

STS MEETING BULLETIN

THE SOCIETY OF THORACIC SURGEONS 55th ANNUAL MEETING SAN DIEGO, CA | sts.org

TUESDAY

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

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

7:00 a.m. – 9:00 a.m. Adult Cardiac: General *Room 30ABCD*

Adult Cardiac: Mitral and Tricuspid Valves *Room 31AB*

Congenital: Pediatric Congenital III Room 32

General Thoracic: Lung Cancer II Room 29CD

General Thoracic: Mediastinal/Pulmonary Room 29AB

Pain Management Room 33

9:30 a.m. – 9:45 a.m. Award Presentations *Ballroom 20*

9:45 a.m. – 10:45 a.m. C. Walton Lillehei Lecture: Eric Topol Ballroom 20

11:00 a.m. – 12:00 p.m. Meet the Experts Sessions Locations vary; see page 5 or check the STS Meetings mobile app

Health Policy Forum Room 31C

1:00 p.m. – 3:00 p.m. Adult Cardiac: Aorta II *Room 29AB*

Adult Cardiac: Aortic Valve/Novel Technologies Room 29CD

Advanced Therapies for End-Stage Cardiopulmonary Disease Room 30E

General Thoracic: Esophageal *Room 31AB*

1:00 p.m. – 5:00 p.m.

How-To Video Session: Technical Tips to Avoid Pitfalls and Simplify Congenital and Pediatric Cardiac Surgery Procedures *Room 32*

How-To Video Session: General Thoracic Room 33

"My Tube" Adult Cardiac How-To Video Session Room 30ABCD

Patient Safety Symposium: Innovation and Safety in the Digital Era—From EHRs to Cybersecurity *Room 31C*

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Naunheim Points to Resilience as Key to Survival

ardiothoracic surgery has been under attack for several decades. Beginning with diagnosis-related groups, the specialty was hit by reduced reimbursement, lower patient volume, and a shrinking workforce. Instead of getting angry, cardiothoracic surgeons got resilient. They worked to influence federal policy, used data to change practice patterns, improved medical guidelines and began to change the face of the specialty, said 2018-2019 STS President Keith S. Naunheim, MD during his Presidential Address on Monday.

He described how the change began in the mid-1990s when Robert Replogle, MD was STS president and CMS proposed a 45% reimbursement cut to move nurse practitioners, physician assistants, and surgical assistants out of surgical practices and into hospitals.

"He resolved to address this in a strong but constructive fashion," Dr. Naunheim said. "He restrained his anger, reassessed the situation, and responded to the threat. These days the word for that kind of reaction is resilience, the capacity to recover quickly from difficulties



with the ability to spring back or rebound. Resilience means you bend but you do not break. And STS does just that."

Dr. Naunheim's address was titled Anger Management 101: Why Am I Angry? Let Me Count the Ways. In retrospect, he said, it should have been called Resilience 101: How Can We Fight Back Against Those SOBs? For Dr. Replogle, fighting back meant a \$1,000 special assessment from each STS member. The Society put together an aggressive, \$6 million lobbying campaign in Washington, DC. The campaign resulted in a \$1.6 billion increase over 10 years for cardiothoracic surgeons compared to the see **PRESIDENTIAL ADDRESS**, page 15

TUESDAY | JAN. 29, 2019

Robert S.D. Higgins Elected 2019-2020 President

Johns Hopkins surgeon plans forward-thinking strategies to keep cardiothoracic surgery 'relevant and exciting'

enowned heart-lung transplant surgeon Robert S.D. Higgins, MD, MSHA was elected by the STS membership yesterday evening as the Society's 2019-2020 President. "T'm humbled by the recognition from people who have come before me—to assume that I have the street credibility and the maturity to serve in this role," said Dr. Higgins,

Surgeon-in-Chief of The Johns Hopkins Hospital in Baltimore, as well as the William Stewart Halsted Professor of Surgery and Director of the Department of Surgery at The Johns Hopkins University School of Medicine. "The STS Presidency is a big job with lots of stakeholders. Our responsibility is to make our specialty relevant and exciting for the next generation, while also honoring the past and creating a sustainable future. We have to do that now."

Part of creating a sustainable future, according to Dr. Higgins, is giving back to the cardiothoracic surgery specialty, the community, and those who are less fortunate. One of the quotes that has inspired and motivated him came from Winston Churchill: "We make a living by what we do, but we make a life by what we give." Dr. Higgins said he often thinks about that message: "Growing up, my mom instilled in us the premise that we should serve our community as much as we should serve our own best interests. To this day, that lesson has had an impact on my career and my focus."

Dr. Higgins's decision to become a doctor resulted from a combination of personal expectations shaped by his family and life circumstances. It also was a way to honor his father's legacy. Robert Higgins Sr., MD, a general practitioner who had just opened a practice in Charleston, SC, was tragically killed in a car accident when young Robert was just 5 years old.

"In the 50s and 60s as an African American, my dad was fortunate to have the ability to get a medical degree," said Dr. Higgins. "He went back to his community, which was segregated, to serve the people who did not necessarily have the same rights to receive care as the majority did. My dad's life was cut short before he could affect the changes that I think he would have made."



Following his father's death, Dr. Higgins and his two younger brothers were raised by their mother, Patricia Higgins, and their grandparents in Albany, NY. "My grandparents and my mom were my heroes," said Dr. Higgins. "I embodied their principles as they sacrificed extraordinary things to benefit us and see **HIGGINS**, page 16



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Two Honored for Selfless Service and Commitment to STS

n honor of their outstanding work and significant contributions, Douglas E. Wood, MD and James M. Levett, MD each were presented with a 2019 STS Distinguished Service Award at the Annual Membership (Business) Meeting yesterday evening.

"Cardiothoracic surgery is one of the most successful stories in all of medicine," said 2018-2019 STS President Keith S. Naunheim, MD. "As members of this specialty, we feel a responsibility to give back and make sure that our discipline does not merely survive but that it continues to thrive. That type of success is exactly what Doug Wood and Jim Levett have helped us achieve in the past two decades. Like so many cardiothoracic surgeons before them, they have worked tirelessly to pursue improvements in cardiothoracic care that have greatly benefitted patients and saved lives."



DOUGLAS E. WOOD, MD SEATTLE, WASHINGTON

An STS member since 1995, Dr. Wood has been a long-time volunteer. He has served on the Society's Board of Directors as President and as Secretary, as well as held positions on other governance bodies, including the Executive Committee, Finance Committee, Standards and Ethics Committee, Workforce on Health Policy, Reform and Advocacy, and Workforce on Critical Care. In addition, Dr. Wood currently is President of The Thoracic Surgery Foundation, the Society's charitable arm.

A world-renowned surgeon in thoracic oncology, Dr. Wood specializes in lung and esophageal cancer. He is a national and international leader in the management of complex airway diseases and in the surgical management of end-stage lung disease. He has used that expertise to help secure Medicare coverage of low-dose computed tomography lung cancer screening for at risk-populations in his roles as Chair of the National Comprehensive Cancer Network (NCCN) Lung Cancer Screening Panel and Vice-Chair of the NCCN Non-Small Cell Lung Cancer Panel. Dr. Wood also has represented the Society on the Lung Cancer Guidelines panel of the American College of Chest Physicians.

Throughout his career, Dr. Wood has been a prolific surgeon-scientist, with more than 20 grants and 200 publications. He also has been devoted to graduate medical education. Passionate about working with residents and junior faculty in both US and international programs, he has been a visiting professor at approximately 50 institutions worldwide.

Dr. Wood received his undergraduate and medical degrees from Harvard University and completed his general surgery and cardiothoracic surgery residencies at Massachusetts General Hospital in Boston. After spending a formative year as a surgical registrar at the Royal North Shore Hospital in Sydney, Australia, he was recruited to Seattle to lead a new section of general thoracic surgery at the University of Washington, where he is currently the Henry N. Harkins Professor and Chair of the Department of Surgery.

