

ANNUAL REPORT 2025

THE MICHAEL E. DEBAKEY DEPARTMENT OF SURGERY

Baylor
College of
Medicine

MICHAEL E. DEBAKEY
DEPARTMENT OF
SURGERY



CHAIR'S MESSAGE

It has been a great honor to serve as chair of surgery for the Michael E. DeBakey Department of Surgery since November 2012, having been afforded the unique opportunity to continue the storied legacy that began with Dr. DeBakey assuming this role almost 80 years ago. These accomplishments today include a top 20 ranking by *U.S. News & World Report* for the past six years and most recently achieving a top 20 rank for departments of surgery in NIH grants support, reflecting a 40% growth and a rise of ten spots in our Blue Ridge Ranking.

This past year featured multiple major clinical advances, including the performance of the world's first robotic heart transplantation, performed by Dr. Ken Liao, and our achieving top tier status in the American College of Surgeons Trauma Quality Database for Ben Taub Hospital's trauma program. This past year we also added several premier surgeons to our world class team, including Dr. Gustavo Oderich as our new chief of the Division of Vascular Surgery and Endovascular Therapy, Dr. Alex Perez as our inaugural vice chair for surgical simulation, and Dr. Eddie Suarez as the director for cardiothoracic transplantation at Baylor St. Luke's Medical Center Transplant Institute.

Innovation in the department, led by Dr. Livia S. Eberlin and our research team of more than 50 research coordinators, grants managers and statisticians, includes inventions ranging from intra-operative mass spectrometry that instantaneously detects cancerous tissues to



Lillie and Roy Cullen Tower

pioneering research in myocardial regeneration to treat myocardial infarction led by Dr. Tamer Mohammed. Overseeing more than 300 active grants and clinical trials, our Office of Surgical Research manages a dynamic portfolio that includes the ATLAS data science initiative, the INSTINCT Innovation Incubator, and a biorepository containing more than 100,000 samples and the world's largest aortic tissue bank.

Our undergraduate and graduate medical education programs have likewise flourished over the past decade. The appeal of our graduate and undergraduate programs has led more Baylor medical students to seek residencies in surgery than ever in recent memory and attracts over 200 applicants to 15 spots annually in our storied DeBakey Summer Surgery Program for pre-med students. Our general surgery residency program is growing to eleven categorical positions featuring four distinct tracks, making it one of the largest in the United States. Our unique global surgery track led by Dr. Rachel W. Davis and our Innovation track led by Dr. Feibi Zheng remain the only such NRMP-listed programs in the nation.

A handwritten signature in black ink, reading "Todd K. Rosengart".

Todd K. Rosengart, M.D., M.B.A.
Professor and Chair, Department of Surgery
DeBakey-Bard Chair of Surgery
Vice President, Hospital Operations
and Quality Improvement
Professor of Molecular & Cellular Biology
Baylor College of Medicine



10

Divisions



300

Full-time Faculty



127

Residents and
Fellows



10

ACGME
Residencies
and
Fellowships



6

Texas Medical
Board
(non-ACGME)
Fellowships



TOP 20

Best Graduate
Programs
(Surgery)
*U.S. News &
World Report*



\$22M

Extramural
Funding



\$10M

NIH Funding

#

#DeBakeySurgeon

1,700

Alumni



Top
20

Blue Ridge Ranking



19

Patent and
Disclosures Filed
(Top Innovation
Generator at Baylor)



>300

Clinical Studies
and Grants



98%

Approval Rating
ACGME General Surgery
Resident Survey

EDUCATION

16

Residency and fellowship programs

Our education program reached new milestones in several areas this past year. Our general surgery residency program was approved to expand to 11 categorical spots, making it one of the largest programs in the United States. Our Innovation Track, the first of its kind in the nation, is in its third year of trainees working with surgeons, bioengineers and industry experts designing medical devices and developing other intellectual properties. Our new Education Track now in its second year is likewise off to a great start, featuring an in-house collaboration of our

first trainee Dr. Emma Burke embedded with Baylor's Department of Education, Innovation and Technology.

The addition of Dr. Alex Perez as our inaugural vice chair for surgical simulation portends a great new horizon for our surgical simulation program as we prepare to enter beautiful new facilities in the soon-to-be-opened Lillie and Roy Cullen Tower. Alex brings extensive expertise and passion for advancing clinical excellence through surgical simulation, seeking to advance our skills from competency to mastery via simulation and other supplementary activities.

127

Residents and fellows

98%

Resident approval (ACGME survey)

We have also recently added a new robotics training program led by Dr. Derek Erstad. This exciting new program includes multidimensional learning through virtual simulation, wet lab training and proctored teaching, with progressive complexity spanning all five residency years. This program provides robotic training enabling residents to apply for privileges in robotic surgery at their ultimate practice locations anywhere in the country.

Finally, we welcome a new Endocrine Surgery Fellowship, led by Dr. Raymon Grogan, to our portfolio of 16 training programs. The endocrine fellowship will feature unique training in trans-oral endocrine surgery, for which Dr. Grogan is recognized as a worldwide leader.

#DeBakeySurgeon

1,700
Alumni

RESEARCH and INNOVATION



\$22M Extramural Funding

Research in the department led by Vice Chair for Research Dr. Livia S. Eberlin reached new heights in the last year with a record \$22 million in total grants, more than 300 current trials and grants and 40% growth in the Blue Ridge Institute for Medical Research listing of grant funding from the National Institutes of Health, projected to land us amongst the top 20 in NIH funding for departments of surgery. Our recent NIH awards highlight significant advancements across multiple fields of medical research, aimed at tackling critical health issues through innovative technologies and strategies.

Other prestigious awards were secured by our faculty this past year, including a \$3 million grant from The Marcus Foundation to further develop and validate the MasSpec Pen, a breakthrough device that was developed by Dr. Eberlin and colleagues for intraoperative use and surgical guidance technology.

19 Patent and Disclosures Filed (Top Innovation Generator at Baylor)

\$10M NIH Funding

A Cancer Prevention and Research Institute of Texas (CPRIT) award of \$6 million—the first such award for the Department—facilitated the recruitment of Dr. Thomas Milner and launch of a new Center for Biomedical Engineering and Nano-Biophotonics. This unique resource at the College will leverage Dr. Milner's expertise in biophotonics and optical imaging to forge collaborations to treat disease states ranging from skin cancer to the imaging of intravascular pathology.

An additional department research resource, our Applied Statistics and Machine Learning for the Advancement of Surgery (ATLAS) program, also expanded this year with the recruitment of a new data scientist, advanced biostatistician and new access to institutional and national databases fueled by several grants to ATLAS co-directors Drs. Ravi Ghanta and Abbas Rana.

>300 Clinical Studies and Grants

HEALTHCARE

Our clinical team achieved remarkable milestones this year across a spectrum of surgical diseases. This past Spring, Dr. Kenneth Liao performed the world's first adult fully-robotic heart transplantation in a middle-aged gentleman with severe end-stage heart failure. Dr. Liao is now also closing in on performing nearly one thousand robotic heart surgery procedures—one of the highest volume programs in the nation. Dr. Vivek Patel, a recent graduate of our training programs, likewise performed the first robotic heart surgery ever at Baylor St. Luke's-The Woodlands and is approaching a dozen such procedures (the only robotic heart experience in Southeast Texas outside of the Texas Medical Center).

We also received top honors from *U.S. News & World Report* in 19 of 23 recognized procedures and were also recognized as a “Best Hospital” for both our cardiac surgery and GI surgery programs at our primary teaching hospital, Baylor St. Luke's Medical Center. This places us in the top 2% of hospitals nationally.

