STS News



"A moderated webinar series ... will address the realities and challenges facing cardiothoracic surgeons in COVID hotspots."

Joseph A. Dearani, MD



▶ STS President Joseph A. Dearani, MD, updated members via video on the COVID-19 pandemic.

STS Responds to the COVID-19 Crisis

STS President Joseph A. Dearani, MD, delivered an important message on March 31 about how the Society is responding to the COVID-19 crisis and supporting members during this pandemic. The following is a transcript of his remarks; you can view the video at sts.org/COVID-messages-president.

STS applauds surgeons, providers, and hospitals performing lifesaving surgery on patients that are COVID positive or turn COVID positive immediately after surgery. STS also recognizes that front line workers and hospital administration are struggling to manage valuable resources such as PPE and ventilators.

Fortunately, decision-making is now being driven more by science, not conjecture. This message will focus on five important questions and answers about what the STS is doing for you.

What is STS doing to help us get the supplies we need – PPEs, ventilators, ECMO supplies, etc.?

STS has been in direct communication with high-level officials at HHS, FDA, CDC, Congress, and NIH and called for increased medical supplies, greater availability of testing, and removal of barriers interfering with the supply chain to ensure these products reach the

hospitals in need and increase availability of medical supplies such as Lasix, heparin, ventilators, and ECMO equipment (see page 14).

Our efforts are paying off. The Washington DC Administration responded by calling on industry to produce more ventilators, and there are signs that more supplies are reaching hospitals—not enough, but improvement in response to the medical community outreach.

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The Society's mission is to enhance the ability of cardiothoracic surgeons to provide the highest quality patient care through education, research, and advocacy.

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Managing Editor

Heather Watkins

Editorial Advisors

Jennifer Bagley, MA Natalie Boden, MBA Grahame Rush, PhD Elaine Weiss, JD

STS News

633 N. Saint Clair St. Suite 2100 Chicago, IL 60611 Phone

stsnews@sts.org

312-202-5800



Front row, from left: James S. Tweddell, MD, Joseph F. Sabik III, MD, John H. Calhoon, MD, Joseph A. Dearani, MD, Robert S.D. Higgins, MD, MSHA, Sean C. Grondin, MD, MPH, FRCSC, and Thomas E. MacGillivray, MD. Back row, from left: Jennifer C. Romano, MD, MS, Gregory P. Fontana, MD, Marc Ruel, MD, MPH, Ara A. Vaporciyan, MD, Vinod H. Thourani, MD, Domenico Pagano, MD, FRCS(C-Th), FETSC, Douglas J. Mathisen, MD, Kevin D. Accola, MD, and Joseph C. Cleveland Jr., MD. Not pictured: Leah M. Backhus, MD, MPH, Andrew B. Goldstone, MD, PhD, Roger Newton, PhD, MS, G. Alexander Patterson, MD, FRCS(C), and Alan D. Sihoe, MD, MA, FRCSEd.

STS Board Expands, New Leaders Elected

Several important Bylaws changes were approved and STS officers and directors were elected or reelected during the Annual Membership (Business) Meeting in New Orleans, Louisiana. The meeting was held in conjunction with the STS 56th Annual Meeting.

One Bylaws change was to the makeup of the Board of Directors. The Society's membership voted to increase the number of directors-at-large on the Board from six to eight. This change will allow for greater diversity and a wider variety of perspectives on the Board, as well as provide more opportunities for promising leaders to obtain Board experience.

Leading the Board and the Society for 2020-2021 is Joseph A. Dearani, MD, from Rochester, Minnesota, who was elected STS President. Sean C. Grondin, MD, MPH, FRCSC, from Calgary, Canada, was elected First Vice President, and John H. Calhoon. MD, from San Antonio, Texas, was elected Second Vice President.

The following also were elected or reelected:

▶ Secretary

Joseph F. Sabik III, MD Cleveland, Ohio

▶ Treasurer

Thomas E. MacGillivray, MD Houston, Texas

▶ International Director

Domenico Pagano, MD, FRCS(C-Th), FETSC Birmingham, United Kingdom

► Canadian Director

Marc Ruel, MD, MPH Ottawa, Canada

▶ Public Director

Roger Newton, PhD, MS Maple City, Michigan

► Directors-at-Large

Joseph C. Cleveland Jr., MD Aurora, Colorado

Gregory P. Fontana, MD Thousand Oaks, California

Jennifer C. Romano, MD, MS Ann Arbor, Michigan

James S. Tweddell, MD Cincinnati, Ohio

▶ Editor

G. Alexander Patterson, MD, FRCS(C) St. Louis, Missouri

New Membership Approval Process

Also approved at the membership meeting was a Bylaws change to the admission process for Active and International Members. Previously, applicants for Active and International Membership were voted upon by the full Board three times per year at in-person meetings. Now, the Executive Committee will vote to admit new members throughout the year. This means that applicants can be approved and begin receiving member benefits sooner.



See a complete listing of 2020-2021 Board members on page 20. Learn more about the Society's governance structure at sts.org/governance.

Member News



Backer Takes Position in Kentucky

In May, Carl L. Backer, MD, will become chief of pediatric cardiothoracic surgery at Kentucky Children's Hospital (KCH) in Lexington. He also will lead the KCH Division of the Joint Pediatric Heart Care Program, a collaboration with Cincinnati Children's Hospital. Currently, Dr. Backer is the A.C. Buehler Professor of Surgery and chief medical philanthropy officer at Ann & Robert H. Lurie Children's Hospital of Chicago. He has been an STS member since 1993 and serves on the Society's Workforce on Surgical Treatment of Adults with Congenital Heart Disease.



Guleserian Heads to Dallas

Kristine J. Guleserian, MD, is the new director of the congenital heart surgery program at Medical City Children's Hospital Heart Center in Dallas, Texas and the only woman to lead such a program in the United States. She previously was director of the heart failure and transplant program at Nicklaus Children's Hospital in Miami. Dr. Guleserian, who has been an STS member since 2007, chairs the Society's Workforce on Congenital Heart Surgery and also serves on the Workforce on Coding and Reimbursement and The Annals of Thoracic Surgery Editorial Board.



Marshall Oversees Quality Efforts at BWH

M. Blair Marshall, MD, is now the associate chief for quality and safety and the Michael A. Bell Family Distinguished Chair in Healthcare Innovation in the Division of Thoracic Surgery at Brigham and Women's Hospital and Harvard Medical School in Boston. Most recently, she was chief of thoracic surgery at MedStar Georgetown University Hospital in Washington, DC. An STS member since 2003, Dr. Marshall serves on the STS Workforce on General Thoracic Surgery.