"Dr. Wood is respected and admired by his peers. Early in his career, one could spot that he was the type of individual who was going places—and he has certainly fulfilled on that prophesy," said Dr. Naunheim. "Doug has remarkable skills both in and out of the operating room. He has excelled in clinical research and proven adept at building and organizing surgical divisions and departments. He also is an outstanding teacher, unstinting in generosity and never hesitating to shine the light on the achievements of others. Dr. Wood has very ably served our Society for 20 years, and we are much better because of his work."



JAMES M. LEVETT, MD CEDAR RAPIDS, IOWA

Dr. Levett—an STS member since 1987 currently is a pivotal member of the Workforce on Coding and Reimbursement and serves as the STS Advisor to the American Medical Association Relative Value Update Committee (AMA-RUC), where he presents proposed coding and reimbursement changes on behalf of the Society. His previous STS experience includes service on the Workforce on Patient Safety and the Workforce on Coding and Reimbursement.

In addition, Dr. Levett has worked diligently behind the scenes to advance key issues facing cardiothoracic surgeons and their patients. In fact, he has met several times with recently elected Congresswoman Abby Finkenauer, who has opposed efforts to defund organizations that offer cancer screenings, preventative care, and other health services. In his conversations with Rep. Finkenauer, Dr. Levett highlighted the importance of the STS National Database and the need for legislation that would facilitate a linkage between clinical data from the Database with Medicare claims data. He also explained the importance of understanding value in health care.

After graduating cum laude from Carleton College, Dr. Levett earned his medical degree from the University of Iowa Carver College of Medicine in Iowa City. He completed his general surgery and cardiothoracic surgery residencies at The University of Chicago Hospitals, in addition to post-graduate work in electrophysiology at Duke University Medical Center in Raleigh-Durham, NC. Before joining his current practice at the Physicians' Clinic of Iowa in Cedar Rapids, Dr. Levett was Chairman of the Department of Surgery at Lutheran General Hospital in Park Ridge, IL.

With many years of diverse experience in cardiac, thoracic, and vascular surgeries, Dr. Levett is an expert in process management and the implementation of quality management system principles in health care organizations. In addition, he has authored and/or contributed to more than 100 articles, books, and scientific abstracts.

"Dr. Levett is the prototype of the broadly trained and fully capable cardiothoracic surgeon," said Dr. Naunheim. "He does it all. That practice scope requires broad knowledge and the experience to be able to expertly treat not only diseases of the heart, but also those of the chest wall, mediastinum, lung, and esophagus. His remarkable career is emblematic of that kind of ability. He also has contributed literally thousands of hours to further the interests of STS members, as well as their patients, and has asked for nothing in return. No applause. No limelight. Dr. Levett exemplifies the type of unsung hero that deserves this recognition."

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

"As members of this specialty, we feel a responsibility to give back and make sure that our discipline does not merely survive but that it continues to thrive. That type of success is exactly what Doug Wood and Jim Levett have helped us achieve in the past two decades." Hear How Artificial Intelligence May Affect Your Practice

eep-learning artificial intelligence is starting to impact clinicians, health systems, and consumers. In today's C. Walton Lillehei lecture, Eric Topol, MD will explore "High-Performance Medicine: The Convergence of Artificial Intelligence



and Health Care." Dr. Topol is a cardiologist and geneticist specializing in the use of artificial intelligence, "deep" data, and smart technology for individualized

Eric Topol, MD

treatment approaches. He holds the Gary and Mary West Endowed Chair of Innovative Medicine at Scripps Research, is the Director and Founder of the Scripps Research Translational Institute, and is Chief Academic Officer of Scripps Health in La Jolla, California.

In his lecture, he will review the progress that has been made toward AI integration into health care (including the more than 15 Food and Drug Administration approvals in the past year), where things are heading, and potential liabilities and obstacles.

The Lillehei lecture honors C. Walton Lillehei, MD, one of the world's preeminent cardiac surgeons who was considered to be the "father of open heart surgery."

C. Walton Lillehei Lecture Tuesday 9:45 a.m. – 10:45 a.m. Ballroom 20



The Society of Thoracic Surgeons

STS MEETING BULLETIN

JANUARY 26-29 2019

THE OFFICIAL NEWSPAPER OF THE STS 55TH ANNUAL MEETING

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Improving Diversity Enhances CT Surgery Access, Care, Outcomes

iversity is not about political correctness, according to Joan Y. Reede, MD, MPS, MBA, of Harvard Medical School. "It is about improving the care we deliver as physicians every day."

Dr. Reede made her case during a diversity and inclusion session on Monday, calling on all STS members to take a good look at their hospitals and departments and work toward developing a wider, more experienced talent pool that could better address patients' needs. "Working to improve diversity will change patient outcomes and move organizations forward. Unless cardiothoracic surgery embraces all racial, ethnic, and gender groups, the practitioner shortage will become even more acute," she warned.

She presented statistics reflecting a lack of diversity in medicine, with a majority of medical school faculty being white (61.3%), followed by 16.2% Asian, 3.1% African American, 2.7% Hispanic, and one-tenth of one percent American Indian, Hawaiian, or Pacific Islander.

Dr. Reede described the barriers to inclusion as many and familiar. They include difficulties in preparation, opportunity, and resources to pursue medical education and advancement. In addition, she said that minorities are often not taken seriously.

She used Google to illustrate. A search of images for "smart person" turned up a screen of white males. Her queries for "doctor," "surgeon," and "professor" found similar



images. A search for "assistant professor" yielded primarily white females and a few white males.

"If you don't match the societal image and somehow make it through, you are seen as a

"Working to improve diversity will change patient outcomes and move organizations forward. Unless cardiothoracic surgery embraces all racial, ethnic, and gender groups, the practitioner shortage will become even more acute."

JOAN Y. REEDE, MD, MPS, MBA

token, isolated and excluded," she said. "You are invisible and hyper visible at the same time. It can be an extremely uncomfortable place."

In order to change the dynamics, Dr. Reede said it has to start with vision. She said that Harvard Medical School has incorporated diversity, equity, and social justice into its mission and values statements; the next step includes collecting data. "Are minority students as likely to stay or return as residents, fellows, and junior faculty? If not, why? And what would convince them to stay?," she asked. "Tracking diversity and reporting the results publically supports positive efforts to change."

Meet the Experts

he foremost experts in a variety of cardiothoracic surgery topics will be available to answer your questions at seven Meet the Experts sessions held today from

11:00 a.m. to 12:00 p.m. These sessions provide an in-depth look at the issues, with question-and-answer time emphasized over more formal presentations.

Session 1: What Women Cardiothoracic Surgeons and Trainees Should Know About Fertility | *Room 32*

Session 2: Tips and Tricks for Veno-Arterial Extracorporeal Membrane Oxygenation in Cardiogenic Shock | *Room* 29AB Session 3: Surgery and Immunotherapy for Resectable, Unresectable, and Oligometastatic Non–Small-Cell Lung

Cancer | *Room 33* Session 4: Peroral Endoscopic Myotomy: Growing a Program and Appropriate Use |

Room 30E Session 5: Stents in the Right Ventricular Outflow Tract for Tetralogy of Fallot | Room 31AB

Session 6: Management of the Small Aortic Root | *Room 29CD*

Session 7: Functional Mitral Regurgitation in 2019 and Beyond | *Room 30ABCD*



Mara B. Antonoff, from Houston, will be among the panelists at the session on cardiothoracic surgeons and fertility.

THANK YOU!

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This list is accurate as of January 28, 2019.



