New Data Released on Heater-Cooler Device Infections

Annual Meeting attendees crowded into a packed 7:00 a.m. session yesterday to hear about newly revealed research regarding a critical patient safety issue.

Over the last few years, a growing number of serious infections have been linked to bacteria forming in heater-cooler devices (HCDs) used in cardiac surgery operating rooms. In these cases, aerosolized bacteria, predominantly nontuberculous mycobacterium (NTM) from the HCDs, contaminated the operative field. Emerging evidence regarding the incidence and challenges of detecting the infections has triggered alarms at the US Food and Drug Administration and regulatory agencies in Europe.

The latest update on the threat of NTM was presented Sunday by cardiothoracic surgeons and experts in perfusion and infectious diseases during a special session, "Heater-Cooler-Induced Infections: Protocols, and Mitigation Strategies."

“We are just beginning to scratch the surface, even though this research has been going on for more than 2 years,” said Keith B. Allen, MD, of St. Luke’s Mid American Heart Institute and the University of Missouri–Kansas City, the lead author of an abstract focusing on the problem. He has worked with other experts at the request of the FDA, which organized a special conference last summer to address the problem.

The infections associated with HCDs have a latency period of up to 72 months, with a mean time of 17 months from surgery to onset of symptoms, said Neil Fishman, MD, an infectious disease expert at the University of Pennsylvania Perelman School of Medicine in Philadelphia.

The incidence of infections has been tracked in the Medical Device Report database, which collects reports from manufacturers, see HEATER-COOLER, page 17

Devices Draw Mixed Reviews in Tech-Con’s Shark Tank

Inventors tend to be optimists, perceiving their ideas as game-changers when the reality often is far different. Three physician-inventors of medical devices got a dose of reality Saturday by diving into STS/AATS Tech-Con’s Shark Tank, where peers judged their developments.

For two device developers, the news was good, while the third may be headed back to the drawing board, based on the comments of two judges and attendee polling results during "Shark Tank—Rapid-Fire Elevator Pitches of Revolutionary Thinking." The "sharks" judging the devices were Patrick M. McCarthy, MD, of Chicago, and Rick Anderson, of PTV Healthcare Capital in Austin, Tex.

First up in pitching a development was Shanda H. Blackmon, MD, MPH, of the Mayo Clinic in Rochester, Minn., who presented the Blackmon-Mayo Buttressing Anastomotic Device, designed to prevent anastomotic leaks. It is used during an esophagectomy, after the stomach is pulled into the chest.

The device is a mandrel that is introduced through the mouth and goes down the esophagus, exiting the distal portion of the esophagus. Inside the device is a self-expanding stent or mesh. The mandrel has LED lights that improve visibility and is moved into four positions where the stomach and esophagus are attached to the stent or mesh using T-fasteners.

“This allows coverage with overlap of the two structures you are joining, rather than creating an end-to-end anastomosis, so if there is a small leak, it is covered by an internal buttress,” Dr. Blackmon said.

In a texting poll, 43% of the audience said they were interested in investing, 33% said they would “possibly invest,” but would not be
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Stop by the Medtronic booth and let’s talk about advancing patient care, together.
Important STS National Database Research Featured as Clark Papers

Since its inception in 1989, the STS National Database has played an essential role in generating research on quality improvement and patient safety. Three of the latest practice-changing studies—one each from the Adult Cardiac Surgery Database (ACSD), the Congenital Heart Surgery Database (CHSD), and the General Thoracic Surgery Database (GTSD)—will be presented as the 2017 Richard E. Clark Memorial Papers.

CONCOMITANT TO MITRAL OPERATIONS
SURGICAL ABLATION FOR ATRIAL FIBRILLATION REDUCES MORTALITY

The Clark Paper for Adult Cardiac Surgery suggests that performing surgical ablation (SA) to treat atrial fibrillation (AFib) at the time of mitral valve repair or replacement (MVRR) may have a protective effect on mortality. Adding SA during MVRR is known to improve late sinus rhythm. However, clinicians have been unsure of the operative mortality impact of performing the two procedures concomitantly. Early studies indicated little effect on mortality, while more recent studies suggest a reduction in operative mortality.

Researchers investigated the ACSD for MVRR patients between July 2011 and June 2014. Including tricuspid repair and coronary artery bypass grafting generated a cohort of 88,765 patients.

Risk-adjusted odds ratios for mortality were compared at the time of surgery whether or not SA was performed. Group 1, with no preop AFib and no SA, was the comparator for other groups. Group 2 had no immediate preop AFib but had SA. Group 3 had AFib but no SA. Group 4 had AFib plus SA.

Lead author J. Scott Rankin, MD, of West Virginia University in Morgantown, will present “Mortality Is Reduced When Surgical Ablation for Atrial Fibrillation Is Performed Concomitantly With Mitral Operations.”

Patients in group 3 who had AFib but who did not receive SA had an odds ratio of 1.16 for mortality, or a 16% increase in relative risk of mortality compared with group 1 patients with no preop AFib or SA. But patients in group 4 who had AFib plus SA had a mortality similar to group 1 patients.

“At the time of mitral operations, the addition of SA to treat AFib can be performed without increased risk of mortality and may even be protective,” Dr. Rankin said. “The data suggest an early mortality benefit for SA and imply that further increase in SA application may be appropriate.”

PREOPERATIVE RISK FACTORS IN EARLY SHUNT FAILURE

A new analysis of congenital heart surgery data was performed to determine the incidence of early shunt failure and identify specific patient groups that may be at increased risk of functional failure of a systemic-to-pulmonary artery shunt or a ventricle-to-pulmonary artery shunt. Early failure of systemic-to-pulmonary shunts is a potentially catastrophic complication in infants. But evidence to identify preoperative risk factors has been lacking, with most studies focusing on prevention of failure using pharmacologic or other therapies but having small sample sizes or being underpowered.

Researchers queried the CHSD to find 9,172 infants aged 1 year or younger who underwent shunt construction as the primary source of pulmonary blood flow from 2010 to 2015 at 118 centers. The cohort included both systemic-to-pulmonary artery and right ventricle-to-pulmonary shunts. The study found that we can measure quality in esophagectomies.”

