Clinical practice guideline: Hoarseness (Dysphonia)

Release Date
· September 2009

Guideline Developer
· American Academy of Otolaryngology–Head and Neck Surgery Foundation

INTENDED AUDIENCE
Users
· All clinicians who are likely to diagnose and manage patients with hoarseness

Care Setting
· Any setting in which hoarseness would be identified, monitored, treated, or managed

TARGET POPULATION

Eligibility
The target patient for this guideline is anyone presenting with hoarseness (dysphonia).

Inclusion Criterion
· Hoarseness (dysphonia)

Exclusion Criterion
· History of laryngectomy (total or partial)
· Craniofacial anomalies
· Velopharyngeal insufficiency
· Dysarthria (impaired articulation)

KNOWLEDGE COMPONENTS

DEFINITIONS

RECOMMENDATION: STATEMENT 1. DIAGNOSIS

Conditional: Clinicians should diagnose hoarseness (dysphonia) in a patient with altered voice quality, pitch, loudness, or vocal effort that impairs communication or reduces voice-related QOL {quality of life}.

Decision Variable: patient with altered voice quality
Decision Variable: patient with altered pitch
Decision Variable: patient with altered loudness
Decision Variable: patient with altered vocal effort
Decision Variable: impairs communication
Decision Variable: reduces voice-related QOL {quality of life}

Action: Clinicians should diagnose hoarseness (dysphonia)

Benefit: Identify patients who may benefit from treatment or from further investigation to identify underlying conditions that may be serious

Benefit: promote prompt recognition and treatment

Benefit: discourage the perception of hoarseness as a trivial condition that does not warrant attention
**Risk/Harm:** Potential anxiety related to diagnosis

**Evidence Quality:** Grade C

**Recommendation Strength:** Recommendation based on observational studies with a preponderance of benefit over harm

**Logic:** If (patient with altered voice quality OR patient with altered pitch OR patient with altered loudness OR patient with altered vocal effort) AND (impairs communication OR reduces voice-related QOL) Then Clinicians should diagnose hoarseness (dysphonia)

**Cost:** Cost: Time expended in diagnosis, documentation, and discussion

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**RECOMMENDATION:** STATEMENT 2. MODIFYING FACTORS

**Imperative:** Clinicians should assess the patient with hoarseness by history and/or physical examination for factors that modify management such as one or more of the following: recent surgical procedures involving the neck or affecting the recurrent laryngeal nerve, recent endotracheal intubation, radiation treatment to the neck, a history of tobacco abuse, and occupation as a singer or vocal performer.

**Directive:** Clinicians should assess the patient with hoarseness by history for factors that modify management

**Description:** factors that modify management such as one or more of the following: recent surgical procedures involving the neck or affecting the recurrent laryngeal nerve, recent endotracheal intubation, radiation treatment to the neck, a history of tobacco use, and occupation as a singer or vocal performer

**Benefit:** To identify factors early in the course of management that could influence the timing of diagnostic procedures, choice of interventions, or provision of follow-up care

**Risk/Harm:** None

**Directive:** Clinicians should assess the patient with hoarseness by physical examination for factors that modify management

**Description:** factors that modify management such as one or more of the following: recent surgical procedures involving the neck or affecting the recurrent laryngeal nerve, recent endotracheal intubation, radiation treatment to the neck, a history of tobacco abuse, and occupation as a singer or vocal performer

**Benefit:** To identify factors early in the course of management that could influence the timing of diagnostic procedures, choice of interventions, or
provision of follow-up care

**Risk/Harm:** None

**Evidence Quality:** Grade C

**Recommendation Strength:** Recommendation based on observational studies with a preponderance of benefit over harm

**Logic:** If {Inclusion Criterion: Hoarseness (dysphonia) },
Then Clinicians should assess the patient with hoarseness by history for factors that modify management OR Clinicians should assess the patient with hoarseness by physical examination for factors that modify management

**Cost:** None

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**RECOMMENDATION:** STATEMENT 3A. LARYNGOSCOPY AND HOARSENESS

<table>
<thead>
<tr>
<th>Imperative:</th>
<th>Clinicians may perform laryngoscopy, or may refer the patient to a clinician who can visualize the larynx, at any time in a patient with hoarseness.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Directive:</strong></td>
<td>Clinicians may perform laryngoscopy at any time in a patient with hoarseness</td>
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<tr>
<td><strong>Benefit:</strong></td>
<td>Visualization of the larynx to improve diagnostic accuracy and allow comprehensive evaluation</td>
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<td><strong>Risk/Harm:</strong></td>
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</tr>
</tbody>
</table>

