THE STRENGTH IT TAKES

Cardiothoracic Transplant and Mechanical Circulatory Support Program

2015 Outcomes Report

Indiana University Health

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A Commitment to Quality

As directors of the Indiana University Health Thoracic Transplant program, we are pleased to share our 2015 achievements. Indiana University Health has been a pioneer in the field of cardiothoracic surgery beginning in 1982 with the first transplant in a private hospital *anywhere in the world*. Today, Indiana University Health is one of the largest thoracic transplant programs in the country with a record of outstanding clinical outcomes.

Building upon our legacy of firsts, we were the first hospital in Indiana to implant a total artificial heart in 1987 *("the Jarvik")* and the next generation in 2013 *("the Syncardia")*. The strengths of the program are linked to our affiliation with the Indiana University School of Medicine. Our nationally recognized clinical leadership and their associated research endeavors allow us to provide pioneering innovations to our patients. Indiana University Health continues to participate in virtually every thoracic transplant related clinical trial and registry.

We are continually broadening our educational offerings to support national and international scholars. Our didactic programs and clinical labs have created a training environment to meet the needs of cardiovascular professionals from around the world. Our collaborations with industry leaders have resulted in innovative approaches to providing patients with access to world class cardiovascular expertise.

We invite you to learn more about our Thoracic Transplant program's exceptional clinical care, innovative research and robust educational programs. In addition, we welcome your feedback and look forward to hearing from you. We are available at any time at **transplantinfo@iuhealth.org** or **317.962.8677** to support referrals for evaluation, clinical trials or program questions and comments.

We are pleased to partner with you…when it matters most.

Sincerely,

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BEST HOSPITALS
U.S.News & WORLD REPORT
NATIONAL
RANKED IN 10 SPECIALTIES
2015-16

The IU Health Cardiothoracic Transplant and Mechanical Circulatory Support Team

Azam Hadi, MD
Medical Director of Heart Transplant Program

Dr. Hadi serves as the medical director of the Heart Transplant Program and is board certified in cardiology and advanced heart failure and cardiac transplantation. Dr. Hadi specializes in the management of the cause and manifestations of heart failure—from non-invasive cardiac testing to techniques such as catheterization and hemodynamics.

David Roe, MD
Medical Director of Lung Transplant Program

Dr. Roe serves as the medical director of the Lung Transplant and ECMO Program. He is board certified in pulmonology and critical care medicine. Dr. Roe specializes in the medical management of lung transplant patients and interventional bronchoscopy.

Thomas Wozniak, MD
Surgical Director of Cardiothoracic Transplant Program

Dr. Wozniak serves as the surgical director of the Cardiothoracic Transplant and ECMO program. He subspecializes in heart and lung transplantation, mechanical circulatory support and high-risk cardiac surgery.

John Brown, MD
Cardiothoracic Surgeon

Irmina Gradus-Pizlo, MD
Director of Advanced Heart Care Program
Cardiologist

Z.A. Hashmi, MD
Cardiothoracic Surgeon

Angela Brittsan, MD
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David Gutteridge, MD
Transplant Pulmonologist

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J. Emanuel Finet, MD
Cardiologist

Mark Hoyer, MD
Cardiologist

I-Wen Wang, MD
Cardiothoracic Surgeon
Surgical Director of VAD Program

Advanced Lung Care Program

The Indiana University Health Advanced Lung Care program is on the leading edge of diagnostic techniques, treatments and therapies for lung disease, including the most complex and rare conditions. Patients benefit from our multidisciplinary team approach across the continuum of care in both the inpatient and outpatient settings. Our physicians partner with a wide variety of IU Health specialists to provide the highest level comprehensive care. The strong relationship between the Advanced Lung Care Program and the cardiothoracic transplant team provides for a seamless transition for patients who may require a lung transplant.

Complex and rare conditions routinely diagnosed and treated at the Advanced Lung Care Program at IU Health:

- Pulmonary arterial hypertension (PAH) – IU Health treats Indiana's largest population of patients with PAH. Diagnostic right heart catheterization with vasoreactive challenge is utilized to determine the need for complex intravenous and subcutaneous therapies.
- Cystic fibrosis (CF) – The systematic approach at IU Health utilizes the Cystic Fibrosis Center at Riley Hospital for Children at IU Health and IU Health University Hospital to provide a great depth of services and continuity of care from childhood to adulthood.
- Chronic obstructive pulmonary disease (COPD) – IU Health physicians are highly engaged in patient education and screening initiatives to provide early diagnosis and optimal treatments including lung volume reduction and lung transplant.
- A-1 antitrypsin deficiency – Genetic counseling and augmentation therapy are innovative options in the diagnosis and treatment of A-1 Antitrypsin Deficiency.
- Interstitial lung diseases, sarcoidosis and idiopathic pulmonary fibrosis (IPF) – Established protocols are utilized for early detection and treatment options, including lung transplant.
- Asthma – Bronchial thermoplasty is one of the many unique treatments available.
- Sleep disorders – Our state-of-the-art statewide facilities include in-lab and home diagnostic sleep testing to provide proper diagnosis for determining the appropriate treatment for many sleep disorders, including sleep apnea.
- Lung cancer – The collaborative team of oncologists and cardiothoracic surgeons at IU Health utilize early detection techniques such as low dose CT scan, navigational bronchoscopy and endobronchial ultrasound (EBUS) to provide efficient and appropriate staging to determine the best treatment options.