Andrew C. Chang, MD

Participants whose 95% Bayesian credible intervals (CRI) overlapped the STS mean composite score were considered two-star participants, while those whose 95% CRI were entirely below or above the STS mean were classified as one- or three-star sites, respectively. Discharge mortality and lengths of stay were used to benchmark GTSD participants against the National Inpatient Sample 2012 cohort. Andrew C. Chang, MD, of the University of Michigan in Ann Arbor, will present the Clark Paper for General Thoracic Surgery, “The Society of Thoracic Surgeons Composite Score for Evaluating Program Performance in Esophagectomy for Esophageal Cancer.”

Operative mortality—a combination of discharge and 30-day mortality—was 3.1%, and the major complication rate was 33.1%. Of the 167 participants, only 70 reported an average yearly operative volume of five or more esophagectomies during the study period. Of these 70 participants, four (5.7%) were three-star, 64 (91.4%) were two-star, and two (2.9%) were one-star. The remaining 97 (58.1%) participants did not have sufficient operative volume to score reliably.

“The pressing concern is that a significant majority of participants don’t do enough esophageal cancer operations to get valid measures,” Dr. Chang said. “We also find that there are programs that have lower volumes and very good results. This measure still needs to be validated, but it demonstrates that we can measure quality in esophagectomies.”

The next step, he added, is to consider how widely the measure can be used. It would be difficult to apply a quality measure knowing that more than half of GTSD participants would not qualify due to low volume.

M
ake sure to stop by the STS booth (#533) in the Exhibit Hall to hear the latest that STS has to offer. Ask about plans to upgrade and expand the STS National Database, our public reporting initiatives, exciting developments from the STS Research Center—including the new PUF Research Program—and upcoming educational programs, such as the STS ECMO Symposium and the Symposium on Robotic Mitral Valve Repair, both scheduled for this coming March. Staff from The Annals of Thoracic Surgery also will be available to help authors with manuscript submissions, accessing Annals CME activities, and improving figures in manuscripts. You also can donate to the Society’s charitable arm, The Thoracic Surgery Foundation.

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.
ACC @ STS Tackles Complex Clinical Scenarios

Cardiac surgery has entered a new era, with cardiologists and surgeons facing more complex cases. To manage these patients, it has become vital for specialists to interact, collaborate, and perform as one heart team.

Members of the American College of Cardiology and STS will examine difficult clinical scenarios facing heart teams, with a focus on aortic stenosis, atrial fibrillation, coronary artery disease (CAD), and mitral regurgitation.

“These topics embody the majority of cardiac care that practicing surgeons provide on a daily basis,” said co-moderator Vinod H. Thourani, MD, adding that each section of the session will include a patient case, data to back up decision making, and a panel discussion.

A highlight of the aortic stenosis section will be lessons learned from the STS/ACC TVT Registry™, which was created by surgeons and cardiologists. Among the data that will be shared will be volume trends for surgical and transcatheter aortic valve replacement (TAVR) in the United States.

“TAVR has been approved for extreme-, high-, and now medium-risk patients, but low-risk patients represent 80% of aortic valve surgical volume,” said Dr. Thourani, of Emory University in Atlanta.

With a growing population of atrial fibrillation patients, session planners seek to give attendees a better understanding of the medical, interventional, and surgical options.

“It remains alarming to me that so many patients present to our operating rooms with atrial fibrillation, yet we have no surgical therapeutic interventions. We have to be asking ourselves as a surgical community why this is the case,” Dr. Thourani said. Presenters will look at which patients are optimal candidates for transcatheter management, how to decide between biatrial and left atrial-only surgical ablation surgery, and how to perform biatrial ablation.

The content of the CAD section was developed in response to the innovation of percutaneous coronary interventions in hybrid revascularization, which are pushing the envelope for the management of CAD.

“This session will highlight the most recent technologies that interventional cardiologists and surgeons are performing to help physicians make decisions about the best options for care,” Dr. Thourani said. It also will include which patients with multivessel disease are best treated percutaneously and options for non-sternotomy multivessel coronary artery bypass grafting.

During the mitral regurgitation section, speakers will share insights about the ACC/American Heart Association Valve Guidelines, management of a patient with functional mitral regurgitation, and an update on transcatheter mitral valve devices. Dr. Thourani will also describe his worst transcatheter mitral valve case and how he handled it.

“Our goal in this section is to provide a standard of care defined by our societies and to uphold our surgical heritage with the management of mitral valve regurgitation,” Dr. Thourani said. “We’ll also highlight new technologies that can expand the armamentarium of tools for treating mitral valve disease.”

Dr. Thourani’s co-moderators are Nir Ad, MD, of Cardiac Vascular and Thoracic Surgery Associates in Falls Church, Va.; Jodie Hurwitz, MD, of the North Texas Heart Center in Dallas, Roxana Mehran, MD, of Mount Sinai School of Medicine in New York; Patrick T. O’Gara, MD, of Brigham and Women’s Hospital in Boston; and Joseph F. Sabik III, MD, of University Hospitals Cleveland Medical Center.

“I will discuss specific aspects of several scientific topics,” said Dr. Jacobs, Chief of the Division of Cardiovascular Surgery at Johns Hopkins All Children’s Heart Institute. “This session is extremely important for learning how quality measurement is progressing and how to apply these developments in one’s clinical practice, particularly given the ever-increasing influence that quality has on practice.”

ACC @ STS Monday
1:15 p.m. – 5:15 p.m.
Room 330AB

STN National Database Helps Improve Outcomes

For more than 25 years, the STS National Database has provided a foundation for cardiothoracic surgeons to improve patient outcomes by collecting data to assess procedures and develop guidelines for evidence-based practice. The breadth of evidence in the Database continues to grow, and a Monday afternoon session will address the latest Database initiatives in clinical practice guideline development, risk modeling, public reporting, and quality measurement and improvement.

“The goal is to showcase the scholarship and quality of data that are available in the STS National Database,” said session co-moderator Vinay Badhwar, MD, of West Virginia University in Morgantown.

Seven research abstracts will focus on topics that include Medicaid expansion, links between outcomes of bypass grafting and valve surgery, lung resection, Staphylococcus aureus prevention strategies, and preventing wound infections.

“The invited presentations are from leaders of the STS Workforce of National Databases, other related STS workforces, and STS task forces,” said session co-moderator Jeffrey P. Jacobs, MD, Chair of the STS Workforce on National Databases.

“This combination of abstracts and invited lectures will allow attendees to grasp what is state of the art in quality improvement for cardiothoracic surgery.”

