

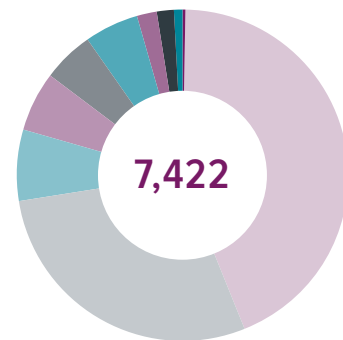
Volumes & Outcomes Summary 2021

The Fetal Care Center is one of few comprehensive fetal care centers in the world. Led by physicians from **Cincinnati Children's, TriHealth and University of Cincinnati Medical Center**, our team specializes in treating complex and rare fetal conditions and is at the forefront of innovation in fetal diagnosis and intervention therapies. Our experience and expertise is shown in our volume and outcomes.

Information in this document is based on data from fetal patients cared for by Cincinnati Children's Fetal Care Center from February 1, 2004 through June 30, 2021, except where otherwise noted.

Care for the Full Spectrum of Fetal Conditions

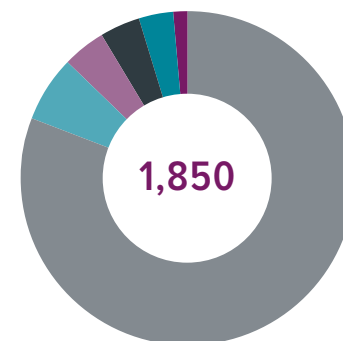
Total Evaluations	7,422
■ Twin-Twin Transfusion Syndrome (TTTS)	2,130
■ Bladder Outlet Obstruction (BOO)/Posterior Urethral Valves (PUV)	511
■ Myelomeningocele (MMC)/Spina Bifida	433
■ Congenital Diaphragmatic Hernia (CDH)	383
■ Congenital Pulmonary Airway Malformation (CPAM/CCAM)	379
■ Fetal Tumors	144
■ Twin Reversed Arterial Perfusion (TRAP) Sequence	129
■ Amniotic Band Syndrome (ABS)	65
■ Chorioangioma	25
■ Other	3,223



Experience When Needed Most

We have performed the following procedures, in addition to amnioinfusions, amnioreductions, intrauterine transfusions, amniocentesis, and shunts.

Total Procedures	1,850
Ultrasound-Based Procedures	
■ Radiofrequency Ablation (RFA)	125
Surgical Procedures	
■ Fetoscopic	1,599
■ Open Fetal Surgeries (excluding EXIT)	83
Delivery Interventions	
■ Cesarean with ECMO standby	75
■ Ex-utero Intrapartum Treatment (EXIT)	71
■ Delivery with Procedures on Placental Support (POPS)*	22
Special Delivery Unit Deliveries	445



* Data July 1, 2019 – June 30, 2021.

Our team has performed more fetoscopic procedures than any other program in the nation.

Our Center is the first of a few centers in the nation to offer the Carpediem™ Machine—a breakthrough technology providing dialysis for newborns in our NICU.

Congenital Diaphragmatic Hernia (CDH)

All patients with CDH are cared for by our dedicated CDH team of maternal-fetal medicine specialists, neonatologists, pediatric surgeons, pediatric cardiologists, ECMO specialists, nurses, nutritionists and therapists. After birth, these patients can continue their care in our CDH Program.

Total Evaluations **383**

Survival to Discharge

Low Risk CDH. **100%***

Severe CDH (post FETO) **86%**

All survivors, post FETO treatment, were discharged without oxygen supplementation to date.

Survival data includes CDH patients with other fetal anomalies from July 1, 2016 through June 30, 2021.

** Low Risk CDH survival data is approaching 100%*

Bladder Outlet Obstruction (BOO)/ Posterior Urethral Valves (PUV)

Total Evaluations **511**

Fetoscopic Interventions **26**

Amnioport for Serial Amnio-infusions **24***

Our team has also performed several hundreds of vesicoamniotic shunting, bladder taps, percutaneous needle amnioinfusion, and peritoneal-amniotic shunting for urinary ascites.