Bhama Is Chief at Arkansas

Jay K. Bhama, MD, is now professor and chief of the Division of Cardiovascular Surgery at the University of Arkansas for Medical Sciences in Little Rock. He also serves as surgical director for heart transplantation and co-director for the mechanical circulatory support and left ventricular assist device programs at Baptist Health Medical Center-Little Rock's Heart Failure and Transplant Institute. Previously, Dr. Bhama was chief of adult cardiac surgery at the University of Iowa Health Care in lowa City. He has been an STS member since 2008.



Wallace Becomes Director

Africa F. Wallace, MD, has been appointed director of thoracic surgery at Capital Health Medical Center in Pennington, New Jersey. Previously, Dr. Wallace worked at Piedmont Heart Institute in Atlanta. She serves on the STS Workforce on Diversity and Inclusion and has been an STS member since 2010.



Tieu Directs Thoracic Surgery in Salem

Brandon H. Tieu, MD, has become director of thoracic surgery at Salem Health Medical Group in Oregon. Prior to this role, he was an associate professor of surgery in the Division of Cardiothoracic Surgery at Oregon Health & Science University in Portland. Dr. Tieu has been an STS member since 2009.



Perry Named Division Chief

Yaron Perry, MD, was named chief of the Division of Thoracic Surgery at the University at Buffalo Jacobs School of Medicine and Biomedical Sciences in New York. Dr. Perry, who has been an STS member since 2012, previously was director of thoracic robotic surgery and minimally invasive esophageal surgery at University Hospitals Cleveland Medical Center in Ohio.



Sakwa Appointed System Chief

Marc P. Sakwa, MD, was named system chief of cardiovascular surgery at MemorialCare Heart & Vascular Institute in Long Beach, California, and medical director of adult cardiovascular surgery at Long Beach Medical Center. He moved to California from Beaumont Hospital in Royal Oak, Michigan, where he was chief of cardiovascular surgery. Dr. Sakwa has been an STS member for nearly 30 years, joining in 1991.



Additional Member News items are available online at sts.org/membernews.



Send news about yourself or a colleague to stsnews@sts.org. Submissions will be printed based on content, membership status, and space available.



Making a Difference

Joseph A. Dearani, MD

"Although my primary professional focus is congenital heart surgery, my commitment is to the whole specialty."



▶ Joseph A. Dearani, MD (left), with Immediate Past President Robert S.D. Higgins, MD, MSHA, was elected STS President for 2020-2021 during the Annual Membership (Business) Meeting in New Orleans this January.

Dr. Dearani prepared his first column just as the COVID-19 pandemic started gripping the US. See page 1 for his message about how STS is responding to the crisis.

Let me start my first column as STS President by thanking you—our members—for electing me to this position. I also want to thank Dr. Bob Higgins and congratulate him for a most successful year that culminated with one of the most engaging and highly attended annual meetings in recent history.

Serving as our Society's President is the highest honor that you could achieve in the profession; I am honored by this opportunity to make a difference.

In this role, I have a chance to work with colleagues at STS, as well as cardiothoracic surgery leaders throughout the world, to address challenges, take advantage of opportunities, and make the profession better for tomorrow's practicing surgeon and the patients who need our help.

Working for You

One of the things that makes STS so unique and so great is that it is a *member-centric*, patient-centric Society. I cannot overemphasize this point enough. There are many great things that STS does for members and our patients. During my term as President, I want to make sure that we share more about all of the important things we are doing.

Among them is our annual STS Legislative Fly-In in Washington, DC. At press time, we had just canceled the Fly-In and other in-person courses due to the coronavirus pandemic. I plan on keeping members informed about how STS is helping during this crisis via a series of videos and emails.

We are facing a lot of unknowns right now, but as cardiothoracic surgeons, we know how to take charge and get the job done. I will do my best to help you through this crisis—and I am confident that we will be stronger as a result.

Focusing on the Entire Specialty

Although my primary professional focus is congenital heart surgery, my commitment is to the *whole specialty*—adult cardiac, general thoracic, and congenital. I will do my best to address all of the challenges in each of these areas. The two leading causes of death in this country are heart disease and lung cancer. The most common birth defect is a congenital cardiac anomaly. As cardiothoracic surgeons, we are ideally positioned to ask questions and solve problems that will have the greatest impact in terms of the number of people affected.

One way we are able to solve problems is through the STS National Database.

With the recent phase 1 launch of the Database (see page 11), we took a bold step forward to address changing practice needs at a time when the public and the profession expect near-perfect outcomes. We have a demanding specialty with high expectations, and the transformed Database offers you real-time access to your data in a highly secure, interactive environment that will help accelerate benchmarking, provide earlier recognition of potential weaknesses, and better adjust quality improvement initiatives.

As we roll out the next phases of the Database, we will continue to refine and innovate, making it easier and faster to access actionable clinical data and make real-time adjustments in treatment.

Artificial Intelligence/ Machine Learning

Cardiothoracic surgery is a specialty that's constantly innovating and evolving. It's a specialty that has a unique interface with technology. When you examine the potential role or place of artificial intelligence, machine learning, collaboration, and connectedness across other specialties and registries, it's really exciting to think about how it will be better for our patients and the specialty.

STS has a perfect opportunity to be the model for others as we move from evidence-based medicine to intelligence-based medicine.

The STS National Database is ideally suited to apply machine learning opportunities because of its 30-year track record of trust, 8 million procedure records, and large number of validated data points. The transformed Database platform gives us not only the opportunity to look back and see how we've done, but also the opportunity to look forward, see where we are going, and apply data from the National Death Index to examine long-term outcomes.

Looking Forward

Over the next year as you get to know me better, you'll observe that I listen more than I talk. I believe strongly in transparency and accessibility, and I want to know your professional pain points so that I can help make a difference.

I also strongly believe in diversity. We are lucky that more women are interested in cardiothoracic surgery, and our specialty is better because of that. Dr. Higgins worked hard during his presidential year to include more women and underrepresented groups in the governance structure. He also launched the STS Leadership Summit to help advance the careers of the younger generation of surgeons. Our 2020 summit hit a home run, and we will keep building on that legacy.

In the coming months, we will continue strategic planning meetings (see page 9) to identify key focal points and create a new Society roadmap for the next 3 to 5 years. We are grateful to the many of you who took the time to complete the 2019 STS Practice Survey and 2018 Member-Needs Assessment. We are carefully reviewing the results of these surveys and will incorporate your feedback as we prepare the new STS Strategic Plan.

As we move forward, I see a bright future for the Society and for cardiothoracic surgery. Our specialty combines important qualities of intellect, critical thinking skills, judgment, technical abilities, and perseverance—it's never over until it's over. No other specialty really captures all of these ingredients. That's what I love about cardiothoracic surgery, and that's why I am committed to STS and making a difference.

