Limited Populations, Lost Patient Follow-Up Impact TAVR versus SAVR Data

Three pivotal trials—Evolut, PARTNER 3, and PARTNER 2A—have shown that transcatheter aortic valve replacement (TAVR) was noninferior to surgical AVR (SAVR) in terms of mortality and stroke among low-risk patients with symptomatic severe aortic stenosis. But speakers at Sunday’s session on the evolving impact of TAVR said that many questions about TAVR and SAVR remain unanswered.

Michael J. Reardon, MD, from Houston Methodist Hospital in Texas, emphasized that TAVR may be preferred over surgery for low-risk patients, but only in the population tested in the Evolut trial. The mean ages for Evolut and PARTNER 3 were similar (74 years and 73 years, respectively), while the PARTNER 2A population had a mean age of 82 years. “We did not test enough young people,” said Dr. Reardon. Physicians see TAVR, page 3

Yancy Makes Impassioned Plea for Diversity and Inclusion

In a thought-provoking and inspiring talk at Sunday afternoon’s opening session, Clyde W. Yancy, MD, emphasized the need for diversity and inclusion within the medical profession as a way to improve health outcomes.

Dr. Yancy, vice dean for diversity and inclusion and chief of the Division of Cardiology at Northwestern University’s Feinberg School of Medicine in Chicago, delivered the inaugural Vivien T. Thomas Lecture, established to honor a man who helped usher in a new era in cardiothoracic surgery during a polarizing time in the United States.

Thomas was a black laboratory supervisor who worked with famed physician Alfred Blalock, MD, at Vanderbilt University in the 1940s. When Johns Hopkins recruited Dr. Blalock, he refused to move unless Thomas accompanied him as a “package deal.” Despite Thomas’s integral role in Blalock’s pioneering work in shock, vascular, and cardiac surgery, he was hired and paid as a janitor and was not allowed to use the main entrance to Johns Hopkins. He was not mentioned as a coauthor in scientific publications and was not included in group photos of trained physicians. Thomas’s life was beset by discrimination, segregation, and bias, said Dr. Yancy. “But was it?” he asked.

Before answering that question, Dr. Yancy explored the current state of diversity and inclusion in the United States. The demographics of the country are changing, and there is no longer a majority population. “This is an excellent opportunity to make an argument for inclusion,” he said.

He noted that the absence of a diverse workforce in medicine contributes in part to disparate disease outcomes, pointing to the low percentage of transcatheter aortic valve replacement procedures performed in black patients as an example. “When we make decisions, we bring certain templates of how we think and act,” he said. “We need to emphasize that the influence of implicit bias—which he described as a tendency or influence of implicit bias—which he described as a tendency or

NextGen STS National Database Is Ready for Launch

More than 2 years in the making, the next generation STS National Database launches this week. The phase 1 rollout will include a data uploader, missing variable report, interactive dashboard, and a data quality report that will provide feedback within minutes after upload. Vinay Badhwar, MD, chair of the STS Council on Quality, Research, and Patient Safety, will demonstrate some of these transformative features during the Monday morning plenary session, “The Next Generation STS National Database: The Future Is Now,” in Great Hall A.

“The transition represents an evolution for all consumers of the STS National Database,” Dr. Badhwar said. “This is an exciting time for our specialty as we collectively strive to improve our experience, reduce data burden, and save time and resources, while maintaining a unified platform for surgical quality.”

The platform is powered by the Society’s new data warehouse, IQVIA, a leading global provider of advanced technology solutions. IQVIA representatives will demonstrate the new dashboards at the STS Booth (#101) in the Exhibit Hall.

Phase 2 launch, which is planned for this spring, will include access to risk-adjusted outcomes and like group comparisons for participants in the Adult Cardiac Surgery Database (ACSD). For participants in the General Thoracic Surgery Database and the Congenital Heart Surgery Database, access to risk-adjusted outcomes will come during phase 3 this summer. At that time, ACSD participants will see a more than 30% reduction in the number of data entry variables, which will save time and resources, without sacrificing the granularity or robustness of the data.

For the latest updates on the next generation Database, visit sts.org/database.
INSPIRED BY CARING

At LSI, we care about you, your patients, and your team. We believe in advancing surgery, improving outcomes, and reducing pain.

Prof. Dr. Med. Farhad Bakhtiary
Chief Physician at Helios Hospital, Siegburg-Bonn, Germany
TAVR continued from page 1

must emphasize to younger patients that the results of these trials should not be applied to them, he added.

Another issue is the number of patients who were excluded and those who withdrew from the studies. Dr. Reardon highlighted two key exclusion criteria for Evolut: bicuspid aortic valve (verified by imaging) and coronary artery disease. PARTNER 3 had these same exclusion criteria. Excluding patients with these clinical features created “knowledge gaps,” said Dr. Reardon.

He said that his “biggest regret” about Evolut is not knowing why 260 of 1,728 patients (14.8%) were screened out at the national level. He said that it would have been better to allow these patients to stay in the study and have their data collected in a registry.