300
Full-time faculty

30K
Surgical cases

The Department of Surgery continues to lead our march to excellence at Baylor St. Luke's Medical Center, this year spearheading the opening of beautiful new inpatient and outpatient surgical facilities on our McNair Campus and at our O'Quinn Tower of Medicine adjacent to the new Texas Medical Center Helix Park for Medical Science Translation.

Our trauma program at Ben Taub Hospital also received top ranking in the American College of Surgeons Trauma Quality Improvement Program (TQIP) and our ongoing successes at the Michael E. DeBakey VA Medical Center was highlighted this year by the launch of a new bariatric surgery program by Dr. Amelia Lucisano.

100K
Patient visits



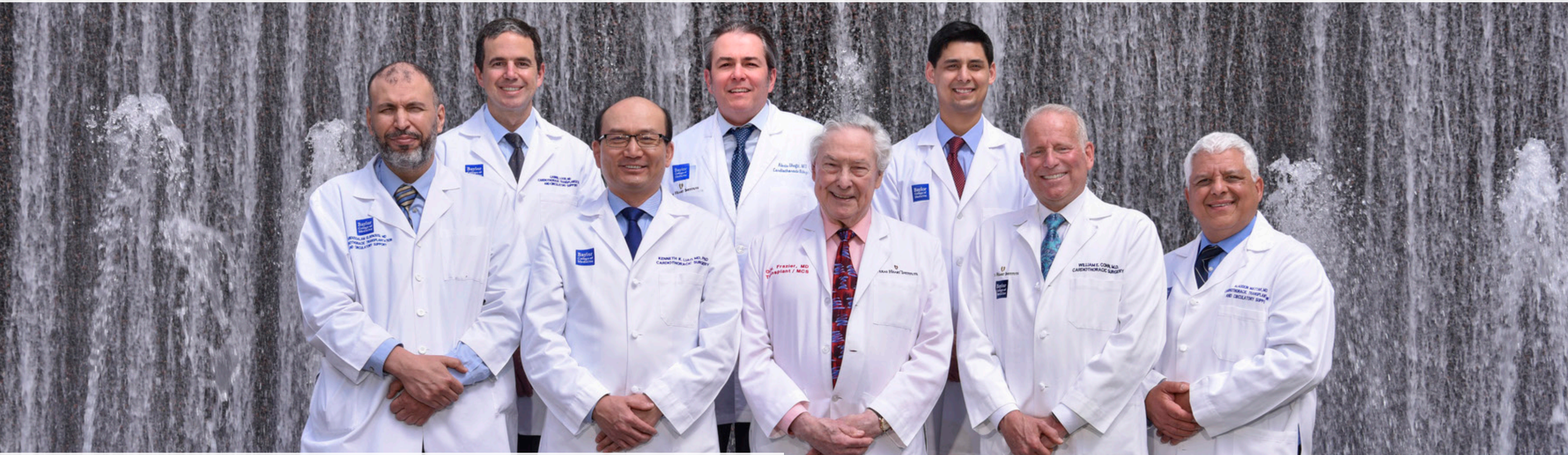
Division of Abdominal Transplantation

The Division of Abdominal Transplantation offers comprehensive care for our patients with end-stage organ failure, including adult and pediatric kidney and liver transplantation. Case volumes for each of these specialty areas continue to rise, with a record volume of nearly 400 cases in total, including 175 liver transplants and over 200 kidney transplants. Case volume at our Texas Children's Hospital affiliate also leads the nation across all transplant programs. With the arrival of Dr. Vidya Fleetwood this year to lead the Baylor St. Luke's kidney transplantation program, we expect further expansions in our kidney transplant program to continue, including in robotic kidney and liver procedures.

Recognizing that research and innovation is an integral component of state-of-the-art care, our faculty are committed to exploring new and innovative research opportunities, including efforts that are anticipated to culminate this year in our performing our first uterine transplant—one of the few such programs in the United States. Our team is also working on improved scoring algorithms to more accurately diagnose disease severity, as well as advancing AI technologies to optimize organ-to-recipient matching and foster successful outcomes.

- Our surgeons have performed nearly 3,000 liver transplants and 4,300 kidney transplants with outcomes that significantly exceed expectations
- Nearly 400 liver and kidney transplants performed across all of our affiliates in 2025
- The pediatric abdominal transplant program is the largest in the United States, performing nearly one hundred liver and kidney transplants in the last year alone
- A new center of excellence was launched at Texas Children's Hospital to address portal vein thrombosis and hypertension
- 67 publications with 18 in high-impact journals in 2025

Division of Cardiothoracic Transplantation and Circulatory Support



- First fully robotic adult heart transplant surgery in the world
- More than 1,700 total hearts and 1,700 LVADs implanted
- More than 100 lung transplantation procedures annually, one of the highest volumes in the United States
- Pioneers of the modern generation of mechanical support devices, including the first-in-world implantation of the BiVACOR total artificial heart
- Almost 1,000 robotic cardiac surgery cases performed—the fastest growing robotic heart program in the country
- Record 21 research presentations at the 2025 ISHLT meeting
- New ex vivo lung perfusion technology being developed by Dr. Gabriel Loor

The Division of Cardiothoracic Transplantation and Circulatory Support is a world leader in heart and lung transplant and circulatory support surgery. Under the leadership of its former chief, legendary transplant pioneer Dr. O. Howard Frazier and current chief Dr. Kenneth Liao, more than 1,500 heart transplants and 1,500 ventricular assist device (VAD) implants have been performed at the Texas Heart Institute at Baylor College of Medicine over the past 35 years, making it one of the world's all-time highest volume programs.

Division faculty members foster a comprehensive and multidisciplinary approach to treat the most complex and challenging cases of end-stage heart and lung failure patients often turned down by other centers. The division also maintains an active NIH and industry-funded research program, ranging from the molecular biology of transplant preservation to the development of new organ perfusion and preservation devices.



First fully robotic heart transplant surgery in the United States performed at Baylor St. Luke's

The nation's first fully robotic heart transplant

In a milestone for American medicine, Dr. Kenneth Liao and his team at Baylor St. Luke's Medical Center this past April performed the world's first fully robotic adult heart transplant. The only other such procedure reported to have been performed to date was performed in 2024 in Saudi Arabia in a 16-year-old patient.

Using the Da Vinci surgical robot, Dr. Liao, chief of the Division of Cardiothoracic Transplantation and Circulatory Support, and his team performed the transplant through small incisions, avoiding the need to open the patient's chest using the traditional sternotomy method.

The recipient, a 45-year-old Texas resident, had been hospitalized since November 2024 with advanced heart failure and was confined to a hospital bed for nearly four months. Within days of surgery, he was walking again. "They didn't have to open my chest," he said. "I feel stronger every day, and I'm really thankful."

"With the robotic approach, we preserve chest wall integrity, reduce blood loss and support earlier mobility," said Dr. Liao. "It's a major step forward in reducing trauma and improving recovery."

Dr. Liao is one of the most prolific robotic heart surgeons in the world, having completed more than 800 robotic heart surgeries since joining Baylor College of Medicine in 2019.



BiVACOR recipient Tony Ibarra before and after implantation

Looking Back One Year: Launch of the BiVACOR Total Artificial Heart

Just over one year ago, the world's first of a new generation of total artificial heart, the BiVACOR Heart, was implanted at Baylor St. Luke's Medical Center in a collaboration between Baylor St. Luke's and the Texas Heart Institute at Baylor College of Medicine. This was performed as part of the U.S. Food and Drug Administration Early Feasibility Study testing this new device, which has now been implanted in nearly a dozen patients worldwide. BiVACOR's total artificial heart is a titanium-constructed biventricular rotary blood pump with a single moving part that utilizes a magnetically levitated rotor that pumps the blood and replaces both ventricles of a failing heart.

