MUSC CATALYST news
JUNE 16, 2023 MEDICAL UNIVERSITY OF SOUTH CAROLINA VOL. 38, NO. 12

# First in Carolinas: MUSC Health treats stroke patient with vagus nerve stimulation

By Helen Adams

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Billy Orbach, a former president of a steel parts company, is still hard at work. It's just that his focus is narrower these days. Orbach, the first person in the Carolinas to receive a Vivistim implant to stimulate his vagus nerve to help him recover from a stroke, wants his right hand to work properly again.

"I used to golf three times a week, and I have a goal of getting back to that," he said.

There's no question about his determination. When Orbach woke up one morning in 2019 feeling like he couldn't keep his balance, he didn't let it stop him, his wife Carolyn said. He was in their home in Warren, Ohio, while she was in Ravenel, South Carolina, supervising construction of the home to which they planned to retire.

"What did he do? He took a shower, drove to work, went to a meeting. His secretary kept saying, 'Billy, something's wrong. Something's wrong.' And so at about 10 o'clock, he sat down and was eating an apple, and she just came in there and said, 'You're going to the hospital.' A coworker drove him to the hospital, and when they got there, he went to the bathroom and collapsed, clocked out. And that was it," she said.

*See* **Stroke** *on page 10*

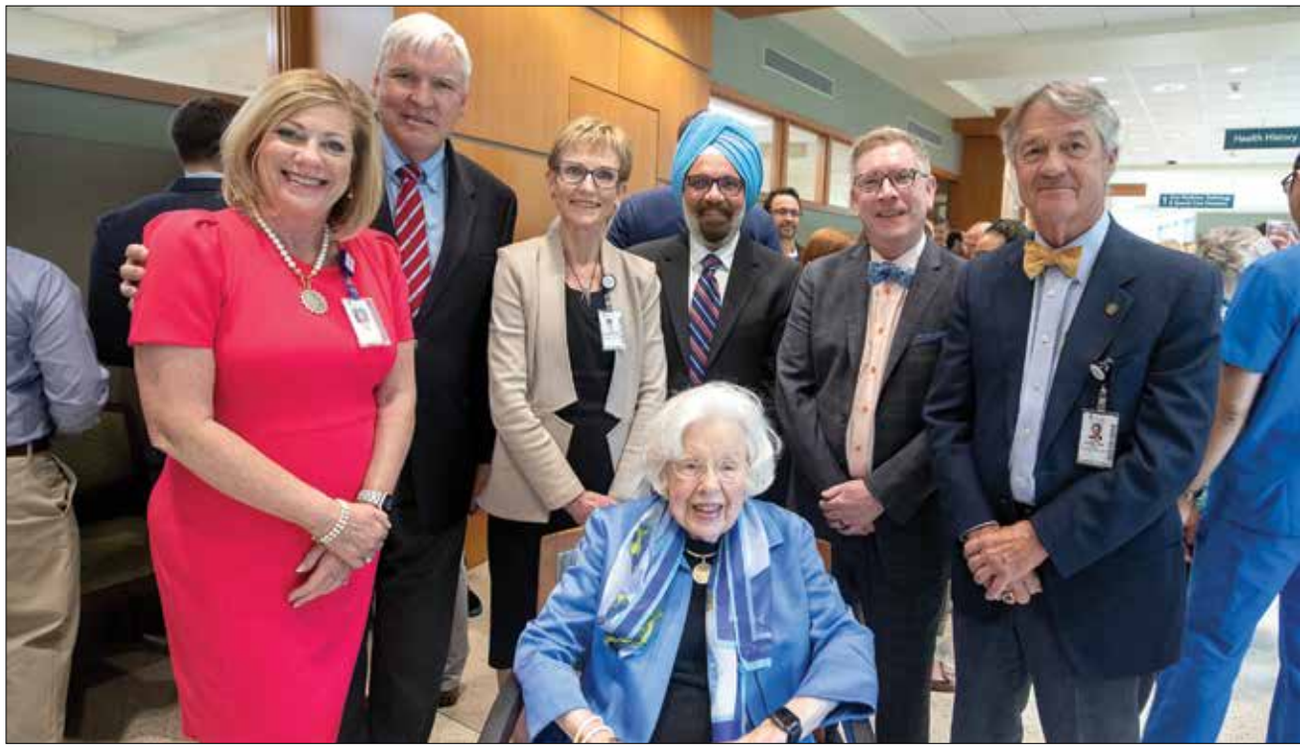

*Photo by Sarah Pack*

**From left: First lady Kathy Cole, President David Cole, Provost Lisa Saladin, Dental Medicine Dean Sarandeep Huja, Dr. Martin Steed and MUSC Board of Trustees Chairman James Lemon join former first lady Ann Edwards (seated) at the May 25 reception.**

# James B. Edwards College of Dental Medicine names first endowed chair

By Cindy Abole

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Despite unusually cooler May temperatures and overcast skies, a large crowd cheerfully gathered in the lobby of the James B. Edwards College of Dental Medicine's Dental Clinic Building. Guests from all over the Palmetto State assembled to honor the memory of a beloved leader and celebrate his legacy with the announcement of Martin Steed, D.D.S., as the James B. Edwards Endowed Chair in Oral and Maxillofacial Surgery – the college's first endowed chair.

Steed, an oral and maxillofacial surgeon and chairman of the Department of Oral and Maxillofacial Surgery in the CDM, came to MUSC in 2013 from Emory University School of Dentistry where he completed his dental internship and residency training before joining

*See* **Chair** *on page 2*

## Chair

*Continued from Page One*

as a faculty member. Throughout his career, he has demonstrated leadership and service in multiple capacities, working in numerous university and professional specialty organizations.

MUSC Board of Trustees chairman James Lemon, D.M.D., greeted the crowd composed of current and former dental medicine faculty and staff members, students and guests for this celebration. Special guests included Ann D. Edwards, former MUSC first lady, and members of the Edwards family.

"Just last week, I had the privilege to address the Class of 2023's dental graduating class at the school's hooding ceremony," said Lemon. "And here we are again with another reason to smile. James B. Edwards was many things to me — a statesman, civil servant, proud husband, father and grandfather and MUSC president — a man of high intellect who happened to be an oral maxillofacial surgeon. It's that passion for oral surgery that led him and his lovely half, Ann, to create this lasting resource for oral surgery. Today, we honor Dr. Edwards' legacy and offer our warmest thanks and affection to Mrs. Edwards for her endless dedication to MUSC throughout the years."

As the sole dental school in South Carolina, MUSC is considered a national leader in oral surgery and part of the national safety net in this field. Patients are referred to MUSC's dental experts from all over the state and country for complex procedures.

MUSC President David Cole, M.D., FACS, and first lady Kathy Cole joined Lemon; Dental Medicine Dean Sarandeep Huja, D.D.S., Ph.D.; executive vice president for Academic Affairs and provost Lisa Saladin, P.T., Ph.D.; and others for the May 25 event.

"The legacy and culture that you and Jim have built at MUSC not only benefits the College of Dental Medicine but for us as an enterprise and institution. It's been foundational for us in who we are currently and what we envision for us as we move into the future. The challenges that you've forged together when you took on the leadership role of this enterprise years ago was fundamentally so different and challenging. You basically gave us the will to say that we can, and we will. I want to thank you for creating that legacy," said Cole.

