



Investigative Zeal

Voice Evaluation and Plan of Care Development

Voice Evaluation and Treatment for the Rehabilitation SLP
Friday, November 1st, 2024



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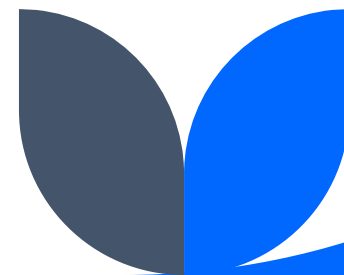
Disclosures

Nothing to disclose.



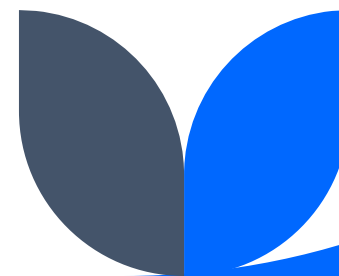
Learning objectives

1. Participants will possess resources for acoustic and aerodynamic evaluation tools for voice disorders.
2. Participants will have an increased clinical skillset for identifying acoustic voice deficits.
3. Participants will have a framework for appropriate plan of care and goal development.



Agenda

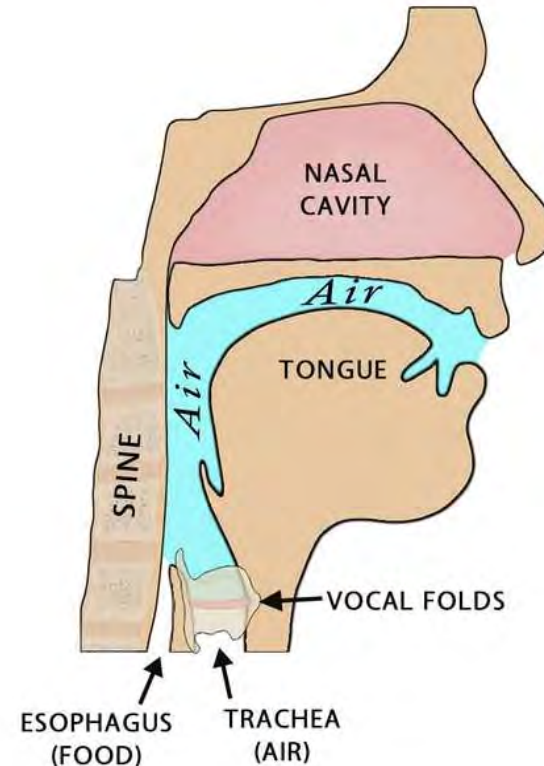
1. Referrals and laryngoscopy reports
2. High- and low-tech acoustic evaluation tools
3. High- and low-tech aerodynamic evaluation tools
4. What to do with a patient before they are evaluated by ENT
5. Patient surveys
6. Training our ears
7. Plan of care development



Fundamentals

- A&P
 - What are the voice sub-systems?
- Independence in all therapy techniques
- Good ear
- Strong understanding of what makes a balanced voice
- Be scrappy
- Embrace the awkward and verbalize it
- Strong toolkit across voice sub-systems
- Network
- Know when you are out of your depth

THE VOCAL TRACT



www.voicescienceworks.org



Clinical Practice Guideline: Hoarseness (Dysphonia) (Update)

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Otolaryngology—
Head and Neck Surgery
1–42
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DOI: 10.1177/0194599817751030
http://otojournal.org



American Speech-Language-Hearing Association

Making effective communication, a human right, accessible and achievable for all.

CAREERS

CERTIFICATION

PUBLICATIONS

EVENTS

ADVOCACY

CONTINUING EDUCATION

Audiologists

Speech-Language Pathologists

Academic & Faculty

Audiology & SLP Assistants

What does the literature say?

The Use of Voice Therapy in the Treatment of Dysphonia

Technical Report

American Speech-Language-Hearing Association and American Academy of Otolaryngology-Head and Neck Surgery

Referrals and Laryngoscopy Reports

Are scopes strictly necessary?

