TRANSFORMING CARE

INNOVATION | IMPACT | INFLUENCE

DEPARTMENT OF SURGERY

2023 ANNUAL REPORT

MUSC
Medical University of South Carolina

DEPARTMENT OF SURGERY
LEADERSHIP

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Jean Marie Ruddy, M.D.
Vice Chair, Research

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Sharee Wright, M.D.
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Vice Chair, Personal Development and Well-being

ACKNOWLEDGMENTS:

The Department of Surgery would like to thank the many individuals, especially our leadership, whose collective efforts have helped to complete this year's annual progress report. Additionally, we would like to thank those who are featured within these pages for their continued service to MUSC and contributions to this publication.

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COVER: ***Cover Image:*** *Attendings and residents walking on campus.* ***Left Image:*** *Cancer Research Scientist Shikhar Mehrotra, Ph.D., in the lab* ***Center Image:*** *Grand Rounds* ***Right Image:*** *Quiana Kern, M.D., PGY-6, CT Surgery I-6 resident, and Sanford Zeigler, M.D. in the OR*

MESSAGE FROM THE **CHAIR**

Over the past several years, the Department of Surgery has focused on strategic growth and recruitment, bringing world class clinicians and surgical innovators to MUSC. With more than 25 new faculty recruited over the past three years, the department experienced significant clinical growth. And, as you will read in this report, our strategic growth in clinical expertise has spread beyond geographical lines to benefit the health and well-being of communities far beyond Charleston and our state.

These are transformative times.

In alignment with MUSC's strategic direction, we are reshaping how we deliver on our tripartite mission to successfully serve our patients and each other.

With great care and dedication, we are:

- Reshaping our culture of innovation through the Harvey and Marcia Schiller Surgical Innovation Center
- Improving our community by strengthening our model for inclusion and equity
- Re-imagining our trainees' learning experience through our Future Surgical Leaders and Pathways programs
- Integrating our research and clinical strengths through team science
- Leveraging our new Global Surgery Program to create bidirectional opportunities to improve care in low- and middle-income countries and developed nations
- Creating a more compassionate and trauma-informed space through our Turning the Tide Violence Intervention Program
- Building on our national presence as academic leaders in surgery, we are helping to guide and shape both standards of care and policy

These strategic initiatives and many more that you will read about in this report illustrate how the department is poised to shape the future of surgical care for our patients through scientific discovery, education, and surgical leadership. I could not be prouder to be a part of this incredible group and the work we have accomplished this year.

Prabhakar Baliga, M.D., FACS
Professor and Chair
Department of Surgery
Medical University of South Carolina

INNOVATION | IMPACT | INFLUENCE

STRATEGIC GROWTH & IMPACT

The MUSC Department of Surgery is part of a growing network of MUSC Health hospitals, affiliate hospitals and clinic locations across the state, creating a greater impact to improve patient care to all South Carolinians.

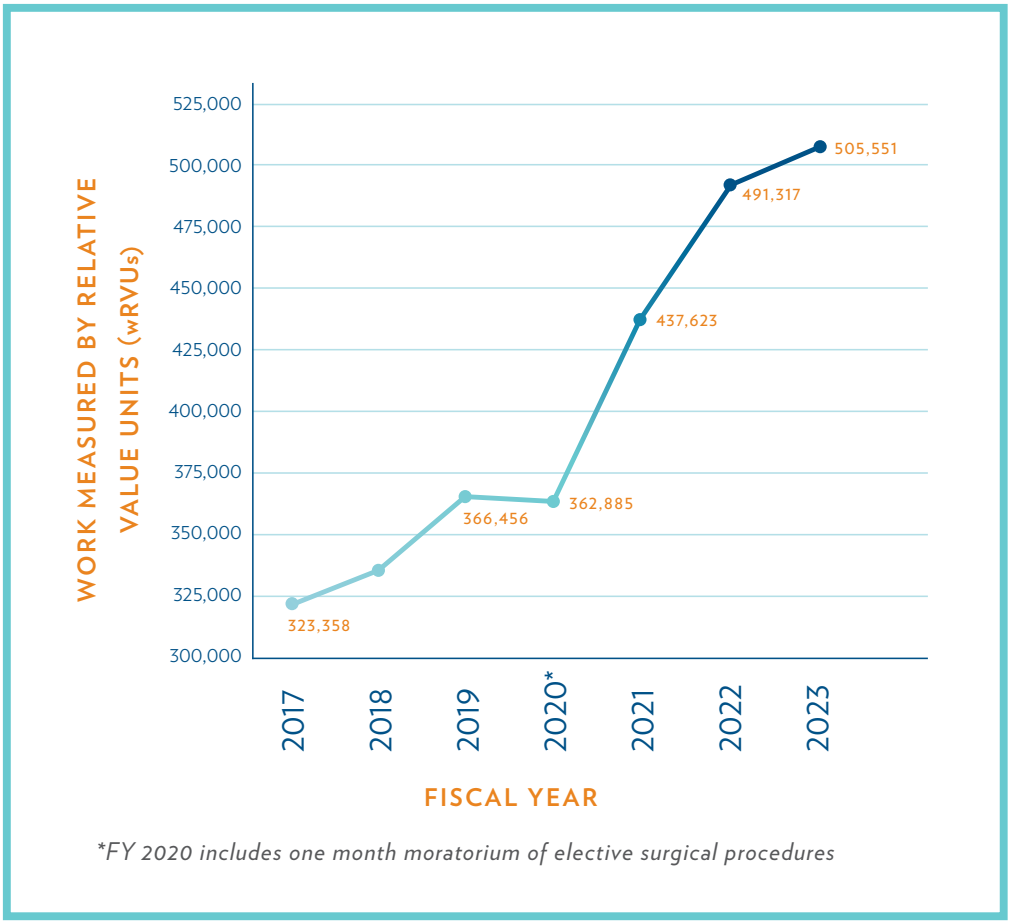
Our surgeons provide excellent care across a broad spectrum of surgery service lines with a team of dedicated advanced practice providers, nurses, and administrative staff. Together, we are committed to our mission to deliver exceptional patient-centered care.

We are united in our values of respect, equity, inclusivity, and personal development. It is by these tenets that we recognize we will be our most resilient and authentic selves, honoring our commitment to our patients and each other.

CLINICAL GROWTH ENSURES QUALITY, HEALTH AND SAFETY THROUGH INNOVATION AND DISCOVERY

"The Department of Surgery has experienced unprecedented clinical growth over the past few years. We now have more surgeons-scientists from a wide diversity of backgrounds and expertise, and a breadth of innovative surgical procedures and research endeavors that provide leading-edge care to thousands of patients each year."

-Prabhakar Baliga, M.D.
Chair, MUSC Department of Surgery



**FY 2020 includes one month moratorium of elective surgical procedures*

NEW LEADERSHIP

As our clinical growth continues, our impact expands beyond the walls of the operating room. We are transforming patient care at MUSC through new and significant leadership opportunities. This year, our department recruited several new leaders in surgical oncology and several of our talented department members assumed essential and transformational leadership roles. Each of these individuals is nationally recognized and brings to their new position valuable experience and extraordinary commitment.

William Hawkins, M.D.
Deputy Director
Hollings Cancer Center

William Hawkins, M.D., joins MUSC as Deputy Director of the Hollings Cancer Center, where he will work with Director Raymond DuBois, M.D., Ph.D., and team to achieve the National Cancer Institute (NCI) comprehensive status during the 2028 review cycle. Dr. Hawkins will have a lead administrative role as the Director of Strategic Growth and Clinical Research. He will be instrumental in building Hollings' clinical translational programs and leading the expansion of the HCC clinical trials network to regional MUSC Health centers. In the Department of Surgery, Dr. Hawkins will serve as Vice Chair of Clinical Affairs, where he will be responsible for the strategic planning and development of the clinical staff.

Kevin Roggin, M.D.
Chief of Surgical Oncology

Kevin Roggin, M.D., has been named Chief of Surgical Oncology. Dr. Roggin is a distinguished surgical oncologist, scholar, and educator, having served at the University of Chicago Medicine for the past 17 years. At MUSC, Dr. Roggin will enhance the division's clinical programs, creating collaborative, multidisciplinary approaches to liver, pancreas, and biliary disease and expanding the HIPEC, endocrine, and breast programs. He will also serve as Clinical Director for Surgical Oncology at the Hollings Cancer Center, working closely with the Hollings ICCE leadership to grow these key clinical areas.

Heather Evans, M.D., MS
Chief of Surgery
Ralph H. Johnson VA
Medical Center

Heather Evans, M.D., MS, has been named Chief of Surgery at the Ralph H. Johnson Veteran Affairs Medical Center, where she will lead 133 employees across 17 clinical divisions. The Ralph H. Johnson VA Medical Center is the highest volume surgery center with the highest complexity of care in the VA Southeast Network region. Dr. Evans, a trauma surgeon with expertise in robotic and minimally invasive general surgery procedures, joined MUSC in the Department of Surgery in 2018 and has served as Vice Chair of Clinical Research and Applied Informatics.

Cynthia Talley, M.D.
Senior Associate Dean
for GME and CME
College of Medicine

Cynthia Talley, M.D., has been named Senior Associate Dean for GME and CME for the College of Medicine following a national search. Dr. Talley brings an excellent combination of leadership, clinical, education, and administrative skills to this position, having served as the Associate Dean for GME under the leadership of Dr. Ben Clyburn over the past several years. In this role, she will join the senior leadership team in the College of Medicine's Dean's Office, where she will devote her energy and effort to the continued development of these important mission areas for our institution.

NEW LEADERSHIP CONTINUED

Jean Marie Ruddy, M.D.
Vice Chair of Research

Jean Marie Ruddy, M.D., has been named the Vice Chair of Research in the Department of Surgery. Ruddy's passion and dedication to research and education will be instrumental to her leading and growing the Research Division. Since 2021, Dr. Ruddy has served as the Associate Vice Chair of Research in the Department of Surgery. She also served the Department as the Associate Program Director for Resident Research in General Surgery, where she transformed resident research into a high-functioning enterprise, creating a meaningful and productive experience for each resident in the program.

Minoo Kavarana, M.D.
Division Chief
Pediatric Cardiothoracic Surgery

Minoo Kavarana, M.D., has been named the inaugural Chief in the newly created Division of Pediatric Cardiothoracic Surgery. In this role, he and his team will build upon the strong foundation in pediatric cardiac surgery, which Scott M. Bradley, M.D., has helped develop as Section Head, propelling the expansion of our statewide enterprise into a regional referral center and an internationally recognized center of excellence providing care to children and adults with the most complex forms of congenital heart disease.

Barry Gibney, D.O.
Section Chief
Thoracic Surgery

Barry Gibney, D.O., has been named the new Section Chief of Thoracic Surgery in the Division of Cardiothoracic Surgery. In this role, Dr. Gibney will lead the team of thoracic surgeons, including Ian Bostock, M.D., MS, and Kate Engelhardt, M.D., MS, to develop a robust thoracic surgery program dedicated to advancing care through clinical expertise, research and education. The team works closely with the Hollings Cancer Center multidisciplinary thoracic cancer team, delivering expert surgical care for patients with lung and esophageal cancer, and end-stage lung disease.

Rohit Mittal, M.D.
Director of Pediatric Burn Surgery, South Carolina Pediatric Burn Center

Rohit Mittal, M.D., joined MUSC in 2022 to serve MUSC as Pediatric Burn Director in the South Carolina Pediatric Burn Center, based at the MUSC Shawn Jenkins Children's Hospital. He has been named the Shriners Endowed Professorship in Pediatric Burn Care at MUSC. Dr. Mittal is a burn surgeon who is double board-certified in general surgery and surgical critical care. He treats pediatric burn patients and augments the team at MUSC in their current efforts to perform innovative research that improves quality of care and the lives of burned children.

PREHABILITATION PROGRAM AIMS TO REDUCE SURGICAL COMPLICATIONS FOR PATIENTS WITH DIABETES

by Ivy Keller

An ounce of prevention is worth a pound of cure.

Mark Lockett, M.D.

At least, that's the idea behind the surgical prehabilitation program currently being tested under the leadership of Mark Lockett, M.D., Professor of Surgery and Surgeon Lead for the South Carolina Surgical Quality Collaborative (SCSQC).

The prehabilitation program was established in 2021 as the result of a partnership between the Collaborative and Diabetes Free SC thanks to a grant from the Blue Cross Blue Shield of South Carolina Foundation. The grant supports four hospitals in SC, including MUSC Charleston. Outcomes are tracked through the SCSQC data registry.

The program provides patients with the tools to improve their health by teaching them new skills and giving them the tools to make healthy lifestyle changes before their surgery. Because people with diabetes are more likely to need surgery, and more likely to have undiagnosed underlying conditions, they are twice as likely to face post-operative complications as non-diabetics. Individual clinics participating in the study customize the program based on the needs of their patients.

At MUSC, patients receive treatment by endocrinology prior to surgery, and are educated on exercise, smoking cessation, mindfulness, and other lifestyle changes which can improve surgical outcomes and overall quality of life.

It doesn't take long to see positive results. As Lockett notes, "the data that exists on getting people to train for surgery suggests that you can reduce complication rates by doing this even with as little as a couple of weeks before surgery."

This is good news for patients with diabetes, who are more likely than non-diabetics to require blood transfusion, readmittance, or follow-up surgery afterwards. SCSQC data collected from 2015-2023 shows that morbidity occurred in 12.3% of surgical patients diagnosed with insulin diabetes and 8% with non-insulin diabetes, while non-diabetic patients only had a 5.66% incidence of morbidity.

These numbers aren't limited to a small segment of the population either. South Carolina alone has more than 500,000 residents diagnosed with diabetes and more than 35,000 new cases diagnosed annually – costing more than $5 billion in related medical expenses each year. By implementing prehabilitation programs, surgical departments can improve outcomes and lower the costs associated with diabetes.

The SCSQC began in 2015 with eight participating hospitals in a joint effort to improve the quality and value of surgical care in South Carolina. The Collaborative has grown to now include 19 hospitals across the state. SCSQC leaders have regular conference calls and face-to-face meetings with facility leaders to review data and share QI project results.

KEY COMPONENTS OF SCSQC

- Achieve measurable reductions in post-operative complications and lower general surgery costs
- Gather and analyze data to be utilized for continuous quality improvement
- Engage in collaborative problem-solving through group meetings
- Train the next generation of surgical leaders in quality improvement techniques

GOALS

- Achieve measurable outcomes of highest importance to patients, clinicians, and payors
- Decrease health disparities in South Carolina through reducing surgical morbidity and mortality
- Improve health care value for patients undergoing surgical procedures
- Deliver the highest quality care at the lowest cost
- Assure long-term sustainability of the program

TRANSFORMING CARE

IMPROVING PATIENT OUTCOMES THROUGH DIGITAL AUTOMATION

by Ryn Thorn

Joseph Scalea, M.D.

Monitoring patients' health after an organ transplant is vital, but the process can be challenging, laborious, and slow. An interdisciplinary team at MUSC headed by Joseph Scalea, M.D., professor and vice chair of Innovation in the Department of Surgery, has developed a tool that condenses weeks of work required to monitor patients after transplant into just seconds. Scalea and his team designed an algorithmic tool that uses a variety of information to assess patients' risk of negative outcomes after transplant. The algorithm factors in everything from lab values like organ function tests to social factors like health appointment attendance. Normally, a team of practitioners manually reviews and monitors charts, test results, and other relevant information about their transplant patients after surgery in order to determine their potential for negative outcomes. But by using a tool which can quickly identify and stratify levels of risk, the process becomes much more efficient.

As the need for and access to organ transplants of all types grows, so does the need to monitor patients after transplant surgery. Various patient factors are monitored after they undergo their transplant procedure. Factors such as white blood cell count, electrolyte levels, vital signs, and immune function must be gathered and assessed by nurses and doctors. Patients' demographics as well as information from their follow-up visits with their care providers must also be taken into account.

"Based on our estimates, about 700,000 data points per year need to be evaluated just to manage our kidney transplant group of post-op patients," said Scalea. Sifting through this data costs nurses and doctors hours of time per week that could otherwise be spent face-to-face with patients. Scalea and his colleagues hope to reduce inefficiencies like this in order to provide better patient care.

To develop an automated assessment tool, Scalea worked with an interdisciplinary team that included practitioners from MUSC's Surgical Innovation Center, frontline nurse coordinators, and software developers from MUSC's Biomedical Informatics Center, who came together to develop the tool. Though Scalea and his team do not yet have hard data comparing their algorithm to the manual process, they are optimistic. "We see this as a game changing technology for outpatient management in complex surgery," Scalea said.

TRANSPLANT PROGRAM IMPROVES LIVING DONOR CARE THROUGH ROBOTIC EXPERTISE

Tracy Rice, M.D.

A living donor kidney is the "gold standard" for kidney donation; in fact, the living donor organ lasts twice as long as a deceased donor kidney and they have better outcomes. More importantly, it reduces the recipient's overall risk of mortality while waiting for an organ to become available. **Tracy Rice, M.D.**, surgical director of the Living Donor Program, believes it is important to find ways to make the living organ donation surgery as safe and efficient as possible for living kidney donors.

"Considering these donors have given such a tremendous gift – the gift of life – it's pretty significant that we now offer a more comfortable recovery by virtue of the surgery completed using the da Vinci Surgical System, a robotic surgical system that uses a minimally invasive surgical approach," said Rice. She is exceedingly well trained with a unique skill set in robotic donor nephrectomy.

With her expertise, the living donor program has converted to a fully robotic donor practice, performing 50 robotic nephrectomies in FY23. Rice says there are many benefits to the living donor when the nephrectomy is done robotically, including reduced hospital stays, less pain, and fewer complications. "Over 90% of our donor patients are going home the day after surgery," said Rice. "And their pain requirements postoperatively are about half what they are with a laparoscopic approach."