"The James B. Edwards Endowed Chair in Oral Maxillofacial Surgery is a natural next step to support leadership in a highly advanced area of specialization to literally change what's possible in oral health care. MUSC has been a leader in dental education and oral surgery. Patients are referred here from all over the nation for expertise, caring and impact for those we serve. Congratulations Dr. Steed for being selected for this prestigious honor. I know you have and will continue to do great things for the college and for MUSC."

*Photo by Sarah Pack*

**Dr. Martin Steed, first endowed chair of the James B. Edwards College of Dental Medicine, shares a laugh with Dr. Patricia Blanton, former interim dean for the college, at the reception.**

> *"The James B. Edwards Endowed Chair in Oral and Maxillofacial Surgery is a natural next step to support leadership in a highly advanced area of specialization to literally change what's possible in oral health care."*
>
> **David J. Cole, M.D., FACS**

Saladin explained the importance and history of endowed chairs in academia, which originate back to ancient Rome, to guests.

"The endowed chair is the most prestigious honor that can be bestowed on any faculty member at any institution of higher learning and is the highest accolade that can be presented and is also a hallmark of prominent universities and colleagues," said Saladin. "Unlike an administrative chair, an endowed chair is specifically given the gift of being recognized for being outstanding in their area and the gift of the donor goes toward the interest of that gift to support that faculty member and their area of expertise — allowing them to grow and excel, and in this case, the area of maxillofacial surgery at MUSC."

Saladin added that an endowed chair not only elevates the holder, but in this case, honors the person, or persons, they're named after in perpetuity.

"Mrs. Edwards, with this most recent gift, you have truly committed another legacy for those of us here and those who follow us — faculty, students and staff — in the future to remember your beloved husband and you for many, many years to come. Thank you for all the things you do."

For Mrs. Edwards, this day marks a milestone for her and her family. According to Huja, the CDM dean, the endowed chair naming Steed was approved by the MUSC board back in February of 2021. But due to delays caused by the COVID-19 pandemic, the celebration was postponed until this time. This inaugural James B. Edwards Endowed Chair in Oral

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MUSC CATALYST news

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# More evidence needed to confirm promise of remote or decentralized trials


*Photo by Clif Rhodes*

**MUSC Hollings Cancer Center researcher Dr. Jennifer Dahne published an opinion piece in the Journal of the American Medical Association saying the jury is out on remote trials.**

By Kimberly McGhee

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There's one question that MUSC Hollings Cancer Center researcher Jennifer Dahne, Ph.D., co-director of the remote and virtual trials program at the South Carolina Clinical & Translational Research Institute, hears more than any other as she consults with clinical researchers about how to set up remote trials, also known as decentralized trials. Will these trials overcome the barriers that make it difficult for minority and underserved populations to participate in clinical trials? It's also a question she often discusses with her peers at other academic medical centers that are also home to Clinical and Translational Science Award hubs.

Dahne thinks it's too soon to give a definitive answer to that question. She argues in a recent Journal of the American Medical Association Viewpoint article and in the following Q&A that rigorous evidence is lacking as to how these trials affect the diversity of clinical trial enrollment.

❑ **Q: Can you describe what a decentralized trial is?**

A: Decentralized trials bring clinical research opportunities to participants where they are rather than bringing participants to clinical trial sites, as in the traditional model. This approach aims to improve access to clinical trials and to make it easier for patients to participate in them.

❑ **Q: What excites you most about a decentralized approach to trials?**

A: Like many others, I believe this approach has promise for making our trials more accessible to populations of patients or research participants who typically wouldn't participate. We know that there are disparities between who enrolls in our clinical trials and who is burdened by the diseases that we study. The potential to make our trials more accessible, and by extension improve the generalizability of our results, is the thing that really excites me the most.

❑ **Q: What advice would you give to researchers eager to make decentralized trials the cornerstone of their clinical trial diversity initiatives?**

A: We assume that pivoting to decentralized trials will increase access to clinical research for minority and underserved populations, but we need to take a critical look at the methods and procedures of these trials and see if they are having the desired effect.

Although these trials may overcome geographic barriers, they may come with their own unique barriers.

For example, Black and Hispanic people have considerably lower rates of home broadband internet access than White people in the U.S., and there is also a clear association between annual household income and home broadband internet. Likewise, only 61% of adults 65 and older own smartphones as compared to 95% of those between the ages of 30 and 49, perhaps making it more difficult for them to participate in these trials. Older adults might also have dexterity or perceptual issues, such as vision or hearing impairment. Those could also be major barriers to participating in trials that require regular use of technology.

It is also possible that this type of trial design could worsen other known barriers to participating in clinical research, such as mistrust of academic institutions and of clinical research. What is the impact of a shift to these methods on trusting academic research? With less direct contact between participants and researchers, would clinical researchers have fewer opportunities to dispel that mistrust? And how does that differ across various patient populations? We just don't know yet.

We've learned in many other areas of medicine how costly it can be to roll back interventions when we realize they are not having the intended effect. Now that the COVID-19 pandemic is waning, we have the opportunity to be very thoughtful about how we move forward with remote trials to avoid such a costly mistake — one that can't easily be undone.

❑ **Q: How can we get definitive answers?**

A: We need rigorous randomized controlled trials that compare traditional in-person clinical trial methods to decentralized trial methods. It will be important to evaluate the impact of these different types of clinical trial methods on trial enrollment across various patient demographic groups as well as on other aspects of the clinical trial pipeline. What is the pace of enrollment? What about the cost of the study? What about the validity of the data that's collected? It will be important to have these rigorous randomized controlled trials to answer questions about the impact of this new approach across every step of the clinical trial pipeline.

The National Center for Advancing Translational Science recently issued a request for information to get input on critical issues around decentralized trials. My hope is that there will be increased interest and a push, particularly from funding agencies, to answer these sorts of questions.

# Surgeon honored with national recognition for clinical excellence

By Lauren Hooker

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Rana Pullatt, M.D., chief of the Division of Foregut and Metabolic Surgery, is being honored as the recipient of the American Society of Metabolic and Bariatric Surgery (ASMBS) Foundation's 2023 Clinical Excellence Award. He will be formally recognized later this month during the LEAD Awards gala, which honors leaders in the field of metabolic and bariatric surgery. The event is held during the organization's annual conference.

The ASMBS is the preeminent bariatric and metabolic surgery society both in the United States and throughout the world. This award is being given to Pullatt for pushing the limits of bariatric surgery and teaching surgeons from all over the country the duodenal switch and SADI surgery techniques, considered the two most challenging bariatric surgery procedures. Pullatt regularly hosts surgeons from all over the world who come to MUSC for training in these cutting-edge procedures.

Pullatt is dedicated to improving patient care through surgical innovation and education, with a focus on treating some of the most challenging high body mass index (BMI) patients in the state. He is a diplomate in obesity medicine, a professor of surgery and serves as the director of the Bariatric and Robotic Surgery program at MUSC.

A worldwide leader in robotic surgery, he has done more than 1,700 robotic surgeries throughout his career. He was the first surgeon in the state to perform a laparoscopic biliopancreatic diversion with duodenal switch. He is one of the pioneers of the robotic biliopancreatic diversion with duodenal switch procedure, more commonly known as the robotic duodenal switch. Pullatt implemented one of the first structured robotic surgery curriculums in the country, resulting in robotic surgery certification for general surgery residents at MUSC. He has also been instrumental in training, mentoring and certifying other attending surgeons in performing robotic surgery.