THE ADVANCED LUNG CARE TEAM

Our team includes nationally recognized experts in pulmonary and critical care medicine who are ranked 23rd nationally by *U.S.News and World Report's* Top Doctors. To ensure access and service by our team to this often physically compromised patient population, our IU Health Advanced Lung Care Center and physicians are available throughout Indianapolis at the following facilities:

IU Health Methodist Hospital
IU Health North Hospital
IU Health University Hospital
IU Health West Hospital

The Advanced Lung Care program at IU Health participates in leading edge bench and translational research. As a major research center, we offer our patients access to clinical trials for promising new therapies that are not available at other programs.

DIAGNOSTIC MODALITIES AVAILABLE WITHIN OUR PROGRAM INCLUDE:

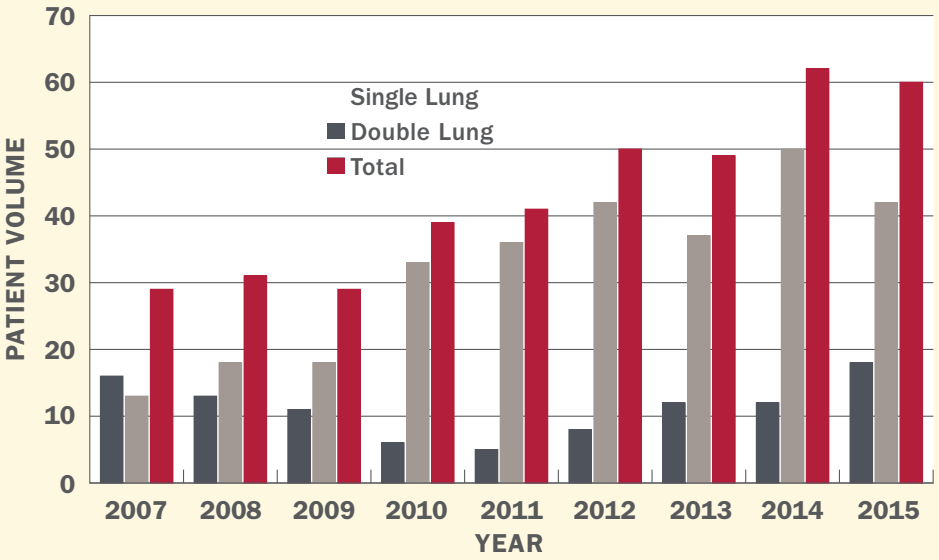
- Full pulmonary function tests, including cardiopulmonary stress test (CPX)
- Bronchoscopy for diagnosis, interventional and therapeutic treatments, including bronchial thermoplasty
- Radiology studies such as CT, MRI and PET Scan

Lung Transplant Program

In 2015, IU Health celebrated 25 years of success serving our patients, many of whom traveled from across the nation and worldwide.

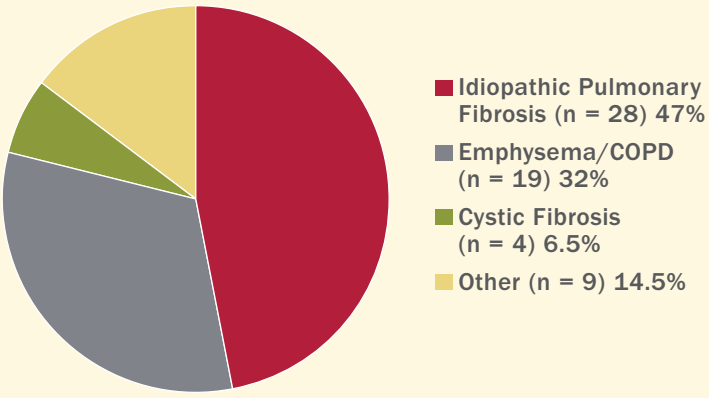
The IU Health Lung Transplant Program is the only lung transplant program in Indiana. The program is ranked as the 12th largest program nationally by volume and our physicians have more than 727 cumulative years of experience performing transplants for a wide variety of indications. IU Health has a length of experience and collaborative approach that provides the foundation for evaluating and treating the most complex patients from around the world.