To support the Living Donor Program, please visit **https://bit.ly/DOS-LDI-Support**

CLOSING THE GAP: Novel Organ Perfusion & Preservation Techniques Create Better Access to Donor Organs

NEW ORGAN PERFUSION TECHNIQUES FOR HEART & LIVER TRANSPLANTS

Arman Kilic, M.D., surgical director of the MUSC Heart Failure and Heart Transplant Program, led the surgical team who transplanted the first heart in South Carolina obtained by donation after circulatory death (DCD). They worked in partnership with Transmedics, a medical device company that created an ex vivo perfusion machine to keep organs functional and healthy during their journey from donor to recipient. One of the benefits of the ex vivo system is that the organ can be assessed while it is being perfused. In addition, by keeping the organ perfused and warm, the machine allows more time to gain access to organs. Kilic said that the Transmedics system is designed to mimic the human body, which likely contributes to better organ function right away.

"With the Transmedics system we can now safely use DCD organs," he said. "And we can also use the system to utilize brain-dead donors that have high-risk criteria." Both options allow MUSC to expand access to donor organs for the many patients who need them. At MUSC Health, the heart transplant team has performed eight DCD transplants and all patients have done exceptionally well.

This Fall, the liver transplant team, led by Jared White, M.D., plans to use a similar ex vivo machine perfusion system, OrganOx metra. Similar to the Transmedics system, by keeping the organ perfused and warm, organs can be retrieved from a greater distance and can be assessed while being perfused, potentially optimizing graft survival.

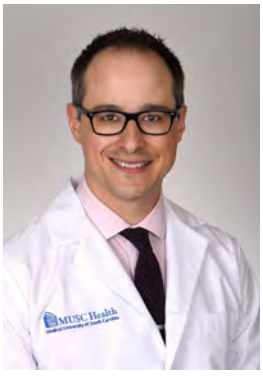
The perfusion machine is suitable for liver grafts from donors after brain death and donors after circulatory death (DCD).

"Using normothermic machine perfusion allows us to potentially transplant more patients, particularly patients on the transplant list that otherwise might die because their transplant score isn't high enough for them to receive a brain-dead donor," said White. "Now, we can potentially use organs that might otherwise have a high likelihood of being turned down or discarded due to concern for quality, travel time, or other logistical concerns, creating more opportunities to save lives."

Arman Kilic, M.D.

Jared White, M.D.

NEW ORGAN PRESERVATION TECHNIQUES FOR LUNG TRANSPLANTS



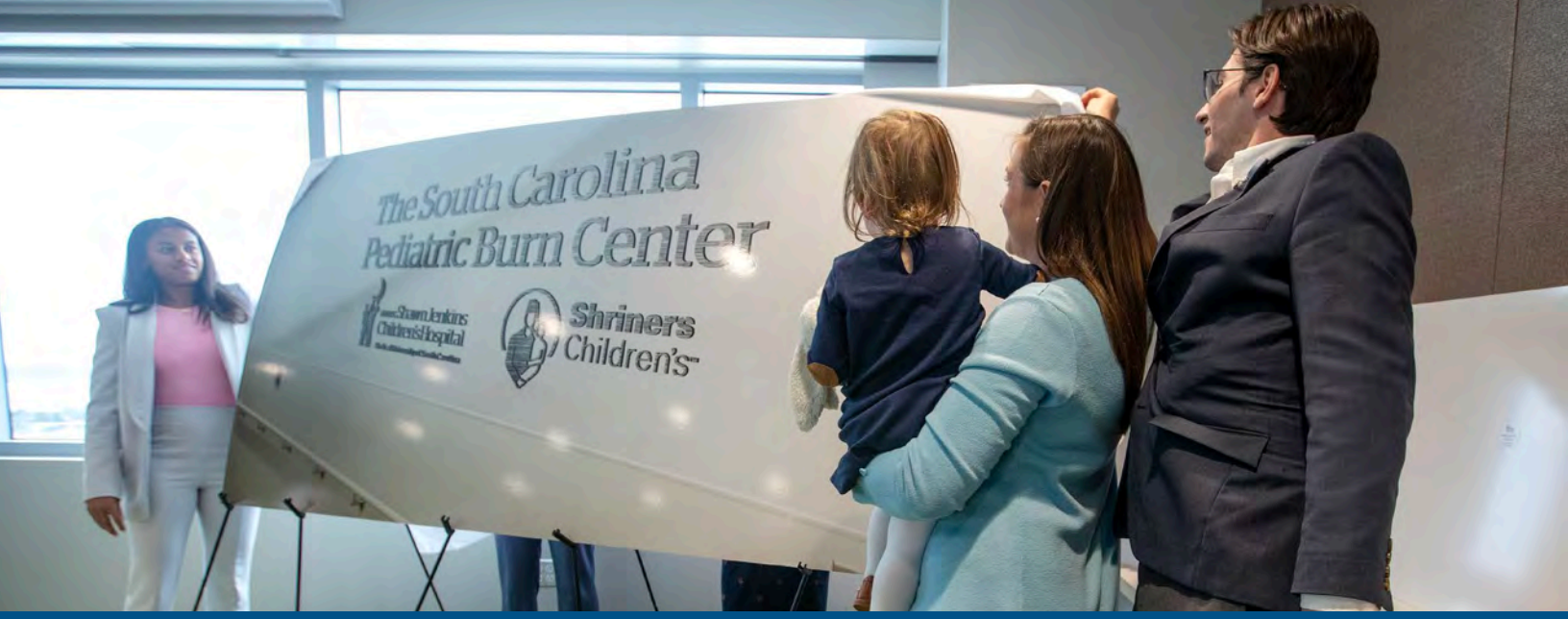
Barry Gibney, D.O.

The MUSC Health Lung Transplant Program, led by Barry Gibney, D.O., is using a new lung preservation technique based on a groundbreaking clinical trial that demonstrated a warmer storage temperature of 10 degrees Celsius for donor lungs markedly increased the length of time the organ can live outside the body. Gibney says this new preservation technique allows lungs to come from farther distances, increasing the number of lungs available for transplant.

He says another benefit is the ability to change an emergency surgery, typically in the middle of the night when organs are procured, to a more semi-elective procedure the next day. "This allows for a better-planned operation, providing benefits to both patients and health care teams," he said. "We have done three of these operations so far with excellent results."

He says lungs differ from other organs since they are the only organ not dependent on perfusion for aerobic metabolism. He hypothesized that adding ventilation to the warmer storage temperature could improve graft function. In a mouse model, his team stored lungs at four degrees Celsius, the standard, 10 degrees, the paradigm shift, and 10 degrees with ventilation, the novel model, for 24 hours. The study showed improved cellular health in the 10 degrees with ventilation model.

Based on this research, Gibney was awarded a SCTR pilot grant to build on his hypothesis that adding this ventilation strategy to the warmer storage solution improves cellular health at a mitochondrial level. He hopes the research leads to a device that extends both storage times and cellular health.



MUSC, Shriner's Hospitals for Children New Affiliation Supports the State's Only Comprehensive Pediatric Burn Center

Rohit Mittal, M.D.

In November, MUSC and Shriners Hospitals for Children (Shriners Children's) announced an affiliation to elevate pediatric burn care and research at the MUSC Shawn Jenkins Children's Hospital. This is a component of the comprehensive South Carolina Burn Center. As a part of this affiliation, Shriners Children's announced a $3 million grant to establish the Shriners Children's Endowed Professorship in Pediatric Burn Care. The funds will be matched by funding from MUSC and support the only pediatric burn care center in the state, which includes a specialized pediatric burn unit.

Rohit Mittal, M.D., who joined the Department of Surgery in December, has been named the Shriners Children's Endowed Professorship in Pediatric Burn Care at MUSC. Dr. Mittal is a burn surgeon who is double board-certified in general surgery and surgical critical care. He treats pediatric burn patients and augments the team at MUSC in their current efforts to perform innovative research that improve quality of care and the lives of burned children.

Steven Kahn, M.D.

"The arrival of Dr. Mittal and the Shriner's collaboration represents an important milestone for the South Carolina Burn Center," said Steven Kahn, M.D., South Carolina Burn Center director and chief of burn surgery. "It will facilitate growth and development and allow us to provide the highest quality patient and family centered care even beyond the borders of our state. This collaboration represents a novel paradigm in burn care with the potential to become a model for regional delivery of care around the United States."

The comprehensive South Carolina Burn Center has an expert team of multidisciplinary burn providers and performs an important public health service for the state in providing care to patients of all ages. Since its recent opening in 2020, the center has been lauded as the first burn center in the United States to perform a minimally invasive skin graft, a National Institutes of Health burn telemedicine K Award, and for having the nation's top ranking in survival four out of the past six quarters.

DID YOU KNOW?

There are more than 1,000 people in South Carolina each year who need inpatient burn care.

Our surgeons are creating better outcomes for burn patients through research and innovation. But they can't do it alone. If you would like to join them through supporting their research, please visit https://bit.ly/DOS-Burn-Support or use the QR code.

SC BURN CENTER FY23 GROWTH

- INCREASE IN wRVUs **42%**
- INCREASE IN BURN CENTER ADMISSIONS **17%**
- INCREASE IN BURN SURGICAL PROCEDURES **19%**

CHILDREN'S HEART CENTER RANKS 4TH IN THE UNITED STATES

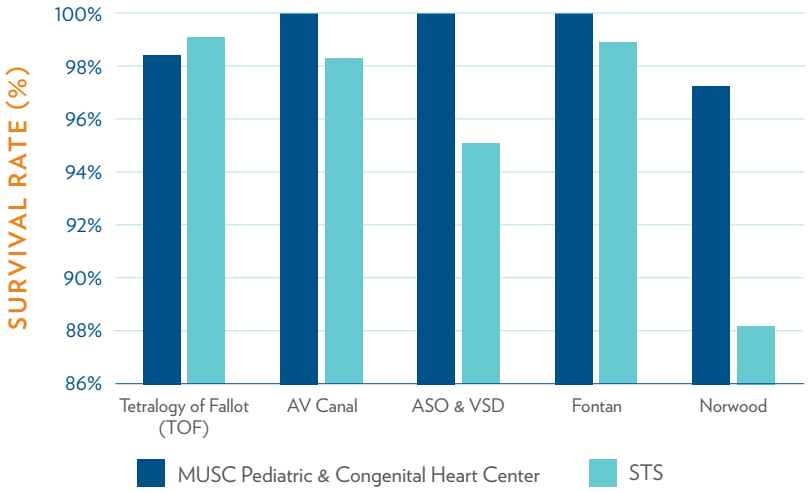
The Pediatric & Congenital Heart Center at the MUSC Shawn Jenkins Children's Hospital ranked No. 4 in the country in U.S. News & World Report's 2023-2024 Best Children's Hospitals survey. For the outcome component of this score, the MUSC Pediatric & Congenital Heart Center was ranked No. 3 in the nation. Rankings have steadily increased over the past ten years. This is the second year in a row the rankings were in the top ten nationally. This is an amazing accomplishment for our talented surgeons, Minoo Kavarana, M.D., and Scott M. Bradley, M.D., our entire Pediatric and Congenital Heart Program Team, and our truly amazing state-wide team.

UNRIVALED OUTCOMES

Additionally, the Pediatric and Congenital Heart Program was recognized as providing exceptional care by the Society of Thoracic Surgeons Congenital Heart Surgery Public Reporting. Their overall 4-year observed mortality is 1.48% (expected 2.70%), almost 50% less than expected. In addition to outstanding survival, our length of stay is lower than the national average for 9 of 10 benchmark operations.

BENCHMARK OPERATION, JUNE 2019–DECEMBER 2022

Higher Percentages are Better Outcomes



Lloyd "Mac" Felmly, M.D., Minoo Kavarana, M.D., and Scott Bradley, M.D.

Laura Hollinger, M.D.
Pediatric ECMO Program Medical Director

PEDIATRIC ECMO PROGRAM ACHIEVES HIGHEST LEVEL OF RECOGNITION

The Pediatric ECMO Program at the MUSC Shawn Jenkins Children's Hospital was once again recognized as a Platinum-level Award for Excellence in Life Support from the Extracorporeal Life Support Organization (ELSO), an international consortium of centers offering ECMO (extracorporeal membrane oxygenation) for support of failing organ systems in infants, children and adults. This award is the highest attainable level of achievement an ELSO Center of Excellence can receive and recognizes select programs worldwide that have demonstrated the highest level of performance, innovation and quality in the delivery of extracorporeal life support.

Programs are evaluated every three years. 2020 was the first time the program achieved platinum level. With the ELSO Center of Excellence awarding the Pediatric ECMO Program platinum level again, families of children in need of ECMO services have the added assurance the Pediatric ECMO Program at the MUSC Shawn Jenkins Children's Hospital continues to deliver exceptional patient care for their critically ill children.

INVESTING IN OUR CLINICIANS

NEW PEER-TO-PEER SUPPORT PROGRAM IMPROVES FACULTY WELL-BEING

David Mahvi, M.D.

Every provider, at some point, will face a major challenge – one that has the potential to take a significant emotional toll on their well-being. Often, barriers exist for clinicians seeking support.

The Department of Surgery's new Peer-to-Peer Support program, led by David Mahvi, M.D., vice chair of Faculty Development, aims to offer support to faculty who experience an unexpected complication to reduce the emotional toll.

The program is modeled after the Brigham and Women's Hospital Center for Professionalism and Peer Support Program, developed by Jo Shapiro, M.D. Dr. Shapiro served for ten years as the Director of the Center for Professionalism and Peer Support and is a surgeon in the Department of Surgery at Brigham and Women's Hospital.

"Dr. Shapiro presented a Peer Support Grand Rounds in November," said Mahvi. "Part of her visit included peer support training sessions for faculty and residents interested in becoming peer supporters."

Peer support programs are designed to improve clinician well-being proactively and are offered as soon as the challenge is identified. Mahvi reports that since the program started, he and his team have been able to help several clinical faculty members.

He said the process is simple and effective. He reaches out to offer an opportunity to talk with one of his team members and works to find the best fit to provide a forum to discuss unexpected outcomes. The program does not offer counseling but can refer faculty to resources outside the department.

As the program grows, he and his team are working to expand the program to include surgical trainees interested in serving as peer supporters for their colleagues.

"When Dr. Shapiro was here, in addition to a training session with faculty, she provided a peer-to-peer session for the residents," he said. "Feedback and engagement were encouraging. We are training several residents interested in becoming peer supporters."

Mahvi adds that as the program continues to move forward, they are looking to find ways to automate the program to quickly identify anyone facing a challenge and reach out to offer peer support services more efficiently and timely.

LEADING EXPERT ON PEER SUPPORT OFFERS INSIGHTS DURING GRAND ROUNDS

Jo Shapiro, M.D.
Associate Professor
Harvard Medical School

Jo Shapiro, M.D., is an associate professor of Otolaryngology-Head and Neck Surgery at Harvard Medical School. In 2008, she founded the Brigham and Women's Hospital Center for Professionalism and Peer Support where she served as the director for over 10 years. During that time the Center became a model for national and international institutions seeking methods to enhance a culture of trust and respect and improve clinician wellbeing.

She continues to educate and assist organizations in developing specific programmatic and educational approaches such as peer support, professionalism initiatives, and well-being programs.

CREATING CHANGE FOR VICTIMS OF COMMUNITY GUN VIOLENCE

MUSC's Turning the Tide Violence Intervention Program (TTVIP) has served and supported patients and families, the community, and MUSC Health's care team members and trainees since July 2021. As the first and only hospital-based violence intervention program in South Carolina, TTVIP has changed the standard of care for victims of community violence treated at our trauma centers, from propagating trauma-informed care to improving coordination of post-discharge follow-up care. Since 2021, the team has responded to and supported 325 patients, about 125 of whom were eligible and accepted intervention services post-discharge.

Equally important, preliminary data shows that patients that accept long-term intervention services are less likely to be violently injured again compared to those who do not.

"If it weren't for Donnie, I'd probably be dead or in jail."
"Keith helped us get services I didn't even know existed."
"Cat is amazing. She's helping me with everything."

-Feedback from patients

Client Advocates Keith Smalls, Cat Yetman and Donnie Singleton

OUR IMPACT

- **325** in-hospital patients supported
- **125** accepted services post-discharge
- **<3%** violent re-injury in those receiving intervention services
- **50+** education and training sessions conducted
- **25** community outreach programs created

"These are just some examples of the impact our client advocates are making every day. We have heard countless expressions of gratitude for each of our three client advocates."

Christa Green, MPH
TTVIP Program Director

LATEST NEWS

The TTVIP program was accepted to be a formal member of the Health Alliance for Violence Intervention (HAVI) as a hospital violence intervention program. The HAVI builds and connects violence intervention programs and promotes equity for victims of violence. MUSC TTVIP is proud to be one of a select few HAVI members in the Southeast.

FUNDING EXPANDS CARE

As an externally funded program, TTVIP is supported by a variety of grants, corporate donations, and philanthropy. These generous contributions to TTVIP are necessary to meet and sustain our mission of supporting and serving those disproportionately impacted by community gun violence. In FY 2023, TTVIP was awarded a 2-year grant from Everytown Community Safety Fund to support ongoing program implementation, continuing its impact within MUSC Health and the greater Charleston community. The program also secured a 1.5 year, Rural Innovations Grant from the SC Center for Rural and Primary Healthcare to pilot the extension of services to patients from rural areas who are treated for violent injuries at MUSC.

"This year, the TTVIP has made tremendous strides for our patients and their families who have experienced gun violence. I invite you to join us in our efforts!"

Ashley Hink, M.D., MPH
TTVIP Medical Director

If you'd like to support this program that is creating positive change in our community, please visit https://bit.ly/Trauma-Survivors-Support or use the QR Code.

