

When Collaboration is Key: The Texas Children's Approach to Complex Conditions

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Cardiology 2025



Tale of three cases

- Case 1:
 - Fetus with severe congenital diaphragmatic hernia found to have aortic root dilation → Loeys Dietz syndrome type 4 (*TGFB2*) via amniocentesis
- Case 2:
 - Fetus with difficult to control fetal VT and parents suffered recent fetal demise at 28 weeks GA
- Case 3:
 - Fetus with atypical SV physiology-mitral atresia, DORV, normal size great arteries. Found upon further investigation to have multiple other anomalies

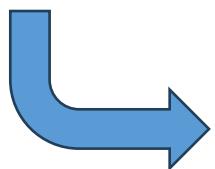


First Contact

Hi-I have a fetal case that is challenging.
Can you talk? They'd like to come for an
evaluation

Sure! Give me a call

Read 4:02 PM



Advocacy

Medical Staff Credentialing

Referring Provider Instructions



Houston Area



Austin Area

To refer your patient to the Texas Children's Fetal Center®, please complete the following steps.

1. Complete the online referral form *or* download and complete the paper referral form *or* submit via Texas Children's Link

 [Online Referral Form](#)

 [Paper Referral Form](#)

Fetal Center Team

Centralized nurse coordinator team

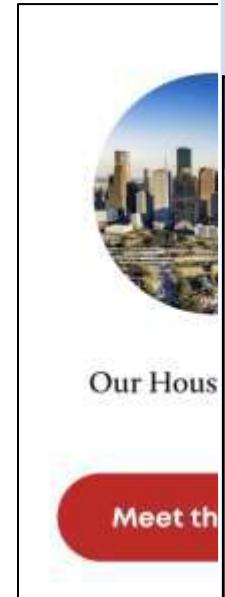


Fetal Center Visit

Which campus?

Which specialists?

What testing?



Specialists

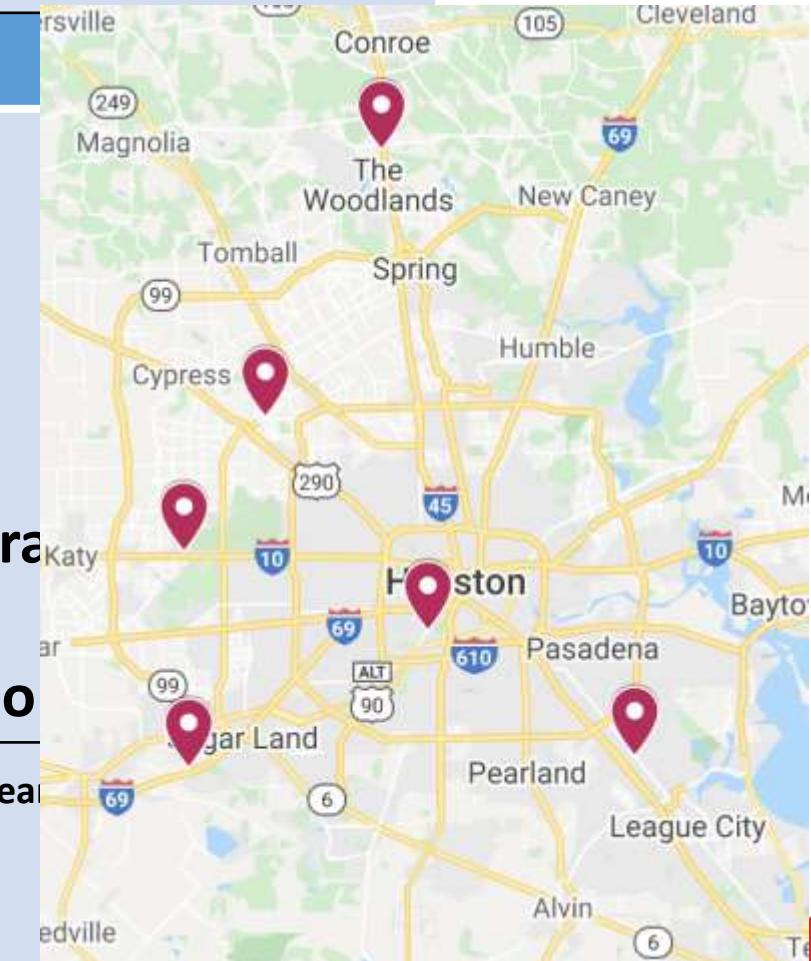
Anesthesiology
Congenital Heart Surgery
Craniofacial Team - Plastic and Reconstructive Surgeons
Electrophysiology
Fetal Cardiology

Testing

Amniocentesis/CVS
Fetal echocardiogram
Fetal MRI
Laboratory studies
Maternal ECG
Maternal echocardiogram
Neuros sonogram
Comprehensive Ultrasound