In addition to his roles at MUSC Health, he serves the Ralph H. Johnson VA Medical Center as the director of Bariatric Surgery for VISN-7, where he offers bariatric surgery for veterans from South Carolina, Georgia and Alabama.

Pullatt is actively involved in the ASMBS and is currently the chair of the international committee and the program co-chair for the ASMBS conference. He served as the past president of the Carolina Chapter of the ASMBS. He is a highly sought-after speaker at international bariatric society meetings and serves as chairman of the international certification in bariatric surgery working group, which is in the final stages of design for a pathway that will result in international surgeons being validated by ASMBS.

"Dr. Pullatt has earned the respect and admiration from both inside the walls of MUSC and beyond — for his internationally renowned surgical expertise and care he provides to some of the most challenging high-BMI patients in South Carolina — and for his collegial spirit and team focused approach," said Prabhakar Baliga, M.D., chairman of the MUSC Department of Surgery. "We congratulate him on this well-deserved recognition."

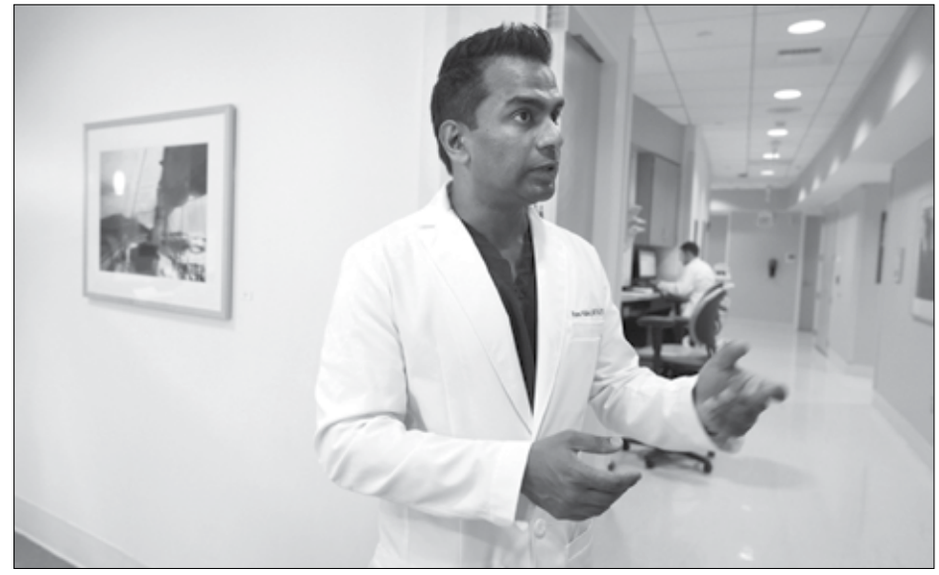


*Photo by Sarah Pack*

**Dr. Rana Pullatt is dedicated to improving patient care through surgical innovation and education, with a focus on treating some of the most challenging high body mass index patients.**

> *"Dr. Pullatt has earned the respect and admiration from both inside the walls of MUSC and beyond – for his internationally renowned surgical expertise and care he provides to some of the most challenging high-BMI patients in South Carolina – and for his collegial spirit and team-focused approach."*
>
> **Prabhakar Baliga, M.D.**

*MUSC Center for Healthy Aging*

## 2023-24 Pilot Funding Program

The MUSC Center for Heathy Aging (CfHA) announces a request for applications for its new Pilot Funding Program. Applications are due Aug. 1 with funding to begin Oct. 2.

The CfHA will award up to three pilot projects a total of up to $30,000 for one year that supports the development of innovative, interdisciplinary and impactful projects focused on aging research. These pilot awards are expected to facilitate data collection needed for the future submission of federal research grants.

For more information about this program, email Tiffany Harrison at hartiffa@musc.edu

## Meet Jeff

**Jeff Waite**

**Department; Years at MUSC**
*MUSC Lock Shop; 19 years*

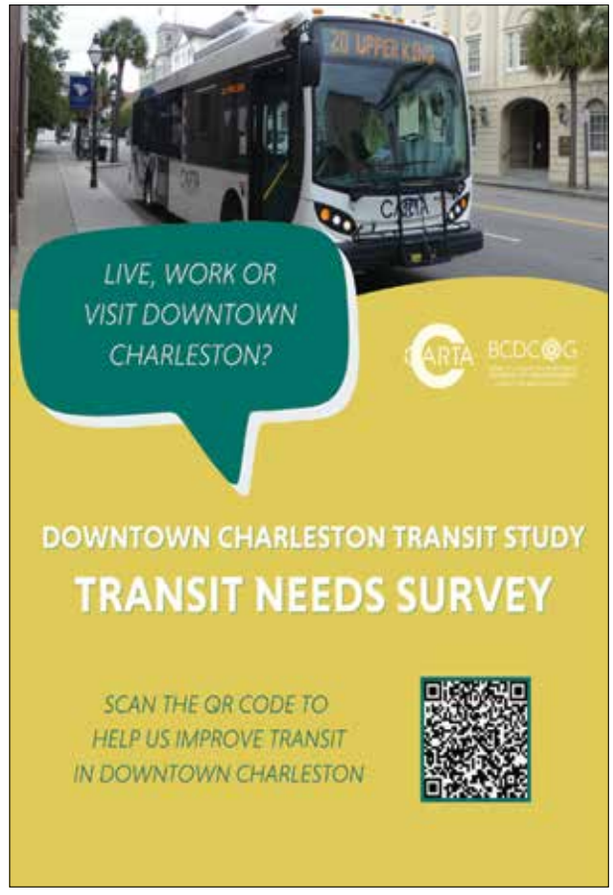
**How are you changing what's possible at MUSC**
*By striving to keep MUSC safe in regards to safety and security issues*

**Family and pets** *Wife, Lisa; dad, Bob Waite (retired from Public Safety); mom, Joanne Waite (retired from Medical Records); dogs, Jasmine and Edie; cats Kombi and Paper; ducks, Frankie, Moira, Ruthie and Cocoa*

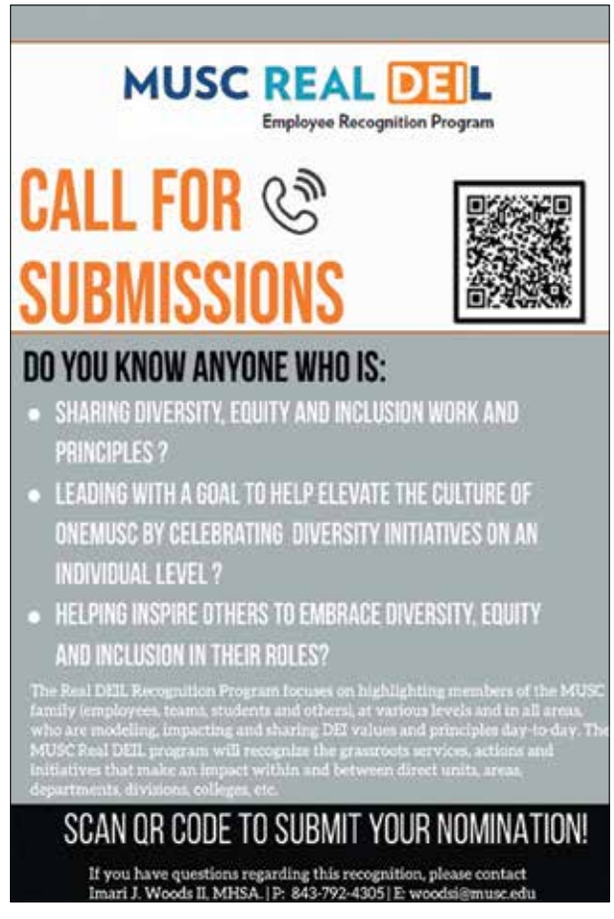
**A unique talent you have** *Making art from other people's junk*

