We are in the midst of a revolution for aortic valve disease care, and our patients are the beneficiaries

— David Lasorda, DO, FACC
  Director, AGH Division of Interventional Cardiology
Making the Impossible Possible

Heart valve disease is the third-most common cardiovascular problem in the United States. It affects 25 percent of Americans who are over 65. In 3 to 5 percent of these patients, severe aortic valve stenosis develops. This is a life-threatening condition that is the result of calcification of the aortic valve. As the valve narrows, the heart begins to fail and trigger symptoms, such as shortness of breath, chest pain and fainting.

Stenosis requires surgical valve replacement because when left untreated, stenosis often results in death. Unfortunately, in many patients, aortic valve replacement surgery is considered high risk, complex and unsafe. But through the advancement of the Allegheny Health Network Cardiovascular Institute (CVI) Aortic Valve Disease Clinic at Allegheny General Hospital (AGH), patients who previously had no treatment possibilities now have options for even the most complex aortic valve disease.

Under the care of our vastly experienced, multidisciplinary cardiovascular team, patients with significant valvular disease have access to less invasive, cutting-edge treatments. Our cardiologists and cardiac surgeons collaborate to provide a comprehensive evaluation of each patient and a tailored treatment plan. With the innovative approaches we are utilizing in treating aortic valve disease, your patients can lead more enriched, healthier and longer lives.
Our Aortic Valve Disease Clinic is staffed by an experienced multidisciplinary team of cardiac surgeons, interventional cardiologists, cardiac imaging specialists, physician extenders and nurses. The clinical staff conducts diagnostic tests, discusses results with your patient and formulates a personalized treatment plan. During the process, we educate patients and their families about the patient’s condition and treatment options. In addition, our clinic coordinator remains in frequent contact with you and your patient, ensuring that we make the process as simplistic as possible.

We employ state-of-the-art imaging techniques to provide cardiologists and cardiac surgeons with the most precise diagnostic information needed to formulate a treatment plan. These include 3-D echocardiography, CT scanning and cardiac magnetic resonance imaging.

After treatment is completed, the nurse coordinators, the cardiologist and cardiac surgeons organize follow-up care, working closely with the patient’s referring primary care physician and local cardiologist. Our integrated and collaborative team sets itself apart from other institutions in the region by delivering patient-focused care and an appropriate treatment plan that is not only convenient, but also of the highest quality.

AGH Aortic Valve Disease Clinic physicians (left to right): David Lasorda, DO, FACC; Stephen Bailey, MD; Ramzi Khalil, MD; Robert Moraca, MD.

Giving people their lives back

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The Aortic Valve Disease Clinic’s advanced treatments include:

**Balloon valvuloplasty**
During this procedure, a tiny balloon-tipped catheter is inserted into the femoral artery and directed to the narrowed valve. The balloon is then slowly inflated and deflated several times until the valve opening is sufficiently widened. This procedure can help to stabilize a patient who is critically ill and serve as a bridge to transcatheter aortic valve replacement (TAVR).

**Transcatheter aortic valve replacement (TAVR)**
Standard aortic valve surgery (SAVR) is performed through an open chest incision while the patient’s heart is placed on a heart-lung bypass machine. This is life-saving surgery that remains the gold standard for most patients. Many patients may not be strong or healthy enough to withstand this surgery and are considered significantly at risk for complications. However, patients who are not able to receive definitive treatment have high risk of death – about 50 percent of them do not survive more than two years after the onset of symptoms.

Transcatheter aortic valve replacement (TAVR) is a unique minimally invasive procedure that gives patients with severe aortic valve stenosis a viable option. It is appropriate for those who are not suitable for traditional valve replacement because their age, previous medical history, or current health condition puts them at risk for complications.

AGH was one of the first facilities in the country to perform this procedure. It involves our cardiovascular team replacing the old aortic valve with a new one while the patient’s heart is still beating on its own and often without an
open chest incision. The valve is stitched inside a stent, which is then fed through a patient’s femoral artery to the heart via a catheter. A tiny balloon temporarily inflates inside the stent, setting the new valve in place.

Recovery time is greatly diminished with TAVR compared to standards valve replacement. Patients tend to have shorter hospital stays and return to normal activities more quickly. Results have shown that patients have a healthier heart from the time they wake up in recovery and that they typically return home in two to five days.

**Minimally invasive valve replacement**

TAVR is currently restricted to patients who are inoperable or who are at high risk for SAVR, in part because long-term outcomes are still being studied. For patients who require isolated SAVR and have no other valve or coronary problems our specialists perform a minimally invasive valve replacement using a small, 3-inch incision, a partial sternotomy and high-definition 3D video monitoring.

**Standard valve replacement**

Standard valve replacement through a full sternotomy is most often utilized when access to the entire heart is required for additional procedures, such as coronary artery bypass, additional valve surgery or aneurysm repair. Despite its more invasive nature, complication rates are exceptionally low with our highly experienced team.

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**Allegheny Health Network Cardiovascular Institute**

When it comes to the treatment of cardiovascular disease, the Allegheny Health Network Cardiovascular Institute is one of the premiere cardiac programs in the country. We provide superior state-of-the-art care for patients with heart disease and access to the region’s most comprehensive, multidisciplinary team of specialists and innovative therapies, including many available only through advanced clinical trials. Our team offers leading-edge treatments for heart failure, atrial fibrillation (a-fib), structural heart disease, vascular disease, thoracic disease, and many other cardiovascular conditions.

The physicians of the Allegheny Health Network CVI’s seven hospitals and 20 outpatient locations maintain a singular focus on each and every patient, ensuring individually tailored treatment plans. Our true passion is to keep hearts beating healthier and longer. This comes to life through our inventive spirit of discovering new ways to diagnose and treat heart disease. Some of these groundbreaking endeavors have included the use of the latest generation of implantable cardioverter-defibrillators, playing an instrumental role in the development of left ventricular assist devices, and performing minimally invasive robotic surgery for a variety of heart conditions.

While proud of our history, we never rest on our accomplishments. We continue to push the envelope to help shape the future of cardiovascular medicine. Because it is only by taking chances that we can continue to make the impossible, possible.
Aortic Valve Clinic Team

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Cardiovascular surgeon
Director of Cardiac Surgery

David Lasorda, DO, FACC
Interventional cardiologist
Director of Interventional Cardiology

Rachel Hughes-Doichev, MD
Cardiologist
Director of Echocardiography

Robert Moraca, MD
Cardiovascular surgeon
Director of Aortic, Arrhythmia and Thoracic Surgery
Director of ECMO Service

Ramzi Khalil, MD
Interventional Cardiologist

Amy Schuett, DO
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