



STS MEETING BULLETIN

THE SOCIETY OF THORACIC SURGEONS
54th ANNUAL MEETING
JANUARY 27-31, 2018
FORT LAUDERDALE, FL | sts.org

MONDAY

6:30 a.m. – 5:00 p.m.

Registration
Atrium Lobby, First Floor

9:00 a.m. – 4:30 p.m.

Exhibit Hall
Halls ABC, First Floor
Scientific Posters
Third Floor Concourse

7:00 a.m. – 7:15 a.m.

Opening Remarks
Grand Ballroom

7:15 a.m. – 8:15 a.m.

J. Maxwell Chamberlain Memorial Papers
Grand Ballroom

8:15 a.m. – 9:00 a.m.

Abstract Presentations
Grand Ballroom

9:40 a.m. – 9:50 a.m.

Introduction of the President:
Keith S. Naunheim
Grand Ballroom

9:50 a.m. – 10:50 a.m.

Presidential Address: Richard L. Prager
Grand Ballroom

11:30 a.m. – 12:30 p.m.

Adult Cardiac: Arrhythmia/Atrial Fibrillation
Floridian Ballroom A

Basic Science Research: Adult Cardiac
Rooms 301-302

Basic Science Research: General Thoracic
Room 304

Congenital: Adult Congenital
Room 316

Critical Care
Room 315

Diversity and Inclusion in Cardiothoracic
Surgery: What's In It for Me?
Floridian Ballroom B-C

General Thoracic: New Technology
Floridian Ballroom D

STS/CATS/CSGS: Difficult Decisions in
Thoracic Surgery—Advice From Canadian
and American Experts
Room 305

1:15 p.m. – 5:15 p.m.

Clinical Scenarios: Cardiologists and
Surgeons Working Together
Floridian Ballroom B-C

1:30 p.m. – 3:30 p.m.

Adult Cardiac: Aorta I
Floridian Ballroom A

Adult Cardiac: Ischemic
Floridian Ballroom D

Congenital: Pediatric Congenital I
Room 305

General Thoracic: Lung Cancer I
Room 315

General Thoracic: Lung Transplantation
Room 316

International Symposium: Confronting
Infectious Diseases in Young Adults
Undergoing Cardiac Surgery
Room 304

see [SCHEDULE](#), page 6

MONDAY | JAN. 29, 2018

Diversity in Cardiothoracic Surgery Workforce Benefits Patients, Professionals

An important new session offered this morning will address the role of diversity and inclusion in the cardiothoracic surgery workforce and explore why physicians who are underrepresented in medicine are important

Diversity and Inclusion in Cardiothoracic Surgery: What's In It For Me?

Monday

11:30 a.m. – 12:30 p.m.
Floridian Ballroom B-C

for the optimal delivery of cardiothoracic surgical care. The session was developed by the Society's Special Ad Hoc Task Force on Diversity and Inclusion, which was created last

year with a mission of fostering inclusion and diversity within STS, as well as the cardiothoracic surgery specialty.

"It is the vision of our President,

Dr. Richard Prager, to see a workforce equipped to care for diverse populations both nationally and internationally by cultivating an open environment," said Task Force Chair and session moderator David T. Cooke, MD.



David T. Cooke, MD

During the session, David A. Acosta, MD, Chief Diversity and Inclusion Officer at the Association of American Medical Colleges, will share his expertise on the value proposition of diversity and inclusion.

"Studies have demonstrated that diversity provides a more robust learning environment. Students who interacted with students from racial/ethnic-diverse backgrounds demonstrated the greatest engagement in active thinking, growth in intellectual discourse,

engagement and motivation, and growth in intellectual and academic skills," he said.

A diverse physician workforce also benefits patients, Dr. Acosta added. "Studies have also demonstrated that racial/ethnic concordance and language concordance between patients

see [DIVERSITY](#), page 14

Share Your Thoughts on Diversity

If you haven't done so already, please take 10 minutes to fill out the STS Diversity and Inclusion Survey at sts.org/diversitysurvey. Results will be used by the Society to develop and implement programming and other resources. Individual responses will remain anonymous, and aggregate survey results will be reported after analysis for peer review and/or general dissemination.

'Shark Tank' Pitches Address Unmet Needs

The growing prevalence of cardiovascular disease and advances in technology have led to exponential growth in the cardiothoracic device market. Three physician-innovators are hoping to be part of that burgeoning market and pitched their cutting-edge products and novel devices during yesterday afternoon's STS/AATS Tech-Con Joint Session: Robotic Cardiothoracic Innovations and "Shark Tank"—Rapid-Fire Pitches of Revolutionary Technology.

Jeffrey L. Port, MD, of Weill Cornell Medical Center in New York, led off the pitch session by discussing a device designed to address the clinical challenge of identifying small nodules, especially during minimally invasive surgery. He said that his novel microshell marker offers many benefits over other tools, such as hookwires and dyes, including lack of migration or dispersion, intraoperative ultrasound visibility, long-term (30 days or more) duration, elimination of the need for a localization procedure, and bioresorbability.

Steven F. Bolling, MD, of the University of Michigan in Ann Arbor, William E. Cohn, MD, Vice President for Johnson & Johnson Medical Device Companies, and Arjun (J.J.) Desai, MD, Vice President, Innovation, Johnson & Johnson, served as the "sharks" to evaluate the pitches and offer advice.

Drs. Bolling and Cohn commended Dr. Port and his team for the device but noted that the



James H. Mehaffey, MD describes his idea on how to improve ventricular assist devices.

presentation fell short of a pitch; because of this, they opted not to invest. Dr. Desai agreed but said he would be "in as an advisor."

In the second pitch, James H. Mehaffey, MD, of the University of Virginia in Charlottesville, discussed the important role of ventricular assist devices (VADs), while noting

that suction events due to low-flow states and malposition of the inflow cannula result in significant morbidity. In addition, leftward shift results in distorted right ventricular geometry, leading to late right ventricular dysfunction as a sequela of adverse remodeling. Dr. Mehaffey

see [TECH-CON](#), page 13

Don't Miss Today's Presidential Address

Eye of the Beholder:

The Reinvention of Seeing

Richard L. Prager, MD

9:50 a.m. – 10:50 a.m., Grand Ballroom



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Indications: This device is indicated for the reconstruction and/or remodeling of pathological mitral valves. Valvular insufficiency and/or stenosis may be corrected by appropriate repair and annular remodeling. Contraindications: Heavily calcified valves, valvular retraction with severely reduced mobility, active bacterial endocarditis. Warnings/Precautions/Adverse Events: Only physicians who have received proper training in valve repair should use this device. Adverse events can include: thromboembolic events, dehiscence, hemolysis, stenosis, residual incompetence, heart block, endocarditis, systolic anterior motion, left ventricular outflow tract obstruction, anticoagulant-related bleeding or hemorrhage. Caution: Federal law (USA) restricts these devices to sale by or on the order of a physician. For a listing of indications, contraindications, precautions, warnings, and potential adverse events, please refer to the Instructions for Use. For countries that use eIFUs, consult instructions for use at this website www.medtronic.com/manuals. Note: Manuals can be viewed using a current version of any major internet browser.

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Indications: The Simulus semi-rigid annuloplasty ring and band are for use in patients undergoing surgery for diseased or damaged mitral valves. The Simulus semi-rigid annuloplasty ring and band provide support for and restrict expansion of the annulus. Contraindications: Severe, generalized or localized bacterial endocarditis, heavily calcified valves, greatly dilated annulus (not reducible by standard techniques), severe valvular dysfunction (not correctable by standard techniques), valvular retraction with severely reduced mobility, congenital malformations with lack of valvular tissue. Warnings/Precautions/Adverse Events: Only physicians who have received proper training in valve repair should use this device. Adverse events can include: thromboembolic events, dehiscence, hemolysis, stenosis, residual incompetence, heart block, endocarditis, systolic anterior motion, left ventricular outflow tract obstruction, anticoagulant-related bleeding or hemorrhage. Caution: Federal law (USA) restricts these devices to sale by or on the order of a physician. For a listing of indications, contraindications, precautions, warnings, and potential adverse events, please refer to the Instructions for Use. For countries that use eIFUs, consult instructions for use at this website www.medtronic.com/manuals. Note: Manuals can be viewed using a current version of any major internet browser.

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Chamberlain Papers Represent the Best in New Research

Enhanced recovery after surgery, regionalization of congenital heart surgery centers, and surgical atrial fibrillation ablation are the focus of this year's prestigious J. Maxwell Chamberlain Memorial Papers.

The Chamberlain Papers are considered by the Workforce on Annual Meeting Program Task Force to be among the best scientific abstracts submitted for the meeting.

ERAS Pathway Decreases Perioperative Morbidity Following Thoracotomy for Primary Lung Cancer

Enhanced recovery after surgery (ERAS) programs are safe, feasible, and effective for reducing postoperative morbidity in patients undergoing a thoracotomy for primary lung cancer. Thoracic surgeons should move forward with confidence in implementing ERAS, according to Robert M. Van Haren, MD, of MD Anderson Cancer Center in Houston, who will present the Chamberlain Paper for General Thoracic Surgery.

Dr. Van Haren and colleagues compared outcomes for all patients undergoing pulmonary resection for primary lung cancer at MD Anderson between 2006 and 2016. Patients were evaluated at the pre-ERAS stage, during a transitional period with elements of ERAS, and after full implementation of an ERAS pathway.

ERAS components included limited pre-anesthetic fasting, preemptive analgesia, intraoperative regional analgesia with liposomal bupivacaine intercostal blocks, drain minimization, postoperative opioid-sparing multimodal analgesia, early ambulation, and oral intake.

The pathway's benefits included reducing complications, such as atrial fibrillation and pneumonia, and opioid-sparing drug treatment. Opioid-sparing benefits are particularly valuable at a time of a global opioid epidemic, Dr. Van Haren said.

"ERAS hasn't been looked at in thoracic surgery until now," he said. "Our goal with ERAS is to give patients better pain control and shorten their stay. We're seeing a reduction in hospital stays from 5 days to 4,

with no increase in readmissions. It's clear from our analysis that ERAS is effective, but it needs buy-in and collaboration from the entire team—from the thoracic surgeons and anesthesiologists to nursing and pharmacy."

Patients Will Travel Long Distances for Better Care

Regionalization of care has been hypothesized to be an ideal model for the delivery of congenital heart surgery (CHS); however, it has not been investigated in the United States. The Chamberlain Paper for Congenital Heart Surgery details the current network of hospitals at which patients undergo CHS as the basis for designing a regionalized system.

Tara B. Karamlou, MD, of Phoenix Children's Hospital, was among a team of researchers who examined congenital heart surgery referral patterns throughout the United States. Some states, such as California, Florida, New York, and Texas, had many CHS centers, while other states had none. California, for example, had 25 centers, many of which were located in close proximity to one another.

"We have to be good stewards of our patients' care," Dr. Karamlou said. "It's important for centers to collaborate and discuss partnerships with other centers. Our data would suggest that providers and stakeholders should look critically at models in their states and, if possible, collaborate with local or regional centers of excellence."

In addition to describing the distribution of CHS centers in the United States and demonstrating national referral patterns, the researchers sought to characterize the demographic currently traveling for CHS and the incurred travel burden. The results showed that patients often travel long distances to high-volume centers perceived as high quality, regardless of patient age or case complexity. Patients without insurance traveled the least for care.

"One of the major unanticipated findings of this initial study was that many patients are

"The takeaway is that we not only have new guidelines based on the efficacy of SAFA in achieving freedom from atrial fibrillation, but we now have additional data showing that SAFA has a real impact on how long patients live."

—ALEXANDER IRIBARNE, MD

already traveling a fair distance to perceived centers of excellence for surgery. Our study shows that 84% of patients already bypass the nearest center, which suggests that regionalization of care already exists to a certain extent," Dr. Karamlou said.

While higher case complexity was primarily concentrated in larger volume hospitals, very low-volume hospitals still performed important numbers of complex cases. Researchers accounted for case complexity using the RACHS-1 system and hospital volume.

