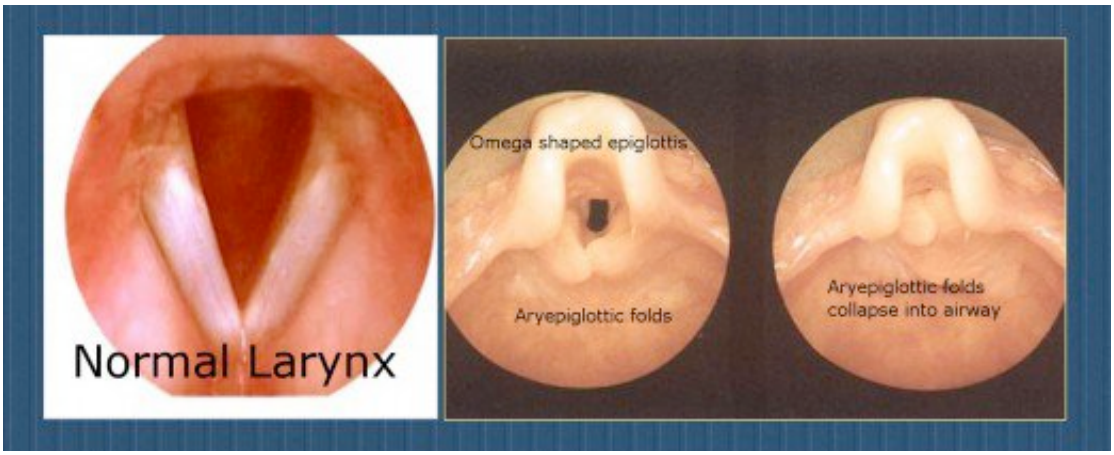
Laryngomalacia or Floppy Larynx

The Summary



- Congenital abnormality of the larynx cartilage that predisposes to dynamic supraglottic collapse during the inspiratory phase of respiration, resulting in intermittent upper airway obstruction and stridor.
- Most common laryngeal anomaly and most frequent congenital cause of stridor in infants.
- Natural history is presentation in early infancy with maximal symptoms at 6 to 8 months before gradual improvement and spontaneous resolution within 12 to 24 months.
- Presents with inspiratory stridor. Some patients have upper airway obstruction with associated feeding difficulties. Frequently associated with GORD.
- Diagnosis is made by the clinical features and with flexible laryngeal endoscopy. Direct rigid laryngoscopy under anaesthesia may also be required. Possibility of additional airway lesions should be considered.
- Treatment depends on disease severity; observation alone (with treatment of associated GORD) is appropriate for most cases. Endoscopic supraglottoplasty may be required for more severe disease. Tracheostomy and pressure-assisted ventilation are other possible therapies.

Diagnosis

Your child's doctor may suspect that your child has LM by simply gathering his / her medical history. However, the condition is confirmed by a clinical examination and flexible laryngoscopy.

Flexible Nasoendosocpy

This test is required to confirm a diagnosis. This test involves placement of a lighted tube through the nose or mouth to look at the voice box. The doctor looks at the position of the tissue above the voice box to determine if it is floppy. At the same time, he / she will look for any other throat / voice box problems that may contribute to the noisy breathing.

If your child is seen in the Laryngomalacia Clinic at Cincinnati Children's Hospital Medical Center, the lighted tube is connected to a television camera so that the parent or caregiver can see what the voice box looks like. While looking at the voice box, your doctor may ask you to feed your baby from a bottle to see how well your baby does with feeding, especially if there is a history of choking on food or spitting up.

Microlaryngoscopy and Bronchoscopy

This test is done in the operating room under general anesthesia by the ENT surgeon. The doctor looks at the voice box and windpipe with telescopes. Your doctor may recommend this test if the X-ray test shows something abnormal or if your doctor has a suspicion of additional airway problems.

