

# The Fetal Cardiology Program

## at Texas Children's Fetal Center



### About the program

Since the 1980s, Texas Children's Fetal Cardiology Program has provided comprehensive fetal cardiac care to expecting families when there is a concern for or risk of heart disease in the fetus. Our expert care includes diagnosis, counseling, delivery planning and monitoring, and seamless transition to Texas Children's Heart Center® after birth, for treatment from one of the nation's premier providers of pediatric cardiology care. This collaborative approach allows patients to receive the best possible care for mother and baby from a team of specialists located in Texas Children's Fetal Center® and Texas Children's Pavilion for Women.

### Why choose Texas Children's

With our long history and high volume of patients we've had the privilege of treating over the years, we offer a rare level of expertise and experience in fetal cardiology. Our team currently includes 14 fetal cardiology providers highly trained in fetal cardiac imaging, one of the most important aspects of fetal medicine.

Our extensive experience caring for these tiniest of patients through gestation, delivery and cardiology and cardiovascular surgical care, from infancy through adulthood, gives us unique insight and the ability to make highly accurate diagnoses and prognoses.

As part of the Texas Children's Heart Center, ranked #1 in the nation for pediatric cardiology and heart surgery by *U.S. News & World Report*, we provide families with seamless access to the highest-quality pediatric cardiac care including surgery, critical care and outpatient services.

We are known for a family-centered approach that focuses on supporting and preparing you and your family every step of the way. We partner with our colleagues throughout Texas Children's departments to provide comprehensive diagnosis, monitoring and educational resources, including a unique prenatal class to help prepare families whose newborns will require intensive or inpatient care immediately after birth.

We strive to develop new cutting-edge treatments and therapies for fetal cardiac anomalies to provide more life-changing and life-saving care. We have a variety of promising clinical trials and research efforts in progress and a staff dedicated to serving as members of the Fetal Heart Society and other notable organizations that participate in international fetal cardiac studies.



Pavilion  
for Women



### What to expect

Patients are typically evaluated as early as 18 weeks gestation and beyond, although sometimes sooner. Indications for fetal cardiology evaluation include suspected fetal heart disease, or a history that increases the risk of the fetus having a heart problem. There are many conditions associated with increased risk of heart disease; some of these include maternal diabetes, maternal lupus, family history of congenital heart disease and in vitro fertilization.

A dedicated Fetal Center nurse coordinator will contact the patient when the referral is received and the patient's first visit will be scheduled and tailored to fit their specific needs. On the first visit, the patient will have a fetal echocardiogram performed by a fetal cardiac ultrasonographer supervised by a fetal cardiologist. The fetal cardiologist and nurse coordinator will counsel the family regarding the findings. If heart disease is present, they will discuss the status of the fetus' heart, go over potential interventions or treatments that may be needed pre or postnatally, and work with the maternal-fetal medicine specialist and/or the patient's obstetrician to facilitate the best delivery plan for the infant with heart disease. The scheduling team will then arrange further visits or tours for the patient as necessary.

### Our team

Fetal cardiac care is provided by a team of dedicated fetal and pediatric cardiologists, sonographers, nurse coordinators and many other clinical specialists. The team performs over 2,000 fetal cardiac examinations annually. In addition, we provide diagnosis, counseling and management of congenital heart defects and acquired fetal cardiac diseases.

The fetal cardiac team works closely with experts in maternal fetal medicine, fetal surgery, genetics, fetal radiology, neonatology and obstetrics to provide support of fetuses with a wide spectrum of problems that can impact the fetal heart. Our team approach means that when you deliver at Texas Children's, you and your baby both receive all your care under one roof. This relieves your family of the stress of having mother and baby in separate institutions after birth.

**Approximately 50% of all patients referred to Texas Children's Fetal Center are seen for cardiac issues.**



## Fetal heart conditions we treat

We offer comprehensive care of all fetal conditions, and we are one of the only programs in the nation capable of providing the full scope of fetal therapies and innovative fetoscopic procedures. Listed below are the fetal cardiac conditions that are often seen and treated at our center.

- Aortic arch hypoplasia and coarctation of the aorta
- Aortic stenosis
- Aortopulmonary window flutter
- Atrial flutter
- Atrioventricular canal defect (atrioventricular septal defect)
- Bradycardia
- Cardiac tumors/masses
- Cardiac dysfunction/cardiomyopathy
- Congenital heart disease
- Congenital heart block
- Congenitally corrected transposition of the great arteries
- Double inlet left ventricle
- Double outlet right ventricle
- Ebstein anomaly and dysplastic tricuspid valve
- Ectopia cordis/pentalogy of Cantrell
- Heterotaxy complex
- Fetal aortic stenosis
- Fetal cardiac arrhythmia
- Fetal lupus/SSA disease
- Genetic Disorders associated with cardiac disease, including
  - DiGeorge/chromosome 22q11.2 deletion syndrome
  - Noonan syndrome
  - Trisomy 13
  - Trisomy 18
  - Trisomy 21
  - Turner syndrome
- Hypoplastic left heart syndrome (HLHS)
- Hypoplastic left heart complex
- Interrupted aortic arch
- Other single ventricle lesions
- Pericardial effusions
- Premature atrial contractions
- Premature ventricular contractions
- Pulmonary atresia with intact ventricular septum
- Pulmonary stenosis
- Supraventricular tachycardias
- Secondary heart effects from other anomalies such as
  - Absence of the ductus venosus
  - Congenital diaphragmatic hernia (CDH)
  - Gastroschisis
  - Hydrops
  - Omphalocele
  - Sacrococcygeal teratoma/vascular malformation
  - Twin-to-twin transfer syndrome (TTTS)
  - Twin reversed arterial perfusion (TRAP)
- Ventricular septal defects
- Ventricular tachycardia
- Tetralogy of Fallot (TOF)/pulmonary atresia with VSD
- Total and partial anomalous pulmonary venous return
- Transposition of the great arteries
- Tricuspid atresia
- Truncus arteriosus