Vinod H. Thourani, MD, from Piedmont Heart Institute in Atlanta, reported the 5-year outcomes for the PARTNER 2A trial. He noted that a disproportionate number of SAVR patients withdrew from the study. At the end of 5 years, 91% of patients in the TAVR group and 81% in the surgery arm completed follow-up. “I consider this a limitation of the study,” said Dr. Thourani.

In reporting data from PARTNER 3, Gilbert Tang, MD, from the Mount Sinai Health System in New York, compared the findings of all three studies, saying the data indicate that surgery is better in terms of new left bundle branch block, mild pulmonary vascular resistance, and valve gradients; SAVR and TAVR are similar in terms of the need for new pacemakers, vascular complications, moderate-to-severe pulmonary vascular resistance, and coronary obstruction; and TAVR is better in terms of mortality, stroke, rehospitalization, acute kidney injury, severe bleeding, new-onset atrial fibrillation, 30-day quality of life, and length of stay (hospital and ICU).
Partnering great technology with great talent.

For over two decades, your commitment to endoscopic vessel harvesting (EVH) has produced more than two and a half million procedures\(^1\). And with indications for both the saphenous vein and the radial artery\(^2\), this number continues to grow by the day. Getinge vessel harvesting workshops and cadaver labs are available across the country, so follow the link below to request more information.

1. Data on file. 2. Getinge Vasoview Hemopro 2 IFU.

Visit us at STS booth 425

To request more information: info.getinge.com/EVHoutreach

For more EVH information: getinge.com/us/education/EVH/
ISCHEMIA, Surgical Experience Trials Refine Current Practice

Two hot topics will be discussed and debated at an adult cardiac session on Monday afternoon—the ISCHEMIA trial and the impact of surgical experience on mortality rates following reoperative cardiac surgery.

“The session puts these trials into perspective, which is critical,” said Ibrahim Sultan, MD, from the University of Pittsburgh Medical Center in Pennsylvania. “We can be overwhelmed by the amount of information coming our way. This session focuses on what is relevant and important to us as surgeons.”

The ISCHEMIA trial compared outcomes for patients with stable ischemic heart disease who received optimal medical therapy and lifestyle interventions versus optimal medical therapy plus angiography and revascularization by percutaneous intervention or coronary artery bypass grafting (CABG) surgery. Nearly 5,200 patients with confirmed stable ischemic heart disease were randomized and followed for 3.3 years.

“Patients who received optimal medical therapy plus lifestyle interventions had more spontaneous myocardial infarctions (MIs), while patients who received percutaneous intervention or CABG had more procedural MIs. The overall composite outcome of cardiovascular death, MI, hospitalization for unstable angina, heart failure, or resuscitation from cardiac arrest were similar between the two groups.”

“ISCHEMIA confirmed what some of the prior work has shown for patients with stable angina—that the noninvasive approach does not increase mortality in the medium term,” said Dr. Sultan, who is a member of the STS Workforce on Annual Meeting Program Task Force and helped plan the Adult Cardiac Ischemic session.

“These results are not likely to change anything major for surgeons,” Dr. Sultan continued.

“What it may change is the number of invasive coronary angiograms that are done for patients with stable disease. If these patients continue to have significant disease and progress, they will continue to be referred for surgery. It is important to realize that CABG is still beneficial for patients who present with acute coronary syndrome such as a non-ST segment elevation myocardial infarction.”

The session also will feature scientific abstracts on bilateral versus single internal mammary artery grafts for CABG, the optimal configuration for bypass of the left anterior descending artery during bilateral internal thoracic artery grafting, total arterial off-pump multivessel revascularization, and the impact of surgical experience on operative mortality following reoperative cardiac surgery.

Marc R. Moon, MD, from the Washington University School of Medicine in St. Louis, and his colleagues found that standardized mortality ratios are higher early in a surgeon’s career, but also that surgical outcomes decline during the later years of a surgeon’s working life.

“Our data suggest that there is a learning curve during the initial years of practice and a degree of skill attrition with very senior surgeons,” Dr. Moon said.

To offer additional perspectives on the topic, two surgeons will debate whether age matters when performing cardiac surgery. Audience members also will be encouraged to share their opinions.

“We all should be asking for assistance as needed and making sure that those who are assisting us are at a high level—the senior resident as opposed to a junior intern, or even a colleague for selected cases,” Dr. Moon said.

“That is true at both ends of our individual career spectrums.”

Technology and Common Sense Are Key to Avoiding Practice Extinction

What’s the secret to keeping your practice alive and well? Embrace new technology, new skills, and even social media—that’s the prescription for success and avoiding practice extinction, according to Tom C. Nguyen, MD, from The University of Texas at Houston.

“It’s like a game of chess. To win, a practice must think not only one to two steps ahead, but three to four steps ahead,” Dr. Nguyen said. “We must look to the future, be receptive to new technologies, be involved with innovation, and work in a multidisciplinary and collaborative fashion.”

Dr. Nguyen will moderate Tuesday’s session, “Avoiding Practice Extinction: Staying Relevant with New Technologies and Techniques,” with Lana Y. Schumacher, MD, from Massachusetts General Hospital in Boston. The session will describe a framework for keeping practices sustainable now and in the future and will offer tips that physicians can apply immediately upon returning home.

