

# Neck Masses

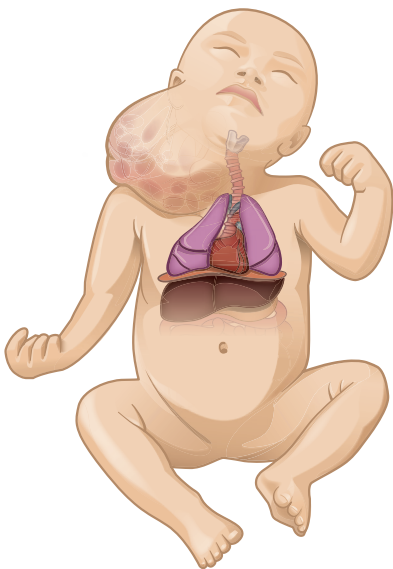
## What is a fetal neck mass?

A fetal neck mass is a condition where there is an abnormal growth in the neck. Most neck masses can be managed after a normal pregnancy and delivery. They become a problem when the growth starts to change the anatomy of the neck.

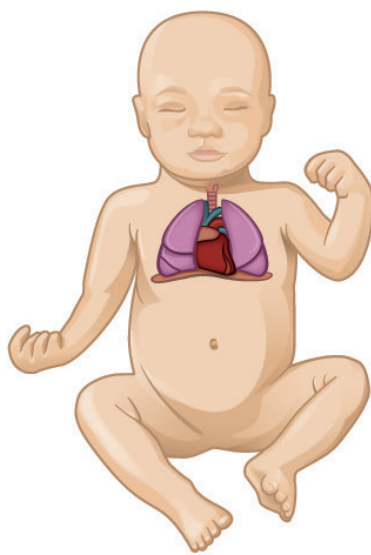
The mass can become so large that the esophagus and airway may be blocked. If the esophagus, which connects the mouth to the stomach, is blocked then the baby cannot swallow normally. This can lead to polyhydramnios (too much amniotic fluid), which can cause pre-term labor. Blockage of the airway can prevent the baby from breathing at birth, which is a life-threatening problem.

## What causes a fetal neck mass?

Fetal neck masses are rare and usually there is not a genetic cause. The most common type of fetal neck mass is a Cystic Hygroma, also known as a Cervical Lymphatic Malformation or Lymphangioma. This is caused by an abnormality in the development of the lymphatic channels in the neck. Lymphatic fluid (or lymph) is the fluid in between cells; not in the cells and not in the blood vessels. The lymph collects in channels (much thinner than blood vessels) and drains ultimately in the heart. When one of the main channels becomes blocked other channels become dilated and distorted, and a cystic mass filled with lymph develops. This type of fluid-filled cyst can distort the neck anatomy, causing the esophagus or airway to be blocked.



*Baby With A Fetal Neck Mass*



*Healthy Baby*

A Cardinal Glennon St. Louis Fetal Care Institute nurse is available 24 hours a day, seven days a week to discuss referrals with physicians and potential families by calling 314-268-4037, option 2.

Phone 314-268-4037, option 2  
Toll-free 1-877-SSM-FETL (776-3385)  
Web [stlouisfetalcare.com](http://stlouisfetalcare.com)  
Email [fetalcare@ssmhealth.com](mailto:fetalcare@ssmhealth.com)  
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## Neck Masses

A Cervical Teratoma is another, rarer, kind of neck mass. This is usually a non-cancerous tumor caused when reproductive cells become abnormally located in the neck and begin to grow. Teratomas form a solid tumor created by a variety of different cells. Although the neck masses form differently, the prenatal treatment is similar.

### How is a fetal neck mass diagnosed and evaluated?

Typically around 20 weeks of pregnancy, a routine ultrasound will show that the baby has a neck mass. Following the initial diagnosis, a series of medical tests will be done to determine the size and impact of the mass on the baby:

- » Frequent ultrasounds will allow the SSM Health Cardinal Glennon St. Louis Fetal Care Institute team to see the mass, and learn more about how it is impacting the baby.
- » A fetal echocardiogram (ultrasound of the heart performed by a pediatric cardiologist) will rule out structural heart defects and assess heart function.
- » A fetal MRI will determine the nature and size of the mass, as well as how it is impacting the airway, esophagus and other surrounding organs.

With all of this information, the team can help you and your family make the best possible decision about treatment.

### How are fetal neck masses managed and treated during pregnancy?

The primary goal of an evaluation at the Cardinal Glennon St. Louis Fetal Care institute is to determine the severity of the neck mass. This may take several evaluations during which it is determined if the mass is growing rapidly, and how it is impacting the fetus. If the mass is compromising the airway or esophagus, or is causing an increase in amniotic fluid, then fetal intervention will be considered.

### What fetal interventions are done for fetal neck masses?

Currently, there is not a fetal surgery option for fetal neck masses. However, if there is too much amniotic fluid (polyhydramnios), amnioreduction may be performed to remove the excess fluid, and lower the risk of preterm labor. During an amnioreduction, a local anesthetic is used to numb the skin of the mother's abdomen, then a needle is inserted into the womb to remove the excess amniotic fluid. The baby is monitored via ultrasound throughout the procedure to ensure it is not touched by the needle. Additionally, the mother may also be placed on bed rest, or given special medications to reduce the amniotic fluid.

### How will a fetal neck mass impact delivery?

Most babies with a small neck mass can be delivered vaginally without any apparent complications. These babies typically go home and are followed as an outpatient two to four weeks after birth. The baby will be referred to a pediatric surgeon, who will help determine if, when, and how the mass should be removed.

Sometimes, a giant neck mass can prevent the baby from breathing at birth. In these cases, the team at the Fetal Care Institute may recommend that an Ex Utero Intrapartum Treatment (EXIT) procedure be performed for delivery. During an EXIT procedure, the mother has a Cesarean birth while asleep under general anesthesia. The placenta and umbilical cord remain attached to the mother and support the baby to give fetal surgeons time to evaluate the baby's lung function and the neck mass, secure an airway and determine the best course of treatment.

Depending on the severity of the neck mass the surgeon may need to drain or remove the mass, or perform a tracheotomy to secure an airway while the baby is still attached to the placenta. Once an airway is secured, a breathing tube is inserted and breathing is assisted using a ventilator machine.

If the baby is having difficulty breathing because the lungs are not fully developed, ECMO is used to give the baby's lungs more time to grow. Once the baby is breathing well, the umbilical cord is cut and the baby is fully delivered.

Following the EXIT procedure, the mother's Cesarean incision is repaired and her recovery will be similar to those of a standard Cesarean birth.

### What can I expect after my baby is born with a fetal neck mass?

Babies who are born with a fetal neck mass often have difficulty breathing and eating at birth. Neck masses can compress the baby's airway, making it soft and prone to collapse. If this is the case the baby may need a tracheostomy (a surgical opening in the trachea, often called a breathing tube) to make breathing easier. A temporary feeding tube to help provide nutrition may be necessary if the baby is unable to swallow at birth.

The impact on your baby will vary depending on the type of neck mass. For example, Lymphangioma may cause challenges with feeding, speaking and swallowing, while some Cervical Teratomas can require thyroid supplements after birth. Some babies may also require plastic surgery later in life.

Since every case is different, the team at the Cardinal Glennon St. Louis Fetal Care Institute will work to ensure the right team of specialists are involved with the care of your baby. The long-term outcomes for fetal neck masses after surgery are promising. In nearly all cases, your baby will develop normally without any problems. But ongoing follow-up care is encouraged since these babies have a higher chance of a mass re-growth.