Burnout in CT Surgery Threatens Job Satisfaction, Patient Care

Many health care providers are experiencing immense strain due to the COVID-19 pandemic. This article on burnout, prepared prior to the coronavirus spread reaching a critical stage in the US, includes coping tips and strategies that also will be useful for those dealing with isolation, stress, depression, frustration, and other symptoms that are being reported in this COVID environment.

Tackling the growing problem of burnout among cardiothoracic surgeons will require efforts by both health care organizations and individuals to reduce stigma and develop resilience in the face of a challenging workplace environment, according to experts at the recent STS Annual Meeting in New Orleans.

"Burnout is a syndrome characterized by depersonalization, emotional exhaustion, and a decreased sense of personal satisfaction that can be associated with work-related stress," said Thomas K. Varghese Jr., MD, MS, head of the Section of General Thoracic Surgery and chief value officer at the Huntsman Cancer Institute at the University of Utah in Salt Lake City.

Results from the 2019 STS Practice Survey, which will be released in the coming months, revealed that more than half of surgeon members in the United States reported experiencing symptoms of burnout.

"As cardiothoracic surgeons, we have competitive drives, and most people would describe us as having type A personalities," said Oliver S. Chow, MD, an assistant professor of clinical cardiothoracic surgery at Weill Cornell Medicine in New York City. "Having that image and expectation upon us might actually predispose us to burnout."

Burnout Symptoms Appear Early and Often

The surgery profession is known for its demanding training environment, and symptoms of burnout can arise early in a surgeon's career. A 2019 study in *The New England Journal of* Medicine looked at the incidence of burnout among approximately 7,400 surgical residents. The data drew from a survey administered alongside the American Board of Surgery in-training exam. The results showed that 38.5% of surgical trainees reported experiencing symptoms of burnout at least weekly.

The findings may only be showing a fraction of the real issue, said Michal Hubka, MD, head of thoracic surgery at Virginia Mason Medical Center in Seattle. "When I discussed these results with my residents, they actually thought that this was an underestimate," he said.

To obtain a better sense of the burnout problem within cardiothoracic surgery training in the US, researchers surveyed members of the Thoracic Surgery Residents Association in March 2019.

"Surgeons are at great risk for developing burnout symptoms because of long work hours, delayed career gratification, and what is admittedly not the best work-life balance."

Thomas K. Varghese Jr., MD, MS

Nearly 60% of respondents said they had feelings of burnout a few times a month or more frequently. In addition, 44.4% reported feeling down, depressed, or hopeless in the previous month. And 25.9% said that if given the choice, they would not choose to complete a cardiothoracic surgery residency again.

"These findings are important since the overall wellbeing of our trainees will impact our cardiothoracic surgical community, as well as the patients we're working to serve together," Dr. Chow said.

Compounding the problem is that it's not only surgeons and trainees who may be feeling burned out. Nurse practitioners, physician assistants, and other team members are at risk as well, according to Susan D. Moffatt-Bruce, MD, PhD, MBA, chief executive officer of the Royal College of Physicians and Surgeons of Canada in Ottawa.

"Our efforts to improve our wellness index and our environment need to be multidisciplinary and really engage our team members," she said.

Examining the Root Causes and Consequences

Several factors may predispose cardiothoracic surgeons, trainees, and other members of the health care team to burn out.

"Surgeons are at great risk for developing burnout symptoms because of long work hours, delayed career gratification, and what is admittedly not the best work-life balance," Dr. Varghese said.

The ever-changing health care environment with increased scrutiny of clinical outcomes, reimbursement for quality versus quantity, more medically complex patients, and the need for quick adoption of new techniques and technologies—also can cause strain.

"Our job descriptions have changed since we started," Dr. Hubka said. "The operations I perform today are very different than the operations that I was trained to do."

These stressors not only can impact a surgeon's sense of professional satisfaction, but also can lead to patient safety issues. A study published in the Annals of Surgery looked at the correlation between burnout and medical errors made by surgeons. The results showed that each one-point increase in feelings of depersonalization was associated with an 11% increase in the likelihood that a surgeon reported making an error in the past 3 months, while each one-point increase in emotional exhaustion correlated with a 5% increase.

"Networks matter. Friends matter. Take the time to engage with them."

Susan D. Moffatt-Bruce, MD, PhD, MBA

Solution Involves Multipronged Approach

Experts suggested taking steps to address burnout at both the organizational and personal levels.



A roundtable discussion filmed at the STS Annual Meeting in January provided insights into the problem of burnout in the specialty and advice to tackle this issue.

Making significant changes to the workplace culture will require buy-in from health care administrators, Dr. Moffatt-Bruce noted. "We need to harness the power of leadership. It's about setting cultural norms and expectations that value physician wellness."

In her previous roles as executive director of the University Hospital and chief patient safety and quality officer at The Ohio State University (OSU) Wexner Medical Center in Columbus, Dr. Moffatt-Bruce helped develop and lead programs geared toward enhancing employee wellness and reducing burnout.

OSU's "Mindfulness in Motion" weekly program includes reflective writing, guided meditation, stretching, and discussion in small groups. Implementation of this program in the hospital's surgical intensive care unit led to improved employee resilience and better patient outcomes after 2 months. Now, OSU's residents also are participating in the program, which is led by Maryanna Klatt, PhD, a professor of clinical family medicine at the University.

"It's unbelievable how well-received this has been," Dr. Moffatt-Bruce said.

Workplaces also must take steps to reduce the stigma of asking for help or admitting to feeling overwhelmed, Dr. Chow added.

"Burnout has not traditionally been a popular topic in our field," he said. "I think a main contributor to this is that we view ourselves as individuals who should be very good at handling stress. We are supposed to be calm under pressure in high-stakes situations, used to hard work, and possess great stamina and resilience. A surgeon's workload is very much expected to be rigorous. So when we find ourselves or our fellow surgeons struggling with stress, we are prone to hide it or dismiss it."

Given these taxing responsibilities, addressing risk factors for burnout early on—while still in residency—may help prepare surgeons to succeed in their careers.

"As we train our fellows and residents, we need to teach them not only surgery, but also the soft skills that they will need to integrate into organizations which oftentimes are very different than the organization in which they've trained," Dr. Hubka said.

Surgeons and trainees can make an effort to improve their personal resilience by prioritizing their basic needs—exercising, eating well, and getting adequate sleep—and building strong networks of colleagues, friends, and family members to whom they can turn when situations are challenging.

"Networks matter," Dr. Moffatt-Bruce advised. "Friends matter. Take the time to engage with them."

