Patient outcomes and experience

As a repeat recipient of the three-star rating from The Society of Thoracic Surgeons, Riley at IU Health is recognized for lower-than-expected operative mortality.

Operative and adjusted operative mortality

<table>
<thead>
<tr>
<th>STAT Category</th>
<th>Riley Observed Mortality Rate</th>
<th>Expected Mortality Rate</th>
<th>Riley at IU Health has earned the Extracorporeal Life Support Organization’s highest designation—the Platinum Level Center of Excellence.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT Category 1</td>
<td>1.0%</td>
<td>0.4%</td>
<td>1.8%</td>
</tr>
<tr>
<td>STAT Category 2</td>
<td>1.6%</td>
<td>1.9%</td>
<td>1.5%</td>
</tr>
<tr>
<td>STAT Category 3</td>
<td>0.0%</td>
<td>1.8%</td>
<td>2.1%</td>
</tr>
<tr>
<td>STAT Category 4</td>
<td>4.9%</td>
<td>9.8%</td>
<td>6.3%</td>
</tr>
<tr>
<td>STAT Category 5</td>
<td>3.3%</td>
<td>17.0%</td>
<td>13.9%</td>
</tr>
</tbody>
</table>

For more about the program, visit rileychildrens.org/heartcenter. To refer a patient to the Riley Heart Center, call 317.94.HEART.
One of the highest-volume pediatric heart programs in the nation

Annually, the Riley Heart Center:
- Operates more than 600 cardiac catheterizations
- Interprets more than 17,300 echocardiograms
- Conducts more than 11,000 outpatient visits

Skilled multidisciplinary team

Riley cardiologists provide outpatient care at 13 practice locations, including more than 130 cardiology subspecialists in cardiology, cardiology and surgical care, all in the Riley Heart Center.

Cardiovascular Genetics Program

With the only comprehensive cardiovascular genetics program in Indiana, the Riley Heart Center provides counseling and care for families and patients of all ages, including family members of patients with congenital heart defects.

Comprehensive inpatient care

The Riley Heart Center boasts one of the nation’s largest pediatric cardiac centers. Riley’s team of experts make it possible to deliver the full continuum of heart care to infants, children and adults with congenital heart defects.

Pulmonary Hypertension Hypertension Program

As a regional referral center for patients with pulmonary hypertension, the Riley Heart Center offers an integrated approach to the care of children and young adults. Riley cardiologists are nationally recognized for their work with the Pulmonary Hypertension Association.

Fetal Cardiology Program

As part of the Riley Fetal Center, cardiologists evaluate the cardiac condition of the fetus in the third trimester using ultrasounds and participate in care conferences with specialists in maternal-fetal medicine and cardiologists. Fetal heart volume has increased the past year with Riley Fetal Center pregnancy outcomes averaging a consecutive 5 years since 2010.

Heart Transplant/ Mechanical Circulatory Support Program

The Riley Heart Center, part of the Atrium Health system, is one of the founding hospitals of the Pediatric Heart Transplant Society, a group of 60 hospitals and hospitals in Canada, Israel, and Mexico that form the Pediatric Heart Transplant Network. Since the program’s inception in 1989, Riley cardiovascular surgeons have completed more than 160 pediatric heart transplants. Riley is one of only 10 hospitals in the U.S. with the IU School of Medicine of Cardiothoracic Surgery, John W. Brown Professor Director, Cardiovascular Surgery, Director, Pulmonary Hypertension Program, IU Cardiovascular Genetics Program, and the Cardiovascular Genetics Program.

Heart in Indiana and beyond

Riley cardiologists provide outpatient care at 13 practice locations, including more than 130 cardiology subspecialists in cardiology, cardiology and surgical care, all in the Riley Heart Center.

Expert heart care, global impact

Through partnerships with hospitals in the Middle East, Asia, and Africa, Riley Heart Center specialists and team members travel around the globe, reaching their time to treat more than 400 patients cases since 2004 and to treat local clinical teams in advanced heart care.

Patient-focused research

INDIANA UNIVERSITY SCHOOL OF MEDICINE

The Riley Heart Center is affiliated with Indiana University School of Medicine, one of the nation’s largest medical schools and one of the highest ranked institutions for pediatric research in the nation. Riley cardiologists are active in international and international research—work through adolescence and adulthood.

There are 62 ongoing active research studies representing the work of four clinical sections of the Riley Heart Center.

Riley is one of 11 NIH-funded Pediatric Heart Networks enabling patients in clinical trials focused not only on improving outcomes, but also improving quality of life. Riley is one of 11 NIH-funded Pediatric Heart Networks enabling patients in clinical trials focused not only on improving outcomes, but also improving quality of life. Riley is one of 11 NIH-funded Pediatric Heart Networks enabling patients in clinical trials focused not only on improving outcomes, but also improving quality of life. Riley is one of 11 NIH-funded Pediatric Heart Networks enabling patients in clinical trials focused not only on improving outcomes, but also improving quality of life. Riley is one of 11 NIH-funded Pediatric Heart Networks enabling patients in clinical trials focused not only on improving outcomes, but also improving quality of life. Riley is one of 11 NIH-funded Pediatric Heart Networks enabling patients in clinical trials focused not only on improving outcomes, but also improving quality of life.
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Patient outcomes and experience

Riley at IU Health has earned the Extracorporeal Life Support Organization’s highest designation—the Platinum Level of Excellence.