A highlight will be the review of new quality insights in general thoracic surgery and how this effort has helped launch the opportunity to publicly report outcomes from the General Thoracic Surgery Database for the first time, said Dr. Badhwar, Chair of the STS Task Force on Public Reporting.

Another highlight will be the review of the new STS Clinical Practice Guidelines for the Surgical Treatment of Atrial Fibrillation, released online in December in The Annals of Thoracic Surgery.

“The guidelines support the safety and efficacy of adding surgical ablation to a cardiac operation for the treatment of atrial fibrillation,” Dr. Badhwar said.

The STS Quality Measurement Task Force recently developed two mitral valve surgery composite measures and a surgeon-level composite measure. David M. Shabih, MD, Chair of the Task Force, will review those measures.

Dr. Jacobs, Professor of Surgery and Pediatrics at Johns Hopkins University in St. Petersburg, Fla., will review other STS measures that have been endorsed by the National Quality Forum.

“I will discuss specific aspects of several measures of performance that relate to cardiac and thoracic surgery, including survival after Pediatric heart surgery and one of our newest measures related to individual cardiac surgeon performance,” said Dr. Jacobs, Chief of the Division of Cardiovascular Surgery at Johns Hopkins All Children’s Heart Institute.

Dr. Badhwar said, “This session is extremely important for learning how quality measurement is progressing and how to apply these developments in one’s clinical practice, particularly given the ever-increasing influence that quality has on practice.”

STN National Database Helps Improve Outcomes
Surgery Recommendations Vary by Race, Study Shows

Surgeons are more likely to recommend lung resection for black cancer patients than white cancer patients, according to a study that will be presented this afternoon.

The study showed that “patient race significantly influenced risk estimation and surgical recommendations. How these findings influence shared decision making and their association with treatment disparities require further investigation,” said Mark K. Ferguson, MD, of The University of Chicago, who is the lead author of “Patient Race Influences Risk Assessment and Recommendations for Lung Resection.”

For the study, surgeons read a clinical vignette and then viewed a video interview with either a black or white patient-actor. The participating surgeons recommended that 88% of black patients have lung surgery versus 75% of white patients. The patients were matched by age, body mass index, gait speed, and strength.

The 117 participating surgeons included 51 practicing surgeons and 66 trainees; 86 were white and 31 were in other self-identified racial categories; 96 were men and 21 were women.

“The literature suggests that black patients are less likely to be recommended to have surgery than white patients,” Dr. Ferguson said. “We found the opposite of that. I can’t explain why recommendations for surgery in other studies are less for blacks than for whites.”

“The study, one in a series examining the use of video in making treatment recommendations, also suggests that videos influenced surgery recommendations more than the race-neutral clinical vignettes did. Because of the limited number of participating surgeons, more research is needed.

“I wouldn’t say that I could draw clear-cut conclusions from this. It seemed that the physicians—and this is both physicians of color and white physicians—had similar tendencies in terms of how they responded to the videos. Male and female physicians had some like tendencies in terms of how they responded to the videos,” Dr. Ferguson said. “It suggests the physicians don’t see black patients in the same way they see white patients.”

Using Data to Improve Patient Care

More than ever, cardiothoracic surgeons may feel as if they are under a microscope with increasing scrutiny of their performance from professional societies, patients, and employers. Today’s session from STS, the Canadian Association of Thoracic Surgeons, and the Canadian Society of Cardiac Surgeons will focus on bringing real-life quality improvement methods to cardiothoracic surgeons, their divisions, and the specialty.

Andrew J. Seely, MD, PhD, of the University of Ottawa in Ontario, Canada, will share how surgeons within the same group can help each other improve their performance. Dr. Seely developed a robust grading system—the Ottawa TM&—and an in-house data collection tool designed specifically for data-driven quality improvement. He then adopted a novel concept, looking at the “positive deviants.” This method focuses on positive outliers and positive performers, rather than negative performers, said session co-moderator Colin Schieman, MD.

This focus on the high performers, rather than the low performers, is a change from how we typically think of morbidity data review, and it helps drive more open discussion and team-based improvement, said Dr. Schieman, of the University of Calgary in Alberta, Canada. Dr. Seely will show how this method, widely adopted by Canadian centers, objectively allows for implementing a quality improvement system.

“Most surgeons are uncomfortable with data collection,” Dr. Schieman said. “I was always worried about who would handle the data. What’s the intention going to be? How public would it be? Would there be any control for the complexity of the cases?”

With positive deviance, the data collection is anonymous with a focus on “like individuals in a group who are particularly good at certain areas,” Dr. Schieman said. “It’s a different way of framing the conversation.”

“The data collected from hospitals, health administrators, regions, and societies provide powerful tools for surgeons to improve their performance, garner more resources for their institutions, and elevate the standard for all surgeons,” Dr. Schieman said. “Participation in our national databases is a major plus. Those who use the data can reflect on their own practices, but also on their own hospitals, cities, and regions to see where there are potential areas for improvement. This goes beyond individual surgeon performance.”

“The data collected from hospitals, health administrators, regions, and societies provide powerful tools for surgeons to improve their performance, garner more resources for their institutions, and elevate the standard for all surgeons.”

COLIN SCHIEMAN, MD

AFib Differences Between Women, Men

New-onset atrial fibrillation (AFib) after coronary artery bypass grafting (CABG) surgery has decreased in recent years, but in an abstract being presented today has found that incidence has decreased more among women than men.

The differences between women and men in incidence and duration of AFib post-CABG were examined in a study of data from the STS National Database. The data were augmented with continuous in-hospital electrocardiography/telemetry monitoring.

“We were very careful about making sure we captured every single episode of AFib and its details,” said lead author Giovanni Filardo, PhD, MPH, of Baylor Scott & White Health in Dallas. “We investigated the epidemiology of post-CABG AFib and gender differences in terms of incidence, timing, type, and duration of each single AFib episode, and the changing trends over time.”

A chart abstract, “Sex Differences in the Epidemiology of New-Onset Post-Coronary Artery Bypass Grafting Atrial Fibrillation: A Large, Multicenter Study,” found that from 2002 to 2010, adjusted new-onset AFib in women decreased from 36% to 24%, while in men it decreased from 42% to 31%.

Following adjustment for STS-recognized risk factors, women had significantly lower risk for post-CABG AFib, as well as shorter durations of first and longest AFib episodes and total time in AFib.