Flexible laryngoscopy vs flexible laryngoscopy with stroboscopy



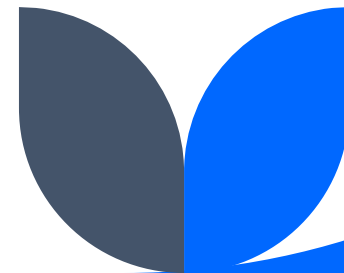
Referral Logistics

What to do if I get a voice referral not from an ENT?

How/When do I initiate an ENT consult?

Does the patient need a referral to see an ENT?

What things can do while I wait for a scope?



Acoustic Evaluation Tools

Describe what you hear and be consistent about it!

High Tech

- VisiPitch
- PRAAT

Low Tech

- GRBAS
- CAPE-V
- Acoustic parameters:
 - Max phonation time
 - Pitch range, habitual pitch
 - Intensity parameters



Aerodynamic Evaluation Tools

Afterall, the voice is air. You exhale as you speak.

High Tech

- Phonatory Aerodynamic System (PAS)

Low Tech

- Your eyes, ears, and hands
- s/z ratio



Patient Surveys

Voice Handicap Index

Rosen CA, Lee AS, Osborne J, Zullo T, Murry T. Development and validation of the voice handicap index-10. *Laryngoscope*. 2004 Sep;114(9):1549-56. doi: 10.1097/00005537-200409000-00009. PMID: 15475780.

Glottic Closure Index

Bach KK, Belafsky PC, Wasylik K, Postma GN, Koufman JA. Validity and reliability of the glottal function index. *Arch Otolaryngol Head Neck Surg*. 2005 Nov;131(11):961-4. doi: 10.1001/archotol.131.11.961. PMID: 16301366.

Voice Symptom Scale

Wilson JA, Webb A, Carding PN, Steen IN, MacKenzie K, Deary IJ. The Voice Symptom Scale (VoiSS) and the Vocal Handicap Index (VHI): a comparison of structure and content. *Clin Otolaryngol Allied Sci*. 2004 Apr;29(2):169-74. doi: 10.1111/j.0307-7772.2004.00775.x. PMID: 15113305.

Voice Related Quality of Life

Hogikyan ND, Sethuraman G. Validation of an instrument to measure voice-related quality of life (V-RQOL). *J Voice*. 1999 Dec;13(4):557-69. doi: 10.1016/s0892-1997(99)80010-1. PMID: 10622521.

Reflux Symptom Index

Belafsky PC, Postma GN, Koufman JA. Validity and reliability of the reflux symptom index (RSI). *J Voice*. 2002 Jun;16(2):274-7. doi: 10.1016/s0892-1997(02)00097-8. PMID: 12150380.



Training Our Ears, Eyes, and Hands



Breathiness

The perception of audible air escape during phonation



Roughness

Descriptor of a vocal quality that is lacking in clarity. There is increased noise and discordance.



Pitch Deficits

Pitch is the perceptual correlate of fundamental frequency. Measured in hertz (Hz).

**Reduced pitch flexibility
Inappropriate pitch
Pitch breaks
Reduced pitch range
Aphonia – consistent and episodic
Diplophonia**



- Understanding Voice Problems: A Physiological Perspective for Diagnosis and Treatment. Colton, Casper, and Leonard. 19