According to Dr. Karamlou, if more hospitals were consolidated, such that only those centers with an annual case volume greater than 150 performed surgeries, travel distance would increase by a median of about 100 miles.

Significant Long-Term Survival Benefits Are Associated With SAFA

Surgical atrial fibrillation ablation (SAFA) was previously proven to be highly effective in reducing atrial fibrillation. Now, it appears to have a more lasting influence, affecting long-term survival.

Alexander Iribarne, MD, of Dartmouth-Hitchcock Medical Center in Lebanon, NH, and colleagues performed an extended look at SAFA, which can be performed without additional risk of operative mortality or major morbidity and is recommended at the time of concomitant mitral operations, as well as aortic valve and coronary bypass surgery, to restore sinus rhythm.

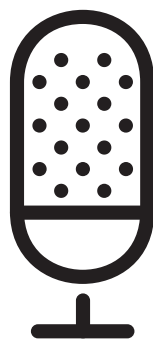
"The effectiveness of this technique in achieving freedom from atrial fibrillation is well documented in the literature," said Dr. Iribarne, who will present the Chamberlain Paper for Adult Cardiac Surgery. "Unfortunately, it remains an underutilized procedure. Our paper shows a significant long-term survival benefit associated with SAFA."

This new, multicenter analysis is consistent with a recent STS Clinical Practice Guideline recommending SAFA for concomitant mitral operations, as well as isolated aortic valve replacement (AVR), isolated coronary artery bypass grafting (CABG) surgery, and AVR plus CABG.

The study, conducted between 2008 and 2015, analyzed more than 2,000 patients undergoing CABG, valve, and CABG/valve operations with preoperative atrial fibrillation across seven hospitals. There was a significant improvement in unadjusted survival among patients undergoing concomitant SAFA, and at 5 years, patients undergoing SAFA had a 26% improvement in adjusted survival, compared to those who had no ablation. While SAFA patients had longer bypass times, they had a shorter overall length of admission.

"The takeaway is that we not only have new guidelines based on the efficacy of SAFA in achieving freedom from atrial fibrillation, but we now also have additional data showing that SAFA has a real impact on how long patients live," Dr. Iribarne said. "We hope this information will encourage more surgeons to incorporate SAFA in their practice."

The Chamberlain Papers honor the scientific contributions of Dr. Chamberlain, a renowned cardiothoracic surgeon who chaired the steering committee tasked with creating The Society of Thoracic Surgeons. ■



Recording Policy

Recording of STS 54th Annual Meeting sessions is strictly prohibited, except by authorized personnel. ■

New STS Members Approved

35 Active and 22 International Membership applicants were approved by the Society's Board of Directors this past Sunday. View a list of the new STS members at sts.org/new-members.

STS National Database Enables Extensive Research

The STS National Database is a valuable tool for quality improvement and research, and research utilizing the Database

has grown exponentially in recent years. STS offers researchers various options for using these data, depending on the scale of the project and the questions posed by researchers.

The STS Access & Publications Research Program allows Database participants to submit novel, well-conceived, and hypothesis-driven proposals

for research. Submissions are accepted two times a year for the Adult Cardiac Surgery Database, General Thoracic Surgery

Database, and Congenital Heart Surgery Database. Soon, requests will be accepted for the new Intermacs Database component, which focuses on mechanical circulatory support devices.

Another option is the STS Participant User File (PUF) Research Program, which

allows analysis of national-scale de-identified data from the Database at investigators' institutions. The PUF Program was designed primarily as an

affordable option for investigators to pose research questions, quickly obtain quality data, analyze these data themselves given appropriate biostatistics resources, receive feedback, and develop their efforts into abstracts and manuscripts.

At this afternoon's Research Using the STS National Database session, speakers will explain the differences between the programs, cover the ins and outs of submitting data requests, and offer tips on developing a hypothesis, specific aims, and research plan.

This is a must-attend session for anyone wishing to fully utilize the research capabilities of the STS National Database. ■

J. Maxwell Chamberlain Memorial Papers

Monday
7:15 a.m. – 8:15 a.m.
Grand Ballroom

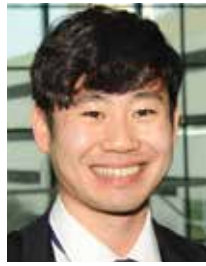
Research Using the STS National Database

Monday
4:15 p.m. – 5:15 p.m.
Room 305

QUESTION OF THE DAY

What did you learn that you will take back home with you?**JACOB MOREMEN, MD**
Jackson, MS

“ For my POEM patients, I’m more aware of the risk of silent reflux and esophagitis and will need to tailor my follow-up because of that. ”

**JACK MIZELLE, BA**
1st-year medical student
Boston University
Medical School

“ I learned more about the different tracks involved in becoming a CT surgeon: 4 + 3 and I-6. I also learned about new innovations, including sutureless valves. It’s very exciting to see so much change going on and to have such great potential mentors to look up to. ”

**GEOFFREY COUSINS, MD**
Huntington, WV

“ I’ve learned about aortic valve repair techniques. Traditionally, I’ve replaced aortic valves, but I’ve learned some things that will allow me to repair some of them. ”

**SARAH SCHETTLE, PA-C**
Rochester, MN

“ I learned so much about the next wave of innovations to make patients safer in a presentation by Kathleen Sutcliffe. She talked about high-reliability organizations and creating a climate and culture of respect. ”

Symposium Highlights Techniques to Manage Heart Infections

Infectious heart disease, especially as a result of the current opioid epidemic, is on the rise among young adults. At the International Symposium, surgeons from around the world will explain their approaches to dealing with these infections, the central challenges they face, and the ethical disease management dilemmas related to infectious heart disease in young adults.

Speakers will discuss the treatment of infected mitral valves, repairing the bicuspid aortic valve, endocarditis and neurological complications, transcatheter interventions for failing repairs, valve thrombosis, and infection of aortic prostheses.

“Many surgeons in developing countries don’t have the resources they need to treat these patients,” said session moderator Juan P. Umaña, MD, of Fundacion Cardoinfantil-Institute of Cardiology in Bogotá, Colombia. “Imaging techniques are not readily available, so discussing a simple algorithm in how to approach these patients will be a major focus.” ■

International Symposium: Confronting Infectious Diseases in Young Adults Undergoing Cardiac Surgery

Monday

1:30 p.m. – 3:30 p.m.

Room 304

Stay connected **TOP TWEETS** #STS2018

En route to **@STS_CTSurgery** annual meeting, where one of my mentors - Dr. Richard Prager **@umichCVC** **@UMichSurgery** - will give Prez address Monday AM. Grateful for the opportunity to connect with Mentors, Friends & trainees. **#STS2018**

@TomVargheseJr

Amazing to see this on my first run to the Beach! Exciting!
#STS2018

@sarsch79

Packed room today at the CHEST/STS combined symposium on advanced Bronchoscopy and airway surgery organized by Dr. Whyte and I at STS annual meeting in Fort Lauderdale. Great to see the interest and wonderful multidisciplinary discussion **@accpchest** **@STS_CTSurgery** **#STS2018**

@Int_Pulmonology

Dr. Prager describes the Phase of Care Mortality Analysis (POCMA) - ~25% due to factors in the **#CVCU**. 1/3 likely preventable! Real opportunity for improvement in quality and **#patientsafety** **#STS2018** **#TSSMN** **@STS_CTSurgery**

@TheRakeshArora

If you donate to the STS PAC, you get a pen, scrub cap, and advocacy for the future of your patients!
#STS2018

@ShandaBlackmon

Hartwig touches on ECMO for complex airway reconstruction. Interesting use of EC support in general thoracic surgery. **#STS2018**

@archerm2

30 fantastic “Looking to the Future” scholarship winners **@STS_CTSurgery** listen to **@DavidDOdell** give advice on becoming a CT surgeon. Key Tip: A mentor is not just for times of crisis! Be proactive and develop a relationship when things are going well. **#STS2018**

**@BrianMitzman**

Terrific talk from Richard Bell of **@MarylandSurgery** on implementing **@STS_CTSurgery** post cardiac surgery resuscitation guidelines. “About 10 hours after our first training we needed to use this for the first time.” **#STS2018**

@brianmtill

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SCHEDULE

continued from page 1

SVS @ STS: Sharing Common Ground for Cardiovascular Problems
Rooms 301-302

4:15 p.m. – 5:15 p.m.

Adult Cardiac: VAD Transplant/ECMO
Floridian Ballroom A

Ethics Debate: Neighborly Help or Itinerant Surgery?
Room 315

Research Using the STS National Database
Room 305

STS Key Contacts: Advocates for Cardiothoracic Surgery
Rooms 220-221

The Annals Academy: Preparation and Interpretation of National Database Research
Room 316

The Importance of Physician Documentation in Reimbursement
Rooms 301-302

This Just In: Late-Breaking Research Results and Novel Ideas
Room 304

Women in Thoracic Surgery: How to Successfully Implement Surgical Innovations and New Technologies Into Practice
Floridian Ballroom D

5:15 p.m. – 6:30 p.m.
Scientific Posters and Wine
Floridian Ballroom Lobby

5:30 p.m. – 6:30 p.m.
Business Meeting (STS Members Only)
Room 316

Ethics Debate Explores Postoperative Coverage

More smaller or remote health care facilities are requesting assistance from cardiothoracic surgeons at major hospitals, leading to controversy over what happens when the cardiothoracic surgeon leaves. Oftentimes, patient care is transferred to a less experienced general surgeon. During the Ethics Debate, two cardiothoracic surgeons will explore the pros and cons of this practice.

James S. Allan, MD, of Massachusetts

General Hospital, will argue that postoperative coverage by a general surgeon is an acceptable arrangement, while Alberto Ferreres, MD, PhD, of the University of

Buenos Aires School of Medicine, will argue that a cardiothoracic surgeon must provide postoperative coverage.

“The debate is not going to provide an answer to this question,” said STS/AATS Cardiothoracic Ethics Forum Chair Robert M. Sade, MD, who will facilitate the discussion. “It is going to provide two different ways of thinking about it. Then, it will be up to whoever is in the audience to take that information and decide how they would handle it if it comes up.” ■

**Ethics Debate:
Neighborly Help or
Itinerant Surgery?**

Monday

4:15 p.m. – 5:15 p.m.

Room 315

Clark Papers Spotlight Three STS National Database Studies

The STS National Database has contributed to scores of research studies that advance quality and patient safety in cardiothoracic surgery. Three such studies—considered as the best submitted for the 2018 Annual Meeting—have been designated as this year’s Richard E. Clark Memorial Papers.

Instead of the Clark Papers being presented en masse, the adult cardiac paper will be presented during today’s general session, and the congenital and general thoracic papers will be featured during specialty-specific parallel sessions.

TAR Remains Gold Standard for Surgical Management of Aortic Arch Pathologies

A comparative analysis of two surgical approaches for management of aortic arch pathologies has yielded interesting and provocative results.

Total arch replacement (TAR) has been the gold standard for treatment of arch pathologies such as aneurysm, dissection, intramural hematoma, and penetrating aortic ulcer. But

as endovascular technology continues to be adopted for management of thoracic aortic pathologies, hybrid arch procedures increasingly are being investigated.

For hybrid arch procedures, arch vessels are debranched, and an endograft exclusion of the aortic arch is then performed.

In the Clark Paper for Adult Cardiac Surgery that will be presented today, researchers analyzed data from the STS Adult Cardiac Surgery Database to gain a national perspective on the effectiveness of TAR versus hybrid arch procedures.

“TAR is the traditional operation for arch pathologies involving the head vessels, while the hybrid arch approaches represent the newer

alternative,” said Prashanth Vallabhajosyula, MD, MS, of the University of Pennsylvania. “Although several single-institution retrospective studies have demonstrated satisfactory—and sometimes superior—outcomes of hybrid arch procedures over TAR, a multicenter, large-scale comparison of the two procedures has never been done. In this investigation, we assessed the outcomes of TAR versus hybrid arch procedures performed at over 270 centers nationwide in the elective setting.”

