



STS MEETING BULLETIN

THE SOCIETY OF THORACIC SURGEONS 52ND ANNUAL MEETING | PHOENIX, ARIZONA | sts.org

TUESDAY-WEDNESDAY | JAN. 26-27, 2016

DAILY SCHEDULE

TUESDAY

6:30 a.m.–4:30 p.m.

Registration: STS Annual Meeting
Lower Level Foyer

9:00 a.m.–3:30 p.m.

Exhibit Hall
Exhibit Halls 4-5

9:00 a.m.–5:00 p.m.

Scientific Posters
Room 120 Foyer

7:30 a.m.–8:30 a.m.

Early Riser Sessions
Locations vary; see Program Guide
Early Riser Health Policy Forum: MIPS: The New Medicare Fee-for-Service and What It Means to You
Room 226A

9:00 a.m.–10:00 a.m.

Thomas B. Ferguson Lecture:
Scott Parazynski
Exhibit Halls 2-3

10:45 a.m.–11:00 a.m.

Award Presentations
Exhibit Halls 2-3

11:00 a.m.–12:00 p.m.

C. Walton Lillehei Lecture: Gary Taubes
Exhibit Halls 2-3

12:00 p.m.–1:00 p.m.

Ethics Debate: An Advance Directive Limits Postoperative Care—Should Surgeons Accept Limits on Care?
Room 229AB

Residents Luncheon

Room 231ABC

1:00 p.m.–3:00 p.m.

Adult Cardiac Session: General
Room 131ABC

Adult Cardiac Session: Mitral Valve
Room 120D

Congenital Session: Pediatric Congenital II
Room 122ABC

EACTS @ STS: Aortic Valve Repair and Aortic Root Reconstruction for Insufficient Tricuspid and Bicuspid Pathology
Room 126ABC

General Thoracic Session: Esophageal
Room 125AB

General Thoracic Session: Lung Cancer II—Treatment
Room 120A

Patient Safety Symposium: When Bad Things Happen to Good CT Surgeons—Human Error and the Impact on You, the “Second Victim”
Room 127ABC

1:00 p.m.–3:30 p.m.

JCTSE: Accountable Surgical Education—How Can Cardiothoracic Surgery Move Forward?
Room 123

see **SCHEDULE**, page 8

Allen Urges Colleagues to Innovate

Mark S. Allen, MD is passionate about innovation, and he shared that passion during his Monday morning Presidential Address, “Innovation for Life.” His clarion call illustrated how cardiothoracic surgeons can open their hearts and minds to innovation and ultimately make the specialty better.

Balancing seriousness and humor, he described innovators inside and outside of medicine and their five common characteristics: associating, questioning, observing, networking, and experimenting.

The first skill, associating, requires mindfulness.

“We usually don’t make associations during a busy day or a hectic OR schedule. We need some down time to let these ideas come together,” said Dr. Allen, pointing to William Hunter, MD, who asked how to build a better stent and went on to be the co-inventor of the TAXUS® drug-eluting coronary stent.

The second skill innovators use frequently is questioning.

“Innovators are consummate questioners who show a passion for inquiry. We should ask questions about every aspect of what we do. We should ask our patients about what is not going well for them. We should ask them what they are most unhappy about today,” Dr. Allen



In his Presidential Address, Mark S. Allen, MD outlined five characteristics shared by innovators inside and outside of medicine.

said. “By questioning, we find areas that need improvement, and the questions may spark an idea for innovation.”

Innovators are better than non-innovators if they possess the third skill, observing.

“Innovators are intense observers,” Dr. Allen said. “They carefully watch the world around them. To improve at this skill, you

should actively watch patients to see what they are trying to get from the medical system.”

One such observer in the medical field is Gary Crocker, who was a salesman for medical catheters and tubing for cardiac surgery. He observed that there weren’t good “plumbing tools” for cardiac surgery and went on to start

see **PRESIDENTIAL ADDRESS**, page 18

Joseph Bavaria Elected STS President

Internationally recognized cardiothoracic surgeon Joseph E. Bavaria, MD was elected by the STS membership yesterday evening as the Society’s 2016-2017 President.

“I am honored to follow in the footsteps of some of the greatest cardiothoracic surgeons who have led our specialty and look forward to my tenure as STS President,” said Dr. Bavaria, the Brooke Roberts-William Measey Professor in Surgery and Director of the Thoracic Aortic Surgery Program at the University of Pennsylvania. “I hope to spend my year as President focusing on expanding the STS National Database to include more cardiothoracic surgery procedures; I also plan to execute educational opportunities globally.”

Raised in Cincinnati, Ohio, Dr. Bavaria spent many of his adolescent years living abroad, moving across Europe with his family. He started high school at the American School in Paris, France, before returning to the United States to complete his high school education.

Dr. Bavaria received a Bachelor of Science degree in chemical engineering from Tulane

University in New Orleans, where he later earned his medical degree and participated in the Honors Chemical Engineering Exchange Program at the University of Edinburgh in Scotland.

“Having spent a portion of my life abroad has helped me keep a more global focus,” said Dr. Bavaria. “Because of this, one of my goals during my presidency is to increase STS presence internationally and increase our cooperation with other organizations like the American College of Cardiology, American College of Surgeons, and the European Association for Cardio-Thoracic Surgery.”

Dr. Bavaria completed his surgical internship and residency at the Hospital of the University of Pennsylvania in Philadelphia. He served for a year as Chief Resident of Surgery



Joseph E. Bavaria, MD

before completing additional residencies in thoracic and cardiovascular surgery at the Hospital of the University of Pennsylvania and Children’s Hospital of Philadelphia.

An STS member since 1996, Dr. Bavaria most recently served as the organization’s First Vice President. He also participated on the Operating Board of the Society’s Council on Health Policy and Relationships. Previously, he served as Chair of the STS Workforce on New Technology.

“STS is a broad-based membership society open to all cardiothoracic surgeons, and we welcome anyone who wants to join us in helping shape the future of our specialty,” said Dr. Bavaria. “I want to encourage all of my colleagues to get involved with the Society and become an advocate for our specialty at all levels.”

Dr. Bavaria lives with his wife, Kim, in Philadelphia. The couple has two children, Edward and Melanie. Dr. Bavaria enjoys playing golf and is an avid Philadelphia sports fan. ■

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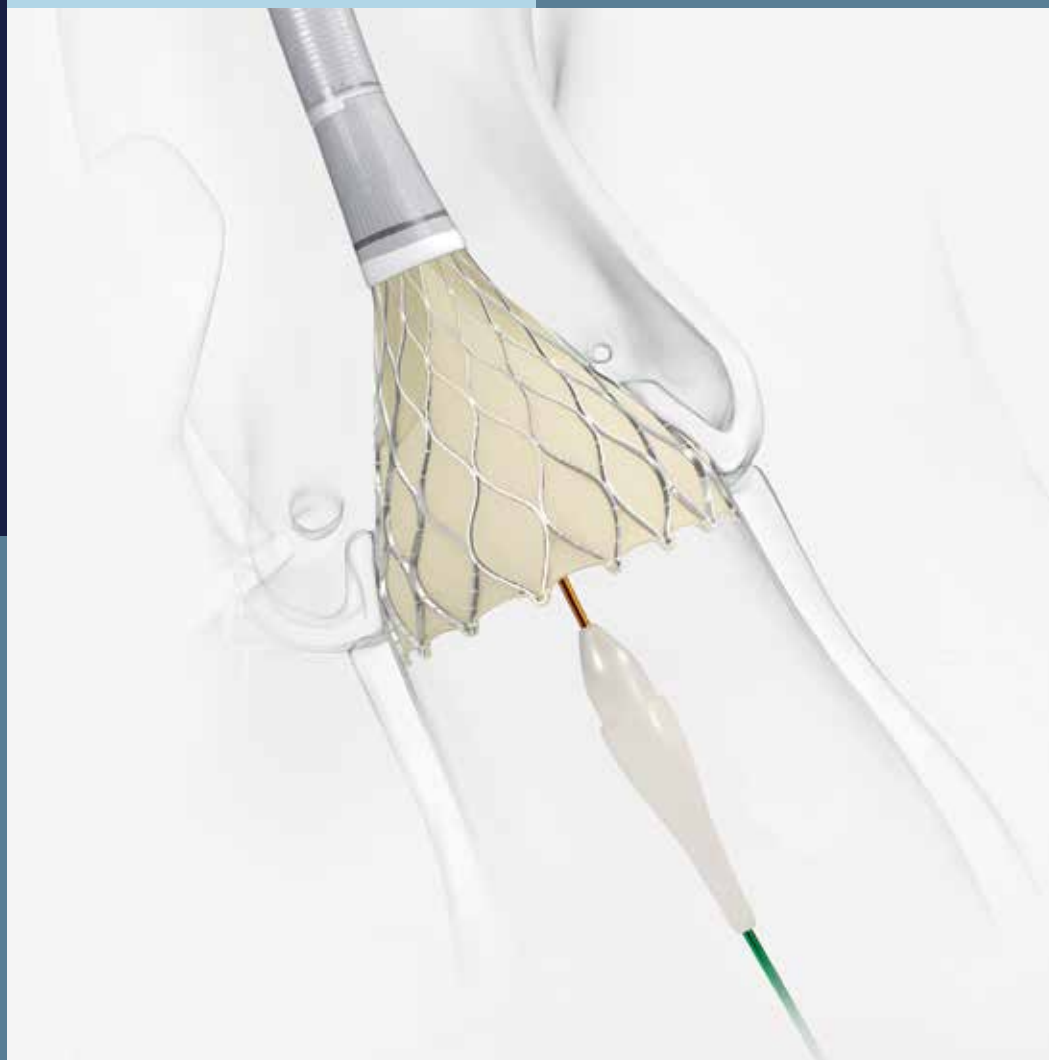
**Experience the new standard in TAVR at
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* Manoharan, G; Clinical Outcomes at 1 Year with a Repositionable Self-Expanding Transcatheter Aortic Valve. Presented at the Transcatheter Cardiovascular Therapeutics (TCT) Annual Meeting, October 12, 2015.
N = 60

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Symposium Examines Impact of Human Error on Cardiothoracic Surgeons

Health care providers involved in a medical error or adverse event are often considered “second victims.” They perceive themselves as being personally responsible for the unexpected outcomes and having failed their patients, causing them to further question their medical knowledge and clinical abilities.

This year’s Patient Safety Symposium will delve into When Bad Things Happen to Good CT Surgeons—Human Error and the Impact on You, the “Second Victim” from 1:00 p.m. to

3:00 p.m. Tuesday in Room 127ABC.

“We do not know the proportion of health care professionals who are affected by the second victim phenomenon, the long-term impact on their careers, or how these events contribute to work-related stress,” said moderator James I. Fann, MD, Professor of Cardiothoracic Surgery at Stanford University in Palo Alto, Calif.

For Dr. Fann, a human factors approach within the framework of patient safety acknowledges that medical errors can result



James I. Fann, MD

“For instance, some have advocated for a dedicated team that would support providers

from a combination of individual and work system factors. Thus, it’s important for clinicians who are second victims to understand the need and develop an infrastructure for a support program.

during the early stages of emotional stress, facilitate recovery from the events, and enhance career satisfaction,” Dr. Fann said.

The first presenter, James Jagers, MD, Aurora, Colo., will discuss the impact of an adverse event on the provider.

“As much as we’d like to think that this is all a team effort, the reality is that surgeons have a substantial amount of burden placed upon them,” Dr. Fann said.

Co-author of “When Bad Things Happen to Good Surgeons: Reactions to Adverse Events,” published in the February 2012 issue of *Surgical Clinics of North America*, Carol-Anne Moulton, MD, PhD, Toronto, will describe the various stages a provider goes through, including stresses that may lead to burnout and how to overcome the trauma of an adverse event.

Anesthesiologist and attorney Timothy McDonald, MD, JD, Chicago, will help attendees understand the importance of disclosure and legal issues after an adverse event, including the perspective of hospitals and clinicians.

The afternoon will conclude with a panel discussion. ■

**PATIENT SAFETY SYMPOSIUM:
WHEN BAD THINGS HAPPEN TO
GOOD CT SURGEONS—HUMAN
ERROR AND THE IMPACT ON
YOU, THE “SECOND VICTIM”**

Tuesday

1:00 p.m.–3:00 p.m.

Room 127ABC

Acclaimed Science Journalist to Give Lillehei Lecture

The 2016 C. Walton Lillehei lecturer will be Gary Taubes, an award-winning science journalist who has shaken up the status quo and challenged conventional wisdom regarding diet, weight gain, and heart disease with his *New York Times*-bestselling books *Good Calories, Bad Calories* and *Why We Get Fat*.

In his lecture, *Why We Get Fat*, Taubes will discuss his hypothesis that the “low fat equals good health” dogma is not supported by scientific research and that high-carbohydrate diets contribute to cardiovascular disease and obesity.



