

Hoarseness

Definition / Supporting Information

Hoarseness in children, either alone or with other symptoms, is most often viral laryngitis and is benign and self limiting; however, it may be a warning of impending airway obstruction.

Keywords / also known as: strained voice, voice abnormalities

Essential History

Ask about:

- Age
 - Neurological and congenital anatomical lesions are typically present at birth.
 - Inflammatory, neoplastic, traumatic, or iatrogenic causes occur later.
- Quality of the voice
 - Speech or crying
 - Exacerbating or alleviating factors
 - Associated symptoms
- Dysphonia
 - Intermittent dysphonia may be related to vocal overuse, infectious, or inflammatory causes, such as laryngitis.
 - Persistent dysphonia may suggest an anatomical lesion and requires further evaluation.
 - Progressive, unremitting hoarseness may suggest an enlarging neoplasm.
- Symptoms of gastro-oesophageal reflux
 - Regurgitation or vomiting
 - Feeding difficulties
 - Throat clearing
 - Foreign body sensation
 - Cough
- Medication
 - Inhaled corticosteroids

'Red Flag' Symptoms and Signs

Ask about:

- New onset stridor
- Constant hoarseness

- Spluttering / choking during swallowing
 - Vocal cord paralysis
- Breathing difficulties (see Dyspnoea)

Look for:

- Tachypnoea / respiratory distress
- Stridor
- Tachycardia
- Cranial nerve anomalies

Differential Diagnosis / Conditions

- 0–6 months
 - Traumatic intubation
 - Iatrogenic
 - Surgical
 - Neurogenic
 - Central or peripheral
 - Neoplastic
 - Haemangioma
 - Congenital
 - Web
 - Cleft
 - Cyst
 - Infection
- 6 months to 5 years
 - Traumatic
 - Foreign bodies
 - Intubation
 - Infection
 - Upper respiratory infection (URI)
 - Neoplastic
 - Papillomas
 - Behavioural, traumatic
 - Nodules
 - Inflammatory
 - Allergy
 - Laryngopharyngeal reflux (LPR)
- 5–13 years
 - Behavioural, traumatic
 - Nodules

- Infectious
 - URI
- Inflammatory
 - Allergy
 - LPR
- Neoplastic
- 13–18 years
 - Infectious
 - URI
 - Inflammatory
 - Allergy
 - LPR
 - Behavioural, traumatic
 - Male: transitional voice
 - Female: nodules
 - Functional
 - Muscle tension dysphonia

Investigations

To be undertaken by non-specialist practitioners (eg, General Practitioner (GP) Team):

- None indicated

To be undertaken by specialist practitioners (eg, Paediatric Ear, Nose and Throat (ENT) Team):

- Laryngoscopy
 - This informs the need for other investigations such as imaging.

Treatment Approach

To be undertaken by non-specialist practitioners (eg, GP Team):

- Viral laryngitis and laryngotracheobronchitis are generally treated conservatively.
 - May require airway protection or oral steroids in severe cases

To be undertaken by specialist practitioners (eg, Emergency Department / Paediatric / Paediatric ENT Team(s)):

Inflammation and infection

- Bacterial infections, such as epiglottitis and membranous laryngotracheobronchitis, necessitate:
 - Early airway protection

- Intravenous antibiotics directed against *Staphylococcus aureus* and *Haemophilus influenzae*, unless culture results direct differently
- Gastro-oesophageal reflux and LPR in infants and children
 - Behavioural and lifestyle modifications
 - Pharmacotherapy using:
 - Histamine-2 antagonists eg, ranitidine
 - Proton-pump inhibitors eg, omeprazole, lansoprazole
 - Prokinetic agents eg, low-dose erythromycin
 - Antacids eg, sodium alginate with potassium bicarbonate (Gaviscon Advance®)
 - Surgical therapy with fundoplication

Trauma

- Vocal fold nodules from phonotrauma
 - Behavioural modification
 - Speech therapy aimed at maximising vocal hygiene
 - Surgical excision, rarely, because failure to correct underlying voice misuse is likely to result in recurrence
- Arytenoid dislocation resulting from intubation trauma can be adequately treated if recognised and reduced early under general anaesthesia with microlaryngoscopy.
- Blunt laryngeal trauma
 - Close observation
 - Possibly systemic corticosteroids
 - Tracheotomy in cases of severe laryngeal injury and oedema
 - In adolescents with laryngeal fracture, open reduction and fixation may be required.

When to Refer

Refer urgently to specialist practitioners (eg, Emergency Department Team) if:

- Any 'red flag' signs or symptoms
 - Arrange emergency transfer if evidence of respiratory distress

Refer urgently to specialist practitioners (eg, Paediatric / Paediatric ENT Team(s))

- Hoarseness associated with weight loss
- Poor speech intelligibility or psychosocial sequelae

Refer to Paediatric ENT Team if:

- Progressive hoarseness
- Hoarseness that has been present since birth
- Hoarseness after external trauma or uneventful intubation

- Presence of cutaneous haemangioma

When to Admit

- Respiratory distress, moderate or severe stridor, tachypnoea, or tachycardia
- Hoarseness following external trauma
- Most children will have mild croup, which can be managed at home, however, consider admission to hospital if any of the following are present. The child:
 - Has a history of severe obstruction, or previous severe croup, or known structural upper airways abnormalities (eg, laryngomalacia, tracheomalacia, vascular ring, Down's syndrome); these increase the risk of severe croup developing
 - Is less than 6 months of age
 - Is immunocompromised
 - Has inadequate fluid intake, or is refusing liquids
 - Has a poor response to initial treatment
 - Has an uncertain diagnosis
 - Or if there is significant parental anxiety, late evening or night-time presentation, the child's home is a long way from the hospital, or the parents have no transport

'Safety Netting' Advice

- Advise families to seek medical advice if hoarseness or stridor is progressive, or if there is weight loss or more difficulty in breathing.

Patient / Carer Information

****Please note: whilst these resources have been developed to a high standard they may not be specific to children.***

- [Hoarseness](#) (Web page), Patient

Resources

Suggested Resources

****Please note: these resources include links to external websites. These resources may not have national accreditation and therefore PCO UK cannot guarantee the accuracy of the content.***

[Croup](#) (Web page), NICE clinical knowledge summary, National Institute of Health and Care Excellence.

[Laryngopharyngeal Reflux](#) (Position statement), American Academy of Otolaryngology.

[Laryngopharyngeal Reflux and Children](#) (Patient health information), American Academy of Otolaryngology.

[Reflux in Babies](#) (Web page), the NHS website

[Childhood Gastro-oesophageal Reflux](#) (Web page), Patient

[Croup](#) (Web page), the NHS website

[Difficulty in Breathing](#) (Web page – requires log-in), Spotting the Sick Child

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