Comparing results from the two procedures, researchers studied in-hospital/30-day mortality, stroke, paralysis, reoperation, and STS morbidity (a composite of renal failure, deep sternal infection, prolonged ventilation, reoperation for bleeding, and stroke). Patients undergoing hybrid arch procedures had a higher comorbid burden, as well as significantly higher rates of mortality, stroke, and paraplegia. Even after risk adjustment, hybrid arch procedures were associated with a significantly higher risk of stroke and mortality.

“This study emphasizes the importance of careful and meticulous investigation of hybrid arch procedures before adopting them into our routine surgical practice,” Dr. Vallabhajosyula said. “Maybe it is time that we come together as a cardiac surgical community and conduct a prospective, randomized, multicenter trial to understand the optimal surgical management of aortic arch pathologies. This issue is even more important today, as single- and dual-branch TEVAR grafts are already being investigated for treatment of arch pathologies.”

Higher-Stage Lung Cancer and Central Tumor Patients Not Receiving Proper Mediastinal Staging

Identifying key predictors of invasive mediastinal staging in stage 3 lung cancers may bridge the gap and reduce uncertainty in the quality of lung cancer care. Researchers reached the conclusion after assessing the volume and uniformity of mediastinal staging within the STS General Thoracic Surgery Database (GTSD) against previously reported rates.

According to Seth B. Krantz, MD, of NorthShore University Health System in Chicago, these predictors can help determine the best course of treatment for patients and potentially avoid unnecessary surgery.

“The guidelines for mediastinal staging are pretty clear. However, the problem is that people are not actually following the guidelines and doing it with consistency,” Dr. Krantz said. “We’ve found that for higher stage lung cancer and central tumors, people are doing the procedure at a much lower rate than expected, and patients aren’t getting more invasive staging.”

In the Clark Paper for General Thoracic Surgery that will be presented tomorrow, researchers retrospectively looked at lung cancer

patients staged by computed tomography and positron emission tomography and treated with an anatomic resection without induction therapy. Researchers measured invasive staging procedures that occurred within 180 days of resection and evaluated variability in invasive mediastinal staging rates across the GTSD.

Given the significant variability they encountered, researchers questioned whether surgeons fail to follow the guidelines or whether those guidelines are flawed.

“This requires further insight. The guidelines are based on experts,” Dr. Krantz said. “We need to improve the quality gap or reevaluate the guidelines. Also, we need professionals to be systematic and consistent with the procedure.”

Dr. Krantz suggested that surgeons evaluate whether they have variability in their own practices, assess their own strict adherence to

see **CLARK PAPERS**, page 13

**Richard E. Clark
Memorial Paper:
Adult Cardiac
General Session I
Monday
8:15 a.m. – 8:30 a.m.
Grand Ballroom**

**Richard E. Clark
Memorial Paper:
General Thoracic
General Thoracic:
Lung Cancer II
Tuesday
1:15 p.m. – 1:30 p.m.
Floridian Ballroom
B-C**

Visit STS in the Exhibit Hall

Make sure to stop by the STS booth (#807) to hear the latest that STS has to offer. You can learn more about member benefits, advocacy efforts (including STS-PAC), opportunities to participate in the STS National Database and publicly report outcomes, and cutting-edge research being conducted via the STS Research Center. You also can donate to The Thoracic Surgery Foundation, the Society’s charitable arm, and get advice from *The Annals of Thoracic Surgery* staff on submitting your manuscript and accessing *Annals* CME activities.

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





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2018 ANNUAL MEETING EXHIBITORS

A&E Medical 625, 925

Farmingdale, NJ
A&E Medical's products include MYO/Wire® temporary pacing wires, MYO/Wire II sternum wires, MYO/Punch rotating surgical punch, MYO/Lead disposable patient cable, and DoubleWire high-strength sternal closure system.

Abbott 1325

Santa Clara, CA
Abbott is committed to helping people live their best life through the power of health. For more than 125 years, Abbott has brought new technologies to the world—in nutrition, diagnostics, medical devices, and branded generic pharmaceuticals—that create more possibilities for more people at all stages of life.

Abiomed Inc 213

Danvers, MA
Abiomed (NASDAQ: ABMD) is a leading provider of medical devices that provide circulatory support. Its products are designed to enable the heart to rest by improving blood flow and/or performing the pumping of the heart.

ACUTE Innovations 1625

Hillsboro, OR
Furthering its reputation as a leader in the thoracic industry, ACUTE Innovations® introduces a new addition to its portfolio, RibLoc® U Plus 90 Instrumentation. The U Plus 90 Instrumentation system works in conjunction with the RibLoc® U Plus Chest Wall Plating system, which features a unique U-shape design to aid in placement on the rib.

Admedus 701

Minneapolis, MN
Admedus, a global health care group, is working with renowned medical leaders to bring new medical technologies to market. CardioCel®, a cardiovascular scaffold, is the first of the company's ADAPT® tissue-engineered bioimplants and is being used by surgeons to repair simple and complex cardiac defects.

Aesculap AG 1236

Tuttlingen, Germany

AK Express 1039

Las Vegas, NV

All Star Recruiting 218

Deerfield Beach, FL
All Star Recruiting has been providing professional placement services and proven results to hospitals, physician groups, and practice management organizations since 2003. The company currently services physician and advance practice needs for both locum tenens and permanent medical positions.

American Association for Thoracic Surgery 825

Beverly, MA
Founded in 1917, the American Association for Thoracic Surgery is dedicated to excellence in research, education, and innovation in cardiothoracic surgery and has become an international professional organization.

AngioDynamics 1624

Latham, NY
A leading provider of innovative, minimally invasive medical devices used by professional health care providers for vascular access, surgery, peripheral vascular disease, and oncology. AngioDynamics's diverse product lines include market-leading fluid management systems, angiographic products, thrombolytic products, and venous products. More information is available at www.AngioDynamics.com.

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Astute Medical, Inc 730

San Diego, CA
Astute Medical, manufacturer of the NephroCheck Test®, is dedicated to improving the diagnosis of high-risk medical conditions and diseases through the identification and validation of protein biomarkers to serve as the basis for novel diagnostic tests. The company's focus is community and hospital-acquired acute conditions that require rapid diagnosis/risk assessment, such as acute kidney injury and sepsis.

Atlas Medical USA 801

Tustin, CA
Atlas Medical is pleased to introduce the latest in cardiac insufflation technology. The Nitr-X Guardian has the capability to effectively de-air the cardiac cavity using significantly less carbon dioxide.

AtriCure Inc 1407

Mason, OH
AtriCure Inc is a medical device company that provides innovative solutions designed to decrease the global atrial fibrillation (Afib) epidemic. AtriCure's Synergy™ Ablation System is the first and only surgical device approved for the treatment of persistent and longstanding persistent forms of Afib in patients undergoing certain open concomitant procedures.

Auris Surgical Robotics 118, 124

San Carlos, CA

Bard Davol 800

Warwick, RI
Bard is the market leader in comprehensive soft tissue reconstruction. In addition to this extensive suite of products, the company's BioSurgery franchise is delivering a growing line of enhanced sealants and hemostatic products to complement surgical techniques across thoracic, cardiovascular, and other surgical specialties.

Baxter 1113

Deerfield, IL
Baxter's BioSurgery business unit offers a comprehensive line of biologic and synthetic products that advance surgical care. BioSurgery specializes in intraoperative wound and tissue management and aims to improve surgical practice. The portfolio comprises products for hemostasis, sealing, staple line reinforcement, soft tissue repair, and bone graft substitution.

Baylis Medical 1527

Mississauga, Canada
Baylis Medical develops and markets high-technology medical devices used in the fields of interventional cardiology and interventional radiology. The company's vision is to develop and market innovative medical therapies while improving the lives of people around the world. Baylis has offices in Montreal, Toronto, Boston, and London.

BD 1316, 1221

Franklin Lakes, NJ
BD is a global medical technology company advancing health by improving discovery, diagnostics, and care delivery. The company's innovative product portfolio, leadership, and partnerships help make a difference for global health care.

Berlin Heart Inc 1103

The Woodlands, TX
Berlin Heart is the only company worldwide that develops, manufactures, and distributes ventricular assist devices for patients of every age and body size. EXCOR® Pediatric provides medium- to long-term circulatory support specifically for infants and children awaiting heart transplants. EXCOR Pediatric is approved for use in the United States under Humanitarian Device Exemption regulations by the Food and Drug Administration.

BFW Inc 1005

Louisville, KY
BFW is a worldwide technological leader in surgical illumination and headlight video imaging. Experience the foremost innovations in bright, portable, OR quality LED headlights, the new

Hatteras™ LED light source—unmatched intense illumination for headlights and instrumentation, and state-of-the-art Pharos HD™ coaxial headlight/video imaging system.

BioStable Science & Engineering 214

Austin, TX
BioStable Science & Engineering is developing and commercializing proprietary valve repair technologies that provide an alternative to valve replacement for aortic valve disease. The company's HAART Aortic Annuloplasty Devices are designed to simplify and standardize aortic valve repair for patients undergoing surgery for aortic insufficiency or root aneurysm.

Bolton Medical / Terumo 1730

Sunrise, FL

Boston Medical Products, Inc F06

Shrewsbury, MA

Boston Scientific 1024

Minneapolis, MN

Cardiac Surgical Unit Advanced Life Support 1219

Simpsonville, KY
Cardiac Surgical Unit Advanced Life Support (CSU-ALS) is the leading provider of CSU-ALS training in the US, Canada, and Mexico. It is the sole distributor of the CSU-ALS manikin. CSU-ALS can bring training to your hospital and team, or your team members attend national provider and trainer courses. Course completion results in CSU-ALS Certification, which is based on a 2-year renewal cycle.

Centese F01

Omaha, NE
Centese is the producer of Thoraguard™, an intelligent surgical drainage system designed to address the needs of cardiac and thoracic surgeons.

ClearFlow 833

Anaheim, CA
ClearFlow's mission is to support best practices and develop guidelines to prevent chest tube occlusions. ClearFlow's PleuraFlow ACT System is the only 510K cleared device indicated for the removal of retained blood and the proactive maintenance of chest tube patency after cardiac surgery, resulting in improved patient outcomes and lower health care costs.

Cleveland Clinic 902

Cleveland, OH

Congenital Heart Surgeons' Society 934

Beverly, MA
The Congenital Heart Surgeons' Society is the world's leading congenital heart surgeons' society. The 2018 CHSS Annual Meeting will be held October 21-22 at the Loews O'Hare Hotel in Chicago. www.chss.org

Cook Medical 1101

Bloomington, IN
Since 1963, Cook Medical has worked closely with physicians to develop technologies that eliminate the need for open surgery. A leader in the advancement of diagnostic and therapeutic products for vascular disease, Cook continues a tradition of innovation with comprehensive device offerings in EVAR, leg therapies, PE prevention, and embolization.

CorMatrix 631

Roswell, GA
CorMatrix® Cardiovascular markets its ECM® Bioscaffold devices for vascular repair, pericardial repair and reconstruction, cardiac tissue repair, and CanGaroo ECM Envelope for CIEDs. CorMatrix ECM Technology allows surgeons to restore the native anatomy of cardiac and vascular tissue in need of repair, serving as a superior alternative to synthetic or cross-linked materials.

CryoLife 1017

Kennesaw, GA
CryoLife, Inc® is one of the world's leading contemporary medical device companies,

providing preserved human cardiac and vascular tissues, surgical adhesives and sealants, prosthetic heart valves, cardiac lasers, and other medical devices. Since the company's inception in 1984, it is estimated that its products and tissues have helped more than 1 million patients worldwide.

CT Assist 209

Philippi, WV
CT Assist is a managed service provider of cost-effective cardiothoracic surgery advanced practitioners who deliver quality care. CT Assist provides workforce management solutions from long-term and recruiting to locum tenens and vacation coverage. It is a physician assistant-owned nationwide employer of talented and experienced cardiothoracic PAs and nurse practitioners.

CTSNet 1013

Chicago, IL
CTSNet (www.ctsnet.org) is the leading international source of online resources related to cardiothoracic surgery, as well as the major hub of the international online community of cardiothoracic surgeons and allied health care professionals. CTSNet's mission is to "connect the global cardiothoracic community."