Poor coordination of respiration and phonation



Strain

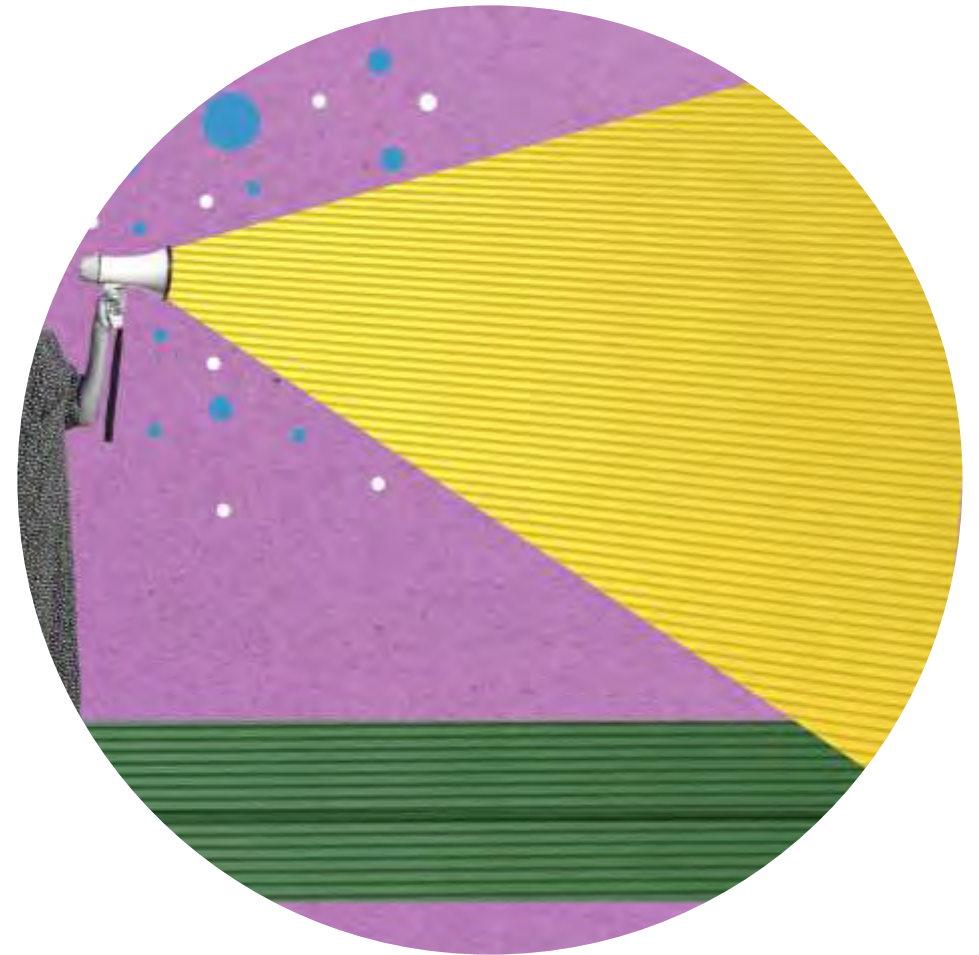
Perceivable increased physical effort often with visible cervical spine region tension. Indicative of laryngeal hyperfunction and poor coordination of respiration and phonation.