Lung Transplant Volume Growth



Primary Disease of Transplant Recipient

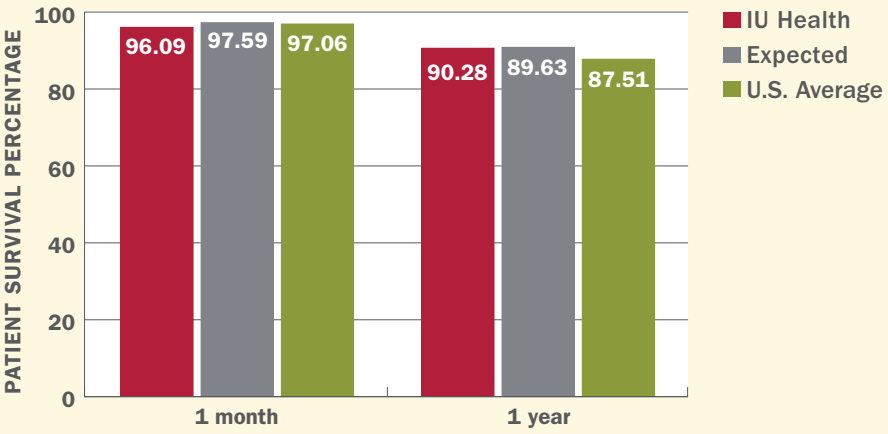
Patients transplanted between 1/1/2015 – 12/31/2015



Collaborative clinical evaluation with a patient's referring physician and the IU Health transplant team allows for a patient to be transplanted at any time as soon as an evaluation has determined a patient meets the criteria for transplantation.

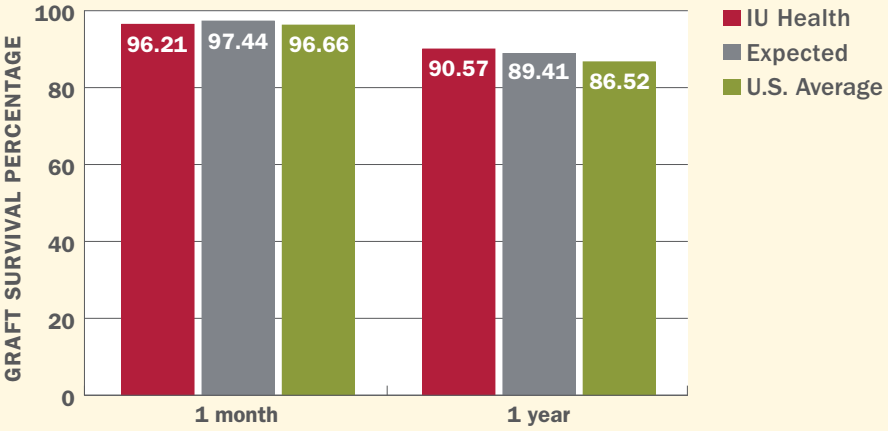
If a patient experiences acute pulmonary failure, IU Health utilizes aggressive mechanical support modalities such as extracorporeal membrane oxygenation (ECMO).

2015 Adult Lung Transplant Patient Survival*



Single organ transplants; retransplants excluded
Transplant time period 7/1/2012 – 12/31/2014 as reported 12/2015
Source: Scientific Registry of Transplant Recipients (SRTR) at srtr.org

2015 Adult Lung Transplant Graft Survival*



Single organ transplants
Transplant time period 7/1/2012 – 12/31/2014 as reported 12/2015
Source: Scientific Registry of Transplant Recipients (SRTR) at srtr.org

SINCE 1989, IU HEALTH HAS PERFORMED MORE THAN 800 LUNG TRANSPLANTS.

COLTT CENTER

The Center of Life for Thoracic Transplant or the COLTT program provides comprehensive rehabilitation for lung transplant patients. Physicians, physical therapists, respiratory therapists, dietitians, pharmacists, social workers and nurse educators all work together with pre- and post-operative lung transplant patients to ensure a successful outcome. A central attraction of the clinic is a three lane 300 foot rubberized circular walking track designed for patients to improve endurance, strength and balance. In addition, treadmills, bikes, and weights are used for individual training and group exercise classes led by therapists.

Lung Transplant Program: Innovative Lung Perfusion

WHEN TO REFER FOR LUNG TRANSPLANT:

Early referrals lead to a higher likelihood of being a transplant candidate due to the variable degrees of disease progression.

COPD

- *FEV1 < 25%*
- *PCO2 > 55*
- *Oxygen required*
- *Pulmonary hypertension*

IPF

- *At diagnosis*
- *FVC < 70%*
- *DLCO < 60%*

CF

- *FEV1 < 30%*
- *Hemoptysis*
- *Malnutrition*
- *PCO2 > 50, PO2 < 55*

PAH

- *NYHA III-IV*
- *Cardiac Index < 2*
- *RAP > 15*
- *mPAP > 55mmHg*

Nationally, only 15 percent of solid organ donors are suitable to be lung donors. Of the remaining 85 percent, a significant number of lungs are potentially salvageable utilizing a technology called ex vivo lung perfusion (EVLP). This technology allows for an additional six hours to warm, ventilate, evaluate and recondition lungs outside a human body. IU Health is one of **only seven centers** in the nation participating in this leading edge research trial. With this innovative therapy, the IU Health Cardiothoracic Transplant Team is proud to offer lung transplants to a larger population of transplant candidates.