**Evidence Quality:** Grade C

**Recommendation Strength:** Option based on observational studies, expert opinion, and a balance of benefit and harm.

**Logic:** If {Inclusion Criterion: Hoarseness (dysphonia) },
Then Clinicians may perform laryngoscopy at any time OR Clinicians may refer the patient to a clinician who can visualize the larynx at any time

**Cost:** Procedural expense

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**RECOMMENDATION:** STATEMENT 3B. INDICATIONS FOR LARYNGOSCOPY

| Conditional: | Clinicians should visualize the patient’s larynx, or refer the patient to a clinician who can visualize the larynx, when hoarseness fails to resolve by a maximum of three months after onset, or irrespective of duration if a serious underlying
cause is suspected.

**Decision Variable:** hoarseness fails to resolve by a maximum of three months after onset

**Decision Variable:** a serious underlying cause is suspected.

**Description:** irrespective of duration

**Action:** Clinicians should visualize the patient’s larynx

**Benefit:** Avoid missed or delayed diagnosis of serious conditions in patients without additional signs or symptoms to suggest underlying disease

**Benefit:** permit prompt assessment of the larynx when serious concern exists

**Risk/Harm:** Potential for up to a three-month delay in diagnosis

**Risk/Harm:** procedure-related morbidity

**Action:** Clinicians should refer the patient to a clinician who can visualize the larynx

**Benefit:** avoid missed or delayed diagnosis of serious conditions in patients without additional signs or symptoms to suggest underlying disease

**Benefit:** permit prompt assessment of the larynx when serious concern exists

**Risk/Harm:** Potential for up to a three-month delay in diagnosis

**Risk/Harm:** procedure-related morbidity

**Evidence Quality:** Grade C

**Recommendation Strength:** Recommendation based on observational studies, expert opinion, and a preponderance of benefit over harm.

**Flexibility:** Intentional vagueness: The term “serious underlying concern” is subject to the discretion of the clinician. Some conditions are clearly serious, but in other patients, the seriousness of the condition is dependent on the patient. Intentional vagueness was incorporated to allow for clinical judgment in the expediency of evaluation

**Logic:** If hoarseness fails to resolve by a maximum of three months after onset OR a serious underlying cause is suspected. Then Clinicians should visualize the patient’s larynx OR Clinicians should refer the patient to a clinician who can visualize the larynx

**Cost:** Procedural expense

**RECOMMENDATION:** STATEMENT 4. IMAGING

**Conditional:** Clinicians should not obtain computed tomography (CT) or magnetic resonance imaging (MRI) of the patient with a primary complaint of hoarseness prior to visualizing the larynx.
Decision Variable: patient with a primary complaint of hoarseness
Decision Variable: prior to visualizing the larynx
Action: Clinicians should not obtain computed tomography (CT)
   Benefit: Avoid unnecessary testing
   Benefit: minimize cost and adverse events
   Benefit: maximize the diagnostic yield of CT and MRI when indicated
   Cost: Cost: None
   Risk/Harm: Potential for delayed diagnosis
Action: Clinicians should not obtain magnetic resonance imaging (MRI)
   Benefit: Avoid unnecessary testing
   Benefit: minimize cost and adverse events
   Benefit: maximize the diagnostic yield of CT and MRI when indicated
   Risk/Harm: Potential for delayed diagnosis
Evidence Quality: Grade C
Recommendation Strength: Recommendation against imaging based on observational studies of harm, absence of evidence concerning benefit, and a preponderance of harm over benefit
Logic: If patient with a primary complaint of hoarseness AND prior to visualizing the larynx Then Clinicians should not obtain computed tomography (CT) AND Clinicians should not obtain magnetic resonance imaging (MRI)
Cost: None