Derma Med Tech 1436

Houston, TX

Designs for Vision 1104

Bohemia, NY
Just See It™ with Designs for Vision's lightweight custom-made surgical telescopes, available with Nike® frames. See It Even Better™ with the L.E.D. Daylite® or Twin Beam®, providing the brightest and safest untethered illumination. Introducing the L.E.D. Daylite® Nano Cam HD—document the procedure with HD video from your perspective.

DMMED Group 835

Las Vegas, NV

EBM 1619

Tokyo, Japan
EBM, a biomedical spin-out venture company from Japan, provides the original beating heart simulator and quantitative assessment system for off-pump coronary artery bypass grafting and vascular anastomosis worldwide. Skill assessment is based on rapid CFD technology and validated silicone vascular model.

Eclipse Loupes and Products 1529

Orchard Park, NY
Eclipse offers the highest quality surgical loupes and lights at the lowest prices. The company backs its products with an industry-leading lifetime warranty.

Edwards Lifesciences 513

Irvine, CA
Edwards Lifesciences is the global leader in the science of heart valves and hemodynamic monitoring. Driven by a passion to help patients, the company partners with clinicians to develop innovative technologies in the areas of structural heart disease and critical care monitoring, enabling them to save and enhance lives. Additional company information can be found at www.edwards.com.

EHRC Technologies 1137

Miami, FL

Elsevier 624

Philadelphia, PA
Elsevier is the proud publisher of *The Annals of Thoracic Surgery* and a world-leading provider of information solutions that enhance the performance of science, health, and technology professionals. Elsevier empowers better decision making and the delivery of better care. www.elsevier.com

Essential Pharmaceuticals 207

Durham, NC
Supporting the preservation of human systems. Originally developed for cardiac surgery, Custodial® HTK offers superior convenience, water-like viscosity, and no need for additives or filters, which makes it a preferred solution for many transplant centers.

TECH-CON EXHIBITOR NEW EXHIBITOR MEETING BULLETIN ADVERTISER

European Association for Cardio-Thoracic Surgery 926
Windsor, United Kingdom

EACTS is the largest European association devoted to the practice of cardiothoracic surgery. The main objectives of the association are to advance education in the field of cardiothoracic surgery and to promote, for the public benefit, research into cardiovascular and thoracic physiology and therapy and to correlate and disseminate the useful results thereof. Visit Booth 926 for more information.

European Society of Thoracic Surgeons 929
Exeter, United Kingdom

ESTS is the largest international general thoracic surgery organization with more than 1600 members from all continents. The society's mission is to improve quality in the specialty, from clinical and surgical management of patients to education, training, and credentialing of thoracic surgeons worldwide. The 26th European Conference on General Thoracic Surgery will be held on 27-30 May 2018, in Ljubljana, Slovenia. www.ests.org

Fehling Surgical 1001
Acworth, GA

Fehling Surgical Instruments, Inc is the leader in fine crafted surgical instrumentation that has focused on cardiovascular surgery for more than 30 years. The company features minimally invasive valve sets, including NEW retractor designs for unmatched atrial exposure of the left atrium. The CERAMO and Superplast instruments are designed specifically for cardiovascular procedures (needle holders, forceps, clamps, and MICS).

Frymire Associates Medical Market Research F07
Menlo Park, CA

Frymire Associates is a network of experienced medical device market professionals who specialize in conducting exploratory and qualitative research with leading physicians from a variety of specialties. Frymire Associates' services encompass qualitative methods, such as in-depth interviews and focus groups, studies fielded at major medical meetings, and web-based research.

General Cardiac/Heart Hugger 832
San Jose, CA

The Heart Hugger Sternum Support Harness is a patient-operated support harness applied postoperatively to splint surgical wounds. Benefits include improved patient compliance, faster return to pre-morbid respiratory levels, fewer wound complications, and better postoperative mobility. It is useful for open heart surgery, thoracotomy, fractured rib, and other chest trauma patients.

General Thoracic Surgical Club 332
Zumbrota, MN

Founded in 1988, the General Thoracic Surgical Club is a not-for-profit organization representing more than 325 general thoracic surgeons worldwide who are dedicated to ensuring the best possible outcomes for surgical procedures of the lung, mediastinum, esophagus, and chest wall by providing the highest quality patient care through education, research, and clinical experience.

Genesee BioMedical 1100
Denver, CO

Design Beyond Standard. Genesee BioMedical, Inc provides unique devices for cardiac surgery, including annuloplasty for mitral and tricuspid repair, sternal/thoracic valve retractors, instruments for minimally invasive aortic, transcatheter aortic valve implantation, and robotic surgeries, as well as coronary graft markers, suture guards, retraction clips, and myocardial needles. www.geneseebiomedical.com

Getinge 604
Wayne, NJ

Getinge is a leading global provider of innovative solutions for operating rooms, intensive care units, hospital wards, sterilization departments, and life science companies and institutions. Based on first-hand experience and close partnerships, Getinge offers innovative health care solutions that improve everyday life for people today and tomorrow.

Gore & Associates 1406
Flagstaff, AZ

The Gore Medical Products Division has provided creative solutions to medical problems for 3 decades. More than 35 million Gore medical devices have been implanted worldwide. Products include vascular grafts, endovascular and interventional devices, surgical materials, and sutures for use in vascular, cardiac, and general surgery. For more information, visit www.goremedical.com.

G.S. Innovations 1628
Las Vegas, NV

G.S. Innovations provides a variety of health care solutions to many different industries. The company develops and identifies the best medical care to help diverse professional groups overcome their challenges.

Hackensack Meridian Health 1525
Wall, NJ

Hackensack Meridian Health is a leading, not-for-profit health care network in New Jersey offering a complete range of medical services, innovative research, and life-enhancing care aiming to serve as a national model for changing and simplifying health care delivery through partnerships with innovative companies and focusing on quality and safety.

Hayes Locums F03
Fort Lauderdale, FL

Hayes Locums provides physician search services—both temporary and permanent placement—to health care institutions across the United States. Hayes Locums was founded on the need to improve health care consulting services to the physician and health care communities. The company is proud to provide these services with the utmost integrity, which physicians and clients have grown to trust.

HCA 937
Brentwood, TN

HCA owns and operates more than 170 hospitals across the United States, making it one of the nation's leading providers of health care services. HCA believes that exceptional patient outcomes only come through a dedicated community of care, placing physicians at the forefront.

Heart Hospital Baylor Plano, The 1425
Plano, TX

The Heart Hospital Baylor Plano is a cardiovascular specialty hospital in North Texas that opened in 2007. Over the past 10 years, its quality outcomes and guest satisfaction scores have garnered recognition, praise, and accolades from international giants in the health care field. Visit TheHeartHospitalBaylor.com to learn more.

Heart Valve Society 932
Beverly, MA

The Heart Valve Society held its inaugural meeting in May 2015 at the Grimaldi Forum in Monte Carlo, Monaco, with more than 430 medical professionals, plus 80 industry partners. Whether you are a cardiologist, surgeon, researcher, or another member of the crucial valve disease treatment team, the HVS welcomes you to become a part of something very unique. Membership is available online.

International Society for Minimally Invasive Cardiothoracic Surgery 924
Beverly, MA

ISMICS: Innovation, Technologies, and Techniques in Cardiothoracic and Cardiovascular/Vascular Surgery. 2018 ISMICS Annual Scientific Meeting, 13-16 June 2018, Westin Bayshore, Vancouver, Canada. ismics.org

Interpace Diagnostics 108
Parsippany, NJ

Interpace Diagnostics is a public molecular diagnostics company providing specialty molecular tests focused primarily on thyroid, esophageal, pancreatic, and lung cancer. The company's most recently launched product is MVPdx for Lung Cancer, which differentiates local recurrence of cancer vs formation of new primary tumors. Interpace also offers ThyGenX, ThyraMIR, PancreaGEN, and BarreGEN.

Intuitive Surgical 814
Sunnyvale, CA

Intuitive Surgical, Inc designs, manufactures, and distributes the da Vinci® Surgical System, technology designed to allow surgeons to perform many complex procedures minimally invasively.

JACE Medical 1715
Warsaw, IN

JACE Medical pioneered the world's first rigid sternal closure system applied presternotomy: the Grand Pre®. JACE Medical is a company and culture committed to creating innovative, transformational technologies that facilitate optimal patient treatment, recovery, and future wellness. Visit Booth 1715 and see how the company "thinks outside the paradox." Get more information at JACEMED.com.

Jinwha Medical F08
Cheongju-si, South Korea

Johnson & Johnson Medical Device Companies 1203, 1213
New Brunswick, NJ

Having made significant contributions to surgery for more than a century, the Johnson & Johnson Medical Devices Companies are in the business of reaching more patients and restoring more lives. The group represents Ethicon US, LLC, NeuWave Microwave Ablation, and DePuy Synthes.

Just Co, Ltd 1337
Torrance, CA

Only a dedicated plating company can provide "the strongest diamond plating" technology. The company can designate the plated layer, which anchors the diamond base on purpose. Its technology is unique and popular to those in the medical field in need of microsurgery instruments and endoscope tips.

Kapp Surgical 731
Cleveland, OH

Kapp Surgical is a custom design shop that designs surgical instruments and implants, manufactures them, and sells them, as well as distributes domestically and internationally. Kapp's exclusive products include the Cosgrove Heart Retractor, Strip T's surgical organizer, and countless surgical devices, all FDA approved with several pending approval.

Karl Storz Endoscopy 312
El Segundo, CA

Karl Storz offers solutions for thoracic surgery, including slender, easily dismantled MediaFIT instruments that offer economic solutions for mediastinoscopy. The ENDOCAMELEON® Telescope allows surgeons to adjust viewing directions from 0° to 120° without changing telescopes. The IMAGE1 S™ Camera Architecture System provides brilliant, natural color rendition and innovative visualization capabilities.

Kinamed Inc 1533
Camarillo, CA

Visit Kinamed's booth to view a demonstration of the SuperCable®, Polymer Iso-Elastic™ Sternal Closure system, which solves limitations of metal cable, wire, and plating systems. SuperCable provides a dual strand footprint, which reduces cut-through. It elastically absorbs load and maintains compression. The low-profile clasp minimizes palpability, and the polymer cable allows for quick re-entry.

KLS Martin 901
Jacksonville, FL

KLS Martin, a responsive company, is focused on the development of innovative products for oral, plastic, and craniomaxillofacial surgery. New product developments in its titanium osteosynthesis plating systems allow these products to be used for rapid sternal fixation and reconstruction.

Koros USA, Inc 328
Moorpark, CA

Koros USA manufactures and distributes coronary artery bypass, aortic valve replacement, internal mammary artery, and mitral valve retractors, pediatric and adult sternum spreaders, rib spreaders, and titanium/stainless steel needle holders and forceps. High-demand state-of-the-art

instruments include the Internal Mammary Artery Tower, SWIFT, and Pro-Retractors.

Kreg Therapeutics 221
Melrose Park, IL

Life Net Health 325
Pleasant Prairie, WI

LivaNova 313
Arvada, CO

LivaNova is a world leader in the treatment of cardiovascular disease. Its innovative product portfolio includes aortic and mitral valve replacement and repair, perfusion equipment, cannula, and minimally invasive cardiac surgery instruments. For more information, visit www.livanova.com.

LocumTenens.com 326
Alpharetta, GA

Since 1995, LocumTenens.com has been a leader in placing physicians and advanced practice professionals in short-staffed health care facilities. LocumTenens.com also operates the largest job board in the industry, providing free access to thousands of jobs in all medical specialties.

LoupeCam 1217
Scottsdale, AZ

LoupeCam® is the market leader in head-mounted HD surgical cameras and is the ONLY company offering cross platform (Mac, Windows, and soon Android) compatibility. The company offers five different magnification lenses to match all surgical points of view, along with a Bluetooth foot pedal that allows for hands-free control of the camera.