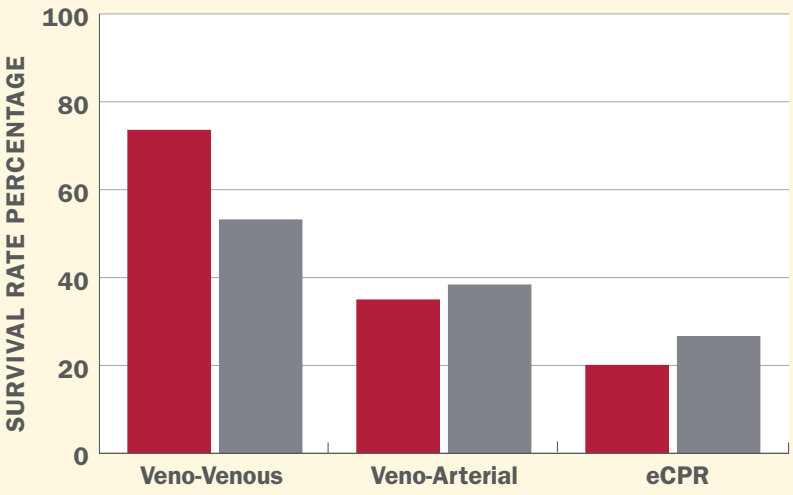
EVLP reconditions lung tissue viability by providing additional time and access to improve the quality of donated lungs.

- **A protective reperfusion strategy restores physiologic lung injury caused by neurogenic pulmonary edema to re-establish normal conditions of lung tissue.**
- **EVLP techniques allow for complete removal of all blood and blood clots from the donor lung's pulmonary circulation. Hypothermic perfusion used during harvesting induces vascular constriction in the lung and prevents complete removal of the donor's blood.**
- **The process improves removal of bronchial secretions.**
- **Direct ventilator volumes and pressures are more effective without the chest wall and diaphragm present, which provide an excellent environment for recruitment and re-expansion of atelectatic lungs.**

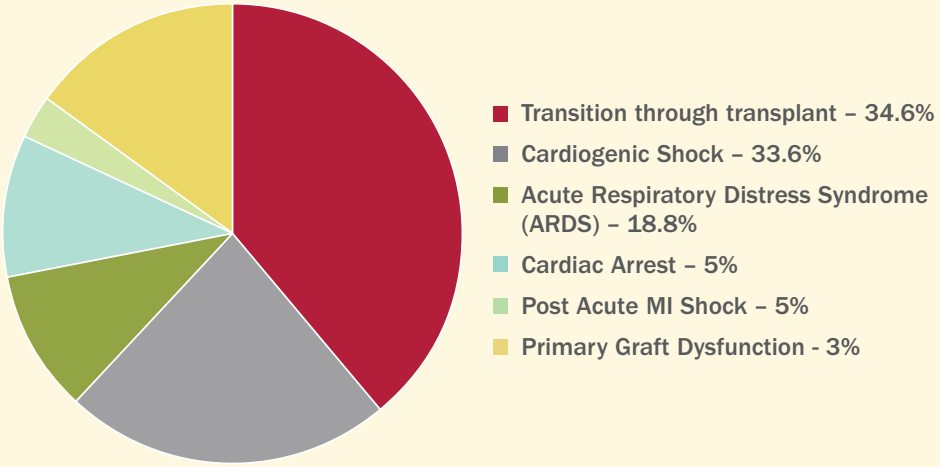
Extracorporeal Membrane Oxygenation (ECMO) Program

With more than five years of experience in supporting patients, the Adult ECMO program at IU Health is the largest adult ECMO center in Indiana while standing as the fifth largest program in the nation by volume. This program has also been declared one of the Designated Centers of Excellence by the Extracorporeal Life Support Organization, also known as ELSO.

IU Health Methodist Hospital Adult ECMO Survival Rate by Category



ECMO Cases by Diagnosis



WHAT IS ECMO?

The ECMO circuit is an innovative treatment that continuously pumps blood from the patient through an oxygenator that imitates the processes of the lungs. The blood is then re-infused into a major artery or vein, allowing the heart and lungs to rest. It can also provide immediate resuscitation for patients in respiratory or cardiopulmonary failure:

- *Veno-venous ECMO* provides oxygenation for patients with severe ARDS, transfusion-related acute lung injury, recovery for aspiration, bacterial and viral pneumonia, influenza and support in lung transplantation.
- *Veno-arterial ECMO* is used to support patients experiencing cardiogenic shock, end-stage heart diseases and postpartum cardiomyopathy. It can be utilized as a bridge to full recovery, durable mechanical support and/or cardiac transplant.