Recording Policy

Recording of STS 55th Annual Meeting sessions is strictly prohibited, except by authorized personnel. ■



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Photo Gallery With the meeting under way, attendees had the privilege of learning

With the meeting under way, attendees had the privilege of learning about late-breaking scientific research and experiencing great networking opportunities with colleagues and friends from around the world. Hot topics from the meeting were featured in the Society's Press Conference. Douglas E. Wood, MD and James M. Levett, MD were presented with the 2019 Distinguished Service Award, and Robert S.D. Higgins, MD, MSHA was elected President of the Society.









2019 ANNUAL MEETING EXHIBITORS

817

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725

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O Abbott Nutrition

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Abiomed. Inc

Danvers, MA

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All in Store LLC Las Vegas, NV	329
American Association	

for Thoracic Surgery Beverly, MA

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AngioDynamics

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Astute Medical	1008	

San Diego, CA

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O Biomed Simulation, Inc San Diego, CA

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O Biom'up USA, Inc New York, NY

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BioStable Science & Engineering 1000 Austin, TX

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Cardio Renal Society of America	1202
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Chinese Medical Association Beijing, China

The Chinese Medical Association (CMA) is a nonprofit national academic organization

in China. It is an important social force in the development of medical science and technology and a linkage between the government and the medical professionals.

ClearFlow 1332

Anaheim, CA ClearFlow's Mission – Support Best Practices and develop Guidelines to prevent chest tube occlusions. ClearFlow's PleuraFlow ACT System is the only 510K cleared device indicated for the removal of retained blood and the proactive maintenance of chest tube patency after cardiac surgery resulting in improved patient outcomes and lower healthcare costs.

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CT Assist Philippi, WV

CT Assist is a health care staffing agency for cardiothoracic surgeons, cardiothoracic surgery advanced practitioners, perfusionists and nurses that deliver care in the CVOR, CVICU, and floor. CT Assist provides workforce management solutions including recruiting and locum tenens. We are a nationwide provider cardiothoracic practitioners.

CTSNet

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

O CV Staff Solutions 831 Colorado Springs, CO

Designs for Vision

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541

Biomedical spin-out venture company from Japan. EBM provides original beating heart simulator and quantitative assessment system for OPCAB and vascular anastomosis world wide. Skill assessment is based on rapid CFD technology and validated silicone vascular model.

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EBM

Santa Clara, CA

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Essential

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C Etiometry, Inc

Boston, MA

Etiometry's FDA cleared predictive analytics software helps clinicians make informed critical care decisions. The patient monitoring software transforms overwhelming data into actionable information for improved care quality and decreased cost. A recent multicenter study linked its use with a 25% decrease in LOS. Please stop by booth #827.

European Association for Cardio-Thoracic Surgery Windsor, United Kingdom

EACTS is the largest European Association devoted to the practice of Cardio-thoracic 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 and thoracic physiology and therapy and to correlate and disseminate the useful results thereof.

European Society of Thoracic Surgeons Exeter, United Kingdom

The largest international general thoracic surgery organization with over 1600 members from all continents. The society's mission is to improve quality in the specialty, from clinical and surgical management of patients to education, training, and credentialing of thoracic surgeons worldwide. 27th European Conference on General Thoracic Surgery, 9 -12 June 2019, Dublin, Ireland. www.ests.org

Evaheart, Inc

Houston, TX Evaheart Inc. is a medical device company based in the Houston Texas Medical Center that is bringing the Left Ventricular Assist System known as EVAHEART®2 through clinical trials, regulatory approval, and eventual commercial distribution for the treatment of severe heart failure in patients. Under an FDA IDE, a clinical trial for a Bridge-to-Transplant indication is currently ongoing in the US.

Excell Las Vegas, NV

Fehling Surgical Acworth, GA

Fehling Surgical Instruments, Inc. is the leader in fine crafted surgical instrumentation that has focused on Cardiovascular Surgery for over 30 years. We feature Minimally Invasive Valve Sets including NEW Retractor designs for unmatched Atrial Exposure of the left Atrium. Our CERAMO and Superplast Instruments specialize in Cardiovascular procedures (Needleholders, Forceps, Clamps and MICS).

General Thoracic Surgical Club Minneapolis, MN

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

Genesee BioMedical

Denver, CO Design Beyond Standard. Genesee BioMedical, Inc. provides unique devices for cardiac surgery including annuloplasty bands/rings for mitral and tricuspid repair, sternal/thoracic valve retractors, instruments for MICS aortic, TAVI and robotic surgeries as well as coronary graft markers and myocardial needles. Genesee BioMedical, Inc. Denver, CO USA www. geneseebiomedical.com

🗘 🔍 Getinge

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

Gore & Associates

Flagstaff, AZ Gore Medical Products Division engineers devices that treat a range of cardiovascular and other health conditions. With more than 40 million medical devices implanted over the course of more than 40 years, Gore builds on its legacy of improving patient outcomes through research, education and quality initiatives. Gore is joined in service with clinicians to improve lives.

Hackensack Meridian Health 1012 Wall. NJ

Hackensack Meridian Health is a leading notfor-profit health care network in New Jersey offering a complete range of medical services, innovative research, and life-enhancing care aiming to serve as a national model for changing and simplifying health care delivery through partnerships with innovative companies and focusing on quality and safety.

Hayes Healthcare

Fort Lauderdale, FL Hayes Healthcare is a healthcare staffing agency that provides award-winning services to physicians, advanced practitioners, and hospitals. Our dedication to service and laserfocused attention to detail routinely create positive match outcomes.

HCA

Brentwood, TN HCA owns and operates over 170 hospitals across the United States, which makes us one of the nation's leading providers of healthcare services. We believe exceptional patient outcomes only come through a dedicated community of care, placing our physicians at the forefront.

Heart Hospital Baylor Plano, The 217 Plano, TX

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

Heart Valve Society Beverly, MA

The Heart Valve Society (HVS) "The Heart Team In Action" Save the date for HVS 2019 and join over 400 medial professional and 80 plus industry partners on 11-13 April 2019 in Sitges, Spain! 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.

O Hospital Information Services for Jehovah's Witnesses (United States) 928 Wallkill, NY

Hospital Information Services for Jehovah's Witnesses - United States is part of an international network that includes 1700 Hospital Liaison Committees in over 110 countries. They are made up of communitybased ministers who knowledgeably interact with physicians and hospital personnel to present and share information on nonblood medical management of Jehovah's Witness patients.

O Huntsville Hospital **Health System** Huntsville, AL

Heart Center at Huntsville Hospital has an Opening for a Thoracic Surgeon! There are currently 6 cardiothoracic surgeons in our group and we are seeking a Thoracic Surgeon to assume the thoracic surgery volume of a retiring surgeon. We currently perform over 850 cardiac surgical cases and approximately 500 thoracic surgical cases each year. Contact Suzanne.lecroix@hhsys.org or 256-265-9639

International Society for Minimally Invasive Cardiothoracic Surgery 750 Beverly, MA

ISMICS: Innovation, Technologies, and Techniques in Cardiothoracic and Cardiovascular/Vascular Surgerv

Interpace Diagnostics Parsippany, NJ

Interpace Diagnostics is a public molecular diagnostics company providing specialty molecular tests focused primarily on Thyroid, Esophageal, Pancreatic, and Lung Cancer. The Company's most recently launched product is MVPdx for Lung Cancer, which differentiates local recurrence of cancer versus formation of new primary tumors. Interpace also offers ThyGenX, ThyraMIR, PancraGEN, and BarreGEN.

Intuitive Surgical

Sunnyvale, CA At Intuitive®, innovating for minimally invasive care is the passion that drives us. Our roboticassisted da Vinci® Surgical System helps empower doctors and hospitals to make surgery less invasive than an open approach.

§ JACE Medical

JACE Medical is the leader in speed and efficiency with rigid sternal closure applied sternotomy (Low Profile). JACE offers the the thinnest plates and strongest screws for primary, specialty, and reconstruction procedures. For more information, please visit

Johnson & Johnson Medical Devices **Companies** 1015

As the world's most comprehensive medical devices business, we are building on a century of experience, merging science and technology, to shape the future of health and benefit even more people around the world. With our unparalleled breadth, depth and reach across surgery to include Ethicon, NeuWave-Microwave Ablation, DePuy Synthes, we're working to profoundly change the way care is delivered.