Ultimately, what's important is that the specialty tackle this problem head-on and encourage those suffering from burnout to reach out for help, Dr. Varghese said. ■



Watch a roundtable discussion on burnout featuring Drs. Chow, Hubka, Moffatt-Bruce, and Varghese at sts.org/burnout. The conversation also is available as an episode on the Surgical Hot Topics podcast; subscribe at sts.org/podcast.



An educational session on burnout also was held at the STS 56th Annual Meeting; you can listen to the lectures and view slides in Annual Meeting Online. See page 16 for information on how to access the online product.

STS Responds to the COVID-19 Crisis

CONTINUED FROM COVER

What help can STS provide regarding ECMO availability and use?

The Society thinks it can best serve its members and the medical community at large by coordinating, rather than competing, with groups that are also developing COVID-19 related initiatives. As such, STS is working closely with ELSO to provide relevant resources for ECMO-related matters. The STS website directs people to the ELSO registry, now open and at no cost to enter ECMO data on COVID-19 patients into the registry for real-time information; directing physicians to the ELSO online map, tracking ECMO centers nationwide and their availability to accept patients. The STS website also has an ELSO ECMO guidance document created for non-COVID patients, and we recently added a video prepared by some of our members in Philadelphia that demonstrates proper PPE use when preparing patients for ECMO.

What about published quidance documents?

The cardiothoracic surgery community has expressed substantial interest in contributing to the literature with guidance documents. Some are already in our journals, and others will be available in coming days. They include crisis management documents in congenital and adult heart surgery and triage of operations for thoracic malignancies. Documents that have a theme of guidance that provide direction, allow flexibility, and adaptability are the most helpful at this stage while more evidence is being accumulated.

How is the STS National Database being leveraged during the COVID-19 crisis?

STS is working hard to use the power of your STS National Database to examine specific data elements that would provide added support to providers. In addition to the current STS risk calculator, we are developing – and soon to be complete – a tool that provides information to estimate resource utilization for patients being considered for cardiac surgery (the tool is now available for use; see page 9). This tool will

be available through the STS website. Finally, STS cannot precisely account for the impact of COVID on surgical outcomes. Data from these patients will still be recorded in the STS Database using an additional field regarding their COVID status (see page 11). But in fairness to all surgeons and their programs, COVID patients will be excluded from performance analyses, including public reporting.

How are surgeons coping with triage of surgery?

It's not easy. This has been very difficult for me and most all of us on the front line. Cardiothoracic surgical decision-making has shifted to who gets surgery, when to do the surgery, when to transfer out of your hospital, when to accept an incoming transfer, when to offer or not offer ECMO, and the list goes on. The right decision often collides with the desired decision since it is not our nature to delay or deny treatment. On a daily basis, we are adding helpful new resources to the STS website. We also have perspectives from members inside and outside of the United States, along with tips on how to stay grounded during this pandemic. A moderated webinar series will start next week, and the first will address the realities and challenges facing cardiothoracic surgeons in the COVID hotspots in the United States.

Lastly, a personal reach out to each of you from me. Isolation has been stressful. Not being in the operating room has been difficult and most of us have been troubled, frustrated. and even depressed. Clear thinking and mental toughness is difficult under these circumstances, but being decisive is essential since poor decision-making could result in the collapse of a program.

I have found it very helpful to have short phone conversations with colleagues to check on their personal and professional well-being. I connect with four different surgeons each day. Learning how they are balancing their personal and professional life and how they're maintaining emotional stability has been informing and reassuring to me. I encourage all of you to do the same.

We may be socially distancing, but we are coming closer together in a new spirit of cooperation. Let's turn this situation into an opportunity that we learn from. We are cardiothoracic surgeons. We know how to pivot, take charge, and handle uncertainty. The health care workforce is in the spotlight and the world is seeing us in action. We're getting there. Be positive. We may not know when this pandemic will end... but we do know that we will win this battle.

A sincere thank you to each of you and your respective teams for your grit and perseverance through this difficult time. ■

Stay informed about COVID-19 and the Society's response by visiting sts.org/COVID-19. There, you will find an online community that allows the sharing of news, best practices, and auidance, as well as a resources page with links to relevant information from a variety of organizations and entities, including the following blog articles written by STS members:

- ▶ "COVID-19: The Hong Kong Perspective" by Alan D. Sihoe, MD, MA, FRCSEd
- ▶ "COVID-19: The US Perspective" by T. Sloane Guy, MD, MBA
- ▶ "How Will COVID-19 Impact My **Upcoming Surgery?**" by Robbin G. Cohen, MD, MMM, and Elizabeth A. David, MD, MAS
- ▶ "Staying Grounded During the COVID-19 Pandemic" by Erin A. Gillaspie, MD, Gabriel Loor, MD, and Mara B. Antonoff, MD
 - ▶ Due to the evolving situation with COVID-19, the Society canceled or postponed several in-person educational meetings planned for 2020. Options for virtual meetings are being considered. Please check sts.org/meetings for the latest information.

STS Develops Resource Utilization Tool for Cardiac Surgery

The COVID-19 pandemic has significantly constrained hospital resources, making informed resource allocation decisions more important than ever. To assist its members and other health care providers in triaging adult cardiac surgery cases, STS has developed an interactive resource utilization prediction tool.



The online STS Resource Utilization Tool for Cardiac Surgery is free to use and open to everyone. The power behind the tool is 440,000 de-identified patient records from the STS Adult Cardiac Surgery Database from 2018 and 2019. Displaying outcome metrics such as time in the operating room, time on the ventilator after surgery, ICU and hospital lengths of stay, and expected number of blood product units likely to be needed, the tool allows you to estimate the resources your hospital will need for your patients.

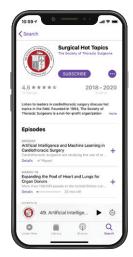
Access the tool at sts.org/resourcetool; for more information, contact the STS Research Center at research@sts.org.

Roundtables Offer Perspectives on Low-Risk TAVR, Tobacco Use, **ISCHEMIA Trial, and More**

The Society's annual roundtable series brings experts together for lively discussions on a variety of hot topics. This year's conversations cover issues that impact cardiothoracic surgeons, members of the health care team, and patients, including:

- ► Artificial Intelligence and Machine Learning in Cardiothoracic Surgery
- Which Low-Risk Patients Should **Receive TAVR?**
- ▶ The Changing Landscape of Tobacco Use
- ▶ What Is the Best Way to Treat Heart Disease?
- Strategies for Surgeons to Prevent Burnout

The roundtables are available as videos on the STS YouTube channel and as episodes on the STS Surgical Hot Topics podcast.