The first-in-human clinical study aimed to evaluate the safety and performance of the BiVACOR total artificial heart as a bridge-to-transplant solution for patients with severe biventricular heart failure or univentricular heart failure in which left ventricular assist device support is not recommended. The first patient implanted at our institution continues to do well, as does a second patient implanted here and other patients in the cohort, who have gone on to heart transplantation as part of the study protocol.

Division of Cardiothoracic Surgery

- The Cardiothoracic Surgery team has performed more than 7,500 repairs of the aorta and over 3,800 repairs of thoracoabdominal aortic aneurysms, representing one of the largest experiences in aortic surgery the world
- Our surgeons at Baylor St. Luke's have performed more than 1,000 transcatheter aortic valve replacement procedures and participate in multiple mitral and tricuspid valve clinical trials
- Consistently ranked in the Top 20 for heart surgery by *U.S. News & World Report*, with special distinction in heart bypass surgery, aortic valve surgery and abdominal aortic aneurysm repair at Baylor St. Luke's
- Our heart surgery program at the Michael E. DeBakey VA Medical Center is one of the busiest VA cardiac centers in the United States, and is one of only three VA centers in the United States performing on-site heart transplantation

The Division of Cardiothoracic Surgery is world renowned for the evaluation and surgical treatment of cardiovascular and aortic disease. The surgical team at Baylor College of Medicine, today joined by new faculty coming from the Texas Heart Institute at Baylor College of Medicine, have pioneered new approaches to treat aortic aneurysms and dissections, including novel hybrid endovascular repair procedures to treat complex cases, ensuring that even the most critically ill patients have options for care.

Former division chief Dr. Joseph Coselli may forever hold the world record for the performance of thoracoabdominal aneurysm repairs, now approaching 4,000 such procedures. Four years ago, he welcomed Dr. Marc Moon, himself an expert in complex aortic valve repair, as our new division chief, and this past year also welcomed Dr. Gustavo Oderich, our new chief of the Division of Vascular Surgery and Endovascular Therapy, as a new partner. Together, Coselli, Moon and Oderich lead a new Center for Aortic Surgery that seeks to lead advances in this discipline.

The division supports one of the largest independent Thoracic Surgery Residency Programs in the nation, including an "I-6", a dedicated thoracic surgery track, and extensive experience at Texas Children's Hospital and The University of Texas MD Anderson Cancer Center. Research in the division ranges from myocardial regeneration studies to sophisticated national database investigations.



New Center for Aortic Surgery led by global experts in complex aortic care

Baylor Medicine has launched the new Center for Aortic Surgery at Baylor St. Luke's Medical Center, marking a major advancement in the treatment of aortic disease. The center was formed with the recruitment of Dr. Gustavo Oderich, professor and chief of the Division of Vascular Surgery and Endovascular Therapy, a world leader in complex endovascular aortic surgery. The center unites Oderich's expertise with that of Dr. Marc Moon, professor and chief of the Division of Cardiothoracic Surgery and Dr. Joseph S. Coselli, professor and executive vice chair of the Department of Surgery, two of the most respected names in cardiothoracic and aortic surgery.

"Together, this team brings unparalleled experience in the treatment of aortic aneurysms, dissections and valve disease, offering both open and minimally invasive solutions for even the most complex cases." "I am truly excited about the launch of this center," Dr. Oderich said. "It brings together extraordinary talent and resources to deliver the best possible outcomes for patients facing some of the most challenging cardiovascular conditions."

For patients ineligible for standard or custom devices, Baylor offers a variety of industry and investigator-initiated clinical trials using physician-modified and specially designed endovascular grafts. This minimally invasive approach provides a timely, lifesaving option for urgent or anatomically complex aneurysms. The center also serves as a hub for athletic cardiovascular care, working with elite athletes who present with unique vascular conditions such as iliac artery endofibrosis and exercise-induced syndromes.

In addition to offering advanced care, the center is deeply engaged in translational and molecular biology research aimed at understanding and improving outcomes for patients with complex aortic aneurysms. This research is integrated with clinical data from patients enrolled in FDA-approved trials creating a robust platform for discovery and innovation.



Drs. Joseph S. Coselli, Gustavo Oderich and Marc Moon

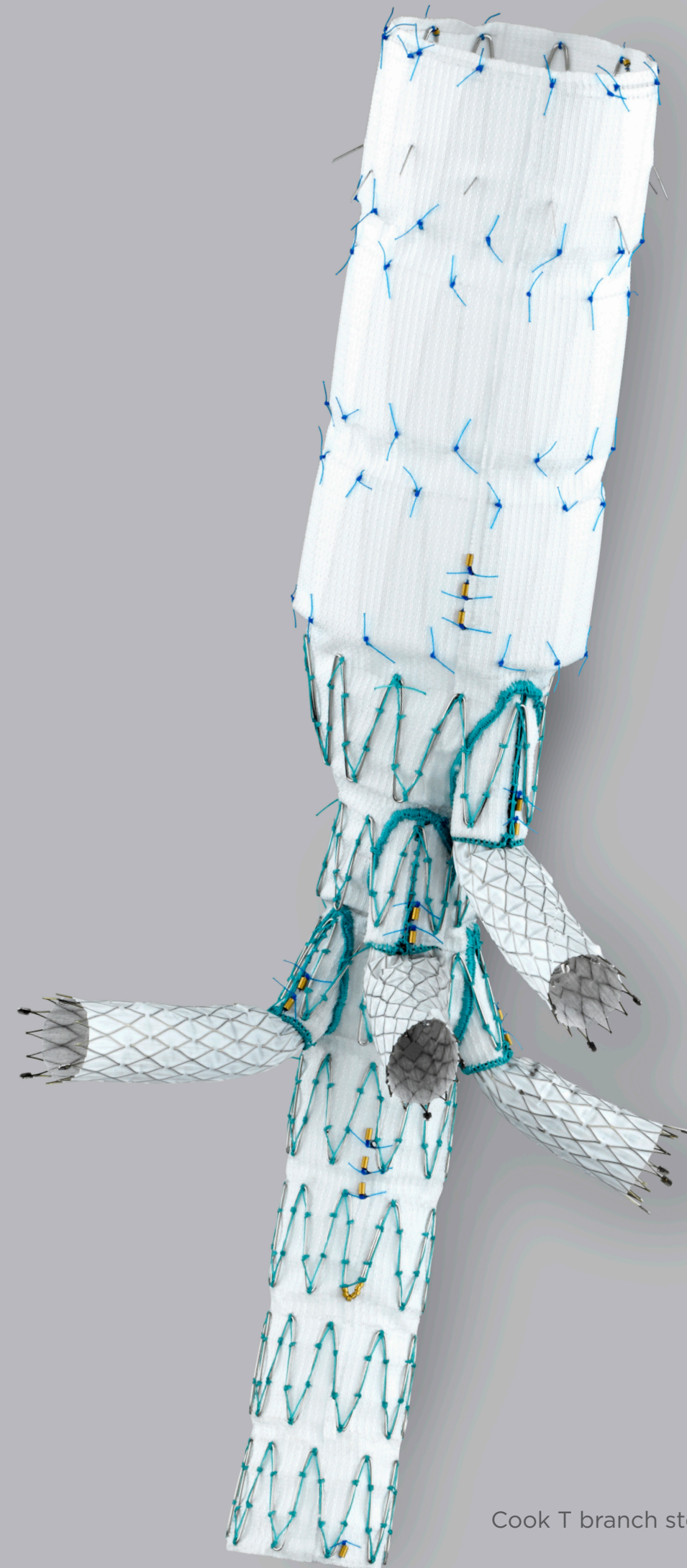
Division of Vascular Surgery and Endovascular Therapy