LSI Solutions 537, 637
Victor, NY

LSI Solutions' RAM® Device is an automated, dual curved needle annular suturing device that places a 3.5-mm wide horizontal mattress subannular suture in one squeeze. The SEW-EASY™ Device is an automated dual linear needle prosthetic suturing device that places sutures through the sewing cuff in one squeeze. With 11 years of proven clinical results, COR-KNOT® is suture fastening technology you can trust.

Med Alliance Solutions 824
Sycamore, IL

ISO 13485-certified medical device distributor committed to providing high-quality specialty devices for cardiothoracic surgery worldwide. Exclusive US distributor of French instruments manufacturer Delacroix-Chevalier and operational partner of Michigan-based Surge Cardiovascular for open heart surgical products.

Medela AG 803
McHenry, IL

Medistim 917
Plymouth, MN

Medistim is the standard of care in the operating room. With the unique combination of transit time flow measurement and high-frequency ultrasound imaging guidance to help reduce and minimize the risk of negative postoperative outcomes, Medistim's quality assessment technology offers surgeons quantifiable validation and guidance during cardiovascular, vascular, transplantation, and neurosurgery.

MedPartners Locum Tenens 112
Coral Springs, FL

MedPartners Locum Tenens specializes in placing well-qualified physicians and advanced practice clinicians in locum, locum-to-perm, and direct hire staff and leadership positions while making this process as seamless as possible for client facilities. Its highly skilled recruiters assist in this process from pre-qualification to final placement.

Medtronic 1313
Minneapolis, MN

As a global leader in medical technology, services, and solutions, Medtronic improves the lives and health of millions of people each year. The company uses its deep clinical, therapeutic, and economic expertise to address the complex challenges faced by health care systems today. Let's take health care Further, Together. Learn more at Medtronic.com.

2018 ANNUAL MEETING EXHIBITORS cont.

MedXpert North America 107
Edmond, OK
 MedXpert North America, LLC is a producer of medical devices (implants and instruments) specialized for all kind of procedures in the thoracic part of the human body. The company produces StraTos for three different indications (deformity, reconstruction after tumor resection, and trauma) and StraCos for two indications (trauma and reconstruction).

Microsurgery Instruments, Inc 329
Bellaire, TX
 Microsurgery Instruments is one of the leading suppliers of surgical instruments and loupes. The company's instruments include titanium scissors, needle holders, and DeBakey forceps. Its Super-Cut scissors are the sharpest in the market, and its newly designed surgical loupes offer up to 130-mm field of view and up to 11x magnification.

Nadia International 1109
Austin, TX
 Educational/surgical bronze sculptures for the thoracic surgeon. Museum-quality limited editions are created by the world famous sculptor Ronadró. More than 7500 surgeons in 77 countries collect his fine works of art. Introducing MIRACLE OF LIFE II and IN GOD'S Hand II at the 2018 meeting.

National Death Index 206
Hyattsville, MD

Nova Innovations 225
Las Vegas, NV

Olympus America Inc 1307
Center Valley, PA
 Olympus Medical Systems Group develops solutions for health care professionals that help improve clinical outcomes, reduce overall costs, and enhance quality of life for their patients. By enabling less invasive procedures, innovative diagnostic and therapeutic endoscopy, and early stage lung cancer evaluation and treatments, Olympus is transforming the future of health care.

Otto Trading Inc. 320
Santa Ana, CA

Oxford University Press 216
New York, NY
 Visit the Oxford University Press stand to browse prestigious surgery books at an exclusive conference discount, and collect your free sample copies of the journals of the European Association for Cardio-Thoracic Surgery: European Journal of Cardio-Thoracic Surgery and Interactive CardioVascular and Thoracic Surgery.

P & M Harmony 106
Las Vegas, NV

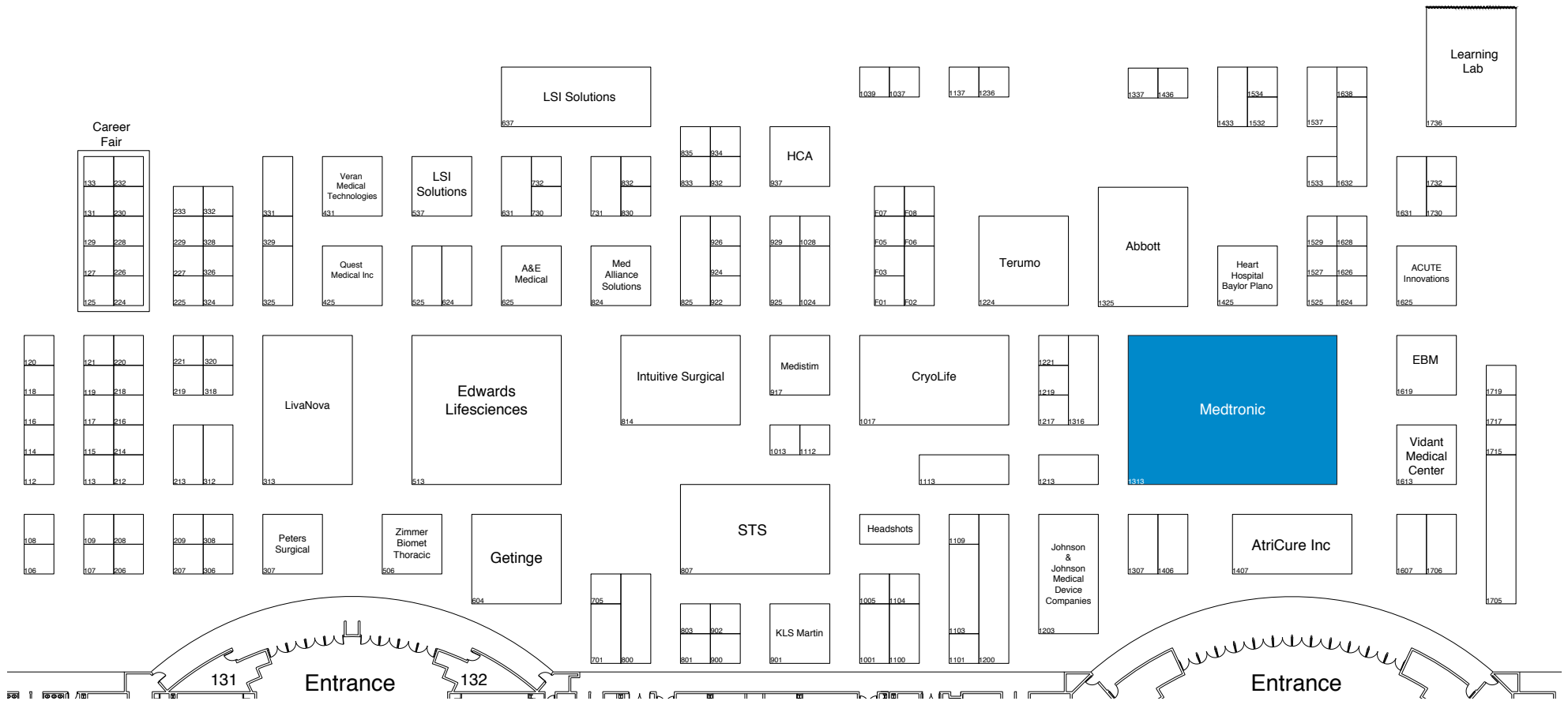
Peters Surgical 307
Plymouth, MA
 Vitalitec Geister will be displaying all its products, highlighting the Peters CV Suture, Enclose II Anastomosis Assist Device, Cygnet Flexible Clamps, Intrack Atraumatic Temporary Clamps and Inserts, and Geister ValveGate and ValveGate PRO line.

Pharma Technology F05
Las Vegas, NV

Pinnacle Biologics 1532
Chicago, IL
 Pinnacle Biologics delivers photodynamic therapy (PDT) to patients through its line of products. By administering an FDA-approved biopharmaceutical drug that is selectively retained in tumors and activated by an FDA-approved laser light, PDT can eradicate tumor cells. The two primary uses for Pinnacle's drug include the treatment of esophageal cancer and of non-small-cell lung cancer.

Providence Health & Services 220
Seattle, WA
 Providence Health & Services is affiliated with Swedish Health Services, Pacific Medical Centers, and Kadlec. Together, the organizations include more than 5,000 employed providers, 35 medical centers, and more than 600 clinics in Alaska, California, Montana, Oregon, and Washington. Providence is currently recruiting providers in nearly all medical specialties throughout the West. providence.org/providerjobs

2018 EXHIBITOR MAP



STS Exhibit Hall Hours

Monday 9:00 a.m. – 4:30 p.m. | Tuesday 9:00 a.m. – 3:30 p.m.



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SO MUCH DATA
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Medtronic

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TECH-CON EXHIBITOR **NEW EXHIBITOR** **MEETING BULLETIN ADVERTISER**

Qualiteam srl **208**
Chiaverano, Italy
 Qualiteam designs products to improve postoperative recovery. Its dual-function sternum and breast supports are unlike any other. They comfortably protect the internal closure from the outside day and night and effectively assist the healing sternum to decrease sternal infections, pain, and pulmonary complications, which ultimately decreases health care costs.

Quest Medical Inc **425**
Allen, TX
 Quest Medical Inc is a medical device manufacturer and worldwide distributor specializing in protecting the heart during cardiac surgery with the Quest MPS 2[®] and Microplegia. Quest also offers a unique variety of aortic punches, safety valves, vascular loops, and an anesthesia line designed for optimum cardiovascular surgery.

R&D Surgical USA Inc **830**
Austin, TX
 R&D Surgical USA / Xenosys USA serve the cardiac, thoracic, and vascular community with innovative products, including a portable next-generation LED surgical headlight offering freedom and convenience at less than 1 oz weight, a full range of custom surgical loupes giving an unbeatable field of vision and depth of focus, all while being light and comfortable, and the Xenosys wireless HD surgical camera system.

Regional Data Managers: STS National Database **1112**
Ann Arbor, MI
 The Regional Data Manager booth provides opportunities for surgeons to interact with data managers from around the country who are actively involved with STS Regional Database efforts and collaborative STS groups. Come learn about regional activities and initiatives!

Rose Micro Solutions **922**
West Seneca, NY
 Rose Micro Solutions sells high-quality optical loupes and LED lights for less! Its loupes start at \$279. Rose is a family business consisting of four brothers, and the company is named after their mother Rose. Stop by Booth 922 to see the company's new line of TTL loupes—you'll love the optics. Visit Rose online at www.rosemicrosolutions.com or call 716-608-0009. The company is rated A+ with the BBB.

Rultract/Pemco Inc **1706**
Cleveland, OH
 Rultract's surgical retractors provide gentle and uniform lift, allowing maximum exposure for IMA dissection, redo hearts, xiphoid entry, subxiphoid pericardial procedures, minimally invasive procedures (Thoratrak capable), parasternal procedures, pediatric/ASD, t-incisions, transabdominal GEA midcab, pectus, LVAD extraction, and TEMLA procedures.

Scanlan International **1705**
St. Paul, MN
 Highest-quality surgical products designed and manufactured by the Scanlan family since 1921. More than 3000 titanium and stainless steel surgical instruments, including SCANLAN[®] Super Cut[™] and Premier[™] Scissors, SCANLAN[®] Legacy Needle Holders and Forceps, Memory Dilators, VATS SCANLAN[®] Dennis Rib Cutter and Rocco Nodule Clamps, and SCANLAN[®] Single-Use Products.

Society of Thoracic Surgeons, The **807**
Chicago, IL
 STS represents more than 7,100 surgeons, researchers, and allied health care professionals worldwide who are dedicated to ensuring the best possible outcomes for surgeries of the heart, lung, and esophagus, as well as other surgical procedures within the chest. At the booth, learn more about member benefits, advocacy efforts (including STS-PAC), opportunities to participate in the STS National Database and publicly report outcomes, and cutting-edge research being conducted via the STS Research Center. You also can donate to The Thoracic Surgery Foundation, the Society's charitable arm, and get advice from *The Annals of Thoracic Surgery* staff on submitting your manuscript. Stop by Booth 807 or visit www.sts.org to learn more.