OUR INFLUENCE GOES BEYOND THE CLINIC

TTVIP CLIENT ADVOCATES DONNIE SINGLETON AND KEITH SMALLS HONORED WITH THE MUSC VALUES IN ACTION AWARD

Donnie Singleton and Keith Smalls were recognized for their significant contributions to improving the lives of patients who have experienced gun violence during the MUSC President's Values in Action Awards Ceremony, which recognizes employees who demonstrate MUSC's five values: compassion, respect, innovation, collaboration, and integrity. Both men were recognized by MUSC President David J. Cole, M.D., and first lady Kathy Cole, in the respect category for their tireless work and compassionate care for violently injured patients.

Values in Action Respect awardees Keith Smalls, center, and Donnie Singleton, far right, celebrate with first lady Kathy Cole, from left, nominator Dr. Ashley Hink and MUSC President David Cole. Photo by Sarah Pack

TEDxCHARLESTON

Following an unprecedented time over the last two+ years, we are slowly but surely re-emerging to a brave new world, fraught with new challenges and risk, but full of opportunities. Creativity, innovation and thoughtfulness are all needed to deal with this new reality.

This year, we were honored to have two faculty members present during TEDxCharleston, appropriately themed "Re-Emerge."

"The risk and root causes of gun injury are complex, which is why there is just not one solution, there are many opportunities for intervention."

-Ashley Hink, M.D., MPH
Treating More than the Wounds of Gun Violence

Gun violence is the number one killer of children and is a leading cause of death for young adults. Dr. Ashley Hink, a trauma surgeon at the Medical University of South Carolina, who sees the devastating effects of violence firsthand, says healthcare should do more than treat the physical injuries caused by violence. Dr. Hink talked about how healthcare systems can work with survivors and communities to break cycles of violence by addressing its root causes and makes the case for others to do the same.

"'I'm sorry' is not a four-letter word, but it means so much more when it's genuine and necessary."

-Andrea Abbott, M.D., MSCR
Mastering the Art of Communication

Mastering the art of communication across all aspects of our lives is an on-going goal of Dr. Andrea Abbott. As a preeminent surgical oncologist, Dr. Abbott understands the need for clear, concise and honest communications. Using skills and experience honed in her medical role, she is particularly interested in creating confident, unapologetic techniques that help people better communicate at work, at home, and in their most important relationships.

TEDxCharleston Photos by Katie Healey and Micheline Callicott

CREATING SPACE FOR INCLUSIVE EXCELLENCE AND CULTURAL DEXTERITY

by Ivy Keller

The Department of Surgery is dedicated to creating an environment where innovation fosters inclusive excellence and cultural dexterity at MUSC and in the field of surgery.

To achieve this vision, Sharee Wright, M.D., vice chair of Diversity, Equity and Inclusion in the Department of Surgery, and her team secured a $25,000 OneMUSC FY23 Strategy Grant to develop a comprehensive curriculum for the department.

One major aspect of this new curriculum was the installation of a Diversity and Inclusion Wall in the Clinical Sciences Building 4th-floor elevator lobby. Two digital displays greet people as they step out of the elevators, featuring a variety of interactive content such as information about upcoming group discussions, an interactive world map, heritage month slides on historical figures and people of interest, and Our Voices, a series of vignettes reflecting on the diverse lived experiences of our faculty, students, researchers, staff, and alumni.

"We are creating a space that is inclusive and welcoming to everybody," says Wright. "This wall represents our recognition that our department is inclusive of people with different beliefs, lives, and backgrounds and that we are all intertwined to make us the amazing department that we are – ultimately serving each other, our patients, and our community."

Small Group Discussions also play an important role in achieving this vision.

Vice Chair of Diversity, Equity and Inclusion Sharee Wright, M.D., speaking about the significance of the interactive display during the ribbon cutting ceremony for the Diversity and Inclusion Display Wall.

Each month, team members are invited to participate in discussions on different topics related to Diversity and Inclusion. These small, in-person groups provide a more casual setting for people to share their own experiences and learn from each other.

"We have always had a strong focus on clinical education and innovation, the foundation of which is a diverse population, and creating a safe space and tolerance across the department has been an important tenant to our success," said Prabhakar Baliga, M.D. "Under Dr. Wright's leadership, we have pushed forward on our efforts to be even more inclusive and increase our cultural dexterity, making our department a place where everyone feels welcome and feels like they belong."

The anonymous quote on the Diversity and Inclusion Wall encapsulates our essence and serves as a positive reflection to all who walk by it:

"The beauty of the world lies in the diversity of its people."

NEXT STEPS

The committee's groundwork has created a strong foundation to build on. One of our next steps is to expand learning opportunities for underrepresented in Medicine (URiM) students aimed to open doors and widen the pipeline.

We are developing a summer immersion work experience for URiM college students interested in careers in medicine, expanding our visiting student rotations, and creating a disparities and cultural symposium with a focus on the intersection of culture and medicine – with the ultimate goal of creating a more diverse and culturally aware workforce in academic medicine. But we can't do it without your help. To learn more about how you can open doors for URiM students and residents, please join us at https://bit.ly/SurgeryDEI or scan the QR Code.

BRIDGING THE GAP: MUSC Global Surgery Program Bridges Surgical Experiences Across the Globe

by Ivy Keller

The MUSC Global Surgery Program fosters innovation on a global scale by connecting some of the brightest medical minds in the developing world with the surgical experience, resources, and proven excellence of the Department of Surgery.

The establishment of a robust global surgery program is critical to MUSC's ability to compete with elite surgical residency programs across the country. While academic global health programs are not new, most traditionally operate from a nonsurgical research- or service-oriented approach. In recent years, there have been numerous calls from global health-minded clinicians to prioritize surgery. Programs in high-income countries typically run by sending their own residents, students, and faculty to healthcare facilities in low- and middle-income countries.

By contrast, the new MUSC Global Surgery Program is built on an ethos of bidirectionality. Since its inception in November 2022, the program has coordinated the joint publication of four book chapters with South African, Kenyan, and Cameroonian co-authors working in concert with our faculty and residents. The Global Surgery Program also hosted an international medical student and several surgeons and dignitaries from other countries. Program Director Mike M. Mallah, M.D., says this is only the beginning. MUSC will send students, residents, and faculty to developing countries, and he hopes MUSC will receive clinicians and students from these countries in return.

The MUSC Global Surgery Program is growing rapidly under the guidance of Mallah and aims to expand educational collaboration opportunities between MUSC and healthcare institutions around the world. In the past few months, the Global Surgery Program has sent students to several new emerging partnership locations, including Kenya, South Africa, and Uzbekistan and continues to work with previous partners at Mbingo Hospital in Cameroon. With the recent approval of a new international rotation curriculum for fourth-year medical students, these international relationships have significant growth potential. Before clinical trainees get the opportunity to travel abroad, however, the Global Surgery Program will employ course material to inform, expose, and challenge trainees with ideas and information about international healthcare. As the program gains the attention of the students, staff, university, and surrounding community, it aims to introduce the essential nature of surgery in addressing the global burden of disease.

RESEARCH IN ACTION: MAKING CONNECTIONS

In May, a group of students and physicians from MUSC attended the annual Pan-African Academy of Christian Surgeons (PAACS) Basic Science Conference in Kenya. PAACS oversees 23 resident training programs across 11 countries in Sub-Saharan Africa.

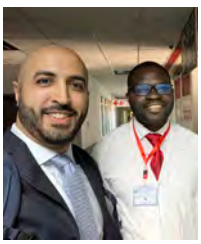
The group conducted three site visits with VCU's Department of Surgery and PAACS at Kijabe, Litein, and Tenwek Hospitals. The visiting team spoke with surgical residents and observed the workflow of the current case-logging system. During the visits, the MUSC team gained a better understanding of how these hospitals operate and how they leverage limited resources to provide patients with necessary compassionate care. Work from this study is currently being submitted for publication with co-authorship by our African colleagues.

To learn more about our Global Surgery's Notable Achievements in FY23 visit: https://medicine.musc.edu/departments/surgery/global-surgery-program

DID YOU KNOW?

Global health opportunities rank as one of the top factors considered by medical students when ranking residency programs, according to a recent survey performed at MUSC.

About 60% of graduating students said global health was a top priority, or that it was an extremely or somewhat important factor. As the program grows in scope, so do requirements for funding. If you would like to help the Global Surgery Program provide more opportunities for trainees to engage in Global Health, please support us by visiting https://bit.ly/Global-Surgery-Education or scan the QR code.

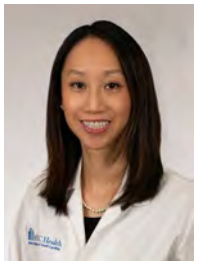


NEW FACULTY FY 2023

John Del Gaizo, Ph.D.
Lead AI Scientist

Kate Engelhardt, M.D., MS
Cardiothoracic Surgery

Tara Grahovac, M.D.
Surgical Oncology



Bernice Huang, M.D.
Endocrine Surgery

Gabriel Klein, M.D.
Plastic & Reconstructive Surgery

Mike M. Mallah, M.D.
General, Acute Care & Trauma Surgery

Rohit Mittal, M.D.
Pediatric Burn Surgery

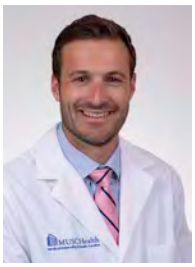
Dirk van der Windt, M.D., Ph.D.
Transplant Surgery

Yuan Zhai, M.D., Ph.D.
Transplant Surgery - Research

NEW FACULTY RECRUITS FY 2024

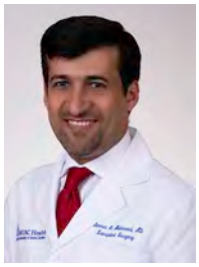
Mary Kate Bryant, M.D.
Foregut & Bariatric Surgery

Aaron Cunningham, M.D.
Pediatric Surgery



Douglas Cassidy, M.D.
Foregut & Bariatric Surgery

William Hawkins, M.D.
Surgical Oncology



Ammar Mahmood, M.D.
Transplant Surgery

Lloyd "Mac" Felmly, M.D.
Pediatric Cardiothoracic Surgery

Kevin Roggin, M.D.
Surgical Oncology

Chad Tober, M.D.
Vascular Surgery

Maggie Westfal, M.D.
Colorectal Surgery

PROMOTIONS

Virgilio George, M.D.
Professor

Barry Gibney, D.O.
Associate Professor

Ashley Hink, M.D.
Associate Professor

Laura Hollinger, M.D.
Associate Professor

Will Lancaster, M.D.
Associate Professor

Cynthia Talley, M.D.
Professor with Tenure

Sanford Zeigler, M.D.
Associate Professor

FY 2023 BY THE NUMBERS

Our commitment to providing the highest level of compassionate patient care, best-in-class training for the next generation of surgical leaders, and cutting-edge clinical, basic science and translational research are Changing What's Possible for our patients.

CLINICAL ACTIVITY

- **31** BILLING LOCATIONS
- **505,551** wRVUs
- **95,953** OUTPATIENT ENCOUNTERS

RESEARCH ACTIVITY

- **53** FUNDED FACULTY
- **$142,205,247**
- **146** GRANTS SUBMITTED
- **71** CLINICAL TRIALS

FACULTY, STAFF AND TRAINEES

- **90** FACULTY
- **76** Residents
- **5** Fellows
- **2** Post Docs
- **38** Research Staff
- **50** Management Support Staff
- **62** Advanced Practice Providers

PHILANTHROPIC GIFTS

- **$3M** Department of Surgery Philanthropic Contributions
- **2** Newly Funded Endowed Chairs
- **$1M** New Funding for Surgical Resident Research

A YEAR IN REVIEW

Adult Cardiothoracic Surgery Growth & Expansion

The Cardiothoracic Surgery Division, led by Marc R. Katz, M.D., MPH, expanded care through collaborations with Self Memorial Regional Hospital and Anderson Medical Center, where the cardiac surgical teams provide expert in-community staffing and quality oversight and coordination for complex cases.

JULY

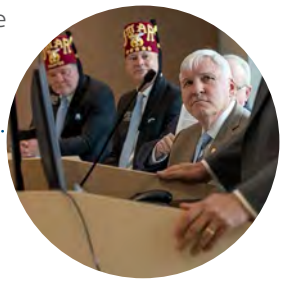
MUSC First in the Southeast to Perform Complex Aortic Arch Surgery with New Device

The Thoraflex Hybrid frozen elephant trunk device was implanted by cardiothoracic surgeon Sanford Zeigler, M.D., who said it offers patients with complex aortic arch disease a single-stage procedure, minimizing blood loss and improving patient outcomes.

SEPTEMBER

MUSC, Shriners Hospitals for Children Announce New Pediatric Burn Affiliation

MUSC and the Shriners Hospitals for Children announce a new affiliation to support the state's only comprehensive pediatric burn center. Rohit Mittal, M.D., a pediatric burn expert, joined MUSC in October and was named the inaugural Shriners Children's Endowed Professorship in Pediatric Burn Care at MUSC.



NOVEMBER

AUGUST

TTVIP Client Advocates Receive MUSC President's Values in Action Award

Turning the Tide Violence Intervention Program Client Advocates Keith Smalls and Donnie Singleton were recognized with the MUSC Values in Action Award for their significant contributions to improving the lives of patients who have survived gun violence.

OCTOBER

New Global Surgery Program Aims to Improve Global Surgical Care

The MUSC Department of Surgery announced the launch of a new Global Surgery Program, led by trauma surgeon Mike M. Mallah, M.D. During the inaugural year, the Global Surgery Program supported travel to three international locations to attend and present at global surgery conferences and engage with hospital leaders.

DECEMBER

Record Number of Living Donor Kidney Transplants Performed

In CY 2022, the MUSC Health Living Donor Program, led by Tracy Rice, M.D., celebrated the highest number of living donor kidney transplants in the program's history. Dr. Rice also expanded the use of robotic surgery for nephrectomies, creating better outcomes with shorter hospital stays.

Department Announces New Pediatric Cardiothoracic Surgery Division

Minoo Kavarana, M.D., was named the inaugural division chief to lead the newly created Division of Pediatric Cardiothoracic Surgery; Lloyd "Mac" Felmly, M.D., joined the team in August 2023.

JANUARY

Thomas Curran, M.D., MPH Selected to Prestigious NCI Program

Thomas Curran, M.D., MPH, an MUSC Hollings Cancer Center colorectal surgeon, is one of only 12 physicians across the nation selected to participate in the National Cancer Institute's Early-stage Surgeon Scientist Program.

MARCH

US News & World Report Best Children's Hospitals Ranks Pediatric Cardiology and Heart Surgery Program #4 in the Nation

For the second year in a row, the MUSC Pediatric Cardiology and Heart Surgery Program ranked No. 4 in the country; No. 3 spot in the national ranking for outcomes. This is a remarkable testament to the MUSC Health team, led by Minoo Kavarana, M.D., Scott Bradley, M.D., and the Children's Heart Program of South Carolina.

MAY

FEBRUARY

Ribbon Cutting Ceremony Unveils Interactive Diversity and Cultural Display Wall

The Diversity and Inclusion Committee, led by Sharee Wright, M.D., unveiled an interactive diversity and cultural display wall in recognition of the department's inclusion of people with different beliefs, lives, and backgrounds serving each other, our patients, and our community.

APRIL

$3.1M NIH/NIDDK Award to Study a Multifaceted Intervention to Improve Graft Outcome Disparities

David Taber, Pharm.D., MS, was awarded $3,102,096 to study ways to improve long term graft survival for African Americans who received kidney transplants through remote monitoring and telehealth follow-up care.

JUNE

Pediatric ECMO Program Receives Platinum-level ELSO Award

The Pediatric ECMO Program, led by Medical Director Laura Hollinger, M.D., was once again recognized with a Platinum-level Award for Excellence in Life Support from the Extracorporeal Life Support Organization (ELSO). This award is the highest attainable level of achievement an ELSO Center of Excellence can receive.

AWARDS & DISTINCTIONS


A. Abbott


I. Bostock


T.K. Byrne


D. Carneiro-Pla


T. Curran


K. Engelhardt


H. Evans


S. Fann


Y. Gavrilova


B. Gibney


M. Hill


A. Hink


S. Kahn


A. Kilic


N. Klauber-DeMore


J. Kratz


K. Lee


M. Lockett

- **Andrea Abbott, M.D., MSCR** Scientific Program Committee of the Society of Surgical Oncology; Secretary, SC chapter of the ACS, James Colbert Lecturer, MUSC Faculty Awards Ceremony, TEDx Charleston speaker

- **Ian Bostock, M.D., MS** Mentor for the Society of Thoracic Surgeons Look into the Future Scholarship, Renewed membership to several Society of Thoracic Surgery Leadership Taskforces: Latin American Education, International Education and Diversity, Equity, and Inclusion

- **T. Karl Byrne, M.D.** Grand Marshal, College of Medicine Commencement Ceremony, Paul H. O'Brien, M.D. Resident Teaching Award

- **Denise Carneiro-Pla, M.D.** Chair of the Program Committee of the American Association of Endocrine Surgeons, "Meet the Expert" Session Moderator, Surgical Skills Course Speaker, ACS Clinical Congress 2023

- **Thomas Curran, M.D., MPH** National Cancer Institute's Surgeon-Scientist Award

- **Kate Engelhardt, M.D., MS** Hollings Cancer Center Clinical Scholar

- **Heather Evans, M.D., MS** Named Chief of Surgery, RHJVAMC, Rosalind Franklin Society Special Award in Science

- **Stephen Fann, M.D.** Governor SC ACS

- **Yulia Gavrilova, Ph.D.** Top 5 abstract Plenary Session, American Burn Association Annual Meeting

- **Barry Gibney, D.O.** Appointed Section Chief, Thoracic Surgery, 2023 Outstanding Clinician Award, SCTR Discovery Pilot Grant

- **Michelle Hill** The Real DEIL (Diversity, Equity and Inclusion Leader) Award

- **Ashley Hink, M.D., MPH** SC Center for Rural and Primary Healthcare (Rural Innovations) Grant, Everytown Grant, TEDx Charleston speaker

- **Steven Kahn, M.D.** Charleston Regional Business Journal 2022 Health Care Heroes Award-physician category

- **Arman Kilic, M.D.** Michigan Society of Thoracic and Cardiovascular Surgery Quality Collaborative inaugural Prager Scholarship, American Association for Thoracic Surgery inductee

- **Nancy Klauber-DeMore, M.D.** As Co-leader of the Developmental Therapeutics Program at Hollings Cancer Center, Dr. DeMore presented at the NCI site visit.