Gary Taubes

The Lillehei lecture will take place at 11:00 a.m. on Tuesday in Exhibit Halls 2-3.

For more information on this speaker, please visit www.prhsspeakers.com. ■

INDICATIONS The Medtronic CoreValve Evolut R system is indicated for use in patients with symptomatic heart disease due to either severe native calcific aortic stenosis or failure (stenosed, insufficient, or combined) of a surgical bioprosthetic aortic valve who are judged by a heart team, including a cardiac surgeon, to be at high or greater risk for open surgical therapy (i.e., Society of Thoracic Surgeons predicted risk of operative mortality score ≥8% or at a ≥15% risk of mortality at 30 days).

CONTRAINDICATIONS The CoreValve Evolut R system is contraindicated for patients presenting with any of the following conditions: known hypersensitivity or contraindication to aspirin, heparin (HIT/HITTS) and bivalirudin, ticlopidine, clopidogrel, Nitinol (Titanium or Nickel), or sensitivity to contrast media, which cannot be adequately premedicated; ongoing sepsis, including active endocarditis; preexisting mechanical heart valve in aortic position.

WARNINGS General Implantation of the Medtronic CoreValve Evolut R system should be performed only by physicians who have received Medtronic CoreValve Evolut R training. This procedure should only be performed where emergency aortic valve surgery can be performed promptly. Mechanical failure of the delivery catheter system and/or accessories may result in patient complications. Transcatheter Aortic Valve (Bioprosthesis) Accelerated deterioration of the bioprosthesis may occur in patients presenting with an altered calcium metabolism.

PRECAUTIONS General The safety and effectiveness of the Medtronic CoreValve Evolut R system have not been evaluated in the pediatric population. The safety and effectiveness of the bioprosthesis for aortic valve replacement have not been evaluated in the following patient populations: patients who do not meet the criteria for symptomatic severe native aortic stenosis as defined: (1) symptomatic severe high gradient aortic stenosis – aortic valve area ≤1.0cm² or aortic valve area index ≤0.6 cm²/m², a mean aortic valve gradient ≥40 mmHg; or a peak aortic-jet velocity ≥4.0 m/s, (2) symptomatic severe low-flow/low-gradient aortic stenosis – aortic valve area ≤1.0cm² or aortic valve area index ≤0.6 cm²/m², a mean aortic valve gradient <40 mmHg; and a peak aortic-jet velocity <4.0 m/s; who are at moderate or low surgical risk (predicted perioperative mortality risk of <15%); with untreated, clinically significant coronary artery disease requiring revascularization; with a preexisting prosthetic heart valve with a rigid support structure in either the mitral or pulmonic position if either the preexisting prosthetic heart valve could affect the implantation or function of the bioprosthesis or the implantation of the bioprosthesis could affect the function of the preexisting prosthetic heart valve; with cardiogenic shock manifested by low cardiac output, vasopressor dependence, or mechanical hemodynamic support. The safety and effectiveness of a CoreValve Evolut R bioprosthesis implanted within a failed preexisting transcatheter prosthesis have not been demonstrated. Implanting a CoreValve Evolut R bioprosthesis in a degenerated surgical bioprosthesis [transcatheter aortic valve in surgical aortic valve (TAV in SAV)] should be avoided in the following conditions. The degenerated surgical bioprosthesis presents with a: significant concomitant perivalvular leak (between the prosthesis and the native annulus), is not securely fixed in the native annulus, or is not structurally intact (eg, wireframe fracture); partially detached leaflet that in the aortic position may obstruct a coronary ostium; stent frame with a manufacturer’s labeled inner diameter <17 mm. The safety and effectiveness of the bioprosthesis for aortic valve replacement have not been evaluated in patient populations presenting with the following: blood dyscrasias as defined: leukopenia (WBC <1000 cells/mm³), thrombocytopenia (platelet count <50,000 cells/mm³), history of bleeding diathesis or coagulopathy, or hypercoagulable states; congenital bicuspid or unicuspid valve; mixed aortic valve disease (aortic stenosis and aortic regurgitation with predominant aortic regurgitation [3-4+]); moderate to severe (3-4+) or severe (4+) mitral or severe (4+) tricuspid regurgitation; hypertrophic obstructive cardiomyopathy; new or untreated echocardiographic evidence of intracardiac mass, thrombus, or vegetation; native aortic annulus size <18 mm or >26 mm per the baseline diagnostic imaging or surgical bioprosthetic aortic annulus size <17 mm or >26 mm; transarterial access not able to accommodate an 18-Fr sheath or the 14-Fr equivalent EnVeo R InLine sheath; sinus of valsalva anatomy that would prevent adequate coronary perfusion; moderate to severe mitral stenosis; severe ventricular dysfunction with left ventricular ejection fraction (LVEF) <20%; symptomatic carotid or vertebral artery disease; severe basal septal hypertrophy with an outflow gradient.

Prior to Use Exposure to glutaraldehyde may cause irritation of the skin, eyes, nose, and throat. Avoid prolonged or repeated exposure to the vapors. Damage may result from forceful handling of the catheter. Prevent kinking of the catheter when removing it from the packaging. This device was designed for single patient use only. Do not reuse, reprocess, or resterilize this product. Reuse, reprocessing, or resterilization may compromise the structural integrity of the device and/or create a risk of contamination of the device, which could result in patient injury, illness, or death. The bioprosthesis size must be appropriate to fit the patient’s anatomy. Proper sizing of the device is the responsibility of the physician. Refer to Instructions for Use for available sizes. Failure to implant a device within the sizing matrix could lead to adverse effects such as those listed below. Patients must present with access vessel diameters of 25 mm or an ascending aortic (direct aortic) access site ≥60 mm from the basal plane. Implantation of the bioprosthesis should be avoided in patients with aortic root angulation (angle between plane of aortic valve annulus and horizontal plane/vertebrae) of >30° for right subclavian/axillary access or >70° for femoral and left subclavian/axillary access. Use caution when using the subclavian/axillary approach in patients with a patent LIMA graft or patent RIMA graft. For direct aortic access, ensure the access site and trajectory are free of patent RIMA or a preexisting patent RIMA graft.

During Use For direct aortic and subclavian access procedures, care must be exercised when using the tip-retrieval mechanism to ensure adequate clearance to avoid advancement of the catheter tip through the bioprosthesis leaflets during device closure. For direct aortic access procedures, use a separate introducer sheath; do not use the EnVeo R InLine sheath. Adequate rinsing of the bioprosthesis with sterile saline, as described in the Instructions for Use, is mandatory before implantation. During rinsing, do not touch the leaflets or squeeze the bioprosthesis. If a misload is detected, unsheath the bioprosthesis and examine the bioprosthesis for damage (for example, permanent frame deformation, frayed sutures, or valve damage). Do not attempt to reload a damaged bioprosthesis. Do not load the bioprosthesis onto the catheter more than 2 times or after it has been inserted into a patient. Use the deployment knob to deploy and recapture the bioprosthesis. Do not use the trigger for deploying or recapturing because it could cause inaccurate placement of the bioprosthesis. Once the radiopaque capsule marker band reaches the distal

end of the radiopaque paddle attachment (point of no recapture), retrieval of the bioprosthesis from the patient is not recommended. Retrieval after the point of no recapture may cause mechanical failure of the delivery catheter system, aortic root damage, coronary artery damage, myocardial damage, vascular complications, prosthetic valve dysfunction (including device malposition), embolization, stroke, and/or emergent surgery. During deployment, the bioprosthesis can be advanced or withdrawn as long as annular contact has not been made. Once annular contact is made, the bioprosthesis cannot be advanced in the retrograde direction; recapture until the bioprosthesis is free from annular contact, and then reposition in the retrograde direction. If necessary, and the radiopaque capsule marker band has not yet reached the distal end of the radiopaque paddle attachment, the bioprosthesis can be withdrawn (repositioned) in the antegrade direction. However, use caution when moving the bioprosthesis in the antegrade direction. While the catheter is in the patient, ensure the guidewire is extending from the tip. Do not remove the guidewire from the catheter while the catheter is inserted in the patient. Use the handle of the delivery system to reposition the bioprosthesis. Do not use the outer catheter sheath. Once deployment is complete, repositioning of the bioprosthesis is not recommended. Repositioning of a deployed valve may cause aortic root damage, coronary artery damage, myocardial damage, vascular complications, prosthetic valve dysfunction (including device malposition), embolization, stroke, and/or emergent surgery. Do not attempt to retrieve or to recapture a bioprosthesis if any one of the outflow struts is protruding from the capsule. If any one of the outflow struts has deployed from the capsule, the bioprosthesis must be released from the catheter before the catheter can be withdrawn. Ensure the capsule is closed before catheter removal. When using a separate introducer sheath, if increased resistance is encountered when removing the catheter through the introducer sheath, do not force passage. Increased resistance may indicate a problem and forced passage may result in damage to the device and/or harm to the patient. If the cause of resistance cannot be determined or corrected, remove the catheter and introducer sheath as a single unit over the guidewire, and inspect the catheter and confirm that it is complete. Clinical long-term durability has not been established for the bioprosthesis. Evaluate bioprosthesis performance as needed during patient follow-up. Postprocedure, administer appropriate antibiotic prophylaxis as needed for patients at risk for prosthetic valve infection and endocarditis. Postprocedure, administer anticoagulation and/or antiplatelet therapy per physician/clinical judgment. Excessive contrast media may cause renal failure. Preprocedure, measure the patient’s creatinine level. During the procedure, monitor contrast media usage. Conduct the procedure under fluoroscopy. The safety and efficacy of a CoreValve Evolut R bioprosthesis implanted within the initial transcatheter bioprosthesis have not been demonstrated. However, in the event that a CoreValve Evolut R bioprosthesis must be implanted within the initial transcatheter bioprosthesis to improve valve function, valve size and patient anatomy must be considered before implantation of the CoreValve Evolut R bioprosthesis to ensure patient safety (for example, to avoid coronary obstruction). In the event that valve function or sealing is impaired due to excessive calcification or incomplete expansion, a postimplant balloon dilatation of the bioprosthesis may improve valve function and sealing. To ensure patient safety, valve size and patient anatomy must be considered when selecting the size of the balloon used for dilatation. The balloon size chosen for dilatation should not exceed the diameter of the native aortic annulus or, for surgical bioprosthetic valves, the manufacturer’s labeled inner diameter. Refer to the specific balloon catheter manufacturer’s labeling for proper instruction on the use of balloon catheter devices. Note: Bench testing has only been conducted to confirm compatibility with NuMED Z-MED IITM Balloon Aortic Valvuloplasty catheters where CoreValve Evolut R bioprosthesis device performance was maintained after dilation. Data on File.

POTENTIAL ADVERSE EVENTS Potential risks associated with the implantation of the Medtronic CoreValve Evolut R transcatheter aortic valve may include, but are not limited to, the following: • death • myocardial infarction, cardiac arrest, cardiogenic shock, cardiac tamponade • coronary occlusion, obstruction, or vessel spasm (including acute coronary closure) • cardiovascular injury (including rupture, perforation, tissue erosion, or dissection of vessels, ascending aorta trauma, ventricle, myocardium, or valvular structures that may require intervention) • emergent surgical or transcatheter intervention (for example, coronary artery bypass, heart valve replacement, valve explant, percutaneous coronary intervention [PCI], balloon valvuloplasty) • prosthetic valve dysfunction (regurgitation or stenosis) due to fracture; bending (out-of-round configuration) of the valve frame; underexpansion of the valve frame; calcification; pannus; leaflet wear, tear, prolapse, or retraction; poor valve coaptation; suture breaks or disruption; leaks; mal-sizing (prosthesis-patient mismatch); malposition (either too high or too low)/malplacement • prosthetic valve migration/embolization • prosthetic valve endocarditis • prosthetic valve thrombosis • delivery catheter system malfunction resulting in the need for additional re-crossing of the aortic valve and prolonged procedural time • delivery catheter system component migration/embolization • stroke (ischemic or hemorrhagic), transient ischemic attack (TIA), or other neurological deficits • individual organ (for example, cardiac, respiratory, renal [including acute kidney failure]) or multi-organ insufficiency or failure • major or minor bleeding that may require transfusion or intervention (including life-threatening or disabling bleeding) • vascular access-related complications (for example, dissection, perforation, pain, bleeding, hematoma, pseudoaneurysm, irreversible nerve injury, compartment syndrome, arteriovenous fistula, stenosis) • mitral valve regurgitation or injury • conduction system disturbances (for example, atrioventricular node block, left-bundle branch block, asystole), which may require a permanent pacemaker • infection (including septicemia) • hypotension or hypertension • hemolysis • peripheral ischemia • bowel ischemia • abnormal lab values (including electrolyte imbalance) • allergic reaction to antiplatelet agents, contrast medium, or anesthesia • exposure to radiation through fluoroscopy and angiography • permanent disability.

Please reference the CoreValve Evolut R Instructions for Use for more information regarding indications, warnings, precautions and potential adverse events.

CAUTION Federal law (USA) restricts this device to sale by or on the order of a physician.

