Voice disorders

These guidelines were adapted from The American Academy of Otolaryngology-Head and Neck Surgery Foundation and the Clinical Practice Guideline of Voice Disorders for Diagnosis, Management, and Treatment in Japan by the Clinical Practice Guideline Committee of the Japan Society of Logopedics and Phoniatrics and The Japan Laryngological Association.

With partial incorporation of insights from reputable resources to enhance its comprehensiveness and applicability

Acknowledgement

We would like to acknowlege the Committee of National Egyptian Guidelines, Ministry of Health and ENT Scientific Committee for adapting this Guidelines.

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Abbreviations

VD: voice disorders

Glossary:

Dysphonia: Altered vocal quality, pitch, loudness, or vocal effort that impairs communication as assessed by a clinician and/or affects quality of life

Patient-reported outcome measures: subjective evaluation by patients with voice disorders, the Voice Handicap Index (VHI) and Voice-Related Quality of Life (V-RQOL) were developed from the viewpoint of the disorders' effects on patient quality of life.

Stroboscope: Advanced laryngeal imaging designed to visualize vocal fold vibratory abnormalities that cannot be appreciated with continuous light laryngoscopy. It uses a synchronized flashing light that passes through a laryngoscope

The aerodynamic assessment : is defined as "individual or combined measurements of voice strength, pitch, expiratory flow in phonation and maximum phonation time (MPT)" . This method enables examiners to understand the pathological conditions related to vocal-fold vibration, and it is useful to compare the patient's voice before and after treatment

Acoustic analysis is an objective evaluation of voice disorders that analyzes speech signals and provides quantitative evaluations.

Voice therapy: is provided for dysphonia with no morphological abnormality. Voice therapy is also applicable to motor diseases, such as vocal-fold paralysis, Parkinson's disease, or psychogenic vocal disorders. Voice therapy has a long history both in direct and indirect therapy, and methodologies of the therapies based on various theoretical systems have been developed, but its classification or application has not been established adequately

Scope

This Guideline is concerned with diagnosis and treatment decision of voice disorders affecting children and adults

Executive Summary

- In the GRBAS Scales, four grades of scale are recommended because of their high reproduction rate and sufficient resolution
- Using the VHI and V-RQOL as patient-reported outcome measures They are, strongly recommended as subjective evaluation tools for voice disorders as they are highly reliable and validated
- Laryngoscopy is an essential tool for visualization of the larynx to diagnose the cause of dysphonia
- Laryngostroboscopy is useful for diagnosis of voice disorders. It is also useful for the diagnosis and monitoring. Laryngostroboscopy was useful for the diagnosis of patients with voice disorders in 27.2% of cases
- Acoustic analysis is useful in objective evaluation of voice disorders, especially for evaluating effectiveness of treatment.
- measurement of voice strength, measurement of pitch, measurement of expiratory flow in phonation, measurement of MPT, measured individually or combined

- clinicians should advocate voice therapy for patients with dysphonia from a cause amenable to voice therapy
- Clinicians should inform patients with dysphonia about control/preventive measures
- Clinicians should document resolution, improvement, or worsened symptoms of dysphonia or change in QOL among patients with dysphonia after treatment or observation.

Purpose

Appraisal of the research evidence that exists to support the use of voice measures in the clinical assessment of patients with voice disorders. And outline the measures used in the management of Functional voice disorders.

Specifically, the goals are to improve diagnostic accuracy, identify cases who are most susceptible to voice disorders, and educate clinicians and patients regarding voice disorders

The target audience

The guideline is intended for all clinicians who are likely to diagnose and manage voice disorders

Methods

A comprehensive search for guidelines was undertaken to identify the most relevant guidelines to consider for adaptation.

inclusion/exclusion criteria followed in the search and retrieval of guidelines to be adapted:

- *Selecting only evidence-based guidelines (guideline must include a report on systematic literature searches and explicit links between individual recommendations and their supporting evidence)*

- *Selecting only national and/or international guidelines*
- *Specific range of dates for publication (using Guidelines published or updated 2013 and later)*
- *Selecting peer reviewed publications only*
- *Selecting guidelines written in English language*
- *Excluding guidelines written by a single author not on behalf of an organization in order to be valid and comprehensive, a guideline ideally requires multidisciplinary input*
- *Excluding guidelines published without references as the panel needs to know whether a thorough literature review was conducted and whether current evidence was used in the preparation of the recommendations*

The following characteristics of the retrieved guidelines were summarized in a table:

- *Developing organisation/authors*
- *Date of publication, posting, and release*
- *Country/language of publication*
- *Date of posting and/or release*
- *Dates of the search used by the source guideline developers*

All retrieved Guidelines were screened and appraised using AGREE II instrument (www.agreetrust.org) by at least two members. the panel decided a cut-off point or rank the guidelines (any guideline scoring above 50% on the rigour dimension was retained)

Evidence assessment

According to WHO handbook for Guidelines we used the GRADE (Grading of Recommendations, Assessment, Development and Evaluation) approach to assess the quality of a body of evidence, develop and report recommendations. GRADE methods are used by WHO because these represent internationally agreed standards for making transparent recommendations. Detailed information on GRADE is available on the following sites:

■ *GRADE working group: http://www.gradeworkingroup.org*

■ *GRADE online training modules: http://cebgrade.mcmaster.ca/*

■ *GRADE profile software: http://ims.cochrane.org/revman/gradepro*

Table 1 Quality of evidence in GRADE

Quality level	Definition
High	We are very confident that the true effect lies close to that of the estimate of the effect.
Moderate	We are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
Low	Our confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect.
Very low	We have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of effect.