- One of only ten centers in the United States with expanded access to arch and thoracoabdominal branched endografts via a physician-sponsored IDE study
- First in-human custom WL Gore 3-vessel arch branch stent graft
- First multi-branch TAAA using T-Branch and patient-specific stent grafts and first 3-vessel A-Branch stent-graft
- New international aortic surgery conference, held bi-monthly, enabling real-time, cross-specialty case analysis
- Published over 90 peer-reviewed papers year to date in 2025
- ACGME-accredited vascular surgery independent and integrated residency programs offer comprehensive, hands-on training in the full spectrum of vascular care

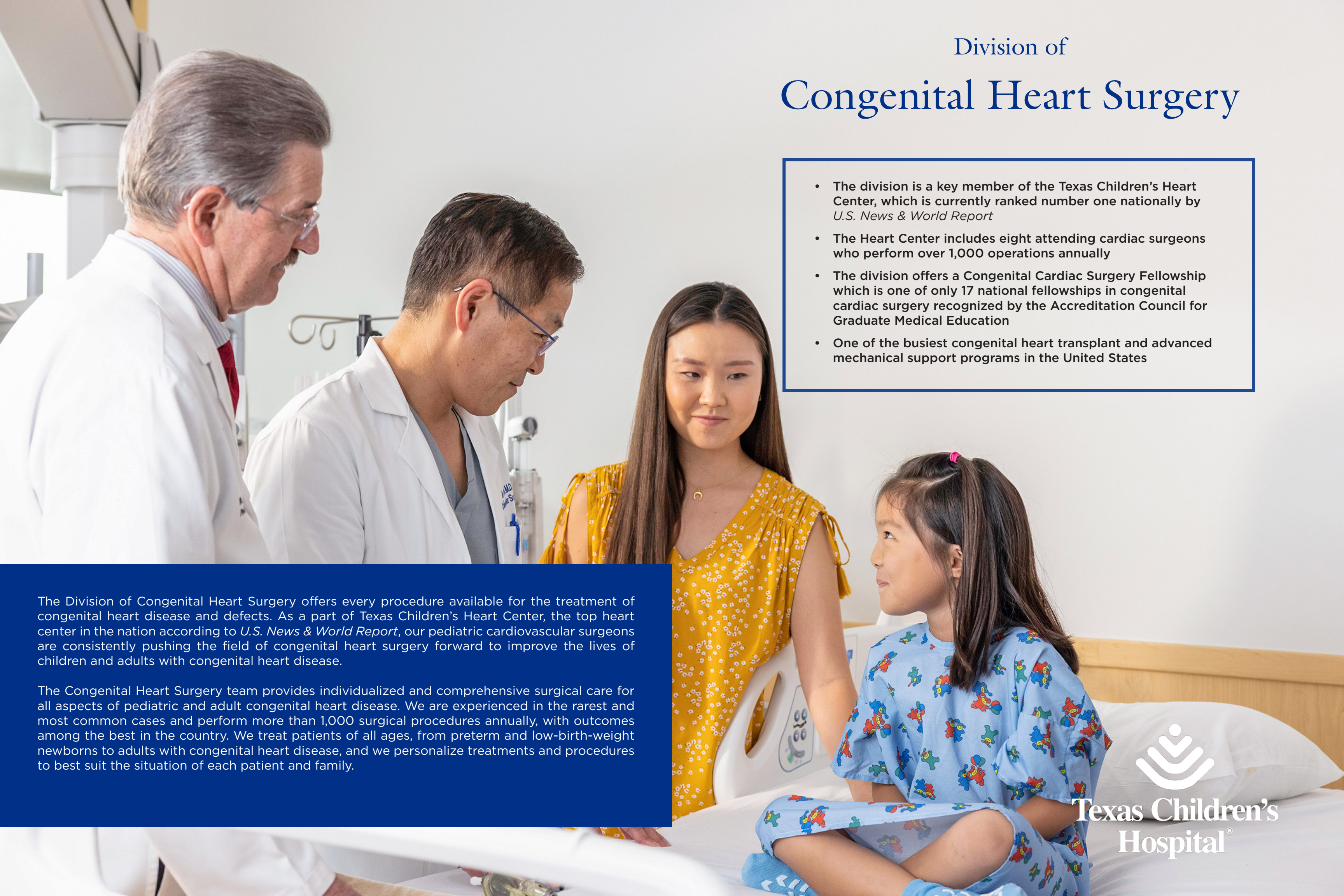
With the arrival of Dr. Gustavo Oderich as its new division chief, the division is entering a transformative chapter in its storied history, marked by bold advancements in clinical care, research, and education and in state-of-the-art applications of minimal invasive stent technology to facilitate treatment of advanced vascular disease. Dr. Oderich succeeds Dr. Joseph L. Mills, immediate past president of the Society for Vascular Surgery, under whose leadership Baylor College of Medicine became a worldwide pioneer in advancing Dr. Mills' "WIFI" scoring system for grading peripheral vascular disease.

The newly established Baylor Medicine Center for Aortic Surgery stands as a national leader and the only such center in Texas, offering access to an unparalleled range of endovascular solutions, including off-the-shelf and custom-designed fenestrated and branched stent grafts. These technologies enable both now routine but often pioneering repair of the aortic arch, thoracoabdominal, and aortoiliac aneurysms with precision and innovation. Many of these cutting-edge therapies are available exclusively through active FDA clinical trials, positioning the center at the forefront of aortic surgery in the United States.

Ongoing clinical research activities focus on chronic limb threatening ischemia (CLTI), diabetic foot ulcer and amputation prevention, peripheral arterial disease, endovascular aneurysm repair (EVAR) and fenestrated EVAR (FEVAR) trials.



Cook T branch stent graft used under IDE



Division of Congenital Heart Surgery

- The division is a key member of the Texas Children's Heart Center, which is currently ranked number one nationally by *U.S. News & World Report*
- The Heart Center includes eight attending cardiac surgeons who perform over 1,000 operations annually
- The division offers a Congenital Cardiac Surgery Fellowship which is one of only 17 national fellowships in congenital cardiac surgery recognized by the Accreditation Council for Graduate Medical Education
- One of the busiest congenital heart transplant and advanced mechanical support programs in the United States

The Division of Congenital Heart Surgery offers every procedure available for the treatment of congenital heart disease and defects. As a part of Texas Children's Heart Center, the top heart center in the nation according to *U.S. News & World Report*, our pediatric cardiovascular surgeons are consistently pushing the field of congenital heart surgery forward to improve the lives of children and adults with congenital heart disease.

The Congenital Heart Surgery team provides individualized and comprehensive surgical care for all aspects of pediatric and adult congenital heart disease. We are experienced in the rarest and most common cases and perform more than 1,000 surgical procedures annually, with outcomes among the best in the country. We treat patients of all ages, from preterm and low-birth-weight newborns to adults with congenital heart disease, and we personalize treatments and procedures to best suit the situation of each patient and family.



Texas Children's
Hospital®

Division of Surgical Oncology

Multiplexed imaging mass cytometry of pancreatic ductal adenocarcinoma tissue showing epithelial, immune, and structural organization.