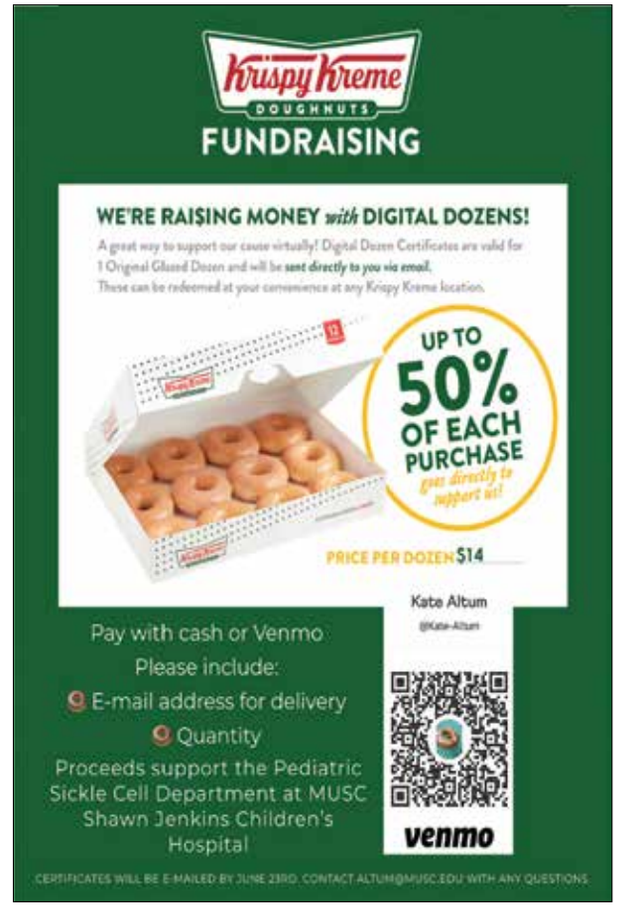
**Last book read** *The Volkswagen Transporter (Type 2) Workshop Manual (1963, 1964, 1965, 1966, 1967)*

**Favorite quote** *"You may say I'm a dreamer, but I'm not the only one. I hope someday you'll join us. And the world will be as one." – John Lennon*







*June is National Cancer Survivor's Month*

# Ovarian cancer survivor chooses positivity

By Leslie Cantu

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Carol "Sully" Sullivan was on her fifth or so round of chemotherapy treatments for stage 3 ovarian cancer. All of her hair had fallen out, every last bit, so she penciled in eyebrows for a round of pickleball with her league in Hardeeville, a town not quite 25 miles from Hilton Head Island.

But it was one of those hot, sweaty South Carolina days and, without thinking, she wiped the sweat away. In between rounds, standing around with the other players and the spectators, her wife, Joan, noticed brown marks on Carol's sleeve.

"What's that on your sleeve?" Joan asked.

Carol's penciled–in eyebrows were no longer on her face. Their smudged remnants were smeared across her sleeve.

"Oh my gosh — those are my eyebrows!" Carol exclaimed. The entire group seemed to hold its breath, not sure how to react.

Carol, though, laughed uproariously.

"And to think, they came out good today!" she laughed, and the group broke into laughter.

"People look for your reaction to know how to react themselves," Carol said.

"It's looking at positivity as a mirror," she explained. "It's kind of how I looked at life in general before this. I've been blessed. I'm a very positive person. But I think the analogy I came up with is to be a mirror. What it does is allows you to be surrounded by people in a positive light versus a negative light."

"People definitely look for cues from the person," Joan added. They live in a tightknit over-55 community, Latitude Margaritaville, that rallied around them.

"When you laughed, everybody laughed. When you cried, everybody cried," she told Carol.

In fact, when 2022 rolled over to 2023, their friends all commiserated that Carol must be so glad to put the year behind her.

"And I'm like, 'I don't want to forget that year,'" Carol said. "It was an amazing experience overall. It has made me who I am today. I met some amazing people. The nursing staff on 7West — they are family. They will always be my family. All the folks that are on Dr. Orr's team — I wouldn't have met them otherwise."

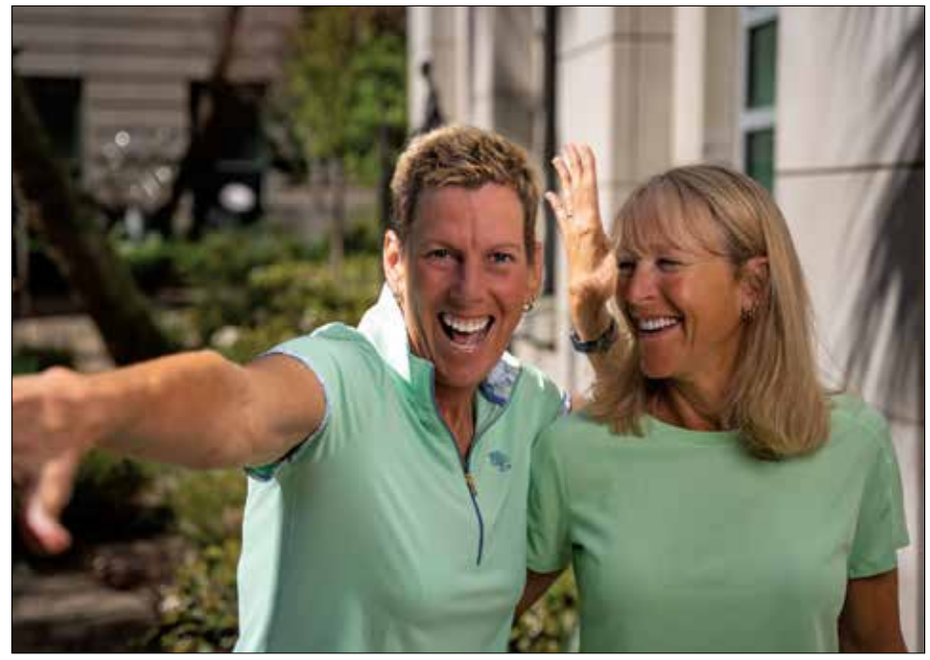

*Photo by Clif Rhodes*

**Carol Sullivan's infectious enthusiasm sweeps up everyone around her. Her wife, Joan, right, said they realized that people took their cues from the patient about how to react to news or situations.**

### It wasn't the biscotti

Carol's cancer story started with a blood clot in her leg, known as a deep vein thrombosis, or DVT. It's a serious condition because these clots can travel into the lungs. She had complained to her doctor of a pain in her leg, and an ultrasound uncovered the DVT — which explained the pain but didn't really explain why she would have this type of blood clot that is most often seen among people who are, for example, immobile, overweight or pregnant or have autoimmune diseases or have been still for extended periods of time, like during long airplane trips.

"They said, 'You have zero percent chance to get a DVT based on your lifestyle.' I'm active. I'm healthy, in shape," she said.