GRADE: Grading of Recommendations Assessment, Development and Evaluation.

Table 2 Significance of the four levels of evidence

Quality	Definition	Implications
High	The guideline development group is very confident that the true effect lies close to that of the estimate of the effect	Further research is very unlikely to change confidence in the estimate of effect
Moderate	The guideline development group is moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different	Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate
Low	Confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the true effect	Further research is very likely to have an important impact on confidence in the estimate of effect and is unlikely to change the estimate
Very low	The group has very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of the effect	Any estimate of effect is very uncertain

Table 3 Factors that determine How to upgrade or downgrade the quality of evidence

Downgrade in presence of	Upgrade in presence of
Study limitations -1 Serious limitations -2 Very serious limitations	Dose-response gradient +1 Evidence of a dose-response gradient
Consistency -1 Important inconsistency	Direction of plausible bias +1 All plausible confounders would have reduced the effect
Directness -1 Some uncertainty -2 Major uncertainty	Magnitude of the effect +1 Strong, no plausible confounders, consistent and direct evidence
Precision -1 Imprecise data	+2 Very strong, no major threats to validity and direct evidence
Reporting bias -1 High probability of reporting bias	

The strength of the recommendation

The strength of a recommendation communicates the importance of adherence to the recommendation.

Strong recommendations

With strong recommendations, the guideline communicates the message that the desirable effects of adherence to the recommendation outweigh the undesirable effects. This means that in most situations the recommendation can be adopted as policy.

Conditional recommendations

These are made when there is greater uncertainty about the four factors above or if local adaptation has to account for a greater variety in values and preferences, or when resource use makes the intervention suitable for some, but not for other locations. This means that there is a need for substantial debate and involvement of stakeholders before this recommendation can be adopted as policy.

When not to make recommendations

When there is lack of evidence on the effectiveness of an intervention, it may be appropriate not to make a recommendation.

Recommendations [1-2]

		Evidence-Based Statements (recommendation levels)	Grades / Levels of Evidence
1. The use of GRBAS Scales for voice quality evaluation?	In the GRBAS Scales, four grades of scale are recommended because of their high reproduction rate and sufficient resolution	Strong Recommendation	A
2. Using the VHI and V-RQOL as patient-reported outcome measures?	They are, strongly recommended as subjective evaluation tools for voice disorders as they are highly reliable and validated	Strong Recommendation	A
3. Laryngoscopy use for the assessment of dysphonia?.	Laryngoscopy is an essential tool for visualization of the larynx to diagnose the cause of dysphonia	Strong Recommendation	A
4. The use of laryngostroboscopy in dysphonia?	Laryngostroboscopy is useful for diagnosis of voice disorders. It is also useful for the diagnosis and monitoring. Laryngostroboscopy was useful for the diagnosis of patients with voice disorders in 27.2% of cases	Recommendation	C
5. Using acoustic analysis of voice clinically	Acoustic analysis is useful in objective evaluation of voice disorders, especially for evaluating effectiveness of treatment.	Recommendation	C

6. The use of aerodynamic assessment of voice disorders	measurement of voice strength, measurement of pitch, measurement of expiratory flow in phonation, measurement of MPT, measured individually or combined	Recommendation	C
7. Antireflux medication	Clinicians should notprescribe antireflux medications to treat isolated dysphonia based on symptoms alone attributed to suspected gastroesophageal reflux disease (GERD) or laryngopharyngeal reflux (LPR), without visualization of the larynx	Recommendation against	C
8. Corticosteroid therapy	Clinicians should notroutinely prescribe corticosteroids for patients with dysphonia prior to visualization of the larynx	Recommendation against	C
9. Antimicrobial therapy	Clinicians should not routinely prescribe antibiotics to treat dysphonia.	Strong recommendation against	A
10. Advocating for voice therapy	clinicians should advocate voice therapy for patients with dysphonia from a cause amenable to voice therapy	Strong recommendation	A
11. Imaging	clinicians should not obtain computed tomography (CT) or magnetic resonance imaging (MRI) among patients with a primary voice complaint prior to visualization of the larynx	Recommendation against	c
12. Education/prevention.	Clinicians should inform patients with dysphonia about control/preventive measures	Recommendation	C
13. Outcomes	Clinicians should document resolution, improvement, or worsened symptoms of dysphonia or change in QOL among patients with dysphonia after treatment or observation.	Recommendation	C

Research Needs

1. Evaluate the different modalities of voice therapy
2. Develop prognostic indicators to identify the benefits of voice analysis and its impact on selection of voice therapy modalities.

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