday afternoon, the fourth graders weren’t worried about statistics. Some had spotted mini chocolate chips, food coloring and various toppings, and they were ready to decorate and dine on the muffins.

Ramsetty knew that they were eager. “After we do a quiz, we’re going to give you part of a zucchini muffin.”

Watson jumped in with the first question. “How do we make sure our area is clean? Do we do that before we cook or after?”

“Both,” the kids said.

“What about washing your hands?” Watson said, “What about pulling your hair back?”

“Both,” they shouted.

The needs of children and their families were baked into the Google-funded program from its start last year. MUSC Health doctors and students from MUSC come to Berkeley County every two months. The effort is run entirely by the MUSC CARES Clinic.

The efforts in Berkeley County include:

❑ Holding Saturday health clinics in St. Stephen Middle School.

❑ Giving free flu shots.

❑ Testing people’s blood pressure and blood sugar at community events, including high school football games.

❑ Teaming up with the Lowcountry Food Bank to give away thousands of pounds of fresh fruit and vegetables.

❑ Partnering with the MUSC College of Dentistry to screen for oral cancer.

❑ Working with MUSC’s dietitians to offer nutrition counseling.

❑ Launching the teaching kitchen.

The 400-pound teaching kitchen, is a jackknife of a cooking setup. It seems like everywhere you look, there’s another feature. There’s a sink that uses a water tank so you don’t have to connect it to plumbing. There’s a small oven on the side, perfect for whipping up a couple of dozen muffins. And there’s counter space for kids, or anyone, to work on.

Once Ramsetty and Watson finished their food safety lesson, the fourth graders got busy decorating their muffins. Anthony Irizarry was ready. “I just want to eat. I am picky about some stuff, but if it’s a cupcake, I don’t care.”

Nearby, Zykaria Walkins squirted red cream cheese frosting on her zucchini treat. “I learned you can make muffins out of anything,” she said.

Their teacher, Kimberley Whitaker, loved what she saw. “They are having a great time, so they will learn through this activity. They need to understand things that will affect their body. It’s their temple and they must take care of it or they won’t have anywhere to live.”

For the doctors, it was a chance to do something Ramsetty realized was important only after she finished medical school: talk with people about healthy eating.

“I had one sentinel patient who set this off for me. Since then, I’ve had several patients who are like this,” she said. “I asked her about her food, and she said she was eating hot dogs every night. Her grandson lived with her, and that’s what he ate. And that’s what they can afford to buy. All I knew to do then was throw more medicine at her.”

She wanted to do more the next time and studied how

to talk to patients who needed advice about healthy eating. She wanted to help them figure out how to get nutritious food, whether by making better choices, visiting a food bank or using another option. Ramsetty is one of just a few doctors across the country certified in culinary medicine after finishing a two-year training course based at Tulane University in New Orleans, Louisiana.

She’s now not only running the Google-funded health program in Berkeley County; she’s also developing new curriculum for MUSC’s medical school that will focus on how to take care of people who don’t have a lot of money and don’t always have access to healthy food. That is being funded by a grant from the Josiah Macy Jr. Foundation.

The kids at St. Stephen Elementary were thrilled to have her and Watson visit their school, and even happier about something that their teacher told them. “They’re going to come back next month.”

The children cheered.

Ramsetty thanked them. “You guys made some beautiful, beautiful muffins.”

Purses for Preemies raises money for NICU

By LESLIE CANTU

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Purses for Preemies is back.

The occasional fundraiser that supports the MUSC Children's Hospital neonatal intensive care unit by selling gently used name-brand purses will be held Nov. 21 during the Holiday Market on the Charleston Medical District Greenway.

Perfusionist Dafne Chianella, who is pursuing a Master of Public Health degree, is spearheading the effort as part of her community engagement project, focused on the topic of premature births. November is National Prematurity Awareness Month and, unfortunately, South Carolina's record on this issue is poor.

The March of Dimes recently released a national report card on prematurity, and South Carolina earned a grade of D-minus. South Carolina's preterm birth rate had been slowly declining between 2008 and 2014, when it reached a low of 10.8 percent of births, but has since been inching upward, reaching 11.3 percent of births in 2018.

African American women are more at risk of delivering prematurely — 14.8 percent of African American babies in South Carolina were born prematurely between 2015 and 2017, the March of Dimes reports.



Perfusionist and Master of Public Health degree student Dafne Chianella shows off some of the name-brand purses that will be featured at the Nov. 21 Purses for Preemies sale fundraiser supporting the MUSC Children's Health NICU.

Photo by Sarah Pack

Chianella decided to focus on premature births for her class project because it's related to her day job. Perfusionists run heart-lung machines during surgery, and Chianella works with both pediatric and adult patients.

"I would like to do something that will affect my patients, and a lot of our cardiac babies are premature," she said.

She's been overwhelmed by the donations so far.

"It's already taken over a bedroom. My spare bedroom is just overflowing with purses," she said.

The selection runs the gamut from authentic Gucci, Kate Spade and Coach handbags to many other designer brands.

Purses can be donated through Nov. 15 and dropped off at the University Hospital Volunteer Office on the first floor.