- **John M. Kratz, M.D.** Order of the Palmetto honored recipient

- **Keller Lee** The Real DEIL (Diversity, Equity and Inclusion Leader) Award

- **Mark Lockett, M.D.** Elected to the Southern Surgical Association

AWARDS & DISTINCTIONS CONTINUED

- **Mike M. Mallah, M.D.** Chair of the EAST Global Surgery Task Force, Keynote speaker, MUSC COM White Coat Ceremony
- **Meenal Mehrotra, Ph.D.** HCC IDEA award, COM Research Excellence Award, SCTR Discovery Pilot Grant
- **Shikhar Mehrotra, Ph.D.** Co-PI Special Pilot Award (SPA) Blue Sky Award
- **Rupak Mukherjee, Ph.D.** Golden Apple Award - HRR Faculty Award Winner
- **Deepak Ozhathil, M.D.** Wound Healing Foundation - URGO Foundation Burn Infection Research Grant, SCTR Discovery Pilot Grant
- **Rana Pullatt, M.D.** ASMBS Foundation Clinical Excellence Award, ASMBS Member At Large & Executive Council Member
- **Jean Marie Ruddy, M.D.** Department of Surgery Vice Chair of Research, co-PI SCTR Discovery Pilot Grant & U01 Award
- **Joseph Scalea, M.D.** 2023 ASTS Rising Stars in Transplantation Surgery Award
- **Keith Smalls** SCHA Healthcare Hero, MUSC President's Values in Action Award
- **Donnie Singleton** MUSC President's Values in Action Award
- **Christian Streck, M.D.** At-Large Member Director, MUSC Physicians Board
- **David Taber, Pharm.D., MS** $3.1M NIH/NIDDK R01
- **Cynthia Talley, M.D.** Senior Associate Dean for GME and CME in the MUSC College of Medicine, President of the SC chapter of the ACS
- **Adam Tanious, M.D., MMSc** Association of Program Directors in Vascular Surgery Education Committee, Co-creator of Vascular Education Library, SVS Innovation Initiative Co-Leader
- **T. Konrad Rajab, M.D.** NIH STTR (R41) Award
- **Mathew Wooster, M.D.** *Vascular and Endovascular Surgery Journal* Endovascular Techniques Section Editor
- **Dirk van der Windt, M.D., Ph.D.** MUSC 2023 AROW Career Development Program, DDRCC Pilot & Feasibility Project Award
- **Sharee Wright, M.D.** "Lift as You Climb" Diversity Mentorship Faculty Award, The Real DEIL (Diversity, Equity and Inclusion Leader) Award, the Diversity Award for the College of Medicine, Leadership in Diversity and Inclusion Certificate.


M. M. Mallah


M. Mehrotra


S. Mehrotra


R. Mukherjee


D. Ozhathil


R. Pullatt


J.M. Ruddy


J. Scalea


K. Smalls


D. Singleton


C. Streck


D. Taber


C. Talley

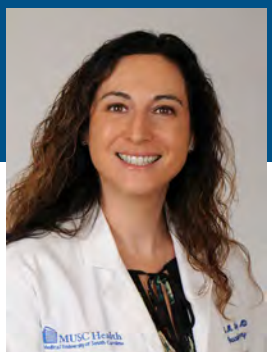

A. Tanious


T. K. Rajab


M. Wooster


D. van der Windt


S. Wright



JEAN MARIE RUDDY, M.D., NAMED VICE CHAIR OF RESEARCH

Jean Marie Ruddy, M.D., Associate Professor of Vascular Surgery, has been named the new Vice Chair of Research in the Department of Surgery. Since 2021, Ruddy has served as the Associate Vice Chair of Research. She previously served as the Associate Program Director for Resident Research in General Surgery, where she transformed resident research into a high-functioning enterprise creating a meaningful and productive experience for each resident in the program. Dr. Ruddy led the efforts to coordinate Surgery Research Recognition Day, and created a department-wide research opportunities database to help residents easily find a mentor or research area they want to pursue and co-led the Surgeon-Scientist track in the Future Surgical Leaders Pathways program, designed to help trainees develop a unique professional career path as a surgeon-scientist.

With the Department of Surgery's clinical growth, along with clinical and research expertise, our research opportunities for collaboration and innovation expanded as well. With the resources now available through the Harvey and Marcia Schiller Surgical Innovation Center, the Center for Cellular Therapy, enterprise-wide research resources, and a depth of clinical interests, the Department is well-equipped to support our teams' expanding scope of research interests.

MESSAGE FROM THE **VICE CHAIR**

It is an honor to take on the responsibility of Vice Chair of Research and continue the great work of Mike Yost, Ph.D. His emphasis on innovation and inclusion facilitated growth and collaboration within the Department as well as across the institution. We have seen extramural funding and representation at national conferences grow over the past ten years, and I'd like to build upon his foundation that all forms of research need to be recognized and supported. In pursuit of that goal, leaders in four general categories of investigation have been engaged to represent the interests and needs of researchers across the department.

This dynamic group has already assembled for a research retreat wherein we discussed the strengths and opportunities in each arena. Major themes included development of a new faculty research orientation focused on introducing vital resources and tailored to that individual's investigative interests.

In addition to managing the Annual Surgery Research Recognition Day, Thomas Curran., M.D., MPH, along with Kate Engelhardt, M.D., MS, will be facilitating efforts in Health Services Research and Clinical Outcomes. We also spent an extended period of time discussing the recognition and support of faculty doing research without extramural funding. These projects not only represent MUSC at a national level, but also introduce residents to research techniques. Creating a system to track and support this productivity will be a priority.

The Basic and Translational research initiatives will be represented by Shikhar Mehrotra, Ph.D., and Dirk van der Windt, M.D., Ph.D. We discussed the current growth of the Clean Cell Therapy core and considered prospective avenues to increase utilization within the institution as well as through collaborations with industry. The Department has seen great growth in clinical trials with the support of the SORIN, and these efforts will continue to be led by Dave Taber, Pharm.D., with the help of Sanford Zeigler, M.D.

And, as the Schiller Surgical Innovation Center continues to grow, Arman Kilic, M.D., will facilitate creating a "playbook" for collaborations utilizing artificial intelligence and innovative technology applications. Then, to bring these diverse research topics to the faculty at large, Hongjun Wang, Ph.D., will be coordinating a Department of Surgery Research Seminar Series featuring speakers from within and outside the institution.

I am looking forward to a great year working with these dedicated faculty and eager to hear feedback for how to grow our research initiative!

Jean Marie Ruddy, M.D.
Vice Chair of Research

THANK YOU

The Department thanks Michael J. Yost, Ph.D., Vice Chair of Research, for his many years of service, dedication, and leadership and for his substantial contributions to the field of biomedical engineering.

NEW FRONTIERS IN CELLULAR THERAPY

Members of the CCT team from left to right: Quality Assurance Director Tara Duke, MLS (ASCP) [CM], Wenyu Gou, Ph.D., Co-Scientific Director Hongjun Wang, Ph.D., Brianna Stanton, Chair and Medical Director Prabhakar Baliga, M.D., Connor Klee, Co-Scientific Director Shikhar Mehrotra, Ph.D., Inhong Kang, Ph.D.

*The **Center for Cellular Therapy (CCT)** is a university shared-core resource that is dedicated to scale-up translational studies and supporting investigator-sponsored clinical trials involving cellular therapy. Currently the CCT has 3 cGMP grade manufacturing suites for cellular production. As the CCT continues to grow, MUSC leadership has approved for space expansion in the next fiscal year. The CCT started its first international collaboration by manufacturing and shipping cells to support a clinical trial using mesenchymal stem cells (MSC) for the treatment of systemic sclerosis led by Dr. Marie Hudson, associate professor in the Division of Experimental Medicine at McGill University.*

High-impact clinical trials and important Standard of Care projects in FY23 include:

Approved Clinical Trials

- Mesenchymal stem cell (MSC) trials, indications for the MSC trials include Lupus (Principal Investigator (PI): Dr. Gilkeson), Type 1 Diabetes (PI: Dr. Wang), MSC and islet co-transplantation for Chronic Pancreatis (PI: Dr. Wang), Systemic Sclerosis (PI: Dr. Hudson, McGill), and Liver Disease (PI: Dr. Craig, Indiana University)
- CD19 CAR-T cell therapy (Principal Investigators: Dr. Hess and Dr. Mehrotra): Ready to enroll patients.

Standard of Care

- Autologous hematopoietic progenitor cells - Cancer patients (in collaboration with the Clinical Pathology Cryo Laboratory)
- Islet Isolation - Chronic pancreatitis patients undergoing total and partial pancreatectomy and islet auto-transplantation (Dr. Morgan)

MUSC SCIENTISTS ARE LEADERS IN CELLULAR THERAPY TRANSLATIONAL RESEARCH

Hongjun Wang, Ph.D., co-scientific director of the CCT, focuses her translational research in islet cell and type 1 diabetes research. At the CCT, the mesenchymal stem cell (MSC) co-transplantation with Islets-indication Chronic Pancreatitis clinical trial aims to improve islet yield quantity and quality to prevent the onset of surgical diabetes after total pancreatectomy in patients with chronic pancreatitis. This trial plans to enroll 42 chronic pancreatitis patients and 15 participants have been successfully enrolled. The Type 1 Diabetes clinical trial studies MSCs from umbilical cord (UC-MSCs) as a possible therapeutic for patients with early onset T1D. The team has enrolled 26 participants so far. Data obtained from both trials may have significant impact on the current clinical practices.

Shikhar Mehrotra, Ph.D., co-scientific director of the CCT, focuses his translational research on understanding T cell biology for improving immunotherapy for cancer. When it comes to treating cancer, cellular therapy is the next frontier. A new clinical trial (ClinicalTrials.gov identifier: NCT05702853) recently opened for recruitment, where patients' T cells are engineered with CD19 Chimeric Antigen Receptors (CARs) and modified to make them "metabolically fit," and increase efficacy while reducing toxicity. Similar strategies are being pursued using NCI STTR R41 and R42 funds to generate validation data for new clinical trials that will use tumor-infiltrating lymphocytes (TILs) to treat people with malignant melanoma, breast cancer, and prostate cancer.

TWO AWARDS SHOW PROMISE TO REDUCE DISPARITIES IN CARE

David Taber, Pharm.D., MS

MUSC RESEARCHERS AWARDED $3.1M FOR RESEARCH TO IMPROVE GRAFT SURVIVAL FOR AFRICAN AMERICAN KIDNEY TRANSPLANT PATIENTS

While Kidney transplantation remains the best treatment option for end-stage renal disease, differences in outcomes exist among different racial and ethnic groups. African Americans have worse 5-year graft outcomes and are twice as likely to experience graft loss compared to whites.

David Taber, Pharm.D., MS, is the principal investigator on a $3.1M National Institutes of Health/National Institute of Diabetes and Digestive and Kidney Diseases (NIH/NIDDK) study that aims to demonstrate an effective and efficient multimodal approach to improve long-term outcomes in African American kidney recipients while reducing health disparities.

For more than four decades, researchers have been aware of racial disparities in patient outcomes in kidney transplantation. Taber says his team has completed research identifying the main causes of this disparity and offering promising solutions. And his team demonstrated that pharmacist-led mhealth intervention is effective for patients within two-years post-transplant. Now he plans to expand on these findings with this large-scale, randomized clinical trial that studies patients who are beyond two-years post-transplant.

Thomas Curran, M.D., MPH

COLORECTAL SURGEON AWARDED NCI GRANT TO INCREASE NUMBER OF SURGEON-SCIENTISTS

Thomas Curran, M.D., MPH, is one of only 12 physicians across the nation to have been selected to participate in the National Cancer Institute's Early-stage Surgeon Scientist Program, a three-year program, which ensures that surgeons have protected time so they can conduct research. Surgeon-scientists are an essential component of the field of academic surgery, contributing to the fundamental understanding of disease and the discovery of innovative therapies. Curran will investigate why too few patients go home with anticoagulants to prevent blood clots after gastrointestinal, gynecologic or urologic cancer surgery.

Curran noted that this research also has the potential to address disparities in outcomes between Black and white patients. Black patients with cancer in the abdomen or pelvis are 40% to 70% more likely to suffer from blood clots than white patients. At the same time, although the specifics of anticoagulant prescription haven't been studied, studies have shown that, overall, Black patients get cancer care that complies with the latest guidelines 15% less frequently than white patients. Putting these statistics together, Curran believes that improving how often surgeons prescribe anticoagulants after gynecologic, urologic or gastrointestinal cancer surgery could in turn decrease the disparities in outcomes.

Heather Evans, M.D., MS, Recognized with the Rosalind Franklin Society Special Award in Science

The Rosalind Franklin Society Special Award in Science is given to the best paper of the year by a woman or underrepresented minority in each of the Mary Ann Liebert Inc. journals in health, medicine, and biotechnology. Dr. Evans was recognized for the article *Improving Antibiotic Stewardship in Acute Appendicitis through Risk based Empiric Treatment Selection*, published in *Surgical Infections Journal*.

Kate Engelhardt, M.D., MS, Named Hollings Clinical Scholar

Kate Engelhardt, M.D., MS, was named a Hollings Cancer Center Clinical Scholar, funding her proposal entitled *Development and Implementation of a Novel Shared Decision-Making Tool to Support Cancer Care Delivery Concordant with Patient Treatment Preferences*. The Hollings Clinical Scholar program fosters the careers of junior physician-scientists and aims to facilitate breakthrough clinical care discoveries.

FOUR FACULTY GARNER SCTR DISCOVERY PILOT GRANTS

B. Gibney

D. Ozhathil

M. Mehrotra

J.M. Ruddy

The SCTR Discovery Pilot Grants support translational science projects that involve basic research, clinical research and/or community/population health research approaches for the purposes of collecting critical preliminary data for submission of extramural grant applications and to publish, disseminate or implement research findings.

- Barry Gibney, D.O., Principal Investigator *Effect of Ventilation on 10 Degree Celsius Static Storage of Lungs*
- Deepak Ozhathil, M.D., Principal Investigator *Using Next Generation Sequencing Technology and Machine Learning to Map the Microbiome of the Burn Wound*
- Meenal Mehrotra, Ph.D., Principal Investigator *Role of BMP Signaling in Reduced Treg Numbers in Osteogenesis Imperfecta.*
- Jean Marie Ruddy, M.D., Co-Investigator with PI Ying Mei, Ph.D., from the Clemson/MUSC Department of Bioengineering, *Intracoronary Delivery of Nanowired Human Cardiac Organoids to Treat Acute Myocardial Ischemia/Reperfusion Injuries*

Meenal Mehrotra, Ph.D., and COM Dean Terry Steyer

MEENAL MEHROTRA, PH.D., RECEIVES TWO MUSC AWARDS

Meenal Mehrotra, Ph.D., received the Research Excellence Award from the College of Medicine and the Hollings Cancer Center IDEA award. Dr. Mehrotra joined the Department of Surgery in February as an assistant professor of Surgery. She is an investigator in the Wang Lab. Prior to joining the Department, she was a researcher in the MUSC Department of Pathology.

THE HARVEY AND MARCIA SCHILLER SURGICAL INNOVATION CENTER

The Harvey and Marcia Schiller Surgical Innovation Center is a dedicated center for surgical innovation that aims to improve patient outcomes and healthcare efficiencies. The Center includes three pillars: surgical artificial intelligence, investigator-initiated clinical trials, and human-centered design.

SURGICAL ARTIFICIAL INTELLIGENCE

We are fortunate at MUSC to have a very fertile environment for innovation. Thanks to the generous gift from the Schillers, the surgical innovation center team was able to rapidly build the needed data infrastructure and begin partnering with MUSC Health clinicians and researchers interested in using Artificial Intelligence/Machine Learning (AI/ML) for surgical innovation. John Del Gaizo, Ph.D., leads a team of AI researchers who facilitate AI research by offering AI consultation, prototyping and access to advanced computational hardware.

We now have more than thirty ongoing projects with the foundation and partnerships in place to expand our reach. With this growth in mind, the center is in the process of establishing a physical location on campus with offices and meeting space to foster and enhance more collaborations.

"We can provide high throughput and high-fidelity models to bring innovative ideas to fruition."

-Arman Kilic, M.D.
Director, Schiller Harvey & Marcia Schiller Surgical Innovation Center

Arman Kilic, M.D.

Scan to learn more about recent projects

OUR INNOVATION PIPELINE

Our pipeline is intended to impact the tripartite mission for the Department of Surgery. Clinicians and researchers who have a clinical idea or have identified a clinical gap submit their idea to the Surgical Innovation Center for inclusion in the portfolio. The Center then helps develop the plan for data acquisition, data analysis, and dissemination.

Our Infrastructure: Deep Learning is Iterative

We have powerful Analysis AI Servers. Our agile approach compares the Azure cloud computing versus on-premise project implementation to provide the most efficient, cost-effective and seamless data analysis depending on the project's needs.