You can stream audio from the roundtables through most podcast apps.

Society Prepares New Strategic Plan

The STS Board of Directors and other surgeon and staff leaders recently participated in a strategic planning retreat. The March session in Chicago was one of several that will help chart the mission, vision, and strategy for the Society for the next 3 to 5 years.



▶ STS President Joseph A. Dearani, MD, welcomed participants.



During the 1.5-day meeting, the group considered how the Society can best serve members going forward.



► The three new STS Directors-at-Large (from left, Gregory P. Fontana, MD, Jennifer C. Romano, MD, MS, and James S. Tweddell, MD) enjoyed the STS-branded knit caps distributed at the retreat.



Watch videos of the roundtables at sts.org/videos; podcast episodes are accessible at sts.org/podcast or via your favorite podcast app.

Gain Insights into Your Performance with Individual Outcomes Report

The first round of surgeon-specific outcomes reports from the STS Adult Cardiac Surgery Database (ACSD) were released in January to approximately 400 participants. The reports included individual outcomes on coronary artery bypass grafting (CABG), aortic valve replacement (AVR), AVR+CABG, isolated mitral valve repair/replacement (MVRR), and MVRR+CABG.

If you are an ACSD participant and would like to receive your personalized report in the next release later this year for data from January 2017 to December 2019, complete the election form at sts.org/surgeonspecific.



If you have questions about this initiative, please contact surgeonspecific@sts.org.

Annals Readers Favor Content on CABG Recovery, Outcomes Data, Lung Cancer

The most-downloaded articles on *The Annals of Thoracic Surgery* website in 2019 focused on a wide variety of topics, including exercise therapy after coronary artery bypass graft surgery, adult cardiac surgery data in the STS National Database, and non-small cell lung cancer. Both recent papers and older articles were popular, with one even dating back to 1966—the second year the journal was published.

Title	Number of Downloads in 2019	Date of Publication
Exercise Therapy after Coronary Artery Bypass Graft Surgery: A Randomized Comparison of a High and Low Frequency Exercise Therapy Program	9,639	May 2004
The Society of Thoracic Surgeons Adult Cardiac Surgery Database: 2018 Update on Outcomes and Quality	9,077	Jan. 2018
Standard Uptake Value Predicts Survival in Non-Small Cell Lung Cancer	8,313	Sept. 2009
The Rate of Pleural Fluid Drainage as a Criterion for the Timing of Chest Tube Removal: Theoretical and Practical Considerations	7,640	Oct. 2013
Publication of Unethical Research Studies: The Importance of Informed Consent	5,470	Feb. 2003
Localized Hodgkin's Disease Presenting as a Sternal Tumor and Treated by Total Sternectomy	5,287	Jan. 1966
Surgical Treatment of the Dilated Ascending Aorta: When and How?	5,159	Jun. 1999
The Use of High-Dose Hydroxocobalamin for Vasoplegic Syndrome	5,023	May 2014
Long-Term Survival in Patients Receiving a Continuous-Flow Left Ventricular Assist Device	4,926	Mar. 2018
Adjust for Multiple Comparisons? It's Not That Simple	4,738	May 2016



Stakeholders Discuss **Critical Issues for TVT** Registry

The STS/ACC TVT Registry Stakeholder Advisory Group (SAG) convened on February 24 for an important meeting in Fort Washington, Maryland. The SAG consists of representatives from STS, the American College of Cardiology, the Society for Cardiovascular Angiography and Interventions, industry, health systems, patient groups, US government agencies, and others. The attendees discussed current research projects based on TVT Registry data, progress on a Japanese TVT Registry, and development of a composite risk model. They also learned how health systems, industry, the Centers for Medicare & Medicaid Services, and the Food and Drug Administration are utilizing TVT Registry data. Michael J. Mack, MD, Joseph E. Bavaria, MD, Nimesh D. Desai, MD, PhD, and Tsuyoshi Kaneko, MD, were the surgeons representing STS during the meeting.



A subscription to The Annals is a benefit of STS membership. Log in to read any of the above articles at annalsthoracicsurgery.org.

Database Transformation Rollout Moves Forward

Participants in the Adult Cardiac Surgery
Database (ACSD) and General Thoracic
Surgery Database (GTSD) now have access to
the new, interactive dashboards and other
features that are part of the phase 1 STS
National Database rollout.

"It feels very satisfying to have begun releasing this next generation platform," said Felix G. Fernandez, MD, MSc, chair of the Workforce on National Databases. "Our patients will benefit because our data managers can get accurate data into the system more readily, and the data are presented in real-time, meaningful formats for surgeon participants, allowing them to better use the data for quality improvement and clinical care."

The highly secure, cloud-based dashboards currently provide access to unadjusted clinical outcomes, case volumes, demographics, patient comorbidities, and treatment details. In addition, real-time data quality reports include interactive links to help troubleshoot problems in submitted data files, and missing variable reports identify field-specific issues that would affect the completeness of a site's data and subsequent analysis.

"The data are presented in real-time, meaningful formats for surgeon participants, allowing them to better use the data for quality improvement and clinical care."

Felix G. Fernandez, MD, MSc

The phase 1 release for the ACSD and GTSD followed weeks of intensive beta testing by a dedicated group of data managers, surgeons, STS staff, and representatives from IQVIA, the Society's new data warehouse. The platform will continue to be modified based on user suggestions and feedback.

In the coming weeks, the transformed Congenital Heart Surgery Database (CHSD) will be available. Deadlines for the spring harvest for the CHSD will be delayed so that participants have ample time to submit their data.



▶ The phase 1 rollout of the next generation STS National Database is now under way, and further enhancements and features will become available in the coming months.

Support Is Available

STS is offering a number of resources to help with the transition to the new Database platform. On the STS National Database Webinars page (sts.org/databasewebinars), users will find a schedule of upcoming webinars with information on how to participate, as well as links to videos and documentation from previous calls. In addition, how-to videos, instructions, and FAQs are available on the Database Transition Resources page (sts.org/databasetransition).

The Society encourages all users to submit additional feedback online at sts.org/form/national-database-feedback.

More Features to Come

The next phases of the Database launch will include access to risk-adjusted outcomes and like group comparisons. A direct, web-based data entry option also is planned.

"This will allow data cleanup to occur at the time of data submission, which will further reduce burden. Programs will have the option to continue entering data through their current vendor or use the web-based option," Dr. Fernandez said.

ACSD participants will see additional timesaving improvements to data collection with the version 4.20 specification upgrade, which will reduce the number of data fields by approximately 30%. Several changes have been made,

including removing fields that were not necessary for quality measurement or were not often completed, using different formatting techniques such as multiple choice, and adjusting parent-child relationships. Data collection forms for version 4.20 are available at sts.org/ACSDdatacollection, and the training manual is scheduled to be posted in mid-May.