Sontec Instruments **1607**
Centennial, CO
 Sontec offers headlights, loupes, and the most comprehensive selection of exceptional hand-held surgical instruments available to the discriminating surgeon. There is no substitute for quality, expertise, and individualized service. Sontec's vast array awaits your consideration at its booth.

St. Luke's University Health Network **127**
Bethlehem, PA

Staff Care **219**
Dallas, TX

STS/CTSNet Career Fair
Back of Aisles 100-200
 Make sure to stop by the STS/CTSNet Career Fair, which will give you the chance to meet face-to-face with top employers. Recruiters will be available to talk with you about career opportunities. The Career Fair will be open during Exhibit Hall hours.

Summit International Medical Technologies **1028**
Franklin, MA
 Summit International Medical Technologies is a specialty medical device company, devoted to offering high-quality, clinically innovative products.

Sunoptic Technologies **1717**
Jacksonville, FL
 Sunoptic Technologies offers a premium line of TITAN branded surgical headlights, xenon light sources, HD video cameras, recording devices, LED products, and fiber optic cables, as well as a full array of accessories (including lamps), parts, and repair services, direct to the surgical marketplace. The company delivers outstanding market-oriented products, combining high quality with exclusive distribution worldwide.

SurgiTel/General Scientific Corp **212**
Ann Arbor, MI
 SurgiTel is the manufacturer of premium loupes and headlights sold around the world from its headquarters in Ann Arbor, MI. Holding a variety of patents, SurgiTel is always on the forefront of vision and ergonomics.

Synapse Biomedical **318**
Oberlin, OH

SynCardia Systems, Inc **1433**
Tucson, AZ
 The SynCardia temporary Total Artificial Heart (TAH-t) is the world's only FDA, Health Canada, and CE approved Total Artificial Heart. It is approved as a bridge to transplant for patients dying from end-stage biventricular failure. Visit Booth 1433 for updates on the 50cc TAH-t and destination therapy.

Talis Clinical, LLC **F02**
Streetsboro, OH
 Talis Clinical develops technology that integrates electronic health record, medical device, and other system data to provide tools at the point of care and remotely on any mobile platform. Its Advanced Clinical Guidance Engine "intelligizes" the data to bring meaningful and actionable patient information customized to each caregiver's role, including live wave forms.

TandemLife **324**
Pittsburgh, PA
 CardiacAssist, Inc dba TandemLife exists to deliver Life Support Simplified, with one small pump enabling any type of extracorporeal circulatory support your patients may need. Its unique pump has enabled the company to develop its most innovative product lines to date: TandemLife, TandemLung, Protek Duo, and VoyagerVest.

Terumo **1224**
Ann Arbor, MI
 Vasucutek, a Terumo company, will display an extensive range of sealed woven and knitted polyester grafts for peripheral, abdominal, and cardiothoracic surgery. Terumo will display the VirtuoSaph[®] Plus Endoscopic Vessel Harvesting System, Beating Heart and Surgical Stabilization products, and Terumo[®] Perfusion Products.

Thompson Surgical **1719**
Traverse City, MI
 Thompson Surgical is a leader in exposure and the original manufacturer of the table-mounted Thompson Retractor. Cardiovascular surgeons will benefit from the Thompson Bolling Retractor, which provides extremely low-profile, stable, and uncompromised exposure of the heart structures for valve procedures. "Set it and forget it." -Steven Bolling, MD

Thoracic Surgery Foundation, The **807**
Chicago, IL
 TSF was established in 1988 as a 501(c)(3) not-for-profit charitable organization. As the charitable arm of The Society of Thoracic Surgeons, its mission is to foster the development of surgeon scientists in cardiothoracic surgery, increasing knowledge and innovation to benefit patient care.

Thoramet Surgical **306**
Madison, CT
 Thoramet Surgical Products sells the most complete line of video-assisted thoracoscopic surgical instruments available. Produced in the US in the company's own facilities, they are the surgeon's choice. Come to Booth 306 to see their unique versatility. Thoramet has the feel you want, the actuation you need, and the patterns you demand.

Transonic **331**
Ithaca, NY
 Transonic is the original inventor and innovator of transit-time flow measurement devices for coronary artery bypass grafting surgery, CHD repair, cardiopulmonary bypass, and extracorporeal membrane oxygenation cases. For more than 33 years, Transonic flow measurement systems have been used to advance physiologic understanding, as well as to provide surgeons with peace of mind that their anastomoses are patent prior to closure.

Veran Medical Technologies **431**
St. Louis, MO
 Veran is a privately held medical device company headquartered in St. Louis, MO. The company's main focus is assisting physicians in the early diagnosis and treatment of lung cancer. Veran has developed and commercialized an FDA-cleared, next-generation electromagnetic navigation platform called the SPiN Thoracic Navigation System, which includes both endobronchial and transthoracic approaches.

Vidant Medical Center **1613**
 Robust, nationally recognized cardiovascular care flourishes at Vidant Medical Center, built on the strength of world-renowned specialists serving the eastern one-third of North Carolina. Working in tandem with The Brody School of Medicine at East Carolina University, Vidant brings together cardiac, thoracic, and vascular surgeons, cardiologists, clinical trials, as well as diabetes and obesity research. At its vast campus in Greenville, North Carolina, it offers an environment where academic, employed, and private practice physicians work cohesively to meet the heart and vascular needs of this medically underserved region. vidanthealth.com

Virginia Cardiac Services Quality Initiative **900**
Virginia Beach, VA
 VCSQI is a nonprofit consortium of cardiac practices whose mission is to improve heart care quality, patient experience, and costs. VCSQI's clinical-financial database helps clinicians identify best practices and measure the impact of quality initiatives. Its Support and Alignment Network (SAN2.0) program focuses on preparing practices for the transition to Advanced Alternative Payment Models.

Vitalcor, Inc/Applied Fiberoptics **525**
Westmont, IL
 Vitalcor, Inc is a supplier of medical devices used primarily in cardiothoracic surgery. Since 1975, Vitalcor has provided products that take input from teaching and practicing surgeons to make their practice easier. The company takes pride in offering quality products and providing exceptional customer service.

Weatherby Healthcare **113**
Fort Lauderdale, FL
 Since 1995, Weatherby Healthcare has established itself as an expert in locum tenens staffing for physicians, physician assistants, and nurse practitioners. The company employs nearly 600 employees committed to filling locum tenens assignments in large-scale health care networks, hospitals, and clinics nationwide. For more, visit weatherbyhealthcare.com.

Western Thoracic Surgical Association **934**
Beverly, MA
 WTSA's annual meeting combines first-rate scientific papers with family-oriented activities. Please join WTSA June 27-30, 2018, at the Ritz Carlton Bacara in Goleta, CA. www.westernthoracic.org

Wexler Surgical, Inc **1200**
Houston, TX
 Wexler Surgical designs and manufactures a variety of titanium and stainless steel specialty surgical instruments and products for cardiac, vascular, thoracic, and micro surgery. Come see its VATS/MICS instruments and ask about the Optimus Series. Visit www.wexlersurgical.com for more information about products and services, or email sales@wexlersurgical.com.

Wolters Kluwer **308**
Phoenix, AZ

World Society for Pediatric and Congenital Heart Surgery **732**
Montreal, Canada
 The mission of the World Society for Pediatric and Congenital Heart Surgery is to promote the highest quality comprehensive cardiac care to all patients with congenital heart disease, from the fetus to the adult, regardless of the patient's economic means, with an emphasis on excellence in teaching, research, and community service.

Zero Gravity Skin **705**
Miami Beach, FL

Zimmer Biomet Thoracic **506**
Jacksonville, FL
 Founded in 1927, Zimmer Biomet is a global leader in musculoskeletal health care. The company designs, manufactures, and markets a comprehensive portfolio of innovative thoracic products and treatment solutions for surgeons and patients, including the RibFix[™] Blu Thoracic Fixation System and the SternaLock[®] Blu Primary Closure System.

Meet with Top Employers

Make sure to stop by the STS/CTSNet Career Fair, which will give you the chance to meet face-to-face with top employers. Recruiters will be available to talk with you about career opportunities. The Career Fair will be held in the Exhibit Hall.

- Aultman Hospital - Booth #127
- Cox Health - Booth #224
- Essentia Health - Booth #228
- Kaweah Delta Health Care District - Booth #226
- Piedmont Health - Booth #230
- Pikeville Medical Center - Booth #125
- Prevea Health - Booth #129
- UPMC Pinnacle - Booth #131

Note: This list of employers is accurate as of January 11, 2018.

You now have a trustworthy resource to share with your patients.

ctsurgerypatients.org

The Patient Guide to Heart, Lung, and Esophageal Surgery

A Website Presented by Cardiothoracic Surgeons Committed to Improving Patient Care



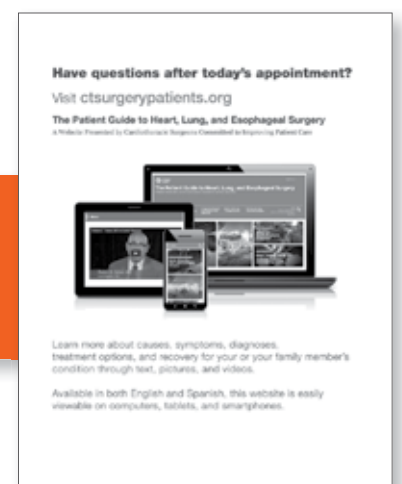
Now with more 3D animations!

Available in both English and Spanish, this website is easily viewable on computers, tablets, and smartphones.

All information has been reviewed by STS members and is divided into the following sections:

- Adult Heart Disease
- Pediatric and Congenital Heart Disease
- Lung, Esophageal, and Other Chest Diseases
- Heart and Lung Transplantation
- Before, During, and After Surgery

Visit sts.org/patients to download a printable PDF for referring your patients to this website.



The Society of Thoracic Surgeons

TECH-CON

continued from page 1

said that his device, VADStent, addresses these issues by aligning the inflow cannula with the mitral valve and maintaining the left ventricular cavity.

Dr. Cohn noted that VADStent addressed an unmet need and said he would be interested in investing, but Drs. Desai and Bolling said that they preferred to “watch and wait.” Dr. Bolling applauded the strong intellectual property position, a valuable asset for a start-up company.

In the third pitch, Bryan M. Burt, MD, of Baylor College of Medicine in Houston, described a problem for all surgeons who perform minimally invasive procedures: debris deposits on the videoscope lens, which impair visualization of the operative field. Cleaning requires manual removal and cleaning of the scope, which prolongs operative time, frustrates the surgeon, and compromises patient safety. Dr. Burt noted that other proposed solutions have been insufficient and described his device, a trocar with wash and dry functions. He said that the scope can be cleaned within the trocar itself in one forward and backward movement, in under 2 seconds.

Dr. Burt acknowledged that Dr. Cohn was involved in the design of the prototype of the invention, noting that Dr. Cohn agreed to be a judge before knowing that the trocar would be pitched. “I am emotionally in,” said Dr. Cohn.

Dr. Bolling agreed that a dirty scope is irritating and that he, too, was in. Dr. Desai, however, said, “Nobody spends money to save money,” and he urged Dr. Burt to identify his true customer and capture the value of the device to that customer base.

The judges’ perspectives on the three pitches demonstrated the challenges of launching new devices, even when they address an unmet need.

Earlier in the day, the role of robotics in cardiothoracic surgery was debated for both cardiac and general thoracic procedures.

T. Sloane Guy, MD, of Weill Cornell Medicine in New York, and David H. Adams, MD, of Mount Sinai Hospital in New York, presented the pros and cons, respectively, of robotic mitral valve repair. Dr. Guy said that a new value equation factors in a positive patient experience and low cost in addition to quality and safety, whereas Dr. Adams pointed to the positive outcomes with sternotomy using his approach of a shorter incision, direct access, and a modified retractor.

In debating the role of robotics in general thoracic surgery, Mark S. Allen, MD, of the Mayo Clinic in Rochester, MN, focused on the cost, operating room space, and learning curve associated with robotics, and Robert J. Cerfolio, MD, MBA, of NYU Langone Medical Center in New York, countered that surgeons should consider value rather than cost, adding that robotics offers the best educational tool and extends surgeons’ careers. ■

CLARK PAPERS

continued from page 6

the guidelines for all patients, and present their data if they believe the guidelines are flawed.