Ferguson Lecture to Feature Former NASA Astronaut

Scott Parazynski’s career has taken him from the emergency room, to the summit of Mount Everest, and even to outer space. Tuesday, he will share the lessons he’s learned with Annual Meeting attendees as the 2016 Thomas B. Ferguson lecturer. His talk is titled *The Requisite Innovator’s Mindset: Open-Mindedness and the Relentless Hunt for Problems in Need of Fixing*.



Scott Parazynski, MD

Dr. Parazynski was 22 months into an emergency medicine residency in Denver when he was selected for the NASA astronaut corps. He flew a total of five space shuttle missions and conducted seven spacewalks, logging more than 1,381 hours (over 8 weeks) in space. He’s also summited Mount Everest and invented a number of medical devices and other technologies for life in extreme environments.

“Scott is a Professor of Practice and University Explorer at Arizona State University, and I think you’ll find his outlook on life and his idea of leadership and creativity very interesting,” said STS President Mark S. Allen, MD. “He has quite a vision for how space will be developed over the next several years, which should make for a fascinating talk.” ■

THOMAS B. FERGUSON LECTURE: SCOTT PARAZYNSKI

Tuesday
9:00 a.m.–10:00 a.m.
Exhibit Halls 2-3

STS MEETING BULLETIN

THE OFFICIAL NEWSPAPER OF THE STS 52ND ANNUAL MEETING

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Robert A. Guyton Honored for Leadership, Service to Cardiothoracic Surgery

Robert A. Guyton, MD is the recipient of the STS 2016 Distinguished Service Award, presented Monday evening at the Annual Membership (Business) Meeting.

“This award recognizes Dr. Guyton’s tremendous contributions not only to STS but also to the entire specialty of cardiothoracic surgery,” said 2015-2016 STS President Mark S. Allen, MD. “Through his work with the American College of Cardiology (ACC), he has earned tremendous respect among our cardiology colleagues and has influenced all aspects of cardiac care.”

An STS member since 1986, Dr. Guyton has served the organization in many capacities, including 2003-2004 President and 1997-2002 Treasurer. He participated on the Operating Boards of the Council on Health Policy and Relationships and the Council on Education and Member Services. Dr. Guyton also chaired the Information Technology and Information Technology Liaison Committees, the Workforce on Media Relations and Communications, and the Nominating Committee.

“Dr. Guyton always maintains the highest standards of professional excellence and is a strong, dynamic leader,” said Dr. Allen.

During his time as STS President, the Society opened a dedicated office in

Washington, DC. This was at a time when the medical profession was faced with sky-high professional liability insurance



Robert A. Guyton, MD

premiums while simultaneously threatened with a substantial cut in Medicare reimbursement. Dr. Guyton championed the Society’s participation in Doctors for Medical Liability Reform, a coalition formed to raise awareness about the need to reform the medical liability system. He also initiated a series of STS activities aimed at elevating the level of expert witness testimony in medical malpractice litigation.

Dr. Guyton graduated from the University of Mississippi and Harvard Medical School; he then completed an internship, residencies in general surgery and cardiothoracic surgery, and a clinical fellowship in surgery at Massachusetts General Hospital in Boston.

He joined Emory University in Atlanta in 1980, where he currently is the Distinguished Charles Ross Hatcher Jr. Professor of Surgery, Chief of the Division of Cardiothoracic Surgery, and Director of the Emory Cardiothoracic Surgery Residency Training Program.

Throughout the years, Dr. Guyton has been involved in the creation and refinement of several cardiothoracic surgery techniques, including transcatheter aortic valve replacement. His commitment to patient care has led to strong collaborations with other physicians, especially cardiologists. He currently serves as ACC Treasurer and previously served a term as a member of the ACC Board of Trustees.

“Other STS members should learn how Dr. Guyton has been able to accomplish many goals with our cardiology colleagues with tactful and appropriate interactions. They should also seek to learn his methods of developing and implementing a plan with harmony and cooperation,” noted Dr. Allen.

Dr. Guyton was recognized for his commitment to resident education and mentorship through a 2009 Socrates Award from the Thoracic Surgery Residents Association. He also was a member of the Board of Directors for the Thoracic Surgery Foundation for Research and Education.

A son of an internationally renowned physician and medical textbook author and brother to nine siblings, all of them physicians, Dr. Guyton currently resides in Atlanta with his wife, Beth.

The Distinguished Service Award, established in 1969, recognizes individuals who have made significant and far-reaching contributions to STS and the specialty. ■

Ethics Debate Tackles the Case of a Postoperative Advance Directive

When patients or their caretakers want to limit the use of life-sustaining technologies after major operations, those limitations may present a challenge for surgeons.

“Some surgeons feel it’s up to the patient to decide how much technology they are willing to accept, while others feel it’s their professional responsibility to do what’s best for the patient, so they are unwilling to accept limitations in advance,” said Robert M. Sade, MD, Distinguished University Professor and Professor of Surgery at the Medical University of South Carolina in Charleston.

Dr. Sade is the facilitator of this year’s Ethics Debate: *An Advance Directive Limits Postoperative Care—Should Surgeons Accept Limits on Care?* from 12:00 p.m. to 1:00 p.m. Tuesday in Room 229AB. Constantine Mavroudis, MD and Jeffrey G. Gaca, MD will debate the case of an 80-year-old man with an aortic dissection and associated risk factors. He needs an urgent operation, and it’s likely he will require long-term support with a ventilator and kidney dialysis. His wife is his health care agent, and she has imposed a limit of no more than 1 week of life support after the operation, and then all supportive measures must be discontinued.



Robert M. Sade, MD



Constantine Mavroudis, MD



Jeffrey G. Gaca, MD

“I would do the operation and respect the patient’s autonomy and the advanced directives. The possibility of a successful surgery may be low, but it is still real. However, during the postoperative period, I would try to persuade the wife using ethically acceptable means to change her posture and accept further care,” said Dr. Mavroudis, Professor of Surgery at Johns Hopkins University School of Medicine and Site Director of Johns Hopkins Children’s Heart Surgery at the Florida Hospital for Children in Orlando.

Agreeing with Dr. Mavroudis that the patient coming off extubation within a week was slim, Dr. Gaca added that this life-threatening situation dictated urgent surgery, and 1 week was a strict time limit.

“Patients who want ‘everything done’ oftentimes are not aware of what everything

involves. Everything can be tough, painful, and almost cruel and unusual punishment. We have to help patients and their families clarify what their wishes are,” said Dr. Gaca, Associate Professor of Surgery at Duke University in Durham, N.C.

He added that a period of time after the surgery, he would talk with the wife about discontinuing care if needed. “I don’t think we should

place limits on this person’s care before going into the operation, but at some point, there is always a limit on care,” Dr. Gaca said.

The Ethics Debate requires a ticket to attend. If you haven’t yet purchased a ticket, you may do so at Registration on the lower level of the convention center. ■

ETHICS DEBATE: AN ADVANCE DIRECTIVE LIMITS POSTOPERATIVE CARE—SHOULD SURGEONS ACCEPT LIMITS ON CARE?

Tuesday
12:00 p.m.–1:00 p.m.
Room 229AB
Ticket required

STS/CATS/CSCS Offers Primer on Internet, Social Media, 3D Printing

Presenters at the STS/CATS/CSCS session on Monday took attendees beyond their comfort zones, giving them a glimpse of how they can improve their internet presence, benefit from the use of social media, and use 3D printing applications in cardiothoracic surgery. The program was a collaboration among STS, the Canadian Association of

Thoracic Surgeons, and the Canadian Society of Cardiac Surgeons.

The rapid increase of individuals looking to the internet for their health care needs has subsequently altered the doctor-patient relationship, said Christopher W. Seder, MD, Assistant Professor of Surgery in the Department of Cardiovascular and Thoracic Surgery at Rush University Medical Center in Chicago, who discussed how to build a winning website.

Beyond his presence on the Rush website, he and his colleagues worked with an outside company to create a website for their practice, www.midwestesophagus.com.

"It's important to optimize your internet presence. To do that, you need to do four things: get people to your website, emotionally connect with them, logically justify that connection in their mind, and convert that to an office visit," Dr. Seder said.

He provided several tips for achieving search engine optimization, including the use of high-quality, original content, high-quality back links for users to link to your website, and social media to increase those back links. Because the duration of website visits are short lived, he said it's vital that websites are inviting and well designed, but surgeons should resist

the urge to overly self-promote and rather provide useful information, including avenues for connecting with their offices.

Mara B. Antonoff, MD shared her insights about the advantages social media can bring to cardiothoracic surgeons, describing Twitter as a fruitful environment for her professional networking, which she said gives her endless potential interactions with patients, caregivers, advocacy groups, and societal organizations.

"I use Twitter to communicate with others about my primary academic interests, including lung cancer and medical education. I have formed collaborations, learned an inordinate amount, participated in important dialog with others, and shared my own resources with a wide audience," said Dr. Antonoff, Assistant Professor in the Department of Thoracic and Cardiovascular Surgery at The University of Texas MD Anderson Cancer Center in Houston.

Dr. Antonoff also discussed the preliminary 6-month experience of the Thoracic Surgery Social Media Network (TSSMN), an organization that she helped create. TSSMN participants are charged with promoting Twitter discussions relevant to the content of *The Annals of Thoracic Surgery* and the *Journal of Thoracic and Cardiovascular Surgery*, using the hashtag #TSSMN.

Mackenzie Quantz, MD has embraced the world of 3D printing, producing a number of models, including an aortic root and mitral valve, on his 3D printer, which is about the size of two paper shredders.

"The use of 3D surgical simulators helps train residents to be more proficient outside of the operating room in a stress-free environment, at their own pace, and under mentorship, which enhances the learning experience," said Dr. Quantz, Associate Professor of Surgery and a Consultant in Cardiac Surgery at the University of Western Ontario in London, Canada.

"You can make your own simulators, fine-tune them, and create special one-offs for any type of situation, and you can do it very quickly for a low cost," Dr. Quantz said. "I control the entire process, which makes it extremely user friendly and flexible."

The co-moderators of the STS/CATS/CSCS program were Sean C. Grondin, MD, MPH, Clinical Professor of Surgery in the Section of Thoracic Surgery at the University of Calgary, Alberta, Canada, and Colin Schieman, MD, Assistant Professor of Surgery and Director of the Thoracic Residency Program at McMaster University, St. Joseph's Healthcare in Hamilton, Ontario, Canada. ■



Monday's STS/CATS/CSCS session gave attendees a new perspective on how the internet, social media, and 3D technology can impact cardiothoracic surgical practice.

SCA @ STS Addresses Evaluation, Management of Circulatory Shock

On the heels of last year's successful SCA @ STS session, planners from the Society of Cardiovascular Anesthesiologists and STS have created a compelling new program centering on perioperative evaluation and management of circulatory shock.

"Anesthesiologists and surgeons work together in the operating room, so both groups experience shock perioperatively," said Jay G. Shake, MD, Jackson, Miss. Dr. Shake, Aaron M. Cheng, MD, Seattle, and Jerrold H. Levy,



Jay G. Shake, MD

MD, Durham, N.C., are co-moderators of the session, which will be from 3:30 p.m. to 5:30 p.m. Tuesday in Room 126ABC.

Leaders in their fields will discuss how to identify shock in challenging postoperative cardiac patients, perioperative hemodynamic monitoring, and pharmacologic

management and mechanical support for shock.

When patients present with acute circulatory failure, their surgeons are left with several questions: "When should we make the decision that we need mechanical support?, Which is the right support?, Are there any cost considerations?, and Do we have data to support some of this?," Dr. Shake posed. "Sometimes, it isn't crystal clear. I think these talks will make for a stimulating discussion."

Dr. Levy will look at shock in difficult patients.

"I think Dr. Levy will give a good review and also discuss the areas that challenge us, such as patient management of individuals with left ventricular assist devices, mechanical support, and low ejection fraction," said Dr. Shake, Associate Professor, Director of the Cardiovascular Intensive Care Unit, Director of Adult Extracorporeal Membrane Oxygenation, and Co-Director of the Wallace Conerly Critical Care Hospital at the University of Mississippi Medical Center in Jackson.

With new technologies for perioperative hemodynamic monitoring now available, Robert Sladen, MD, New York, will compare options for surgeons, such as noninvasive cardiac output devices, as well as conventional options.

"Everyone is trying to come at this from different angles," said Dr. Shake, "but what are our choices, and are there data to support one technology over another?"

In his talk on proven strategies for pharmacologic management of shock, Peter von Homeyer, MD, Seattle, will dig into recent prospective trials and share evidence for choosing pharmacological agents to treat circulatory failure.

The last speaker, Ashish Shah, MD, Nashville, Tenn., will identify indications, options, and outcomes for using mechanical circulatory support devices in these patients. ■

STS PAST PRESIDENTS



Sixteen STS Past Presidents, including 2015-2016 President Mark S. Allen, MD (bottom, center) gathered at a dinner Saturday evening honoring the rich history of Society leadership.