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

Karl Storz Endoscopy

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El Segundo, CA KARL STORZ combines high-quality optics and precision instrumentation for a range of surgical products for thoracic surgery. The VITOM® 3D system provides a revolutionary solution for visualization of microsurgical and open surgical interventions. And, our ENDOCAMELEON® Telescope allows surgeons to adjust viewing directions from 0° to 120° without changing telescopes.

Kinamed, Inc Camarillo, CA

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

KLS Martin

Jacksonville, FL KLS Martin is a company dedicated to providing innovative medical devices and power systems for craniomaxillofacial surgery. The company began with surgical instrument production in Tuttlingen, Germany in 1896 and continued with miniplate production in 1975. KLS Martin has advanced the capabilities of distraction osteogenesis and revolutionized resorbable fixation with the SonicWeld Rx system.

L&I Med Group 1239 Las Vegas, NV

Caser Engineering/Heart Laser2 1140 Nashville, TN

LifeNet Health Virginia Beach, VA

LifeNet Health helps save lives, restore health, and give hope to thousands of patients each year. We are the world's most trusted provider of transplant solutions, from organ procurement to new innovations in bio-implant technologies and cellular therapies-a leader in the field of regenerative medicine, while always honoring the donors and healthcare professionals that allow the healing process.

LivaNova

Arvada, CO Sorin Group is a world leader in the treatment of cardiovascular disease. Our innovative product portfolio includes aortic and mitral

valve replacement and repair, perfusion equipment, cannula and MICS instruments. For more information visit our web site at www. sorin.com.

LocumTenens.com 1041

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

LoupeCam Instruments & Company 326

Scottsdale, AZ LoupeCam®, Instruments and Company provides innovative HD Cameras for your loupes and lights, cross platform software solutions for Windows, Mac and Mobile Solutions. Recording HD videos has never been so easy! New and Creative instruments, more intuitive than ever. Please visit us @loupecam.com

C LSI Solutions 917

Victor, NY LSI SOLUTIONS® is a medical device company dedicated to advancing minimally invasive therapeutics through research, development, and manufacturing of minimally invasive surgical instruments. Our customer is ultimately a patient. Our technology challenges human illness. Our mission is to lead the world in medical product innovation.

1002 Warsaw, IN

both pre-sternotomy (Grand Pre®) and postbroadest portfolio on the market providing us at Booth 540 and www.jacemed.com.

1109

New Brunswick, NJ

C Kapp Surgical Cleveland, OH

752

2019 EXHIBITOR MAP



STS Exhibit Hall Hours Tuesday 9:00 a.m. – 1:30 p.m.

Tuesday 9:00 a.m. – 1:30 p.m





Innovation through collaboration. Stop by our booth to see our innovations.

Medtronic

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M Clinic LLC Las Vegas, NV

Med Alliance Solutions Sycamore, IL

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

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Med Care Pharmaceuticals **Beverly Hills, CA**

Medela AG

McHenry, IL Medela concentrates on two business units: "Human Milk", with basic research recognised globally and leading in the development and manufacture of breastfeeding products and solutions, and "Healthcare", engineering

and manufacturing highly innovative medical vacuum technology solutions. 431

🗘 🔍 Medistim Plymouth, MN

Medistim is the market leader in intraoperative ultrasonic guidance and quality assessment focused on improving surgical outcomes. With the MiraQ[™] platform, Medistim offers the unique combination of transit time flow measurement (TTFM) and high-frequency ultrasound imaging. This technology enables surgeons to execute necessary corrections while the patient is still in the operating room.

O € Medtronic

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

MedXpert North America 1133 Edmond, OK

MedXpert North America, LLC is a producer of medical devices (implants and instruments) specialized on all kind of procedures in the thoracic part of the human body. We produce StraTos for three different indications (deformity, reconstruction after tumor resection as well as trauma) and StraCos for two indications (trauma and reconstruction).

Microsurgery Instruments, Inc 1003 Bellaire, TX

Microsurgery Instruments is one of the leading suppliers of surgical instruments and loupes. Our instruments include: titanium scissors, needle holders, and debakey forceps. Our Super-Cut scissors are the sharpest in the market, and our newly designed surgical loupes offer up to 130mm field of view, and up to 11x magnification.

• MY Bio Las Vegas, NV	937
Nadia International	606

Austin, TX

Educational/Surgical bronze sculptures for the Thoracic Surgeon. Museum quality limited editions are created by the world famous sculptor, Ronadro' who has over 7500 surgeons in 77 countries collecting his fine works of art.

Nova Biomedical	836
Waltham, MA	

908

616

Olympus America, Inc Center Valley, PA

Olympus Medical Systems Group develops solutions for healthcare professionals that help improve clinical outcomes, reduce overall costs and enhance quality of life for their patients. By enabling less invasive procedures, innovative diagnostic and therapeutic endoscopy, and early stage lung cancer evaluation and

treatments, Olympus is transformi of healthcare.	ing the future
Otto Trading Inc Santa Ana, CA	1200
Owensboro Health	

Regional Hospital 902 Owensboro, KY 924

• Paragonix Technologies, Inc Braintree, MA

Paragonix SherpaPak™ Cardiac Transport System (CTS) safeguards hearts during the journey from donor to patient.Our device incorporates clinically proven / medically trusted cold preservation techniques in a novel suspension system to provide unprecedented physical and thermal protection.Paragonix SherpaPak™ CTS is the only commercially available FDA cleared medical device for heart transportation.

Peters Surgical	835
Plymouth, MA	
Vitalitec Geister will be displaying all our	
products, highlighting our Peters CV Sutur	e,
Enclose II Anastomosis Assist Device, Cyc	gnet
Elovible Clempe Intrody Atroumatic Temp	- oroni

Flexible Clamps, Intrack Atraumatic Temporary Clamps and Inserts and Geister ValveGate and ValveGate PRO line

Philips 1240, 1242 Best, Netherlands

At Philips, we partner with our customers to transform the delivery of healthcare and enable better care at lower cost. Building on our long heritage in Interventional Oncology, we introduced Lung suite to enable definitive diagnosis of (early stage) lung cancer and minimal invasive thoracic treatment in the same room.

Pinnacle Biologics 1141 Chicago, IL

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

Posthorax, Inc Clearwater, FL

Posthorax is a company that seeks to enhance heart-surgery patient's recovery from start to finish by providing our sternum support vest. We 12 have clinical trials with more than 10,000 patients included, proving the effectiveness of our sternum support vest.

Presbyterian Healthcare Services

Albuquerque, NM

Provider Solutions + Development (aka Providence SJH) 1101

Seattle, WA Founded within Providence St. Joseph Health, Provider Solutions + Development is a clinical career navigation organization. We've helped thousands of physicians and providers achieve their practice potential. Our growing network of health system partners offers diverse practice opportunities across the nation.

1335 Qualiteam s.r.l.

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

Quest Medical, Inc Allen, TX

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

R&D Surgical USA, Inc Austin, TX

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

Regional Data Managers: STS National Database Ann Arbor, MI

The Regional Data Manager exhibit provides opportunities for Surgeons to interact with Data Managers from around the country who are actively involved with STS Regional Database efforts and collaborative STS groups. Come learn about regional activities and initiatives!

