CT Children's CLASP Guideline

Stridor

INTRODUCTION

Stridor in the newborn and infant is common. A few of the typical causes include an anatomic issue such as primary laryngomalacia, tracheomalacia, or swallowing or reflux issues.

Stridor sounds generally fall into one of several patterns:

- High pitched, "squeaky" inspiratory noise – most typical of laryngomalacia
- Low pitched, expiratory noise – most typical of tracheomalacia
- Low pitched, biphasic rattly noise ("like a washing machine") - most typical of dysphagia with aspiration

Symptoms associated with stridor may include:

- Increased work of breathing
- Hoarse voice
- Nasal flaring
- Poor weight gain
- Neck and chest retractions
- Difficulty coordinating breathing and swallowing
- Cyanosis

Stridor in an older child, or stridor with sudden onset, can indicate more urgent needs.

INITIAL EVALUATION AND MANAGEMENT

We in Aerodigestive/ENT are happy to evaluate any child with stridor to help determine etiology and management, and our diagnostic laryngoscopy often gives a definitive diagnosis in one visit. Many PCPs are comfortable managing some cases without the definitive diagnosis. Here is a guide to help decide which patients to refer and when:

Expectant management without specialist involvement likely sufficient for the following patient:

- Otherwise healthy, term infant who is just making noise and not struggling to breathe (nasal flaring and retractions) with no intubation history, no hemangiomas, normal voice and cry, and growing and gaining weight well. This is likely laryngomalacia, and this typically becomes symptomatic at birth to first month and resolves by 8-12 months of age.

Refer for specialist evaluation if any Red Flags:

- History suggestive of etiology OTHER than laryngomalacia:
  - Intubation history at birth (suggests possibility of acquired subglottic stenosis)
  - Hoarse voice (suggests possibility of vocal cord lesion)
  - Skin hemangiomas (suggests possibility of concomitant airway hemangioma)
  - Sudden or abrupt onset **without** associated illness (suggests possibility of foreign body aspiration or ingestion)
  - Sudden or abrupt onset **with** associated illness (suggests infectious cause like croup; if severe enough for consideration of specialist involvement, then likely is severe enough for inpatient management)
  - Recurrent croup suggests possible baseline narrowing of airway like subglottic stenosis, or if young baby, growing airway hemangioma; it can also represent an asthma variant (we now have a recurrent croup clinic w Pulmonary and ENT assessment together)
  - Frequent or prolonged respiratory illnesses, recurrent pneumonia (suggests aspiration)
  - Chronic expiratory stridor and/or barky cough (suggests tracheomalacia; refer to Pulmonology instead of ENT)
- History suggestive of disease for which watchful waiting is ***not*** appropriate:
  - Poor weight gain
  - Dysphagia
  - Severe GERD
  - URI intolerance
  - Blue spells
  - Pectus excavatum

WHEN TO REFER

All persistent stridor can be referred for evaluation; we are happy to see and confirm the diagnosis, usually in one visit.

Any patient with a **"red flag"** above SHOULD be referred to Aerodigestive/ENT.

Of note, since December 2023, referrals to Pulmonology or Aerodigestive/ENT for recurrent croup are funneled into our new "Croup Clinic" hosted by both specialties.

Routine referral (within 1 month) to Aerodigestive/ENT:	**Semi-urgent referral (call Aerodigestive/ENT to determine if urgent office visit v ED referral is appropriate):**	**Urgent referral to ED:**
✓ Stridor without signs of respiratory distress ✓ Signs of laryngomalacia without improvement beyond 12-18 months	✓ Increased work of breathing (nasal flaring, retractions) ✓ Biphasic stridor ✓ Not gaining weight	✓ Cyanosis ✓ Choking ✓ Drop in pulse oximetry below 92%

HOW TO REFER

Referral to Aerodigestive/ENT Department via CT Children's One Call Access Center
Phone: 833.733.7669 **Fax:** 833.226.2329
For more information on how to place referrals to Connecticut Children's, click **here**.

Information to be included with the referral:

- Notes from the initial and follow up visits with the PCP
- Complete growth chart
- If child is a NICU graduate, notes on history of intubation (tube size, date intubated)
- Results of any radiology tests

WHAT TO EXPECT

What to expect from CT Children's Visit:

- History and physical exam
- Flexible laryngoscopy exam in office
- Possible radiology study to examine the trachea and swallow function (e.g. airway fluoroscopy with barium swallow), possible swallow evaluation with Speech Language Pathology
- Possible recommendation for laryngoscopy and bronchoscopy in OR

ALGORITHM: