

HEARTLINE

Spring/Summer 2009

Montefiore-Einstein
Heart Center



Montefiore Performs First Pediatric Heart Transplant in the Bronx

Five-Month-Old with Heart Failure Receives 'Gift of Life'

Five-month-old Adrian Flores went home from The Children's Hospital at Montefiore (CHAM) with a new heart on March 26, just 13 days after he underwent the first pediatric heart transplant ever performed in the Bronx.

The life-saving surgery came only a week after Adrian was admitted with acute heart failure, medically known as cardiomyopathy. Surgeons **Samuel Weinstein, MD**, **David D'Alessandro, MD**, and **Robert E. Michler, MD**, operated just in time to save Adrian's life. The diagnosis and important after-care were provided by **Daphne Hsu, MD**, chief of Pediatric Cardiology; **Jacqueline Lamour, MD**, director of Pediatric Advanced Cardiac Therapies; and their Pediatric Cardiology team (pictured with Adrian and his parents above).

Adrian's parents, Juan Carlos and Sandra Flores, were grateful and elated that Adrian was able to

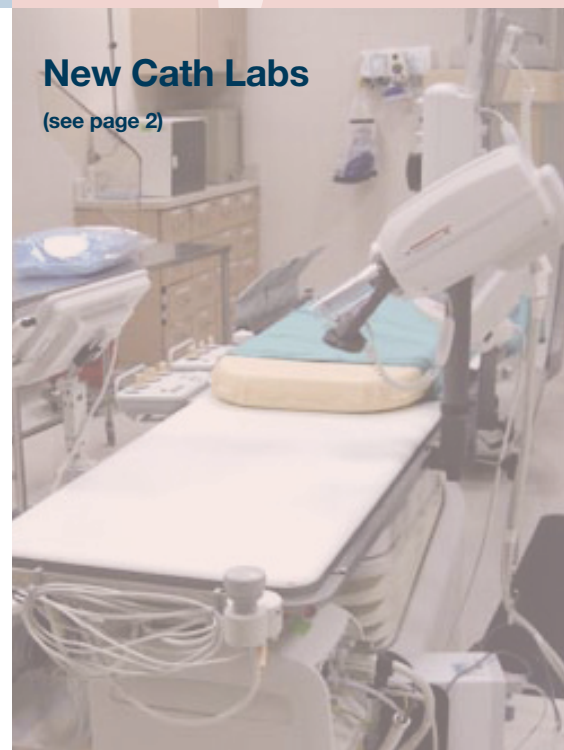
be discharged to his home in the Bronx after less than two weeks in CHAM's superb Pediatric Intensive Care Unit. A host of media covered Adrian's discharge, as the baby was carried through CHAM's doors by his happy parents.

The Pediatric Heart Transplant Program gives Montefiore the ability to treat any congenital or acquired children's heart abnormality.

The Children's Hospital at Montefiore had its application for a pediatric heart transplant program approved by the New York State Department of Health last August. At the time of the announcement, Montefiore President and CEO, **Steven M. Safyer, MD**, said, "By adding pediatric heart transplantation to the full range of care we offer our youngest patients, we better meet the significant health care needs of our Bronx community."

New Cath Labs

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Co-Directors:

Richard N. Kitsis, MD
*Dorros Chair
Professor and Chief
Division of Cardiology*

Robert E. Michler, MD
*Surgeon-in-Chief
Belkin Chair
Chairman, Departments
of Surgery and
Cardiothoracic Surgery*

Heartline Editors:

Chris Snyder
Melissa Crissman
Amy Weiss, Designer

Correspondence:

Marketing Department
111 East 210th Street
New York, NY 10467
tel. 718-920-7823
fax 718-405-1938



The University Hospital for the
Albert Einstein College of Medicine

State-of-the-Art Cath Labs at Moses and Weiler

By Gail S. Belmuth, Special to HeartLine

THE MONTEFIORE-EINSTEIN HEART CENTER HAS RECENTLY INAUGURATED NEW CARDIAC CATHETERIZATION LABS AT MOSES AND WEILER DIVISIONS, VASTLY IMPROVING THE CAPACITY AND QUALITY OF CARE WE ARE ABLE TO PROVIDE OUR PATIENTS.

The new labs and their cutting edge imaging equipment bring Montefiore a step closer to our goal of offering comprehensive, state-of-the-art cardiovascular services at our Moses and Weiler Divisions.

Sophisticated Equipment for Imaging and Treatment

A key aspect of the upgrade on both campuses is the addition of Allura Xper cardiovascular X-ray systems from Philips Healthcare. Both new systems allow our physicians to make faster, more accurate diagnoses and to conduct a wide range of sophisticated, minimally-invasive procedures on the heart as well as the peripheral blood vessels and carotid arteries.

Among the many advantages of the new equipment are superior visualization tools that provide increased, peripheral and better stent views; special technology that minimizes radiation exposure without compromising imaging quality; flat panel monitoring equipment, and easy-to-adjust hardware that allows for full access to the patient.

In addition, the biplane feature at Weiler allows for more efficient performance of complex EP procedures such as ablation studies on both sides of the heart and the implantation of devices. It also provides twice the information with a single injection of contrast material, which is critical for our pediatric patients with congenital heart disease.

Highest Standard of Care... Better Outcomes for Patients

“The new lab is particularly significant for us at Weiler, and it’s another piece of our ongoing investment that includes the addition of world-class staff and recent, major upgrades to our main EP lab,” explains **E. Scott Monrad, MD**, director, Cardiac Catheterization Laboratory, Weiler Division. “Today, patients will get the highest standard of care right here on Montefiore’s East campus.”

For both campuses, the new labs add to recent achievements, including nationwide leadership in rapid

intervention for patients with acute MI, the acquisition of highly sophisticated CT and MRI equipment, and more seamless integration between our Cardiology and Radiology departments.

The design of the labs also anticipates the full spectrum of care a patient might need. For example, the procedure table is offset in a large room, leaving space should heavy equipment for bypass surgery or other hybrid procedures be necessary.

“What’s most exciting to me is that we can now conduct expanded vascular studies in the same setting as our cardiology studies because the Philips equipment is compatible with our vascular equipment,” notes **Mark A. Menegus, MD**, director of Montefiore’s CCU and ICCU. “Now, if we’re performing a catheterization and the patient complains of peripheral vascular symptoms, we can treat both problems simultaneously. The patient doesn’t need to come back for a second procedure.”

“These aren’t just hypothetical scenarios,” adds **Mark A. Greenberg, MD**, Montefiore’s chief of Clinical Cardiology. “They happen here quite often. With our state-of-the-art labs, we can handle them much more quickly and effectively, and with less inconvenience for the patient.” ♥



Left to Right: Dr. Robert E. Michler, Mr. Robert Conaty, Dr. V. S. Srinivas, Dr. Steven M. Safyer, Dr. Mark Greenberg and Dr. Richard N. Kitsis pictured in new cath lab at the Weiler Division.

News from around the Montefiore-Einstein Heart Center

Montefiore Passes CMS Exam with Flying Colors - The transplant programs at Montefiore Medical Center were subjected to an intense two week inspection by CMS during the month of May. The goal was to measure Montefiore's compliance with the federal guidelines for transplant programs, and was conducted by the New York State Department of Health. The inspection applied to heart, adult and pediatric, and to renal, adult and pediatric.

According to **Anita Principe, RN**, associate director of Transplant Services, there were no deficiencies and no recommendations. "Inspectors indicated that our program was the first to achieve that level," she said. "They told us that it was the best program they inspected, and they had already completed inspections at all surrounding medical centers," she added. ♥

V. S. Srinivas, MB, MS, attending physician in Cardiology, has published a study appearing in a

recent *Journal of the American College of Cardiology*. It demonstrates that angioplasty and stent patients have better outcomes at facilities where solid experience is represented. Experience counts! ♥

Robert E. Michler, MD, surgeon-in-chief and chairman of the Departments of Surgery and Cardiothoracic Surgery, was a key author on a paper in the March 29 issue of the *New England Journal of Medicine*. The paper presented the results of the hypothesis substudy of the Surgical Treatment for Ischemic Heart Failure (STICH) trial. This substudy compared Coronary Artery Bypass Grafting (CABG) alone with the combined procedure of surgical ventricular reconstruction and CABG. ♥

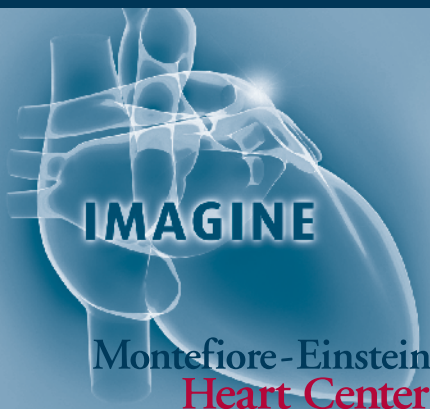
Dr. Michler welcomes **Robert C. Ashton, MD**, as Moses Division director of Thoracic Surgery and director of Minimally Invasive Thoracic Surgery. Dr. Ashton was previously chief, Division of Thoracic Surgery, and co-director,

Thoracic Oncology at Hackensack University Medical Center. ♥

Dr. Michler also announces the appointment of **Steven M. Keller, MD**, as Weiler Division director of Thoracic Surgery, Montefiore Medical Center. Dr. Keller is professor of Clinical Cardiothoracic Surgery, Albert Einstein College of Medicine. ♥

Richard N. Kitsis, MD, chief of Cardiology Division, announces the appointment of **Ronald Wharton, MD**, as attending cardiologist, Moses Division, and assistant professor of Medicine, Albert Einstein College of Medicine. Dr. Wharton was previously attending physician at Mamonides Medical Center in Brooklyn, NY. Dr. Kitsis also announces the appointment of **Heather Trivedi, MD**, as attending cardiologist, Weiler Division. Dr. Trivedi will concentrate on echocardiography, clinical cardiology and women's heart health. ♥

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Cardiac Imaging Program is Expanded

WITH CONTINUED GROWTH IN CARDIAC SERVICES AT THE MONTEFIORE-EINSTEIN HEART CENTER, CARDIOLOGISTS AND RADIOLOGISTS ARE EXPANDING THE USE OF THE TOMOGRAPHIC CARDIAC IMAGING TOOLS MAGNETIC RESONANCE IMAGING (MRI) AND MULTIDETECTOR COMPUTED TOMOGRAPHY (CT), TO COMPLEMENT DIAGNOSTIC POWER OF INTERVENTIONAL CATHETER ANGIOCARDIOGRAPHY, ECHOCARDIOGRAPHY AND NUCLEAR IMAGING. IN CERTAIN GROUPS OF PATIENTS, MRI AND CT PROVIDE IMPORTANT STRUCTURAL INFORMATION NOT OBTAINED BY CONVENTIONAL METHODS. FURTHERMORE, MRI AND CT MAY BE VERY HELPFUL FOR MAKING MEDICAL MANAGEMENT DECISIONS.

Expanding these services will better integrate these modalities into the clinical practice of cardiovascular medicine, and support ongoing outcomes research aimed at providing the evidence-based data to maximize the value of these imaging modalities.

Cardiac MRI has been performed at Montefiore for over 20 years. It has been a valuable tool for evaluating structural change and functional sequelae in patients with congenital and acquired heart disease. It has been particularly useful for the evaluation of children after surgical repair of congenital heart malformations. The ability of MRI to assess myocardial viability is becoming a powerful tool for managing patients after acute myocardial infarction. A 64-slice Multidetector CT was first installed at Montefiore in 2005. As clinicians became more aware of the high resolution, sharp images of the heart, and reliable structural information it provided, this modality has become an important part of the imaging services. A research program to assess diagnostic benefits of MRI and CT has been ongoing since 2005. In a current clinical trial funded by a grant from the American Heart Association, patients who are admitted for chest pain, but do not have a heart attack,

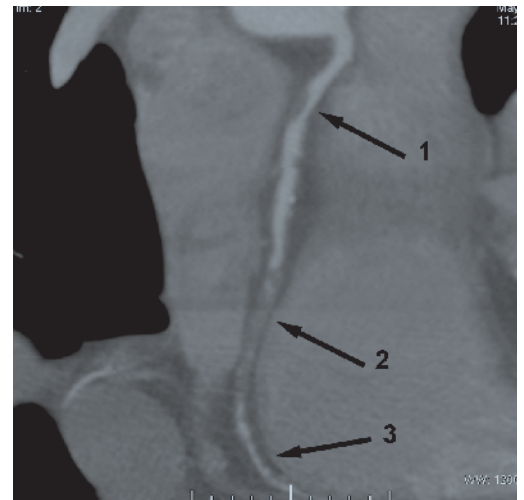
are further evaluated using either nuclear stress testing or cardiac CT. Data from a similar clinical trial involving outpatients was completed last year. It indicated that CT angiography, compared with nuclear stress tests, is a reasonable alternative modality for evaluating coronary artery disease. These findings were presented at the annual meeting of the North American Society for Cardiac Imaging this past October, and will be published in the International Journal of Cardiovascular Imaging. “In addition to using state of the art modalities, it is important to show that there are benefits to patient outcomes,” said Principal Investigator **Linda Broyde Haramati, MD, MS**, director of Cardiothoracic Radiology.