STS also is making progress on major data enhancement projects. Socioeconomic data, which include information on income classification, education level, household crowding, deprivation index, and other details, have been linked with records in the ACSD, GTSD, and CHSD using state-of-the-art geocoding methodology. These additional variables will help researchers understand the impact of social determinants on outcomes in cardiothoracic surgery. Work also continues on acquiring longitudinal reoperation and survival data to augment data in these Database components.

Note: STS recommends that all sites collecting data for the STS National Database begin gathering COVID-19 information for patients who underwent surgical procedures on or after January 1, 2020. More information is available at sts.org/COVID-19database.



The latest information on the next generation Database can be found at sts.org/database. If you have questions, contact STSDB@sts.org.

THE **THORACIC** SURGERY **FOUNDATION**

Looking to Develop Your Niche? TSF **Scholarships Can Help**

Acquiring a unique combination of skills and finding a niche are becoming increasingly important in the rigorous and competitive environment of cardiothoracic surgery, where success often is defined by expertise. With specialist skills—commonly called "the new currency"—surgeons experience greater career satisfaction and, most importantly, are able to better care for patients.

Leah M. Backhus, MD, MPH, an associate professor of cardiothoracic surgery at Stanford University in California, saw an opportunity to expand her skillset in pectus repair, given her growing interest in chest wall reconstruction and the fact that no one at her institution currently performs the Nuss procedure. After securing the support of her division chief, who pledged to help Dr. Backhus implement a pectus repair program, she applied for the Levi Watkins Innovation and Leadership Development Scholarship from The Thoracic Surgery Foundation (TSF), the Society's charitable arm.

"My goal in pursuing this scholarship was to gain experience in a variety of repair techniques by visiting a high-volume center performing minimally invasive adult pectus surgery and complex reconstructions," she said. "As the final goal is to establish a program at my home institution, it was important to also gain experience with patient selection and program infrastructure."

The TSF Watkins scholarship provides up to \$5,000 for cardiothoracic surgeons who are within 10 years of their first faculty appointment and supports travel to a center of excellence for the purposes of acquiring clinical, translational, or leadership training.



▶ Scholarship recipient Leah M. Backhus, MD, MPH (left), with mentor Dawn Jaroszewski, MD, MBA

The award is named after Levi Watkins, MD, an accomplished cardiothoracic surgeon at The Johns Hopkins Medical Center in Baltimore, who was part of the team that implanted the first automated internal cardiac defibrillator in a human being. He also was the first resident of color in the Johns Hopkins residency program and the first underrepresented minority to join the cardiac surgery faculty at Johns Hopkins.

TSF awarded the Watkins scholarship to Dr. Backhus in 2019. In November, she traveled to the Mayo Clinic in Phoenix, Arizona, where she studied pectus repair with Dawn Jaroszewski, MD, MBA, a national leader in surgery for pectus carinatum, excavatum, and mixed defects in adults.

"The scholarship is an investment in yourself and your future."

Leah M. Backhus, MD, MPH

During her 4 days at Mayo, Dr. Backhus observed several primary Nuss procedures on patients with a varying severity of pectus deformities.

"Cases included both severe and milder pectus deformities, use of titanium bars in patients with heavy chest walls, and mixed and asymmetric defects," she said. "I also was able to observe bar removal procedures, which require specialized prep and technical considerations for safe removal."

Building a pectus repair program requires more than just learning surgical technique, however. Patient selection, workup, and an emphasis on multidisciplinary care are critical components to establishing a new program. To increase the program's chance of success and maximize the learning experience, Stanford provided funding for two of Dr. Backhus's nursing colleagues to travel with her.

"Taking members of the Stanford thoracic team with me to Arizona was, by far, the most important decision ever," she said. "It allowed me to concentrate almost exclusively on the technical aspects of the surgery and direct patient care, while our outpatient nurse practitioner delved into the details of patient flow from referral to postoperative care. Our thoracic OR RN concentrated on room setup and equipment, and he even was able to obtain preference cards for me to adapt at home."

While Dr. Backhus acknowledged that it can be challenging for early career surgeons to make time for these types of trips, she encouraged her colleagues to apply for a TSF scholarship and find their niche.

"Traveling to a center of excellence gets you away from your normal environment—with all of its distractions—and allows you to immerse yourself," she said. "The scholarship is an investment in yourself and your future."

► TSF Awards More than \$1 Million in New Grants

Earlier this year, TSF issued 29 new grants totaling \$1,047,500 in support of research and education programs in cardiothoracic surgery. These grants will help advance treatment options for patients with heart and lung diseases and offer muchneeded assistance to underserved patients in developing countries and regions such as Armenia, Honduras, India, Kenya, Nepal, Nigeria, Pakistan, South Africa, and sub-Saharan Africa. Additional awards and scholarships will be distributed later this year. For a full listing of grant recipients, visit sts.org/2020TSFawards.



Learn more about what TSF does and how you can donate at thoracicsurgeryfoundation.org.

Thank You to 2019 STS-PAC Contributors

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WASHINGTON SCENE

Please note: The STS Legislative Fly-In scheduled for June 15-16 in Washington, DC, has been canceled due to the COVID-19 crisis.

STS Advocacy Efforts Address Coronavirus, Tobacco Use, Reimbursement Cuts

The Society is working closely with federal legislators, regulatory agencies, and grassroots advocates on a number of issues that impact cardiothoracic surgeons and their patients. These efforts include ensuring access to extracorporeal membrane oxygenation (ECMO) during the coronavirus pandemic, reducing tobacco use, and reversing cuts to Medicare reimbursement for the specialty.

ECMO and COVID-19

STS proactively weighed in with the Administration's coronavirus task force, various federal agencies, and members of Congress to highlight the importance of ECMO programs to the US pandemic response. Representatives from STS and the Extracorporeal Life Support Organization have been working to elevate concerns about patient access to ECMO, geographic distribution of centers, supply chain demands, and the need to quickly and accurately share information across all sites.

In addition, the Society is advocating for legislation and administrative action that protects the health and safety of front line physicians, eliminates Medicare reimbursement cuts scheduled for next year, and provides financial relief for physician practices that lose revenue as a result of canceling or delaying elective cases, among other issues.

STS will continue fighting to ensure that cardiothoracic surgeons on the front lines have the resources needed to treat patients during this global crisis.

Anti-Tobacco Efforts

A key STS advocacy priority was achieved in December with the passage of the fiscal year 2020 appropriations bill. The legislation included a provision raising the age for purchasing tobacco from 18 to 21, which will help protect kids and young adults from the harmful effects of smoking.