Ronin Surgical

Los Angeles, CA Ronin Surgical: makers of the X5 Surgical Headlight System. The wireless X5 is the lightest, brightest, longest-running operating room surgical headlight on the market. Schedule your free trial or reserve your mission trip loaner today at +1.415.226.9414 or Contact@RoninSurgical.com. Ronin Surgical -Designed Without Compromise. www.RoninSurgical.com

Royal Caviar Las Vegas, NV

Rultract/Pemco, Inc Cleveland, OH

Rultract Skyhook retractor provides gentle, uniform lift allowing maximum exposure for IMA dissection, re-do hearts, xiphoid entry, subxiphoid pericardial procedures, minimally invasive procedures, parasternal procedures, Pectus, LVAD Extraction, and others. Pemco Inc. is the only authorized service center and OEM for Rultract. Ensure that your Rultract is serviced every 12-18 months by Pemco.

The Venapax® Endoscopic Vessel Harvesting System allows for accurate vein dissection and branch ligation all built into a single device. Venapax offers a gentle harvesting approach without the need to excessively manipulate cautery combined with proprietary electrodes optimized specifically for EVH produces high burst strength, minimal thermal spread and

Scanlan International St. Paul, MN

Highest quality surgical products designed and manufactured by the Scanlan family since 1921. Over 3000 titanium&stainless steel surgical instruments including SCANLAN®Super Cut[™] &Premier[™]Scissors, SCANLAN[®]Legacy Needle Holders & Forceps, Memory Dilators/ Probes, New VATS SCANLAN® Dennis Rib Cutter & Rocco Nodule Clamps. SCANLAN® Single-Use Products.

Sherwood Group Brooklyn, NY

601 Society of Thoracic Surgeons, The Chicago, IL

STS represents more than 7,400 surgeons. researchers, and allied health care professionals worldwide who are dedicated to ensuring the best possible outcomes for surgeries of the heart, lung, and esophagus, as well as other surgical procedures within the chest. At the booth, learn about member benefits, advocacy efforts (including STS-PAC), opportunities to participate in the STS National Database and publicly report outcomes, and cutting-edge research being conducted via the STS Research Center. You also can donate to The Thoracic Surgery Foundation, the Society's charitable arm. and get advice from The Annals of Thoracic Surgery staff on submitting your manuscript.

Sontec Instruments Centennial. CO

501

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

Staff Care

Dallas, TX Staff Care is an AMN Healthcare company that provides locum tenens recruitment and staffing services. We match physicians, as well as other healthcare professionals, including dentists, CRNAs, nurse practitioners and physician assistants, with all types of medical facilities and healthcare organizations.

Summit International **Medical Technologies** Franklin, MA

Summit introduces the SternaSafe Uni, a new 2-way sternal support operating system. Easy to handle, comfortable sternum support brace suitable for every patient. Better Support, Faster Recovery, More Comfort. Also Introducing the SternaBra for female sternal support.

SurgiTel/General Scientific Corp 301 Ann Arbor, MI

SurgiTel is the manufacturer of premium loupes and headlights sold around the world from their headquarters in Ann Arbor, Michigan. Holding a variety of patents SurgiTel is always on the forefront of Vision and Ergonomics.

SynCardia Systems, LLC 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 our booth for updates on the 50cc TAH-t and destination therapy.

Talis Clinical Streetsboro, OH

Tuesdav

1103

737

Talis Clinical was formed to meet the higher purpose of supporting safe patient care and positively impact clinicians and providers. Our ACG-Perfusion™ PIMS technology was

Meet With Top Employers

he STS/CTSNet Career Fair gives attendees the chance to meet face-to-face with employers. Recruiters will be available to talk with potential candidates about career opportunities. The Career Fair will be held in the Exhibit Hall.

9:00 a.m. - 1:30 p.m.

Atrium Health - Booth #650 Carle Health System - Booth #549 Emory Healthcare – Booth #547 Memorial Healthcare System - Booth #550 Munson Healthcare - Booth #544 Sanford Health - Booth #648 Sparrow Health System – Booth #551 St. Bernards Medical Center - Booth #546 St. Elizabeth Healthcare - Booth #646 STS/CTSNet Career Center - Booth #644 Tenet Healthcare – Booth #545

TriHealth – Booth #548

Note: This list of employers is accurate as of January 7, 2019.

1043 West Bridgewater, MA the target vessel. Well-engineered bipolar

long branch lengths.

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O Saphena Medical

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CPB and ECMO cases. For over 33 years,

understanding as well as to provide surgeons

with peace of mind that their anastomoses

Transonic flow measurement systems

Veran is a privately held medical device

The company's main focus is assisting

physicians in the early diagnosis and

company headquartered in St. Louis, MO.

and commercialized an FDA cleared, next

treatment of lung cancer. Veran has developed

generation electromagnetic navigation platform

called the SPiN Thoracic Navigation System,

are patent prior to closure.

St. Louis, MO

Veran Medical Technologies

have been used to advance physiologic

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developed for the #1 Cardiac Hospital in the world to advance the standard of cardiac care.

🗘 Terumo

Ann Arbor, MI

4K

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Terumo will display the VirtuoSaph® Plus Endoscoipc Vessel Harvesting System, Beating Heart and Surgical Stabilization products, Terumo® Perfusion Products, and new data management solutions. Terumo Aortic will display the most comprehensive portfolio of products in the aortic space - providing solutions that meet the global needs of clinicians.

Thompson Surgical

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

Transonic

Ithaca, NY Transonic is the original inventor and innovator of transit-time flow measurement

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Elevate your surgical procedures with these advanced Olympus solutions:

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- Advanced Surgical Energy







THUNDERBEAT

Visit Olympus Booth 616 The Society of Thoracic Surgeons 55th Annual Meeting which includes both endobronchial and transthoracic approaches.

Vitalcor, Inc

1213

Westmont, IL Vitalcor, Inc. is a supplier of medical devices used primarily in Cardio-Thoracic Surgery. Since 1975, Vitalcor has provided products that take input from teaching and practicing surgeons to make their practice easier. We pride ourselves on offering quality products and providing exceptional customer service.

Weatherby Healthcare 1104

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

O WebMD and Vitals.com 428

El Segundo, CA WebMD and Vitals.com comprise the #1 online source for finding doctors. The directories generate 14M monthly visits. Providers utilize Enhanced Profiles to earn top search results and competitive placement.

Western Thoracic **Surgical Association**

Beverly, MA

748

400

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The Western Thoracic Surgical Association is an organization of cardiothoracic surgeons from 13 western states and 4 western provinces of Canada, whose one-of-a-kind meeting combines first rate scientific papers along with family-oriented activities. Please join us June 26-29, 2019 at Squaw Creek at Lake Tahoe in Olympic Valley, California.

• Wexler Surgical, Inc

wexlersurgical.com!

Houston, TX Wexler Surgical designs and manufactures a variety of titanium and stainless steel specialty surgical instruments and products for Cardiac, Vascular, Thoracic, and Micro Surgery. Come see our VATS/MICS instruments and ask about our Optimus Series. Visit us online at www. wexlersurgical.com for more information about our products and services or email us at sales@

Wolters Kluwer

Philadelphia, PA Wolters Kluwer Health is a leading global provider of information and point of care solutions for the healthcare industry. Our solutions are designed to help professionals build clinical competency and improve practice so that healthcare organizations can succeed in value-based care delivery models. Product solutions include Lippincott, Ovid®, and **UpToDate**®

Zimmer Biomet Thoracic 731

Jacksonville, FL Founded in 1927 and headquartered in Warsaw, Indiana, Zimmer Biomet is a global leader in musculoskeletal healthcare. We design, manufacture and market 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.

O ZipLine Medical, Inc Campbell, CA

1241

offers surgical (Zin Surgical Skin Closure) and chronic (PreLoc Wound Closure) solutions based on proven, noninvasive force distribution technology. Published clinical studies have demonstrated superior clinical and economic benefits vs. standard of care, including shorter procedure time, fewer wound-related complications and readmissions, and fewer post-operative provider visits.