In the meantime, she noticed that she seemed to be gaining weight around the midsection. That's not uncommon for many women, but it was unusual for Carol.

"I thought it was this biscotti I was making at the time," she said.

Then, a few weeks later, she had returned to running her regular exercise class and was doing a hand–release pushup when she felt something that wasn't quite right. It wasn't pain so much as a sensation that shouldn't have been there. She figured it was probably a hernia and decided to go to her gynecologist to get it checked out.

"My doctor did a quick internal exam, which didn't take but a couple of seconds," Carol said. "Her eyes got really big, and she said, 'It's not a hernia.' And she immediately said to me that she thought it was ovarian cancer."

Ovarian cancer was not what Carol had expected when she woke up that morning.

"I didn't know how to react," she recalled. Right away, her doctor did a blood test and an ultrasound.

"They did the ultrasound, and it showed a humongous tumor," Carol said. In fact, there were two tumors. Carol's levels of a cancer antigen called CA-125 were at 3,300 units/milliliter, while the normal range is considered 0-35 units/milliliter.

### Ovarian cancer's silent symptoms

Ovarian cancer is notoriously difficult to catch early, and most women aren't diagnosed until the cancer has already metastasized, or spread.

Most of the symptoms of ovarian cancer can also be caused by other, more common, conditions. The difference is that, with ovarian cancer, the symptoms persist and are a change from what's typical for that individual. Symptoms can include:

- Bloating.
- Pelvic, back or belly pain.
- A change in bladder habits.
- Vaginal bleeding if past menopause or unusual discharge.
- Feeling full quickly or having trouble eating.

In addition, women with ovarian cancer are at high risk of a venous

*See* **Survivor** *on page 9*

# With hospice in headlines for Jimmy Carter and Chief Luther Reynolds, what is it?

By Helen Adams

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Hospice care has been in the headlines recently, on the national and local levels. But what does it mean?

Some people, such as former President Jimmy Carter, 98, live for months in hospice. Others, including Charleston Police Chief and cancer patient Luther Reynolds, are there for just a handful of days.

Timothy Kirkendall, director for MUSC Health Hospice at Home by BAYADA, said even some health care experts don't understand what hospice care involves, whether it's length of stay or what kind of care people get. So Kirkendall, a nurse with a passion for helping people at the end of life and their loved ones, sat down to explain how hospice works.

First, it's important to understand that palliative care and hospice care are not the same thing. "When you're in palliative care, you can still seek curative treatment and you do not have to have a diagnosis of six months or less," Kirkendall said.

That six months or less to live is reserved for people who need hospice care. They've run out of treatment options but want to spend their final days, weeks or even months surrounded by loved ones as comfortably as possible.

"It is usually at home. Most people, when they go on hospice, unless their death is imminent, want to be in their

*See* **Hospice** *on page 8*

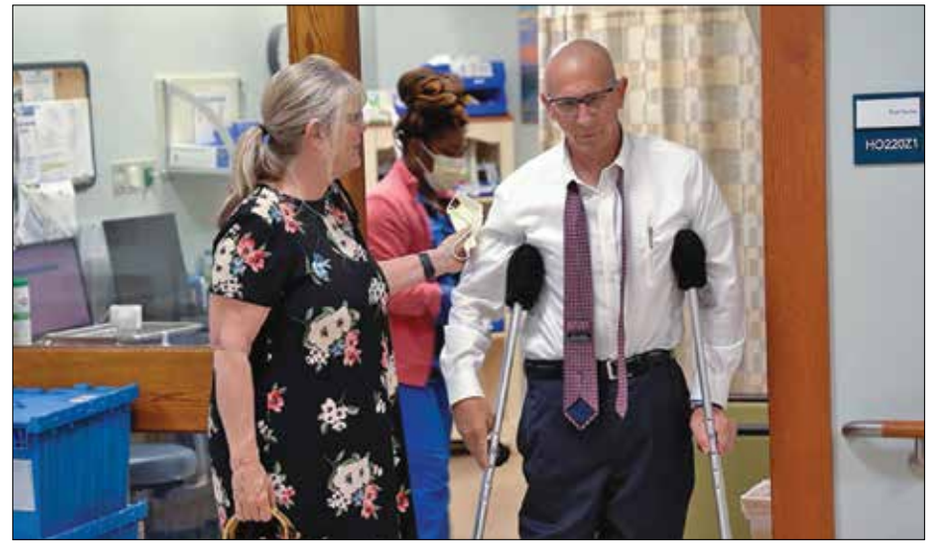


*Photo by Clif Rhodes*

**City of Charleston Police Chief Luther Reynolds and his wife, Caroline, at an appointment at MUSC Hollings Cancer Center. Reynolds chose hospice care. He died on May 22 after a courageous battle with bone cancer.**

## Hospice

*Continued from Page Seven*

home." But some choose to go to a nursing home, hospital or hospice center.

Jimmy Carter chose to be in the home he and his wife, Rosalynn, built in Plains, Georgia, in 1961. He's the longest–living president and a Nobel Peace Prize winner. But that didn't keep him from getting cancer and suffering a series of falls. He stepped back from public life in recent years. A few months ago, he announced he was entering hospice care.

Reynolds battled cancer as well, showing remarkable grit and dedication as he continued to serve as police chief for five years despite a 2021 diagnosis of sarcoma that cost him a leg. He announced he was entering hospice in mid–May and died five days later. Tributes are still pouring in.

What does hospice look like? Kirkendall said if it's at home, the place is outfitted with hospital beds, wheelchairs and whatever other medical equipment the patient needs. Health care providers such as Kirkendall come into the home to care for the patient. The team includes people with specialized training — not just nurses but also doctors, social workers, spiritual advisers and volunteers.

"It's full time. It's different from, say, home health, where a doctor would give a script to a home health company and say, 'When you go in here today, you're going to do this wound care, and you're going to take these vitals.' It's very specific. Whereas hospice is kind of wide open, and we create the plans of care that best suit that patient."

The nurse plays a key role in hospice, Kirkendall said, managing a range of symptoms. "It's not just physically. There are a lot of problems mentally when someone is handling the end of their life. Let's say they've got family members that are estranged. Our chaplains and social workers would try to get people together and make things right."

They try to make the connections the patient needs to feel at peace, whether that involves family, faith, finances or something else.

Medically, part of hospice care involves looking at medications that are no longer needed. "All those medicines can be hard on your body. There's no reason to take cholesterol medicine when you're on hospice. So we start cutting back on medications and say, 'Let's deal with symptoms only,'" Kirkendall said.

That can make a big difference in patients' comfort level. They're getting comfort medication without some of the other drugs that were needed in the past but can be hard on the body.

Hospice caregivers also keep an eye on whether the patient wants to eat and drink and what will make them happy. Carter, for example, has been enjoying ice cream at his home in Plains.