Technology will be a key focus of the session, and speakers will guide attendees to adopting the newest tools and techniques, including transcatheter aortic valve replacement (TAVR), electromagnetic navigational bronchoscopy, and robotics.

“It’s an exciting time for cardiothoracic surgery,” Dr. Nguyen said, thanks to recent “disruptive advancements” in catheter-based technologies and minimally invasive techniques. TAVR and MitraClip procedures are now critical treatments for structural heart disease.

“Most surgeons currently do not have the skillset to proficiently perform these procedures. If they do not learn them, they will become extinct,” he said. “Nearly 35% of what we do as cardiac surgeons is in the structural heart space. If we don’t learn transcatheter and minimally invasive skills, we’ll lose this share.”

Presentations will cover how to start transcatheter valve and robotic thoracic programs, better collaborate with cardiologists, fit training on new technologies into your schedule, and take advantage of support tools from specialty societies. Representatives from STS, the American Board of Thoracic Surgery, and the Accreditation Council for Graduate Medical Education will provide unique perspectives on reviving practices headed toward extinction.

“How do surgeons learn to adopt new technology?” Dr. Nguyen asked. “The train has left the station. Can surgeons still get a ticket for the ride?”

Learning to use social media also is critical to avoiding practice extinction. “Most patients will use the internet to research or find their physician. In medicine, we tend to disregard the power of the internet and social media, but it’s clearly there,” Dr. Nguyen said.

Ultimately, the secret to a healthy practice now and in the future requires cutting-edge thinking and a little common sense.

Think outside the box, embrace new technology, learn to be proficient at transcatheter and minimally invasive procedures, and attend not only the STS educational courses, but also cardiology meetings,” Dr. Nguyen advised.

“We must look to the future, be receptive to new technologies, be involved with innovation, and work in a multidisciplinary and collaborative fashion.”

Tom C. Nguyen, MD

“IISCHEMIA confirmed what some of the prior work has shown for patients with stable angina—that the noninvasive approach does not increase mortality in the medium term.”

Ibrahim Sultan, MD

Thank You

The Society of Thoracic Surgeons gratefully acknowledges the following companies for providing educational grants for the STS 56th Annual Meeting.

Platinum Benefactors
- Provided $50,000 or more
- Edwards Lifesciences
- Medtronic

Gold Benefactors
- Provided $25,000-$49,999
- Abbott
- Baxter

Silver Benefactors
- Provided $10,000-$24,999
- Boston Scientific
- Olympus

This list is accurate as of Jan. 26, 2020.

Avoiding Practice Extinction: Staying Relevant with New Technologies and Techniques

Tuesday
7:00 a.m. – 9:00 a.m.
Room 208
Fetal Cardiac Intervention Represents a New Era in Congenital Heart Disease

A few decades ago, congenital heart defects weren’t diagnosed until after babies were born. Then, fetal echocardiography allowed for early diagnosis and preparation. More recently, fetal cardiologists have successfully intervened in structural cardiac disease before birth.

“Just 10 years ago, there was a lot of eyerolling about fetal intervention. It was considered impossible or even unethical,” said Carl L. Backer, MD, from Ann & Robert H. Lurie Children’s Hospital in Chicago. “But today, we’re realizing that fetal cardiologists are changing the natural history of congenital heart disease.”

At a Tuesday session moderated by Dr. Backer, two expert fetal cardiologists will present recent innovations, dramatic case studies, and practical information that every congenital heart surgeon needs to know.

“When a surgeon is consulted on a patient with a fetal diagnosis of aortic stenosis or another structural abnormality, it’s important to consider more than Norwood/Fontan. Fetal intervention is not a cure, but it opens up more options.”

Anita J. Moon-Grady, MD

Surgeon Burnout May Jeopardize Patient Safety

Personal and professional responsibilities that are overly demanding can have a major impact on burnout and job satisfaction for cardiothoracic surgeons—and this can have significant patient safety consequences.

“Surgeons who are at high risk of burnout may depersonalize their colleagues and patients, which then impacts the safety of their care,” said Michal Hubka, MD, from Virginia Mason Medical Center in Seattle, who will moderate Tuesday’s Patient Safety Symposium on burnout in the specialty. “If you don’t perceive others as human beings and are just going through the motions, that’s a real problem.”

The session will outline causes of workplace burnout and offer practical solutions for addressing the variety of factors involved, with a focus on counseling, coaching, and mentorship.

“The speakers will discuss resources and strategies to solve this problem on many levels, from the individual to the systemic,” said co-moderator Dawn S. Hui, MD, from The University of Texas Health Science Center at San Antonio.