Level One Shock Emergency Program

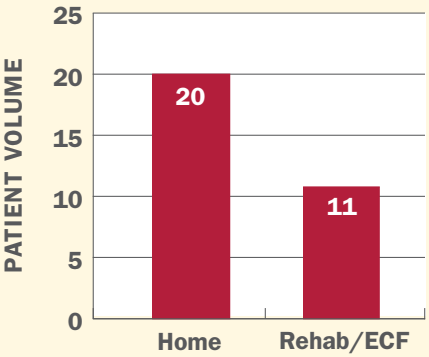
IU Health Methodist Hospital has the only Level One Shock Program of its kind in the state of Indiana. The high mortality of emergent shock patients underscores the importance of timely treatment and intervention. We are equipped to handle every emergency including:

- Profound hypoxemia despite exhaustion of lung rescue measures
- Cardiogenic shock with inability to oxygenate secondary to potentially reversible cardiovascular insult
- Potentially reversible lung insult
- Clinical condition consistent with ARDS

Our Level One Shock Emergency Program is designed as a "one-call-does-it-all" system. By activating the system, the referring facility is assisted with the following:

- Access to the IU Health Transfer Center nurse liaison who remains dedicated to the referring facility and IU Health Methodist Hospital treatment teams throughout the transfer process
- Assistance with the most appropriate, closest Advanced Life Support (ALS) transportation either by air or ground, to IU Health Methodist Hospital in Indianapolis
- Connection to the appropriate surgeon and comprehensive treatment team within minutes
- Facilitation of physician-to-physician communication and nursing report
- Guaranteed bed placement

Level One Survival to Discharge



Advanced Heart Care Program

The Indiana University Health Advanced Heart Care Program anchors a system-wide heart failure program that assures that IU Health patients across the entire state have ready access to the most clinically advanced medical, ventricular assist, or transplant therapies. This unique team of more than 65 healthcare professionals, including 16 physicians, are based in IU Health facilities across the state. As a result of this teamwork, IU Health patients benefit from our innovative, multidisciplinary approach for the evaluation, treatment and follow-up for patients with heart failure.

Our program incorporates both inpatient and outpatient services that span the continuum of care, including collaboration between referring physicians, pharmacists, psychologists, genetic counselors, nurses, social workers, cardiologists, surgeons and palliative care specialists.

The Advanced Heart Care Outpatient Center, located at IU Health Methodist Professional Center II on the IU Health Methodist Hospital campus, is the heart of our outpatient program. Opened in 2002, the center partners with referring primary care physicians and cardiologists to coordinate the care of advanced heart failure patients. Our team approach is especially valuable for patients with:

- Diuretic-resistant heart failure
- Hypertrophic cardiomyopathy
- Adult congenital heart disease
- Pulmonary hypertension
- Familial/genetic/acquired cardiomyopathy
- Ventricular assist device (VAD) therapy
- Heart transplantation
- Cardio-oncology management

Our physicians leverage our unique partnership with the Indiana University School of Medicine and the Academic Health Center to provide access for our patients to the latest clinical trials in advanced heart and cardiopulmonary function.

SHARED CARE MODEL

As the largest healthcare system in Indiana, IU Health Advanced Heart Care physicians receive patient referrals for those in need of VAD support from all across the state and the Midwest. IU Health recognizes that patients who are treated in their own communities, by their own physicians, will enjoy a higher quality of life and are more likely to have improved outcomes. We also respect the skills of our referring physician colleagues who entrust us with the care of their patients. That's why we have developed a "Shared Care" model that allows us to refer patients back to their referring cardiologists for follow-up care after implant of a ventricular assist device.

By utilizing the latest in telemedicine and video conferencing we are able to partner with our referring physicians to overcome the barriers of distance. This unique partnership assures that our patients receive the highest quality care in the settings in which they are most comfortable, regardless of where they call home.

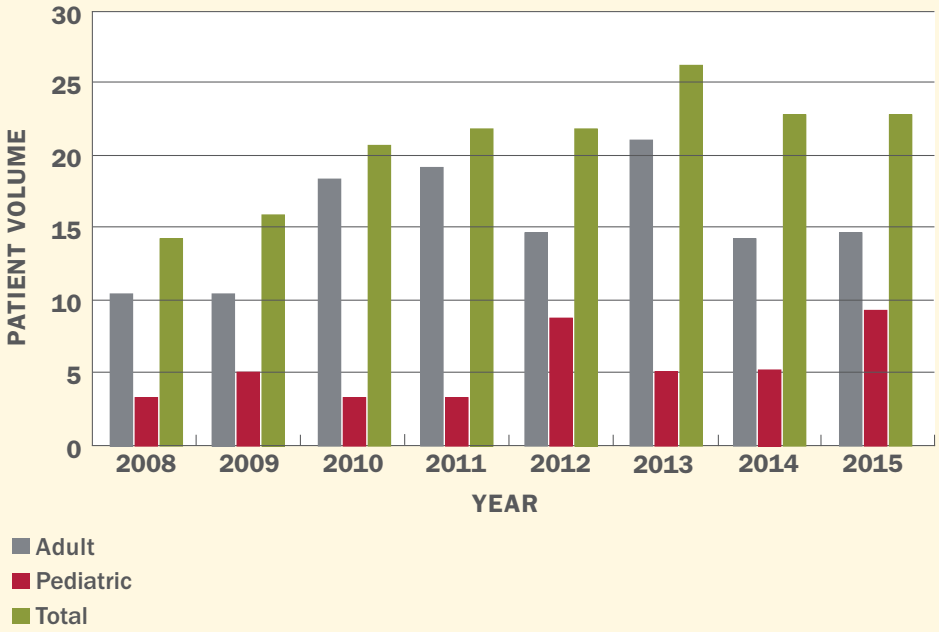
Heart Transplant Program

The Indiana University Health Heart Transplant Program is one of the most experienced centers in the nation. Since the program's inception in 1982, IU Health Cardiovascular surgeons have performed more than 640 adult cardiac transplants. We are among the few programs nationally that have provided care for more than 30 years.

