Upcoming CME-Accredited Conference: Minimally Invasive Approaches to the Management of Esophageal Cancer

DATE: December, 2015

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Chairman, Department of Cardiothoracic Surgery
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Assistant Professor of Cardiopulmonary Surgery
Coordinator, Cardiopulmonary Research Program

COURSE DETAILS:
The two-day program will consist of a series of lectures, as well as live case demonstrations, highlighting the surgical management of esophageal cancer, including the role of esophageal surgeons in the use of endoscopic and robotic therapies. With world-renowned guest speakers and our own experts, we will cover the full spectrum of topics, including surgery, induction therapy, targeted chemotherapy, endoscopic therapy, clinical and molecular risk stratification, and the importance of lymph node dissection. Experts on the subject will present technical aspects of various esophageal procedures, along with risks, benefits, and outcomes. Because of our expertise in minimally invasive esophagectomy, we will be highlighting the indications, outcomes, and technical aspects of that operation.

This course is designed for general and thoracic surgeons, gastroenterologists, minimally invasive team members (MD, DO, RN, PA, NP), allied health professionals, and any interested medical, radiation, or surgical oncology specialists.

For more information, contact Victoria Willman at 412-648-6342, or email CTSurgCME@upmc.edu.

Chairman’s Message

Welcome to the Inaugural Issue of the Departmental Newsletter

It is a great privilege and honor to be the founding Chairman of the Department of Cardiothoracic Surgery. Previously functioning as the Heart, Lung and Esophageal Surgery Institute (HLESI), the UPMC Esophageal and Lung Surgery Institute (ELSI) became an academic department in the University of Pittsburgh School of Medicine in 2010. Our current faculty includes 38 cardiothoracic (CT) staff surgeons, eight CT residents, six CT residents, 10 fellows, a strong research group, and more than 170 staff members.

We are dedicated to using advanced diagnostic and surgical techniques to care for patients with diseases and disorders of the heart, lung, and esophagus. Our experts are leading the way in treating diseases like congestive heart failure, congenital heart disorders, heartburn and related problems, esophageal cancer, and lung diseases. Our affiliations with the University of Pittsburgh School of Medicine and UPMC CancerCenters bring together all of the necessary components of a successful research and patient care program: physicians, surgeons, and scientists, and patients who agree to participate in clinical trials.

Our mission is to strive for excellence in patient care, to train the next generation of cardiothoracic surgical leaders, and to advance our field through innovation and research. I am extremely proud of our department, and I look forward to keeping you up-to-date on our future progress and developments, starting with this inaugural issue of our departmental newsletter. We invite you to explore our website (ctsurgery.pitt.edu) and consult us for any patient needs you may encounter.

James D. Luketich, MD, FACS
Henry T. Bahraam Professor and Chair, Department of Cardiothoracic Surgery
Chief, Division of Thoracic and Foregut Surgery
Director: UPMC Lung and Esophageal Surgery Institute
Director, Thoracic Surgical Oncology

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The use of surgical robotics was first conceived and developed by the U.S. military for remote battlefield surgery. Its use has increased tremendously over the past decade, with a wider range of procedures performed using these technologies. The development of standard minimally invasive surgery techniques, which allow for major operations to be accomplished through small incisions, but with far greater enhancements in visualization, instrumentation, and control over the surgical field than ever before. In short, it allows the surgeon far greater control over the conduct of the operation and provides new options for treatment of a variety of thoracic conditions.

Thoracic operations of the mediastinum may be performed for malignant or benign conditions and often involve removing masses of the middle chest. One of the most common operations performed through large and chest incisions. In a landmark report reviewing the results of more than 1,000 patients undergoing minimally invasive esophagectomy (MIE), 30-day mortality was an exceptional 1.68 percent, with a median ICU stay of two days, a median hospital stay of only eight days, and a rapid return to pre-operative quality of life than traditionally seen with open surgery. Surgeons at UPMC have now adopted robotic techniques to this highly complex operation and have performed more than 100 robotic-assisted MIE operations with zero percent 30-day mortality and excellent surgical outcomes.

As we enter a new era in cardiothoracic transplantation at UPMC, we cannot forget our 30-year history in adult heart and lung transplantation that places us among the largest and most experienced in the world. Our surgical group has performed more than 3,000 heart, lung, and combined heart-lung transplants since the program’s inception. Our new departmental model for care delivery rolls out this spring with the Heart Transplant/Heart Failure Program being directed by Robert Kormos, MD, and Lung Transplant Program being directed by Jonathan D’Cunha, MD, PhD. Working together, they will lead these service lines into the next generation of care delivery for the patient with end-stage heart or lung disease. Their vision will also drive a renewed commitment in training the next generation of cardiothoracic transplant surgeons.