Dr. Hubka will present the results of an STS survey on physician wellness in cardiothoracic surgery. The key discoveries include:

• Job satisfaction was higher among surgeons with only one support staff member versus those surgeons with more than one support staff member.
• Better financial compensation and improved personal and organizational alignment were drivers of job satisfaction, but did not influence burnout rates.
• Job dissatisfaction and burnout scores peaked in the group practicing for 11-15 years and tracked until 20 years in practice, when burnout scores decreased and job dissatisfaction scores increased.
• Of surgeons who participated in the survey, 34% reported that they don’t perceive their colleagues as resilient or possessing the appropriate emotional tools to deal with stress; 17% of respondents said this of themselves.

“One of the biggest threats to a lasting career is a lack of personal resilience and coping skills. How are we going to deal with it?” Dr. Hubka asked.

Attendees should note that this 2-hour session fulfills the Patient Safety requirement of the American Board of Thoracic Surgery’s 5-year and 10-year Milestones for Maintenance of Certification.
Cardiothoracic Surgery Slow to Adopt Robotic Technology, But Times May Be Changing

Robotic-assisted surgery has grown in popularity among many US surgeons. In fact, urologists and gynecologists use robots for a majority of their procedures. So why are thoracic surgeons still performing traditional open surgery 50% of the time? Is it because they believe open surgery is best for their patients? Or are they unable to gain access to the equipment?

“Thoracic surgeons have been late adopters of robotic technology, but industry leaders are getting on board. I think we’re going to make up for lost time,” said Thomas K. Varghese, MD, MS, from the University of Utah School of Medicine in Salt Lake City, who will moderate Tuesday’s panel session featuring four proponents of robotic surgery.

The session will explore innovative techniques, best practices, patient benefits, financial considerations, and training for robotic surgery. “Today, most cardiothoracic training programs teach all three operating platforms: open thoracic surgery, video-assisted thoracic surgery (VATS), and robotic-assisted thoracic surgery. Trainees who have a complete foundation are considered the best candidates for quality centers,” said Dr. Varghese, who said he believes that almost every high-volume center in the US should have at least one robotic-assisted surgery system in place.

“We will discuss how to compete with urologists and gynecologists for access and how to negotiate with the C-suite for extra equipment,” he added.

Dr. Varghese said he is perplexed by the lack of support for robotics among some of his colleagues. In his mind, the benefits over open surgery are clear: smaller incisions, no rib-spreading, less pain, shorter hospital stays, and quicker recovery. Robotics simply is the next generation of minimally invasive surgery.

“The robotic incisions are even smaller than VATS. The robotic arms allow wrist-like movements that are far more precise than VATS instruments. And the high-definition, 3D monitors make it much easier to move around arteries, veins, and critical structures,” he said.

Of course, robotic surgery is not right for every patient, nor every surgeon. Naysayers point to a lack of hard evidence about outcomes. “It’s a justified criticism,” said Dr. Varghese. “We need a randomized clinical trial that proves robots are better than VATS.”

Another complaint from hospital administrators is the price tag. Some believe costs will drop when competitive systems enter the marketplace. Many argue that while the initial expenditure is high, the return on investment can be considerable over time.

Both advocates and critics will learn new information about the future of robotics at this session. “We look forward to a robust, open conversation,” said Dr. Varghese. “That’s good for our field and good for our patients.”

Stephanie G. Worrell, MD, from the University Hospitals Cleveland Medical Center in Ohio, will present “Robotics and My First 100 Days in Practice.”

“I hope to encourage junior faculty about the resources available to help them embark on a thoracic robotics program,” she said.

Building a Thoracic Robotics Program
Tuesday
11:00 a.m. – 12:00 p.m.
Room 225

The Patient Guide to Heart, Lung, and Esophageal Surgery is a trustworthy resource, reviewed by STS members, to share with your patients and their families. This website uses layman’s terms to explain symptoms, diagnoses, treatment options, and recovery through text, pictures, animation, and videos.

Available in English and Spanish

ctsurgerypatients.org
Share it with your patients today!
Industry Symposia

The following programs are offered by industry and held in conjunction with the STS 56th Annual Meeting. They are not developed or sponsored by STS.