IU Health outcomes are the result of extensive expertise and approach to care. Heart transplant evaluation at IU Health is composed of a comprehensive multidisciplinary team of physicians, pharmacists, social workers and care coordinators providing the highest level of care to a complex patient population. The collaborative team provides lifelong support from initial transplant evaluation to transplantation through social services, counseling, medical management and supportive therapies such as ventricular assist device (VAD).

Collaboration between Riley Hospital for Children at IU Health and IU Health Methodist Hospital enables successful transplants of young adults with complex congenital heart disease and enables a multidisciplinary team approach from both institutions ensuring the optimal care of this very special population.

Heart Transplant Volume and Distribution



Advancing Heart and Lung Perfusion

More than 3,200 people are on the waitlist nationally for a heart transplant with almost 50 in Indiana alone. Due to the limited availability of donor hearts, the majority of patients will never receive a heart transplant. IU Health was one of three hospitals in the nation and the only program in Indiana to participate in the international PROCEED II Trial utilizing the TransMedics® Organ Care System (OCS). In 2014, trial results were presented to the FDA showing superior preservation for a donor heart compared to current standard practices.

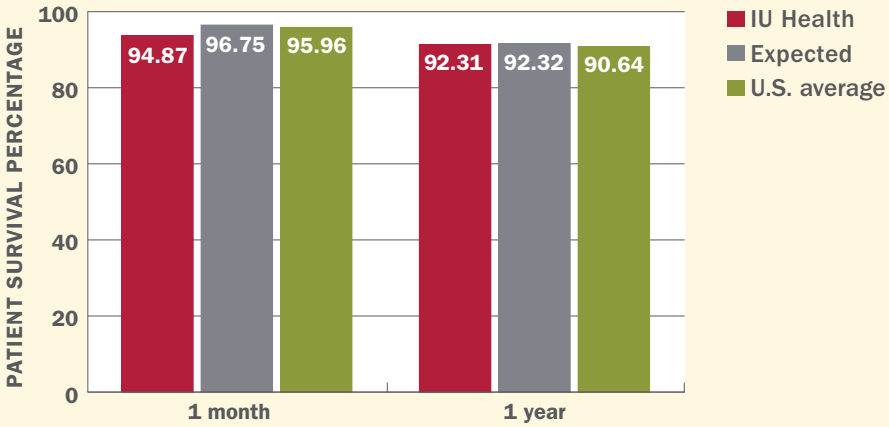
The OCS is a mobile device that supports a heart or lungs in a normal physiological and metabolic state versus using the standard cold storage techniques. This innovative technology potentially improves patient survival, reduces post-transplant complications, and increases utilization of current donor organs.

2015 IU Health median wait time to transplant

2.7 months

Regional average: 9.7 months
National average: 8.4 months

2015 Adult Heart Transplant Patient Survival*



**Single organ transplants; retransplants excluded*
Transplant time period: 7/1/2012 – 12/31/2015 as reported 12/2015
Source: Scientific Registry of Transplant Recipients (SRTR) at srtr.org

Total Artificial Heart Program

PATIENT STORY

Sixty one-year-old Pat O'Hara expects to live to 100 despite a strong family history of heart disease that already claimed two brothers. Not long ago, he did not have such hopes: "Going for long walks and climbing stairs were difficult. I would have to stop halfway and catch my breath."

Pat was the first person in the state of Indiana who received a total artificial heart and was discharged from the hospital to live at home. Surgeons removed the two main pumping chambers of his heart and implanted the artificial heart. Three and a half months after his surgery, he was able to go home. At that time, he was one of less than 60 patients ever discharged from the hospital on a total artificial heart. He received his heart transplant on Thanksgiving Day, after living nearly six months with the total artificial heart. O'Hara was home in time to spend Christmas with his family.

The addition of the SynCardia Total Artificial Heart (TAH) to the IU Health Mechanical Circulatory Support Program has opened the door to survival for IU Health patients suffering from end-stage BIVENTRICULAR heart failure. Long the barrier to traditional LVAD support, right ventricular failure is no longer an obstacle to life-saving mechanical circulatory support because the device provides up to 9.5 liters of blood flow to both the systemic and pulmonary circulatory system. This high blood flow immediately begins to reverse the multiple organ failure that so often claims the lives of end-stage heart failure patients, making them more likely to experience a better outcome when it comes time for transplant.