**SCA @ STS:
PERIOPERATIVE
EVALUATION AND
MANAGEMENT
OF CIRCULATORY
SHOCK**

**Tuesday
3:30 p.m.-5:30 p.m.
Room 126ABC**



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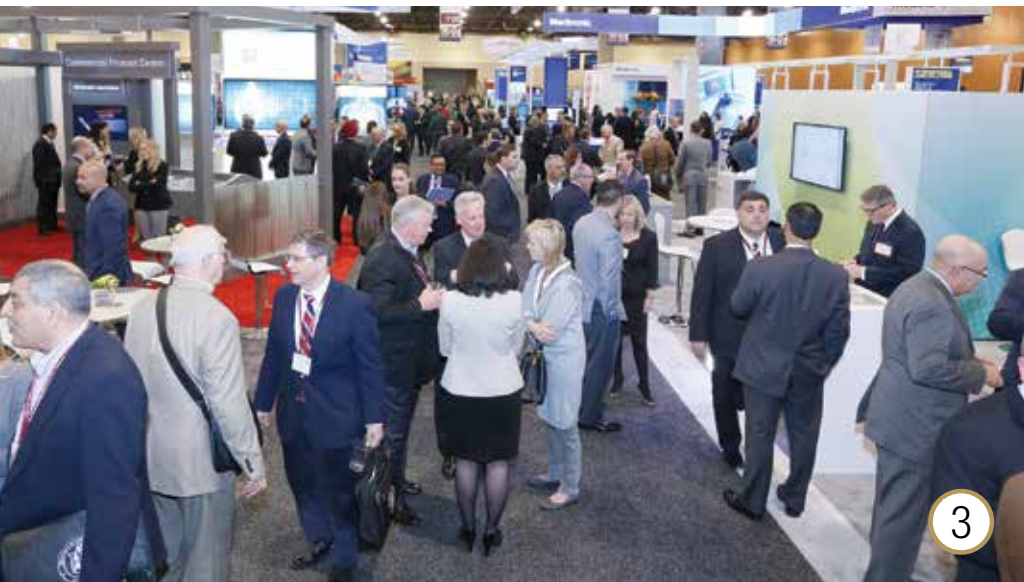
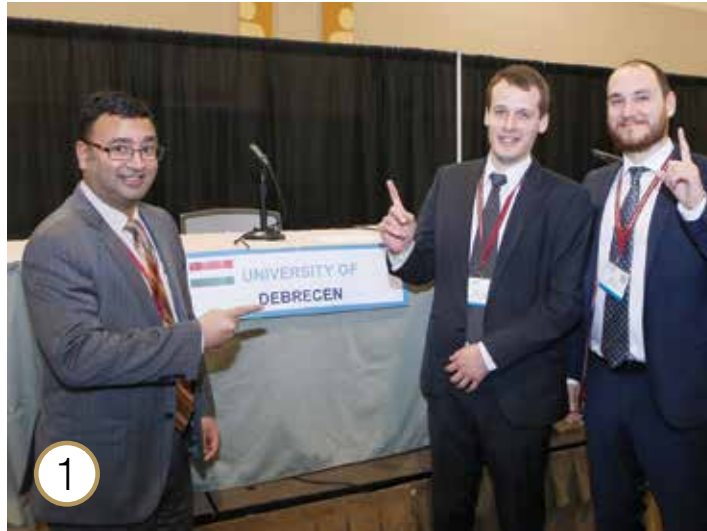
STS 2016: A Day in Photos

1 Andreas Durko, MD and Karoly Szabo, MD from the University of Debrecen in Hungary won the 2016 Jeopardy championship, organized by Joint Council on Thoracic Surgery Education leaders, including Nahush A. Mokadam, MD (left).

2 Dudley Hudspeth, MD (left) poses with STS Director of Government Relations Courtney Yohe. Dr. Hudspeth was awarded the STS 2015 Key Contact of the Year Award for his commitment to advocacy.

3 Meeting attendees had numerous opportunities on Monday to learn about new products and services in the STS Exhibit Hall.

4 Speakers at Monday's 30th Anniversary Celebration of Women in Thoracic Surgery highlighted significant contributions from members of WTS and STS.



Surgeon Shares Tips for Treatment of Thoracic Outlet Syndrome

Cardiothoracic and vascular surgeons came together to share their insights on several of their overlapping interests during the Monday afternoon SVS @ STS session.

"STS and the Society for Vascular Surgery

have held collaborative programs at each other's annual meetings for the last 4 years. The collaborations bring state-of-the-art, evidence-based practice together from two different worlds," said co-moderator A. Michael Borkon, MD, Co-Director of the Mid-America Heart Institute and Chair of the Department of Cardiovascular Surgery at Saint Luke's Health System in Kansas City, Mo.

Presenters from both societies shared their perspectives on three areas: conservative management and stent grafting of acute type B dissections, open treatment and endovascular repair of thoracic aortic aneurysms, and cardiothoracic and vascular surgery approaches to arterial/venous thoracic outlet syndrome.

John A. Kern, MD said that treating thoracic outlet syndrome is so rewarding that he has continued caring for these challenging patients for nearly 20 years.

"The more experience you gain, the better you get at figuring out who is going to benefit from surgery and who is not," said Dr. Kern, Professor of Surgery, Chief of the Division of Cardiothoracic Surgery, and Surgical Director of the Cardiac Transplant and Circulatory Device Program at the University of Virginia Health System in Charlottesville.

For Dr. Kern, the days of seeing patients living with arterial thoracic outlet resulting in subclavian artery aneurysms and distal embolization are for the most part gone, as these patients are now being referred earlier.

He finds patients with venous thoracic outlet to be extraordinarily challenging because they tend to be young athletes who are pitchers, swimmers, and tennis players intent on continuing their athletic careers.

"Sometimes this diagnosis can be missed, but it should not be; if it is, the results can be devastating," he said. "The treatment for venous thoracic outlet is really quite straightforward.

"I lyse the clot and operate sooner rather than later. In order to decompress and reconstruct the vein, an infraclavicular incision is best. This allows you to remove the subclavius muscle and costoclavicular ligament, as well as the medial aspect of the first rib, and totally mobilize the subclavian vein. You need to free up the entire vein as it goes under the clavicle, under the manubrium, and into the mediastinum. Sometimes these patients may need extensive reconstruction, necessitating a partial upper sternotomy. There are a lot of different ways to reconstruct the vein after it's decompressed. These details learned along the way help enhance the chances of a good outcome."

Intended to be thought provoking and give attendees the opportunity to learn from members of both specialties, the session also featured Julie A. Freischlag, MD, Sacramento, Calif., who shared her approach as a vascular surgeon to arterial/venous thoracic outlet syndrome. ■



In the SVS @ STS session, Michael P. Fischbein, MD, PhD, Stanford, Calif., spoke about conservative management of acute type B dissections.

SCHEDULE

continued from page 1

1:00 p.m.–5:30 p.m.
Advanced Therapies for End-Stage Heart Disease
Room 128AB

3:30 p.m.–5:30 p.m.
Adult Cardiac Session: Aorta II
Room 120D

Adult Cardiac Session: Aortic Valve
Room 131ABC

Cardiothoracic Surgical Education
Room 127ABC

Congenital Session: Pediatric Congenital III
Room 122ABC

ESTS @ STS: Controversial Issues in General Thoracic Surgery—Perspectives From Europe and North America
Room 125AB

General Thoracic Session: Mediastinal/Pulmonary
Room 120A

SCA @ STS: Perioperative Evaluation and Management of Circulatory Shock
Room 126ABC

WEDNESDAY

6:30 a.m.–9:30 a.m.
Registration: STS University
Lower Level Foyer

7:00 a.m.–9:00 a.m.
STS University
Exhibit Hall 6

9:30 a.m.–11:30 a.m.
STS University (courses repeated)
Exhibit Hall 6

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ESTS, STS to Examine Controversial Management Approaches

If last year's standing-room-only crowd for ESTS @ STS is any indication, then STS 2016 Annual Meeting attendees are certain to flock to this year's program.

"What's unique about this 2-hour session is that it allows us to bring together North American and European perspectives on interesting topics in general thoracic surgery," said Sean C. Grondin, MD, MPH, Clinical Professor of Surgery in the Section of Thoracic Surgery at



Sean C. Grondin, MD, MPH

Head of the Department of Thoracic Surgery and Oncology at the National Cancer Institute, Pascale Foundation, in Naples, Italy, identified four areas in thoracic surgery for speakers to discuss.

The speakers will share their perspectives on high-risk patients diagnosed with early stage lung cancer, management of solitary pulmonary nodules/ground glass opacities, management of patients diagnosed with achalasia, and management of paraesophageal hernias (PEH).

"Dr. Rocco and I have selected topics that are commonly seen in clinical practice by general thoracic surgeons," Dr. Grondin said. "Our presenters will share their expert

the management of early lung cancer tumors with stereotactic body radiation therapy versus surgery.

"There are some interesting discussions about the appropriate work-up and treatment options for high-risk patients diagnosed with lung cancer, and Dr. Darling will share her expert perspective on the role for radiation therapy as it pertains to early stage lung cancer therapy," Dr. Grondin said.

The next two talks will focus on indications for sublobar resection and lobectomy, presented by Raja M. Flores, MD, New York, and Gonzalo Varela, MD, PhD, Salamanca, Spain, respectively. With the advent of computed tomography screening of individuals at high risk for lung cancer, surgeons are faced with how best to treat patients who present with small lung nodules.

"Historically, surgeons have resected larger portions of lung tissue, but perhaps we should be removing smaller volumes of lung parenchyma for small peripheral lung tumors. World-class experts Drs. Flores and Varela will undoubtedly express interesting opinions on these issues," Dr. Grondin said.

Two presenters will examine Heller myotomy. Shanda H. Blackmon, MD, MPH, Rochester, Minn., will look at indications for peroral endoscopic myotomy versus Heller myotomy versus balloon dilation, whereas Philippe Naftoux, MD, Leuven, Belgium, will discuss Heller myotomy with or without fundoplication.

ESTS @ STS: CONTROVERSIAL ISSUES IN GENERAL THORACIC SURGERY—PERSPECTIVES FROM EUROPE AND NORTH AMERICA

Tuesday

3:30 p.m.–5:30 p.m.

Room 125AB

"We wanted to explore some of the management controversies and challenges in treating patients with achalasia," Dr. Grondin said. "Whenever different approaches and evolving techniques exist, it's always beneficial to revisit how these techniques are performing in the clinical setting."

Donald Low, MD, Seattle, and Xavier Benoit D'Journo, MD, PhD, Marseille, France, will conclude the program with their views on open versus minimally invasive PEH repair and mesh versus no-mesh repair of PEH, respectively.

"The big question in PEH surgery is how can we lower the risk of recurrence?" Dr. Grondin said. "Some surgeons advocate for mesh reinforcement to minimize the risk of recurrence, whereas some advocate for a particular operative approach."

"By bringing together European and North American experts in one room, attendees will be exposed to broad perspectives of what experts are doing to manage these important clinical scenarios." ■

“By bringing together European and North American experts in one room, attendees will be exposed to broad perspectives of what experts are doing to manage these important clinical scenarios.”

SEAN C. GRONDIN, MD, MPH

the University of Calgary, Alberta, Canada.

During this year's session, which will be from 3:30 p.m. to 5:30 p.m. Tuesday in Room 125AB, presenters representing STS and the European Society of Thoracic Surgeons will explore important topics in general thoracic surgery. In planning the program, Dr. Grondin and his co-moderator, Gaetano Rocco, MD, Chief of the Division of Thoracic Surgery and

opinions on different approaches to these

clinical problems in lung and esophageal disease, leaving lots of time for discussion with attendees."

After a presentation by Alessandro Brunelli, MD, Leeds, United Kingdom, on the optimal workup and limits of surgery for high-risk patients with early stage lung cancer, Gail E. Darling, MD, Toronto, Canada, will compare

Question of the Day

What did you learn today that will inspire you professionally?



"I heard several intriguing things that inspired me to rethink my strategy at home. With Fontan operations, it's usual to do the operation at age 2–3 years. What I heard is there is

a subgroup that will benefit to do it later on."

Paul Schoof, MD
University Medical Center
Utrecht, Netherlands



"I just came out of a session about lung transplantation, and they not only talked a lot about the ethics of retransplantation and how you think about ethics, but also the surgical science behind it.

Having those kinds of discussions is important in terms of mapping out the way you make your decisions in your career."

Lily Saadat
Medical Student
Northwestern University
Chicago

"Innovate, or you're left in the dust."
Clifton Reade, MD
Private practice
Chattanooga, Tenn.



"The talks about the abdominal aorta and the challenging techniques in endovascular replacement."
Mutas Fakhry Al-Khateeb, MD, PhD
Seton Hall University
Wayne, N.J.