Inter-Institutional Collaboration

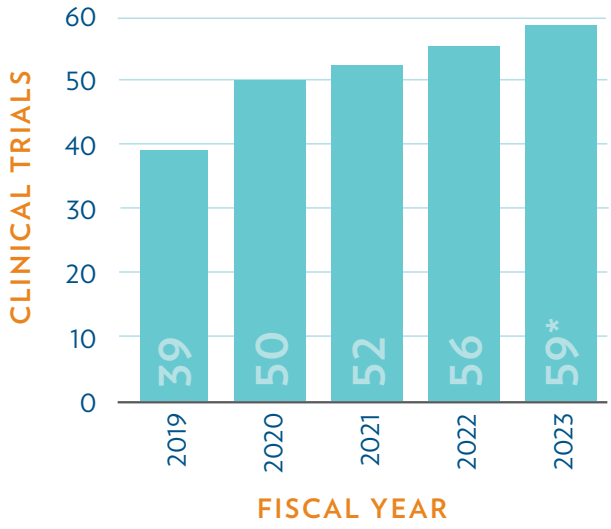
Our strength is in the collaborations we build. We have established collaborations with several educational institutions, particularly in the health informatics and bioengineering space, offering multiple pathways between faculty, students and programs.

If you'd like to support the Harvey and Marcia Schiller Surgical Innovation Center, please visit https://bit.ly/Schiller-Innovation-Center or scan the QR code to support surgical innovation.

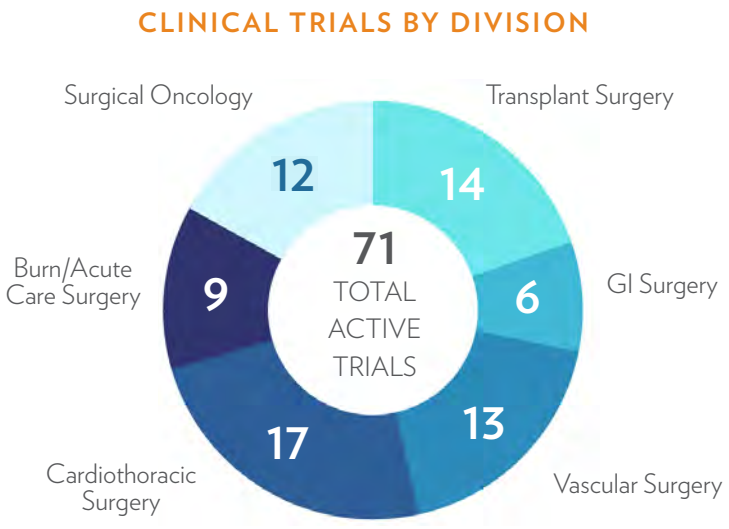
CLINICAL TRIALS OFFER HOPE

The clinical trial team, led by David Taber, Pharm.D., and Morgan Overstreet, MS, provide coordinator support for investigators conducting funded clinical research. From trial feasibility assessment to study close-out, their team provides a detailed and comprehensive array of support to conduct clinical trials in a safe and efficient manner. They also offer support in protocol development and post-trial publications for investigator-initiated, funded clinical trials.

The Department of Surgery has seen a steady increase in clinical trials that span most surgical disciplines, with significant growth in industry-sponsored research and investigator initiated clinical trials that show potential to create a paradigm shift in clinical care.



* 12 additional trials at the Hollings Cancer Center



HUMAN CENTERED DESIGN PROGRAM

Through the Human Centered Design Program, each semester a new cohort of interdisciplinary MUSC students and surgical residents interested in human centered design principles have an opportunity to shadow surgical faculty, understand their pain points, and find a human-centered design solution. Working in collaboration with the Baker Business School at the Citadel, they learn how to make sure their solution is viable and sustainable from a business perspective and write a business plan and go-to-market strategy. Department of Surgery mentorship is a cornerstone of the program.

This year's mentors and coaches included David Mahvi, M.D., Joshua Kim, MS, Joseph Scalea, M.D., Adam Tanious, M.D., MMSc, Bernice Huang, M.D., Heather Evans, M.D., MS, and Kristen Quinn, M.D., PGY-4.

"The beauty of the Human Centered Design Program is that the ideas are coming from our residents and medical students. When these fresh young minds examine a problem, it's refreshing to see what happens."

-Prabhakar Baliga, M.D.
Chair, MUSC Department of Surgery

HEARTBEAT TECH

One of the first start-ups created through the HCD Program, Heartbeat Tech, has gained widespread recognition for The SAVER: a non-invasive vascular occlusion device aimed at improving CPR outcomes. Heartbeat Tech completed clinical trials on healthy controls, pilot animal studies, and is being funded through grant awards and private investors. In FY23, CEO Kristen Quinn, M.D., PGY-4, received the MUSC Office of Innovation & Zucker Institute for Innovation Commercialization IDEA Technology Grant for The SAVER. The award is in the amount of $25,000.

BY THE NUMBERS

40+ STUDENTS SINCE 2019 | 20 PROJECTS | 12+ AWARDS

EDUCATION HIGHLIGHTS

CYNTHIA TALLEY, M.D.
Vice Chair of Education

COLLEGE OF MEDICINE SURGERY STUDENTS
Jeffrey Sutton, M.D. Clerkship Director
Marcie Dorlon, M.D. Associate Clerkship Director

GENERAL SURGERY
Jared White, M.D. Program Director
Colleen Donahue, M.D. Associate Program Director

PLASTIC SURGERY INTEGRATED
M. Lance Tavana, M.D. Program Director

CT SURGERY INTEGRATED
Barry Gibney, D.O. Program Director
Nicolas Pope, M.D. Associate Program Director

VASCULAR SURGERY INTEGRATED
Ravi Veeraswamy, M.D. Program Director
Adam Tanious, M.D., MSc Associate Program Director

PLASTIC SURGERY FELLOWSHIP
Milton Armstrong, M.D. Program Director

SURGICAL CRITICAL CARE FELLOWSHIP
Alicia Privette, M.D. Program Director

PEDIATRIC CT SURGERY FELLOWSHIP
Scott M. Bradley, M.D. Program Director

TRANSPLANT SURGERY FELLOWSHIP
John McGillicuddy, M.D. Program Director

CARDIOTHORACIC SURGERY TRANSPLANT & MECHANICAL SUPPORT FELLOWSHIP
Arman Kilic, M.D. Program Director

NEW EDUCATION PROGRAM LEADERSHIP

J. White

C. Donahue

C. Streck

Jared White, M.D., has been named the new General Surgery Program Director. Dr. White has served as Associate Program Director since joining MUSC in 2019. He has a special interest in innovations in general surgery resident education. Colleen Donahue, M.D., assumes the role of Associate Program Director. Previously, she led the residency simulation program.

The Department is extremely grateful to Christian Streck, M.D., who led the General Surgery Residency Program since 2015. Under Dr. Streck's leadership, our General Surgery Education Program experienced unprecedented growth. During his tenure, our categorical general surgery resident compliment increased from 5 to 8 residents per year and more opportunities were created for residents to be in the lab with dedicated research time, increasing from two spots to five. And, consistently, our graduates' Oral Board Pass Rates are 100%. The Department thanks Dr. Streck for his dedication and enthusiasm in developing a robust General Surgery Resident Education Program that is now one of the top programs in the Southeast. We are excited to announce Dr. Streck has been named the Vice Chair of Education, beginning in FY24. The Department thanks Dr. Talley for her many years of service and wishes her much success in her new role as Senior Associate Dean for GME and CME for the College of Medicine.

SURGERY CLERKSHIP

J. Sutton

M. Wooster

Jeffrey Sutton, M.D., has been named the new Surgery Clerkship Director. Dr. Sutton has a strong interest in medical education and during his surgical oncology fellowship he earned a certificate in Medical Education. He previously served as the Associate Program Director, working alongside Mathew Wooster, M.D., who has led the Medical Student Clerkship program since 2019.

During Dr. Wooster's tenure, he greatly improved the student evaluations with curriculum changes and feedback structure. He consistently improved the surgery clerkship students score card on their overall educational experiences over a four-year period. In the 2022 calendar year, the MUSC surgery clerkship program student reporting exceeded the national average of all medical school student reporting in the good / excellent rating (MUSC: 83.2%; National Average: 81%). Remarkably, he was able to achieve these results during the COVID-19 pandemic, navigating significant challenges including gown shortages and virtual classrooms.

FUTURE SURGICAL LEADERS PROGRAM

Now in its third year, the **Future Surgical Leaders Program (FSL)** has expanded to include an academic niche professional development program for our residents and fellows. Eleven longitudinal pathways were created by departmental faculty experts and presented to residents and fellows for selection this past fall. The Pathways program was well-received and aims to jumpstart the careers of our graduates.

Nearly 20 surgery programs across the U.S. have joined us to create a Leadership Academy Collaborative to institute this innovating program.

"Through the FSL and Pathways program, our graduates will set themselves apart from the competition by developing an early academic niche, providing an added benefit to any practice they join."

-Cynthia Talley, M.D.
Vice Chair of Education

GRADUATION 2023

In June, a black-tie dinner was held at the Gaillard Center to celebrate our graduates and welcome them into the Curtis P. Artz MUSC Surgical Society. The evening was filled with expressions of gratitude from the graduates to their families, mentors, faculty, staff and peers for their support and exceptional training experiences provided to them. The evening was also an opportunity to celebrate Christian Streck, M.D., who led the General Surgery Education Program over the past eight years.








SC/NC AMERICAN COLLEGE OF SURGEONS
ANNUAL MEETING UPDATE

During the 2023 South Carolina and North Carolina Chapters of the American College of Surgeons Joint Annual Meeting, we had a record number of abstract submissions and several MUSC surgical residents and medical students took away top honors. Congratulations to all of our award winners and student and resident presenters across the General Surgery, Committee on Trauma, and Commission on Cancer Sessions.

GENERAL SURGERY SESSION

First Place Award (tie): Pay-to-Play: The Rising Cost of Subspecialty Conference Attendance for North and South Carolina Surgical Residents Over the Last Decade – *Leah Evans, M.D., MS, PGY-2*

First Place Award (tie): Bilateral Femoral Vessel Occlusion Increases Cardiac and Cerebral Perfusion After Cardiac Arrest in a Porcine Model – *Benjamin Usry, Medical Student*

Chest Radiographs Should Only be Obtained for Symptomatic Pediatric Patients After Fluoroscopic-guided Central Venous Catheter Placement – *David Mann, D.O., MS, PGY-3*

COMMISSION ON CANCER AND PAPER COMPETITION

Second Place Award: Defining the Rate of Pathologic Upstaging in Patients with Clinical T1b Esophageal Cancer: Should We Consider Neoadjuvant Therapy? – *David Mann, D.O., MS, PGY-3*

Racial Disparities in Breast Cancer Genetic Counseling After Referral – *Julie Siegel, M.D., PGY-5*

COMMITTEE ON TRAUMA SESSION

Third Place Award: Digital Subtraction Angiography Rarely Changes Management for Patients with Blunt Cerebral Vascular Injuries Seen on Computerized Tomography Angiography – *John Lucas, M.D., PGY-5*

Atriocaval Shunt as Damage-Control Surgical Technique for Complex Pancreaticoduodenal and Juxtahepatic Inferior Vena Cava (IVC) Injury – *Sierra Patterson, BS, Medical Student*

Gender Disparities Trends in Outcomes Among Adult Burn Survivors – *Savannah Skidmore, BS, Medical Student*

The Effect of Smoking Cessation at the Time of Admission Following Smoke Inhalation Injury on Pneumonia Risk – *Alissa Mingo, BS, Medical Student*

JEOPARDY

First Place Award: *Leah Evans, M.D., PGY-2, John Lucas, M.D., PGY-5, and David Mann, D.O., PGY-3*

Left to Right: General Surgery Program Director Jeffrey Sutton, M.D., Vice Chair of Education and President of the SC Chapter of the ACS Cynthia Talley, M.D., John Lucas, M.D., PGY-5, General Surgery Program Associate Program Director Colleen Donahue, M.D., Secretary of the SC Chapter of the ACS Andrea Abbott, M.D., David Mann, D.O., PGY-3, Mike M. Mallah, M.D.

GOLDEN APPLE AWARD WINNERS

Rupak Mukherjee, Ph.D.
HRR Faculty Award Winner

Richard Slay, M.D., PGY-2
Clinical Preceptor Excellence in Teaching Award, Resident Award Winner

MACELYN BATTEN, D.O., PGY-3, NAMED TO CLASS OF VA QUALITY SCHOLARS

Macelyn Batten, D.O., PGY-3, was named to the Charleston VA Health Equity and Rural Outreach Innovation Center (HEROIC) 2023 class of VA Quality Scholars. The Charleston VA Health Equity and Rural Outreach Innovation Center is one of 18 nationally funded VA Health Services Research & Development Centers of Innovation aimed at improving Veterans' health and related healthcare needs through novel interventions.

SUPPORT THROUGH GIVING

If you would like to support our surgical learners, please contact **Vera Ford**, Director of Development at **fordva@musc.edu** or 843-792-1840

DEPARTMENT OF SURGERY AWARDS CEREMONY

The Department of Surgery Annual Awards Ceremony recognizes exceptional faculty and trainees for their outstanding achievements in patient care, education and research. The department was honored to have Patrick O'Neill, M.D., Affiliate Associate Professor of Surgery, present the Awards Ceremony Lecture. Dr. O'Neill provided an insightful talk, "Heroes and Antiheroes."

Scan to see the full list of honorees

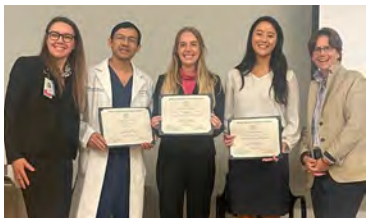





SURGERY RESEARCH RECOGNITION DAY AND ERIC R. FRYKBERG, M.D., LECTURE

Surgery Research Recognition Day showcases the exceptional research work in which our residents, medical students and graduate students participate. It also provides an opportunity for our trainees, faculty and researchers to learn from world-class experts during the annual Eric R. Frykberg, M.D., Lecture. This year, Julie Ann Sosa, M.D., chair of Surgery at the University of San Francisco was the invited Eric R. Frykberg, M.D., Lecturer.

CONGRATULATIONS TO OUR 2022 AWARD WINNERS



Surgery Research Recognition Day – *Program Director Heather Evans, M.D., MS (far left) and Julie Ann Sosa, M.D. (far right) congratulate award winners from left to right: Best Poster Winner Krishna Bhandari, M.D., PGY-1, Best Basic Science Presentation Winner Heather Holman, medical student, Best Clinical Science Presentation Winner, Jennie H. Kwon, M.D., PGY-3*

Yarbrough Award for Research Excellence – *Left to right: Heather Evans, M.D., MS, and Julie Ann Sosa, M.D., congratulated Kristen Quinn, M.D., PGY-4, who was awarded the Yarbrough Award for her exceptional productivity in basic, translational and clinical research and her unique contribution to the department as an innovator.*

DISTINGUISHED VISITING LECTURE SERIES

The Education Division hosts lectures delivered by nationally and internationally recognized experts in their respective field. This year, several prominent speakers engaged with faculty and trainees during the invited lecture series and Grand Rounds. To see the full list of our invited speakers, and the titles of their talks, visit our website.

Kredel Springs Lecture	Justin Dimick, M.D., MPH
Marion C. Anderson, M.D., Lecture	Chris Wolfgang, M.D., Ph.D.
Horace G. Smithy Lecture	Richard Ohye, M.D.
Eric R. Frykberg, M.D., Lecture	Julie Ann Sosa, M.D., MA


J. Dimick


C. Wolfgang


R. Ohye


J.A. Sosa

Scan to see the full list of our Grand Rounds and invited speakers

RESIDENT RESEARCH SCHOLARLY PRODUCTIVITY

Our resident research scholars, Lillian Hsu, M.D., Brielle Ochoa, M.D., David Mann, D.O., and Meredith Taylor, M.D., had multi-disciplinary interests and were highly successful in their endeavors.

BY THE NUMBERS

10 PODIUM PRESENTATIONS | 6 POSTER PRESENTATIONS | 4 MANUSCRIPTS | 2 BOOK CHAPTERS | 1 CASE PRESENTATION

CARDIOTHORACIC SURGERY

*In the **Division of Cardiothoracic Surgery**, our nationally recognized surgeons provide highly specialized care to diagnose and treat cardiac and thoracic patients, working with colleagues in cardiology and vascular surgery to develop innovative strategies resulting in the highest level of complex care with the least invasive procedures. With statewide expansion, three new surgeons joined our team: Claudio Guareschi, M.D., & Steven Greer, M.D., Self Memorial, and Vasant Jayasankar, M.D., AnMed, are our new in-community providers.*

Professor and Chief
Marc R. Katz, M.D., MPH

Professor, Chair Emeritus
Fred A. Crawford, M.D.

Distinguished University Professors Emeritus
Robert M. Sade, M.D.
John M. Kratz, M.D.

Associate Professors of Surgery
Barry Gibney, D.O.
Arman Kilic, M.D.
Sanford Zeigler, M.D.

Assistant Professors of Surgery
Ian Bostock, M.D., MS
Kathryn Engelhardt, M.D., MS
Nicolas Pope, M.D.
Lucas Witer, M.D.

Self Memorial Regional Hospital
Claudio Guareschi, M.D.
Steven Greer, M.D.

AnMed Medical Center
Vasant Jayasankar, M.D.

Research Faculty
Jeffrey Jones, Ph.D.
Rupak Mukherjee, Ph.D.

CARDIOTHORACIC SURGERY HIGHLIGHTS

ADVANCES IN CLINICAL CARE

Statewide Expansion

Collaborations with Self Memorial Regional Hospital and AnMed Medical Center were formalized; three new surgeons joined our team. The MUSC cardiac surgical team provides expert in-community staffing, and quality oversight and coordination for complex cases to these health systems.

Advances in Care

Heart Failure & Heart Transplant: The heart transplant program, led by Arman Kilic, M.D., expanded to include a DCD heart transplant surgery program, helping close the gap for access to donor organs for the many patients who need them.