“Inconsistency is not good enough for the patient. It’s critical to follow the guidelines,” he said.

Composite Quality Measure Improves Quality of Life for Congenital Heart Surgery Patients

As outcomes for children undergoing congenital heart surgery have improved over the past few decades, the limitations of operative mortality alone as a quality metric have increasingly become recognized. To address this, a team of investigators used data from the STS Congenital Heart Surgery Database (CHSD) to create the first composite quality measure in this area. A grant from the National Heart, Lung, and Blood Institute supported the project.

“A focus on early mortality alone ignores the 97% of patients who now survive to hospital discharge in the current era and the important morbidities they may experience,” said Sara K. Pasquali, MD, of C.S. Mott Children’s Hospital in Ann Arbor, MI.

The composite measure that the investigators developed comprises a mortality domain (operative mortality) and a morbidity domain, which includes major postoperative

complications and length of stay. Mortality carries the greatest influence, or “weight,” on the overall composite measure, followed by major complications and length of stay.

When looking at performance related to the composite quality measure across the 100 hospitals included in the study (and accounting for the type and complexity of patients they treat), 75% were found to be performing as would be expected, 9% were performing worse than expected, and 16% better than expected.

“The composite measure enhances our understanding of quality and variation across hospitals beyond mortality alone,” Dr. Pasquali said.

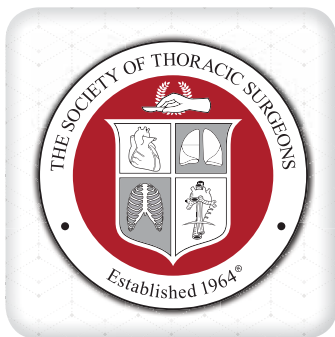
In the future, the composite measure and its individual components will be available to hospitals participating in the CHSD in their feedback reports to support benchmarking and quality improvement activities.

The Clark Papers honor the contributions of Dr. Clark, who was a key leader behind the creation of the Database, serving as Chair of the STS Ad Hoc Committee to Develop a National Database for Thoracic Surgery. ■

Richard E. Clark Memorial Paper: Congenital Congenital: Pediatric Congenital I
Monday
 1:30 p.m. – 1:45 p.m.
 Room 305

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The 2018 STS mobile app is supported by Medtronic and is compatible with iOS and Android mobile devices.

Novel Strategies Can Help Manage N2 Disease in NSCLC Patients

Immunotherapy using new PD-1 receptors and other markers may help prevent a systemic reoccurrence of N2 disease in patients with non-small cell lung cancer (NSCLC), according to Robert J. Cerfolio, MD, MBA, from NYU Langone's Perlmutter Cancer Center.

"This represents a paradigm shift for us as surgeons in the very diverse group of patients with N2 disease, which is controversial because we are now seeing patients who are 2 and 3 years out of chemotherapy for stage IIA N2 disease and only have local disease left that can be resected with lobectomy," said Dr. Cerfolio. "Immunotherapy has changed our landscape a bit in these patients and may make the North American surgeon as aggressive as the European surgeon for N2 disease upfront, as the need for improved local therapy may

**STS/CATS/CSCS:
Difficult Decisions
in Thoracic
Surgery—Advice
From Canadian and
American Experts
Monday
11:30 a.m. – 12:30 p.m.
Room 305**

increase, and the role of surgery may be revisited as the direct line of treatment."

Difficult decisions regarding the treatment of N2 disease will be discussed today during a collaborative, case-based session organized by STS, the Canadian Association of Thoracic Surgeons, and the Canadian Society of Cardiac Surgeons.

"N2 disease must be identified

prior to the start of thoracic oncologic therapy or procedures, as we increasingly focus on safe therapeutic treatment strategies," Dr. Cerfolio said, adding that North American surgeons still prefer that patients with biopsy-proven N2 disease undergo neoadjuvant therapy prior to surgery.

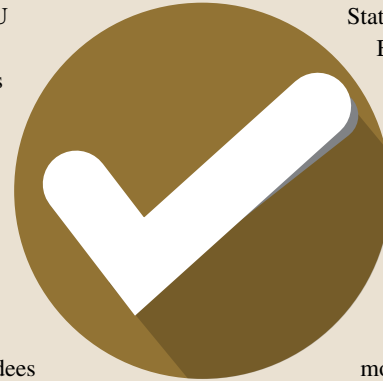
In addition to the management of N2 disease in the NSCLC patient, session participants will discuss various approaches to managing airway injuries and fistulae following esophagectomy. ■

"Immunotherapy has changed our landscape a bit in these patients and may make the North American surgeon as aggressive as the European surgeon."

— ROBERT J. CERFOLIO, MD, MBA

Claim Continuing Medical Education Credit

The STS 54th Annual Meeting utilizes an entirely electronic evaluation and CME/Perfusion CEU credit claim process. Both physicians and perfusionists can use this system to claim credit, complete evaluations, and print CME/Perfusion CEU certificates. Certificates of Attendance also are available for other attendees and international physicians not wishing to claim CME/Perfusion CEU credit. Attendees will not be able to evaluate and claim CME/Perfusion CEU credit for ticketed sessions unless they have registered for those sessions. *Please note that CME credit is not available for the Residents Symposium, Residents Luncheon, or STS/AATS Tech-Con 2018.*



Attendees can complete the overall meeting evaluations and all individual session evaluations onsite at CME Stations located in the Grand Ballroom Foyer and the Floridian Ballroom Foyer. Certificate printing is available.

Attendees also can complete evaluations and claim credit by visiting sts.org/2018evaluation or using the STS Meetings app. In order to make this process more convenient for attendees, the meeting evaluations will be available online through Monday, February 12, 2018.

Attendees can log in to the website with the following information:

Username: 6-digit member ID number located on the upper right corner of their meeting badge

Password: First initial and last name ■

THANK YOU!

The Society of Thoracic Surgeons gratefully acknowledges the following companies for providing educational grants for the STS 54th Annual Meeting.

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This list is accurate as of January 28, 2018.

Review STS University Lecture Material Online

STS University courses feature only hands-on learning. No didactic lectures will be given during the activity, so attendees are encouraged to view the lectures online prior to Wednesday morning. You can access the lectures at the STS University viewing station located in the Floridian Ballroom Foyer. You also can access them through the STS Meetings app or by visiting sts.org/stsuniversity. ■

DIVERSITY

continued from page 1

and physicians have major benefits. For example, patients state that they experience better interpersonal care with racial/ethnic concordance, hence, better patient satisfaction."

Following Dr. Acosta's talk, Dr. Cooke will lead a panel discussion with STS First Vice President Keith S. Naunheim, MD, STS Public Director Christopher M. Draft, and others representing a variety of backgrounds and career stages.

"The panelists will offer their insights on the importance of a diverse workforce and how it benefits their patients," Dr. Cooke said. "The goal of the session is to educate attendees about how diversity and inclusion can be valuable to their practices, service lines, training efforts, and relationships in the communities where they practice."

Moving forward, the Task Force will help STS create programs and resources that will not only further diversify the cardiothoracic surgery workforce, but also lead to a better understanding of health care disparities among cardiothoracic surgery patients and, ultimately, better patient outcomes.

"Diversity and inclusion are important to STS. We know that the more diverse the cardiothoracic surgery workforce is, the better we can serve our communities," Dr. Cooke said. ■

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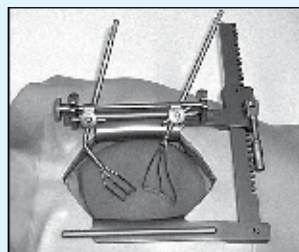
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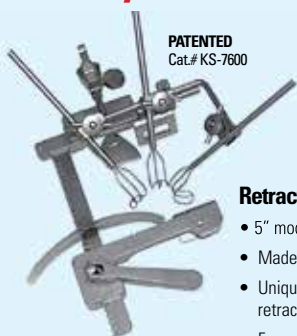
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**Chest.* 2013;143(suppl 5):7S-37S

**Data on file

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Learn How to Advocate for the Specialty

STS Key Contacts are the lifeblood of the Society's advocacy efforts. Key Contacts meet with their elected officials in Washington, provide facility tours at home, and do much more to advocate for legislative and regulatory issues that affect

cardiothoracic surgeons and their patients.

But many surgeons may not know how to get started or may feel unprepared for these meetings.

During this afternoon's STS Key Contacts:

Advocates for Cardiothoracic Surgery, attendees will gain the tools to become more involved. STS staff and surgeon leaders will explain how the program works, discuss the current health care debate, and describe how STS-PAC enhances these advocacy efforts. In addition, experienced Key Contacts will role-play a meeting with a member of Congress, the Key Contact of the Year and other awards will be announced, and attendees will be able to socialize and network. ■

STS Key Contacts: Advocates for Cardiothoracic Surgery

Monday

4:15 p.m. – 5:15 p.m.

Rooms 220-221

Toolkit for Innovation Safely Guides CT Surgeons in New Technology

Innovation in the clinical setting can improve the patient experience. While it can be challenging to introduce new tools and techniques into a practice, efficient navigation of potential stumbling blocks is possible.

Shanda H. Blackmon, MD, MPH, of the Mayo Clinic in Rochester, MN, will call upon her personal experience bringing innovation into the operating room during a session this afternoon organized by Women in Thoracic Surgery (WTS). Encouraging the adoption of new technology is among the key objectives for WTS, which offers fellowships



Shanda H. Blackmon, MD, MPH

and awards that help female cardiothoracic surgeons learn new skills.

"The process of bringing new technology and advanced procedures into general thoracic surgical practices is still uncharted territory," said Dr. Blackmon. "It's important that surgeons have a framework for making it happen more seamlessly."

During the session, Dr. Blackmon will discuss an STS Expert Consensus Statement that provides a toolkit for surgeons and hospitals as they plan for the safe introduction and implementation of new technologies and advanced procedures in general thoracic surgery. Dr. Blackmon was the statement's lead author.

She also will review her own experiences

"The process of bringing new technology and advanced procedures into general thoracic surgical practices is still uncharted territory."

—SHANDA H. BLACKMON, MD, MPH

with innovation in the operating room, including the introduction of her patented esophageal anastomotic device, which was designed to reduce the incidence of anastomotic leaks in esophageal cancer surgery, and a patient-reported outcome app that she uses to help evaluate and manage patients following esophageal reconstruction.

The session also will address the importance of physician training for new or existing technology. Dr. Blackmon frequently performed robotic thoracic surgeries while on staff at a Houston hospital, but when she joined the Mayo Clinic 3 years ago, she didn't have ready access to a robot.

Now that she once again has access, Dr. Blackmon is in the process of recertifying herself in the use of robotics for improved patient care.

"Robotics is not new to me, nor is it new to the hospital. However, I felt I needed to retrain so that I could get my skills back to

the level that my patients deserve before offering this technology again," she said.

It is an important—yet often challenging—step to ensure that surgeons are up to date with privileging and credentialing for the technologies they use.

"When you are adding new technology into the clinical setting, it's important to be transparent with your patients in regard to physician training and certification," Dr. Blackmon said.

She emphasized that cardiothoracic surgeons have an obligation to deliver new

technology to patients in a well-prepared manner.

"Just doing the same surgery you were trained to do in residency and never improving yourself, your team, or the technology means that you are not offering your patients your best," Dr. Blackmon said. "We must continually be retraining and evaluating new technology. We must become comfortable with the continuous acquisition of new skills." ■

Women in Thoracic Surgery: How to Successfully Implement Surgical Innovations and New Technologies Into Practice

Monday

4:15 p.m. – 5:15 p.m.

Floridian Ballroom D

Learning Opportunities Available in the Exhibit Hall

Exhibiting companies and others will present talks and demonstrations in the Learning Lab Theater, located in the Exhibit Hall at Booth 1736.

MONDAY

10:55 a.m. – 11:25 a.m.

Abbott

Transseptal Access for Transcatheter Mitral Procedures: Surgeons Can Master This Too!