"The importance of striving to use all arterial conduit when doing bypass surgery and what that means for patient outcomes."
Jessica Baldwin, PA-C
The University of Kansas
Hospital
Kansas City



Get Free Tech Support at the Tech Bar

An exciting amenity at the 2016 Annual Meeting is the Tech Bar, which is located at Booth #639 in the Exhibit Hall. Stop by for answers to all of your technical questions—experts can help you with personal and professional tasks, such as downloading and using the STS Annual Meeting Mobile App, troubleshooting issues with your smartphone or tablet, and more. A complimentary charging station also is available, and you can attend these free demos on various technology topics of interest:

■ **Note Taking and Capturing Data: Let's Go Paperless!** Are you still taking notes by hand with pen and paper? The Tech Bar experts will share options for note taking on your mobile devices with speech and handwriting recognition features.

Wearables in the Medical World

You've seen the gadgets—Google Glass, smart watches, and many other devices that help track lifestyle improvements. Come hear how these technologies are changing the way health is monitored.

■ **5 Productivity Apps** How many days are you out of the office, yet you still need to function as if you are there? Learn about apps that will help you with everything from productivity to travel. ■

TUESDAY

10:00 a.m.–10:45 a.m.

Note Taking and Capturing Data: Let's Go Paperless!

12:00 p.m.–1:00 p.m.

Wearables in the Medical World

3:00 p.m.–3:30 p.m.


5 Productivity Apps

Review STS University Lecture Material Online

In order to maximize the hands-on learning time during STS University, attendees are strongly encouraged to access the corresponding online video lectures prior to Wednesday morning. You can access the lectures at the computer stations located near

the entrance to the Exhibit Hall and near Registration on the Lower Level of the Convention Center. You also can access them from your own computer or handheld device by visiting www.sts.org/annualmeeting or by using the STS Annual Meeting Mobile App. ■

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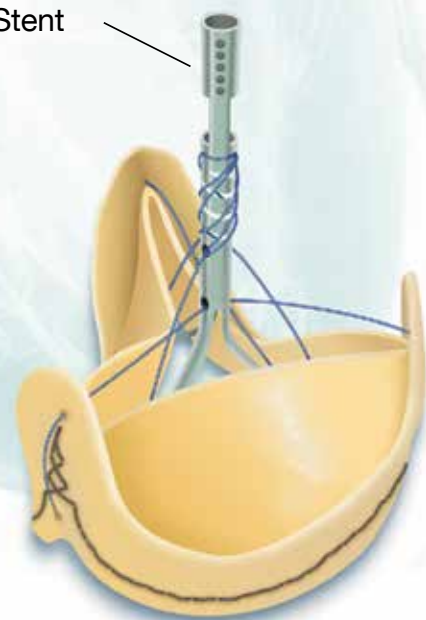
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Abstract Book Updates

The following speakers have changed from the STS 52nd Annual Meeting Abstract Book and/or their disclosures were not available at the time of publication:

TUESDAY
Early Riser Session 10: Tough Calls in Mitral Valve Disease
Gorav Ailawadi, Charlottesville, VA, and Richard Lee, St. Louis, MO
COMMERCIAL RELATIONSHIPS G. Ailawadi: Consultant/Advisory Board, Edwards Lifesciences Corporation, Abbott Vascular; Nonremunerative Position of Influence, AtriCure, Inc; Speakers Bureau/ Honoraria, St. Jude Medical

Adult Cardiac Session: Mitral Valve Debate: The Future of Mitral Valve Regurgitation Treatment—Open Surgery
Michael A. Borger, New York, NY
COMMERCIAL RELATIONSHIPS M. A. Borger: Consultant/Advisory Board, Edwards Lifesciences Corporation; Consultant/ Advisory Board, LivaNova; Speakers Bureau/Honoraria, St. Jude Medical; Nonremunerative Position of Influence, Medtronic, Inc

SCA @ STS: Perioperative Evaluation and Management of Circulatory Shock
Moderator: Jerrold H. Levy, Durham, NC
WEDNESDAY
STS University Course 9: Chest Wall Resection and Adult Pectus Surgery
Course Director: Dawn E. Jaroszewski, Phoenix, AZ


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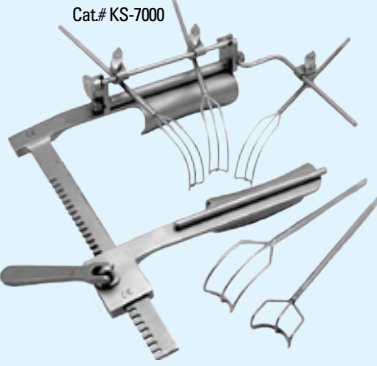
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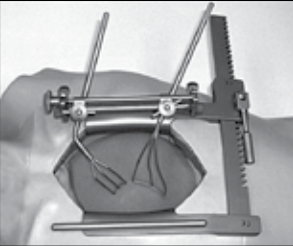


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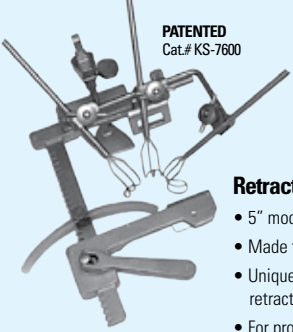
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Researcher Examines Impact of Valve Type on Mortality in Women

Surgeons often have friends who ask for medical advice. When two female friends asked Joy Hughes, MD about whether they should replace their bioprosthetic valves with the same valve type or a mechanical valve, she went well beyond sharing her opinion.

The fourth-year resident in general surgery and critical care fellow at the Mayo Clinic in Rochester, Minn., and her colleagues conducted a retrospective analysis and found that valve type did not influence survival. The researchers looked at 606 women aged 13–45 years (mean = 33 years) who underwent cardiac valve replacement between January 1967 and December 2012.

Dr. Hughes will present her research on long-term survival and valve durability after bioprosthetic and mechanical valve replacement in young women at 2:15 p.m. Tuesday during the Adult Cardiac Session: Mitral Valve in Room 120D from 1:00 p.m. to 3:00 p.m.

“I had several conversations with these

friends and also female patients who were approaching the time when they needed to have their valves replaced,” Dr. Hughes said. “When women are in their 30s and looking to have children, it is a complicated issue. A tissue valve pretty much guarantees reoperation, and a mechanical valve requires anticoagulation therapy.

“Although there have been many successful and uneventful pregnancies for women on anticoagulation, pregnant women with mechanical valves have an increased risk of hemorrhage, complications in childbirth, and potentially could be teratogenic. Those are issues we cannot change, but we can reassure patients.”

The researchers concluded that initial selection of a bioprosthesis did not increase late mortality, and survival of patients with bioprosthetic valves replaced with mechanical valves was excellent.

Ninety-five patients had complex congenital heart disease; nine patients had prior valve replacements at other institutions. Of the 318 patients who underwent aortic valve replacement, 97 were bioprosthetic and 221 were mechanical. Of the 261 patients who underwent mitral valve replacement, 55 were bioprosthetic and 206 were mechanical. Follow-up averaged 15 years. Survival for all patients at 10, 20, and 30 years was 81%, 66%, and 41%, respectively. Reoperation at 10, 20,

and 30 years for all valves was 8%, 43%, and 56%.

“We weren’t sure what we were going to find, but the results were reassuring,” Dr. Hughes said. “For a woman, this can be about what she is comfortable with, rather than whether she has to accept a mortality risk on top of other issues in choosing one valve over the other.”

Probability of reoperation increased in younger patients, valve replacement after year 2000, and with bioprosthetic valves. There were 65 patients who initially underwent valve replacement with bioprosthesis and subsequently had mechanical valves implanted during reoperation (82%), and their survival was 94%, 91%, 76%, and 68% at 5, 10, 15, and 20 years, respectively.

“This confirms that young patients who choose a tissue valve are going to need a reoperation,” Dr. Hughes said. “The procedures have advanced to the point that mortality risk doesn’t necessarily increase, which is a great credit to cardiac surgeons and health care teams who have worked to improve cardiac surgery outcomes.” ■



Joy Hughes, MD

PRESIDENTIAL ADDRESS

continued from page 1

his own company, develop some of the tools used today, and later sold his startup for a hefty amount.

The fourth skill that innovators embody is networking, but this is not about meeting people at various social events or scientific meetings.

“I mean idea networking. This involves spending time working with others in a variety of fields to build bridges into different areas of knowledge,” said Dr. Allen, adding that methods to improve networking for ideas include attending conferences that present ideas, such as TED talks or the Aspen Ideas Festival.

“Just because an operation or a process has been around for a long time and may seem ‘normal,’ an innovative idea can change it all.”

MARK S. ALLEN, MD

The fifth and final skill innovators excel at is experimenting.

“They are good at trying out new ideas. This does not mean going into a lab and designing an experiment. They do the experimentation on a day-to-day basis. They take apart processes and try new ones to see if they are better. This is how they can answer the ‘why’ questions that come up,” Dr. Allen said. “To see how a complex system behaves after it changes, experiment with it and record the outcome.”

Calling on the audience to lead the way in innovation, Dr. Allen said, “Just because an operation or a process has been around for a long time and may seem ‘normal,’ an innovative idea can change it all. Be open to this change, look for this type of innovative change, embrace it, and see if you can use it to do things better for your patients.

“Now is the time for you to practice and develop these innovation skills so that you can develop new processes, operations, and procedures that will help our patients. It is hard work, but it is worth the effort because it just might make a difference not only in your life, but the lives of others.” ■

Session Preps Surgeons on Advanced Therapies for End-Stage Heart Disease

The field of treating advanced-stage heart failure is rapidly evolving, and several expert speakers will introduce the latest recommendations in mechanical circulatory support, heart transplantation, and alternative treatment strategies during a half-day of education Tuesday.

Francis D. Pagani, MD, co-moderator of the 1:00 p.m. to 5:30 p.m. session in Room 128AB, said with the advent of ENDURANCE, ROADMAP, and other left ventricular assist device (LVAD) clinical trial results, along with newer devices planned for clinical evaluation, it is important to update surgeons about the implications for patient outcomes.

Michael A. Acker, MD, Philadelphia, will discuss whether ENDURANCE and ROADMAP have changed the practice of LVAD therapy in the United States. In ROADMAP, trial investigators evaluated the effects of treatment with the HeartMate II LVAD to standard medical therapy. ENDURANCE, for which Dr. Pagani is

a co-principal investigator, compared the HeartWare HVAD against the HeartMate II LVAD.

“Although both the HeartMate II and HeartWare HVAD are efficacious in terms of keeping patients alive without a heart failure, they have different adverse event profiles.

It’s important for surgeons to understand those differences,” said Dr. Pagani, the Otto Gago, MD Professor of Cardiac Surgery, Surgical Director of Adult Heart Transplantation, and Director of the Center for Circulatory Support at the University of Michigan in Ann Arbor.

Daniel J. Goldstein, MD, Bronx, N.Y., will discuss

new LVAD trials and technology, including whether these new LVADs have been associated with better patient outcomes. In particular, he will discuss the recently completed HeartMate 3 trial in Europe.

Three speakers will help surgeons understand where the field is at in terms of new devices. Carmelo A. Milano, MD, Durham, N.C., will present on developing a

rational approach to treatment of shock with extracorporeal mechanical circulatory support and extracorporeal membrane oxygenation. Nicholas G. Smedira, MD, Cleveland, will describe high-risk alternative strategies in the era of STS National Database reporting. Jay D. Pal, MD, Seattle, will talk about non-sternotomy approaches to VAD implantation.

After a panel discussion and two abstract presentations, four speakers will tackle important topics. Gonzalo V. Gonzalez-Stawinski, MD, Dallas, will discuss solutions for the unique challenges of LVAD therapy or transplant for adult congenital heart disease. Eric J. Velazquez, MD, Durham, N.C., will update attendees on the STICH trial, including whether the approach to ischemic heart disease should be altered because of trial results. Stephanie L. Mick, MD, Cleveland, will look at percutaneous options for structural heart disease in the setting of severe left ventricle dysfunction, as these patients are not optimal surgical candidates. The last speaker, Donald D. Glower, MD, Durham, N.C., will give a talk on the evolution of surgical management of functional mitral insufficiency, including recent trial results. ■

ADVANCED THERAPIES FOR END-STAGE HEART DISEASE

Tuesday
1:00 p.m.–5:30 p.m.
Room 128AB

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A&E Medical Corporation **211**
Durham, NC
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 Vascular **231**
Santa Clara, CA
Abbott (NYSE: ABT) is a global health care company devoted to improving life through the development of products and technologies that span the breadth of health care. With a portfolio of leading, science-based offerings in diagnostics, medical devices, nutritionals, and branded generic pharmaceuticals, Abbott serves people in more than 150 countries and employs approximately 70,000 people.

Abiomed Inc. **844**
Danvers, MA

Acelity (KCI, LifeCell, Systagenix) **646**
San Antonio, TX

ACUTE Innovations **1023**
Hillsboro, OR
Furthering its reputation as a leader in the thoracic industry, ACUTE Innovations® continues to make advancements in chest wall stabilization technology. Stop by Booth 1023 to learn about ACUTE's cutting-edge products: RibLoc® U Plus Chest Wall Plating System and AcuTie® II Sternum Closure System.

