Cardiovascular Surgery Program

Indiana University Health

Welcome to the Indiana University Health Cardiovascular Surgery Program.

We invite you to learn more about our experience, our surgical offerings and how we can work together in the future to ensure your patients have the highest quality care available.

IU Health Cardiovascular Surgery has pioneered the field of cardiac and vascular surgery with landmark achievements. Today, we continue the momentum of this work with unsurpassed collaboration among our multidisciplinary teams dedicated to excellent results.

Our care teams provide comprehensive care with strengths in cardiovascular therapeutics through offering both endovascular and open surgical procedures. In addition to treating ischemic coronary and vascular disease, we offer a full array of treatments for valve disorders and comprehensive, minimally invasive treatment options for atrial fibrillation. We also offer the only comprehensive aortic surgery program in the state. Patients benefit from the high volume of procedures our specialists perform each year as well as our rich history of leading cardiovascular surgery development in Indiana.

The IU Health Cardiovascular Surgery Program began in 1967 and has continued to serve as the site for many landmark cardiovascular achievements, including:

The first
coronary bypass
completed in Indiana

The first
heart transplant
in the state in 1982

The first
Cox-Maze procedure
outside of St. Louis to surgically treat refractive atrial fibrillation

The first
lung transplant program,
which remains the only one in the state

We continue to build upon this foundation to enhance cardiovascular surgery options. Our unique partnership with Indiana University School of Medicine ensures research and clinical trials will further advance our tradition of offering the latest cardiovascular surgical techniques.

High-risk coronary artery bypass surgery

At many hospitals, low ventricular ejection fraction (EF) often excludes patients from being candidates for coronary artery bypass surgery. However, the IU Health Cardiovascular Surgery Program offers the specialized expertise and a variety of targeted mechanical support strategies to make this complex surgery available to high-risk patients and to care for them through the initial stages of recovery.

The sophisticated mechanical support devices IU Health engages to care for failing hearts include:

- ECMO, or extracorporeal membrane oxygenation, to support patients who need both respiratory and cardiac support
- Right ventricle support
- Left ventricular assist devices (LVAD)
- Intra-aortic balloon pumps
- Impella devices to support the left ventricle
- OPCAB, or off-pump coronary artery bypass

IU Health Cardiovascular Surgery is also looking toward the future of high-risk coronary bypass surgery.

Life-long care

Through our unique partnership with Riley Hospital for Children, IU Health is prepared to manage life-long cardiovascular issues. In addition to repairing congenital surgical anomalies, we are the only program in Indiana with a comprehensive cardiogenetics program dedicated to the early detection and treatment of congenital cardiac disease, before a catastrophic event even occurs. For example, we are prioritizing advanced aortic disease to care for patients who require ongoing treatment for the rest of their lives. This will include pediatric cardiologists to care for patients with genetic aortic disease from an early age, effectively providing options at IU Health for patients with cardiac needs at any age and stage of life.

A multidisciplinary approach to care

Top cardiovascular surgeries by volume at IU Health

1. TAVR
2. Isolated coronary bypass
3. Aortic repairs
4. Open valves

From the most complex cases to the relatively simple procedures, IU Health Cardiovascular Surgery is prepared to care for all patients using the latest technology. Our group includes more than 100 physicians and physician assistants, supported by hundreds of nurses, all dedicated to advanced cardiac care. Our cardiologists, intensivists, surgeons and advanced practice providers offer the highest quality, around-the-clock intensive care unit (ICU) care. No matter what kind of cardiovascular concern your patient is facing, IU Health Cardiovascular Surgery is ready to partner with you to identify and provide highly skilled treatment.

This is achieved through a culture of collaboration. Multidisciplinary conferences bring together a wide variety of specialists to discuss cases of valve issues, coronary disease, transplants and other cardiovascular conditions in open group settings. Through these ongoing conference discussions, our care teams—from faculty physicians in a variety of disciplines to nurses and therapists—collaborate to develop the most appropriate care plan specifically for your patient. This multidisciplinary approach enriches the care we can provide to patients with cardiovascular needs.

Robotic mitral valve surgery

IU Health Cardiovascular Surgery is the only team in the state offering robotic surgery to repair or replace leaking or stenotic mitral valves. This minimally invasive method offers patients much faster recovery than traditional surgery.

Unlike other minimally invasive techniques, by using robotic surgical systems our specialized surgical team avoids opening the chest with retractors, and the largest incision is about one inch in length. Using peripheral cannulation and small ports to introduce instruments, the surgical team repairs or replaces the mitral valve without opening the sternum.

Recovery from this procedure is vastly different than from other minimally invasive techniques or sternotomy. Patients recovering from robotic mitral valve surgery typically leave the hospital two or three days postoperatively with little or no physical restrictions, allowing them to return to work and life sooner than they would with other surgical options.