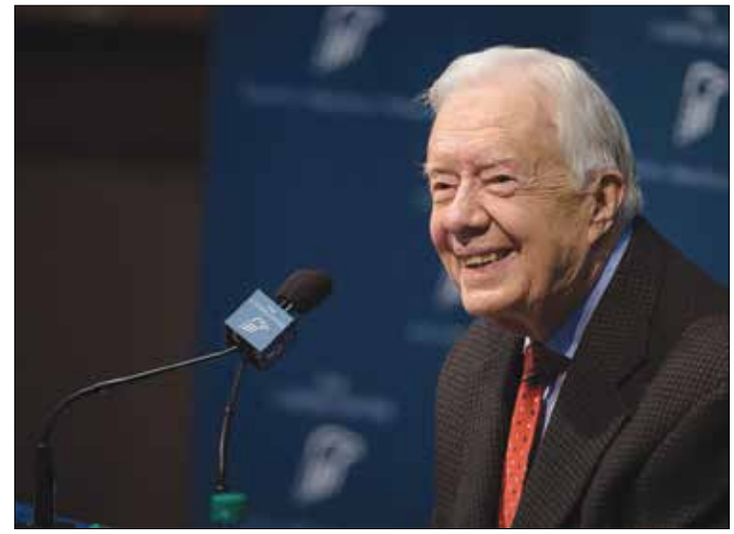
But Kirkendall said hospice does not involve forcing people to eat. "That's actually one of the ways that we note decline. As your body begins to close down, it's actually not good to just eat and eat and eat. The loss of appetite is one of the ways your body prepares itself. People will be like, 'Oh my gosh, they haven't eaten in four days.' That's really distressing. But to a patient who's dying, if they were to eat a sandwich, their body would not be able to handle that. The body knows."

The hospice team does, however, take care of medical issues that could cause discomfort. "Let's say somebody has cancer. They come on to hospice services, and we find out they have pneumonia, which is not uncommon. Their system is wrecked," Kirkendall said.

"We'll treat that pneumonia just like somebody going to a doctor's office would. That's symptom management. If they've got large wounds or something like that, we're going to treat those wounds just like you would if they didn't have cancer. Because if they're dying of cancer, that's what should eventually take them."

Despite hospice's association with people's final days, Kirkendall called the work incredibly rewarding. Hospice workers really get to know patients and their families and work with them to make the patient's end of life as smooth as possible.

It can be hard on those workers because they may feel like they're losing friends as patients reach the end of life. But Kirkendall said for him, the benefits outweigh the challenges. "I've been in a lot of different types of positions in health care, and a lot of times, you feel like you're showing up, and all you do all day is do what you're ordered to do. Hospice is completely different. You have the opportunity to weigh in in a meaningful way."



**Former President Jimmy Carter in 2015 discussing his cancer diagnosis.**

*Photo by The Carter Center/M. Scharz*

## Survivor *Continued from Page Six*

thromboembolism, a term for blood clots in the veins that include DVT, which Carol had, and pulmonary embolism, which is when the blood clot has traveled to the lungs.

Because ovarian cancer is the fifth most common cause of cancer death for women, and because there is no screening test to catch it early, groups like the Ovarian Cancer Research Alliance and the Society of Gynecologic Oncology recommend that women and their doctors discuss the option to remove a woman's fallopian tubes if she is already scheduled for a pelvic-area surgery and does not plan to get pregnant. Most ovarian cancers are believed to start in the fallopian tubes, and therefore removing the fallopian tubes should prevent those cancers from forming.

The Ovarian Cancer Research Alliance also recommends that women understand their genetic risk for ovarian cancer. Someone with a family history of the disease may need more extensive preventive action. Uncovering genetic risk can be done through genetic testing with the Hollings Hereditary Cancer Clinic or by participating in the In Our DNA SC community research study.

### Researching treatment options

Carol's doctor initially referred her to an oncologist in Georgia. However, her health insurance was restricted to South Carolina, which, she said, turned out to be a blessing in disguise.

Still, she decided to seek an initial consult with the Georgia doctor while her best friend, Sheila Beard, an executive coach, reached out through her network to get recommendations for South Carolina doctors. Beard came back with two names at MUSC Hollings Cancer Center, one of which was Brian Orr, M.D., a board–certified gynecologic oncologist.

"I read both bios. Both were exceptional, but Dr. Orr somehow just stood out to me," Carol said. At her consult with the Georgia doctor, she posed a question. "I asked, 'If you were a patient that had to seek care in South Carolina, who would you go to?' And she said, 'Dr. Orr.'"

When Carol met Orr, she knew she had made the right choice.

"He was great," she said. "He didn't sugarcoat things, which initially scared the living daylights out of me."

Orr outlined all the possible scenarios. But most importantly for Carol, he offered hope.

"The one thing that he said that stuck out to me the most — and I've held onto it to this day — was he wanted to keep me on a curative path," she said. "It was the best thing he could have said to me because it gave me that hope right off the bat that he's got me."

Carol's appointment with her gynecologist had been in April. She was scheduled for surgery at the end of May. In that short time, the tumor grew rapidly, swelling her belly as though she were pregnant.

"It was amazing how quickly it grew," Joan said. "Just amazing. There was no doubt that there was something in there.

"That's not biscotti," she added, looking at a photo of Carol from just before the surgery.

### Intraperitoneal chemotherapy

Carol's surgery went well, but surgery is only the beginning of treatment for people with stage 3 ovarian cancer. Next up was chemotherapy.

Carol was interested in a less–used option called intraperitoneal chemotherapy, or IP chemotherapy. In IP chemotherapy, the abdominal cavity is flooded with the chemotherapy drug so that it coats the surfaces of all organs.

Orr explained that ovarian cancer is a surface cancer that "exfoliates." Tiny slivers of the cancer can spread about the abdominal cavity like snowflakes in a snow globe.

Chemotherapy that is given intravenously goes into the bloodstream to reach tumors through their blood supply — but those little bits of exfoliated ovarian cancer aren't well connected to the blood supply.

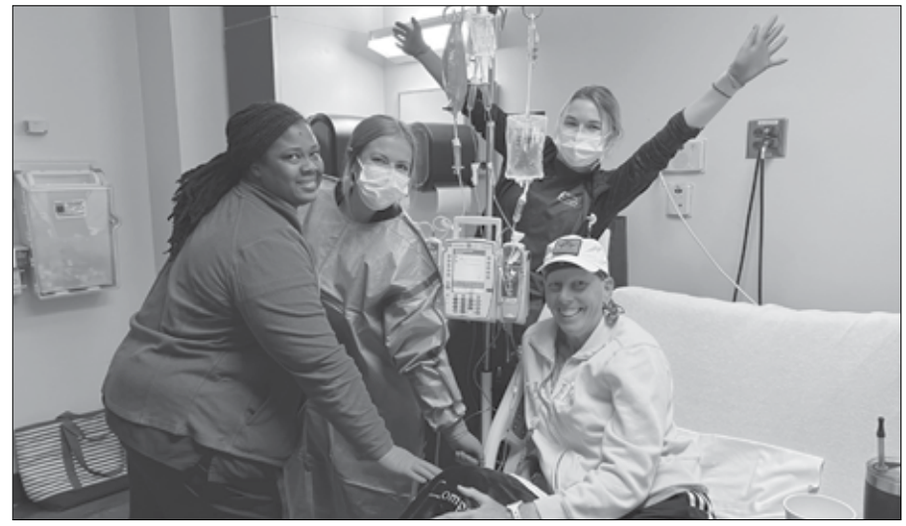


*Photo Provided*

**The staff on 7West – the gynecologic oncology inpatient floor of University Hospital – became like family to Carol Sullivan over the course of her treatment.**

"Some of these little tumors in the abdomen — they're just sort of sitting there. You could flick them off. So how is the IV chemo going to actually access some of those tumors or the microscopic cells in the abdomen we can't see?" Orr said.