Admedus **320**
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 its ADAPT® tissue-engineered bioimplants and is being used by surgeons to repair simple and complex cardiac defects.

Advanced Cardiothoracic Consultants, LLC **932**
Indianapolis, IN
Utilizing over 40 years of clinical expertise in cardiothoracic, thoracic transplant/organ replacement, and advanced heart failure, ACTC can evaluate financial and clinical aspects for programs to increase efficiencies. Whether a new or well-established program, hospital, or insurer, let ACTC assist in maintaining financial viability and sustaining growth in today's challenging health care market.

Aesculap **314**
Center Valley, PA
Aesculap Inc, a member of the B. Braun family of health care companies, is the world's largest manufacturer of surgical instrumentation. For more than 138 years, Aesculap has provided customers with surgical instrumentation for ENT, plastic and reconstructive, thoracic, microvascular, cardiovascular, and laparoscopic surgery.

American Association for Thoracic Surgery **1121**
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 of more than 1,325 of the world's foremost cardiothoracic surgeons. www.aats.org

AtriCure Inc **915**
West Chester, OH
AtriCure is intent on reducing the global Afib epidemic and healing the lives of those affected through clinical science, education, and innovation. The company is a leading Afib solutions partner with the only FDA-approved surgical treatment for Afib and the most widely implanted occlusion device for left atrial appendage management.

Baxter Healthcare **210**
Deerfield, IL
As a global, diversified health care company, Baxter International Inc applies a unique combination of expertise in medical devices, pharmaceuticals, and biotechnology to create products that advance patient care worldwide.

Baylis Medical **551**
Mississauga, Canada

Baylor Scott & White **100**
Temple, AZ

BD (formerly CareFusion) **1035**
San Diego, CA
BD is a global corporation helping clinicians and hospitals measurably improve patient care. The PleurX® Catheter System allows patients to manage symptoms associated with recurrent pleural effusions and malignant ascites at home, reducing length of stay and cost of care while improving quality of life. Visit BD at Booth 1035 to learn more.

Berlin Heart Inc **1039**
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 **438**
Louisville, KY
BFW is known as a worldwide technological leader in surgical illumination and headlight video imaging. Visit Booth 438 to experience the foremost innovations in portable LED headlights offering intense, clean, bright white light and the new Hatteras™ LED light source—unmatched intense fiberoptic illumination for headlights and instrumentation.

Biodesix, Inc. **650**
Boulder, CO

Bolton Medical **1032**
Sunrise, FL
Bolton Medical is a subsidiary of the WerfenLife Company, a global company that manufactures and distributes medical diagnostic solutions and medical devices worldwide. Bolton's vision is to become the leading provider of endovascular solutions for aortic disease. Bolton develops, manufactures, and distributes innovative, high-quality products solely focused on the aorta.

Bovie Medical Corporation **540**
Clearwater, FL
Bovie® Medical will be featuring J-Plasma®—the helium-based gas plasma technology that is transforming the way surgeries are performed. J-Plasma works with precision and versatility across open and laparoscopic procedures. Bovie also will exhibit its complete line of electrosurgical products.

C Change Surgical **450**
Winston-Salem, NC
The SurgiSLUSH™ System creates sterile slush inside secure, reusable, sterile containers with no exposure to costly, vulnerable slush drapes that can tear or perforate, unintentionally contaminating your sterile slush. Users eliminate long exposure to open basins and the ambient, non-sterile environment prior to use.

Cancer Treatment Centers of America **443**
Goodyear, AZ
Cancer Treatment Centers of America®, Inc (CTCA) is a national network of five hospitals focusing on the treatment of complex and advanced stage cancer. CTCA offers a comprehensive, fully integrative approach to cancer treatment and serves patients from all 50 states at facilities located in Atlanta, Chicago, Philadelphia, Phoenix, and Tulsa.

CardiacAssist, Inc **449**
Pittsburgh, PA
CardiacAssist, inventor of the TandemHeart®

Extracorporeal Circulatory Support System, offers versatile mechanical circulatory support treatment options. While the company is best known for its left ventricular support platform, it recently launched a line of arterial cannulae and the PROTEK Duo™ veno-venous dual lumen cannula. Stop by the booth to learn more.

Cardica Inc **630**
Redwood City, CA

Christus Health **1040**
Irving, TX

Cook Medical **130**
Bloomington, IN
Founded in 1963, Cook Medical pioneered many of the medical devices now commonly used to perform minimally invasive medical procedures throughout the body. Today, the company integrates medical devices, drugs, and biologic grafts to enhance patient safety and improve clinical outcomes. Since its inception, Cook has operated as a family-held private corporation.

CorMatrix **539**
Roswell, GA
CorMatrix® Cardiovascular markets its ECM® Bioscaffold devices for vascular repair, pericardial repair and reconstruction, cardiac tissue repair, and CanGaroo ECM Envelope and is currently conducting preclinical studies to evaluate future applications in other cardiac and vascular applications.

CryoLife **321**
Kennesaw, GA
CryoLife® is a leader in the development and implementation of advanced technologies associated with allograft processing and cryopreservation. CryoLife also pioneers research in the development of implantable biological devices, surgical adhesives, hemostatic agents, and biomaterials for cardiac, vascular, and general surgery.

CT Assist **341**
Philippi, WV
CT Assist is a managed service provider of cost-effective cardiothoracic surgery advanced practitioners that deliver quality care. CT Assist provides workforce management solutions from long-term to locum tenens and vacation coverage. The company is a physician assistant-owned nationwide employer of talented and experienced cardiothoracic physician assistants and nurse practitioners.

CTSNet **531**
Chicago, IL
CTSNet (www.ctsnet.org), headquartered in Chicago, 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.

Davol Inc, a BARD Company **831**
Warwick, RI
BARD is the market leader in comprehensive soft tissue reconstruction. In addition to this extensive suite of products, its BioSurgery franchise is delivering a growing line of enhanced sealants and hemostatic products to complement surgical techniques across thoracic, cardiovascular, and other surgical specialties.

De Soutter Medical **1101**
Mooreville, NC

Designs for Vision **1001**
Ronkonkoma, NY
Just See It™ with Designs for Vision's lightweight custom-made surgical telescopes—now 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 prospective.

DGMR/Global Intercepts **1102**
Dumont, NJ
Utilizing relationships with health care providers all over the world, DGMR/Global Intercepts provides insights on markets, technologies, and devices. The company is uniquely qualified to evaluate marketing strategies and test product development directions, device concepts, product positioning,

messaging, and brand identity. Research studies are initiated before, during, and after any US/ international conference.

Domain Surgical **350**
Salt Lake City, UT
Domain Surgical's FMX Ferromagnetic Surgical System is an advanced thermal energy surgical platform that uses ferromagnetic technology to cut, coagulate, and seal tissue. A variety of surgical tools have been designed to bring the unique clinical benefits of this technology to a broad array of surgical subspecialties.

Eastern Maine Medical Center **106**
Bangor, ME

EBM **131**
Tokyo, Japan
EMB, 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.

Edwards Lifesciences **503**
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.

Elsevier **938**
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

EndoEvolution, LLC **124**
Raynham, MA
EndoEvolution, LLC is the leading innovator in advanced automated suturing device technology. The Endo360 MIS suturing device is the only reusable automated device with wristed articulation, using a curved needle that precisely replicates the traditional method of suturing used by surgeons to place stitches and tie intracorporeal knots.

Enova Illumination **125**
St. Paul, MN
NEW from Enova Illumination: Cyclops XLT-225 LED surgical headlight system. The world's brightest LED surgical headlight designed for deep cavity surgery HD Camera system with edit-free operation, cloud storage, and instant sharing.

Essential Pharmaceuticals **206**
Ewing, NJ
Supporting the preservation and growth of human systems. From the cell to the entire organ, Essential Pharmaceuticals looks to advance medical treatments and the research that creates new medical treatments. Originally developed for cardiac surgery, Custodiol®HTK offers superior convenience, water-like viscosity, and no need for additives or filters, which makes it a preferred solution for many transplant centers.

ETHICON/ DePuy Synthes CMF **401**
Cincinnati, OH
Ethicon US LLC, a Johnson & Johnson company, commercializes a broad range of innovative surgical products, solutions, and technologies used to treat some of today's most prevalent medical issues, such as colorectal and thoracic conditions, women's health conditions, hernias, cancer, and obesity. Learn more at www.ethicon.com, or follow Ethicon on Twitter @Ethicon.

European Association for Cardio-Thoracic Surgery (EACTS) **830**
Windsor, United Kingdom
EACTS is the largest European association devoted to the practice of cardiothoracic surgery. The main objective of the association is to advance education in the field of cardiothoracic surgery and to promote, for the public benefit, research into cardiovascular surgery. **ANNUAL MEETING EXHIBITORS** continued on next page

2016 ANNUAL MEETING EXHIBITORS cont.

NEW EXHIBITORS

MEETING BULLETIN ADVERTISERS

diovascular and thoracic physiology and therapy and to correlate and disseminate the useful results thereof. Visit Booth 830 for more information.

European Society of Thoracic Surgeons
Exeter, United Kingdom
ESTS is the largest international general thoracic surgery organization with more than 1,500 members from all continents. The society's mission is to improve quality in our specialty: from clinical and surgical management of patients to education, training, and credentialing of thoracic surgeons worldwide. The 24th European Conference on General Thoracic Surgery will be held on 29 May–1 June 2016, in Istanbul, Turkey.

834

Fehling Surgical
Acworth, GA
Fehling Surgical features the CERAMO® instrument line, SUPERPLAST probes, and new innovative retractor systems for minimally invasive cardiac surgery. The CERAMO surface means high efficiency through enhanced performance, increased endurance, and minimal maintenance. BREAKING NEWS: See the Reusable Papillary Muscle Exposure Device and Atrial Lift System!

610

FUJIFILM Medical Systems U.S.A., Inc.
Wayne, NJ
The Endoscopy Division of FUJIFILM Medical Systems U.S.A., Inc. supplies high-quality, technologically advanced FUJIFILM brand endoscopes to the medical market. For more information, please visit www.fujifilmendoscopy.com

1042

G+N Medical Inc.
Middletown, NJ

550

General Cardiac Tech/Heart Hugger **1019**
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.

Genesee BioMedical **214**
Denver, CO
Design Beyond Standard. Genesee BioMedical, Inc provides unique devices for cardiothoracic surgery, including a bovine pericardium tissue patch, sternal/thoracic valve retractors, instruments for minimally invasive aortic, transcatheter aortic valve implantation, and robotic surgeries, coronary graft markers, suture guards, retraction clips, and myocardial needles. www.geneseebiomedical.com

Gore & Associates **631**
Flagstaff, AZ
The Gore Medical Products Division has provided creative solutions to medical problems for three 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.

Grifols **943**
Tustin, CA

HeartWare **331**
Framingham, MA
HeartWare is dedicated to delivering safe, high-performing, and transformative therapies that enable patients with heart failure to get back to life. The HVAD® Pump is designed to be implanted in the pericardial space, avoiding the more invasive surgical procedures required with older LVAD technologies. The HVAD Pump is commercially available around the world.

Heart Hospital Baylor Plano, The **647**
Plano, TX

Heart Valve Society, The (HVS) **843**
Beverly, MA
The HVS held its inaugural meeting in May 2015 at the Grimaldi Forum in Monte Carlo, Monaco, with more than 430 medical professionals and 80 industry partners in attendance. 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.

Hospital Corporation of America **107**
Ft Lauderdale, FL
HCA-affiliated facilities are a part of a quality health care network in East Florida and the Treasure Coast with 14 affiliated hospitals, 12 surgery centers, one integrated regional lab, and one consolidated service center. Together, the network employs more than 12,500 individuals and has close to 6,000 physicians on staff.

INFINITE TRADING INC. **447**
Las Vegas, NV

Inion Inc. **941**
Weston, FL

Intermountain Healthcare **248**
Salt Lake City, UT
The Cardiovascular and Thoracic Surgery Core Curriculum Review is a series of intensive lectures in cardiovascular and thoracic surgery. This course is intended for surgeons preparing for the American Board of Thoracic Surgery certification examination. Please visit corereview.org for more information.