Monday
6:30 p.m. – 10:00 p.m.
State-of-the-Art Surgical and Transcatheter Treatment of Mitral and Tricuspid Valvular Diseases: Case-Based Discussions
Antoine’s Restaurant, 713 Saint Louis St.
Hosted by Abbott
6:30 p.m. – 8:00 p.m.
Optimizing the Diagnosis and Treatment of Atrial Fibrillation
Aarnoud’s Restaurant, 813 Bienville St.
Hosted by Medtronic
6:30 p.m. – 10:00 p.m.
Monarch Robotic-Assisted Bronchoscopy: A Thoracic Surgery Perspective
Hilton New Orleans Riverside, Canal Room, 2 Poydras St.
Hosted by Auras Health
6:30 p.m. – 8:30 p.m.
New Perspectives: Technology and Changing Perspective in Aortic Valve Replacement
Tommy’s Cuisine, 746 Tchoupitoulas St.
Hosted by Edwards Lifesciences
6:30 p.m. – 10:00 p.m.
Lifetime Management of Aortic Valve Disease: How Should Shared Care Decision Making Change in 2020?
Pelican Club Restaurant and Bar, 312 Exchange Pl.
Hosted by CryoLife
6:30 p.m. – 8:00 p.m.
ADVANCED NEUROMONITORING: Association, Inc.
American Association for Thoracic Surgery
AngioDynamics
5:15 p.m. – 6:15 p.m.
Business Meeting Tonight (STS Members Only)
Pelican Club Restaurant and Bar, 312 Exchange Pl.
Hosted by CryoLife
6:30 p.m. – 7:30 p.m.
Medtronic Reception
King’s Room, Brennan’s, 417 Royal St.
Hosted by Medtronic
7:30 p.m. – 10:00 p.m.
Medtronic Dinner and Panel Discussion
Biomedical Science & Engineering
Boston Medical Products, Inc.
Boston Scientific
C Change Surgical
CardioQip
Cardiovascular and Thoracic Solutions, LLC
Centese
CHF Solutions
CHI Saint Joseph Medical Group
CinVivo
ClearFlow
Code Medical
CorMatrix
CryoLife
CT Assist
CTSNet
CV Staff Solutions
Designs for Vision
EA Medical, LLC
EchoPixel
Eclipse Loupes and Products
ECOM Medical, Inc.
Edwards Lifesciences
EluNev
Essential
European Association for Cardio-Thoracic Surgery
European Society of Thoracic Surgeons
Fehring Surgical
Feldax
Genesee BioMedical
Geltinge
Gore & Associates
Harris Bay
Haeya Locums
HCA
Heart Hospital
Baylor Plano, The
Heart Valve Society
Houston Methodist Hospital: DeBakey
CV Education
International Society for Minimal Invasive Cardiothoracic Surgery
Intuitive Surgical
iQVIA
JACE Medical
Johnson & Johnson Medical Devices Companies
Kapp Surgical
Karl Storz Endoscopy
Kinederm, Inc.
KLS Martin
Koros USA, Inc.
LifeNet Health
LivaNova
LocumTenens.com
LSI Solutions
Med Alliance Solutions
Medela Healthcare
Medison
medipro
Medtronic
MedXpert North America
Merit Medical Endotek
Microsurgery Instruments, Inc.
Möller Medical GmbH
Nadia International
Nova Biomedical
Olympus America, Inc.
On Call Medical Coats
OncoCyte
Oraoptic
Our Lady of the Lake Regional Medical Center
Oxford University Press
Peters Surgical
Pinnacology
Presbyterian Healthcare Services
Quest Medical, Inc.
R&D Surgical USA, Inc.
Ronin Surgical Corp.
Ruturact/Pemco, Inc.
Saphena Medical
Scanion International
Society of Thoracic Surgeons, The
Sontec Instruments
STS Regional Data Managers
Summit International Medical Technologies
SurgiTel/General Scientific Corp.
Syncardia Systems, LLC
Tails Clinical
Terumo
THINK AORTA Working Group
ThinkMed Consulting
Thompson Surgical
Thynk Health
Transonic
Uretech
USB Medical
Veran Medical Technologies
Visit Austin
Vitakor, Inc.
Weatherby Healthcare
Western Thoracic Surgical Association
Wexler Surgical, Inc.
Women in Thoracic Surgery
Zimmer Biomet Thoracic
ZipLine Medical, Inc.
ZipperBelt
Exhibit Hall Hours
Monday, January 27: 9:00 a.m. – 4:30 p.m.
Tuesday, January 28: 9:00 a.m. – 1:30 p.m.

Learning Lab Theater
Exhibiting companies and others will present talks and demonstrations. See page 8 for a list of presentations.

Don’t Miss...

Career Fair
Meet face-to-face with employers at the STS/CTSNet Career Fair. Recruiters will be available to talk about career opportunities.

E-Posters
Scientific posters are electronic this year, and several monitors are available for viewing.

STS Booth (#101)
Hear about the latest the Society has to offer, including member benefits, advocacy efforts, educational courses, the STS Research Center, and the next generation STS National Database.

Join the Conversation
@societyofthoracicsurgeons
@STSCTSurgery
@thesocietyofthoracicsurgeons

#STS2020
Tuesday Program

6:30 a.m. – 1:00 p.m.
Registration
Hall B1 Lobby

9:00 a.m. – 1:30 p.m.
Exhibit Hall
Hall B2

7:00 a.m. – 9:00 a.m.
Adult Cardiac: General
Room 211

Adult Cardiac: Mitral/Tri-Cuspid Valves
Room 205

Adult Cardiac: Valvular Disease
Room 216

Adult Cardiac: New Perspectives
Room 222

Adult Cardiac: Electrophysiology
Room 228

General Thoracic: Lung Cancer Disparities and Innovation
Room 220

General Thoracic: Mediastinal/Pulmonary
Room 215

Machine Learning in Prediction of Cardiothoracic Surgery Outcomes
Room 224

Rescuing the Right Ventricle: Surgery Outcomes—Valve and Hemodynamics
Room 229

9:00 a.m. – 9:30 a.m.
Scientific Posters
Exhibit Hall

Beyond the Session: Recent Clinical Trials and Their Impact on You
E-Poster Theater 1