Studies have shown that IP chemotherapy can improve survival for women with ovarian cancer. The downside? It's extremely toxic. So much so that each round of infusions requires an in-patient stay in the hospital.

Carol weighed her options carefully, even going so far as to travel to the Sidney Kimmel Comprehensive Cancer Center in Baltimore to talk to a leading expert on IP chemotherapy for ovarian cancer.

Orr supported her explorations — indeed, he supports any of his patients seeking out second opinions.

"We're not dealing with some sort of nuisance. We're dealing with life–threatening diagnoses. So yes, we all welcome second opinions," he said.

"Patients sometimes feel embarrassed to say, 'I'm getting a second opinion,'" he continued. But oncologists are generally collegial and happy to consult each other. In Carol's case, Orr spoke with the doctor in Baltimore about her care and the potential for IP chemotherapy.

Although the treatment isn't commonly offered at Hollings, Orr has experience with it and is happy to offer it to patients who fit the profile that's most likely to benefit. In Carol's case, a mutation in her cancer's DNA indicated that she could be one of those people who would benefit; Orr said he was ready to proceed if Carol wanted to, and she decided to go for it.

"One of the scary things was that half the people that start IP chemotherapy don't normally finish because it's too difficult," she said. "But I'm like, 'I just have to try it to give myself the best chance I can.'"

For six rounds, she had three-day hospital stays followed by outpatient chemotherapy the next week.

"It wasn't a cakewalk," she said. "But I actually was able to get through it without major adverse side effects, and that I attribute a lot to the care that I had. The support system is so important, not only from the nurses here, but Joan was there by my side, and

*See* **Survivor** *on page 11*

## Stroke

*Continued from Page One*

Her husband had suffered a stroke on the left side of his brain that affected his right arm and leg. Four years later, some of the effects linger. But that hasn't kept the Orbachs from enjoying life. They now live in Ravenel with their kids and four grandchildren nearby.

Since their arrival, Billy has been a patient at MUSC Health as he works to regain some of what the stroke cost him. That's where he connected with neurosurgeon Nathan C. Rowland, M.D., Ph.D., and the rehab team that deemed Orbach the top candidate for receiving the first vagus nerve stimulation device for a stroke patient in the Carolinas.

So what is the vagus nerve? "It's one of 12 cranial nerves," Rowland said.

"In antiquity, the vagus was known as the wandering nerve because it travels all the way from the brainstem down to other internal organs. When the brain needs to send messages to the heart and the gut, for instance, it uses the vagus nerve to do so. However, if you artificially stimulate the vagus nerve itself, you can have beneficial effects the other way around, that is, on the brain. That is what this form of vagus nerve stimulation is attempting to do."

Orbach was eager to give it a try. "They put the coil in and wrapped the nerve six times," he said, pointing to his neck. An incision mark showed where Rowland and his team inserted the electrode that connects to a battery-operated square shaped device under the skin of his chest.

After the surgery with Rowland, Billy began working with a team of occupational therapists at the MUSC Health Neurologic Rehabilitation Institute. They have special training to operate the device.

During a recent morning appointment, Alanna Herman, one of Billy's occupational therapists, worked with him on grasp and release using a stroke therapy glove, as well as electrical stimulation to his forearm, to allow for greater movement. As Orbach worked on straightening his fingers, Herman stimulated his vagus nerve to drive neuroplasticity, the ability of the brain to promote neural recovery.

Each time the device is activated, it stimulates the patient's brain to create new pathways, bypassing the damaged stroke area. Herman said by using this combination of techniques, early data has shown modest improvements in the functional scales and assessments that occupational therapists use to measure performance in chronic stroke patients undergoing rehabilitation.

"The glove helps to keep his fingers extended so he can do more of the repetitive movements. We're trying to isolate his ability to grasp and release," Herman said. "We are excited to see how beneficial Vivistim becomes as we use it as a supplemental tool to the evidence-based principles of neurorehabilitation performed as part of an occupational therapy plan."

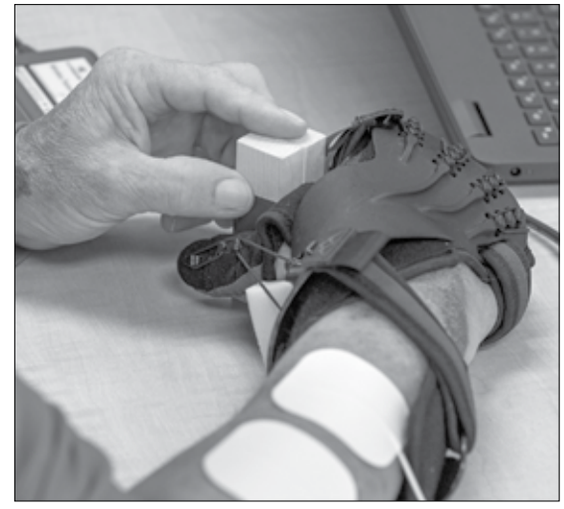
For additional practice, Orbach does exercises at home, activating the device himself.

This new option to help stroke survivors is huge, Rowland said. "Over 800,000 strokes occur every year in this country, and at any one time, there are about 6.5 million survivors with what is considered chronic stroke, or people who survive six or more months after the initial stroke. And, unfortunately, the chronic period is when rehabilitation experts believe the brain is less prone to experience improvements."

That's why he was happy to be able to offer vagus nerve stimulation to Orbach.

The neurosurgeon, who is also an associate professor at MUSC, said the new technology is a good fit for MUSC Health, which has been recognized by The Joint Commission and the American Heart Association/American Stroke Association as a Comprehensive Stroke Center.

That means it can treat patients with the most complex strokes, including offering advanced imaging capabilities, 24/7 availability of specialized treatments and staff with the training and competencies to provide the most advanced level of stroke care achievable.



**Above: Occupational therapist Alanna Herman watches as stroke survivor Billy Orbach tries to use his hand to grasp and release items during a session at the MUSC Health Neurologic Rehabilitation Institute. Left: Orbach is using vagus nerve stimulation and hopes to one day swing a golf club again.**

*Photos by Sarah Pack*

MUSC Health also offers the latest stroke rehabilitation options, such as the vagus nerve implant. "Most patients have never heard of this until we mention it as an option. They've been told by other physicians or care providers that there's nothing else that can be done. The team at MUSC wants to make sure they understand that, yes, there is hope," Rowland said.

His team asks stroke patients who show potential for vagus nerve stimulation about medications they're on, how long it's been since they had a stroke and what kind of therapies they've had. The team also looks at hand and leg function. The implant is covered by insurance in South Carolina.

Orbach encouraged other stroke patients to do everything they can to get better. He's thrilled to have the vagus nerve implant. "I feel blessed that I was given the first opportunity. It's pretty amazing. Anything to help me get better."

Rowland has high hopes for him. "I have no doubt whatsoever he'll be able to swing a golf club again. And, when he does, we will be first in the crowd to cheer him on."

The Centers for Disease Control and Prevention recommends calling 911 immediately at the first signs of a stroke, which include a sudden loss of balance, sudden numbness or weakness, sudden confusion, sudden trouble seeing and severe headache, as early treatment can minimize long–term effects.

## Survivor *Continued from Page Nine*

my community was amazing."

### Sully's Village

Everyone feels differently about disclosing a cancer diagnosis. It can be a difficult conversation, especially if the patient has to keep retelling the story and answering the same questions.

But Carol found strength in the retelling.