Both MRI and CT provide a wealth of information about the structure and function of the heart. The information allows the application of computer processing programs to display the structure and function at an arbitrary angle, allowing the tailoring of examinations and their processing to particular clinical problems of each individual.

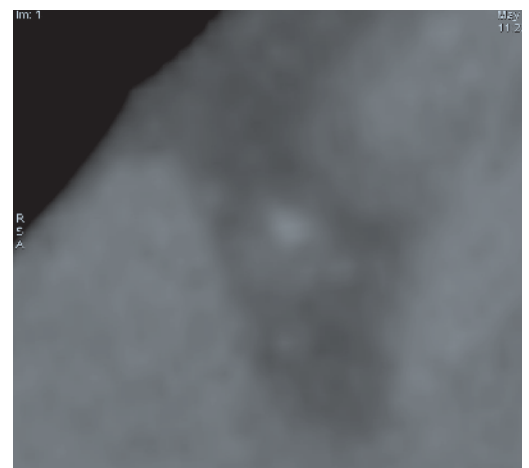
“In addition, cardiac CT may play an important role in the triage of patients with chest pain. It is very useful for determining which patients are at low risk for acute coronary heart disease. These

patients do not need an invasive procedure, and may be discharged on medical management,” said **Lawrence Boxt, MD**, director of Cardiac CT and MR Imaging, Division of Cardiology.

Continued on page 5



Reconstruction of the right coronary artery. Severe focal luminal narrowing in a region of fatty plaque (arrow 1), long segment occlusion (arrow 2), and long segment moderate stenosis in the proximal, mid, and distal artery.



Cross section through the right coronary artery at arrow 1. The bright lumen is narrowed by the low attenuation fatty plaque of the arterial wall.

Imaging Program

(continued from page 4)

“Patients benefit from our approach to MRI and CT. It combines the expertise of cardiologists trained in imaging skills and radiologists experienced in evaluating cardiac imagery,” said Dr. Boxt. “Our plan is to optimize the clinical utilization of these technology-based resources, to not only enhance cardiac diagnosis, but also to more precisely identify those patients whose clinical management will be improved by these tests.”

The increasing population of pediatric and adult patients with congenital heart disease followed at Montefiore helps drive increased demand for these imaging services.

Imaging has always played a valuable role in the evaluation of adult and pediatric patients with congenital heart disease. “It can assist in assessing myocardial viability and indicate whether a patient will benefit from surgery,” said Dr. Haramati.

“While CT is rapidly becoming recognized as an extremely valuable tool for following adult patients, the use of MRI is becoming the modality of choice for following children with congenital heart disease, especially after they have had a surgical repair,” said Dr. Boxt.

In addition to expanding clinical services, and continuing ongoing and

commencing new research in cardiac imaging, we will expand existing training programs in the planning, performance and interpretation of these examinations for Radiology residents and fellows to include Cardiology fellows.

Working together, Montefiore physicians continue to improve the clinical practice of cardiac MRI and CT, increase our understanding of the benefits and limitations of these valuable tests, and train physicians in their use and interpretation. ♥

To book a cardiac MRI or CT examination, or to discuss a particular clinical problem, please call 718-920-5882.

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VAD Program Receives Distinction

Pauline Edwards, RN, BSN

LATE IN NOVEMBER 2008, THE CENTER FOR ADVANCED CARDIAC THERAPY AT MONTEFIORE-EINSTEIN HEART CENTER WAS AWARDED THE JOINT COMMISSION VENTRICULAR ASSIST DEVICE (VAD) CERTIFICATION OF DISTINCTION.



The Joint Commission certification is awarded to hospitals that perform VAD implantation as destination therapy under the auspices of the Disease-Specific Care Certification process. Certified programs must comply with the highest national standards for safety and quality of care as evidenced by adequate staffing and facility infrastructure to support patients implanted with a VAD. In order to earn this distinction, the program underwent an extensive on-site evaluation by a team of reviewers and was evaluated against Joint Commission standards through an assessment of a program's processes for evaluation and VAD-specific patient care in addition to interviews with patients and staff.

