Thomas Jefferson University Hospital
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CARDIOLOGY

Jeff's Advanced Heart Failure and Cardiac Transplant Center Provides Specialized Care for Patients with Heart Disease

A diagnosis of heart failure accompanies some 80 percent of those over 65 who are discharged from inpatient hospital stays in the United States. With our aging population, including Baby Boomers who are beginning to reach retirement age, we can anticipate that roughly 550,000 people in this country will develop heart failure this year. Heart failure remains the only cardiovascular disease that is increasing in prevalence in the nation, while the overall incidence of heart disease actually slowly decreases.

(From Left-Right) Paul J. Mather, MD, Director, Advanced Heart Failure and Cardiac Transplant Program; Heather Miller, RN, MSN, MBA, Nurse Manager; and Daniel Marelli, MD, Surgical Director, Heart Transplant Program

"The prevalence of heart failure, especially in the aging population, will strain our already overburdened healthcare resources," says Paul Mather, MD, Director of the Advanced Heart Failure and Cardiac Transplant Center at the Jefferson Heart Institute, which was created to meet the rising demand for specialized heart care. The Center, opened earlier this year, provides such care for patients diagnosed with heart failure and at the same time, consultation to community cardiologists and primary care physicians.

"The heart failure center's role is to be a resource for patients and physicians," says Daniel Marelli, MD, Surgical Director, Heart Transplant Program and Associate Professor of Surgery at Jefferson Medical College of Thomas Jefferson University and a cardiac surgeon at Jefferson Hospital, who has participated in more than 500 heart transplants.

"It's the final piece of the Jefferson Heart Institute," says Arthur Feldman, MD, PhD, Professor and Chair of Medicine at Jefferson Medical College. The Heart Institute opened two years ago to provide comprehensive medical and surgical care, advanced diagnostics and high-tech procedures to patients.

What is advanced heart failure?

Dr. Mather, whose experience includes being involved in more than 600 transplants, describes advanced heart failure as "a critical, multi-organ disease process that affects people head to toe, including cognition, and that has to be dealt with through a unified, multidisciplinary approach to the disease process."

According to Dr. Mather, the trend in the last five to 10 years to develop heart failure centers stems from the rising prevalence of heart failure and the need to address increasing patient volume and provide specialized care.

"We can provide standard, tailored, aggressive heart failure therapy," he says, which includes a wide range of specialized treatment and testing, such as cardiopulmonary exercise testing to evaluate a patient's oxygen consumption, hemodynamic monitoring, aggressive inotropic support, intermittent IV infusions of drugs and advanced device therapy, in addition to psychosocial support, dietary information, and psychosocial support and education for both the patient and family.

Benefits to patients, physicians

"An advanced heart failure center can offer one-stop shopping for patients' cardiac needs," says Dr. Mather, noting the availability of Jefferson's other medical specialties.

The Center is also designed and prepared to help a referring physician to decide if a patient might benefit from a newer treatment, such as biventricular pacing, which entails pacing the left and right ventricles and synchronizing their contractions to increase the heart's pumping power.

"A patient might be seen at the Center only periodically during the year while receiving care from his or her own cardiologist on a regular basis," Dr. Mather explains.

"Though the cornerstone of surgery for advanced heart failure is heart transplantation," says Dr. Marelli, patients are constantly evaluated to see if there are other potential options, ranging from drugs to different types of surgery, such as high-risk heart valve surgery, coronary artery bypass surgery and re-operation (which might involve a new bypass or replacing an already once-replaced heart valve, for example) to investigational treatments and devices such as heart assist pumps.

"Many of the patients with heart failure seeking care at the center will continue to be treated medically, with surgery a last resort," says Dr. Mather. "The heart failure center becomes a hub for all of this, where advanced therapies for heart failure can be centralized," he says.

The Center recently listed its first heart transplant patient on a national registry for organ transplant availability.

The Advanced Heart Failure Center may function as a patient's primary cardiology resource as well. In some cases, both cardiologists and internists simply don't have the time to devote to extremely complicated cases. "These are patients whose care is more labor intensive and who require more tailored therapy," Dr. Mather explains. "We could have a nurse practitioner calling them on the phone and asking, for example, if they are weighing themselves daily, and monitoring exercise programs and medications."

"For the average physician, heart failure can be a time-consuming disease process," he says. "The Center has three cardiologists and four nurse coordinators focused on comprehensive care of patients who have heart failure."

"Ideally, patients and physicians in the Delaware Valley will rely upon the Advanced Heart Failure and Cardiac Transplant Center at Jefferson Heart Institute for valuable support and as a comprehensive treatment resource."

Advanced Techniques, Leading-Edge Research

Cardiologists at Thomas Jefferson University Hospital and the Jefferson Heart Institute are continuing their tradition of offering the most advanced techniques and newest therapies for the heart patient.

Interventional cardiologists, for example, are pioneering small drug-eluting stents to prevent coronary arteries from closing again after stenting, cutting the reobstruction rate from 50 percent to 4 or 5 percent. Jefferson's Electrophysiology Laboratory is improving heart muscle function by synchronizing contractions in both ventricles, improving the heart's pumping power.

By tagging patients with a radioisotope prior to exercise on a treadmill, Jefferson specialists can determine if enough blood is reaching the heart, and help them determine if an individual with chest pain might benefit from a cardiac catheterization before medical treatment, angioplasty and stenting or coronary artery bypass surgery.

At the same time, a number of investigational programs are under way to test the effectiveness of new drugs and to try to better understand various aspects of heart failure. In one project, researchers in the Center for Translational Research in the Department of Medicine are working towards developing the ability to create individual genetic profiles to one day be able to screen patients and at-risk populations to find out, for example, why a 30-year-old might be prone to heart failure.

Other Jefferson projects focus on:

- Investigational drugs to remodel a diseased heart's shape to help it pump more effectively
- Device therapy, which might involve looking at new artificial hearts that don't require surgery, but can be placed in the cardiac catheterization laboratory
- Markers of heart failure and inflammatory response

To refer a patient to Jefferson's Advanced Heart Failure and Cardiac Transplant Center, or for more information, call 1-800-JEFF-NOW or visit us online at www.JeffersonHospital.org

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