Several aspects of our surgical care set us apart from other programs. Our physicians are pioneers in the use of extracorporeal membrane oxygenation (ECMO) and novel strategies to deliver oxygen to the blood of patients in desperate need of lung transplantation. Our surgeons, pulmonologists, critical care physicians, and perfusionists have performed pioneering work in this area, which has recently received national recognition through research publications and presentations at major surgical meetings. In vivo lung perfusion (ELP) is a technology that has gained much momentum and is an exciting tool for understanding the lung transplantation process.

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About the Author

Dr. Jonathan D’Cunha is the Surgical Director of Lung Transplantation and Associate Professor of Surgery in the Department of Cardiothoracic Surgery, as well as Associate Program Director of Thoracic Surgery and Vice-Chair of Academic Affairs/Education. He has clinical and research interests in lung transplantation, thoracic oncology, and surgical education.
Over the course of the last decade, the Division of Cardiac Surgery, in collaboration with UPMC’s Heart and Vascular Institute, developed six centers of excellence devoted to multidisciplinary care management and delivery with a disease-oriented focus: the Center for Aortic Valve Disease, the Center for Mitral Valve Disease, the Center for Atrial Fibrillation, the Advanced Heart Failure Center, the Hypertrophic Cardiomyopathy Center, and the Center for Thoracic Aortic Disease. Each center is staffed by experts from the cardiac surgery and cardiology divisions who have careers focused on the diseases managed by each center. Medical evaluations are carefully orchestrated to streamline diagnosis and develop a comprehensive plan of care.

The overarching mission of the Center for Aortic Valve Disease is to offer the most state-of-the-art therapies for patients with aortic valve disease and to facilitate research and development of newer, better therapies. Two important platforms of the center are the development of novel aortic repair techniques and the facilitation of less invasive transcatheter aortic valve replacement (TAVR) options for patients. The center’s experts developed a new, complex aortic valve repair technique for bicuspid aortic valve patients with significant valvular regurgitation that has proven to have superb long-term durability. TAVR is now utilized by the center in a majority of patients with severe aortic stenosis who are at high or extreme predicted mortality risk for conventional surgical aortic valve replacement (AVR), offering a less-invasive treatment option with equal or better results compared to surgical AVR. The center is one of the few programs in the United States that has such robust experience with the ever-expanding number of TAVR technologies, including both commercially available devices (the Edwards Sapien XT® and the Medtronic CoreValve®) and three devices currently on clinical trial, including the CoreValve Evolut® and the Portico® and Lotus™ valve. The center has been a leading national site for the Medtronic CoreValve U.S. Pivotal Trial and the SURTAVI Trial. The center boasts TAVR mortality rates, pacemaker rates, and overall complication rates that are among the nation’s best. The center has developed a very specific expertise in the use of the subclavian artery approach for TAVR, and has one of the largest experiences with this technique nationally.

The Center for Mitral Valve Disease includes expertise in imaging, intervention, and advanced mitral reconstruction to provide evidence-based pathoanatomic solutions for mitral valve disease. The center is a national site for the MitraClip™ device for commercial application in degenerative patients who are at prohibitive surgical risk, as well as for those with restrictive disease as part of the COAPT Trial. The center’s high volume complex mitral repair experience in open, videooscopic, minimally invasive, and robotic techniques has enabled repair rates for degenerative disease to remain consistently at 99 to 100 percent, placing it among a handful of elite programs in the nation. The center’s

The Hypertrophic Cardiomyopathy Center provides a multidisciplinary team of experts dedicated to providing state-of-the-art, personalized care to patients and their families from western Pennsylvania and surrounding areas. One of approximately 30 Centers of Excellence recognized by the Hypertrophic Cardiomyopathy Association, the team is comprised of physicians and staff from cardiovascular imaging, cardiac surgery, cardiac electrophysiology, interventional cardiology, heart failure and transplantation, pediatric cardiology, palliative care, cardiac nursing, and medical genetics. The center currently follows nearly 300 patients and their families who have access to the entire range of diagnostic and management options for this unique disease.