"Joint Commission certification is another step forward in recognizing our program as a national leader in therapies for patients with

advanced cardiac disease," says Simon Maybaum, MD, co-director of the Center for Advanced Cardiac Therapy.

"The success of the VAD program and ultimate certification was due to the continual and clear focus of our program and the extraordinary work of its multidisciplinary team in building and deploying strategies on a daily basis to support the specific needs of the patient population," adds Daniel Goldstein, MD, co-director of the Center for Advanced Cardiac Therapy.

Referring providers can be confident that their VAD patients at Montefiore-Einstein Heart Center are cared for in an environment

that practices well within the Joint Commission standards for patient safety. They should also rest assured that an extremely committed and professional team cares for each patient as an individual, which results in high levels of patient satisfaction.

The Montefiore Medical Center VAD program is looking to maintain these standards through the upcoming years and build upon these sound fundamentals. ♥

If you have any questions regarding the VAD program at the Center for Advanced Cardiac Therapy, please contact Pauline Edwards, RN, BSN VAD Coordinator, at: pedwards@montefiore.org

OR-LIVE Highlights Electrophysiology

Montefiore-Einstein Heart Center presented a live webcast of a left atrial catheter ablation for treatment of persistent Atrial Fibrillation (April 1, 2009). Andrew Krumerman, MD, moderated the panel discussion, and he was joined by John D. Fisher, MD, director of Montefiore-Einstein Heart Center's Arrhythmia Program and Eugen C. Palma, MD, of Montefiore's Weiler Division.

Left atrial catheter ablation is a treatment for patients who have not responded to drug therapy. "More than 95% of the triggers that initiate atrial fibrillation arise from the pulmonary venous left atrial function," explains Dr. Krumerman. "Multiple studies have demonstrated that elimination of these electrical triggers results in restoration of normal sinus rhythm." He adds, "85% of patients with intermittent (paroxysmal) atrial fibrillation can expect to be cured by this treatment."

The full webcast can be viewed at: www.or-live.com/montefiore/2479

Dr. Andrew Krumerman can be contacted at: 718-920-8011 or akrumerm@montefiore.org

Cardiothoracic Anesthesiology

By Linda Shore-Lesserman, MD

THE DIVISION OF CARDIOTHORACIC ANESTHESIOLOGY IS A DIVISION OF THE DEPARTMENT OF ANESTHESIOLOGY WHOSE MEMBERS WORK INTIMATELY WITH THE MONTEFIORE-EINSTEIN HEART CENTER PHYSICIANS AND STAFF. THE DIVISION IS COMPRISED OF EIGHT ANESTHESIOLOGISTS WHOSE PRACTICES ARE 80-90% CARDIAC SURGICAL IN NATURE.



Linda Shore-Lesserman, MD, is the Director of the Division of Cardiothoracic Anesthesiology.

The cardiac anesthesiologist is integral to the care of the cardiovascular surgical patient in many critical dimensions. As part of a close-knit “team” of clinicians, complex medical issues are brought to the attention of the anesthesiologist prior to surgery in order to prevent unanticipated problems and delays. Such examples include hematologic disorders or difficult vascular access, which

must be dealt with pre-emptively in order for a smooth procedure to ensue.

Cardiothoracic anesthesiologists enable not only the ability to care for challenging cardiac patients, but also the ability to perform a complete and comprehensive transesophageal echocardiography (TEE) examination. All of our cardiac anesthesiologists are fellowship trained, and five are board certified by the National Board of Echo in Perioperative Echocardiography. The others are board eligible and are fully echo trained.

The ability of the anesthesiologist to perform intraoperative echo is a great advantage to the cardiac surgeon. TEE can guide the placement of intercardiac cannulae for cardiopulmonary bypass and ventricular assist devices. Intraoperative TEE can be used as a monitor of cardiac function. It can also be used to make new diagnoses or to work-up a new hemodynamic event. Alterations in the surgical management of the patient are not unusual as a result of TEE. After TEE examination, the exact etiology of

mitral regurgitation can be detected in order to guide the surgeon to a more accurate repair. In addition, newly found intracardiac defects such as an atrial septal defect or patent foramen ovale can be closed, if medically appropriate. Also, endocardial thrombus can be detected and surgically removed.