The artificial heart's availability as an off-the-shelf alternative to transplant, along with the elimination of the need for immunosuppression makes the artificial heart an attractive alternative to patients who might otherwise have no options for continued therapy.

IU Health has expanded access to this life-saving technology by enrolling in the SynCardia 50cc "TAH-T" trial. Under the guidelines of this project IU Health is approved to implant the smaller 50cc Syncardia Total Artificial Heart into patients whose body size was otherwise too small for the original 70cc TAH.

Care for total artificial heart patients is a complex endeavor that requires a dedicated and specialized team. IU Health supports these patients with a multidisciplinary team that includes surgeons, cardiologists, anesthesiologists, perfusionists, nursing, critical care, hematology and social work, all working together in a coordinated effort to deliver exceptional care when care matters most.

Image courtesy of **syncardia.com**

Ventricular Assist Device (VAD) Program

As the region's leader in ventricular assist care, IU Health offers the most advanced technology, including the HeartMate 3 and HeartWare platforms. For over 35 years we have been continually building a multidisciplinary program rich in experience that is uniquely positioned to deliver outstanding outcomes to these complex patients. Whether our patients require a bridge to transplant, destination, or recovery, we offer each of them a bridge to tomorrow.

9%
LOWER

Unplanned readmission rate – nine percent lower than INTERMACS benchmark of 25 percent

IU Health has participated in

13

ventricular assist clinical trials

59
PERCENT

FOUR-YEAR SURVIVAL RATE

11 percent better than INTERMACS benchmark of 48 percent

In addition to delivering outstanding clinical care with excellent outcomes, IU Health expands its impact by serving as a training site for national and international physicians. Our state-of-the-art simulation lab, high volume and robust curriculum distinguish IU Health as a premier learning destination. Since 2014 IU Health has trained 47 physicians and other allied health professionals from all over the world. In 2016 one of our international physician scholars successfully implanted the first Impella® ventricular assist device in China.

PATIENT STORY

A few years ago, David Priestley, a young man who loves coaching football, and his wife were totally blindsided by the news that he had congestive heart failure. Such statistics carry a special meaning for David as he saw his parents bury two of his siblings because of heart disease and feared he would soon be the third.

David's doctors told him his only hope was a heart transplant and referred him to IU Health in Indianapolis. This is where David underwent the implantation of a ventricular assist device to support his failing heart until a new human heart became available.

One year later, a donor heart became available and the couple made their three-hour trip down to Indianapolis. The next day, David emerged from a successful operation with his new heart.

Members of David's extended family and friends from Lakeland High huddled around him over the Thanksgiving weekend and he was discharged just in time for Christmas.

David has since returned to coaching —using his experiences to raise awareness of organ donation and to teach young people how to deal with difficult times and victories, both on and off the field.

Innovative Specialty Programs

THE INTEGRATED CHD PROGRAM AT IU HEALTH INCLUDES:

- Pediatric cardiologists
- Adult CHD cardiologists
- Pediatric and adult congenital cardiac surgeons
- Congenital interventional cardiologists
- Pediatric intensivists
- Neonatologists
- Maternal Fetal Medicine
- And other clinicians with specific expertise in CHD

Adult Congenital Heart Disease program (Adult CHD)

Novel surgical advancements from the 1960s – 1980s have resulted in almost one and a half million people born with congenital heart disease (CHD) surviving into adulthood. Early detection and lifelong management is the key to leading productive and active lives. This includes specialized services available at IU Health for women with congenital heart defects who now desire families of their own.

Due to their complex anatomy and physiology, adult CHD patients need advanced care throughout their lives. As the only program in Indiana recognized by the Adult Congenital Heart Association, IU Health is uniquely positioned to support the cardiovascular needs of every patient.

The Adult CHD program at IU Health brings together our unique academic and clinical expertise to provide one of the few integrated CHD programs in the nation. Our dedicated service represents a top Midwest referral center and one of the largest programs in the nation.

Our team of CHD experts provide a full range of services, including:

- Catheter-based interventions
- Rhythm dysfunctions
- Advanced imaging studies for specialized anatomy
- Structural heart surgery, repair or replacement
- Repair of residual holes in the heart
- Conduit stenosis

Pulmonary Hypertension program

IU Health offers specialized expertise in the management of all forms of pulmonary hypertension. Our pulmonary hypertension program includes a multidisciplinary team consisting of experts in pulmonary and critical care medicine, cardiology, heart and lung transplant and cardiothoracic surgery, complemented by a wide range of highly specialized ancillary services.

Our pulmonary hypertension program offers advanced diagnostic techniques uniquely designed for this complex population and a comprehensive range of therapies, including:

- Pulmonary vasoactive medications (oral, inhaled, subcutaneous and intravenous)
- Lung transplant
- Heart-lung transplant
- Liver transplant
- Pulmonary thromboendarterectomy
- Atrial septostomy
- Combination hypertension and immunosuppressive therapies

Cardio-Oncology

While great strides have been made in the treatment of cancer, cardiovascular toxicity is being increasingly recognized as one of the most devastating consequences of cancer therapies. IU Health is proud to offer Indiana's most comprehensive cardio-oncology program. Founded on the tripartite mission of patient care, research and education, the IU Health Cardio-Oncology program partners with the Simon Cancer Center and oncologists from around the state to promote, preserve and restore the cardiovascular health of cancer patients and cancer survivors.