Beyond the Session: Training the Thoracic Surgeon
E-Poster Theater 2

3:30 p.m. – 10:45 a.m.
K.O.R. Primary Session
Great Hall A

9:30 a.m. – 9:45 a.m.
Award Presentations
9:45 a.m. – 10:45 a.m.
C. Walton Lillehei Lecture: Bartley P. Griffith

11:00 a.m. – 12:00 p.m.
Building a Thoracic Robotics Program
Room 225

Critical Care Research
Room 211

Health Policy Forum: Navigating the Merit-Based Incentive Payment System and Alternative Payment Models in 2020
Room 215

Meet the Experts: Cardiothoracic Surgery in the Military
Room 224

see SCHEDULE: page 13

Clark Papers Reveal New Insights on Diaphragm Paralysis, LVRS, Infective Endocarditis

The proportion of valve surgery performed for drug-use-associated endocarditis has increased dramatically, and we observed significant regional variation in the burden of these cases, which correlated to opioid epidemic hotspots,” said Arnar Geirsson, MD, from the Yale School of Medicine in New Haven, Connecticut.

Although all cardiac surgery centers have experienced an increase in volume of these cases, the regional variability is quite striking, he added. For example, in some centers within the Appalachian corridor, more than 60% of valve cases performed for endocarditis were drug related.

“The epidemiology of endocarditis is really changing due to the opioid epidemic, and surgeons can play a leading role in managing these patients,” said Dr. Geirsson.

Sponsored by STS National Database data are used for numerous important medical research studies each year that improve cardiothoracic surgical outcomes and enhance the quality of patient care. Three of these studies, selected from among the many submitted for the 2020 Annual Meeting, were designated as this year’s Richard E. Clark Memorial Papers.

The papers will be featured during specialty-specific scientific sessions on Monday and Tuesday.

Diaphragm Paralysis Leads to Worse Outcomes for Pediatric Patients Following Heart Surgery

A study using data from the STS Congenital Heart Surgery Database showed that pediatric patients who experience diaphragm paralysis after heart surgery have worse outcomes than patients without paralysis.

“Our study is the largest multicenter investigation of diaphragm paralysis after pediatric cardiac surgery and shows that this complication is associated with postoperative morbidity and mortality,” said Charles D. Fraser, MD, from the Johns Hopkins Hospital in Baltimore.

“Furthermore, ours is the first study to highlight significant center-level variability regarding the practice of diaphragm plication.”

Overall, 2,214 of 191,463 patients (1.2%) in the study experienced diaphragm paralysis: 945 of 43,102 neonates (2.2%), 828 of 67,739 infants (1.2%), and 441 of 80,622 children (0.5%).

Prior single-center studies found that the incidence of diaphragm paralysis after congenital cardiac surgery ranged from 0.3% to 12.8% and was associated with increased respiratory complications, prolonged ventilation, lung infections, prolonged length of stay, and mortality.

“As such, we sought to investigate the true incidence of this complication, as well as the variability in practice patterns and the impact plication has on outcomes,” said Dr. Fraser.

Some studies have suggested that delayed diagnosis and delayed plication are associated with higher rates of lung infections, prolonged ICU length of stay, and mortality, particularly in neonates and infants.

However, previous data were limited by small sample sizes and single-center experiences.

In this study, plication was not associated with decreased mortality, morbidity, or shorter hospital stays, and in many categories, it actually was associated with worse outcomes.

Dr. Fraser said the authors were surprised by the significant center-level variability in the use of plication, suggesting that the management of diaphragm paralysis remains a target for quality improvement.

“The next steps likely would include a prospective multicenter study to corroborate these data and better delineate the utility of diaphragm plication,” he said.

Rates of Lung Volume Reduction Surgery Increase While Mortality Rates Decrease

A large, national study using data from the STS General Thoracic Surgery Database found that utilization of lung volume reduction surgery (LVRS) has increased and become safer with lower mortality rates.

Researchers examined nearly 35,000 cases from 1,000 cardiothoracic surgery centers spanning 7 years. Cases were stratified into groups with IDU (1,175) and without (23,149).

“The proportion of valve surgery performed for drug-use-associated endocarditis has increased dramatically, and we have observed significant regional variation in the burden of these types of cases, which correlated to opioid epidemic hotspots,” said Arnar Geirsson, MD, from the Yale School of Medicine in New Haven, Connecticut.

Although all cardiac surgery centers have experienced an increase in volume of these cases, the regional variability is quite striking, he added. For example, in some centers within the Appalachian corridor, more than 60% of valve cases performed for endocarditis were drug related.

“The epidemiology of endocarditis is really changing due to the opioid epidemic, and surgeons can play a leading role in managing these patients,” said Dr. Geirsson.

The study also highlighted the importance of careful patient selection in deciding who undergoes LVRS. “The most consistent risk factor for adverse outcomes is the functional status of the patient,” he added.

Increased Prevalence of Infective Endocarditis Tied to Illicit Drug Use

Another study—this one using data from the STS Adult Cardiac Surgery Database—showed that one-third of valve operations for infective endocarditis (IE) performed in the US are due to illicit drug use (IDU), pointing to a severe manifestation of the opioid epidemic.