Furthermore, the center leads and participates in regional and national research studies, providing patients with access to cutting-edge diagnostic and therapeutic advances. The Center for Thoracic Aortic Disease (CTAD) was established in January of 2006 and has since grown to be one of the busiest multidisciplinary programs of its type in the world. The group includes renowned experts in aortic imaging, surgical aortic reconstruction, endovascular techniques, neuropsychologic monitoring for complex aortic arch, and thoracoabdominal aortic reconstructions, anesthesia for aortic reconstruction, and neurovascular intervention for acute embolic events. The center recently presented its consecutive experience with acute type-A aortic dissection at the Society of Thoracic Surgeons 51st Annual Meeting in 2015 and demonstrated the lowest periprocedural stroke rates in the world for a series of this magnitude with the use of the center’s comprehensive neurocerebral protection strategy. The group has also demonstrated, for the first time, a direct correlation between blood conservation and the avoidance of blood transfusion, and improved outcomes for aortic dissection repair. Our center is among the top three enrollees of patients into the International Registry for Aortic Dissection, which is a consortium of 38 leading aortic centers of excellence around the world that collectively studies the aspects and shapes the guidelines for managing aortic dissection worldwide. The CTAD’s Thoracic Aortic Disease Research Lab has a primary focus of studying the aortopathy associated with congenital bicuspid aortic valve and has one of the largest thoracic aortic tissue and aortic smooth muscle cell banks in the world used to study aortic disease. Numerous discoveries have been made leveraging this valuable tissue bank.

Collectively, the Division of Cardiac Surgery’s centers of excellence continue to expand and extend our mission to deliver state-of-the-art, disease-oriented diagnosis and management to offer the most efficient and effective medical care to western Pennsylvania and its surrounding areas.

About the Author

Dr. Thomas Gleason is the Ronald V. Pellegrini Endowed Professor of Cardiothoracic Surgery and Chief of the Division of Cardiac Surgery in the Department of Cardiothoracic Surgery at UPMC. He also serves as the Director of the Center for Thoracic Aortic Disease and Co-Director of the Center for Aortic Valve Disease. Dr. Gleason is a cardiac surgeon specializing in complex aortic valve repairs, surgery, and endovascular therapies for thoracic aortic diseases, including atherosclerosis, dissections, traumatic injuries, and genetic disorders such as bicuspid aortic valve and the Marfan syndrome, and transcatheter valvar therapies (i.e., TAVR).
Pediatric Cardiothoracic Surgery: Outstanding Outcomes
By Victor Morell, MD

The Pediatric Cardiac Program at UPMC was first established in the late 1950s, when surgeons at the now Children’s Hospital of Pittsburgh of UPMC participated in the early development of medical and surgical treatments for the management of simple congenital heart lesions, including coarctation of the aorta and patent ductus arteriosus. In 1958, the first open heart repair using a pump oxygenator was performed by Robert Pontius, MD, who utilized this technique to successfully treat a number of complex congenital cardiac anomalies. The program continued to flourish during the 1960s and 1970s leading to the creation of one of the first pediatric cardiothoracic transplant programs in the country in the early 1980s.

CARDIOTHORACIC SURGERY DATA
Children’s Hospital of Pittsburgh of UPMC
The Heart Institute at Children’s Hospital of Pittsburgh of UPMC ranks as the top pediatric cardiovascular surgery program in the country with the lowest overall four-year surgical mortality rate among all medium- and high-volume programs, according to data compiled by the Society of Thoracic Surgeons (2008-2012).

CT Surgery Cases

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<th>Year</th>
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<td>2006</td>
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Case Mortality (2008-2012)

- 3.5%
- 3.0%
- 2.5%
- 2.0%
- 1.5%
- 1.0%
- 0.5%
- 0.0%

Children’s Hospital of Pittsburgh of UPMC

Source: Children’s Hospital of Pittsburgh of UPMC

With more than 50 years of experience, the Division of Pediatric Cardiothoracic Surgery continues its mission of providing the highest level of surgical care in the country for patients with congenital heart disease. In February 2015, the Pennsylvania Health Care Cost Containment Council released its first-ever report on pediatric and congenital heart surgery outcomes (this report is available online at www.phcc.org).