ZipperBelt Dallas, TX

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devices for CABG surgery, CHD Repair,

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Video-Based Sessions Offer Pearls for Common, Complex Procedures

ardiothoracic surgeons are visual, hands-on practitioners and learners. Textbooks can be a useful starting point, but the most effective way to learn the technical nuances of common, yet challenging operations is by watching them being performed with expert commentary and extra time for questions. Three video-based "how-to" sessions will bring that visual focus to adult cardiac, congenital and pediatric cardiac, and general thoracic surgeries.

"Historically, we have had video sessions where a presenter creates a case video with narration, and we essentially press play," said S. Adil Husain, MD, of the University of Utah in Salt Lake City, who will co-moderate the congenital and pediatric cardiac surgery session. "Our presenters have video clips, but they are presenting a specific topic, not showing how they managed an unusual case. These sessions are fixated on certain surgical interventions that we perform on a regular basis and are thought of as being more complex. This gives the more skilled and experienced surgeons in our field an opportunity to provide the pearls that helped them tackle a particular operation with greater precision and success."

ADULT CARDIAC SURGERY

A new generation of devices and changes in surgical approaches are expanding life-saving treatments to ever-larger patient populations that may not have been good candidates for earlier technologies. These latest and greatest techniques in aortic valve surgery, mitral valve surgery, and heart failure surgery will be on display during the adult cardiac how-to video session.

One example is the MitraClip. Approved for use in the United States in 2013, it offered hope for patients with mitral regurgitation who were not eligible for conventional repair. The transcatheter device not only offers a new way to treat refractory mitral regurgitation, but also allows interventional cardiologists and cardiac surgeons to work together.

"We also have emergent techniques with aortic valve surgery that are expanding patient populations," said co-moderator Ahmet Kilic, MD, of The Johns Hopkins Medical School in Baltimore. "It is no longer just aortic valve replacement; there are now techniques that allow us to repair aortic valves and retain the patient's native aortic valve."

Another technique that will be featured during the session is sutureless aortic valve replacement, which is moving into the mainstream. The technique relies on one or two guiding stitches and allows surgeons to replace a diseased valve in an expeditious manner. Sutureless replacement is not just a matter of saving time, Dr. Kilic noted. It also improves outcomes.

"As a whole, our patients are becoming increasingly complex," he explained. "They need not just one procedure, but often multiple valves or bypasses at the same time. This is the patient population that could most benefit from these new techniques."

Heart failure presentations will highlight extracorporeal membrane oxygenation and ventricular assist devices. Novel left ventricular assist devices (LVADs) are not only more durable than earlier generations, but can be implanted using a less invasive, non-sternotomy lateral approach. And for patients whose right hearts begin to fail after LVAD implantation, improved right-sided devices may be useful. Other patients may benefit from axial balloon pumps that allow them to be ambulatory and wait longer for a heart transplant.

CONGENITAL AND PEDIATRIC CARDIAC SURGERY

A dozen how-to videos will help surgeons avoid common pitfalls and simplify congenital and pediatric cardiac operations. The halfday session will focus on atrioventricular canal repairs, complex coronary anomalies in congenital heart defects, cardiac transplantation and mechanical circulatory support, and complex neonatal repairs for more unusual diagnostic challenges.

"The textbooks we employ do a good job of giving surgeons basic principles and guidelines for routine, straightforward presentations, but any pediatric heart surgeon will tell you that no two cardiac lesions are the same," said Dr. Husain. "That variety can create a good deal of anxiety and can clearly impact the development of a junior-level surgeon's career."

Pediatric cardiac surgery is a subspecialty

"These are procedures you encounter in daily practice, and you'll learn from the best—the surgeons who have the highest volumes and the best outcomes. These video how-to sessions are gold."

ROBERT E. MERRITT, MD

in which surgeons commonly practice alone or with one or two partners, Dr. Husain added. The solo or small practice settings can be particularly difficult for junior and mid-level surgeons who do not have older, more experienced colleagues to share insights and wisdom gained from years of surgical experience.

"These sessions are profoundly important because they help fill a gap in terms of how we share our experiences with more junior and mid-level surgeons as they progress through their careers," Dr. Husain said.

GENERAL THORACIC SURGERY

The half-day general thoracic surgery session will focus on three areas: esophagectomy, segmentectomy for resection of non–small-cell lung cancer (NSCLC), and minimally invasive thymectomy for management of thymoma and myasthenia gravis.

"We will start with strategies to manage celiac nodal disease following neoadjuvant treatment for esophageal carcinoma," said session co-moderator Robert E. Merritt, MD, of The Ohio State University Wexner Medical Center in Columbus. "The other videos will focus more on the technical aspects of esophagectomy, starting with avoiding pitfalls during robotic esophagostomy, creating the ideal gastric conduit, and preventing anastomotic leaks."

Segmentectomy for NSCLC resection is a technically challenging procedure, but also is an increasingly popular alternative to conventional lobectomy. One of the keys to success, Dr. Merritt noted, is recognizing when it may be appropriate to abandon segmentectomy for lobectomy.

Other presentations will focus on tips and tricks for identifying nodules, bronchial, and vascular anatomy during minimally invasive segmentectomy, different types of robotic and/ or video-assisted thoracoscopic surgery, and strategies to deal with unusual anatomy and anatomic variants during minimally invasive segmentectomy.

"The final session will focus on the mediastinum with both thoracoscopic and robotic thymectomy for myasthenia gravis and different approaches to the excision of large thymomas," Dr. Merritt said. "That is going to be a particularly interesting set of videos."

None of the videos or presenters were chosen at random, he added. "These are procedures you encounter in daily practice, and you'll learn from the best—the surgeons who have the highest volumes and the best outcomes," he said. "These video how-to sessions are gold."

"My Tube" Adult Cardiac How-To Video Session Tuesday 1:00 p.m. – 5:00 p.m. Room 30ABCD

How-To Video Session: Technical Tips to Avoid Pitfalls and Simplify Congenital and Pediatric Cardiac Surgery Procedures

Tuesday 1:00 p.m. – 5:00 p.i Room 32

How-To Video Session: General Thoracic Tuesday 1:00 p.m. – 5:00 p.m. Room 33





STS Future Courses & Meetings

Workshop on Robotic Cardiac Surgery

March 29-30, 2019 Atlanta, Georgia

TEVAR Symposium

April 4-5, 2019 Chicago, Illinois

Workshop on Robotic Thoracic Surgery

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Digital Era Brings New Perspectives on Patient Safety

ealth care is going digital. And while most attention is focused on the potential advantages of artificial intelligence, electronic health records (EHRs), telehealth, and other developments, digital innovation challenges the current notion of patient safety.

"We hear every day about the benefits of technology in medicine, but we don't hear as much about the impact on patient safety," said Steven D. Harrington, MD, MBA, of Henry Ford Macomb Hospital in Clinton Charter Township, MI. "Part of the reason is that it's easier to focus on improvements brought by innovation, rather than safety concerns."

Dr. Harrington will moderate today's Patient Safety Symposium along with Garrett L. Walsh, MD, of The University of Texas MD Anderson Cancer Center in Houston.

Artificial intelligence is one of the mosthyped frontiers of medicine, Dr. Harrington

Patient Safety Symposium: Innovation and Safety in the Digital Era — From EHRs to Cybersecurity

Tuesday

1:00 p.m. – 5:00 p.m.

Room 31C

PRESIDENTIAL ADDRESS

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original proposals, a 26:1 return on investment. Another hit to the specialty came in the

1990s when balloon dilation and coronary stent implantation were introduced and interventional cardiologists jumped. Percutaneous coronary intervention became the go-to therapy for coronary circulation issues. PCI rates soared; CABG numbers fell.

"The wide application to PCI in the absence of evidence appeared inappropriate and it fell to us, the cardiothoracic surgery community, to affirmatively address this misguided practice," Dr. Naunheim said.