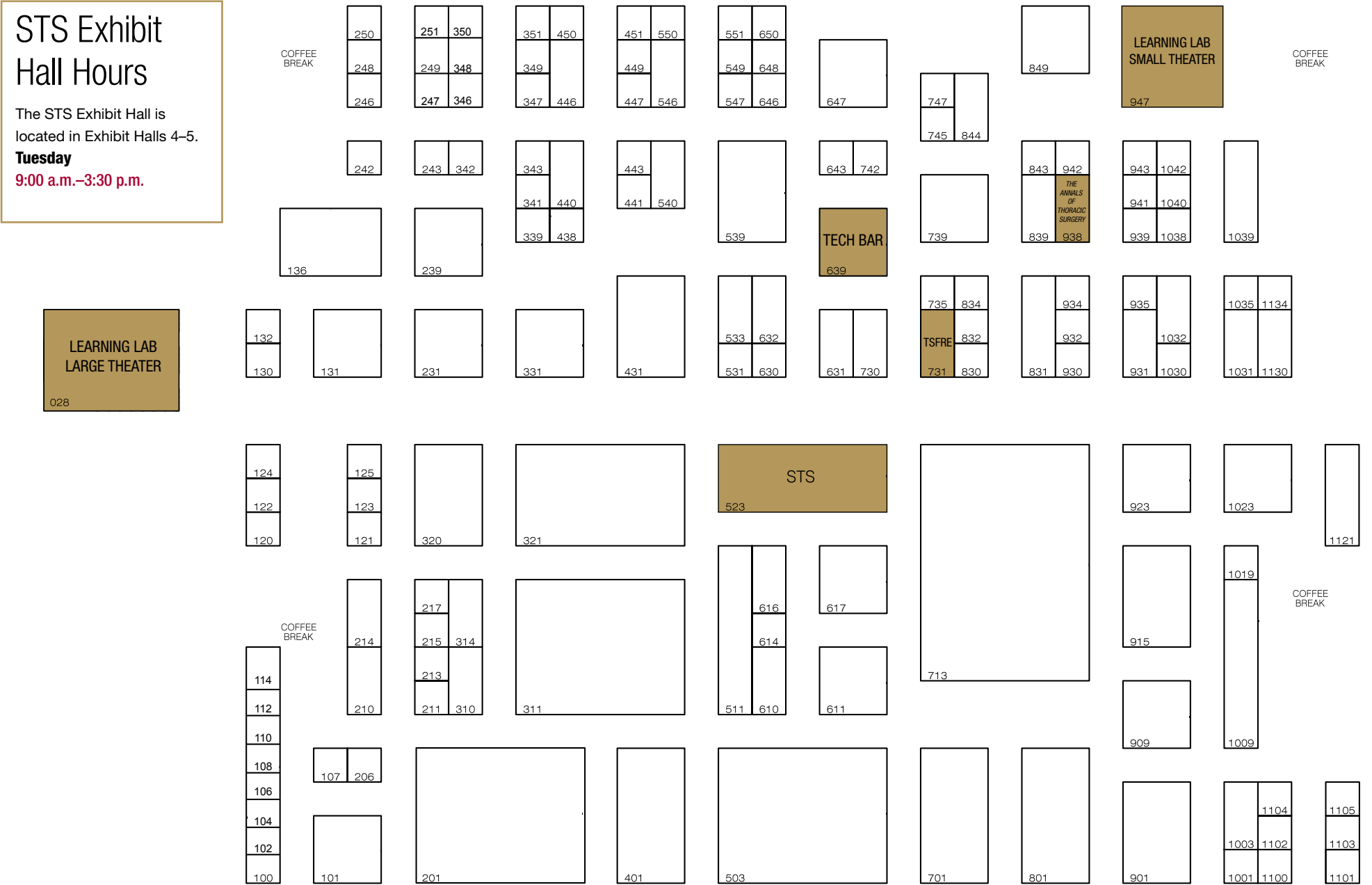
International Biophysics Corp **1038**
Austin, TX
SternaSafe is an active, adjustable-stability sternum support brace that gives patients hands-free mobility, enhancing patient recovery after sternotomy, coronary artery bypass graft surgery, thoracotomy, lung operations, and rib fractures. SternaSafe provides sternotomy support while coughing, standing/sitting, and straining by supporting the chest and sternum.

International Society for Minimally Invasive Cardiothoracic Surgery (ISMICS) **832**
Beverly, MA
ISMICS: Innovation, technologies, and techniques in cardiothoracic and cardiovascular/vascular surgery. 2016 ISMICS Annual Scientific Meeting, 15–18 June 2016, Fairmont The Queen Elizabeth, Montreal, Canada. www.ismics.org.

Intuitive Surgical **311**
Sunnyvale, CA
Intuitive Surgical, Inc. designs, manufactures, and

2016 EXHIBITOR MAP

STS Exhibit Hall Hours
The STS Exhibit Hall is located in Exhibit Halls 4–5.
Tuesday
9:00 a.m.–3:30 p.m.



2016 ANNUAL MEETING EXHIBITORS cont. NEW EXHIBITORS MEETING BULLETIN ADVERTISERS

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

IsoRay Medical934

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 strands for resection line treatment following surgery for high-risk lung cancers, resulting in highly conformal adjuvant radiation therapy that spares critical thoracic structures.

JACE Medical121

Winona Lake, 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 121 and see how the company thinks outside the paradox. Get more information at JACEMED.com.

Just Co, Ltd742

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 very unique and popular to those in the medical field in need of microsurgery instruments and endoscope tips.

Kadlec Regional Medical Center104

Richland, WA

Kapp Surgical616

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 Storz546

El Segundo, CA

Karl Storz, a leader in endoscopic equipment and instruments, offers solutions for video-assisted thoracic surgery. Its EndoCAMEleon® Laparoscope enables surgeons to adjust the viewing direction from 0° to 120° throughout procedures. And its Video Mediastinoscope with DCI®-D1 Camera allows video recording while working under direct vision for documentation and teaching.

Kinamed Inc.549

Camarillo, CA

KLS Martin739

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 the company’s titanium osteosynthesis plating systems allow these products to be used for rapid sternal fixation and reconstruction.

Koros USA, Inc.243

Moorpark, CA

For the past 30 years Koros USA, Inc. has been designing and distributing state-of-the-art surgical instruments, like the Cervical Black Belt, Lumbar Super Slide, and ALIF Polaris Lateral Retractors, along with the Rotating Osteo Punch, Ejector Punch Rongeurs, and many more fine hand instruments.

Lexion Medical247

Macon, GA

LifeNet Health1031

Virginia Beach, VA

LifeNet Health helps save lives, restore health, and give hope to thousands of patients each year. It is the world’s most trusted provider of transplant solutions, from organ procurement to new innovations in bioimplant technologies and cellular therapies—a leader in the field of regenerative medicine, while always honoring the donors and health care professionals who allow the healing process.

LivaNova (formerly Sorin Group)201

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.

LoupeCam643

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 Solutions101

Victor, NY

COR-KNOT® delivers superior titanium suture fastening technology worldwide. COR-KNOT reduces cardiopulmonary bypass time and cross clamp time, reducing overall OR time. Find out how COR-KNOT can benefit your OR by visiting Booth 101.

MAQUET901

Wayne, NJ

MAQUET Medical Systems is a market leader focused on improving patient care and quality of life. The company offers a comprehensive portfolio of innovative products designed to meet the needs of clinical professionals in the areas of advanced hemodynamic monitoring, cardiothoracic and vascular surgery, thoracic drainage, cardiac intervention, perfusion, anesthesia, and ventilation.

Mayo Clinic108 & 440

Rochester, MN

Mayo Clinic surgeons are on the leading edge of treating cardiovascular and thoracic conditions using the latest innovations and techniques. They are part of an integrated, multidisciplinary team of doctors and health care professionals who provide individualized care for each patient.

Med Alliance Solutions611

St. Charles, 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 to Michigan-based Surge Cardiovascular for open heart surgical products.

Medela923

McHenry, IL

Medela, the market leader in breastfeeding education and research, provides medical vacuum solutions featuring Swiss technology in over 90 countries. Medela Healthcare optimizes patient care through pioneering and intelligent, mobile, digital chest drainage therapy and advanced wound management with negative pressure wound therapy.

Medistim909

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.

Medtronic713

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.

Microsurgery Instruments, Inc.122

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.

Myriad Genetic Laboratories, Inc.239

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.

Nadia International614

Austin, TX

Educational/surgical bronze sculptures specifically for the thoracic surgeon. These museum-quality limited editions are created by the world famous sculptor Ronadró. More than 7,500 surgeons in 77 countries collect his fine works of art. His works are on display at the Smithsonian Institute and many medical universities throughout the world. Introducing MIRACLE OF LIFE II at the 2016 meeting.

nContact217

Morrisville, NC

nContact is a leader in the development of disease management programs with the goal of opening unmet markets, minimizing rehospitalizations, and improving health care savings. nContact’s mission is to transform the underserved arrhythmia market and benefit the entire cardiovascular service line.

NeoChord, Inc.1104

Eden Prairie, MN

NeoChord, a U.S.A. medical device company, intends to transform mitral valve repair by providing minimally invasive technology that enables beating heart, sternal sparing implantation of artificial chord tendinae.

Neu Wave Medical446

Madison, WI

Neu Wave Medical Inc. has the first and only Intelligent Ablation System for microwave ablation of soft tissue lesions with a total solution for ablating lesions of all shapes and sizes for consistency and control. The computer-controlled platform with Ablation Confirmation software, an integrated in-procedure confirmation, assists physicians with proper probe placement and confirms success of procedures.

Northeast Provider Solutions112

Valhalla, NY

Northwestern Medicine102

Winfield, IL

Olympus America Inc1130

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.

On-X Life Technologies, Inc.617

Austin, TX

On-X Life Technologies is proud to announce FDA approval to reduce INR to 1.5–2.0 for On-X® Aortic Heart Valve patients starting 3 months after surgery. Chord-X® ePTFE suture for mitral repair is now available in an innovative Pre-Measured Loops system.

Ornim343

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.

OSF HealthCare System110

Peoria, IL

Oxford University Press213

New York, NY

Visit the Oxford University Press stand to browse the company’s prestigious surgery books and journals, including the publications of the European Association for Cardio-Thoracic Surgery.

ANNUAL MEETING EXHIBITORS continued on next page

Presenters Meet the Media in STS Press Conferences

The Society will host three press conferences on Tuesday highlighting some of the exciting research being presented at the STS 52nd Annual Meeting. The press conferences will take place in Room 223 at 10:00 a.m.

- Race Is Associated With Reduced Overall Survival Following Esophagectomy for Esophageal Cancer Only Among Patients From Lower Socioeconomic Backgrounds*
Speaker: Loretta Erhunmwunsee, MD, City of Hope, Duarte, Calif.
- Cost Analysis of a Physician Assistant Home Visit Program to Reduce Readmissions Following Cardiac Surgery*
Speaker: John P. Nabagiez, MD, Staten Island University Hospital, North Shore-LIJ Health System, N.Y.
- Operative Risk for Major Lung Resection Increases at Extremes of Body Mass Index: Analysis of the STS General Thoracic Surgery Database*
Speaker: Trevor Williams, MD, The University of Chicago, Ill.

Join the Conversation

Like the STS Facebook page at www.facebook.com/societyofthoracicsurgeons and follow STS on Twitter at @STS_CTSurgery for information about Phoenix and the Annual Meeting. If you tweet about the Annual Meeting, be sure to use the hashtag #STS2016. After the Annual Meeting is over, the STS Facebook and Twitter pages will continue to deliver news on future STS events and CME credit opportunities. ■

Hear from Experts at Industry-Sponsored Satellite Activities

Satellite activities are programs offered by industry and held in conjunction with the STS 52nd Annual Meeting. They are not developed or sponsored by STS.

TUESDAY

Medtronic
Electromagnetic Navigation Bronchoscopy: Expanding Options in Thoracic Oncology
6:00 p.m.–8:00 p.m.
Paradise Valley, Sheraton Grand Phoenix, 340 N. Third Street

Medtronic
Complex Endovascular Aortic Repair: The Role of the CT Surgeon Today and Tomorrow
6:00 p.m.–9:00 p.m.
North Mountain, Sheraton Grand Phoenix, 340 N. Third Street

2016 ANNUAL MEETING EXHIBITORS cont.

NEW EXHIBITORS

MEETING BULLETIN ADVERTISERS

Collect your free sample copies of the *European Journal of Cardio-Thoracic Surgery* and *Interactive CardioVascular and Thoracic Surgery*, and discover procedures from the *Multimedia Manual of Cardio-Thoracic Surgery*.

Pinnacle Biologics 648
Bannockburn, IL
 Pinnacle Biologics, Inc. specializes in revitalizing healthcare therapies by promoting, developing, and managing innovative approaches to the commercialization of products with a focus on oncology and orphan diseases. PDT with Photofrin® is an effective therapy for select thoracic malignancies.

Providence Health & Services 347
Portland, OR
 Providence Health & Services is affiliated with Swedish Health Services, Pacific Medical Centers, and Kadlec. Together, its organizations include more than 5,000 employed providers, 35 medical centers, and more than 600 clinics in Alaska, California, Montana, Oregon, and Washington. The company is currently recruiting providers in nearly all medical specialties throughout the West. providence.org/providerjobs

QED Medical 342
Lexington, KY
 QED Medical introduces the new XL 10-watt OR-ready Portable LED Headlight System featuring untethered mobility, maximum intensity, and a lightweight design with intensity and spot size controls. Since 1971, QED Medical has developed a comprehensive line of American-made headlight illumination and video headlight systems for applications from examination to surgery.