### Surgical site infections

<table>
<thead>
<tr>
<th>Category</th>
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### Cardiac Intensive Care Unit (CVICU)

- **Norwood**
  - Survival: 100%

### Postoperative length of stay

<table>
<thead>
<tr>
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### About Riley Children’s Health

The children’s health system of Indiana University Health, Riley Children’s Health has 200 primary care and 400 specialty care physicians across 40 specialties delivering healthcare for children of all ages. Its flagship hospital in downtown Indianapolis—Riley Hospital for Children at Indiana University Health—is the only pediatric research hospital in Indiana and is among the few children’s hospitals nationally to be ranked in multiple pediatric specialties.

Riley Observed Mortality Rate

Riley at IU Health has earned the Extracorporeal Life Support Organization’s highest designation—the Platinum Level of Excellence.
Comprehensive inpatient care
Anchored by world-class facilities, the latest technology and a team of skilled professionals, the Riley Heart Center provides the full continuum of care to infants, children and adults who arrive with congenital heart care needs. Our specialists are nationally recognized for their work with the Cardiovascular Malformations Consortium.

Fetal Cardiology Program
As part of the Riley Fetal Center, cardiologists evaluate and deliver the full continuum of care from the time of diagnosis through pregnancy and delivery. In addition, the Riley Fetal Center team consults with patients and their families every trimester of the pregnancy, including an average of 400 fetal echocardiograms annually.

Cardiovascular Genetics Program
IU School of Medicine
Director, Cardiovascular Genetics Program
Larry W. Markham, MD, MS
Annually, the Riley Heart Center team:
■ Conducts more than 5,000 cardiac catheterizations
■ Performs more than 4,000 open heart procedures
■ Performs more than 100 heart transplants
■ Performs more than 10,000 outpatient visits
■ Extends patient care to infants, children and adults with complex congenital heart defects.

Pulmonary Hypertension Program
As a regional referral center for patients with pulmonary hypertension, Riley is one of the few hospitals in the nation to offer balloon atrial septostomy (CAS), a procedure that can help relieve the symptoms of pulmonary hypertension in children and young adults. Our specialists are nationally recognized for their work with the Pulmonary Hypertension Association.

Fetal Transplantation and Circulatory Support Program
The Riley Heart Center, part of the IU Health Transplant Program, is one of only 10 hospitals in the nation providing fetal heart transplantation. Since the program’s inception in 1999, there have been two successful fetal heart transplants:
■ The first successful fetal heart transplantation
■ The second successful fetal heart transplantation

Single Ventricle Home Monitoring Program
Launched in 2010 to help decrease interstage mortality for babies born with hypoplastic left heart syndrome, this program has evolved to include all babies with single ventricle physiology discharged after initial interstage interventions. Participants with questions or concerns are able to contact an on-call nurse practitioner via text message or phone, and there is a 24/7 coverage by a cardiology staff physician. In 2017, Riley cardiologists implemented a novel, web-based monitoring program to allow parents in training and evaluate the cardiac medical team to evaluate data in real time.

Riley heart patients and families benefit from a skilled team that consistently delivers exceptional outcomes. We offer the full spectrum of cardiovascular services to manage the most complex congenital and acquired acquired conditions, making nationally ranked heart care accessible right here in Indiana.

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Heart in Indiana and beyond
Riley cardiologists provide outpatient care at 13 practice locations, 12 inpatient settings. Services include diagnostic, diagnostic, and follow-up care. The team also provides telehealth services to patients from more than 25 states and five continents.

Expert heart care, global impact
Through partnerships with hospitals in the Middle East, Africa, and Asia, Riley Heart Center specialists and team members travel around the globe, delivering their care to more than 100 countries on six continents and to local heart clinics in advanced care.

Partner hospitals
- Al Khalidi Hospital – Kuwait, Jordan
- Cetin Hospital – Kurdistan, Iraq
- Beijing Children’s Hospital – Beijing, China
- Hamad Medical – Doha, Qatar

Patient-focused research
INDIANA UNIVERSITY SCHOOL OF MEDICINE
The Riley Heart Center is affiliated with Indiana University School of Medicine, one of the nation’s largest medical schools and one of the highest ranked institutions for pediatric research in the nation’s Institutes of Health (NIH). The center seeks to advance international and interventional strategies —designed through achievements and advancements.

There are 62 ongoing active research studies representing the work of four clinical sections of the Riley Heart Center.

Riley is one of 10 NHTF Pediatric Heart Network enrolling patients in clinical trials focused not only on improving outcomes, but also improving quality of life. Riley cardiologists and physician scientists conduct interventional bench research concentrating on identifying new biomarkers and advancing knowledge of the basic mechanisms underlying heart formation and function.

Destination for advanced training
In partnership with the School of Medicine, the Riley Heart Center offers more than 75 programs accredited by the Accreditation Council for Graduate Medical Education (ACGME). Fellowships include:

- Cardiologists (adult congenital)
- Congenital cardiology
- Cardiac intensivist
- Pediatric cardiology

The Riley Heart Center is ranked heart care accessible right here in Indiana. "Riley heart patients and families benefit from a skilled team that consistently delivers exceptional outcomes. We offer the full spectrum of cardiovascular services to the most common to the most complex congenital and acquired conditions, making nationally ranked heart care accessible right here in Indiana."

Lori V. Mandelkorn, MD, FACC
Physician Director, Pediatric Cardiology
Children’s Hospital, School of Medicine

Mechanical Support Simulation Lab
The Riley Heart Center also promotes its research activities to teach procedures, medical concepts, and decision-making to trainee members. Simulation training is offered on a variety of devices, including: pneumatic, bioreactors, and one-pump and two-pump systems.
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Operative and adjusted operative mortality

<table>
<thead>
<tr>
<th>Surgical Site Infections</th>
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<th>CAUTI per 1,000 catheter days</th>
<th>SSI per 100 surgical procedures</th>
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Heart Center
2018 Overview and Outcomes

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