



## *In Utero Fetal Surgery*

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### **Purpose:**

To provide in utero fetal surgery guidelines for the Medical Department staff to reference when making determinations.

### ***Additional Information***

- In utero fetal surgery is a relatively new field and covers the application of surgery before birth. A number of congenital abnormalities and fetal disorders have been studied to determine whether they are amenable to fetal intervention. The main objective of fetal surgery is to reverse the underlying pathophysiology during organogenesis in order to ameliorate or prevent the consequences of the associated fetal disorder.

### ***Coverage Guidelines***

- Fetal surgery may be considered medically necessary and covered for the following conditions:
  - 1.) Urinary tract obstruction (UTO): Urinary decompression treated via vesicoamniotic shunt placement (VASP) with all of the following conditions:
    - bilateral obstructive uropathy or bilateral hydronephrosis,
    - early onset oligohydramnios/anhydramnios, and
    - severe or progressive but potentially reversible renal damage.
  - 2.) Congenital cystic adneomatoid malformation (CCAM) and extralobar pulmonary sequestration (EPS): *Treated with* fetal lobectomy or thoracoamniotic shunt placement for CCAM and thoracoamniotic shunt placement for EPS with all of the following conditions:
    - fetal hydrops,
    - Multicystic lesions, and
    - less than 32 weeks gestation.
  - 3.) Sacrococcygeal teratoma (SCT): Treated with resection in cases with massive tumor size, placentomegaly, and fetal hydrops resulting from high-output cardiac failure due to arteriovenous shunting of blood through the tumor.



## *In Utero Fetal Surgery*

- 4.) Twin-twin transfusion syndrome (TTTS) and Twin reversed arterial perfusion (TRAP): TTTS treated with fetoscopic laser surgery may be covered at less than 26 weeks of gestation or serial amnioreduction may be covered for TTTS diagnosed at 26 weeks gestation or later. TRAP treated with ablation or occlusion of anastomotic vessels may be covered when all of the following are present:
- umbilical cord Doppler velocimetry and fetal echocardiography document reverse flow,
  - chromosomal abnormality has been excluded in the pump twin, and
  - ratio of acardiac to pump twin weight is greater than 50%.
- Surgery must be performed by physicians and in facilities with demonstrated experience and expertise in fetal surgery.

### *Exclusion Criteria*

- All other applications of fetal surgery are considered investigational including, but not limited to, the following abnormalities:
  - A.) Congenital diaphragmatic hernia (CDH): Treated with fetoscopic temporary tracheal occlusion;
  - B.) Congenital Heart Disease (CHD): Including Heart block, Pulmonary valve, or Aortic obstruction;
  - C.) Myelomeningocele (MMC) repair;
  - D.) Tracheal Atresia / stenosis;
  - E.) Cleft lip / Palate.

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## *In Utero Fetal Surgery*

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## *In Utero Fetal Surgery*

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