Congratulations
- Dr. Robert Kormos was appointed to the Bresler Hackett Chair in Cardiovascular Transplantation.
- Dr. Peter Wearden was promoted to Associate Professor with Tenure.
- Dr. Matthew Schuchert was promoted to Associate Professor with Tenure.
- Dr. Anjan Pernnath was promoted to Associate Professor with Tenure and was appointed to the Sampson Family Endowed Chair in Thoracic Surgery Oncology.
- Dr. Thomas Gleason was promoted to Professor with Tenure and has been named the inaugural recipient of the Ronald Pellegrini Endowed Chair in Cardiac Surgery.
- Dr. Victor Morell was promoted to Professor with Tenure and has been named the Eugene S. Wiener Endowed Chair in Pediatric Cardiothoracic Surgery.
- Dr. Vinay Badwar was appointed to the Society of Thoracic Surgeons as the new Chair of the Public Reporting Task Force.
- Seven members of the Department of Cardiac Surgery were named to the Pittsburgh Magazine’s 2015 “Best Doctors” list.
- Drs. James D. Luketich and Matthew Schuchert from Thoracic Surgery; Drs. Thomas G. Gleason, V.R. Machiraju, and Lawrence M. Wei from Adult Cardiac Surgery; and Dr. Victor Morell and Peter Wearden from Pediatric Cardiac Surgery.

New Attending Surgeons

The Department of Cardiothoracic Surgery welcomes eight new attending surgeons: Drs. John Anastasis, Michael Butler, Leo Fitzgibbon, and Louis Russo in Adult Cardiac Surgery; Drs. Mahesh Sharma and Melita Viegas in Pediatric Cardiac Surgery; and Drs. Rajeev Dhupar and Inespan Sarkanah in Thoracic and Foregut Surgery.

New Clinics

Doctors from the Division of Thoracic Surgery are now seeing patients at the following new outpatient clinic sites:

- Monday mornings in Monroeville, located at 400 Oxford Dr., Monroeville, PA 15146.
- The first Tuesday of every month in Butler, located at 104 Technology Dr., Butler, PA 16001, inside the Benbrook Gastroenterology Associates suite.
- For more information on any of our clinics, contact 412-647-7555.

MEETINGS & CONFERENCES

- The Department was well-represented at the 51st Annual Meeting of the Society of Thoracic Surgeons. Our doctors contributed to 11 research presentations, nine lectures, and seven moderated sessions.
- Our doctors contributed significantly at the 36th Annual Meeting and Scientific Sessions of The International Society for Heart & Lung Transplantation, including 24 research presentations and two symposia.
- During AATS Week 2015, our doctors participated in five presentations at the AATS Miral Concavo 2015, as well as one course at the 95th Annual Meeting of the American Association for Thoracic Surgery.

CLINICAL TRIALS

Three are a few of the clinical trials currently underway in the Department of Cardiothoracic Surgery:

Division of Adult Cardiac Surgery
- Surgical Replacement and Transcatheter Aortic Valve Implantation (SURTAVI) Cardio Surgery
- The Medtronic CoreValve™ Evolut™ R U.S. Clinical Study
- Surgical Treatment of Aortic Sclerosis With a Next Generation, Rapid Deployment Surgical Aortic Valve (TRANSFUSE™)
- Clinical Trial to Evaluate the HeartWare® Venricular Assist System

Division of Cardiothoracic Transplantation
- Normothermic Ex Vivo Lung Perfusion (EVL) as an Assessment of Extended/Marginal Donor Lungs
- Prospective, International, Multi-Center, Randomized Clinical Investigation of TransMedics® Organ Care System™ (OCS™) LUNG for Lung Preservation and Transplantation
- Inter-agency Registry of Mechanically-Assisted Circulatory Support (INTERMACS)
- UPMC Lung and Heart-Lung Transplant Evaluation and Lung and Heart-Lung Transplant Recipient Registry Research
- Data Collection of Heart Transplant Evaluation and Heart Transplant
- Development of Tests to Assess Immune Modulation Following Organ Transplantation
- CORD-Assessment of Lung Injury in Nonacceptable Human Donor Lungs with Lung Perfusion Techniques

Division of Thoracic and Foregut Surgery
- Quantitative Analysis of Barriers to Early Detection of Esophageal Adenocarcinoma
- Genetic Testing in Screening Patients With Stage IB-IIIA Non-small Cell Lung Cancer That Has Been or Will Be Removed by Surgery
- A Phase III Randomized Trial of Lobectomy versus Sublobar Resection for Peripheral Non-Small Cell Lung Cancer
- Detection of Genetic Markers of Lung Cancer Initiation and Progression
- Esophageal Cancer Risk Registry
- Outcomes after Esophagectomy with a Focus on a Minimally Invasive Esophagectomy and Quality of Life
- Outcomes After Medical and Surgical Treatment of Gastroesophageal Reflux
- Photodynamic Therapy (PDT) Oncology Registry

For more information on these and other clinical trials, visit www.ctsurgery.pitt.edu/research/clinical-trial.