“Women are doing significantly better, and that is very important,” Dr. Filardo said. “We are working on understanding why. Our next paper will be on assessing whether certain prevention and management strategies lead to better prevention and/or long-term survival.”

Women had significantly lower risk for post-CABG AFib, as well as shorter durations of first and longest AFib episodes and total time in AFib.

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.

**MONDAY**

12:45 p.m. – 1:15 p.m. Medtronic: “Overcoming Challenges in VATS Lobectomy”

3:45 p.m. – 4:15 p.m. Abbott: “Transcatheter Mitral Valve Repair”

**TUESDAY**

10:15 a.m. – 10:45 a.m. Houston Methodist: “Hybrid CV Surgery Room of the Future”

12:15 p.m. – 12:45 p.m. Ethicon: “Practical Skills in Thoracic Surgery”

Satellite Activities

Satellite activities are programs offered by industry and held in conjunction with the STS 53rd Annual Meeting. They are not developed or sponsored by STS.

**TUESDAY**

Baxter Healthcare
6:00 p.m. – 9:00 p.m. The Role of Advanced Hemostats and Sealants in Blood Management During Cardiovascular Surgery: A Clinical Perspective

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Warnings: The safety and effectiveness of the valve has not been studied in the following specific populations: patients who are pregnant or lactating; patients with chronic renal impairment or calcium metabolism disorders; patients with active endocarditis or myocarditis; or children or adolescents. As with any implanted device, there is potential for an immunological response. Use of the EDWARDS INTUITY Elite valve system may be associated with new or worsened conduction system disturbances, which may require a permanent pacemaker implant. Potential Adverse Events: Adverse events potentially associated with the use of bioprosthetic heart valves and aortic valve replacement surgery include but are not limited to: annulus damage, dissection, or tear; hemolysis; cardiac arrhythmias/conduction disturbances; congestive heart failure; endocarditis; leaflet impingement (aortic or mitral); myocardial infarction (MI); neurologic events; patient-prosthesis mismatch (PPM) (due to inappropriate sizing); reoperation or re-intervention, structural/non-structural valve dysfunction, explantation and death.

Additional potential risks associated with the use of a bioprosthetic valve with a reduced number of sutures similar to the EDWARDS INTUITY Elite valve include: valve leakage; paravalvular (perivalvular) leak; transvalvular regurgitation; valve stenosis; valve thrombosis; valve frame distortion (from chest compression or trauma); and valve malposition, instability, dislodgement or migration/embolization.

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Chamberlain Papers Offer Latest High-Impact Research

Strategies distinguishing coronary artery bypass grafting (CABG) from percutaneous coronary intervention (PCI) in blocked arteries, optimal timing for stage-2 palliation after the Norwood operation in neonates, and long-term outcomes for elderly lung cancer patients are the topics of the three most important scientific abstracts accepted to the 2017 Annual Meeting program.

The J. Maxwell Chamberlain Memorial Papers honor Dr. Chamberlain, who has been called “the most important influence in the formation of The Society of Thoracic Surgeons.” The Chamberlain Papers will be presented this morning as part of General Session I.

RETHINKING CABG STRATEGIES

Surgeons have long delayed CABG in patients with mild to moderate stenosis. Long-term data suggest that grafting patients with moderately stenosed coronary arteries provides long-term protection from myocardial ischemia.

“Studies in percutaneous interventions showed that if you stented an artery that had moderate stenosis, it was harmful. You had better outcomes if you waited until stenosis became severe,” said Joseph F. Sabik III, MD, co-author of the Chamberlain Paper for Adult Cardiovascular Surgery, “Natural History of Moderate Coronary Artery Stenosis After Surgical Revascularization.”

Although many people assumed the same was true of bypass surgery, Dr. Sabik said he and his colleagues found that CABG and PCI require different revascularization strategies.

“We now know that there is value in bypassing a moderately stenosed artery because the graft is going to stay open 90% of the time. As stenosis in the native artery progresses, the graft remains patent and protects the patient,” said Dr. Sabik, from University Hospitals Cleveland Medical Center.

The study authors analyzed retrospective data on 55,567 patients with moderate stenosis (50%-69% angiographic blockage) who underwent primary isolated CABG between 1972 and 2011 at the Cleveland Clinic. Dr. Sabik’s previous institution. The study compared 1-, 5-, 10-, and 15-year outcomes for patients who were not grafted, were grafted with an internal thoracic artery (ITA), or were grafted with a saphenous vein (SV).

As expected, native vessel stenosis progressed from moderate to severe in most patients. Stenosis progression was lowest in nongrafted patients, highest in SV-grafted patients, and intermediate in ITA-grafted patients. At 1, 5, 10, and 15 years, 8%, 9%, 11%, and 15% of ITA grafts were occluded compared to 13%, 32%, 46%, and 56% of SV grafts. At those same time points, ITA grafts conferred 29%, 47%, 59%, and 61% protection from myocardial ischemia compared to nongrafted arteries.

“As disease progressed in the native vessel, the ITA graft remained open and became protective,” Dr. Sabik said. “If you bypass a moderately stenosed vessel with an ITA, you help patients live longer.”

NEW TIMING FOR STAGE-2 PALLIATION AFTER NORWOOD

Clinicians may need to reconsider current protocols for stage-2 palliation following a Norwood operation in neonates with critical left ventricular outflow tract obstruction (LVOTO). Some existing protocols call for stage-2 palliation as quickly as possible following an initial Norwood operation, especially in high-risk infants. New data suggest an optimal window for stage-2 palliation for low-to-average-risk infants.

“Performing the second stage operation after 3 months in low- or average-risk infants appears to maximize survival,” said James M. Meza, MD, of the Hospital for Sick Children in Toronto. “Clinicians should adopt protocols or modify existing protocols for low- and average-risk patients to ensure that the operations take place within the optimal window for the second stage. And for higher-risk patients, many may end up failing single ventricle palliation. Survival was especially poor in high-risk patients who underwent the second stage quickly after the Norwood. Earlier consideration for heart transplantation may be what maximizes their long-term survival, with the caveat that there is a limited supply of hearts available for neonates.”