STS and the American College of Cardiology used data from both organization's databases to compare long-term outcomes of CABG and PCI. The ASCERT Trial, published in 2012, demonstrated long-term survival benefits for CABG in multiple subgroups.

The Society also led the creation of appropriate use guidelines for PCI in cooperation with ACC, the Society of Cardiovascular Angiography and Interventions, the American Association for Thoracic Surgery, and the American Heart Association. By 2015, the chance of PCI being appropriately used rose from 30% to nearly 50% over 5 years. The inappropriate use of PCI fell by half and CABG volume increased.

"We hear every day about the benefits of technology in medicine, but we don't hear as much about the impact on patient safety."

said. Just as AI has produced cars that can drive themselves and phones that can recognize individual faces, AI has the potential to transform medical practice.

AI is nothing more than real-time predictive analytics, analyzing the available data and predicting future events based on past experience. But as experience with self-driving cars and facial recognition to unlock cell phones has shown, AI is not perfect. Predictive analytics cannot prevent self-driving vehicles from running into pedestrians, at least not so far. And facial recognition routines can be fooled.

"We need to consider the patient safety aspects of AI just as thoroughly as we consider the advantages to patient outcomes," Dr. Harrington said. "There is always the possibility for unintended consequences." EHRs provide a prime example of

unintended consequences. Although EHRs have provided important benefits in areas such as medication safety, they also have contributed to frustration, overwork, and provider burnout.

"The good guys are winning," Dr. Naunheim said.

Good women are winning, too, as more women become cardiothoracic surgeons.

The shift reverses trends seen in workforce surveys in 2010 and 2015 showing the CT workforce in decline even as every other specialty, and the US population, increased. One problem was the decline in surgical volume and jobs, which discouraged medical students from entering the field. The bigger problem, though, was gender. About 0.05% of male medical students were interested in thoracic surgery compared to only 0.01% of female medical students. As medical school enrollment moved from predominately male to a rough balance, training slots went unfilled.

Again, STS leaders collaborated with others to promote and strengthen the specialty. This time it was on the development of TAVR, minimally invasive surgery, and robotics, all attractive, cutting-edge procedures for young surgeons. And the Society worked with Women in Thoracic Surgery to develop and present role models for female medical students and residents.

"We've come a long way, but there is still much improvement possible," Dr. Naunheim said. "Our specialty has been and continues to be under assault from multiple directions and we have to respond on every front. I am convinced that we can and will meet those future challenges and prevail."

"Our specialty has been and continues to be under assault from multiple directions and we have to respond on every front. I am convinced that we can and will meet those future challenges and prevail."

KEITH S. NAUNHEIM. MD

STEVEN D. HARRINGTON, MD, MBA

"Certainly in terms of physician angst, EHRs have not provided us with any real benefit. We should pay greater attention to how patient safety can be affected by the impact on providers," Dr. Harrington said.

Cybersecurity and telehealth are other areas that need greater scrutiny. Both EHRs and electronic medical devices have been hacked, and patient safety is not often included in discussions about telehealth programs, which are becoming more widespread and use high-speed, high-capacity digital communication channels to connect patients and providers.

"We can already use remote diagnostics, remote reporting of lab work, remote medication dispensing, and remote patient monitoring," Dr. Harrington said. "If you have the bandwidth, it doesn't matter whether you are across the room or across the country. There is real potential to perform remote surgery using robotics, but only if we think about patient safety as part of the process."

Claim CME Credit

he STS 55th Annual Meeting utilizes an entirely electronic evaluation and CME/Perfusion CEU credit claim process. Both physicians and perfusionists can use this system to claim credit, complete evaluations, and print CME/Perfusion CEU certificates. Certificates of Attendance also are available for other attendees and international physicians not wishing to claim CME/Perfusion CEU credit. Attendees will not be able to evaluate and claim CME/Perfusion CEU credit for ticketed sessions unless they have registered for those sessions. Please note that CME credit is not available for the Residents Symposium, Residents Luncheon, or Tech-Con 2019.

Attendees can complete evaluations by clicking on the Credit/Evaluation button on the STS Meetings mobile app, going to sts.org/2019evaluation, or visiting computer stations located on the upper level near Ballroom 20 and on the lower level near Registration. In order to make this process more convenient for attendees, the meeting evaluations will be available through Friday, February 15.

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

Username: 6-digit STS member ID number printed on their meeting badge **Password:** First initial and last name

Changing Medicare Programs Impact Physician Payments

hysician payments are undergoing a sea change as payers seek to reward quality over volume. New regulations and policies coming from the Centers for Medicare & Medicaid Services make it essential for cardiothoracic surgeons to stay apprised of changes in reporting requirements and performance benchmarks.

Today's Health Policy Forum will focus on recent changes to the Merit-Based Incentive Payment System (MIPS). MIPS assesses physicians in four categoriesquality, resource use, participation in clinical practice improvement activities, and use of electronic health records. Attendees will learn what they are required to report and how they can achieve maximum scores in all four categories.

In addition, Alternative Payment Models and bundled payments for coronary artery bypass grafting surgery will be discussed.

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

2019

Tuesday 11:00 a.m. – 12:00 p.m. Room 31C

New Officers, **Directors Elected**

In addition to electing Robert S.D. Higgins, MD, MSHA as the Society's new President, STS members elected several new officers and other Board members vesterday evening.

Joseph A. Dearani, MD was elected First Vice President, and Sean C. Grondin, MD, MPH, FRCSC was elected Second Vice President. Joseph F. Sabik III, MD was reelected Secretary, and Thomas E. MacGillivray, MD was reelected Treasurer.

Leah M. Backhus, MD and Ara A. Vaporciyan, MD were elected or reelected as Directors-at-Large.

Alan D. Sihoe, MD, MA, FRCSEd elected as International Director. Marc Ruel, MD, MPH was elected as Canadian Director, and Andrew P. Goldstone, MD, PhD was elected as **Resident Director.**

Also during the Business Meeting, STS members approved a Bylaws amendment that reduces the grace period from 1 year to 6 months for overdue financial obligations such as membership dues.

HIGGINS

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give us great educational opportunities. They had high expectations for us—academically and personally."

After obtaining his bachelor's degree from Dartmouth College, Dr. Higgins earned his medical degree from the Yale School of Medicine, followed by a master's degree in health services administration from Virginia Commonwealth University. He completed a residency in general surgery and served as chief resident at the University Hospitals of Pittsburgh. He was a Winchester Scholar and fellow in cardiothoracic surgery at Yale, going on to Cambridge University, where he was a senior registrar in transplantation at the UK's renowned Papworth Hospital. Dr. Higgins also served as a major in the US Army Reserve Medical Corps.

While in medical school, Dr. Higgins became fascinated with transplantation. The influences of nationally recognized cardiothoracic surgeons such as Drs. William Glenn, John A. Elefteriades, and John C. Baldwin also led Dr. Higgins to believe that "cardiac surgery was a very exciting and cool field." As a result, he gravitated toward cardiac transplantation and cardiovascular disease as the primary focuses of his surgical training.

"I think it's remarkable that transplantation is one of the few things in medicine where,

OF THORA

because of the altruistic decision of a donor to give organs in the face of a devastating loss, not one, but eight to 10 other people will benefit," said Dr. Higgins. "That is what motivates me—as a steward of those organs to make sure that we do the best we possibly can."

Following his training, Dr. Higgins became the Surgical Director of the thoracic organ transplantation program at Henry Ford Hospital in Detroit, MI. From there, he chaired cardiothoracic surgery departments at Virginia Commonwealth Universities and Rush Medical College in Chicago. In 2010, he joined The Ohio State University in Columbus, where he was Surgeon-in-Chief and Director of the Wexner Medical Center Comprehensive Transplant Center. Dr. Higgins became Surgeon-in-Chief of The Johns Hopkins Hospital and Director of the Department of Surgery for The Johns Hopkins School of Medicine in 2015.