Figure 1 demonstrates the use of TEE in guiding the surgical placement of a cardioplegia cannula into the coronary sinus. Figure 2 demonstrates the etiology of a mitral regurgitation lesion to be prolapse of the posterior leaflet middle scallop. The most often used interpretation of the TEE is in confirming the success of a valvular or other surgical repair.

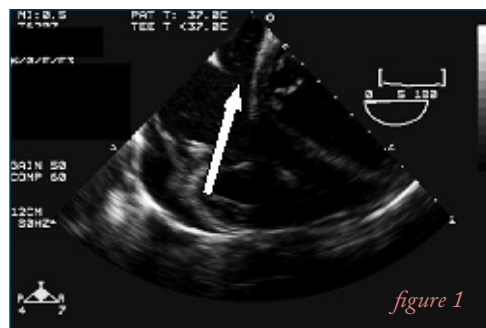


figure 1

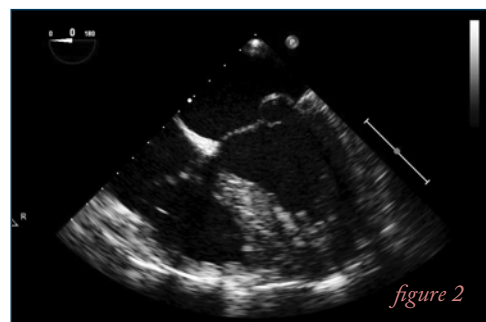
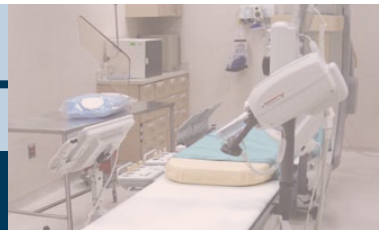


figure 2

In addition to the operating room, the cardiac anesthesiology team is actively represented on the Cardiothoracic Quality Improvement committee that is composed of interdisciplinary clinicians. This group meets twice a month and has made successful interventions as a result of their intense effort, dedication, and teamwork approach. A few of the positive outcomes that have resulted from the QI committee's work include a perioperative glucose management protocol, a rapid response stroke team protocol, a neuroprotective strategy, and a highly successful early extubation protocol.

"We are extremely proud to partner with these outstanding and dedicated individuals," says **Robert E. Michler, MD**, surgeon-in-chief and chairman of the Departments of Surgery and Cardiothoracic Surgery. "Cardiac anesthesiologists are key to our excellent patient care." ♥

You may contact Dr. Shore-Lesserman at: 718-920-5409 or lshore@montefiore.org



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Montefiore First to Enroll Patients in North American Trials

MONTEFIORE-EINSTEIN HEART CENTER ATTRACTED SIGNIFICANT ATTENTION LAST YEAR WHEN IT WAS AMONG ONLY EIGHT HOSPITALS IN NORTH AMERICA TO HAVE RECEIVED A PRESTIGIOUS GRANT FROM THE NATIONAL HEART LUNG AND BLOOD INSTITUTE (PART OF THE NIH) TO CONDUCT PIONEERING STUDIES IN CARDIOTHORACIC SURGERY AND CARDIOVASCULAR DISEASE MANAGEMENT.

Now, with the first trials underway, Montefiore is impressing the medical community once again by being the first to enroll patients—and the hospital with the most enrolled participants to date.

Robert E. Michler, MD, surgeon-in-chief and chairman of the Departments of Surgery and Cardiothoracic Surgery, is principal investigator of the grant. The first study compares the effectiveness of a mitral valve repair in combination with coronary artery bypass grafting (CABG) versus CABG alone in people with moderate ischemic mitral regurgitation. The second

study compares the effectiveness of repairing versus replacing the heart's mitral valve in people with severe chronic ischemic mitral regurgitation.

“These studies will answer fundamental questions about the best treatment for patients with mitral valve disease,” says Dr. Michler.

The two valve studies are part of the larger Cardiothoracic Surgical Trials Network. The over all goal is to promote the evaluation of newer surgical techniques, devices and innovative pharmaceutical and

bioengineered products directed at cardiovascular disease.

The Cardiothoracic Surgical Trials Network will conduct several clinical trials including a trial in atrial fibrillation that will begin enrolling patients this year. ♥

For more information, or to refer a patient for participation in one of the NHLBI-sponsored trials, please contact Roger Swayze, Director of Clinical Research and Regulatory Affairs, at 718-920-2221.