Dr. Meza will present “The Optimal Timing of Stage-2 Palliation After the Norwood Operation: A Multi-Institutional Analysis From the Congenital Heart Surgeons’ Society” as the Chamberlain Paper for Congenital Heart Surgery. Researchers analyzed outcomes for 534 neonates with LVOTO from 20 institutions. Most patients (71%) had stage-2 palliation surgery at a mean age of 5.4 months; 22% of patients died after Norwood, and the remainder underwent either biventricular repair or heart transplantation. After stage-2 palliation, 10% died, 66% underwent Fontan, and the remainder were either awaiting Fontan or underwent heart transplantation.

The most important risk factor for death after Norwood was low birth weight. The risk-adjusted 4-year survival after Norwood was 72%. In low-risk infants, survival was compromised only by stage-2 palliation earlier than 6 months of age.

DATA LINKAGE HELPS ANALYZE LONG-TERM LUNG CANCER SURVIVAL

The Chamberlain Paper for General Thoracic Surgery presents the first long-term survival analysis of elderly patients undergoing lung cancer surgery. The new analysis is the first from data linked between the STS General Thoracic Surgery Database (GTSD) and Medicare data.

“Until now, the GTSD has been limited to analyzing 30-day outcomes, which meant we could only address short-term surgical questions,” said lead author Mark Onaitis, MD, of the University of California, San Diego. “Clearly, age and stage are the strongest predictors of survival, but because we now have such a large database, we can see how medical and surgical factors also contribute to long-term survival. We will be able to better hone in on individualizing treatments for patients in order to maximize long-term survival.”

The paper, “Prediction of Long-Term Survival Following Lung Cancer Surgery for Elderly Patients in The Society of Thoracic Surgeons General Thoracic Surgery Database,” linked the GTSD to Medicare data for lung cancer resections from 2002 to 2013, creating a database of 29,899 lung cancer resection patients. Wedge resection, segmentectomy, bilobectomy, and pneumonectomy were associated with increased risk of mortality compared to lobectomy. Smoking and low body mass index increased risk, while the thoracoscopic approach was associated with improved long-term survival compared to thoracotomy.

Dr. Onaitis said key areas for future study are oncologic outcomes from limited resections, survival following sublobar resection versus lobectomy, and survival after minimally invasive versus open procedures.

“We will be able to better hone in on individualizing treatments for patients in order to maximize long-term survival.” — MARK ONAITIS, MD
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• Use caution when applying with pressurized gas.
• Do not place devices or other objects on top of tissue where COSEAL has been applied, until the material is fully polymerized (non-tacky).
• Do not apply COSEAL over any devices or objects that will need to be removed. COSEAL must not be used as a mechanism of adherence, even temporarily, for any object.
• Do not inject COSEAL into vessels.
• In vivo testing demonstrated a mild skin sensitization response in an animal model. Similar testing in humans has not been conducted.
• Rx Only. For safe and proper use of these devices, refer to the appropriate full device Instructions for Use.


SVS @ STS: Examining the Potential of Cell Therapy

The use of cell therapy for treating critical limb ischemia, refractory angina, and heart failure is just one of the links between cardiac and vascular surgery that will be reviewed Monday during an annual session planned by STS and the Society for Vascular Surgery.

“In years past, we have learned a lot by listening to each other and not practicing in vacuums. Vascular surgeons bring interesting insights to problems we treat and vice versa,” said cardiac and vascular surgeon Keith B. Allen, MD, co-moderator of the session with vascular surgeon Jason T. Lee, MD, of the Stanford University School of Medicine in Palo Alto, Calif.

Cell therapy is an obvious area for the two groups to have a meeting of the minds. Studies released in the past 18 months have shown vascular surgeons its potential to treat critical limb ischemia. At the same time, cardiac surgeons have learned more about using cell therapy to manage heart failure and refractory angina.

“Here we are with two disciplines treating three areas and using the same compounds. We thought this would be a nice way to cross-pollinate,” said Dr. Allen, of St. Luke’s Mid American Heart Institute and the University of Missouri-Kansas City. The first two presentations will look at areas where both specialties often work. A cardiac surgeon will offer management options for arch pathology, and a vascular surgeon will share tips on management of the left subclavian artery during aortic endovascular repair.

“They will talk about different approaches to managing the left subclavian artery because those often involve a bypass,” Dr. Allen said. “Vascular surgeons don’t do the big operations for the arch, but it is important for them to hear how cardiac surgeons manage that. Cardiac surgeons should hear for them to hear how cardiac surgeons approach those procedures.”

For patients with medically refractory angina, many therapies involve the same groupings of cells, whether they are taken from a patient’s hip, have been expanded and cultured, or have been filtered, Dr. Allen said.

The last talk, on end-stage congestive heart failure, will go beyond angiongenesis to address the use of cell therapy or stem cells in enhancing and improving heart function, he said.

“We have learned a lot by listening to each other and not practicing in vacuums.”

KEITH B. ALLEN, MD

New STS Members Approved

120 Active and 88 International Membership applicants were approved by the Society’s Board of Directors this past Sunday, pending dues payment. View a list of the new STS members at sts.org/new-members.

Claim Your Continuing Medical Education Credit

The STS 53rd 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 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 2017.

Attendees can complete the overall meeting evaluations and all individual session evaluations onsite at CME Stations located near Registration, near Room 330, and in Hall B3. Certificate printing is available.

Attendees also can complete evaluations and claim credit by visiting sts.org/2017evaluation or using the STS Annual Meeting Mobile App. In order to make this process more convenient for attendees, the meeting evaluations will be available online through Friday, February 10, 2017.

Attendees can log in to the website with the following information: Username: 6-digit member ID number located at the upper-right side of the meeting badge. Password: First initial and last name.
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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. A new session this morning, STS Key Contacts: How to Become an Advocate for Cardiothoracic Surgery, will break down the process and provide attendees with the tools to become more involved. Surgeon leaders will share their experiences about participating in advocacy activities, and STS staff will review the Society’s advocacy priorities. Experienced and novice Key Contacts also will role-play a meeting with a member of Congress. Don’t miss this new offering, which will be held at 11:30 a.m. in Room 360A.