An STS member since 1997, Dr. Higgins has served on many Society governance bodies, including as Treasurer on the Board of Directors and as a member of the Council on Health Policy and Relationships Operating Board, the Workforce on Career Development, and the Workforce on Media Relations and Communications. Most recently, he was the Society's First Vice President. In addition, Dr. Higgins has held prominent leadership positions in other specialty organizations; he "Our responsibility is to make our specialty relevant and exciting for the next generation, while also honoring the past and creating a sustainable future. We have to do that now."

ROBERT S.D. HIGGINS, MD, MSHA

has been President of both the United Network for Organ Sharing and the Society of Black Academic Surgeons.

As STS President, Dr. Higgins said he will be committed to a modernization of the STS National Database and the development of an inclusive global agenda. "The Database is one of our most valuable assets, yet it is in a constant state of revision and its modernization has to be vibrant and responsive to the needs of the practitioners and the patients who we serve," said Dr. Higgins. "Additionally, I think we have to be a more global organization. We have the responsibility as leaders to address the needs of diverse populations and to be more inclusive, not only in North America, but in Europe and around the world."

Dr. Higgins also will focus on the future generations of surgeons, encouraging the participation and commitment of all Society members. "If we as surgical leaders, who are dedicated to our membership, can make things better for the specialty, it will have an exponential effect on our patients," said Dr. Higgins. "So that's the reason to exert effort and to participate in these activities knowing that the impact and influence we have might make things better for a lot of people."

With interests in health care economics and policy, racial disparities in post-transplant outcomes, access to care, and improving outcomes among heart failure and cardiac surgery patients, Dr. Higgins has authored more than 140 peer-reviewed journal articles, in addition to 13 book chapters. He also has mentored dozens of young surgeons during various stages of their careers.

Dr. Higgins is an avid sports fan. He and his wife, Molly, love watching hockey and football—the Chicago Bears and Pittsburgh Steelers, in particular. They have three children: John is a third-year medical student at The Ohio State University; Grace is a graduate of Vanderbilt University and working in Chicago; Grant is a student at the University of Michigan. Together as a family, they enjoy playing golf, traveling, and going to the theater.

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Symposium Takes a Hard Look at Heart Transplantation Protocols

eart transplantation is in flux. As donor pools grow smaller, the medical community is looking for nontraditional ways to procure hearts for life-saving transplantations.

"The reality is that there are significant unknowns in thoracic organ transplantation, and significant change is under way," said Jonathan W. Haft, MD, of the University of Michigan in Ann Arbor, who will co-moderate today's session on Advanced Therapies for End-Stage Cardiopulmonary Disease.

One of the session's key presentations will outline the first planned clinical trial for implanting hearts from donors who suffered cardiac death, rather than the typical approach of procuring organs from patients who suffered brain death. Improving success in preventing patients from progressing to brain death is steadily reducing the pool of hearts and other organs available for transplantation.

Kidneys have long been donated following

Advanced Therapies for End-Stage Cardiopulmonary Disease Tuesday 1:00 p.m. – 3:00 p.m.

Room 30E

cardiac death, as have growing numbers of livers, lungs, and other organs—but rarely hearts, at least not in the United States.

"We don't know if a heart that has progressed to cardiac death is permanently injured and would potentially function in the recipient," Dr. Haft said. "In a variety of scenarios, these hearts can be reanimated and assessed for suitability for transplantation, and this has been performed with some frequency overseas. It is thought that procuring hearts after cardiac death could increase potential heart donors by 25%."

There also are new financial models for organ procurement and preservation that could transform clinical practice. Organ procurement teams typically fly to donors, who are most often in community hospitals. After procurement, organs are transported to centers for transplantation.

One of the newest procurement models involves transporting donors to standalone procurement centers that include surgical centers.

This practice has significant financial and clinical potential, Dr. Haft said. Under the current system, organ procurement teams descend on community hospitals that do not often deal with organ procurement and are not familiar with best practices.

"If you can move procurement to surgical centers that do this day after day, it might be more effective and reduce costs," he said. Organ allocation is another key area of interest. The Organ Procurement and Transportation Network changed adult heart allocation policies in October 2018. The algorithms and process for distributing organs moved from three medical urgency statuses to six statuses plus geographic distribution. The new criteria are designed to transplant the most urgent patients the soonest and broaden geographic access to available organs.

"We'll provide a snapshot of the new model's impact over the few months that it has been in operation," Dr. Haft said. "We will learn who the recipients are currently, how the characteristics of those recipients have changed, and how the new model has impacted distribution, as well as how far centers are now traveling to retrieve organs."

The session also will review the current evidence on donor heart assessment. There are longstanding guidelines on how to assess donor hearts, but there also is significant variability in practice between transplantation centers. Not all common practices are supported by the current literature.

"Heart transplantation protocols is an area we have not looked at for some time at the STS Annual Meeting," Dr. Haft said. "This is an important symposium that will potentially influence your practice."

Learning Opportunities in the Exhibit Hall

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

TUESDAY

9:00 a.m. – 9:30 a.m. Johnson & Johnson Medical Devices Companies How Will Emerging Technologies in Lung Intervention and Evidence Change Your Practice?

12:15 p.m. – 12:45 p.m. Philips

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This list is accurate as of January 28, 2019.



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QUESTION OF THE DAY

What has been your favorite presentation so far?

KARAN DEWAN,

MEDICAL

STUDENT Cleveland, OH



KEITH S. NAUNHEIM, MD St. Louis, M0



in the future. 🍤

C I liked the Chamberlain Papers. They are the crème de la crème. The best part is that we often have young residents presenting. These kids are so sharp, smart, and accomplished that you want them to be your own children—they are that good. They give you hope for the specialty. You realize that with these kids who are smarter and more capable than we are, the future is going to be good for cardiothoracic surgery. **99** 66 My favorite was the Presidential Address. I was able to relate to a lot of the issues that Dr. Naunheim talked about in terms of why it's difficult to get medical students interested in the field of thoracic or cardiac surgery. It was interesting to relate to changes

we're seeing and what to expect



66 The Presidential Address. Dr. Naunheim was really entertaining and motivating. He shared a personal side which was part of his message—that we need to be more personable with our colleagues and our patients. **99**



V. SEENU REDDY, MD, MBA Nashville, TN

66 Dr. Naunheim did a wonderful job in his Presidential Address with the key touch points of what makes STS what it is. He was able to show the importance of education in our specialty and of being inclusive, bringing women forward in the specialty. Dr. Naunheim showed the value that the Society brings to its members in terms of data and how that data can change practice. **99**

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Follow STS on social media to stay on top of Annual Meeting news, and share your meeting experience using the hashtag #STS2019. Your posts could be featured in the *STS Meeting Bulletin*!



in

@thesocietyofthoracicsurgeons

STAY CONNECTED TODAY'S TOP TWEETS #STS2019

Congratulations to TSF Travel Scholarship recipient, Chizoba Efobi, who traveled all the way from Nigeria to attend the STS Annual Meeting in San Diego. @ STS_CTsurgery #STS2019



Great presentation by **@Hirji1987** as Maxwell-Chamberlain paper, congrats. Surgeons are essential to the **#TAVR** team **#STS2019**

@CTSurgeryFdn

@Aldenpmd



"Diversity and inclusion in medicine is not just fixing a leaky pipeline but creating opportunities - multiple points of entry and reentry" ~ Dr. Joan Reede **#STS2019 #TSSMN #DiversityandInclusion #ILookLikeASurgeon @STS_CTsurgery @ OSUSurgery**

@RuthAckah

Really impressed by this morning's career development and mentorship session at **#STS2019** Excellent advice for early career surgeons just out of training!

@DJPBurns

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1. European Heart Journal, Volume 34, Issue 37, 1 October 2013, Pages 2862–2872, https://academic.oup.com/eurheartj/article/34/37/2862/503604.

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