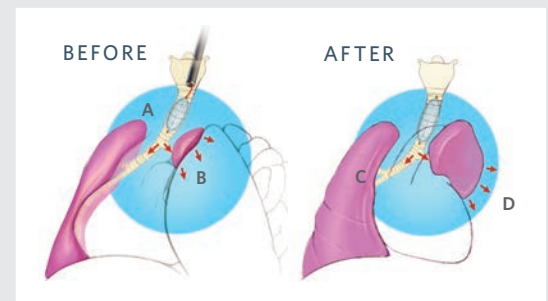
** Data includes amnioports for serial amnio-infusions from January 1, 2011 – June 30, 2021.*

Fetoscopic Endoluminal Tracheal Occlusion (FETO)

We provide **FETO intervention** for Left and Right sided CDH based on criteria and patient evaluation.



The fetoscope instrument is guided through a small incision in the mother's uterus and into the fetal trachea.



- A. Balloon inflated inside baby's trachea
- B. Pressure helps lungs to grow
- C. Balloon traps fluid inside lung
- D. Pressure helps lungs to grow

Our surgeons have performed more than 40 FETO procedures.

Our Center has performed more Fetoscopic Laser Photocoagulation (FLP) procedures for TTTS than any other center in the nation with a 92.5% survival rate of at least one twin.*

Twin-Twin Transfusion Syndrome (TTTS)

Total Evaluations	2,130
Twins	2,033
Triplets	97
Fetoscopic Interventions	1,357

Fetoscopic Laser Photocoagulation (FLP) Procedures

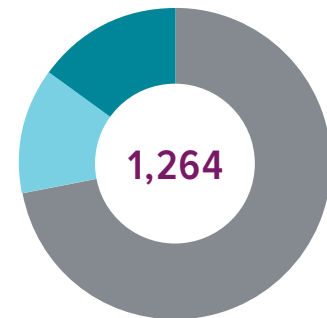
Total FLP Procedures Performed	1,264
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FLP Procedures by Type

Posterior Placenta	52%
Anterior Placenta	48%

FLP Procedures by Gestational Age

■ 16-18 Weeks	13.5%
■ 18-24 Weeks	72%
■ 24-28 Weeks	14.5%



FLP Procedures by Gestational Age

Survival Rates for Patients Undergoing FLP Procedures

Quintero Stages I, II, III

All patients including placental insufficiency/growth restriction and patients with short cervix.

Survival of at Least One Twin	93%
Survival of Both Twins	73%
Overall Survival	83%

Quintero Stage IV

All patients including placental insufficiency/growth restriction and patients with short cervix.

Survival of at Least One Twin	90%
Survival of Both Twins	79%
Overall Survival	85%

** All patients including selective fetal growth restriction, hydrop fetalis, and patients with short cervix. Data reflects twin gestations from July 1, 2011 to June 30, 2021.*

We are one of the largest centers in the nation for MMC evaluations and procedures performed.

Myelomeningocele (MMC)/Spina Bifida

Total Evaluations	433
Prenatal MMC Repairs	109
Fetoscopic Prenatal MMC Repairs*	52
Fetoscopic Prenatal MMC Repairs Delivered Vaginally*	40%

* Data reflects repairs starting in 2016.

Congenital Pulmonary Airway Malformation (CPAM)

Total Evaluations	379
Procedures by Type	
Open Fetal Surgery	7
EXIT-to-Resection	11
Shunt Placement	35

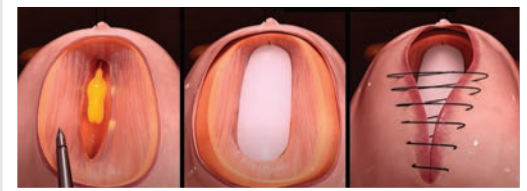
Fetal patients diagnosed with low risk CPAM and treated at our Center have a 100% survival rate.

Twin Reversed Arterial Perfusion (TRAP) Sequence

Total Evaluations	129
Fetal Interventions	89

Fetal patients diagnosed with TRAP Sequence and treated at our Center have a 98% survival rate.

Myelomeningocele (MMC)/Spina Bifida



The exposed nerves and neural placode are carefully released from their attachment and then they are protected and covered with a double layer of neural-substitute patch, before the skin is sutured in the midline for primary repair, if possible. Otherwise, a skin-substitute patch can be sutured to cover the skin defect.

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Cincinnati Children's is ranked #1 in the Midwest and is a top 5 hospital in the nation among Honor Roll hospitals.