Pediatrics

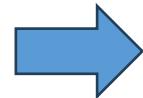
Perinatal Pediatric Advanced Care Team
Pediatric Surgeons/Fetal Surgeons
Single Ventricle Team
Social Work
Urology
Vascular Anomalies



First visit

- Coordinated visit, algorithm and experience based:

Example Itinerary	
8am	Ultrasound
9am	Fetal MRI
11:30am	Labs
1pm	Fetal echo and cardiology consult
3pm	Fetal Intervention/MFM
4pm	Genetics



- Preliminary counseling
- What other consults needed
- Family support
- Follow-up evaluations
- Delivery planning



TCH Fetal Center Bonuses

- Shared Fetal coordinators
- Co-location in Fetal/MFM/Fetal Intervention Department
 - Constant interaction, curbsides
 - Outstanding comradery
 - Understanding of complexing coordinating schedule
- Heavily integrated Genetics/Genetic counseling
 - Offered for all CHD pts
 - Informed by CV Genetic postnatal team
- Weekly Multi-D meeting of almost all new cases
- Multiple registries/trials/clinical research studies



Family support

- Single point person – nurse coordinator – for all needs/communication
- The Woman's Place: Mental health support for parents
- “Parenting your High Risk Newborn” Saturday class with other planned NICU/CICU parents to help prepare for newborn hospitalization
- Single ventricle team consultation
- NICU/CICU tours by primary nurse coordinator
- P-Pact (Palliative Care) readily available
- Ability to keep Fetal cardiologist as primary cardiologist



Delivery

- Present
- If needed
- If needed
- Written
- Purpose
 - Close
 - Flex
- Private bridge (no public traffic) from Pavilion for Women to legacy Tower, short walk



Revisit cases

- Case 1:
 - Fetus with severe congenital diaphragmatic hernia found to have aortic root dilation → Loeys Dietz syndrome type 4 (*TGFB2*) via amniocentesis

Consults

Fetal Cardiology/CV Genetics
Pediatric Surgery
Pulmonary
MFM
Genetics
OB

Tests

Fetal echo
Fetal MRI
Ultrasound
(prior amnio)



Revisit cases

- Case 2:
 - Fetus with difficult to control fetal VT and parents suffered recent fetal demise at 28 weeks GA

Consults

Fetal Cardiology

EP/EP Genetics

Genetics

ACHD

MFM

OB

Tests

Fetal echo

Fetal ECG (research)

Ultrasound

Maternal LQTS panel



Revisit cases

- Case 3:
 - Fetus with atypical SV physiology-mitral atresia, DORV, normal size great arteries. Found upon further investigation to have cleft lip and palate

Consults	Tests	Findings
Fetal Cardiology Genetics Pediatric surgery ACHD MFM OB	Fetal echo Ultrasound Fetal MRI Amniocentesis	2 vessel cord Fetal growth restriction Cleft lip and palate R Microphthalmia Low set ears, R Microtia Suspected atretic middle ear cavity and inner ear components Cerebral ventriculomegaly Small CDH (O:E TFLV 95%) Dysgenesis corpus callosum



Summary

- It takes a village
- Highly value co-location with MFM/Fetal Radiology
- Delivery Center connected to CICU helps reduce C-section deliveries
- Genetics is critical
- Frequent communication and over-communication is key



TCH Fetal Cardiology Team

Fetal Cardiologists

- Shaine A Morris, MD, MPH, Director
- Betul Yilmaz, MD, Assoc Director
- Nancy A Ayres, MS
- Carolyn A Altman, MD
- Deidra Ansah, MD
- Matthew Campbell
- Tam Doan, MD
- Tosin Fatusin, MD
- James Hoffman
- Anitha Jayakumar
- Joshua Kailin, MD
- Regina Lantin-Hermoso, MD
- Emily J Lawrence, DO
- Christian Lilje, MD
- Keila N Lopez, MD, MPH
- Anitha Parthiban, MD
- Aura Sanchez, MD
- Hastii Sanandijafar, MD
- S. Kristen Sexson-Tejtel, MD, PhD
- Shreya Sheth, MD
- Ruthie Vaughan, MD
- J. Christopher Wilkinson, MD
- Krista Young, MD

Sonographers

- Lacey Schoppe, Lead Fetal Sonographer
- Magnolia Nguyen
- Jianhong Zhang
- Scott Doucet
- Miguel Lorenzo
- Christina Lorenz
- Allyson Thomas
- Angel Guzman

Nurse Coordinators

- Kimberly Hase, Manager
- Briana Baker
- Liz Bowling
- Morgan Grisham
- Kelly Jett
- Christina Lee
- Stephanie Creighton

Schedulers

- Ivonne Gutierrez
- Blanca Perrett

