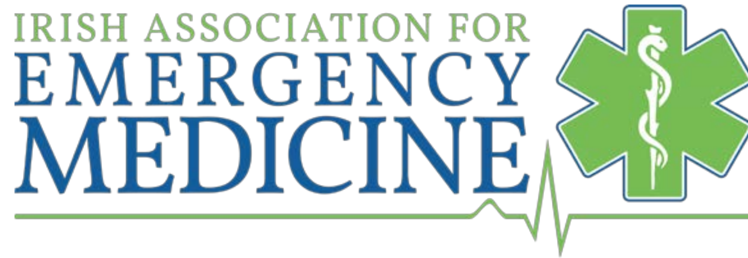

IAEM Clinical Guideline

Laryngomalacia

Version 1

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DISCLAIMER

IAEM recognises that patients, their situations, Emergency Departments and staff all vary. These guidelines cannot cover all clinical scenarios. The ultimate responsibility for the interpretation and application of these guidelines, the use of current information and a patient's overall care and wellbeing resides with the treating clinician.

LARYNGOMALACIA (non-acute stridor in infants)

INTRODUCTION

Laryngomalacia is defined as collapse of supraglottic structures during inspiration, resulting in intermittent air flow impedance and associated stridor. It is the most common cause of stridor in newborns, affecting 60–75% of all infants with congenital stridor. These patients either self-present or are sometimes referred by their General Practitioner (GP) to the Emergency Department (ED).

Laryngomalacia presents with inspiratory stridor that typically worsens with feeding, crying, supine positioning and agitation. The symptoms begin at birth or within the first few weeks of life, peak at 6 to 8 months, and typically resolve by 12 to 24 months.

PARAMETERS

Target patient population

This evidence summary applies to well infants presenting with a history of established "noisy breathing". It does not apply to those with acute or severe airway obstruction.

Target users

Healthcare professionals engaging in the care of infants in the acute care setting.

AIM

This guideline aims to provide a tool for assessment of infants presenting with laryngomalacia and to guide their management.

ASSESSMENT

Assessment of severity

Along with monitoring vital signs, respiratory and general physical exam, it is practical to observe the infant while taking a feed and notice any difficulty or distress during feeding.

Assess severity based on the feeding and respiratory symptoms

Severity level	Respiratory symptoms	Feeding symptoms
Mild	**Inspiratory stridor with mild increase in work of breathing**	**Occasional cough or regurgitation**
Moderate	**Recent worsening of inspiratory stridor, significant increase in work of breathing**	**Frequent regurgitation** **Choking with feeds or other feeding issues**
Severe	**Inspiratory stridor with cyanosis, apnoea, with associated chest wall signs of distress**	**Failure to thrive** **Evidence of aspiration**

Risk factors for moderate to severe disease

- Gastroesophageal and Laryngopharyngeal Reflux
- Neurological disorders
- Secondary airway disease (SAL)
- Congenital heart disease
- Congenital anomalies, Syndromes, Genetic Disorders

Differential diagnosis of stridor

Inspiratory Stridor	Biphasic Stridor	Expiratory stridor	General
Airway obstruction above the vocal cords.	Airway obstruction at or below the vocal cords.	Airway obstruction at or below the lower trachea.	Airway obstruction at any level
Epiglottitis Croup Vallecular cysts	Subglottic stenosis Subglottic cyst/ Haemangioma Vocal cord paralysis Laryngeal web Respiratory papillomatosis	Bronchiolitis Asthma Tracheomalacia Complete tracheal ring Double aortic arch Pulmonary artery sling Aberrant innominate artery	Foreign body

Also ask about:

Feeding: regurgitation, emesis, cough, choking, and slow feedings.

Growth: increased metabolic demand of coordinating eating and breathing against the obstruction can lead to weight loss and failure to thrive.

Respiratory symptoms:

- **Common:** tachypnoea, suprasternal and substernal retractions
- **Uncommon:** cyanosis, pectus excavatum, and obstructive sleep apnoea.
- Chronic hypoxia from airway obstruction can lead to pulmonary hypertension.

WARNING SIGNS

Respiratory	Feeding
Stridor with respiratory distress	Choking with feeding
Dyspnoea with retractions	Episodic cyanosis with feeding
Pectus excavatum	Recurrent aspiration pneumonia
Pulmonary hypertension	Failure to thrive
Cor pulmonale	
Severe obstructive sleep apnoea	

MANAGEMENT OF LARYNGOMALACIA

Mild disease:

- Conservative management with follow up with General Practitioner for weight gain and worsening of respiratory or feeding symptoms.
- Parents should be advised on positional therapy (feeding in upright position), feeding interventions (thickening formula or breast feed) and for treatment for reflux where appropriate.
- Use GP proforma letter and give the Parent information leaflet.

Moderate to Severe disease:

- Symptomatic management with airway management, supplemental oxygen and nasogastric feed as required.
- These patients need admission under medical paediatric team.
- These patients should be discussed with ENT team for an urgent consultation.

COMPANION DOCUMENTS

- GP proforma letter
- Parent information leaflet
- References / Evidentiary table