

Disclaimer: This Clinical Practice Guideline ('CPG') was written for use in The Royal Victorian Eye and Ear Hospital Emergency Department. It should be used under the guidance of an Ophthalmology or ENT registrar. If clinical advice is required, please contact the Eye and Ear Admitting Officer for assistance: EYE: +61 3 9929 8033; ENT: +61 3 9929 8032. Links to internal Eye and Ear documents cannot be accessed from the website CPG.

## Description:

Dysphonia/hoarseness describes any change in the character of the voice, including changes in voice quality (e.g. a breathy, raspy, or strained voice), volume or pitch.

## Red Flags:

- Suggestive of malignancy
  - History of smoking and /or significant alcohol consumption
  - Dysphagia or odynophagia
  - Haemoptysis
  - Fatigue, weight loss, fevers, night sweats
  - Cervical lymphadenopathy
- At risk of airway compromise: stridor or respiratory distress
- Continuous, unremitting or progressive dysphonia suggestive of a mass lesion

## How to Assess:

### Aetiology/examples

- Surgery: thyroid/anterior spine/thoracic and cardiac/neuro and skull base surgery
- Inflammatory: tobacco use, polypoid corditis, allergy
- Autoimmune: granulomatosis with polyangiitis, sarcoidosis, amyloidosis, rheumatoid arthritis
- Infectious: viral/bacterial upper respiratory infection, laryngeal candidiasis
- Neurologic: laryngeal dystonia (e.g. spasmodic dysphonia), vocal fold paralysis, essential tremor, Parkinson's disease
- Endocrine: hypothyroidism, diabetes, menopause, androgen supplementation
- Neoplastic: laryngeal squamous cell carcinoma, recurrent respiratory papillomatosis, metastatic disease, other neoplasms (e.g. chondromas, lymphoma)
- Congenital: laryngeal web, vocal fold cyst, laryngeal cleft
- Traumatic: laryngeal fracture, posterior glottic stenosis, intubation, injury
- Behavioural: vocal fold nodules/cyst/polyp/vascular lesion
- Musculoskeletal: muscle tension dysphonia, cervicalgia
- Gastrointestinal: reflux

## History:

Nature of the dysphonia (intermittent or progressive)

- Dysphagia, odynophagia, haemoptysis, fatigue, weight loss, fevers, night sweats or difficulty breathing
- Social history must include smoking and alcohol consumption, assessment of voice use (singing, yelling, shouting) and exposure to occupational irritants such as dust or smoke
- Associated medical causes:
  - Infective causes, recent upper respiratory tract infections
  - Trauma or recent intubation (especially prolonged or traumatic intubation) can be associated with laryngeal injury (e.g. dislocated cricoarytenoid joint)
  - Reflux or heartburn, and rarer systemic diseases which can include hypothyroidism, neurological disorders and inflammatory or autoimmune disorders should be considered
- Current medication list (e.g. steroid inhaler laryngitis)

## Examination:

- Quality, pitch and volume of the voice
- Maximal phonation time (MPT), less than eight seconds can be associated with organic pathology
- Assess cough (a breathy or ineffective cough may be associated with ineffective glottic closure and impaired vocal cord movement)
- Assess oral cavity to identify any lesions or evidence of oral thrush
- Assess the neck to identify any masses (e.g. thyroid nodules or cervical lymphadenopathy)
- Flexible Nasal Endoscopy (FNE) by ENT should be performed:
  - Assess for mass lesions at the tongue base and supraglottis
  - A Valsalva manoeuvre to be undertaken to properly assess the piriform fossae
  - Examine the vocal cords for adequate bilateral movement, lesions, nodules and Reinke's oedema and any functional elements (e.g. glottic gap and vocal squeeze around the area of the aryepiglottic folds) by asking the patient to produce a sustained "EE" sound
  - Assess the subglottis
  - Look for signs of reflux or infection: erythema or prominent lingual tonsils
- Perform and document cranial nerves examination

## Investigations:

- No investigation required in patients with normal examination without red flags
- If there are concerns regarding malignancy or patients with red flags, contrast enhanced CT head and neck should be performed and the patient referred urgently to Head and Neck Clinic
- Consider TSH/autoimmune screen where indicated

## **Acute Management:**

- Voice hygiene which includes voice rest (no shouting or whispering), avoidance of irritants such as dust and cessation of smoking and alcohol is recommended where acute and functional cause is suspected
- Good hydration and use of humidifier or steam inhalation can help improve voice quality
- Reflux treatment includes a proton pump inhibitor (e.g. omeprazole 20mg daily), Gastrogel® and appropriate lifestyle measures (e.g. avoiding things which make reflux worse, such as alcohol/wine, chocolate, spicy foods, coffee and citrus products)

## **Follow up:**

- If red flags present or suspicion of malignancy, urgent referral to Head and Neck Clinic
- Referral to Voice Clinic for stroboscopy and speech pathology in functional causes of dysphonia
- Patients without any red flags and a normal exam can be followed up by their GP in 4-6 weeks to reassess after good voice hygiene and reflux treatment. If hoarseness persists, GP should refer to Head and Neck Clinic

## **Discharge instructions:**

- Give patient copy of [Dysphonia Patient Information](#)

## Evidence Table

Author(s)	Title	Source	Level of Evidence (I – VII)
Cooper, L. and R. Quested	Hoarseness. An approach for the general practitioner	Australian Family Physician, 2016. 45: 378-381	VII
Ulis J, Yanagisawa E	What's new in differential diagnosis and treatment of hoarseness?	Curr Opin Otolaryngol Head Neck Surg 2009;17(3):209-15	V
Keesecker SE, Murry T, Sulica L	Patterns in the evaluation of hoarseness	Laryngoscope. 2015;125(3):667-73	V
Oztuk O, Oz F, Karakullukcu B, Oghan F, Guclu E, Ada M	Hoarseness and laryngopharyngeal reflux: A cause and effect relationship or coincidence?	Eur Arch Otorhinolaryngol 2006;263(10):935-39	III

## The Hierarchy of Evidence

The Hierarchy of evidence is based on summaries from the National Health and Medical Research Council (2009), the Oxford Centre for Evidence-based Medicine Levels of Evidence (2011) and Melynck and Fineout-Overholt (2011).

- I) Evidence obtained from a systematic review of all relevant randomised control trials.
- II) Evidence obtained from at least one well designed randomised control trial.
- III) Evidence obtained from well-designed controlled trials without randomisation.
- IV) Evidence obtained from well-designed cohort studies, case control studies, interrupted time series with a control group, historically controlled studies, interrupted time series without a control group or with case series.
- V) Evidence obtained from systematic reviews of descriptive and qualitative studies.
- VI) Evidence obtained from single descriptive and qualitative studies.
- VII) Expert opinion from clinician, authorities and/or reports of expert committees or based on physiology.

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