- **The GI Surgery program achieved a “Best Performing” rank in *U.S. News & World Report*, and all our eligible procedure and diagnosis areas received the highest applicable rating of “High Performing”**
- **Surpassed 400 trans-oral thyroid procedures and 100 thyroid ablation procedures, one of the largest such programs in the United States**
- **First program in Texas to offer thyroid artery embolization for treatment of thyroid tumors**
- **VA program is first in the country to be recognized as National Pancreas Foundation Centers of Excellence**
- **Dr. Atif Iqbal launched a first-of-its-kind “IIT” chemoimmunotherapy trial (NICER trial) for primary colon cancer**
- **Launched new endocrine fellowship, offering training in advanced trans-oral thyroid surgery**

The mission of the Division of Surgical Oncology is to blend innovative strategies with patient-centered care to elevate cancer treatment. Our expert faculty members are dedicated to treating a wide range of cancers, including breast, endocrine, gastrointestinal, melanoma and sarcoma. We are proud to offer a team of more than 20 faculty surgeons working at Baylor St. Luke's Medical Center and two public hospitals—Ben Taub Hospital and the Michael E. DeBakey VA Medical Center treating highly complex oncologic disease. These are complemented by over a dozen research PhDs and staff who work at the Margaret Alkek Biomedical Research Building Laboratories seeking new diagnostics and therapies for treating and curing cancer.

Division faculty place a high value on collaboration, working closely with colleagues in radiation oncology, medical oncology, pathology, radiology, nursing and other cancer services. Together, we provide a multidisciplinary approach at the Duncan L Duncan Comprehensive Cancer Center, one of only 48 NCI-designated comprehensive cancer centers in the country. Our patients benefit from widespread application of robotic surgery, and access to cutting-edge clinical trials, including precision medicine and immunotherapies.

Current research efforts in the division include tissue and biomarker studies, development of new diagnostic devices and surgical techniques and clinical trials for pharmaceuticals and cancer immunotherapies.

Division of Pediatric Surgery

World's first fetoscopic in-utero repair for gastroschisis

A multidisciplinary team at Texas Children's Fetal Center lead by Pediatric Surgery and Maternal-Fetal Medicine faculty, performed the world's first fetoscopic in-utero repair for gastroschisis—a minimally invasive closure of this congenital abdominal wall defect prior to birth. The procedure was performed under the FDA-approved Investigational Device Exemption and represents a step toward redefining standards of care for the most commonly occurring congenital abdominal wall defect.

- The Division of Pediatric Surgery is one of the largest and most experienced pediatric surgical programs in the world
- The Surgical Oncology Program is proud to be part of Texas Children's Cancer program which is ranked #9 in the nation by *U.S. News & World Report*
- The Pediatric Surgery Residency Program is one of the top in the nation
- ACGME fellowships are available in Pediatric Surgery and Surgical Critical Care
- Ground breaking and life-saving research initiatives are supported by the NIH, private foundations, Texas Children's and Baylor College of Medicine
- Faculty practice at Texas Children's Hospital—Ranked #1 in Texas and among the best children's hospitals in the nation by *U.S. News & World Report*
- All ten pediatric specialties are ranked in the top ten for 2025-2026

Our practice encompasses the entire spectrum of pediatric surgery. We routinely provide consultation and treatment for surgical problems including hernias/hydroceles, undescended testicles, lumps and bumps, acute gastrointestinal illnesses, circumcisions, breast masses, appendicitis, pyloric stenosis, intussusception and other routine problems. We have also developed a particular expertise in minimally invasive surgery.

The division offers a number of innovative pediatric surgery services. Our group is subdivided in specialty teams, so that we are able to offer concentrated expertise and experience in even rare pediatric surgical problems. For example, our adolescent bariatric surgery program is the only adolescent facility in Texas and one of only 8 in the nation accredited by the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP). In 2025, the team performed over 65 bariatric surgeries. This program participates in NIH-funded studies on long-term outcomes.



**Texas Children's
Hospital®**

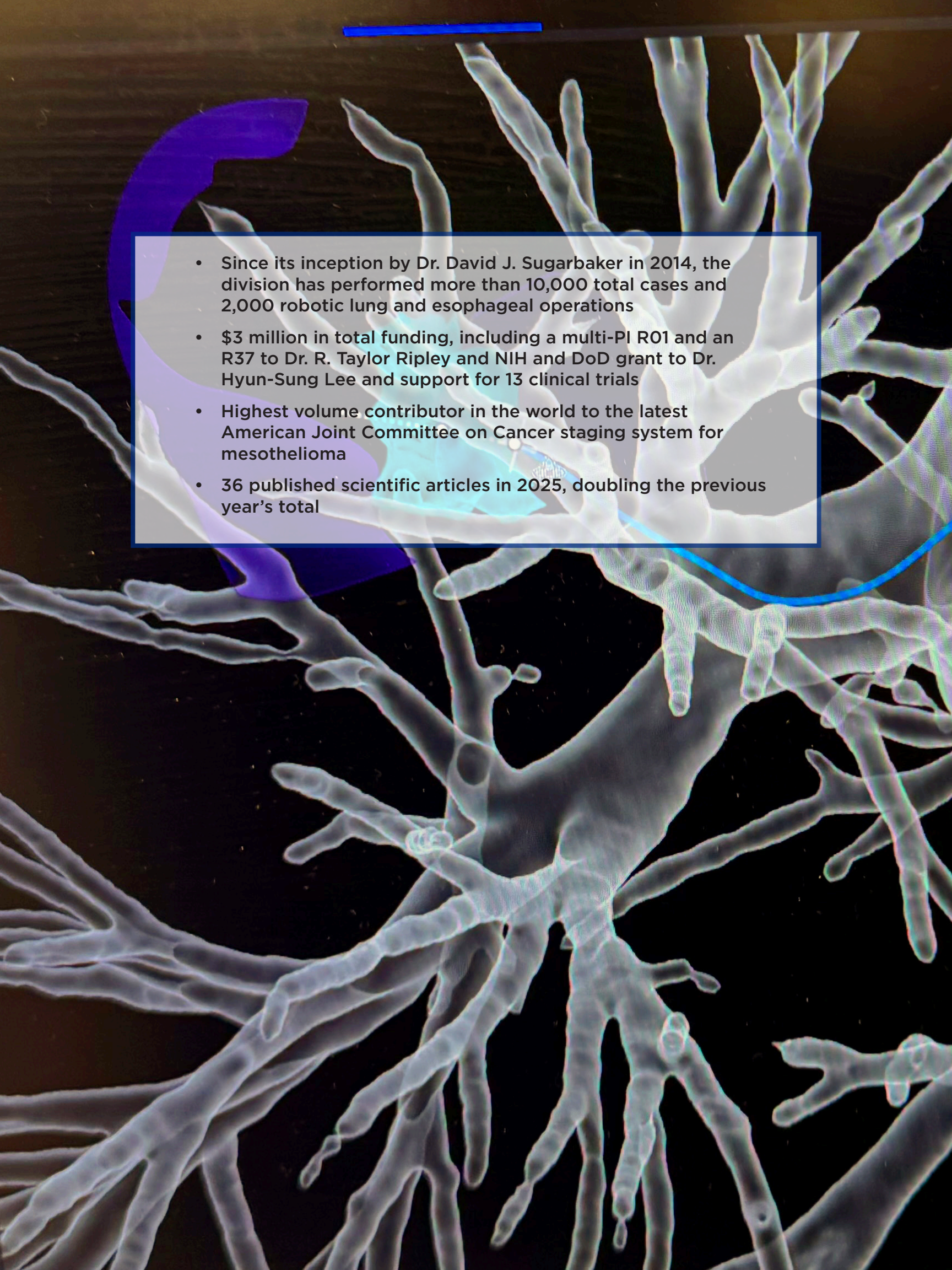


Division of Plastic Surgery

The Division of Plastic Surgery, one of the nation's oldest, is at the forefront of innovation in aesthetic and reconstructive procedures, offering advanced expertise in facial plastic surgery, cosmetic breast surgery, body contouring, breast reconstruction, spino-plastic techniques, general reconstruction, and hand surgery. Faculty members blend the precision of medical science with the artistry of patient-centered care across a diverse range of clinical settings, including Baylor St. Luke's Medical Center, the Lee and Joe Jamail Specialty Care Center, Ben Taub Hospital, the Michael E. DeBakey VA Medical Center, and pediatric services at Texas Children's Hospital.