Chianella has set a goal of raising \$1,000, which she thinks she will meet. She is partnering with the March of Dimes and Charleston Junior Woman's Club to handle the financial aspects of the fundraiser.

If the Holiday Market is rained out, Chianella will move the sale to the Portico outside the library.

Cash, credit card, Venmo and PayPal will be accepted during the sale.

GIFT *Continued from Page Twelve*

Darby is taking its competitor, AG10, manufactured by Eidos Therapeutics, which recently began phase 3 trials. Judge is the lead principal investigator, and MUSC was the first site in the world to enroll patients in this trial, which will target 500 patients. Judge established some of the initial data in the phase 2 trial, which showed in a cohort of 50 people that it was safe and effective.

Two other drugs for inherited TTR amyloid with neuropathy were approved in the past year. Both have price tags of about \$400,000 a year.

So at the moment, hope comes at a cost.

It's one of the reasons Darby is so proud to have made the inaugural gift.

"There are no magic bullets out there. There is no cure. This center is really needed. If the money I'm giving doesn't help me, the people who follow me will benefit. That's what life is all about — isn't it?"

It's a comfort to him, he said, to know that MUSC Health has an expert team of heart doctors in his backyard.

"The team is top-notch. There is no doubt about that. There is no other amyloid center in the Southeast; my only option was to go to Boston or Rochester, Minnesota. There's a lot of folks who have this disease and don't

know it... until it's too late. This could be a time bomb here in the Lowcountry with all the heart disease in South Carolina."

Judge still sees some of his patients from Maryland and Virginia, who now come to MUSC Health to see him.

"I'm honored that several of my patients have chosen to follow me here. I have many long-standing relationships that I established with my patients with this condition, many of whom are doing very well years later."

Now, people come from all over, and it's important to him to build relationships with them.

That warmth hasn't escaped Darby. "I have a lot of confidence in Dan. Dan is a man who sincerely cares about his patients. He's very caring — Tom di Salvo and Jeff Winterfield, too. Good men. God knows they've been here for me."

These comments humble Judge, who immediately turns the conversation to the other amazing heart failure experts on the team — eight in all.

Today, there is more to be hopeful about than ever before for people with amyloidosis. But with numbers on the rise, MUSC is eager to get the comprehensive center off the ground — and raising \$5 million to launch it will allow specialists to advance their research, develop better treatments, get the word out far and

FIRE *Continued from Page Six*

would normally do individually and in full gear. They had to advance a hose. Use a 9-pound sledgehammer to strike a 75-pound I-beam and move it along a 5-foot track. Carry a coiled hose up a flight of stairs. Then work together to carry (or drag) a 165-pound mannequin.

In the final event of the day, the teams took a ride on the firetrucks down the driveway and back, then entered a set of interconnected shipping containers outfitted like apartments to find and rescue occupants. The "fire" was digitally created, but the smoke certainly smelled and looked real.

"It's very disorienting because you can't see anything," Edwards said of entering the containers.

wide — and, hopefully, one day, find the cure.

Judge feels MUSC is in a unique position to accomplish this.

"I'm biased, but I think we're clearly by far the best when it comes to novel drugs or therapies for this condition. We just recently did a heart transplant for somebody who has this condition, and we're the only heart

Fire training Capt. Steve Gillespie said the department regularly reconfigures the containers and rearranges the furniture inside so that firefighters don't become comfortable with the setup.

"It was really dark, and you're going by feel," Burns said. "You don't know where you're stepping or what you're feeling."

She said that she felt safe because she knew it was a training exercise, but the experience underscored all the things that could go wrong for firefighters in a real fire.

"They do not get paid enough. They really don't," she said.

She left the day inspired by all that firefighters do, as did most of the group.

And for those who really enjoyed it, Gillespie noted, the department is hiring.

And, he added, there's no maximum age limit for recruits.

transplant center in the state. What we can offer is far beyond what anyone else in the state can offer or even in some cases, the region."

Darby agrees. "I don't think this disease is rare, just rarely diagnosed. With a dedicated center, think of all the lives that might be saved."

LOWVELO *Continued from Page One*

humanity in people.”

That there’s strength in numbers was a big theme of the event, which was billed as a ride — not a race. It was a way for people to come together and bond over one cause. Barbagallo, who was riding for a college roommate with stage 4 cancer and a colleague who recently lost his mother to cancer, is about 60% of the way to her fundraising goal of \$1,500. She and other riders who haven’t met their fundraising minimums have until Jan. 2 to raise money. She’s not worried. If she can finish the 100-mile bike route, she can finish the campaign.

“They used to call it the ‘C-word,’ and no one talked about it,” she says. “We’ve come a long way. Now if we could just take it to the finish line.”

That’s exactly the point, says Hollings Cancer Center Director Gustavo Leone. Having seen the success of this fundraising model at other cancer centers across the nation, he wanted to try it here. Hollings is the state’s only National Cancer Institute-designated cancer center and aims both to reach the medically underserved as well as lead the state in advancing cancer research.