RECOMMENDATION: STATEMENT 5A. ANTI-REFLUX MEDICATION AND HOARSENESS.
Conditional: Clinicians should not prescribe anti-reflux medications for patients with hoarseness without signs or symptoms of gastroesophageal reflux disease (GERD).
Decision Variable: for patients with hoarseness
Decision Variable: without signs of gastroesophageal reflux disease (GERD)
Decision Variable: without symptoms of gastroesophageal reflux disease (GERD)
Action: Clinicians should not prescribe anti-reflux medications
   Benefit: Avoid adverse events from unproven therapy
   Benefit: reduce cost
   Benefit: limit unnecessary treatment
   Risk/Harm: Potential withholding of therapy from patients who may benefit
Evidence Quality: Grade B
**RECOMMENDATION: STATEMENT 5B. ANTI-REFLUX MEDICATION AND CHRONIC LARYNGITIS.**

**Conditional:** Clinicians may prescribe anti-reflux medication for patients with hoarseness and signs of chronic laryngitis.

**Decision Variable:** patients with hoarseness
**Decision Variable:** signs of chronic laryngitis

**Action:** Clinicians may prescribe anti-reflux medication

- **Benefit:** Improved outcomes
- **Benefit:** promote resolution of laryngitis
- **Risk/Harm:** Adverse events related to anti-reflux medications

**Evidence Quality:** Grade C

**Recommendation Strength:** Option based on observational studies with limitations and a relative balance of benefit and harm

**Logic:** If patients with hoarseness AND signs of chronic laryngitis Then Clinicians may prescribe anti-reflux medication

**Cost:** Direct cost of medications

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**RECOMMENDATION: STATEMENT 6. CORTICOSTEROID THERAPY**

**Imperative:** Clinicians should not routinely prescribe oral corticosteroids to treat hoarseness

**Directive:** Clinicians should not routinely prescribe oral corticosteroids to treat hoarseness

- **Benefit:** Avoid potential adverse events associated with unproven therapy
- **Risk/Harm:** None

**Evidence Quality:** Grade B

**Recommendation Strength:** Recommendation against prescribing based on randomized trials showing adverse events and absence of clinical trials demonstrating benefits with a preponderance of harm over benefit for steroid use

**Flexibility:** Intentional vagueness: Use of the word “routine” to acknowledge there may be specific situations, based on laryngoscopy results or other associated conditions, that may
RECOMMENDATION: STATEMENT 7. ANTIMICROBIAL THERAPY

**Imperative:** Clinicians should not routinely prescribe antibiotics to treat hoarseness.

**Directive:** Clinicians should not routinely prescribe antibiotics to treat hoarseness.

- **Benefit:** Avoidance of ineffective therapy with documented adverse events
- **Risk/Harm:** Potential for failing to treat bacterial, fungal, or mycobacterial causes of hoarseness

**Evidence Quality:** Grade A

**Recommendation Strength:** Strong recommendation against prescribing antibiotics to treat hoarseness based on systematic reviews and randomized trials showing ineffectiveness of antibiotic therapy and a preponderance of harm over benefit

**Flexibility:** Intentional vagueness: The word “routine” is used in the boldface statement {clinicians should not routinely prescribe antibiotics to treat hoarseness} to discourage empiric therapy yet to acknowledge there are occasional circumstances where antibiotic use may be appropriate

**Logic:** If {Inclusion Criterion: Hoarseness (dysphonia) }
Then Clinicians should not routinely prescribe antibiotics to treat hoarseness.

RECOMMENDATION: STATEMENT 8A. LARYNGOSCOPY PRIOR TO VOICE THERAPY

**Conditional:** Clinicians should visualize the larynx before prescribing voice therapy and document/communicate the results to the speech-language pathologist.

**Decision Variable:** before prescribing voice therapy

**Action:** Clinicians should visualize the larynx

- **Benefit:** Avoid delay in diagnosing laryngeal conditions not treatable with voice therapy
- **Benefit:** Optimize voice therapy by allowing targeted therapy
- **Risk/Harm:** Delay in initiation of voice therapy

**Action:** clinicians should document/communicate the results to the speech-language pathologist

- **Benefit:** Avoid delay in diagnosing laryngeal conditions not treatable with voice therapy
- **Benefit:** Optimize voice therapy by allowing targeted therapy
**Risk/Harm:** Delay in initiation of voice therapy  
**Evidence Quality:** Grade C  
**Recommendation Strength:** Recommendation based on observational studies showing benefit and a preponderance of benefit over harm  
**Logic:** If before prescribing voice therapy Then Clinicians should visualize the larynx AND clinicians should document/communicate the results to the speech-language pathologist  
**Cost:** Cost of the laryngoscopy and associated clinician visit