## Texas Children's Heart Center®

After birth, Fetal Cardiology Program patients have seamless access to the Heart Center's team of world-renowned leaders in pediatric cardiology, congenital heart surgery, cardiovascular anesthesia and cardiac critical care. With more than six decades of experience in caring for some of the rarest and most complex pediatric heart cases, Texas Children's Heart Center's integrated, multidisciplinary team performs more

than 900 surgical procedures each year and works together to surround patients with expertise at every point from diagnosis through treatment, in order to provide the best possible outcomes for every patient.

The Heart Center's top-ranked subspecialty programs include:

- Adult Congenital Heart Disease
- Cardiac Developmental Outcomes
- Cardiovascular Genetics
- Cardiovascular Oncology
- Coronary Artery Anomalies
- Electrophysiology
- Heart Failure
- Heart Transplant
- Preventive Cardiology
- Single Ventricle



Texas Children's Hospital is ranked #1 in the nation for Cardiology & Heart Surgery by *U.S. News & World Report*.



## Outcomes

In an effort to continually improve the quality of care available for patients and families, Texas Children's Hospital is dedicated to tracking and sharing outcomes data even in new and emerging fields. Heart Center and Fetal Cardiology outcomes data is available for a variety of specific conditions and treatments.

If you wish to learn more about Texas Children's Fetal Cardiology Program and Heart Center data, go to either [women.texaschildrens.org/fetaloutcomes](https://www.women.texaschildrens.org/fetaloutcomes) or [texaschildrens.org/heartoutcomes](https://www.texaschildrens.org/heartoutcomes).

## Fetal Cardiology Program volumes and outcomes

### Fetal Echocardiograms, 2018 totals

#### TOTALS

Unique patients undergoing fetal echocardiograms	1,650
Fetal echocardiograms	2,396

### Fetal Cardiac Interventions

#### TOTALS

Number of open and catheter-based fetal cardiac interventions*	19
Number of fetuses undergoing chronic maternal hyperoxygenation for borderline left heart*	14

\*Available data from 2012 through the end of 2018

### Fetal cardiac conditions 2018 totals

<i>Condition</i>	<i>Number of Visits</i>	<i>Number of Patients</i>
Arrhythmias	111	46
Atrioventricular septal defects	45	29
Cardiac tumor or mass	0	0
Double outlet right ventricle	59	39
Ebstein anomaly	21	4
Heterotaxy	20	12
Hypoplastic left heart syndrome and related disorders	89	44
Other single ventricle anatomy	57	34
Other congenital heart disease	240	168
Pericardial effusion	249	157
Pulmonary vein anomaly	12	10
Tetralogy of Fallot with pulmonary atresia	63	32
Transposition of great arteries	26	15
Truncus arteriosus	3	2
Ventricular septal defect	327	214

*Send us your toughest cases. We're known for delivering.*

## Referrals

Physicians can be confident knowing that patients referred to Texas Children's Fetal Center will receive the best possible care. To refer a patient visit [women.texaschildrens.org/fetalreferral](https://www.women.texaschildrens.org/fetalreferral) and fill out our online referral form. Patient historical information and medical records can be uploaded online in the form as well. Please be sure to fill out every field in the form if possible.

## Questions

Please call us if there are any questions regarding patient referrals. Our phones are answered 24 hours a day, 7 days a week.

**832-822-BABY (2229)**

**1-877-FetalRx (338-2579) - toll-free**

**[fetal@texaschildrens.org](mailto:fetal@texaschildrens.org)**

**Baylor**  
College of  
Medicine

## Partnership

Texas Children's Hospital is affiliated with Baylor College of Medicine in the areas of pediatrics, pediatric surgery and obstetrics and gynecology. Baylor is ranked by *U.S. News & World Report* as one of the nation's top 25 medical schools for research. Currently and throughout our more than 60 year partnership, Texas Children's Hospital has served as Baylor's primary pediatric training site. The collaboration between Texas Children's Hospital and Baylor is one of the top 10 such partnerships for pediatric research funding from the National Institutes of Health.

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Texas Children's Fetal Center

Located within the Pavilion for Women Maternal-Fetal Center, 4th Floor

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Houston, TX 77030

**832-822-2229**

**[women.texaschildrens.org/fetalcardiology](https://www.women.texaschildrens.org/fetalcardiology)**

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