In collaboration with the Department of Orthopedic Surgery, the Division of Plastic Surgery has partnered with orthopedic hand specialists to establish a unified Hand Surgery Center and integrated fellowship programs. This initiative delivers leading care for degenerative hand disease, peripheral neuropathy, and traumatic injuries of the hand.

- As part of our comprehensive program, we host the largest pediatric plastic surgery practice in the United States, based at the nation's largest children's hospital. This pediatric multidisciplinary team includes a group of nearly a dozen plastic surgeons, craniofacial orthodontists, and oral surgeons
- The plastic surgery integrated residency program is recognized as one of the nation's premier training programs and stands among the oldest plastic surgery residencies in the United States

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- Since its inception by Dr. David J. Sugarbaker in 2014, the division has performed more than 10,000 total cases and 2,000 robotic lung and esophageal operations
 - \$3 million in total funding, including a multi-PI R01 and an R37 to Dr. R. Taylor Ripley and NIH and DoD grant to Dr. Hyun-Sung Lee and support for 13 clinical trials
 - Highest volume contributor in the world to the latest American Joint Committee on Cancer staging system for mesothelioma
 - 36 published scientific articles in 2025, doubling the previous year's total

David J. Sugarbaker, MD
Division of
Thoracic Surgery

As part of the Dan L Duncan Comprehensive Cancer Center, division faculty are exceptionally well trained, internationally recognized experts in thoracic surgical oncology offering both complex, multispecialty open resections as well as cutting edge robotic and minimally invasive surgery. Led by Dr. Shawn Groth, the Division has grown over the last decade to be one of the highest volume thoracic and esophageal robotics programs in the nation, allowing patients to undergo cancer operations with lower complication rates, less pain, and faster recover.

The division hosts and is partnered with the Baylor Medicine Lung Institute, directed by Dr. Shanda Blackmon, and other specialized centers including the Center for Dysphagia and Swallowing Disorders, the Mesothelioma Treatment Center, and is a national-leader for the treatment of slipping rib syndrome.

Funded research in the division includes multiple NIH grants, an AATS Surgical Investigator Award, two Cancer Prevention and Research Institute of Texas (CPRIT) awards, and multiple externally sponsored investigator-initiated and industry-sponsored trials.

Robotic navigational bronchoscopy, now routinely deployed by division surgeons

Division of Trauma, Bariatric and Acute Care Surgery



With 30 surgical faculty and 25 advanced practice providers, the largest division in our department staffs the Baylor Medicine Hernia Center, general surgery and bariatric surgery clinics and six intensive care units at our affiliate hospitals. Surgeons within the division, led by Dr. Martin Zielinski, care for complex trauma patients at Ben Taub Hospital, one of two American College of Surgeons verified Level I Trauma Centers within Houston. The Ginni and Richard Mithoff Trauma Center holds top tier American College of Surgeons Trauma Quality Improvement Program (TQIP) quality rankings reflecting this excellence.

This past year, Dr. Alexander Perez joined the division as department vice chair for surgical and clinical safety simulation, and director of surgical simulation at Baylor. In these roles, and as associate director and council chair for Baylor's surgical simulation core, and as assistant dean for patient safety simulation and process improvement, Dr. Perez pioneers honing of surgical skills and improvement of clinical safety for all our faculty and residents.

Other exciting new leadership additions in the division include the recruitment of Dr. Ryan Dumas, who joined the division as section chief of acute care surgery at Baylor St. Luke's Medical Center, the appointment of Dr. Catherine Seger as director of surgery at Ben Taub, and the arrival of Dr. Caitlin Fitzgerald as associate trauma director at Ben Taub.

- With 30 surgical faculty and 25 advanced practice providers, it is the largest division in our department
- The acute care surgery service at Baylor St. Luke's Medical Center increased support to 24/7 in-house attending and APP coverage for emergency general surgery and surgical critical care
- A new Baylor St. Luke's at McNair ICU opened this year with daily coverage by division surgeons and APPs
- A transformative bariatric surgery program launched at MEDVAMC under the direction of Dr. Amelia Lucisano, using minimally invasive techniques to improve health outcomes for veterans
- Faculty hired for Level III trauma program anticipated to open at Baylor St. Luke's Medical Center in 2026
- The division supports three fellowship level training tracks—adult and pediatric surgical critical care, and a two-year American Association for the Surgery of Trauma-accredited acute care surgery fellowship

Top Grants

Dr. Tamer Mohamed: \$4,099,785

ARPA-H CATALYST Award

“Digital Acceleration of Toxicity Assessment with Mechanistic and AI-Driven Predictions (DATAMAP)”

This project aims to revolutionize preclinical drug safety testing by developing validated, FDA-qualified in silico organ toxicity models that integrate artificial intelligence with physiology-based mathematical modeling. The focus is on predicting human drug toxicity for small molecules, particularly in the liver and heart.

Dr. Tamer Mohamed: \$3,734,000

NIH R01 Grant

“Defining the major signaling mechanism which controls spontaneous cardiomyocyte proliferation in the Neonatal Stage”

This study will investigate the hypothesis that CD36 internalizes RA to bind to FABP5 to initiate the signaling mechanism, test if RA/FABP5 is the rate-limiting step in the proposed pathway to activate the PPAR δ /RXR transcriptional activity, and test if FABP5/PPAR δ overexpression is a therapeutic target for ischemic heart failure.

Dr. Ravi Ghanta: \$3,404,297

NIH R01 Grant

“Leveraging Machine Learning for Dynamic Prediction and Mitigation of Acute Kidney Injury after Cardiac Surgery”

Our objective is to leverage ML based analysis of EMR data to develop new clinical decision support (CDS) tools to monitor acute kidney injury (AKI) risk and suggest personalized, timely, data-driven interventions that prevent or mitigate morbidity.

Dr. Livia S. Eberlin: \$3,366,577

NIH R01 Grant

“Development of the MasSpec Pen Technology to Guide Surgical Decisions in the Care for Patients with Ovarian Cancer”

This project will use the MSPen to identify pre- and post-treatment tumor tissue in vivo to guide surgical treatment and determine novel metabolic patterns of cancer persistence and response to Neoadjuvant chemotherapy (NACT).

Dr. Tamer Mohamed: \$2,362,544

NIH R01 Renewal

“Induction of Cardiomyocyte Proliferation via Transient Expression of Cell Cycle Factors as a Promising Therapy for Heart Failure”

This project develops a gene therapy strategy to stimulate heart muscle cell regeneration by inducing cardiomyocytes to re-enter the cell cycle. The goal is to repair damaged myocardium and improve cardiac function in patients with heart failure.

Dr. Thomas Milner: \$1,557,344

NIH R01 Grant Transfer

“Transvenous Optoacoustic-Ultrasound Guided Cold Laser Wire for Crossing Coronary Chronic Total Occlusion”

The objective of this project is to develop an image-guided Cold Laser Wire (CLW) capable of true lumen CTO crossing in coronary arteries, with a long-term goal of developing an entirely new class of PCI endovascular light-based therapeutic devices and procedures for use by interventional cardiologists.

Dr. Yanming Li: \$240,000

NIH R21 Grant

“Single-Cell Transcriptome Analysis of Vascular Smooth Muscle Cells in Aortic Disease”

This project investigates differential gene expression profiles of vascular smooth muscle cells in human acute ascending aortic dissection and ascending aortic aneurysm. The goal is to identify molecular mechanisms driving disease progression and uncover potential therapeutic targets.