Meet Face-to-Face With Top Employers

The STS/CTSNet Career Fair offers the opportunity to speak with recruiters about career opportunities at a number of organizations. Participating companies will be located in Hall B3 (just outside the main Exhibit Hall) and are available to speak with you at the following times:

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

**CAREER FAIR EXHIBITORS**
- Abington Hospital – Jefferson Health Care Group
- Carolinas Healthcare System Medical Group
- The Christ Hospital Health Network
- Covenant Healthcare
- Memorial Healthcare System
- Our Lady of Lourdes Regional Medical Center
- Presbyterian Healthcare Services
- Southcoast Health
- Summa Health System

As of January 6, 2017

Attend the STS Social Event Tonight

Join your colleagues this evening at the 2017 STS Social Event at the Space Center Houston, the official visitor’s center of NASA’s Johnson Space Center. In addition to enjoying an extensive buffet and open bar, you’ll be able to check out artifacts documenting the history of space travel, including a collection of spacesuits worn by NASA astronauts, the Apollo 17 Command Module, the giant Skylab Trainer, and more.

The Social Event will be held from 7:30 p.m. to 10:30 p.m., with shuttle buses departing from all official STS hotels beginning at 6:45 p.m. Don’t miss this opportunity! It’s not too late to purchase a ticket at Registration.

Walk through the Skylab Trainer, the actual trainer that was used to prepare astronauts for America’s first space station.
RAM® AVR
PROCEDURE

Learn about LSI’s automated instrumentation for minimally invasive surgical Aortic Valve Replacement at LSI Booth 443 and the LSI Innovation Boutique.

FOCUS ON | PATIENT OUTCOMES
Download the Annual Meeting Mobile App

The STS Annual Meeting Mobile App makes it easy to plan your schedule while in Houston. Browse the educational program and save favorite sessions and presentations to your custom itinerary. Complete meeting evaluations and claim CME/Perfusion CEU credit within the app. The app updates in real time, so you’ll always have the latest information at your fingertips. Access the app by searching for “STS 2017” in the Apple App or Google Play Stores or by scanning the QR code below with your smartphone. The STS Annual Meeting Mobile App is supported by Medtronic through a branding opportunity.

Join the Conversation Online!

After the Annual Meeting, visit STS Facebook and Twitter pages for news, events, and CME credit opportunities.

Photography and Recording Policy

Photography and recording of STS/AATS Tech-Con 2017 sessions are strictly prohibited, except by authorized personnel. Recording of STS 53rd Annual Meeting sessions is strictly prohibited, except by authorized personnel.

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STS Annual Meeting

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Iso-Elastic™ Double Strand Design to Reduce Cut-Through

Booth 825

Expect Innovation.
Annual Meeting Kickoff

The STS 53rd Annual Meeting “kicked off” this weekend as Houston prepares to host the Super Bowl. On Saturday, STS/AATS Tech-Con previewed the latest technology in development. Sessions focused on managing mitral valve disease and atrial fibrillation, precision surgery, aortic and endovascular procedures, advanced thoracic surgery, ventricular assist devices, and the changing face of health care. On Sunday, sessions covered practice management, critical care, and more.

Looking to the Future Scholars

HEATER-COOLER
continued from page 1

The risk of infection increases with length of exposure to NTM, which is aerosolized from the HCDs. Clinical presentations of infection include fatigue, fever, sweating, dyspnea, weight loss, and cough. Because surgical wound infections are involved, treatment includes removal of the involved device and multiple-drug therapy. Dr. Fishman said: “We don’t know how long to treat these infections. At the least, most people are treating for 9 months, but some people are extending therapy to a year or 18 months,” he said. “The outcomes are not great. In general, the overall mortality is greater than 50%. That is attributed almost certainly to the delayed diagnosis.”

Miguel Sousa Uva, MD, PhD, President of the European Association for Cardio-Thoracic Surgery, commented on the European experience with these infections, which were reported overseas before being identified in the US. Larry L. Shears, MD, of Wellspan Health in Chattanooga, Tenn., first experienced NTM infections at Hershey Medical Center in York, Penn., in June 2015. He discussed patient symptoms, adding that it “appeared as though they had a malignancy.”

Kenneth G. Shann, CCP, LP, Director of Perfusion Services at Massachusetts General Hospital in Boston, offered recommendations on properly caring for HCDs. He suggested that a checklist be used to clean devices, that cleanings be documented, and that the serial numbers of HCDs used in procedures be recorded.

STS President Joseph E. Bavaria, MD noted that the Society has issued a statement about HCDs, as well as provided advisories from the CDC and FDA, on its website at sts.org/heater-cooler.
FJUFI/FILM Medical Systems USA, Inc 953 Wayne, NJ FJUFI/FILM is a market leader and progressive physician partner in improving patient outcomes through innovative endoscopic imaging technology and advanced endoscopic tools for thoracic, pulmonary and gastrointestinal physicians, such as the Thoracic Endoscopic Processor. Touch millions of lives – a goal at the forefront of the company’s mission.

General Cardiac Tech 112 Secaucus, NJ The Heart Hugger Sternum Support Harness is a patient-operated support harness applied to the chest wall. The devices include improved patient compliance, faster return to premorbid respiratory levels, lower wound complications and better postoperative mobility. It is useful for open heart surgery, thoracotomy, fractured rib, and other chest trauma patients.

General Thoracic Surgical 918 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 patients undergoing surgical procedures for lung, mediastinum, esophagus, and chest wall by providing the highest quality patient care through education, research, and clinical experience.


Getinge Group 515 Milan, Italy Getinge Group is a leading global provider of products and systems that contribute to quality outcomes for hospitals, health care systems and other healthcare providers, for improving and maintaining treatment and clinical outcomes for patients. Getinge Group’s portfolio includes cardiothoracic and vascular surgery, endoscopy, and surgical services.

Goldman, Sachs & Co. 967 New York, NY Goldman Sachs is a global investment banking, securities, and financial services firm providing a wide range of products and services to corporations, governments, institutions, and individuals across the world.

HCA Healthcare 827 Nashville, TN HCA provides a comprehensive array of services for medical professionals, including research, education, and community outreach. The company is committed to improving the health and well-being of patients in the communities it serves.

Heart Valve Society 970 Beverly, MA The Heart Valve Society (HVS) – “The Heart Team in Action.” HVS welcomes you to become a part of something unique. HVS offers all members of the heart valve community the opportunity to share the latest news in its annual meetings, as well as to volunteer, participate, and become active in its committees and working groups, and more. Visit HVS! Learn more at www.heartvalvesociety.org.

Houston Methodist 923 Houston, TX Houston Methodist Hospital is one of the nation’s largest hospitals, an academic medical center, and a center for visionary research. U.S. News & World Report named it one of only 20 hospitals on its prestigious Honor Roll. Building on a history of innovation, Houston Methodist continues to pioneer a better tomorrow through research, innovation, and breakthroughs today.