Cardiogenic Shock: The multidisciplinary cardiogenic shock team improved quality outcomes using innovative devices. Since 2021, the team has implanted more than 100 patients with the Impella 5.5 device and implemented protocols that increased survival rates for in-hospital cardiogenic shock patients from 30% to 70%.

Aortic Surgery: In FY23, the aortic care team was the first in the Southeast to implant the Thoraflex Hybrid frozen elephant trunk device and first in the state to implant the TAG thoracic branch endoprosthesis device. Both commercially available devices improve patient outcomes.

Thoracic Surgery: In FY23, the Department named Barry Gibney, D.O., Thoracic Surgery Section Chief. The thoracic surgery team has grown to include three thoracic surgeons experienced in robotic surgery, making it one of the busiest robotic thoracic surgery programs in the Southeast.

BY THE NUMBERS

#1
Market Share in SC

18%
Growth in Lung Transplants

#19
Largest Volume Heart Transplant Center in U.S. (CY)

Top 10
Largest Volume Robotic Thoracic Surgery Center in the Southeast

INNOVATIONS IN RESEARCH

The Division of Cardiothoracic Surgery is engaged in leading edge research. Here is a sampling of some of the 17 high impact clinical trials and innovative research endeavors.

- Kate Engelhardt, M.D., MS, PI – Development and Implementation of a Novel Shared Decision-Making Tool to Support Cancer Care Delivery Concordant with Patient Treatment Preferences
- Barry Gibney, D.O., PI - Effect of Ventilation on 10-degree Celsius Static Storage of Lungs
- Marc R. Katz, M.D., MPH, PI – Left Atrial Appendage Exclusion for Prophylactic Stroke Reduction Clinical Trial
- Arman Kilic, M.D., PI - Anticoagulation for New-Onset Post-Operative Atrial Fibrillation After CABG (PACES) Trial
- Nicolas Pope, M.D., PI - Resolvins in the Prevention and Treatment of Thoracic Aortic Aneurysms
- Sanford Zeigler, M.D., PI – PERSEVERE Clinical Trial

DID YOU KNOW?

MUSC Health is ranked a High Performing Hospital for Abdominal Aortic Aneurysm Repair by U.S. News & World Report. To help support our vision of an Aortic Center of Excellence at MUSC Health, please scan the QR code.

COLORECTAL SURGERY

*The **Division of Colorectal Surgery** is nationally and internationally recognized for its pioneering efforts and extensive experience in minimally invasive surgery, including state-of-the-art laparoscopic and robotic procedures for colorectal cancer and inflammatory bowel disease (IBD). This year, our team grew to include Maggie Westfal, M.D., MPH, a fellowship-trained colon and rectal surgeon who specializes in both benign and malignant diseases of the colon, rectum, and anus with expertise in minimally invasive and robotic approaches.*

Professor and Chief
Virgilio George, M.D.

Associate Professor of Surgery
Pinckney J. Maxwell IV, M.D.

Assistant Professors of Surgery
Thomas Curran, M.D., MPH
Colleen Donahue, M.D.
Maggie Westfal, M.D., MPH

COLORECTAL SURGERY HIGHLIGHTS

ADVANCES IN CLINICAL CARE

Our team lends a unique depth and breadth of experience to a wide range of benign and malignant diseases of the lower GI tract. Clinical highlights include Pinckney J. Maxwell, IV, M.D.'s expertise in sacral neuromodulation therapy for patients with fecal incontinence, which helps give patients a life without limits. Karen Anderson, PA-C leads a survivorship clinic for patients diagnosed with colon and rectal cancers. Colorectal surgeon Maggie Westfal, M.D., MPH, joins our team in October.

INNOVATIONS IN RESEARCH

Thomas Curran, M.D., MPH, is one of only 12 physicians across the nation selected to participate in the National Cancer Institute's Early-stage Surgeon Scientist Program. Dr. Curran was chosen for the prestigious three-year program to investigate why too few patients go home with anticoagulants to prevent blood clots after gastrointestinal, gynecologic or urologic cancer surgery.

BY THE NUMBERS

17%
Increase in Outpatient Surgeries

9%
Increase in wRVUs

941
Surgical Cases

7763
Outpatient Encounters

GROWTH IN EDUCATION

Outside of her clinical role, Colleen Donahue, M.D., is passionate about surgical education. Previously, she led the residency simulation program. This year she was offered the opportunity of associate program director of the general surgery program. This new role will allow her to be more involved with the residency from a broader perspective including selection of residents, curriculum development and creating a strong academic teaching program, which facilitates each general surgery residents' success.

FOREGUT & METABOLIC SURGERY

*The **Division of Foregut and Metabolic Surgery** is nationally and internationally recognized for its surgical expertise and multidisciplinary approach to caring for patients in need of weight loss surgery. This year, the team grew to include two new fellowship trained bariatric surgeons, Mary Kate Bryant, M.D., and Douglas Cassidy, M.D.*

Professor and Chief
Rana Pullatt, M.D.

Professor of Surgery
T. Karl Byrne, M.D.

Assistant Professors of Surgery
Mary Kate Bryant, M.D., MSCR
Douglas Cassidy, M.D.

FOREGUT & METABOLIC SURGERY HIGHLIGHTS

ADVANCES IN CLINICAL CARE

Our bariatric surgeons work with a multidisciplinary team to care for patients suffering from severe obesity, often requiring highly complex weight loss procedures. We are nationally and internationally known for our innovative use of robotic surgery for severely obese patients, offering transformational surgeries that are changing the lives of patients with BMIs of 35 to the 100s.

RANA PULLATT, M.D., HONORED WITH NATIONAL RECOGNITION FOR CLINICAL EXCELLENCE

Rana Pullatt, M.D., is the honored recipient of the American Society of Metabolic and Bariatric Surgery (ASMBS) Foundation's 2023 Clinical Excellence Award. The ASMBS is the preeminent bariatric and metabolic surgery society both in the United States and throughout the world. This prestigious award is given to Dr. 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. He regularly hosts surgeons from all over the world who come to MUSC for training in these cutting-edge procedures.

BY THE NUMBERS

4142
Outpatient Encounters

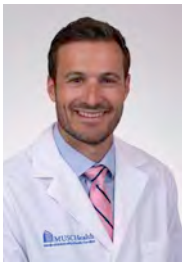
759
Surgical Cases

968
New Patients

92%
Increase in Duodenal Switch Surgeries

NEW FACULTY

Mary Kate Bryant, M.D., MSCR
Assistant Professor
Fellowship: Advanced Gastrointestinal Minimally Invasive Surgery
University of Washington in Seattle
Clinical Expertise: bariatric surgery, hernia surgery as well as treatment of benign esophageal disorders including anti-reflux surgery for patients suffering with gastroesophageal reflux disease (GERD).



Douglas Cassidy, M.D.
Assistant Professor
Fellowship: Advanced GI and Foregut Minimally Invasive Surgery
Barnes Jewish Hospital / Washington University in St. Louis
Clinical Expertise: abdominal wall reconstruction, hernia surgery, GERD, achalasia and gastroparesis.

DID YOU KNOW?

The Bariatric Surgery Center is a Robotic Center of Excellence and a certified center for observation for Robotic Bariatric Surgery. The Center has hosted surgeons from across the country and from all over the world.

GENERAL, ACUTE CARE, TRAUMA & BURN SURGERY

*Surgeons in the **Division of General, Acute Care, Trauma and Burn Surgery** offer a full spectrum of highly specialized care using the least invasive procedures for both elective and emergent surgeries. This year, Mike M. Mallah, M.D., joined our team to lead a new global surgery program and the division experienced unprecedented growth in robotically-assisted acute care surgery.*

Professor and Chief
Bruce Crookes, M.D., MBA

Professors of Surgery
Evert Eriksson, M.D.
Heather Evans, M.D., MS
Stephen Fann, M.D.
Stuart Leon, M.D.
E. Douglas Norcross, M.D.
Cynthia Talley, M.D.

Associate Professors of Surgery
Ashley Hink, M.D., MPH
Steven Kahn, M.D.
Alicia Privette, M.D.

Assistant Professors of Surgery
Marcie Dorlon, M.D.
Yulia Gavrilova, Ph.D.
Mike M. Mallah, M.D.
Deepak K. Ozhathil, M.D.

GENERAL, ACUTE CARE, TRAUMA & BURN SURGERY HIGHLIGHTS

IMPROVING PATIENT CARE

New Frontiers in General and Acute Care Surgery: A Paradigm Shift

Acute care surgery has one of the highest complication rates, with a high open surgical rate across all types of emergent general surgery. Minimally Invasive Surgery, and more specifically robotic surgery, can provide better patient outcomes, reduce the patient's length of time in the hospital, and avoid painful large incisions. Yet, nationwide, access to the da Vinci robots and trained staff on a 24-7 basis is not the traditional care model in acute care surgery.

To create a paradigm shift in acute care, Division Chief Bruce Crookes, M.D., MBA, worked with institutional leadership to create a dedicated da Vinci XI acute care robotic surgery practice – one that could provide both elective and emergent robotic surgery around the clock to provide optimal outcomes for patients, regardless of the time of day or circumstances. With da Vinci XI robots available in ORs across MUSC Health – Charleston Division, four robotically-trained acute care surgeons, and all clinical OR staff trained on robotic surgery, MUSC Health is now one of a handful of medical centers across the U.S. offering a fully robotic acute care surgery practice, providing agile care around the clock, with the overall gains for the patient being fewer complications, less pain, a faster recovery and decreased length of stay in the hospital.

Leader in Rib Fracture Care

MUSC Health is a national leader in rib fracture care. The Rib Fracture Clinic, led by Evert Eriksson, M.D., provides care for patients with chronic non-union and malunion fractures, thoracoabdominal hernias, costal margin ruptures, and solutions for rib pain. Since 2020, the clinic has seen a 196% increase in operative volume.

On the research forefront, Eriksson has given 11 lectures on rib fractures, eight research presentations, and nine peer-reviewed publications. MUSC was the recipient of the Chest Wall Injury Society "Best Resident / Student Research Presentation" award three years in a row.

BY THE NUMBERS

20%
Increase in
Elective General Surgery

42%
Increase in
Burn wRVUs

24%
Increase in
Robotic Surgery Cases

2317
Surgical Cases

DID YOU KNOW?

MUSC Health is the only ACS-verified Level-1 Trauma Center in the Lowcountry.

HEPATO-PANCREATO-BILIARY SURGERY

*The **Division of Hepato-Pancreato-Biliary (HPB) Surgery** serves as a center of excellence with a focus on advancing innovation in care for all conditions of the pancreas, liver, and biliary system. Our HPB surgeons work with multidisciplinary teams at Hollings Cancer Center to treat cancers of the liver, stomach, bile duct, and pancreas and are nationally-recognized experts in treating pancreatitis.*

Professor and Chief
Katherine Morgan, M.D.

Associate Professor of Surgery
William Lancaster, M.D.

Research Faculty
Professor of Surgery
Hongjun Wang, Ph.D.

HEPATO-PANCREATO-BILIARY SURGERY HIGHLIGHTS

IMPROVING PATIENT CARE

NanoKnife Advances Pancreatic Cancer Treatment

Hollings Cancer Center is the only center in the region offering irreversible electroporation (IRE), also known as the NanoKnife procedure, to treat pancreatic cancer. The procedure, performed by pancreatic surgeon Katherine Morgan, M.D., uses precisely directed electric shockwaves to kill cancer cells in difficult-to-reach areas without damaging surrounding structures. In clinical trials, patients with stage 3 pancreatic cancer who underwent treatment with NanoKnife surgery had a survival rate that approaches that of patients with earlier stages who are able to have conventional resection surgery.

Statewide Leader in Liver and Pancreas Surgery

MUSC Health is the only center in the state to offer robotic-assisted liver surgery. At MUSC Health, William Lancaster, M.D., and his team have expanded the robotic liver and pancreas surgery program. It includes all aspects of liver surgery, including liver resection for the treatment of cancer. The advantages of robotic liver resection are many. Patients experience less pain, have fewer complications and experience a quicker recovery. The hospital stay is reduced from five days to, in some cases, just overnight, with the return to work going from a three-month recovery with open surgery to just a week with robotic surgery.

INNOVATIONS IN RESEARCH

MUSC Health is one of 20 hospitals nationwide that perform total pancreatectomy and islet cell transplantation (TP-IAT) to treat chronic pancreatitis. In addition to the cutting-edge surgery, the team is involved in leading-edge translational research at the Center for Cellular Therapy (CCT). Hongjun Wang, Ph.D., a nationally recognized expert in islet cell transplantation and co-scientific director of the CCT, works closely with Katherine Morgan, M.D., and William Lancaster, M.D., for patients needing TP-IAT. Dr. Wang and her translational research team are developing interventional procedures to improve islet quantity and quality to prevent the onset of surgical diabetes after TP-IAT. Specifically, they achieve this goal by performing an NIDDK-funded, innovative clinical trial by co-transplanting a patient's own mesenchymal stem cells with their islets to enhance islet graft survival. This trial plans to enroll 42 chronic pancreatitis patients at MUSC. As of August 2023, 15 participants have been successfully enrolled. Data obtained from such a trial may have significant impact on the current clinical practices.

BY THE NUMBERS

18%
Increase in Robotic Liver Resection

17%
Increase in Surgical Cases

16
NanoKnife Procedures

24%
Complex Pancreas Surgeries are Performed Robotically

DID YOU KNOW?

The MUSC Health islet cell transplantation center is ranked the number 2 islet cell transplant program in the world by caseload.

ONCOLOCIC & ENDOCRINE SURGERY

*The **Division of Oncologic and Endocrine Surgery** provides comprehensive surgical care for patients with benign and malignant breast diseases, endocrine tumors, melanoma, soft tissue tumors, GI/gastrointestinal and HPB/hepato-pancreato-biliary tumors. Our surgeons are at the forefront of minimally invasive techniques for cancer surgeries that improve precision and reduce the surgical impact on patients. This year, the faculty recruited two new surgical oncology leaders, William Hawkins, M.D., and Kevin Roggin, M.D.*

Professor and Chief
Kevin Roggin, M.D.

Professors of Surgery
President David J. Cole, M.D.
Denise Carneiro-Pla, M.D.
Nancy Klauber-DeMore, M.D.
William Hawkins, M.D.
Kevin Hughes, M.D.
Mark Lockett, M.D.
David Mahvi, M.D.

Associate Professors of Surgery
Andrea Abbott, M.D., MSCR
Rochelle Ringer, M.D.

Assistant Professors of Surgery
Bernice Huang, M.D.
Tara Grahovac, M.D.
Jeffrey Sutton, M.D.

Adjunct Professor of Surgery
Jon van Heerden, M.D.

Professor of Surgery - Research
Shikhar Mehrotra, Ph.D.

ONCOLOGIC & ENDOCRINE SURGERY HIGHLIGHTS

CLINICAL CARE EXPERTISE

Kevin Roggin, M.D., Joins MUSC; Named Division Chief of Surgical Oncology

Kevin Roggin, M.D., has been named the new Chief of Surgical Oncology, effective September 1, 2023. Dr. Roggin is a distinguished surgical oncologist, scholar, and educator, having served at the University of Chicago Medical Center for the past 17 years. At MUSC, Roggin will enhance the division's clinical programs, creating collaborative, multidisciplinary approaches to liver, pancreas, and biliary disease and expanding the HIPEC, endocrine, and breast programs. He will also serve as Clinical Director for Surgical Oncology at the Hollings Cancer Center, working closely with the Hollings Integrated Center of Excellence (ICCE) leadership to grow these key clinical areas.

The Department of Surgery is extremely grateful to Chief David Mahvi, M.D., for his many years of leadership and significant contributions to the growth and expansion of clinical expertise in the division, providing a solid foundation for Dr. Roggin's new leadership role.

William Hawkins, M.D,. Joins MUSC to Lead Surgical Oncology at Hollings

In January 2024, William Hawkins, M.D., will join MUSC as the Deputy Director of the Hollings Cancer Center, where he will build clinical translational programs across the entire spectrum of medical specialties related to cancer. He has been named the Alice Ruth Reeves Folk Endowed Chair in Clinical Oncology at the Hollings Cancer Center.

In the Medical University Health Systems Oncology Integrated Center of Excellence (ICCE), Hawkins will have a lead administrative role as the Director of Strategic Growth and Clinical Research, focusing on multidisciplinary growth with an emphasis on all aspects of Surgical Oncology. In the Department of Surgery, Hawkins will serve as Vice Chair of Clinical Affairs, leading the strategic planning and development of the clinical staff.

BY THE NUMBERS

45%
Increase in Liver Resection

16%
Increase in Inpatient Surgeries

6
Clinic Locations

3,338
New Patients

DID YOU KNOW?

The Hollings Cancer Center is the only NCI-designated cancer center in South Carolina.

PEDIATRIC SURGERY

*Our nationally recognized pediatric surgeons in the **Division of Pediatric Surgery** collaborate with best-in-class experts in pediatric anesthesia, emergency medicine, ICU, and other pediatric sub-specialists to provide high quality family-focused care for complex pediatric surgical conditions. This year, fellowship-trained pediatric surgeon Aaron Cunningham, M.D., joins our team.*

Professor and Chief
Christian Streck, M.D.

Professor Emeritus
H. Biemann Othersen, Jr., M.D.

Professors of Surgery
Robert Cina, M.D.
Dennis Vane, M.D.

Associate Professors of Surgery
Aaron Lesher, M.D., MSCR
Laura Hollinger, M.D.

Assistant Professors of Surgery
Aaron Cunningham, M.D.
Rohit Mittal, M.D.

PEDIATRIC SURGERY HIGHLIGHTS

CLINICAL CARE EXPERTISE

MUSC, Shriners Hospitals for Children Announce New Affiliation to Support State's Only Comprehensive Pediatric Burn Center

MUSC and Shriners Hospitals for Children announced an affiliation to elevate pediatric burn care and research at the MUSC Shawn Jenkins Children's Hospital. This is a component of the comprehensive South Carolina Burn Center.