Key Contact of the Year Says 'Medical Advocacy is a Team Sport'

The Society's Key Contact of the Year Award recognizes those STS members who have gone above and beyond to advocate for the specialty. 2019 recipient Seth Wolf, a medical student at the University of Vermont (UVM) Larner College of Medicine in Burlington, shared his thoughts on the importance of grassroots advocacy, his experience working with legislators, and why he believes his fellow STS members must become involved in advocating for the specialty.

► Seth Wolf (left) with Chair of the STS-PAC Board of Advisors Keith S. Naunheim, MD

Why are you involved in STS advocacy? Why is it so important?

Before attending Morehouse College in Atlanta, I lived in Stockholm, Sweden. Going from socialized medicine to inner-city Atlanta and now the sparsely populated, relatively rural community of Vermont has allowed me to experience an array of vastly different political and medical systems. My diverse encounters with health care is what piqued my interest in advocacy. As medical students, we represent the future workforce of physicians, which comes with the responsibility of fighting for the rights of tomorrow's patients. It is with privilege and enthusiasm that I choose to carry this torch.

To build on this success, STS recently endorsed several bills aimed at reducing tobacco use, including the Protecting American Lungs and Reversing the Youth Tobacco Epidemic Act of 2020, which passed the House of Representatives on February 28. The legislation would prohibit any kind of flavoring (including menthol) in tobacco products, impose a tax on nicotine, and ensure that the Food and Drug Administration promptly implements graphic health warnings on cigarette packaging and advertising materials. At press time, the bill was under consideration by the Senate Committee on Finance.

Additional legislative and regulatory actions supported by STS would ban e-cigarettes in schools and child care facilities that receive federal funding, charge a fee to manufacturers and importers of electronic nicotine delivery systems, and set stricter standards for premarket tobacco product applications.

For more information on the Society's commitment to combating tobacco use, a new policy paper is available at **sts.org/tobaccopaper**. The Board of Directors approved the paper—which serves as a guide for related advocacy efforts—for inclusion in the STS Health Policy Compendium in January.

Cuts to Medicare Reimbursement

The Society also is continuing to work closely with a group of surgical specialty societies to fight back against substantial cuts to Medicare reimbursement for cardiothoracic surgeons. Cuts of up to 7% for both cardiac and thoracic surgery are scheduled to be implemented in January 2021 and could have a significant impact on patient care. Additional drops in reimbursement are likely to be proposed this summer.

The Surgical Coalition is planning a comprehensive strategy consisting of legislative and regulatory advocacy, a public relations campaign, research and data collection on the impact of the cuts, and legal action. More information is available at **sts.org/globals.** ■

STS will continue fighting to ensure that cardiothoracic surgeons on the front lines have the resources needed to treat patients during this global crisis.

What was your experience at the most recent STS Legislative Fly-In?

The 2019 Legislative Fly-In truly was a memorable experience. It was an amazing opportunity to gain insight into what is required for advocacy on a national scale. Networking and learning from individuals such as Drs. John Calhoon, Dawn Hui, Stephen Lahey, Robert Higgins, and many others who dedicated their valuable time was an exceptional experience.

How have you engaged with your lawmakers at home?

In the past year, I arranged and led local meetings in Vermont with the offices of Senator Patrick Leahy and Congressman Peter Welch. These meetings were effective, in part, due to achieving buy-in from UVM cardiothoracic surgery faculty such as Drs. Bruce Leavitt and Fuyuki Hirashima, who accompanied me to meetings. These efforts resulted in co-sponsorship of bills including the Resident Physician Shortage Reduction Act.

What would you say to your fellow STS members to encourage them to become involved?

Medical advocacy is a team sport, and maximum results require maximum effort. Everyone has a role to play, whether you are a medical student, resident, or attending. With an ever-evolving specialty and a fluctuating political scene, medical advocacy is imperative for continued growth and the ability to provide outstanding patient care. Having the opportunity to become involved with advocacy early in my career has ignited my passion, and I am determined to turn this into a lifelong commitment of advocating for the field of cardiothoracic surgery and the patients we serve.

NEW ORLEANS

Annual Meeting Highlights

The Society's 56th Annual Meeting in New Orleans, January 25-28, attracted more than 4,100 registrants and 142 exhibiting organizations. To view meeting photos and read the STS Meeting Bulletin newspaper, visit sts.org/ annual-meeting-archive.

Available Soon: STS 56th **Annual Meeting Online**

STS Annual Meeting Online provides access to more than 100 hours of recorded sessions and the ability to earn up to 126.5 CME credits. Annual Meeting attendees receive free access to Annual Meeting Online, while non-attendees can purchase the online product at sts.org/ AMonline. Access is free for all Candidate and Pre-Candidate Members—even those who didn't attend the meeting!



Leaders Must Focus on the Positive to Overcome Challenges, Higgins Says

Sustaining the future of cardiothoracic surgery will require effective and collaborative leadership, as well as a positive outlook, to prevail over difficulties facing the specialty.

"Our profession has been and will continue to be challenged by an extraordinary number of issues," said Robert S.D. Higgins, MD, MSHA, in his Presidential Address, "On Life, Leadership, and the Pursuit of Happiness."

He cited several recent challenges, including concerns about public reporting, changing training paradigms, threatened reductions to Medicare reimbursement, and conflicting interpretations of scientific findings.

Dr. Higgins encouraged the next generation of leaders to put these matters into perspective and "orient their view toward opportunity, not crisis."

He added that, of the things that really matter, only a few actually can be controlled. "Focusing on those that intersect between these two apparently immovable forces is the way forward," he said.



There will be times when people have a difference of opinion, Dr. Higgins noted, and leaders should enable new ideas and opinions to percolate up, rather than always running down from the top, "For me, this was much harder than it appeared," he admitted.

He also recommended a more flexible leadership style that takes into account the different work interests and expectations of generation Xers and millennials.

"In order to chart a new course, we have to still honor the past, but create a new map for a sustainable future—and we have to do it now," Dr. Higgins said.

He concluded by encouraging the audience to have an optimistic outlook despite the difficulties. To achieve this positive mindset, Dr. Higgins recommended following eight practices outlined by Robert S. Sawin, MD, in a 2019 JAMA Surgery article, "Optimizing Joy in Surgery":

- Reflect nightly on three things for which you are grateful
- Look for the humor in life
- ▶ Be intentional
- ▶ Be a leader
- ▶ Be a teacher
- Learn to cultivate compassion
- Stay involved in the community
- Consider accepting coaching

If cardiothoracic surgeons follow this advice, Dr. Higgins said, the specialty is likely to have a better future. "I believe that we have been most successful when we have a positive outlook on the daily challenges," he said.