HRA Healthcare Research & Analytics 753 Parsippany, NJ HRA Healthcare Research & Analytics is the market research and analysis division of HRA Healthcare, a leading healthcare outcomes research and management organization. The company partners encompass quantitative/qualitative, custom, and syndicated services supporting pharmaceutical/biotech/medical device markets.


Intuitive Surgical 117 Sunnyvale, CA Intuitive Surgical, Inc designs, manufactures, and distributes the da Vinci Surgical System, technology designed to allow surgeons to perform more complex surgeries minimally invasively.

Isoray Medical 145 Richland, WA Isoray Medical manufactures and distributes radiation therapy sources for direct implantation into cancer or surgical margins following resection of cancer. Isoray markets cesium-131 based brachytherapy meshes and an 18 month trial line. Isoray offers radiation therapy for high-risk lung cancers, resulting in highly conformal and sensitive radiotherapy that spares critical thoracic structures.

JACO Medical 926 Winona Lake, IN JACO Medical pioneered the world’s first rigid stentless closure system applied pre-sternotomy: the Grand Profil. JACO Medical is a company and culture committed to creating innovative, transformational technologies that facilitate optimal patient treatment, recovery, and future wellness. Visit Booth 926 and see how the company “thinks outside the paradox.” Get more information at JACEMED.com.

Japanese Organization for Medical Device Development, Inc 1023 Tokyo, Japan JOMDO, Inc. is engaged in the medical device development business, leveraging unappetized Japan-origin technologies. The company is currently developing medical device needs with high potential and uniqueness. Its main product is the kit for the OZAI AVNeo procedure that may stop dangerous bleeding of treatment of thoracic diseases. The single-use kit is now available in the US market.

Just Co, Ltd 346 Tokyo, Japan 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 645 Bloomington, IN 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 Suture, Ion, and 927 Surgical’s (now defunct) courstess surgical devices, all FDA approved with several pending approval.

Karl Storz Endoscopy 747 El Segundo, CA Karl Storz offers solutions for thoracic surgery, including sterile, easy, or robotically-enhanced MEDiATM and iSurgicalTM instruments and devices that offer economic solutions for mediastinoscopy. The ENDOCAIM®/MLEONE® Teleoparoscopic systems to adjust dual position and directions from 0° to 120° without changing telescopes. The IMAGE 5™ Camera Architecture System provides brilliant, natural color rendition and innovative visualization capabilities.

Kinamed Inc 825 Camarillo, CA Kinamed Inc is a leader in the design, development and manufacture of medical devices. Kinamed develops medical devices that open new frontiers in surgical therapy and to correlate and disseminate the technology you can trust. COR-KNOT® reduces suture fastening time by 80%, sold worldwide. COR-KNOT® is suture fastening technology with which anchors the diamond base on purpose. Its unique and popular to those in the medical field in need of microsurgery instruments and endoscope tips.

KLS Martin 833 Jacksonville, FL KLS Martin, a responsive company, is focused on developing and commercializing medical devices for oral, plastic, and craniofacial surgery. New product developments in its titanium coronary stent platform allow them to be used for rapid sternal fixation and reconstruction.

Koros USA, Inc 944 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/marshallian steel needle holders and forceps. High-demand state-of-the-art instruments include the Internal Mammary Artery Holder and Pneumatic Pro-Reducers.

Lifelnet Health 745 Virginia Beach, VA Lifelnet Health helps save lives, restore health, and get patients home faster. The company’s technology helps save lives of patients each year. It is the world’s most trusted provider of transient solutions, and has been a pioneer in medical innovations in bioprosthetic technologies and cellular therapies—a leader in the field of regenerative medicine and a leader in providing better equipment and health care professionals who allow the healing process.


LoupéCam 740 Scottsdale, AZ LoupéCam is the market leader in head-mounted HD surgical cameras and is the ONLY company offering fixed focus combined with a Bluetooth<sup>®</sup> feature, which allows for hands-free control of the camera.

LSI Solutions 443, 649 Virginia Beach, VA LSI Solutions® is celebrating its 10th year of clinical use and more than 3 million fasteners sold worldwide. COR-KNOT® is suture fastening technology that you can trust. COR-KNOT® reduces cardipulmonary bypass and cross clamp time.
Medistim’s quality assessment technology offers the risk of negative postoperative outcomes, streamlining care. Imaging guidance to help reduce and minimize flow measurement and high-frequency ultrasound. With the unique combination of transit time patient’s chest while digitally monitoring critical for open heart surgical products. Medistim is the standard of care in the operating room. Chest drainage therapy to a new level of patient’s chest while digitally monitoring critical for open heart surgical products.


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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.

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Myriad Genetic Laboratories, Inc 343
Salt Lake City, UT
Myriad Genetics is a leading molecular diagnostic company dedicated to making a difference in patients’ lives through the discovery and commercialization of transformative tests to assess a person’s risk of developing disease, guide treatment decisions, and assess risk of disease progression and recurrence.

Nadiant 724
Austin, TX
Educational/surgical bronze sculptures for the thoracic surgeon. These museum-quality limited editions are created by the world famous sculptor Ronadro. More than 7,000 surgeons in 77 countries collect his fine works of art. Introducing MIRACLE OF LIFE II and IN GOD’s Hand II at the 2017 meeting.

NeoChord, Inc 839
St. Louis Park, MN
NeoChord is a medical technology company leading the advancement of minimally invasive, beating heart repair of degenerative mitral valve regurgitation. NeoChord received CE mark clearance in December 2012 for its IR1000 system and has successfully treated more than 450 patients to date.

NeuWave Medical 1025 Madison, WI
NeuWave Medical is changing the future of lung ablation. The NeuWave Medical Intelligent Microwave Ablation System offers a minimally invasive, non-surgical procedure for lung lesions. The versatile probe portfolio includes 17 gauge probes specifically designed for precise and controlled ablations. The new Ablation Confirmation™ software offers the only integrated in-procedure confirmation.

Nova Innovations 728 Las Vegas, NV

Olympus America Inc 930 Center Valley, PA
Olympus is a precision technology leader in designing and delivering imaging solutions in health care, life science, and photography. Through its health care solutions, Olympus aims to improve procedural techniques and outcomes and enhance the quality of life for patients.