Rohit Mittal, M.D., who joined the Division of Pediatric Surgery in December, has been named the Shriners Children's Endowed Professorship in Pediatric Burn Care at MUSC, where he treats pediatric burn patients and augments the team at MUSC in their current efforts to perform innovative research that improve quality of care and the lives of burned children. His expertise in burn surgery will help facilitate the development of a Pediatric Wound Care Program.

NEW FACULTY

Aaron Cunningham, M.D., joins MUSC after completing a Pediatric Surgery Fellowship from Stanford University. Dr. Cunningham specializes in minimally invasive surgical (MIS) treatment of esophageal achalasia and other complex diseases and is an expert in MIS approaches to neonatal congenital anomalies.

AWARDS AND RECOGNITIONS

The Pediatric ACS Level 1 Trauma Center at the MUSC Shawn Jenkins Children's Hospital, led by Medical Director Christian Streck, M.D., received reverification by the American College of Surgeons in February 2023.

The Pediatric ECMO Program at the MUSC Shawn Jenkins Children's Hospital, led by Medical Director Laura Hollinger, M.D., was awarded the platinum-level ELSO Award for Excellence in Life Support.

BY THE NUMBERS

13%
Increase in Outpatient Encounters

8%
Increase in Inpatient Surgeries

1501
Surgical Cases

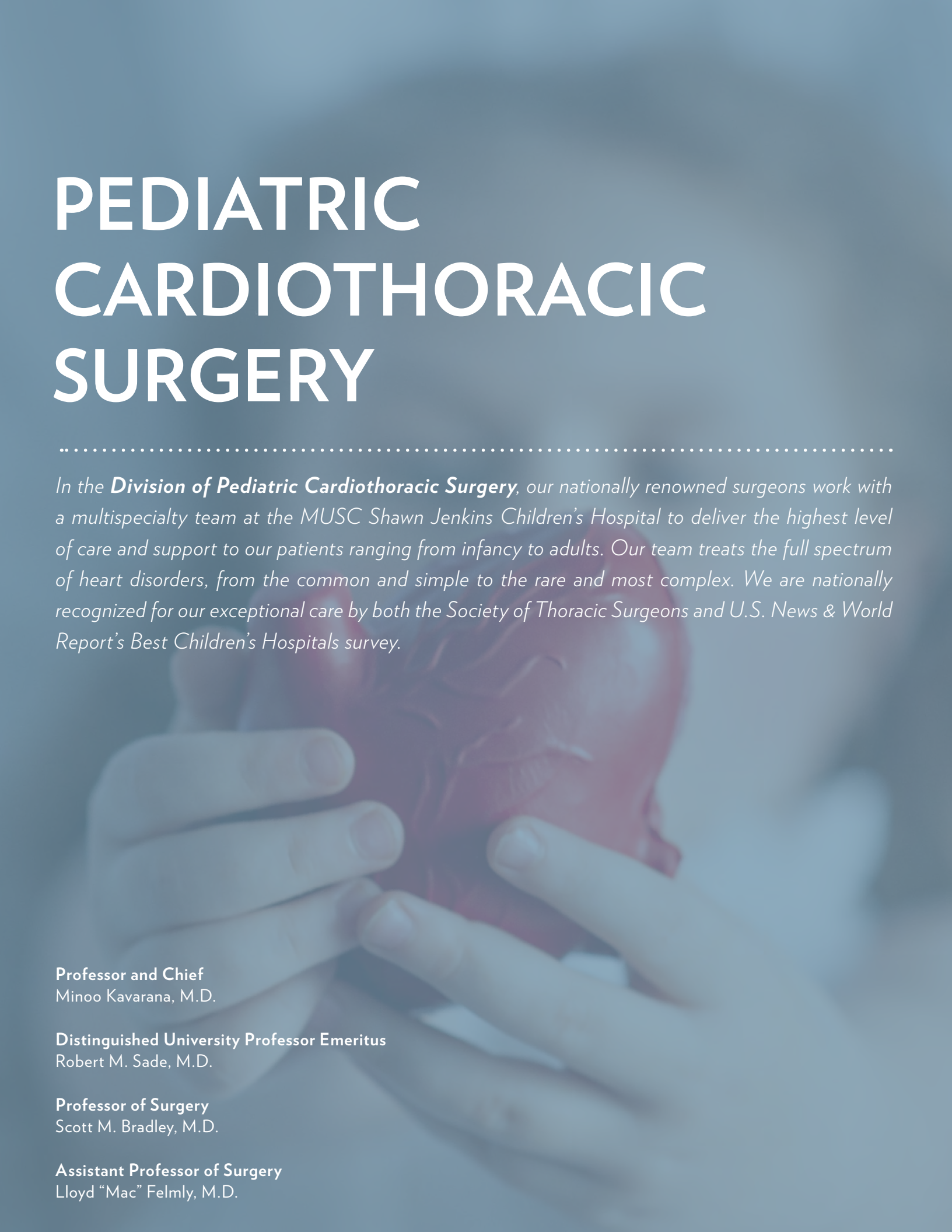
6161
Outpatient Encounters

DID YOU KNOW?

MUSC Shawn Jenkins Children's Hospital is the only comprehensive Pediatric Burn Center & the only Pediatric ACS Level 1 Trauma Center in South Carolina.

PEDIATRIC CARDIOTHORACIC SURGERY

*In the **Division of Pediatric Cardiothoracic Surgery**, our nationally renowned surgeons work with a multispecialty team at the MUSC Shawn Jenkins Children's Hospital to deliver the highest level of care and support to our patients ranging from infancy to adults. Our team treats the full spectrum of heart disorders, from the common and simple to the rare and most complex. We are nationally recognized for our exceptional care by both the Society of Thoracic Surgeons and U.S. News & World Report's Best Children's Hospitals survey.*



Professor and Chief
Minoo Kavarana, M.D.

Distinguished University Professor Emeritus
Robert M. Sade, M.D.

Professor of Surgery
Scott M. Bradley, M.D.

Assistant Professor of Surgery
Lloyd "Mac" Felmly, M.D.

PEDIATRIC CARDIOTHORACIC SURGERY HIGHLIGHTS

CLINICAL CARE EXPERTISE

Our surgical outcomes rank among the best centers in the world and are the best in the country as ranked by *U.S. News & World Report* Best Children's Hospitals for the year 2022 through 2023.

This is the 16th consecutive year that the 4th-ranked Cardiology and Heart Surgery program has made the list of Best Children's Hospitals and the second year in a row at No. 4 in the nation. Our dedication to improving the lives of children in need of critical heart surgeries builds on the success of our outstanding team, led for more than 25 years by nationally-renowned pediatric and congenital heart surgeon Scott M. Bradley, M.D.

The department thanks Dr. Bradley for creating the strong foundation upon which our newly created division, led by Minoo Kavarana, M.D., can continue to grow in clinical expertise.

Under Dr. Kavarana's leadership, the division plans to expand and grow in areas of services that include pediatric ventricular assist devices (VAD), heart transplantation, and the adult congenital heart program.

BY THE NUMBERS

#4
U.S. News & World Report

#3
In Outcomes Section,
U.S. News & World Report

17%
Increase in wRVUs

460
Surgical Cases

NEW FACULTY

Lloyd "Mac" Felmly, M.D., joined MUSC as a pediatric cardiothoracic surgeon on August 1, 2023, after completing his Pediatric Cardiac Surgery Fellowship at Stanford University. Dr. Felmly completed his cardiothoracic surgery residency and medical training at MUSC. He has experience in all areas of pediatric and congenital heart surgery and will help develop a pediatric lung transplant program as well as advance our adult congenital heart and VAD program.

DID YOU KNOW?

Our Pediatric and Congenital Heart Center is 1 of 9 core centers in the NIH funded Pediatric Heart Network, and 1 of only 5 centers that have been a core center since its inception in 2001.

PLASTIC, RECONSTRUCTIVE & HAND SURGERY

The Division of Plastic, Reconstructive and Hand Surgery offers the full spectrum of plastic surgery including hand surgery, reconstructive surgery, pediatric plastic surgery, lymphedema, breast reconstruction, and microsurgery as well as cosmetic surgery and aesthetic services. Our surgeons combine deep expertise with the latest techniques to provide exceptional care. The division continues to grow in surgical expertise with the addition of highly specialized plastic and reconstructive surgeon Gabriel Klein, M.D., MSCR, who completed a Microvascular Reconstruction Fellowship at the Cleveland Clinic.

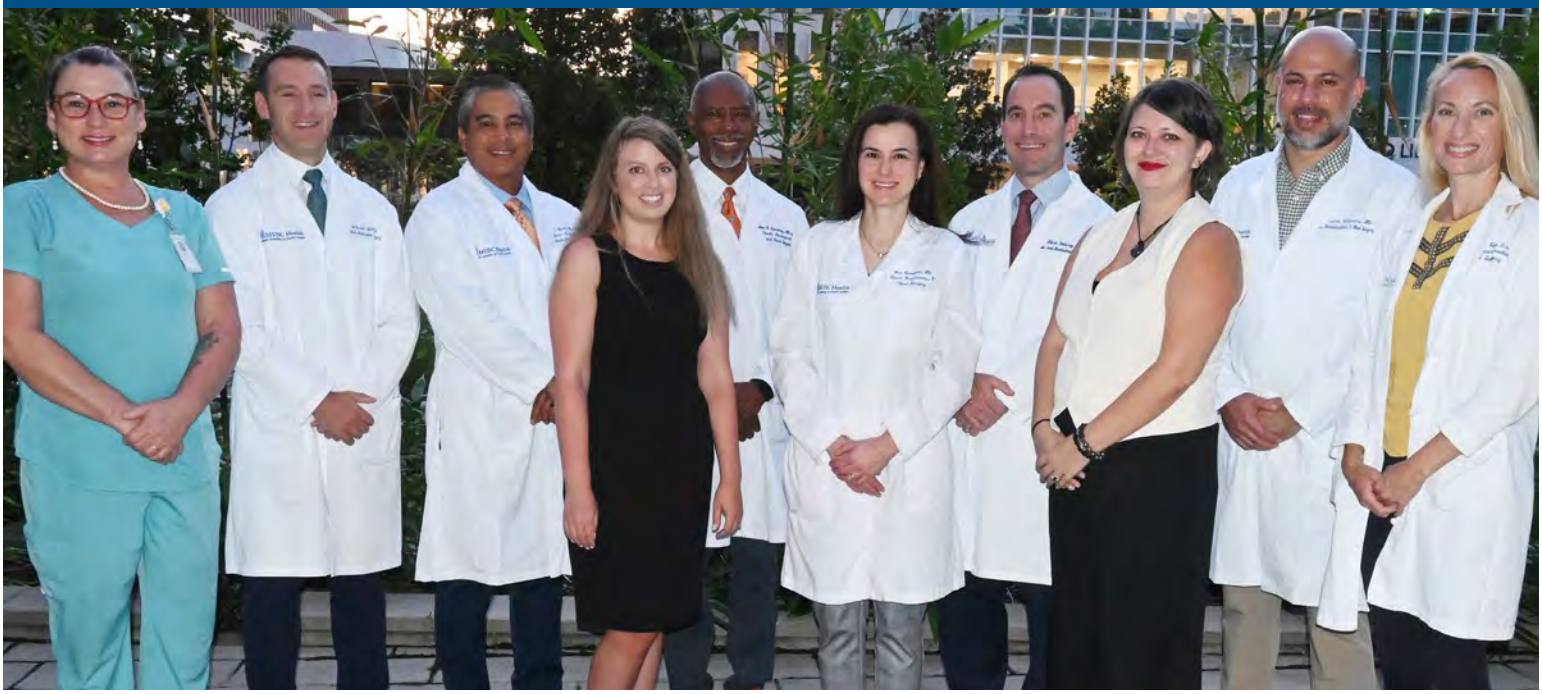
Professor and Chief
Milton Armstrong, M.D.

Professor of Surgery
Fernando Herrera, M.D.

Associate Professors of Surgery
Kevin Delaney, M.D.
M. Lance Tavana, M.D.

Assistant Professors of Surgery
Gabriel Klein, M.D., MSCR
Isis Scomacao, M.D.

PLASTIC, RECONSTRUCTIVE & HAND SURGERY HIGHLIGHTS



CLINICAL CARE EXPERTISE

Leaders in Microsurgery Breast Reconstruction

Recent microsurgical advances allow for improved breast reconstruction for patients. At MUSC Health, with the addition of our two new fellowship trained surgeons in microsurgical techniques, we have become the premier center in South Carolina for microsurgical breast reconstruction. Gabriel Klein, M.D., MSCR, joined the division this year after completing a Reconstructive Microsurgery Fellowship at the Cleveland Clinic. Isis Scomacao, M.D., joined in 2021 after completing a series of fellowships in microsurgery and supermicrosurgery, also at the Cleveland Clinic.

Together with reconstructive surgeon Kevin Delaney, M.D., the team has built one of the few medical practices in South Carolina that specializes in microsurgery breast reconstruction, including DIEP (deep inferior epigastric perforator) flap microsurgery for patients undergoing breast reconstruction after mastectomy.

Not every patient is a good candidate, but for those who are, microsurgical breast reconstruction can improve aesthetics of the reconstructed breast and reduce complications such as fat necrosis and flap loss.

BY THE NUMBERS

21%
Increase in Inpatient Encounters

20%
Increase in wRVUs

1637
Surgical Cases

22,231
Outpatient Encounters

EDUCATION

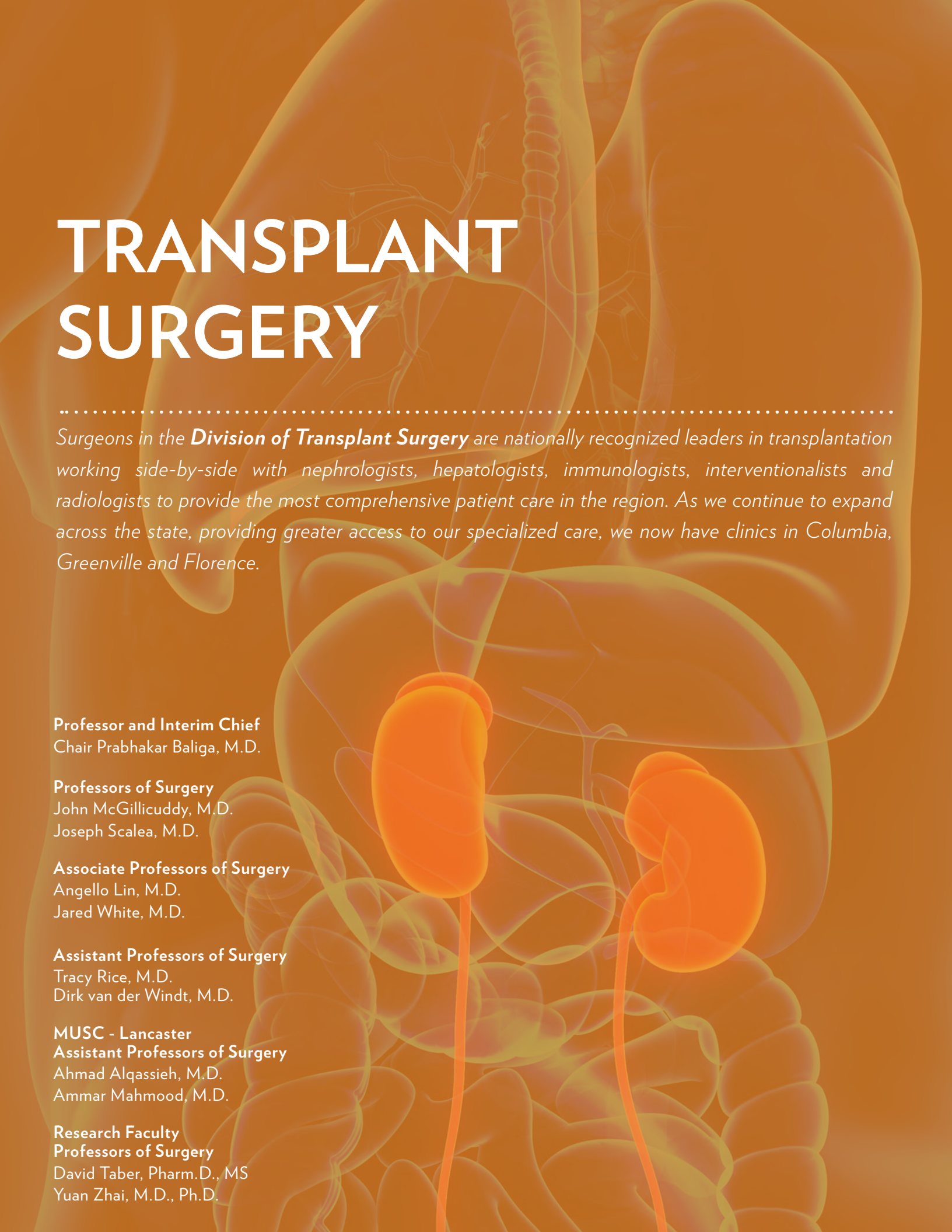
- Graduating Chief Sami Tarabishy, M.D. was accepted into the Aesthetic Plastic Surgery Fellowship at the Cleveland Clinic.
- Donna Mullner, M.D., PGY-6, Integrated Resident was accepted into the University of Kentucky Hand Surgery Fellowship
- Reena Bakshi, M.D., PGY-7, Independent Resident was accepted into the University of Miami Hand Surgery Fellowship

DID YOU KNOW?

A Department of Surgery Hand Fellowship is in the final ACGME approval phase with an anticipated start date of FY25.