**RECOMMENDATION:** STATEMENT 8B. ADVOCATING FOR VOICE THERAPY  
**Conditional:** Clinicians should advocate voice therapy for patients diagnosed with hoarseness (dysphonia) that reduces voice-related quality of life (QOL).  
**Decision Variable:** patients diagnosed with hoarseness (dysphonia) that reduces voice-related QOL (Quality of Life)  
**Action:** Clinicians should advocate voice therapy  
- **Benefit:** Improve voice-related QOL  
- **Benefit:** prevent relapse  
- **Benefit:** potentially prevent need for more invasive therapy  
**Risk/Harm:** No harm reported in controlled trials  
**Evidence Quality:** Grade A  
**Recommendation Strength:** Strong recommendation based on systematic reviews and randomized trials with a preponderance of benefit over harm  
**Flexibility:** Intentional vagueness: Deciding which patients will benefit from voice therapy is often determined by the voice therapist. The guideline panel elected to use a symptom-based criterion to determine to which patients the treating clinician should advocate voice therapy  
**Logic:** If patients diagnosed with hoarseness (dysphonia) that reduces voice-related QOL (Quality of Life) Then Clinicians should advocate voice therapy  
**Cost:** Direct cost of treatment

**RECOMMENDATION:** STATEMENT 9. SURGERY  
**Conditional:** Clinicians should advocate for surgery as a therapeutic option in patients with hoarseness with suspected: 1) laryngeal malignancy, 2) benign laryngeal soft tissue lesions, or 3) glottic insufficiency  
**Decision Variable:** patients with hoarseness  
**Decision Variable:** suspected laryngeal malignancy  
**Decision Variable:** suspected benign laryngeal soft tissue lesions
**Decision Variable:** suspected glottic insufficiency

**Action:** Clinicians should advocate for surgery as a therapeutic option

- **Benefit:** Potential for improved voice outcomes in carefully selected patients
- **Cost:** Cost: None
- **Risk/Harm:** None

**Evidence Quality:** Grade B

**Recommendation Strength:** Recommendation based on observational studies demonstrating a benefit of surgery in these conditions and a preponderance of benefit over harm

**Logic:** If patients with hoarseness AND (suspected laryngeal malignancy OR suspected benign laryngeal soft tissue lesions OR suspected glottic insufficiency) Then Clinicians should advocate for surgery as a therapeutic option

- **Cost:** None

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**RECOMMENDATION:** STATEMENT 10. BOTULINUM TOXIN

**Conditional:** Clinicians should prescribe, or refer the patient to a clinician who can prescribe, botulinum toxin injections for the treatment of hoarseness caused by spasmodic dysphonia

**Decision Variable:** for the treatment of hoarseness caused by spasmodic dysphonia

**Action:** Clinicians should prescribe botulinum toxin injections

- **Benefit:** Improved voice quality and voice-related QOL {Quality of Life}
- **Risk/Harm:** Risk of aspiration and airway obstruction

**Action:** Clinicians should refer the patient to a clinician who can prescribe botulinum toxin injections

- **Benefit:** Improved voice quality and voice-related QOL {Quality of Life}
- **Risk/Harm:** Risk of aspiration and airway obstruction

**Evidence Quality:** Grade B

**Recommendation Strength:** Recommendation based on randomized controlled trials with minor limitations and preponderance of benefit over harm.

**Logic:** If for the treatment of hoarseness caused by spasmodic dysphonia Then Clinicians should prescribe botulinum toxin injections OR Clinicians should refer the patient to a clinician who can prescribe botulinum toxin injections

- **Cost:** Direct costs of treatment, time off work, and indirect costs of repeated treatments

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**RECOMMENDATION:** STATEMENT 11. PREVENTION

**Imperative:** Clinicians may educate/counsel patients with hoarseness
Directive: Clinicians may educate/counsel patients with hoarseness about control/preventive measures

Benefit: Possible prevention of hoarseness in high-risk persons

Risk/Harm: None

Evidence Quality: Grade C

Recommendation Strength: Option based on observational studies and small randomized trials of poor quality

Logic: If {Inclusion Criterion: Hoarseness (dysphonia) } Then Clinicians may educate/counsel patients with hoarseness about control/preventive measures

Cost: Cost of vocal training sessions