Researchers examined nearly 35,000 cases from 1,000 cardiothoracic surgery centers spanning 7 years. Cases were stratified into groups with IDU (1,175) and without (23,149).

The proportion of valve surgery performed for drug-use-associated endocarditis has increased dramatically, and we observed significant regional variation in the burden of these cases, which correlated to opioid epidemic hotspots,” said Arnar Geirsson, MD, from the Yale School of Medicine in New Haven, Connecticut.

Although all cardiac surgery centers have experienced an increase in volume of these cases, the regional variability is quite striking, he added. For example, in some centers within the Appalachian corridor, more than 60% of valve cases performed for endocarditis were drug related.

“The epidemiology of endocarditis is really changing due to the opioid epidemic, and surgeons can play a leading role in managing these patients,” said Dr. Geirsson.
**Lecture**
continued from page 1

Inclination that results in judgment without question. “Implicit bias shapes our decisions and modifies our professional interactions,” said Dr. Yancy. “We all must be willing to think unconventionally and check our assumptions at the door.”

Bias can be overcome with awareness, allyship, and sponsorship. Dr. Yancy noted that everyone can be an ally. “Allyship is a lifelong process of building relationships based on trust, consistency, and accountability with marginalized individuals and/or groups of people. It is an opportunity to grow and learn about ourselves while building confidence in others,” he said.

Sponsorship is the core attribute of allyship. Whereas a mentor can advise and provide perspective on another’s role, career, and situation, a sponsor is the person who can make someone’s potential career a reality, said Dr. Yancy. “A sponsor believes in you. Sponsors offer serious seniority, power, and influence.”

Dr. Yancy came full circle at the end of his lecture by answering the question he posed earlier about Vivien Thomas. Rather than telling a story about segregation, discrimination, and bias, said Dr. Yancy, Thomas’s story “is about diversity and inclusion; it is about allyship; it is about sponsorship.”

---

**Researchers Meet the Media**

On Monday afternoon, the authors of three scientific abstracts will discuss their findings with various media outlets at the STS Press Conference. Scheduled for 12:30 p.m. in Room 204, the press conference will feature:

**Discharge 3 Days Following Open Heart Surgery Is Safe**

*Speaker:* S. Chris Malaisrie, MD, Northwestern Medicine in Chicago

*Discussant:* Daniel T. Engelman, MD, Baystate Medical Center in Springfield, MA

**Young Age Does Not Equal Low Risk for Patients Needing Aortic Valve Replacement**

*Speaker:* Jennifer S. Nelson, MD, MS, Nemours Children’s Health System in Orlando, FL

*Discussant:* Robbin G. Cohen, MD, MMM, University of Southern California in Los Angeles

**First-of-Its-Kind Technology Lights Up Lung Cancer Cells, Helps Improve Patient Outcomes**

*Speaker:* Inderpal S. Sarkaria, MD, University of Pittsburgh Medical Center in Pennsylvania

*Discussant:* Linda W. Martin, MD, MPH, University of Virginia in Charlottesville
Inspiring Keynote Lectures

**Thomas B. Ferguson Lecture**

**M.E.G.A.: Make Evidence Great Again**  
Domenico Pagano, MD, FRCSEd(T Thornton), FETCS  
Monday, January 27, 4:00 p.m.

Dr. Pagano is the Secretary General of the European Association for Cardio-Thoracic Surgery. In his talk, he will explore how to “make evidence great again” by challenging the soundness of data that support the practice of evidence-based medicine.

**C. Walton Lillehei Lecture**

**Bumper Car Innovation of Heart Pumps and Mechanical Lungs**  
Bartley P Griffith, MD  
Tuesday, January 28, 9:45 a.m.

Dr. Griffith is the Thomas E. and Alice Marie Hales Distinguished Professor in Transplant Surgery at the University of Maryland School of Medicine in Baltimore. He will speak about the remarkable achievements that have been made in heart pumps and oxygenators and explore possibilities for the future.

Visit STS in the Exhibit Hall

Stop by Booth #101 in the Exhibit Hall and hear about the latest the Society has to offer. You can learn more about member benefits, advocacy efforts (including STS-PAC), upcoming educational courses on extracorporeal membrane oxygenation and robotic thoracic and cardiac surgery, *The Annals of Thoracic Surgery*, the STS Research Center, and the Society’s charitable arm, The Thoracic Surgery Foundation.

You also can receive updates on the next generation STS National Database and get a closer look at the new highly secure, interactive, cloud-based dashboards (see page 1 for more details). And if you don’t yet participate in the Database, learn why you should join the more than 5,800 surgeons and other physicians who have committed to improving the quality of patient care.

Additionally, STS members can update their contact information and pay 2020 membership dues. Non-members can fill out an application to begin taking advantage of the many benefits of STS membership.

**MEDISTIM**

25% Change in Planned Surgical Strategy

Visit us at booth 511 to learn more about the multicenter REQUEST study & participate in the STS Scavenger Hunt.