Dr. Alastair Thompson: \$132,165

BCAL Grant

“Therapeutic Targeting of Nuclear Hormone Receptors in NF1-Deficient Breast Cancer”

This project investigates precision therapies for aggressive breast cancer subtypes, focusing on manipulating molecular pathways involving the NF1 gene and hormone receptors to prevent recurrence and metastasis.

Dr. Marc Moon: \$88,976

Medtronic Research Grant

“Innovations in Aortic Surgery”

This project evaluates new devices or techniques for aortic aneurysm repair, potentially involving next-generation endovascular stent grafts. The goal is to improve outcomes in complex aortic surgeries.

Dr. Jayer Chung: \$50,000

Roderick D. MacDonald Research Award

“Development of Machine Learning Models for Peripheral Arterial Disease and Chronic Limb-Threatening Ischemia”

This project aims to develop machine learning models that incorporate angiographic data to improve risk assessment for peripheral arterial disease (PAD) and chronic limb-threatening ischemia (CLTI).

Dr. Yuan Xu: \$50,000

Roderick D. MacDonald Research Award

“Targeting Mitochondrial Transfer in Mesothelioma”

This project investigates mitochondrial transfer via tunneling nanotubes (TNTs) in malignant pleural mesothelioma. The goal is to disrupt intercellular mitochondrial exchanges that contribute to chemotherapy and immunotherapy resistance, thereby improving treatment responses.

Dr. Gabriel Loor: \$50,000

Roderick D. MacDonald Research Award

“Enhanced Exosome Therapy in Extended Ex Vivo Lung Perfusion to Reduce Ischemia-Reperfusion Injury”

This project aims to improve donor lung preservation and transplant outcomes by using therapeutic exosomes during ex vivo lung perfusion (EVLP). The goal is to reduce ischemia-reperfusion injury and expand the pool of transplantable lungs.

Dr. Gabriel Loor: \$48,994

TransMedics, Inc. Industry-Sponsored Trial

“Organ Care System (OCS) Lung Perfusion Study”

This study evaluates portable ex vivo perfusion technology to maintain donor lungs outside the body during transport. The goal is to increase transplant success rates and improve logistics for lung transplantation.

Honors and Awards

- Dr. Gregory Boyajian:** Thoracic Surgery Residents' Association Global Outreach Fellowship
- Dr. Shanda Blackmon:** Society of Thoracic Surgeons Distinguished Service Award
- Dr. Christy Y. Chai:** Society of American Gastrointestinal and Endoscopic Surgeons Excellence in Medical Leadership Award
- Holly Clayton:** Chair, Baylor Medicine Advanced Practice Provider Advisory Board
- Dr. Joseph Coselli:** American Association for Thoracic Surgery Lifetime Achievement Award
- Dr. O. Howard Frazier:** Baylor College of Medicine Lifetime Achievement Award
- Dr. N. Thao N. Galvan:** American College of Surgeons Academy of Master Surgeon Educators
- Zachary Gray:** Baylor College of Medicine Carl Fasser Visionary Leadership Award
- Dr. Mary Elizabeth Guerra:** Society of University Surgeons Resident Research Scholar Award
- Brian Lassinger:** Baylor College of Medicine Michael Sheehan Award for Excellence in Patient Care and Interprofessional Collaboration
- Dr. Samer Mattar:** American Society for Metabolic and Bariatric Surgery Continuous Certification Assessment Committee in Metabolic and Bariatric Surgery
- Dr. Kenneth Mattox:** American Medical Association Distinguished Service Award
- Dr. Joseph L. Mills:** American Diabetes Association Roger Pecoraro Award
- Dr. Henry Olano Soler:** American College of Surgeons H.O.P.E. Resident Scholarship



American Society of Plastic Surgeons Resident Bowl

First Place
Drs. Samuel Cole, Anna Skochdopole, Amjed Abu-Ghname and Austin Jiang

Dr. Vicente Orozco: The Marfan Foundation Hero with Heart Award

Dr. Abbas Rana: Baylor College of Medicine George P. Noon, MD Professionalism Award
Dr. Jeffrey Ross: Texas Podiatric Medical Association Hall of Fame

Dr. Bradford Scott: Texas Surgical Society First Vice-President

Dr. Alastair Thompson: Michael E. DeBakey Excellence in Research Award

Dr. Sanjeev Vasudevan: Michael E. DeBakey Distinguished Service Award

Dr. Sophia Williams-Perez: Resident Chair, Association or Surgical Education Trainee Committee

Dr. Yuan Xu: Baylor College of Medicine SOAR Research Mentor Champions Award

Dr. Yao Yang: Texas Beta Chapter of Alpha Omega Alpha

Dr. Martin Zielinski: American Board of Surgery Continuous Certification Assessment Committee

Baylor College of Medicine Alumni Association Awards

Lifetime Achievement Award
Dr. Matthew J. Wall Jr.

Distinguished Faculty Award
Dr. William E. Fisher

Distinguished Alumnus Award
Jessica LaCross

Young Alumnus Award
Dr. Ronald Cotton
Dr. N. Thao N. Galván

Norton Rose Fulbright Faculty Excellence Award Selection Committee

Dr. Stacey Carter
Dr. Christy Y. Chai
Dr. Subhasis Chatterjee

Norton Rose Fulbright Faculty Excellence Awards

The Norton Rose Fulbright Faculty Excellence Award (formerly the Fulbright & Jaworski LLP Faculty Excellence Award) is a criterion-based program that recognizes faculty contributions in four categories: Teaching and Evaluation, Educational Materials, Educational Leadership and Educational Research.

Educational Leadership
Dr. Christy Y. Chai

Teaching and Evaluation
Dr. Vicente Orozco Sevilla
Dr. Nandan Mondal
Dr. Katy Deljouï
Dr. Zachary Pallister
Dr. Chad Wilson

Educational Materials
Dr. Erin Greenleaf
Dr. Rachel W. Davis



Michael E. DeBakey Department of Surgery American College of Surgeons Travel Scholarships

Arman Kavoussi
Michael Allison
Gwendolyn Henry
Christiana Peek
Isabella Turcinovic

Faculty Awards for Excellence in Patient Care

Baylor College of Medicine honors outstanding contributions to the College's clinical mission with Faculty Awards for Excellence in Patient Care.

Star Faculty Award
Dr. Michele Loor
Holly Clayton
Dr. Christy Y. Chai
Dr. Renata Maricevich

Early Career Faculty Award
Dr. Katy Deljouï
Dr. Brinkley Kwyn Moore
Heather West

New Endowed Chairs and Professors

Michael E. DeBakey Distinguished Endowed Chair in Surgery



Dr. Gustavo S. Oderich, professor and chief of the Division of Vascular Surgery and Endovascular Therapy, has been appointed as the inaugural Michael E. DeBakey Distinguished Endowed Chair in Surgery bestowed from a gift from the DeBakey Medical Foundation. A global leader in vascular surgery, Dr. Oderich is known for his pioneering work in minimally invasive techniques for treating complex aortic conditions. He recently joined our department after a long tenure at the Mayo Clinic as division chief and inaugural director of the Baylor Medicine Center for Aortic Surgery. His career has been dedicated to advancing the field of endovascular aortic repair and improving outcomes for patients with life-threatening vascular diseases.