TRANSPLANT SURGERY

*Surgeons in the **Division of Transplant Surgery** are nationally recognized leaders in transplantation working side-by-side with nephrologists, hepatologists, immunologists, interventionalists and radiologists to provide the most comprehensive patient care in the region. As we continue to expand across the state, providing greater access to our specialized care, we now have clinics in Columbia, Greenville and Florence.*



Professor and Interim Chief
Chair Prabhakar Baliga, M.D.

Professors of Surgery
John McGillicuddy, M.D.
Joseph Scalea, M.D.

Associate Professors of Surgery
Angello Lin, M.D.
Jared White, M.D.

Assistant Professors of Surgery
Tracy Rice, M.D.
Dirk van der Windt, M.D.

MUSC - Lancaster
Assistant Professors of Surgery
Ahmad Alqassieh, M.D.
Ammar Mahmood, M.D.

Research Faculty
Professors of Surgery
David Taber, Pharm.D., MS
Yuan Zhai, M.D., Ph.D.

TRANSPLANT SURGERY HIGHLIGHTS

ADVANCES IN CLINICAL CARE

Living Donor Program Experiences Record Growth; Offers Robotic Nephrectomy

In calendar year 2022, the MUSC Health Living Donor Program, led by Tracy Rice, M.D., celebrated the highest number of living donor kidney transplants in the program's history, with 57 successful transplants. In addition to growing the Living Donor Program, Dr. Rice is exceedingly well trained with a unique skill set in robotic donor nephrectomy. She piloted a program to bring robotics into kidney transplantation, completing 50 robotic nephrectomies in FY 23. The combination of robotic surgery and our enhanced recovery pathways at MUSC allows for a quicker and safer recovery for living donors.

Spotlight On: John McGillicuddy, M.D.

John McGillicuddy, M.D., specializes in solid organ transplantation, with a focus on liver and kidney. For more than fifteen years, he has been a transplant surgeon with MUSC. This year, during a transitional period in the division, Dr. McGillicuddy's natural leadership style, his quiet, open-minded approach and equanimity when facing challenges has helped build morale and inspire team members to achieve a greater collective impact. On the education forefront, he leads the Abdominal Organ Transplant Fellowship Program, where three of our fellowship-trained graduates have joined the newly formed Lancaster division's transplant program.

NEW FACULTY

As we continue to expand across the state, providing greater access to our specialized care, Ammar Mahmood, M.D., joined the MUSC – Lancaster team upon completion of his Abdominal Organ Transplant Fellowship at MUSC. He joins Ahmad Alqassieh, M.D., and Monther Altiti, M.D. The program is making an immediate impact and now patients in renal failure have an option of being dual listed at both Lancaster and Charleston, increasing their likelihood of being allocated a donor organ.

INNOVATIONS IN RESEARCH

- David Taber, Pharm.D., PI – $3M NIH/NIDDK RO1 -Multifaceted Intervention to Improve Graft Outcome Disparities in African American Kidney Transplants; Takeda Investigator Initiated Randomized Controlled Trial Comparing the Tolerability and Efficacy of Maribavir vs. Valganciclovir for CMV Prophylaxis in High-Risk Kidney Transplant Recipients
- John McGillicuddy, M.D., PI – THINKER-NEXT Clinical Trial transplanting Hepatitis C-viremic kidneys into Hepatitis C-Negative kidney recipients

BY THE NUMBERS

#1

Largest Volume Kidney-Pancreas Transplant Center in the U.S. (CY)

#3

Largest Volume Deceased Donor Kidney Transplant Center in the U.S. (CY)

#5

Largest Volume Kidney Transplant Center in the U.S. (CY)

19%

Increase in Patient Encounters

FACULTY RECOGNITIONS

Joseph Scalea, M.D. – ASTS Rising Star in Transplantations

Dirk van der Windt, M.D., Ph.D. – MUSC 2023 ARROW Career Development Program

Jared White, M.D. – General Surgery Residency Program Director

VASCULAR SURGERY

*The **Division of Vascular Surgery** provides advanced vascular care encompassing the full range of medical optimization, open surgery and the latest endovascular techniques. This year, the team expanded to include J. Chadwick Tober, M.D., who will provide expert vascular care at Beaufort Memorial Hospital.*

Professor and Chief
Ravi Veeraswamy, M.D.

Professor of Surgery
Thomas E. Brothers, M.D.

Associate Professors of Surgery
Jean Marie Ruddy, M.D.
Mathew Wooster, M.D.
A. Sharee Wright, M.D.

Assistant Professors of Surgery
Adam Tanious, M.D., MMSc
J. Chadwick Tober, M.D.

VASCULAR SURGERY HIGHLIGHTS

ADVANCES IN CLINICAL CARE

In 2023, MUSC Health was the first medical center in the state of South Carolina to implant the commercially available Gore TAG thoracic branch endoprosthesis (TBE) device for treating patients with complex aortic arch disease, providing a solution for patients with complex tears in difficult-to-reach anatomy using minimally invasive techniques. The branched TBE device is the first and only FDA-approved implantable thoracic branched endoprosthesis offering a fully endovascular treatment option for patients with aortic diseases in close proximity to the important aortic arch branches. The minimally invasive, single procedure device reduces both operating time and length of stay.

CLINICAL TRIALS

The division is conducting 13 cutting-edge clinical trials, including the Triomphe Study for minimally invasive total aortic arch repair, the BOLT clinical trial for patients with deep vein thrombosis, and the Disrupt PAD BTK II Study with the Shockwave Peripheral IVL System for patients with calcified lesions below the knee.

RESEARCH AND EDUCATION

- The Vascular Surgery Innovation Group generated more than 20 submissions to the MUSC patent office.
- The Vascular Integrated Residency Program established a dedicated research track for the I-6 residency program & created a research pipeline for college students.
- Faculty Productivity: 32 research presentations, 1 book chapter, 23 publications, 1 international presentation, 13 clinical trials, 1 SCTR Discovery Grant and 1 NIH U-01 sub co-investigator award

AWARDS AND RECOGNITIONS

Ravi Veeraswamy, M.D. – President of the Vascular and Endovascular Surgery Society
Jean Marie Ruddy, M.D. – Department of Surgery Vice Chair of Research
Adam Tanious, M.D., MMSc – Society of Vascular Surgery Innovation Initiative Co-Lead
Mathew Wooster, M.D. – VES Endovascular Techniques Section Editor
Sharee Wright, M.D. – MUSC Office of Equity Real DEIL (Diversity, Equity and Inclusion Leader) Award, MUSC COM Lift As You Climb Diversity Mentorship Faculty Award

BY THE NUMBERS

21%
wRVU Increase
FEVAR Procedures

14,862
Outpatient Encounters

4
SC Clinic Regional Locations

13
Clinical Trials

DID YOU KNOW?

MUSC Health is ranked a High Performing Hospital for Abdominal Aortic Aneurysm Repair by U.S. News & World Report. To help support our vision of an Aortic Center of Excellence at MUSC Health, please scan the QR code.

A Harmonious COLLABORATION

A Shared Passion for Changing What's Possible in Resident Education Started with a Mutual Love of Music and Medicine

Aaron Lesher, M.D., and Barbara Christie in their St. Gregory Choir robes at Grace Church Cathedral

With Barbara Christie's background in medical sales, volunteerism and philanthropy – and her heart for service – she knew she could make a difference. Finding the right fit was a journey that developed through a shared love of music and service to the community.

Christie had a successful career in marketing for several major pharmaceutical companies in the Boston area, developing expertise in surgical device sales. In 2006, she moved to Charleston, South Carolina, to lead the marketing efforts for Darkness to Light, a nonprofit working to end the sexual abuse of children.

Upon her arrival to Charleston, she joined Grace Church Cathedral, singing in the St. Gregory Choir, a semi-professional choir, and serving on several church committees. It was there that she met MUSC pediatric surgeon Aaron Lesher, M.D., MSCR, a classically trained pianist and member of the choir.

The two spent hours together harmonizing and developing a deep friendship based on their shared interests in music, medicine and service.

"As our friendship developed, Aaron and I would have deep conversations about the children he cared for, the complexity of cases he saw, and his specialization in pediatric surgery," Christie explained.

A surgeon who treats adults is often specialized in a specific organ or part of the body. Pediatric surgeons like Lesher must be experts in multiple organs and specialize in operating on a variety of ages and sizes, from infants to young adults.

"One day, I asked Aaron where he saw the greatest need for me to be able to make a meaningful impact," she said. "He filled me in on the challenges of today's general surgery residents who want to pursue a career in pediatric surgery."

Pediatric surgeons are among the most specialized, trained and experienced surgeons. Becoming one is a rigorous process that requires a commitment of at least seven years of advanced training after medical school. The last step is a two-year pediatric surgery fellowship, where they gain hands-on experience.

These fellowships are highly competitive to get into, Lesher explained. A recent study found the most successful candidates are residents who have experience in both the operating room and the lab. Lesher suggested Christie invest in resident education at MUSC: Her gift could provide residents with dedicated research time, giving them a competitive edge when applying for fellowships.

He explained there are many opportunities for residents interested in a career in pediatric surgery to engage in research at the MUSC Shawn Jenkins Children's Hospital, which is verified by the American College of Surgeons as a Level 1 Children's Surgery Center and a Level 1 Pediatric Trauma Center and is the state's only pediatric burn center.

"All of these dedicated programs are involved with numerous clinical and quality-related research projects that further the field of pediatric surgery and improve children's operative outcomes," said Lesher.

With help from Vera Ford, director of development, Christie created two funds: an endowment, which will last forever, and an expendable fund, which can be used right away.

Christie's endowment will be invested by the MUSC Foundation; the interest will create a permanent source of future funding for the new resident research program.

"Thanks to Barbara's generous gift, beginning in the next fiscal year, we can offer dedicated research time for residents interested in a career in pediatric surgery," Lesher said. "This gift is a real game changer for our trainees – and, ultimately, the children they'll go on to treat."

The Barbara Stuart Christie Surgical Resident Research Endowment Fund will impact generations of patients and residents, Ford added. "Barbara had the foresight to generously create an expendable fund, which for the next three years will do two things: it will provide support to our first resident as early as 2024, and it will allow the initial investment in the endowment to grow over the next three years."

For Christie, giving to MUSC came down to two things: a personal connection and confidence that her gift would make a meaningful impact. Her friendship with Lesher gave her both. "Through our conversations, I could envision how my investment will provide more meaningful training opportunities and improve patient care."

Ultimately, Christie's impact will be bigger than she ever imagined, Ford said. "In the most profound way, Barbara is changing lifetimes of lives."

The Christie family has generously supported numerous programs at MUSC, including the first endowed chair in the College of Health Professions, funding for the Heart & Vascular Center, and the Storm Eye Institute.

To support the Barbara Stuart Christie Surgical Resident Research Endowment Fund in support of Surgical Resident research, visit https://bit.ly/Christie-Resident-Research or scan the QR code.

If you would like to learn more about how you too can help shape the future of surgical education, please contact Vera Ford, Director of Development at fordva@musc.edu or 843-792-1840.

YOUR GIFT IS CHANGING WHAT'S POSSIBLE

By giving to the MUSC Department of Surgery, you support our dedicated surgeons, researchers and clinical staff who thrive on providing the best and most compassionate care for our patients, are leaders in innovations in research and clinical outcomes and are committed to excellence in education – preparing the future surgeons today for the challenges of tomorrow.

We invite you to become part of this mission with your own promise to support MUSC's surgical programs.

https://bit.ly/surgeryannual23

To learn more, please contact **Vera Ford**, Director of Development, at fordva@musc.edu or 843-1840.

JOHN KRATZ, M.D., RECEIVES SOUTH CAROLINA'S HIGHEST HONOR

Governor Henry McMaster has awarded the Order of the Palmetto to John M. Kratz, M.D., Distinguished University Professor Emeritus at the Medical University of South Carolina. The award is the highest civilian honor awarded to citizens of South Carolina for their extraordinary lifetime service and achievements.

MUSC President David J. Cole, M.D., and Rep. Nancy Mace present the Order of the Palmetto to John M. Kratz, M.D.

Since joining MUSC in 1979, Kratz has played an integral part in the growth and recognition MUSC has achieved. In 1993, he led the effort to develop an onsite cardiac-surgical program through an agreement with Grand Strand Hospital in Myrtle Beach. Staffed and run by the MUSC Division of Cardiothoracic Surgery, the program was the first of many efforts to work with underserved South Carolina communities. In 2004, he pioneered off-pump coronary bypass surgery at MUSC. In addition to these remarkable efforts, Kratz is widely recognized in the field of cardiothoracic surgery as an expert in pacemakers and pacemaker lead extraction.

Over the years, he has served in many leadership roles on many national and regional committees, including chairman of the Membership Committee for the Southern Thoracic Surgical Association and as both vice president and president of the South Carolina Thoracic Society. He served on the planning committee for the South Atlantic Cardiovascular Society and steering committee for the Tri-State Lung Association. He is a member of many prestigious cardiothoracic societies and associations, including the American Association for Thoracic Surgery and the Society of Thoracic Surgery.

MUSC President David J. Cole, M.D., introduced U.S. Representative Nancy Mace to present the award on behalf of Gov. McMaster during Kratz' retirement dinner on Saturday, March 25, at the Carolina Yacht Club. "Dr. Kratz has been remarkable in his service to health care delivery, research and education. He's earned the recognition and celebration inherent to what is represented by the Order of Palmetto," Cole said. "It is my honor and my pleasure to introduce Congresswoman Nancy Mace, who will present the Order of the Palmetto to Dr. Kratz," Cole said to a cheering crowd of family, friends and colleagues.

Mace thanked Kratz for his 50 years of service to the state of South Carolina, recognizing his deep commitment to research, education and clinical care that has helped to transform the field of cardiothoracic surgery. On behalf of Gov. McMaster, she presented him with the Order of the Palmetto.

Cole recognized Kratz' significant contributions, noting that fifty years ago, he was pivotal in creating a cardiothoracic surgery program, along with Fred A. Crawford Jr., M.D., who served as division chief in 1979 and served as chairman of the department from 1988 - 2007. The program, he explained, has had a tremendous impact on shaping the future of cardiothoracic surgery at MUSC and throughout South Carolina.

On a more personal note, transplant surgeon and Chair of the Department of Surgery Prabhakar Baliga, M.D., expressed gratitude for Kratz' services in establishing safe transportation for all organ donations. Baliga recognized the significant safety measures Kratz ensured for his team, during organ procurement flights – often occurring in the middle of the night under less than ideal conditions.

Kratz' passion for flying aircraft has been transformative to patient care in South Carolina. He is a licensed FAA single engine land private pilot. He was appointed the medical director of the MUSC MEDUCARE program when it launched in 1987 and served as the chairman of the MUSC

"You have the heart of an innovator along with the talent and tenacity to get things done... That's also how someone builds an aircraft in their garage, flies it and lives to tell about it."

-MUSC President David J. Cole
speaking of John Kratz, M.D.

MEDUCARE Executive Transport Committee from 1990 to 1996. From 1994 to 2004, he was designated a Federal Aviation Administration (FAA) medical examiner, serving the FAA and the flying community by medically certifying pilots.

In addition to receiving the highest honor in the state and in recognition of his many contributions to the field of surgery, in 2022, Baliga announced that MUSC and the Department of Surgery honored Kratz with an endowed chair in his name. Endowed chairs are the highest award a university can bestow upon a faculty member, paying tribute to those for whom they are named for their remarkable contributions to their respective fields. During the dinner, Baliga recognized Arman Kilic, M.D., who is the inaugural chairholder of the John M. Kratz, M.D. Endowed Chair in Cardiac Surgery and Research.

During his comments at the dinner, Crawford shared that equally important to Kratz' surgical expertise and innovative spirit has been his commitment to the department's academic program, where he has been a role model to countless academic surgeons and trainees. Throughout his career, Kratz has changed many lives – not only through the surgeries he has performed and the lives he has saved – but also through his dedication to the education and mentorship of cardiothoracic surgery residents, many of whom traveled great distances to honor him during his retirement dinner. His legacy clearly continues through the residents he trained. During the many heartfelt tributes from those who trained under him, a recurrent theme was gratitude for his teaching to keep things simple – a concept many say resonates with them daily, especially during complex surgeries.

To honor Dr. Kratz and his legacy as a passionate surgical educator, Marc R. Katz, M.D., MPH, chief of the Division of Cardiothoracic Surgery, announced that the division is establishing the John M. Kratz, M.D. Cardiothoracic Surgery Academic Enrichment Fund. "In light of all John has done to advance the field of cardiothoracic surgery through training the next generation of CT surgeons, this fund will continue his legacy by paying tribute and further supporting the highest quality of patient care through the continuation of education and research, especially for our residents' research projects," Katz said.

On the impact of educating the next generation of surgeons, Kratz said, "As cardiothoracic surgeons, we celebrate when our patients get well, but when we train residents and send them out in the world to take care of thousands of patients, that's really the true reward to us as attendings."

Pictured from L to R: Walter DeNino, M.D., Tom Theravath, M.D., Tony Lee, M.D., Barry Davis, M.D., John Kratz, M.D., Jack Crumbley, M.D., Fred A. Crawford, Jr., M.D., and Jim Zellner, M.D.

Dr. Kratz, center, with his wife, Shirley, celebrate with their three sons and two daughters-in-law during the dinner.

From left to right: Mr. Michael Kratz, Mrs. Ellen Kratz, Mrs. Shirley Kratz, Dr. John M. Kratz, Mrs. Colleen Kratz, Mr. Martin Kratz, Mr. David Kratz.

CHANGING WHAT'S POSSIBLE THROUGH GIVING

If you would like join us in creating more cardiothoracic surgery resident education and research opportunities by contributing to the John M. Kratz, M.D., Cardiothoracic Surgery Academic Enrichment Fund, visit https://bit.ly/Kratz-CT-Academic-Enrichment *or scan the QR code.*

Gratitude

To serve patients is our greatest privilege.

It is an honor to care for you and your loved ones.