Our team is led by one of our cardiac surgeons who has more than 20 years of experience developing this unique skill set. The surgical team is specialized and highly skilled to ensure the same cardiovascular surgeons, surgical PAs, perfusionists and anesthesiologists perform this procedure regularly, sharpening their skills through high volumes of care.

Robotic mitral valve surgery typically has a mortality rate of **less than 1%**, which can vary depending on a patient's other medical conditions that can affect risk.

Complex aorta surgery

The highly skilled surgeons at the IU Health Medical Center provide care of the entire aorta, from the aortic root to the iliac bifurcation, as well as all of the major arterial branches. Whether it is a stable aortic aneurysm picked up in routine screening, or a life-threatening aortic dissection, we are prepared to treat the most complex needs with both traditional open surgery or endovascular surgical care, a minimally invasive technique that deploys stents inside the blood vessels.

IU Health Cardiovascular Surgery is one of the few places in the world that successfully performs open thoracoabdominal aortic aneurysm repair for extensive aortic aneurysms spanning the chest and abdomen. Our team is also among only a few programs in the United States with vast experience in minimally invasive endovascular thoracoabdominal aortic aneurysm repair, paravisceral aortic aneurysm repair (around the major blood vessels of the abdomen) and juxtarenal aortic aneurysm repair (near the arteries that feed the kidneys).

Our cardiovascular surgeons partner closely with vascular surgeons at IU Health to provide individualized care for patients who need complex aorta surgery. By combining both open surgical and minimally invasive approaches seamlessly, patients benefit from specialized care for the entire aorta.

Specialized offerings for complex aorta surgery

- World-class expertise in traditional open surgery for the aortic root (including valve-sparing procedures), the ascending aorta, transverse arch, descending thoracic aorta, abdominal aorta and thoracoabdominal aorta
- State-of-the-art endovascular thoracic and thoracoabdominal aortic aneurysm and dissection repair using a multitude of novel devices and endovascular techniques
- Fenestrated endovascular aortic aneurysm repair (FEVAR) using an endograft, a device designed for placement inside the aorta that's customized with small fenestrations, or openings, based on the patient's specific anatomy
- Hybrid surgery for the aorta, which combines the benefits of open surgery with endovascular surgery in an innovative and patient-specific way
- Management of acute thoracic aortic dissection and ruptured thoracic and abdominal aneurysms, including emergency surgery and intensive critical medical care
- Free genetic testing for immediate relatives of patients with thoracic aortic disease

Aorta surgery outcomes

- More than 300 thoracic and abdominal repairs annually
- 50 – 75 fenestrated graft aortic repairs annually, which continues to grow due to using innovative technology unavailable elsewhere

Level One Vascular Emergency Program

Every minute counts when patients are facing extremely complex and life-threatening vascular emergencies, such as ruptured abdominal aortic aneurysms, aortic dissection or acute limb ischemia, or the sudden loss of blood flow to an arm or leg. The Level One Vascular Emergency Program at IU Health Methodist Hospital, the only program like this in the state, provides specialized emergency care to rapidly transport patients with life-threatening vascular emergencies in Indiana and surrounding states. By reducing treatment delays, we improve these patients' chances for limb salvage and survival.

Raed Abdulkareem, MD

Adult cardiac

- CABG, valve surgery, aortic root aneurysm repair/replacement, TAVR

Heart and lung transplant

- VAD
- ECMO

Daniel J. Beckman, MD

Adult cardiac

- CABG, valve surgery, mitral valve (open), aortic root aneurysm repair/replacement

Lola Chabtini, MD

Adult cardiac

- CABG, valve surgery, mitral valve (open), aortic root aneurysm repair/replacement, descending aortic aneurysm repair/replacement open, TEVAR, TAVR
- Heart/lung procurement
- ECMO

Joel S. Corvera, MD

Adult cardiac

- CABG, valve surgery, aortic root aneurysm repair/replacement, TAVR

Jeffrey E. Everett, MD

Adult cardiac

- CABG, valve surgery, mitral valve, minimally invasive (robotic) valve, aortic root aneurysm repair/replacement, TAVR
- Minimally invasive (robotic) valve

Philip J. Hess, MD

Adult cardiac

- Valve surgery, aortic root aneurysm repair/replacement, descending aortic aneurysm repair/replacement open, TEVAR, TAVR

Kashif Saleem, MD

Heart and lung transplant

- VAD
- ECMO

Adult cardiac

- CABG, valve surgery, mitral valve, aortic root aneurysm repair/replacement

Indiana University Health

A private, nonprofit organization, Indiana University Health is Indiana's largest comprehensive health system and is comprised of hospitals, physicians and allied services dedicated to providing preeminent care throughout Indiana and beyond. Our unique partnership with Indiana University School of Medicine gives our highly skilled physicians access to innovative treatments using the latest research and technology.

iuhealth.org