Charles H. McCollum, MD Endowed Chair in Surgery



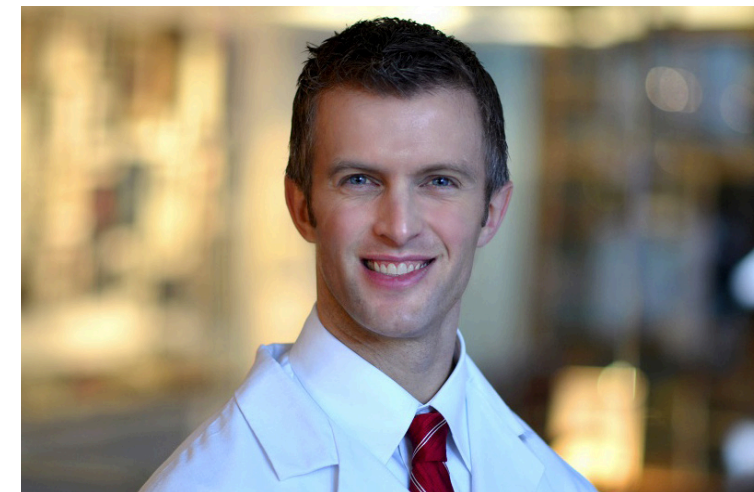
Dr. Ronald T. Cotton, associate professor in the Division of Abdominal Transplantation and vice chair for education, has been appointed as the inaugural holder of the Charles H. McCollum, MD Endowed Chair in Surgery, bestowed from the DeBakey Medical Foundation as well as gifts from alumni and friends. As a transplant surgeon, Dr. Cotton plays a vital role in the liver and kidney transplant programs at Baylor St. Luke's Medical Center, the Michael E. DeBakey VA Medical Center and Texas Children's Hospital. His clinical expertise spans complex multidisciplinary care including patient optimization, immunosuppression management and long-term graft monitoring. In addition to his surgical excellence, he has innovated and launched many new programs for graduate and undergraduate surgical education leading our department to the forefront of surgical education in the United States.

Kenneth L. Mattox, MD Professor of Surgery



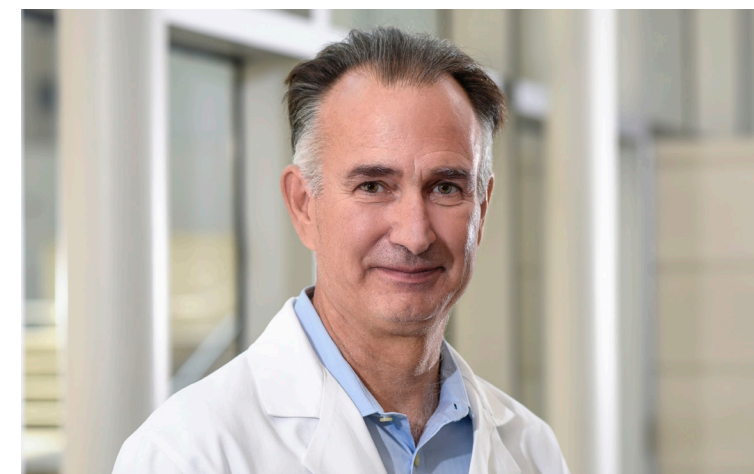
Dr. Eric J. Silberfein, professor in the Division of Surgical Oncology, has been appointed as the inaugural Kenneth L. Mattox, MD Endowed Professor in Surgery, bestowed from Dr. and Mrs. Kenneth L. Mattox as well as from gifts from alumni and friends. As chief of surgical oncology and a leader at Ben Taub Ben Taub Hospital and in our education and faculty development programs, Dr. Silberfein is a highly regarded and frequently decorated asset to our entire department. Dr. Silberfein serves as chair of the Michael E. DeBakey Surgical Society Advisory Committee, continuing the legacy of the Surgical Society.

David J. Sugarbaker Professor of Thoracic Surgery



Dr. Shawn Groth, professor and chief of the David J. Sugarbaker Division of Thoracic surgery, has been appointed as the inaugural David J. Sugarbaker Professor of Thoracic Surgery, bestowed as a gift from the Everett D. and Geneva V. Sugarbaker Family Foundation as well as gifts from friends. With expertise in complex esophageal and lung diseases, Dr. Groth is dedicated to advancing surgical techniques that improve patient outcomes, particularly in esophageal cancer and benign esophageal disorders. He is one of the highest volume robotic thoracic surgeons in the nation, having performed more than 200 robotic esophageal operations since joining the department in 2015.

Olga Keith Wiess Professor of Surgery



Dr. Thomas E. Milner, professor in the Division of Surgical Oncology, has been appointed to the endowed Olga Keith Wiess Professorship of Surgery (II). Dr. Milner is a distinguished biomedicalengineerspecializinginbiophotonics, optical coherence tomography (OCT) and translational nano-biophotonic technologies, and was recruited to Baylor last year funded by a Cancer Prevention and Research Institute of Texas (CPRIT) award. He has dedicated his career to advancing optical imaging and laser-based medical technologies that improve diagnostic and therapeutic capabilities in medicine.

Endowed Chairs and Professors

Baylor College of Medicine

Charles H. McCollum, MD Chair in Surgery
Ronald T. Cotton, M.D.

Cullen Foundation Chair
Joseph S. Coselli, M.D.

DeBakey-Bard Chair in Surgery
Todd K. Rosengart, M.D.

George P. Noon, M.D. Chair in Surgery
Gabriel Loor, M.D.

Meyer-DeBakey Chair in Investigative Surgery
R. Taylor Ripley, M.D.

Michael E. DeBakey Distinguished Chair in Surgery
Gustavo S. Oderich, M.D.

Olga Keith Wiess Chair in Surgery I
E. Ramsay Camp, M.D.

Olga Keith Wiess Chair in Surgery II
Alastair Thompson, M.D.

Olga Keith Wiess Chair in Surgery III
Shanda Blackmon, M.D., MPH

Translational Research and Innovations Chair
Livia S. Eberlin, Ph.D.

David J. Sugarbaker Professor in Thoracic Surgery
Shawn S. Groth, M.D.

Kenneth L. Mattox, MD Professor in Surgery
Eric J. Silberfein, M.D.

Jimmy And Roberta Howell Professor in Cardiovascular Surgery
Alexis Shafii, M.D.

Olga Keith Wiess Professor in Surgery I
Ravi Ghanta, M.D.

Olga Keith Wiess Professor in Surgery II
Thomas E. Milner Ph.D.

Josephine Abercrombie Endowed Professor in Plastic Surgery Research
Chris Pederson, M.D.

George L. Jordan, M.D. Chair in General Surgery
William E. Fisher, M.D.

Lester And Sue Smith Chair in Surgery
Kenneth K. Liao, M.D., Ph.D.

John W. “Jack” Reid, M.D., ‘43 and Josephine L. Reid Professor in Surgery
Joseph L. Mills, M.D.

William J. Pokorny, M.D. Professor in Pediatric Surgery
Timothy Lee, M.D.

Texas Children’s Hospital

Donovan Chair in Congenital Heart Surgery
Jeffrey S. Heinle, M.D.

JLH Foundation Chair in Transplant Surgery
John A. Goss, M.D.

Brad and Melissa Juneau Endowed Chair in Congenital Heart Surgery
Jeffrey S. Heinle, M.D.

S. Baron Hardy Endowed Chair in Plastic Surgery
Larry H. Hollier, M.D.

Susan V. Clayton Chair in Surgery
Sundeep Keswani, M.D.

Samuel Stal, M.D. Endowed Chair in Plastic Surgery
Richard Hopper, M.D.

St. Luke’s Foundation

William D. Seybold, M.D. Chair in Surgery
Abbas Rana, M.D.

Denton A. Cooley, M.D. Chair in Cardiac Surgery
Marc R. Moon, M.D.

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