Loudness deficits

Loudness is the perceptual correlate of intensity

Hypophonia
Hyperphonia
Asthenia



Resonance deficits

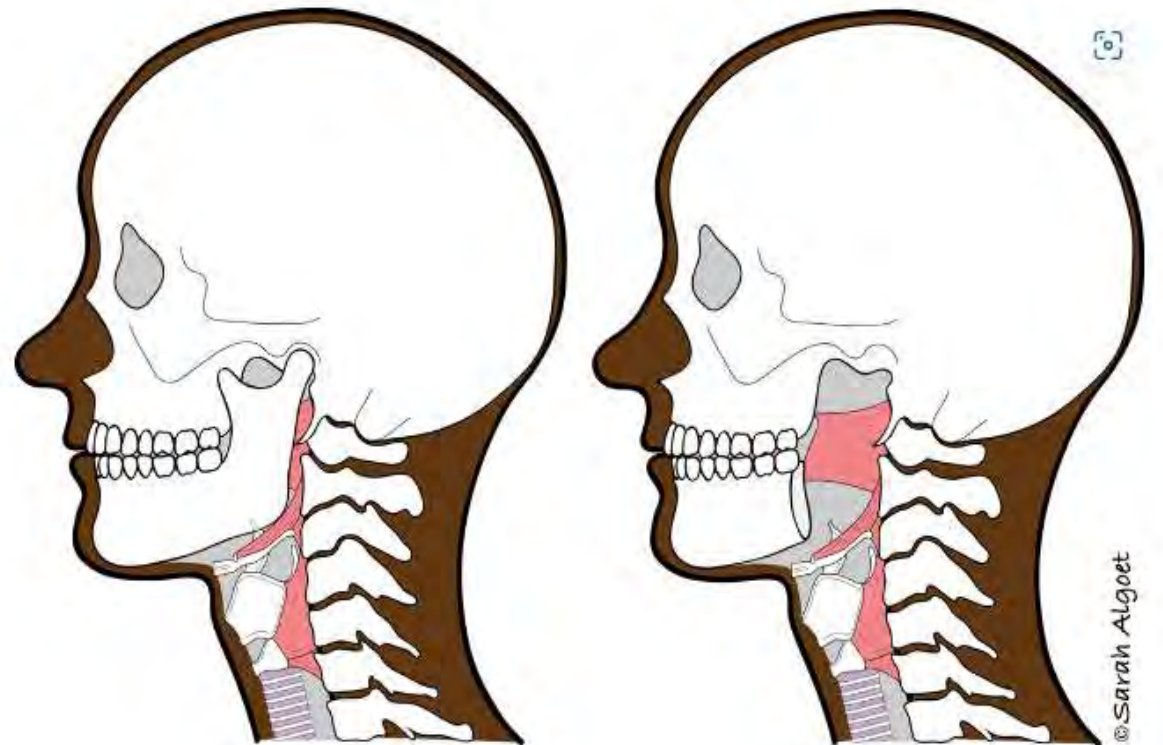


Tremor

Regularly rhythmic variations in pitch and loudness.



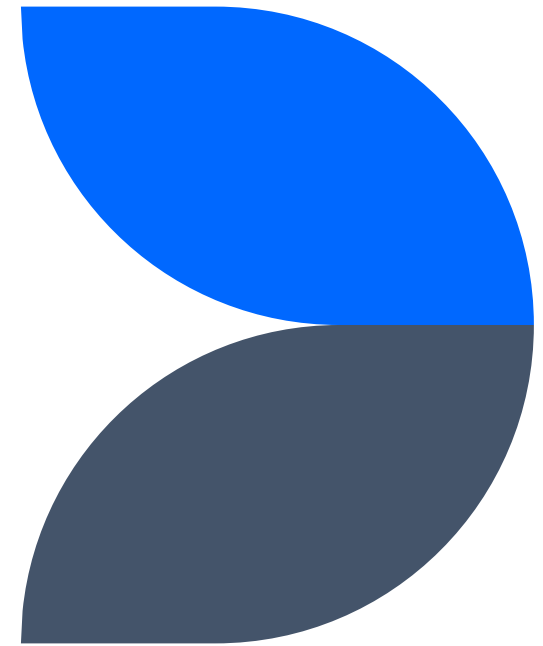
Laryngeal pain with no acoustic deficits



Collaborative Therapies

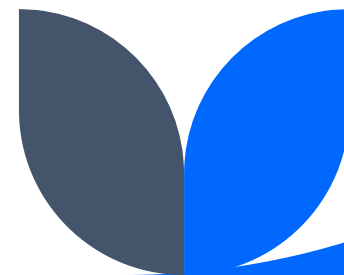
- PT and OT partners
 - Pain
 - Cervical spine concerns – ortho and dystonia
 - Thoracic mobility deficits
 - Pelvic floor therapy
- Behavioral health
- GI
- Allergy
- Singing voice specialists
- Facial plastics

Plan of Care Development

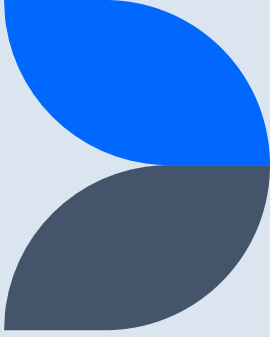


Stimulability Testing

- Manual approaches
- Respiratory mechanics
- SOVT
- Flow phonation
- Resonant voice
- LSVT and Speak Out
- Hydration protocol



Actionable Goals



- How badly does the patient's voice disorder bother them?
- What can the patient feel and hear?
- Physical symptoms – pain, fatigue, strain, rawness, globus
- Where can you first get an "in"?
- Can fixing X take care of Y and maybe even Z?
- Frequency and duration



Final tips & takeaways

- There can be quite a bit of uncertainty in complex voice cases.
- Be an expert in the anatomy and physiology of the voice sub-systems



Questions?