"It was important to me that I told each and every close friend individually," she said. "For my friends in our community, I met with each of them in person. It made it more personal and real. Each time of explaining what was happening and what my plan was to deal with, it helped me with acceptance and gave me strength to fight with all my might."

And her community rallied to her side.

Her pickleball team surprised her right before surgery with team bracelets that said "Sully's Village." The bracelets spread quickly, first to spouses, then to friends and other pickleball teams. Carol even brought some to the hospital to give to nurses.

The bracelets were just one tangible reminder of how many people were in her corner. Joan also felt that love and support as word spread.

"People would come up to me and say, 'I don't want to bother you. How's Carol? Do you need anything?'" Joan said. "And I feel like, 'Not a bother. Even just that — you don't have to do anything but just the fact that you asked. Wow.' There's so many people out there going, 'You OK?' It was pretty cool."

And Sully's Village ended up encompassing more than the neighborhood community. Many staff members at MUSC, but especially the nurses on 7West, the inpatient gynecologic oncology floor of University Hospital, became friends.

They were, Carol said, "true mirrors of the positivity" that she brought to each treatment. Their laughter rang out from Carol's room — a welcome sound of hope and life to the doctors on the floor. Even months after finishing chemotherapy, Carol still brings a bottle of Mountain Dew to Orr during her follow-up appointments and stops by 7West to visit the staff.

As much as that sense of community helped Carol and Joan to get through the past year, so, too, did faith.

"For me, a lot of it's faith," Joan said. "I had one really bad day. And then from then on, it was just like, 'Tell me when to worry.' Because I couldn't handle it otherwise. And I just followed her lead. Where she seemed to falter, I pushed, and where she was going strong, I was right beside her."

Anticipating that Carol would be too weak to be out and about during chemotherapy, a close friend made "Flat Sully" — a life-size cardboard cutout of Carol that made appearances at the dentist, on pickleball courts and at parties — even though Carol ended up being able to get around more than anyone expected. In fact, "Flat Sully" and "real Sully" crossed paths more than once.

As Carol finished chemotherapy and slowly grew stronger, she resumed more of her activities, and Flat Sully took a backseat. Back on the pickleball court, Carol joked that her game would come back when her hair did — and, so far, that seems to be true.

Now, a year after diagnosis, she's done with IP chemotherapy and is on a targeted therapy called a PARP inhibitor. The drug blocks an enzyme that might help cancer cells to repair damage to their DNA, hopefully preventing the ovarian cancer from recurring.

### Words of experience

An ovarian cancer diagnosis comes as a shock. Fewer than 20,000 women are expected to be diagnosed with ovarian cancer in the U.S. this year, so it's a cancer that most people are unfamiliar with.


*Photo Provided*

**Carol Sullivan rings the bell at the end of her active treatment period.**

Carol tells other women to pay attention to their bodies — even to the vague, seemingly unrelated symptoms that can signal ovarian cancer. For her, she just felt that something was off, and she's glad that she pursued that feeling.

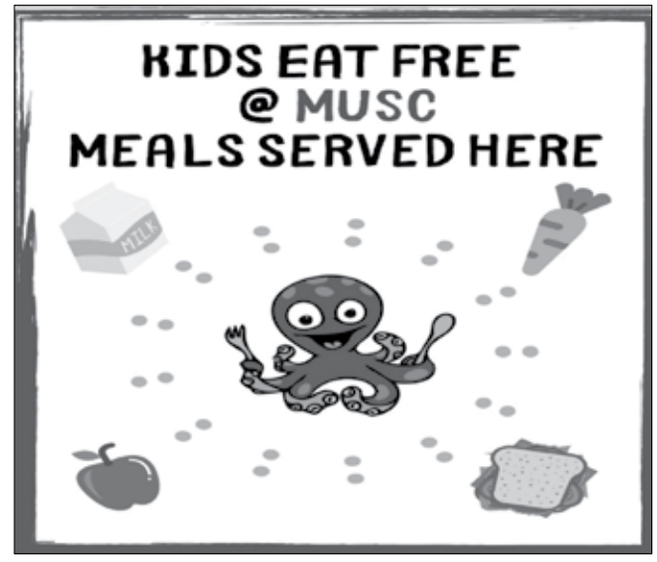
Joan advises taking a partnership approach with the medical team.

"Participate," she said. "Be a part of the team. I mean, Dr. Orr's a doctor, but Carol was just as important because he needed her input. She needed his input. So they worked together."

And don't be afraid to call, she added.

"Waiting was the hardest thing. We hated waiting. So we would give it a little time, but eventually Carol would call," she said. "Know that you've got to wait, but don't be afraid to call and step up and say, 'Hey, I need some information.' And participate. Know that you're part of that team." Carol is a naturally positive person, but it's a trait that she's nurtured as well.

"You wake up every day, and you have a choice to decide what today's going to be like. And I always try to find the ways to make that day a good day."




**Summer 2023 Kids Eat Free @MUSC is open to kids and teens, 18 and younger, at multiple locations:**
**•University Hospital Cafeteria and Shawn Jenkins Children's Hospital Cafe, 11 a.m. to 1 p.m.**
**•Keith Summey Medical Pavilion (starting June 20) 10 a.m. to 12:30 p.m.**

## Chair

*Continued from Page Two*

and Maxillofacial Surgery complements the Ann Darlington Edwards Endowed Chair in Nursing that was established in honor of the former MUSC first lady and stateswoman back in March of 1997.

"Today is a special day," she said. "Hearing the history and importance of an endowed chair, I'm reminded that there have been so many people who have made great contributions to our goal of educating and training dentists. I'm here to honor Dr. Steed, and we're so fortunate to have him. He's internationally known for his expertise and has helped bring us closer to the college's goals. Thank you for your leadership, and I am delighted with you named in this endowed chair. I look forward to seeing where we go from here. It's all of you who have made this happen. And if Jim were here, I know he'd say, 'Mama, I'm so proud.' Thank you for making it happen and for continuing to teach our future dentists. They can look back and know that they came from a fine institution with the best education and leadership. It's the best because of all of you. I'm so very proud of each of you."

Steed was humbled and inspired by the crowd's response, support and enthusiasm. He explained that a portion of the endowed chair will provide funding to recruit a fellowship–trained craniofacial surgeon to provide cutting-edge expertise and training to patients, faculty and residents.


*Photo by Anne Thompson*

**The late MUSC President Emeritus James B. Edwards and wife, Ann Edwards.**

A dedicated educator and scholar, mentor and active researcher, Steed has authored numerous publications, articles and textbooks. He's received grants as a principal investigator and has collaborated with colleagues, predoctoral students and residents. Steed is director of the American Board of Oral and Maxillofacial Surgery and slated to serve a progressive term as president of the board from 2028-2029.

"This is an incredibly exciting moment for the college, and we owe it all to Dr. and Mrs. Edwards. As I reflect around MUSC's campus, and seeing what we do and offer to patients, I see examples of your vision all around. To think that it's still gaining momentum is an incredible testament to you and Dr. Edwards' leadership and love for this University. As we're gathered in this Dental Clinical Building where we see and treat patients and work with students and staff in the lab and clinic every day, we owe what we have to you both for your steadfastness. This already is an example of a chair that has already paid out in dividends. My pledge is to aspire plans that are equal to your vision so that it becomes a reality here in South Carolina. Thank you to MUSC's leadership and Mrs. Edwards for your support," said Steed.