“This was an amazing ride, and I felt great



MaryNell Goolsby celebrates the end of her 100-mile ride with a hug from Dr. Gustavo Leone, Hollings Cancer Center director.

starting and finishing. I love the volunteers, the smiles, the happiness — the staff, the riders.

Photo by Emma C. Vought

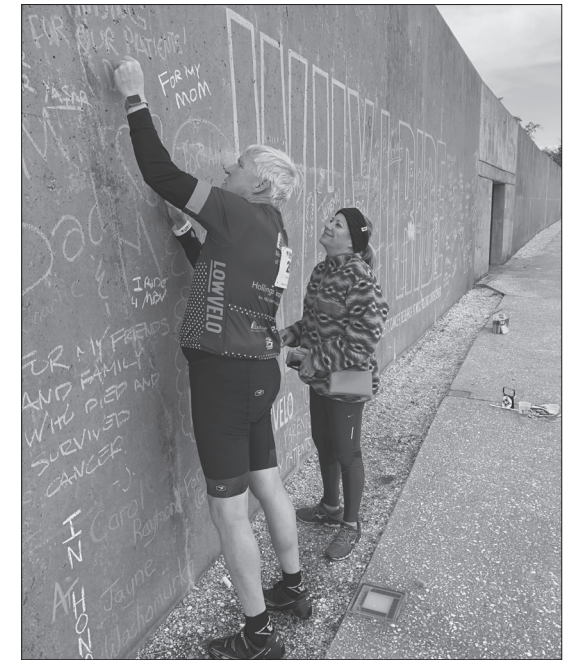


Photo by Dawn Brazell

MUSC President David Cole and his wife Kathy, enjoy signing the “Why I Ride” wall during LOWVELO’s opening ceremony.

It was a phenomenal day, and I’m just so proud of the team coming together and doing this. This is a big deal,” he says of the inaugural event.

Leone, who rode the 100-mile route, says it brought the community and cancer center together in a powerful way, and it appealed to a broad range of riders. The youngest rider was 15 and the oldest, 79.

“It’s a lot of people and a lot of organizations,” he explains. “I think this is something the community can be proud of. I’m so eager to take all those funds that people pedaled hard for and put it to good use. This is a good thing for the community, and it’s a bad thing for cancer.”

LOWVELO rider recruitment manager Shannon Rice agrees. Many people in the ride were cancer survivors or rode because someone in their lives had been affected. The best part for her was meeting all the riders and volunteers and learning their stories.

“Knowing the challenges they faced as the ride approached and seeing them cross the finish lines brought tears to my eyes,” she says. “It was amazing to see all the smiling faces and tears of success as their friends and families hugged them at the finish lines.”

One of those riders was cancer survivor MaryNell Goolsby. Just 10 months after having undergone major surgery to treat her distal cholangiocarcinoma, a type of bile duct cancer, she decided to ride in LOWVELO. She loved the bonds she formed with other riders, volunteers and researchers at Hollings Cancer Center.

“I thought about how the scientists and researchers must feel every day knowing that they are making a positive difference in the lives of so many with all of their hard work, and I felt honored to be able to play some small role in helping them to work toward achieving their goal of finding a cure for cancer.”

Goolsby’s treatment required an intensive operation known as the Whipple procedure, which involved a 6-inch incision through her abdominal muscles to remove parts of her pancreas, stomach and small intestine, her gallbladder and bile duct. Still, Goolsby signed up for LOWVELO, wanting to focus on a positive goal, and hoped that she would be up for the challenge of the Boeing 50-mile route. During the ride, energized by the enthusiasm and support of others, she bypassed the turn off for the 50-mile finale and went for the 100.

“I thought that someone will receive the horrible diagnosis of cancer someday and may hear my story — hear about me riding 100 miles less than a year after my surgery and two months after finishing chemo, and it may give them hope. What a wonderful gift that allows me to give to others.”

The MUSC Angel Tree Parade of Toys



Date: Friday, December 6, 2019

Time: 12:00pm

Location: We will start the Parade on Ehrhardt Street and march through the Medical District Greenway to Jonathan Lucas turning onto Calhoun and then taking a left onto Ashley Avenue where we will unload the toys in the MUSC Horseshoe.

*It will change your holiday
experience this year!*

MUSC Health
Medical University of South Carolina

Changing What's Possible

LIGHTING THE HOLIDAY TREE, 2019 MUSC ANGEL TREE KICKOFF



Photo by Bryce Donovan

MUSC Health CEO Dr. Patrick Cawley introduces MUSC Children’s Health peds cardiology patient Makayla Allen, third from left, her twin sister, McKenzie Allen, mom La’Quontanay Little, 8D nurse Hilary and event coordinator Melissa Kubu as the girls pull the switch to light MUSC’s “Tree of Life” at the Nov. 4 Holiday Tree Lighting Ceremony at the Horseshoe.



Salvation Army of Charleston’s Capt. Jason Burns, from left, joins MUSC President David Cole and Dr. Patrick Cawley at the event, which also featured the distribution of 1,000 angel tree tags from the Salvation Army’s holiday project to collect toys and gifts for Lowcountry children during the Dec. 6 MUSC Angel Tree Parade.