**STS National Database Ò Trusted. Transformed. Real-Time.**

Get a demonstration at STS booth #101.
In the past year, STS President Robert S.D. Higgins, MD, MSHA, has led tireless efforts to enhance and expand the Society’s activities in many important areas. As his presidential term comes to a close Monday evening, he looks back at the achievements, challenges, and lessons learned—and shares a preview of his Presidential Address, which he will deliver Monday morning at 11:15 in Great Hall A.

“Life isn’t about waiting for the storm to pass. It’s about learning to dance in the rain. And I think that’s been one of the things I have emphasized this past year.”

Robert S.D. Higgins, MD, MSHA

Dr. Higgins: What are you most proud of accomplishing during your year as STS President?

Dr. Higgins: We have been fortunate with the great support of the volunteer leadership and STS staff to craft a vision for the future of the Society. I’m proud that we’ve been able to enhance the STS National Database, create educational opportunities for young cardiac surgeons, address concerns about physician reimbursement, and work together with our colleagues in Europe and across the country. Our specialty has an impact on some of the most deadly and challenging medical conditions in the Western world—namely, atherosclerotic heart disease and lung cancer. And if we keep our eye on the prize, we will continue to be influential in those diseases, help patients, and benefit society. Honoring our past while looking toward the future has been a key achievement in my year as STS President.

Dr. Higgins: What challenges has the specialty encountered during your term?

Dr. Higgins: In addition to modernizing the Database, we have been trying to build a platform of collaboration across our specialty between our European, Asian, and African colleagues. There’s a recognition that many people in our society are not able to benefit from heart and lung surgery, and there are significant disparities in care. Recognizing those disparities and working to fix them is an important aspect of what we should be doing, because it really is about the patient in the final analysis.

We’ve also dealt with challenges related to public reporting of surgical outcomes, and some of our congenital colleagues have felt that they’re under the microscope.

Dr. Higgins: How do you want to be remembered in your role as President?

Dr. Higgins: I’m hopeful that people will remember me as someone who listened first, who acted strategically and wisely, and who paved the way for others who have not historically been considered for leadership roles—who showed women and people of color that they have a future in our organization. That would be a cool legacy to leave behind for future generations.

Dr. Higgins: What advice would you give to the next generation of STS leaders?

Dr. Higgins: As I thought about my year, I thought about the lifesaving benefits of cardiac and lung cancer surgery over the past 75 years. We are continuing to grow, develop, and save lives—millions of lives—and we respect and admire that. That requires progressive leadership and learning from the past to adapt for leadership for the next generation. This generation has different expectations, and we need to be aware of that.

We also have to keep our eyes on what’s really important in our lives. Not so much the day-to-day grind, but rather, developing successful strategies to not only be satisfied in our work, but happy in our work. In my address, I’ll refer to some of the tenets that we have as an organization—inclusion, diversity, teamwork, collaboration, and quality. All of these things need to come together to make you feel happy in the field of cardiothoracic surgery.

I’ll offer some advice for people to think about, like looking for humor in life, being a teacher or a leader, learning to cultivate compassion, working in your community, and using coaching when necessary. Those things will make what we do even more gratifying. That’s the message I’ll be trying to get across.

One of the great quotes that I’m going to use in my talk—and there are many of them—says that life isn’t about waiting for the storm to pass. It’s about learning to dance in the rain. And I think that’s been one of the things I have emphasized this past year.
Stay Connected

Today's Top Tweets

Never never give up! Persistence and resilience pay off in research! Thank you to all who attended our session this morning at #STS2020 @WomenInThoracic #researchsavesslives

@EADavidMD

Did this kiosk owner know we are in town? #STS2020

@STS_CTsurgery

Packed room #STS2020 @STS_CTsurgery on low risk #TAVR session. Great summaries and discussions on TAVR across entire patient spectrum, future of AS treatment, @CTsurgeon training, @Edwards_TAVR @MDT_StructHeart @Vinothourani @GilbertTangMD @OPreventzaMD

@GilbertTangMD

#STS2020

STS 2020 at a Glance

The MyTube session on thoracic surgery and robotic first rib resection presented an innovative and elegant technique. It was impressive.

My favorite sessions were the Vivien Thomas Symposium on diversity and inclusion, the Women in Thoracic Surgery session, and the Residents Symposium.

My favorite was the Tech-Con session on machine learning. It was very forward-thinking and will benefit patient care.

What has been your favorite session so far?

Arash Salemi, MD
Newark, New Jersey

Alexis Chidi, MD, PhD
Baltimore, Maryland

Pierre Ghosn, MD
Montreal, Canada

QUESTION of the day

What has been your favorite session so far?

Arash Salemi, MD
Newark, New Jersey

Alexis Chidi, MD, PhD
Baltimore, Maryland

Pierre Ghosn, MD
Montreal, Canada
To learn more about BioGlue®, visit us at STS, booth #1013.
At Getinge, we believe that saving lives is the greatest job in the world. As your partner, we are by your side every step of the way, working together as one.

Visit us at STS booth 425

Discover our partnership opportunities, visit www.getinge.com/us/