Ornim, Inc 242 Foxboro, MA
Ornim specializes in research, development, and distribution of noninvasive patient monitors specializing in the field of tissue and cerebral blood flow. Its bedside product, c-FLOW™, is based on the patented UTLight™ technology designed to provide physicians with unique monitoring solutions that are imperative to individualized and personalized patient care.

Oscor Inc 1035 Palm Harbor, FL
Oscor is a leading provider of cardiac stimulation products and vascular access devices optimized for cardithoracic surgery. Products include external pacemakers, temporary pacing leads, myocardial pacing wires, and a variety of pacing cables and accessories. Osvar is proud to present the newest in dual-chamber pacemaker and bipolar heartwire technology.

OSF HealthCare 952 Peoria, IL
OSF HealthCare, owned and operated by The Sisters of the Third Order of St. Francis, includes the OSF Healthcare System, which consists of 11 hospitals and medical centers and two colleges of nursing. OSF HealthCare operates facilities in Illinois and Michigan.

P & M Harmony 1043 Las Vegas, NV

Pinnacle Biologics 852 Chicago, IL
Pinnacle Biologics identifies critical cancer therapies to provide life-changing outcomes for patients worldwide. Their portfolio of products supports photodynamic therapy, which can be used for the treatment of endobronchial non–small-cell lung cancer, esophageal cancer, and high-grade dysplasia in Barrett’s esophagus.

Priority Heart 850 New York, NY
The SternaSafe sternal brace is the next-generation alternative for postoperative sternotomy patients. Are you still using a pillow? The SternaSafe provides necessary compression needed to heal the site and decrease pain for the patient. The SternaSafe has three separate features: non-patient activation, handgrip activation, and pulley activation. One size fits all.

Providence Health & Services 1134 Portland, OR
Providence Health & Services is affiliated with Swedish Health Services, Pacific Medical Centers, and Kadlec. Together, these organizations include...
early investors, and 24% were not interested in investing. Dr. McCarthy called the device "novel" and said he was a possible investor, while Anokheva said he was all in.

The second device pitched was the FlexDex, which translates a surgeon’s hand motion to a three-axis cuff gimbal that attaches to a surgeon’s wrist, isolating the hand on the device development team. The company’s lead product, ATryn, is the first and only plasma-free antithrombin concentrate.

The session also featured two debates. The first debate was about regional activities and initiatives! The second debate was about the transition to advanced alternative payment models.

The third debate was about the development of safe and effective drugs and medical devices, with lower costs. Synapse Biomedical Inc, located in Framingham, MA, is a biopharmaceutical company focused on the treatment of congenital and progressive diseases, including neurodegenerative diseases, heart disease, diabetes, and cancer. Rultract’s surgical retractors provide gentle and anterior chest wall fixation for all types of closures. More than 3,000 titanium and stainless steel surgical instruments, including SCANLAN® Super Dilators/Probes, new VATS SCANLAN® Dennis Rib Cutter & Rees Nodules Clamps, and SCANLAN® Single-Use Products.

The final device presented was an expandable device for creating an easier, quicker, and more efficient anastomosis in aortic prosthetic substitution, presented by Stefano Nazari, MD, of Fondazione Alexia Carell in Milan, Italy. Both judges and 41% of the audience were not interested in investing in the device. Also, 36% were interested, but not as early investors, and 23% were all in.

The session also featured two debates on the role that new technology plays in cardiovascular surgery. A surgeon and a radiation oncologist debated whether thoracic surgeons need to do more than just operate as a treatment for early stage lung cancer, or if they should be involved at all in non-surgical treatment. The second debate explored whether an apparent death was the birth or the death of a cardiac surgery.

Also during the session, John C. Laschinger, MD, a cardiothoracic surgeon who is a Medical Officer in the Food and Drug Administration’s Division of Cardiovascular Devices, displayed the agency’s review process, while Dr. McCarthy reviewed missteps made by developers during the FDA’s review of the MiraChip device.
Vitalcor Inc/Applied Fiberoptics 1203
Westmont, IL
Vitalcor Inc is a supplier of medical devices used primarily in cardiovascular 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.

Vitalitec Geister 813
Plymouth, MA
Vitalitec Geister will be displaying all of 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.

Wexler Surgical, Inc 329
Phoenix, AZ
Wexler Surgical designs and manufactures a variety of titanium and stainless steel specialty surgical instruments and products for cardiac, vascular, thoracic, and microsurgery. Come see its VATS/MICS instruments and ask about the Optimus Series. Visit www.wexlersurgical.com for more information about products and services, or e-mail sales@wexlersurgical.com.

Wolters Kluwer 114
Austin, TX
Xenosys USA serves the cardiac, thoracic, and vascular community with innovative products, including portable next-generation LED surgical headlights offering freedom and convenience at less than 1 oz weight; a full range of custom surgical loupses giving an unbeatable field of vision and depth of focus, all while being light and comfortable; and the Xenosys wireless HD surgical camera system.

Zimmer Biomet Thoracic 715
Jacksonville, FL
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.

ZipperBelt.com 643
Dallas, TX

Don’t Miss the Health Policy Forum
One of the most important issues for all cardiothoracic surgeons in 2017 will be changes to the way Medicare pays physicians. The Merit-Based Incentive Payment System, a part of the groundbreaking Medicare Access and CHIP Reauthorization Act, will go into effect this year and will have a dramatic impact on how all physicians are paid.

Tomorrow morning’s Health Policy Forum will explain how you can prepare your practices, hospitals, and staff for upcoming changes, as well as what STS is doing to help ease your transition and protect your interests. Make sure to attend this important session at 7:30 a.m. in Room 320ABC.

STS Exhibit Hall Hours
The STS Exhibit Hall is located in Hall A3.
Monday
9:00 a.m. – 4:30 p.m.
Tuesday
9:00 a.m. – 3:30 p.m.

STS University - Wednesday, January 25
Hall B3

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STS University - Wednesday, January 25
Hall B3
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At Houston Methodist, we’re one of only a few hospitals in the world performing an advanced heart surgery to remove a cancerous heart tumor. Our expertise allows us to remove the heart with incredible precision in order to access hard-to-reach tumors, so that it’s cancer free when placed back inside. By performing this surgery, we’re providing options for patients who thought they had none.

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Save time and hemostatic agents with **FUSION BIOLINE.**

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- Demonstrated significantly shorter time to hemostasis compared to standard ePTFE¹
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