"In order to chart a new course, we have to still honor the past, but create a new map for a sustainable future—and we have to do it now."

Robert S.D. Higgins, MD, MSHA

In addition to Dr. Higgins's address, three other keynote lectures were delivered at the STS Annual Meeting: the Vivien T. Thomas Lecture, "The Saga of Vivien Thomas: Discrimination, Segregation, and Bias," by Clyde W. Yancy, MD; the Thomas B. Ferguson Lecture, "M.E.G.A.: Make Evidence Great Again," by Domenico Pagano, MD, FRCS(C-Th), FETCS; and the C. Walton Lillehei Lecture, "Bumper Car Innovation of Heart Pumps and Mechanical Lungs," by Bartley P. Griffith, MD.



Watch videos of all four keynotes at sts.org/56AMplenaries.

Award Winners Recognized for Outstanding Achievements



Distinguished Service Award

The STS Distinguished Service Award is bestowed upon those who have made significant and far-reaching contributions to the Society and the cardiothoracic surgery specialty. The 2020 recipients were Robert A. Wynbrandt, JD (left), and Robert L. Kormos, MD (right).



Earl Bakken Scientific Achievement Award

The Earl Bakken Scientific Achievement Award was presented to Sir Magdi Habib Yacoub, MD (center), who is estimated to have performed more heart and lung transplants than anyone else in the world—approximately 2,500. The Bakken Award honors individuals who have made outstanding scientific contributions that have enhanced the practice of cardiothoracic surgery and patients' quality of life.

President's Award

Arman Kilic, MD, from the University of Pittsburgh Medical Center in Pennsylvania, was the recipient of the 2020 President's Award, which recognizes an outstanding scientific abstract by a lead author who is either a resident or a surgeon 5 years or less in practice. His award-winning paper was titled "Performance of a Machine Learning Algorithm in Predicting Outcomes after Surgical Aortic Valve Replacement: An Analysis of the STS National Database."

Poster Awards

Adult Cardiac Surgery

Atrial Functional versus Secondary Functional Mitral Regurgitation: Prognostic Implications on Short- and Mid-Term Outcomes (Sameer Hirji, MD)

Congenital Heart Surgery

Defining Contemporary Determinants of Cost following Primary Tetralogy of Fallot Repair: A Nationwide, Multi-Institutional Cost Analysis (Philip Allen)

General Thoracic Surgery

Important Yet Undescribed: Use of Machine Learning to Elucidate and Predict the Impact of Intraoperative Variables on Thoracic Surgery Outcomes (Biniam Kidane, MD, MSc, FRCSC)

Quality Improvement

The Implementation and Effectiveness of Evidence-Based Opioid Prescribing Guidelines for Postoperative Pain Management after Open Transthoracic and Laparoscopic Hiatal Hernia Repair (Jennifer M. Burg, MD, MS)

Thank You!

STS gratefully acknowledges the following companies for providing educational grants for the 56th Annual Meeting.

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By the Numbers





2,35

Professional registrants



62

Countries represented by registrants

Countries with the most registrants: United States, Canada, Japan, Mexico, South Korea



409 Speakers



168

Oral scientific abstracts and videos presented



142

Exhibiting companies and organizations



20.3 million

Social media impressions for #STS2020

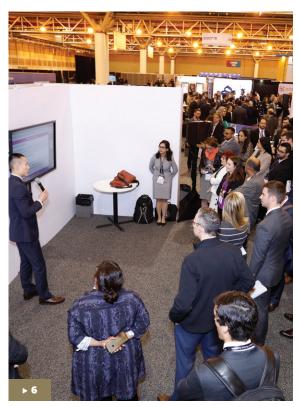








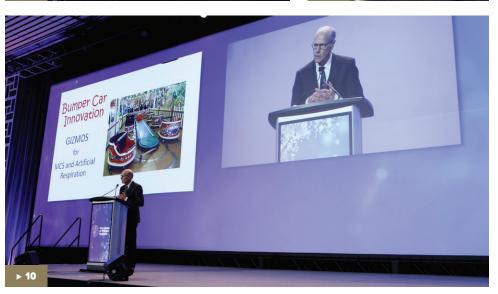












- ▶ 1 Clyde W. Yancy, MD, delivered the inaugural Viven T. Thomas Lecture on the importance of diversity and inclusion in health care.
- ▶ 2 Twenty courses on 10 topics were offered during STS University, giving participants the chance to practice several surgical procedures.
- ▶ 3 In his Thomas B. Ferguson Lecture, Domenico Pagano, MD, FRCS(C-Th), FETCS, explored the question, "Are we still practicing evidence-based medicine?"
- ▶ 4 The President's Reception at Mardi Gras World featured Cajun food and a lively band amid a backdrop of largerthan-life parade floats.
- ▶ 5 Abstracts on discharge after cardiac surgery, visualization of lung cancer tissue, and transcatheter aortic valve replacement were presented to the media at a press conference.
- ▶ 6 Scientific posters were presented electronically this year and drew large crowds. Find out who won in each poster category on page 17.
- ▶ 7 Alexander A. Brescia, MD, MSc, and Curtis Bergquist, MD, from the University of Michigan in Ann Arbor, defeated Jaime-Jürgen Eulert-Grehn, MD, and Mir Timo Nazari-Shafti, MD, from Deutsches Herzzentrum Berlin, in the Jeopardy competition.
- ▶ 8 Presentations at Tech-Con offered a variety of innovative techniques and novel approaches to treating clinical problems.
- ▶ 9 A brass band parade, or "Second Line," kicked off the Exhibit Hall Opening Reception. More than 140 companies and organizations exhibited during the meeting.
- ▶ 10 C. Walton Lillehei lecturer Bartley P. Griffith, MD, spoke about the future of heart pumps and oxygenators.

THE SOCIETY OF THORACIC SURGEONS

633 N. Saint Clair St., Suite 2100 Chicago, IL 60611-3658

Phone 312-202-5800 | **Fax** 312-202-5801

Email sts@sts.org | Web sts.org

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Mark Your Calendar

➤ STS 57th Annual Meeting
Austin, Texas · Jan. 30-Feb. 2, 2021

▶ Due to the evolving situation with COVID-19, the Society canceled or postponed several in-person educational meetings planned for 2020. Options for virtual meetings are being considered. Please check sts.org/meetings for the latest information.

Thank You!

STS gratefully acknowledges **Edwards Lifesciences** and **Medtronic** for being Platinum Benefactors (provided \$50,000 or more) of the STS 56th Annual Meeting in New Orleans.