The IU Health Cardio-Oncology center provides outpatient and inpatient consultations on a daily basis. The scope of the program includes:

- Cardiovascular risk assessment of cancer patients prior to chemotherapy, stem cell transplantation and other invasive oncological interventions and surgeries.
- Prevention, diagnosis and management of cardiovascular risk factors and concomitant cardiovascular disease in cancer patients and cancer survivors.
- Prevention, diagnosis, management and recovery of acute and chronic cardiovascular toxicity resulting from cancer therapies.
- Diagnosis and management of cardiovascular diseases related to non-cardiac malignancies, such as cardiac amyloidosis and carcinoid heart disease.
- Diagnosis and management of cardiac tumors.

TO REFER A PATIENT TO OUR CARDIO-ONCOLOGY CENTER, PLEASE CALL **317.962.9700.** TO REQUEST INPATIENT CONSULTATIONS, YOU MAY PAGE **317.312.2800.**

Research and Innovation

The unique relationship between IU Health, the Indiana University School of Medicine and our base of more than 1,300 employed physicians forms a formidable triad that is uniquely positioned to provide access to the greatest number of clinical trials to the greatest number of patients across the state. The IU School of Medicine has long been recognized as the most influential leader of leading edge medical research in Indiana. Under the leadership of our advanced heart care physicians, the network of informed physicians at IU Health are equipped to provide access to the newest, potentially life-saving cardiovascular research opportunities to patients in virtually every community in our state. IU Health is in pursuit of the future while saving lives today.

Heart

- Momentum 3 – Newest LVAD from Thoratec that should decrease adverse events
- SynCardia 50cc Total Artificial Heart – Smaller version of the total artificial heart (used in women, smaller men, adolescents)
- Soprano – Use of Opsumit® for pulmonary hypertension after LVAP placement to evaluate the effect of macitentan 10 mg on pulmonary vascular resistance (PVR)
- HeartWare destination therapy supplemental study – in follow-up phase; HeartWare LVAD for destination therapy
- CONCERT – Combination of Mesenchymal and C-kit+ Cardiac Stem Cells as regenerative therapy for heart failure
- INCREASE – Safety and efficacy of inhaled treprostinil in adult PH with ILD including CPFE

Lung

- LTOG - Examining predictors of primary graft dysfunction from donor perspective
- INSPIRE – in follow-up phase; TransMedics; warms and perfuses lung in transport
- Electrophotopheresis for BOS in lung transplant – Studying ECP as a treatment option for lung transplant patients who have Medicare as their primary insurance
- XVIVO/NOVEL Lung Trial and REVIVE PAS Study – Perfusion system with Steen Solution for flushing and temporary continuous normothermic machine perfusion of initially unacceptable excised donor lungs during which time the function of the lungs can be reconditioned and reassessed for transplantation

Cardio-Oncology:

- Cardiovascular Cell Therapy Research Network (CCTRN) – Actively enrolling patients with Anthracycline-induced Cardiomyopathy in the SENECA trial, testing the utility of stem cells in myocardial recovery of heart failure patients

Philanthropy – Innovations are often made possible due to generous gifts.

At IU Health, good resource management means we're always searching for ways to do things smarter, more efficiently and with better outcomes for patients.

Methodist Health Foundation champions the mission of IU Health by supporting the adult hospitals of the IU Health academic health center in Indianapolis that are dedicated to improving the health of our patients and community through innovation and excellence in care, education, research and service.

Gifts to Methodist Health Foundation help IU Health Methodist and IU Health University hospitals deliver expert care for patients. Here are some of the ways philanthropy has contributed to lifesaving investments and/or improvements in cardiovascular patient care:

- Technology to transport donated lungs while keeping them warm and breathing, rather than carrying them in a cooler.
- The ability to oxygenate blood for patients with complications from lung transplant, acute respiratory failure and cardiogenic shock.
- Total artificial heart devices to stabilize people with complex heart conditions before they receive a human heart transplant.
- Provide free heart scans to the Indianapolis Metropolitan Police Department officers.
- Technology that improves atrial fibrillation ablation procedure success rates with lower recurrent arrhythmia frequency.
- Establish a new research laboratory where its focus is to use stem cell therapy to optimize functions and longevity of donor organs for heart transplant.

Philanthropy is more than a pathway to generate additional resources. For many patients and families, giving back is an important part of the healing process. Philanthropy provides patients and families the opportunity to express their gratitude for the extraordinary care of their clinician.

This culture of gratitude is alive and well at IU Health. Philanthropy, more than ever before, has become a core part of our ability to fund programs and to better serve our patients and communities.

To learn more about donating to IU Health Cardiovascular, visit:
methodisthealthfoundation.org/giving