12:45 p.m. – 1:15 p.m.

AngioDynamics

The AngioVac System: When Is It the Device of Choice?

TUESDAY

10:15 a.m. – 10:45 a.m.

Johnson & Johnson Medical Devices Companies

The Science of Tissue Management

Reimbursement Changes Require Better Reporting from Surgeons

Cardiothoracic surgeons spend years learning and honing skills related to surgery, but most spend relatively little time studying the business side of medicine. That may be about to change. New reimbursement rules are forcing changes in the day-to-day activities of surgeons who must now place more emphasis on documentation, coding, and data collection.

"Daily billing needs are emerging as more important, and they will play a role in the future," said Scott C. Silvestry, MD. "Understanding what a physician has to do in terms of documenting their visits and potentially billing for these visits is emerging as an important skillset."

Dr. Silvestry is the moderator of a session designed to teach surgeons the nuances of documenting all aspects of their work.

The Importance of Physician Documentation in Reimbursement

Monday

4:15 p.m. – 5:15 p.m.

Rooms 301-302

Presenters will explain how to note the complexity of the case, the number of patient visits, time spent on a case, and the effort required by the surgeon.

"If you are going to write it once, it should reflect the amount of work that you put in and use the appropriate words so that the coders can record the appropriate credit

for your work, as well as the complexity of the illness," said Dr. Silvestry, a member

of the STS Workforce on Coding and Reimbursement. "We will address how that is done in the current environment."

The session's speakers will explain reimbursement requirements, the documentation needed for medical necessity, diagnosis, and services rendered.

"This session will provide the start of competency towards a more productive interaction with one's coders, coding applications, and hospital data personnel," Dr. Silvestry said. "Attendees will leave with a good idea of the current requirements for documentation." ■

"Understanding what a physician has to do in terms of documenting their visits and potentially billing for these visits is emerging as an important skillset."

—SCOTT C. SILVESTRY, MD

Business Meeting Tonight

5:30 p.m. – 6:30 p.m. | Room 316

STS Members Only

Refreshments will be served.

Collaborative Approach to Cardiac Care Benefits Complex Patients

The team approach to caring for patients with heart disease can be controversial, but it has become essential in treating today's patients, who often have multiple comorbidities and can present unique challenges.

A multidisciplinary "heart team" would be best positioned to assess these patients and collectively work together to find the most effective treatment algorithm, according to Vinod H. Thourani, MD, from MedStar Heart and Vascular Institute/Washington Hospital Center in Washington, DC.



Vinod H. Thourani, MD

Washington, DC.

"When they come together, cardiac surgeons, interventional cardiologists, and echocardiographers are able to provide a multitude of options for these patients,

including traditional surgery, minimally invasive surgery, and transcatheter techniques," Dr. Thourani said.

In this afternoon's Clinical Scenarios: Cardiologists and Surgeons Working Together, speakers will highlight the critical need for a true, collaborative heart team approach in treating mitral stenosis and regurgitation, tricuspid regurgitation, aortic stenosis and regurgitation, and surgical management of heart failure via case presentations, invited

Clinical Scenarios: Cardiologists and Surgeons Working Together

Monday
1:15 p.m. – 5:15 p.m.
Floridian Ballroom B-C

lectures, technical videos, and panel discussions.

The discussions will offer insight into how the multidisciplinary approach can improve patient outcomes and foster communication among specialties.

Dr. Thourani hopes attendees will be inspired to consider new interventional treatments and collaborative approaches.

"We would like to open the minds of practicing surgeons and help broaden the array of treatments that they can offer their patients," he said. ■

"When they come together, cardiac surgeons, interventional cardiologists, and echocardiographers are able to provide a multitude of options for these patients."

—VINOD H. THOURANI, MD

Meet the Experts

Kick off your Tuesday morning with one of eight Meet the Experts Sessions that will be held from 7:30 a.m. to 8:30 a.m. Sessions will be offered on a wide variety of topics, and ample time will be provided for discussion with the presenters.

- Session 1:** Management of Esophageal Leaks | Room 223
- Session 2:** Minimally Invasive and Robotic Mitral Valve Repair | Room 113
- Session 3:** Universal Conundrums in ECMO: Tips and Tricks for Veno-Arterial ECMO in Cardiogenic Shock | Room 122
- Session 4:** Advanced Surgical Techniques in Ischemic Heart Disease | Room 222
- Session 5:** How to Be Successful in a Small-to-Mid Size Congenital Heart Program | Room 123
- Session 6:** End-Stage Heart Failure | Room 118
- Session 7:** Management of the Small Aortic Root | Room 119
- Session 8:** Minimally Invasive Esophageal and Pulmonary Procedures, Including Robotics and POEM | Room 114

Hear from Experts at Industry-Sponsored Satellite Activities

Satellite activities are programs offered by industry and held in conjunction with the STS 54th Annual Meeting. They are not developed or sponsored by STS.

MONDAY

Abbott
Hemodynamics Matter for Exercise Reserve, Left Ventricular Mass Regression, and Durability
7:00 p.m. – 10:00 p.m.
Hilton Fort Lauderdale Marina, Grand Ballroom E
1881 SE 17th St.

AtriCure/MediaSphere Medical
Concomitant Surgical Ablation of Atrial Fibrillation: Navigating Controversies and Growing Your Practice
7:00 p.m. – 9:00 p.m.
Fort Lauderdale Marriott Harbor Beach Resort & Spa, Caribbean V
3030 Holiday Dr.

Baxter
Challenge the Burden of Bleed: Discussing the Clinical Value of an FDA-Accepted Bleeding Severity Scale
7:00 p.m. – 10:00 p.m.
Hilton Fort Lauderdale Marina, Atlantic Ballroom 2
1881 SE 17th St.

Edwards Lifesciences
Latest Innovations in Surgical Aortic Valve Replacement
7:00 p.m. – 10:00 p.m.
Hilton Fort Lauderdale Marina, Grand Ballroom D
1881 SE 17th St.

TUESDAY

Thompson Surgical
Optimal Exposure for Mitral Valve Surgery: If You Can't See It, You Can't Fix It
6:00 a.m. – 7:00 a.m.
Hilton Fort Lauderdale Marina, Grand Ballrooms ABCD
1881 SE 17th St.

Shifting Medicare Payment Program Emphasizes Quality Performance

Physician payments are undergoing a sea change as payers seek to reward quality over volume. In particular, the Medicare Access and CHIP Reauthorization Act (MACRA) made significant changes to the way physicians are paid under the Medicare program.

As the Centers for Medicare & Medicaid Services implements MACRA's various provisions, cardiothoracic surgeons will need to stay apprised of changes in reporting requirements and performance benchmarks.

Health Policy Forum attendees will

learn how they can be successful under either aspect of the Medicare Quality Payment Program: the Merit-Based Incentive Payment System (MIPS) or Alternative Payment Models (APMs).

Speakers will describe the MIPS categories in which clinician performance will be evaluated, including quality, advancing care information, and improvement activities. They also will discuss the current options for participating in an APM and highlight

the Society's efforts in advocating for cardiothoracic surgeons who participate in these programs. ■

Health Policy Forum: The Changing Medicare Quality Reporting and Payment Landscape

Tuesday
7:30 a.m. – 8:30 a.m.
Rooms 220-221

Join the Conversation Online!

Follow STS on social media to stay on top of Annual Meeting news, and share your meeting experience using the hashtag #STS2018.

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The Society of Thoracic Surgeons

Free Wi-Fi Available

Complimentary wireless internet, supported by Medtronic, is available in the common areas and meeting rooms of the Convention Center for all STS Annual Meeting attendees. To connect to the wireless internet, select "STS 2018" from the available networks. Launch a web browser and follow the instructions to connect, entering password "Medtronic1" when prompted; the password is case sensitive. ■

Apply for Membership

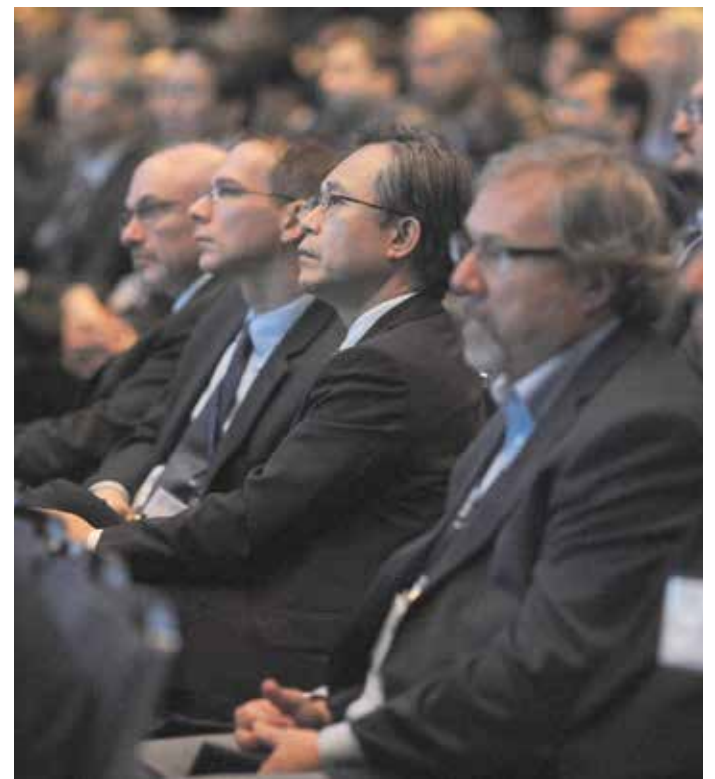
As an attendee of the STS 54th Annual Meeting, you are participating in the most exciting specialty in medicine. But if you are not yet an STS member, you may not be experiencing the profession to its fullest.

STS membership comes with a wide range of benefits, including subscriptions to *The Annals of Thoracic Surgery*, *STS News*, and personalized email communications. Additionally, you'll receive reduced registration rates at future Annual Meetings and many other educational events throughout the year, as well as the potential for discounted participation fees in the STS National Database.

Several categories of membership are offered to include anyone with an interest in cardiothoracic surgery. If you are not already a member, please stop by the STS booth (#807) in the Exhibit Hall to talk with staff and pick up an application. If you are a member and know someone who has not yet joined, pick up an application for them! By encouraging membership in STS, you'll help your colleagues, the Society, and the specialty. ■

2018 Meeting Kickoff

The STS 54th Annual Meeting got off to a great start this weekend. On Saturday, STS/AATS Tech-Con previewed the latest technology in development, including innovations in lung cancer and esophageal disease, minimally invasive surgery, aortic valve and aortic aneurysm management, and more. On Sunday, several symposia covered hypertrophic cardiomyopathy, practice management, critical care, advanced bronchoscopy, and more.



Learn How to Improve Accuracy in Your Manuscripts

The publication of research using national databases has risen exponentially over the past decade. Unfortunately, methodological mistakes are common when preparing manuscripts and interpreting results.

During *The Annals Academy*, experts will explain the differences between association and causality in observational research, as well as between statistical and clinical significance in large databases. They also will describe

common performance metrics for multivariable modeling and discuss options for merging STS National Database data with other longitudinal databases to obtain long-term outcomes.

For additional information on improving your manuscripts, stop by the STS booth (#807) in the Exhibit Hall, where staff from *The Annals of Thoracic Surgery* will be available to answer your questions. ■

The Annals Academy: Preparation and Interpretation of National Database Research

Monday

4:15 p.m. – 5:15 p.m.

Room 316

Late-Breaking Abstracts Session Today

Don't miss a special late-breaking session added to the educational program this afternoon. This Just In: Late-Breaking Research Results and Novel Ideas will be held from 4:15 p.m. to 5:15 p.m. in Room 304 and will feature abstracts on fetal aortic valve development, minimally invasive esophagectomy, surgeon-specific performance monitoring, near-infrared fluorescence guided surgery, and total arterial revascularization. Three additional late-breaking abstracts have been added into scientific sessions today and tomorrow. Access a PDF of the late-breaking abstracts at sts.org/annualmeeting.

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