Esophagogastroduodenoscopy (EGD)

An EGD is a diagnostic test done in the operating room under general anesthesia by the gastroenterologist. The doctor looks at your child's esophagus and stomach with a lighted tube.

During an EGD, the doctor looks for signs of chronic inflammation from acid irritation that can occur in the stomach or the esophagus. Your doctor may recommend this if the pH probe is significantly abnormal or there is strong suspicion of significant GERD based on history and clinical examination.

Signs and symptoms

Infants with LM have intermittent noisy breathing when breathing in. It becomes worse with agitation, crying, excitement, feeding or position / sleeping on their back. These symptoms are often present at birth and are usually apparent within the first 10 days of life. However, noisy breathing may be present in babies up to 1 year of age.

Symptoms will often increase or get worse over the first few months after diagnosis, usually between 4-8 months of age. Most children outgrow the noisy breathing (stridor) by 12-18 months of age.

Other associated symptoms include:

Poor weight gain

Difficulty with feeding

Vomiting or spitting up

Choking on food

Stops breathing

Chest and / or neck retractions (chest and / or neck sinking in with each breath)

Turning blue

Gastroesophageal reflux (GERD) (spitting up of acid from the stomach)

Types of Laryngomalacia

Mild Laryngomalacia

Infants in this category have non-complicated laryngomalacia with typical noisy breathing when breathing in without significant airway obstructive events, feeding issues or other symptoms associated with laryngomalacia. These infants have noisy breathing that is annoying to the caregivers but does not cause other healthcare problems. These patients will usually outgrow the stridor by 12-18 months of age.

Even though your child may have mild laryngomalacia, it is still important to watch for signs or symptoms of it worsening.

Moderate Laryngomalacia

Infants in this category have the following symptoms:

Noisy breathing when breathing in

Vomiting or spitting up

Airway obstruction (from floppy voice box tissue)

Feeding difficulties without poor weight gain

History of airway symptoms severe enough to warrant multiple visits to an emergency department or hospital

GERD. These patients also will typically outgrow the stridor by 12-18 months of age but may require treatment for GERD.

Even though your child may have moderate LM, it is still important to watch for signs and symptoms of it worsening.

Severe Laryngomalacia

Patients in this category often require surgery for treatment and to lessen the degree of symptoms. Your doctor may recommend surgery if your child has any of the following symptoms:

Life-threatening apnea

Significant blue spells

Failure to thrive with feeding difficulty

Significant chest wall and neck retractions with breathing

Requires oxygen to breathe

Heart or lung problems as a result of chronic oxygen depravation

Treatment

There are two operations for treatment. Your doctor will most likely recommend a supraglottoplasty. The unneeded floppy tissue of the larynx is trimmed in the operating room with your child under general anaesthesia. Your child may have a breathing tube in the nose through the voice box after surgery for at least one night.

Your child may need to have this operation done more than once. Having the operation may not make the noisy breathing go away completely, but it should improve your child's breathing and will likely decrease the noise.

The other surgical option is the placement of a tracheotomy tube into the windpipe to bypass the floppy tissue of the larynx. Rarely is this operation done for laryngomalacia. Your surgeon will try to do the supraglottoplasty if it is appropriate and feasible for your child before recommending a tracheotomy. There are occasions and other health issues that make a tracheotomy the recommended surgical option.

If your child has an operation, he / she may still require treatment for gastroesophageal reflux during and after the operation. It is also important to monitor your child for signs and symptoms of worsening LM.

Contac us or Take your child to the hospital for:

Stops breathing for longer than 10 seconds

Dusky or blue color around lips associated with noisy breathing

Chest or neck retractions that do not stop with repositioning your child or waking your child up

Inform your child's doctor about:

Child has difficulty keeping food down and constantly spits it up

Child is losing weight or is not gaining weight

Child begins to feed less and tires easily in the middle of feeding

Child begins to choke on food

Child struggles between eating and breathing