Quest Medical Inc. 931
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.

Regional Data Managers: STS National Database 735
Ann Arbor, MI
 The Regional Data Managers booth provides opportunities for surgeons to interact with data managers from around the country who are actively involved with regional STS National Database efforts and collaborative STS groups. Come learn about regional activities and initiatives!

rEVO Biologics 747
Framingham, MA
 rEVO Biologics, Inc. is a commercial-stage biopharmaceutical company focused on the development and commercialization of specialty therapeutics to address unmet medical needs in patients with rare, life-threatening conditions. The company's lead product, ATryn, is the first and only plasma-free antithrombin concentrate.

Rose Micro Solutions 930
West Seneca, NY
 Rose Micro Solutions sells high-quality optical loupes and LED lights for less! The company's loupes start at \$279. Rose Micro Solutions is a family business consisting of four brothers who named the company after their mother Rose. Stop by Booth 930, visit www.rosemicrosolutions.com, or call (716) 608-0009.

RTI Surgical 849
Alachua, FL
 RTI Surgical™ is a leading global surgical implant company providing surgeons with safe biologic, metal, and synthetic implants. RTI provides surgeons with metal, cable, and plating systems, as well as biologic options for cardiothoracic

and trauma surgical procedures. Cardiothoracic implants offer increased stability and flexibility for anterior chest wall fixation for all types of closures.

Rultract/Pemco Inc. 839
Cleveland, OH
 Pemco has designed and manufactured precision surgical instruments for the cardiovascular field. The company has documented that perfusion cannula, coronary ostial cannula, and cardiac suckers offer cost savings over disposables. Additional products include reusable subclavian and femoral cannula, anesthesia screens, and the Rultract retractor.

Scanlan International 511
St. Paul, MN
 Highest quality surgical products designed and manufactured by the Scanlan family since 1921. More than 3,000 surgical instruments in titanium and stainless steel, including D'Amico Medias-tinoscopy Biopsy Forceps, new shorter VATS instruments, uniportal VATS instruments, MEMORY Dilators/Vessel Probes, LEGACY Needle Holders and Forceps, and single-use products.

SheerVision 242
Rolling Hills Estates, CA
 SheerVision designs, develops, and manufactures loupe and headlight systems that enhance vision through exceptional visual acuity and powerful illumination. SheerVision also is the exclusive provider of Under Armour Performance Eyewear. Also on display is the new loupe-mounted, hands-free HD video camera allowing you to "Shoot. Store. Share." with state-of-the-art technology.

Society of Thoracic Surgeons, The 523
Chicago, IL
 The Society of Thoracic Surgeons 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. The Society offers a wide variety of member benefits, including reduced participation fees in the renowned STS National Database™, a complimentary subscription to *The Annals of Thoracic Surgery*, dynamic educational offerings, online patient information resources, and much more. The Society also supports cutting-edge research via the STS Research Center and advocates in Washington, DC, on behalf of cardiothoracic surgery professionals and their patients. Stop by Booth 523 or visit www.sts.org to learn more.

Sontec Instruments 310
Centennial, CO
 Sontec offers headlamps, loupes, and the most comprehensive selection of exceptional handheld 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 Booth 310.

Spectranetics 349
Colorado Springs, CO
 SPNC develops, manufactures, markets, and distributes single-use medical devices used in minimally invasive procedures within the cardiovascular system. The Lead Management (LM) product line includes excimer laser sheaths, dilator sheaths, mechanical sheaths, and accessories for the removal of pacemaker and defibrillator cardiac leads.

Spiration, Inc. 632
Redmond, WA
 The Spiration® Valve System has a humanitarian device approval in the United States to control specific postoperative air leaks of the lung and has CE mark approval for the treatment of diseased lung in emphysematous patients and for damaged lung resulting in air leaks by limiting air flow to selected areas.

St. Jude Medical 701
St. Paul, MN
 St. Jude Medical is a global medical device manufacturer dedicated to transforming the treatment of some of the world's most expensive, epidemic diseases by creating cost-effective medical technologies that save and improve lives of patients globally. Clinical focus areas include cardiac rhythm management, atrial fibrillation, cardiovascular, and neuromodulation. Visit sjm.com.

STS/CTSNet Career Fair 100 Aisle
 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 all Exhibit Hall hours.

Surgical PA Consultants 339
Lynchburg, VA
 Since 1991, Surgical PA Consultants has provided professional recruiting and advertising services for cardiac surgical programs seeking physician assistants at a reasonable fee. The company has been clinically active in cardiac surgery and related PA professional societies for 40 years, developing the resources that result in successfully finding qualified PA candidates for cardiothoracic surgical practices.

SurgiPrice 123
Rockville, MD

SurgiTel/General Scientific Corp 1030
Ann Arbor, MI
 SurgiTel is the manufacturer of premium loupes and headlamps sold around the world. Holding a variety of patents, SurgiTel is always on the forefront of vision and ergonomics.

SynCardia Systems, Inc. 1003
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 the SynCardia booth for updates on the Freedom® portable driver, 50 cc TAH-t, and destination therapy.

Tech Bar 639
 Get free technical assistance from the Tech Bar, which is similar to Apple's Genius Bar and will provide assistance from three subject matter experts, live demos on technology topics of interest, and a charging station. You can get help with personal and professional issues related to your tablets, mobile devices, apps, e-mail, and more—throughout the entire exhibition.

Terumo 801
Ann Arbor, MI
 Vascutek, 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 441
Traverse City, MI
 Thompson Surgical has been a leader in exposure for over 50 years. Cardiovascular surgeons will benefit from the Thompson Surgical Bolling Retractor, which provides low profile, stable, uncompromised exposure of the heart structures. The company provides innovative, high-quality systems that deliver safe, versatile retraction.

Thoracic Surgery Foundation for Research and Education (TSFRE) 731
Chicago, IL
 TSFRE is the charitable arm of The Society of Thoracic Surgeons. The mission of TSFRE is to foster the development of surgeon scientists in cardiothoracic surgery, increasing knowledge and innovation to benefit patient care. The foundation represents thoracic surgery in the United States, and its research and educational initiatives support the broad spectrum of thoracic surgery.

Thoramet Surgical 935
Rutherford, NJ
 Thoramet Surgical Products sells the most complete line of VATS instruments available. Produced in the USA in the company's own facilities, they are the surgeon's choice. Come to Booth 935 to see their unique versatility. Thoramet has the feel you want, the actuation you need, and the patterns you demand.

Thoratec Corporation 730
Pleasanton, CA
 Thoratec is the world leader in mechanical circulatory support with the broadest product portfolio to treat the full range of clinical needs for patients

suffering from advanced heart failure. Thoratec's products include the HeartMate LVAS, Thoratec VAD, CentriMag, and PediMag/PediVAS.

Transonic 745
Ithaca, NY
 You've carefully constructed several challenging anastomoses, and they all look good... but are they? Before you close your patient, take a few seconds and get precise blood measurements on each graft. Know if there is a problem now, before the patient lets you know later. Visit Transonic and see how its meters and flowprobes can help improve your outcomes.

University of Pittsburgh Medical Center (UPMC) 348
Pittsburgh, PA

VasoPrep 132
Morristown, NJ

Veran Medical Technologies 1100
St. Louis, MO

Virtual Pediatric Systems, LLC 246
Los Angeles, CA
 With more than 100,000 ICU cases, VPS Cardiac bridges the critical care continuum by providing data collection, analysis, and interpretation to improve critical care. Benchmarking takes place among cardiac, pediatric, and mixed units and includes the Pediatric Index of Cardiac Surgical Intensive Care Mortality (PICSIM), a novel risk-adjusted score for the pediatric cardiac surgical population. Please visit VPS at Booth 246 to learn more about the impact the company is making.

VitaHEAT Medical 215
Rolling Meadows, IL
 Visit VitaHEAT Medical (Booth 215) to see the next generation in patient warming: an underbody mattress that is safe, effective, easy to use, and cost efficient. It is battery operated for portability with an AC power option. Finally, one versatile system that meets all your patient warming needs.

Vitalcor, Inc./Applied Fiberoptics 533
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 prides itself on offering quality products and providing exceptional customer service.

Vitalitec Geister 431
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.

Wexler Surgical, Inc. 1009
Houston, TX
 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 their 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 939
Phoenix, AZ

Z Health Publishing, LLC 547
Brentwood, TN

Zimmer Biomet Thoracic (formerly Biomet Microfixation) 136
Jacksonville, FL
 Founded in 1927 and headquartered in Jacksonville, Florida, 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.

Zipper Belt 346
Dallas, TX

See You Next Year!
STS 53rd Annual Meeting
 January 21–25, 2017
 Houston, Texas



A O R T I C

B Y D E S I G N



Bolton Medical

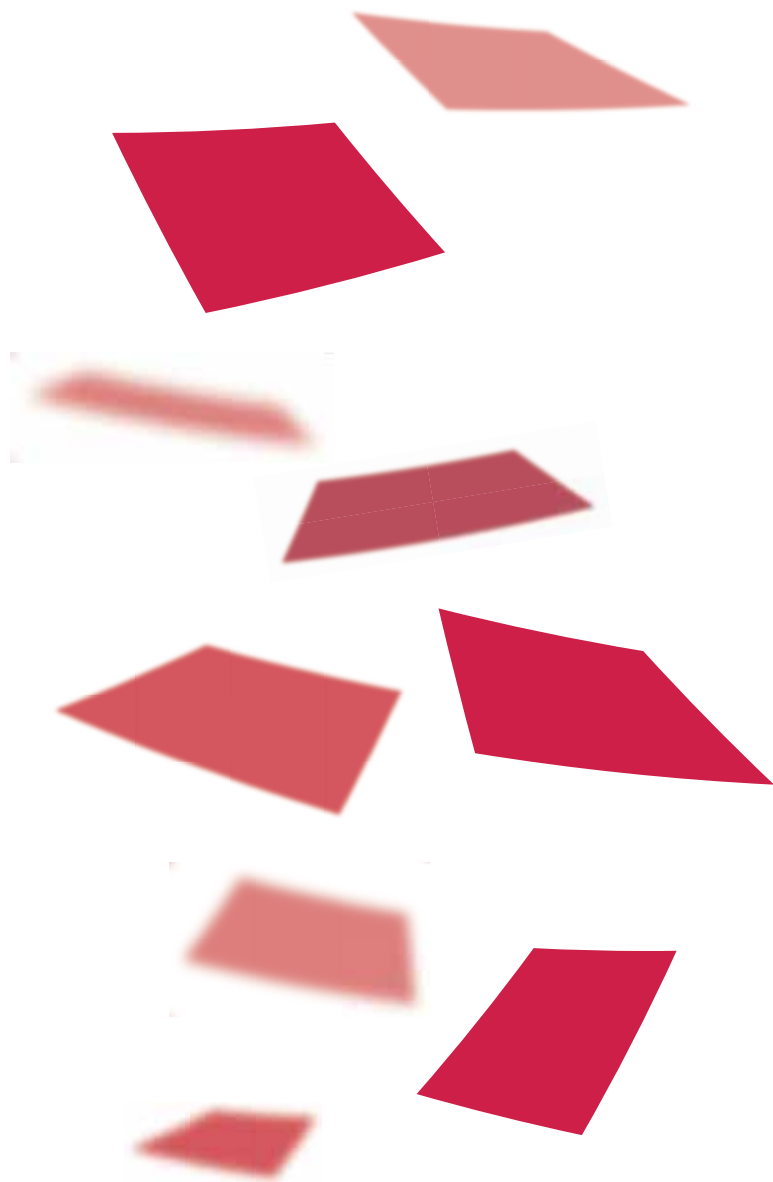
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DON'T LET RETAINED BLOOD SYNDROME
BLOCK YOUR PATIENT'S RECOVERY

FLOW BETTER



Retained Blood Syndrome (RBS)

may slow your patients' recovery and can often lead to unnecessary re-operations or interventions to remove blood, blood clot, bloody fluid or air from the pericardial or pleural spaces. According to recent data about 1 in 5 cardiothoracic surgery patients require such interventions and these interventions cost an average of \$28,814 per patient to treat.¹

Recently reported clinical results¹ show that patients who were treated with the PleuraFlow® Active Clearance Technology® System had a statistically significant decrease in both the rate of reintervention for Retained Blood Syndrome (42% reduction) and the rate of postoperative atrial fibrillation (30% reduction).²

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¹ Based on over 313,000 US adult heart surgery patients. Data extracted using ICD-9 codes from the 2010 Nationwide Inpatient Sample (NIS), from the DHHS Agency for Healthcare Research and Quality (AHRQ) Healthcare Cost and Utilization Project (HCUP).

² Data presented at Cardiovascular-Thoracic (CVT) Critical Care Conference, 2014.



At STS 2016, visit Maquet Booth #901

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