Assessment of Voice Disorders

Differential Diagnosis of Voice Disorders

Objectives

1. Describe the disorder
2. Note the contributing factors to the disorder

Typically conducted by a “team approach” involving an ENT, SLP, radiologist

Diagnostic Procedure

1. General/Medical History:
   - Duration/description of the voice problem
   - Health in general:

2. Voice History:
   - Change in vocal quality throughout the day, week, season; vocal misuses/abuses
• Obtain information regarding use of voice in vocational, social, recreational settings; a little about stress, or significant changes in a patient’s life

3. Perceptual Evaluation:
   • Assess loudness: ability to go from loud to soft/soft to loud
   • Assess pitch stepping/gliding up and down scale
   • Assess fatigueability use a counting task to note how many numbers they say per breath
   • Assess how steady and long they are able to produce /a/
   • Assess all of the above and the quality of speech by having them reading sentences/paragraphs, conversational speech/picture description for longer utterances

4. Physical Examination:
   • Via MD

5. Laryngo-videostroboscopic (LVS) exam:
• Conducted by SLP/ENT details of vibration/function and anatomical variations of the vocal folds.

6. Phonatory Function:
   a. Acoustic measurements
      • Quantify Pitch/F0, intensity/loudness, dynamic range
      • Harmonic to noise ratio
      • Perturbation measures

   b. Respiratory Measurements:
      • Airflow volume rate
      • Subglottic pressure
      • S/z ratio:
c. Kinematic Measurements:
   - EGG/EMG: assess aspects of the kinematics or laryngeal movements

d. Other
   - MRIs/CT
   - Blood tests
   - Allergy tests
Treatment of Voice Disorders

Two types of management (surgical/medical, behavioral) that are not mutually exclusive – can occur simultaneously, before or after each other

1. **Surgical/Medical**
   a. **Phonosurgery:** refers to any surgical procedure completed to improve the quality of the voice by addressing the underlying process
      • Types of phonosurgery include:
        1. Removal of pathological tissue
        2. Correction of position, shape, tension of folds
        3. Correction of neuromuscular function
        4. Reconstruction for partial/total loss or deformity of laryngeal structures
2. Behavioral Voice Therapy Techniques

   a. Techniques to counter hyperfunction

   • Easy Onset at voice initiation:

   • Breathy phonation (a.k.a. confidential voice):

   • Yawn-Sigh

   • Unhinge jaw when speaking

   • Relaxation Techniques: all aimed at reducing tension in the larynx

   • Monitor stress levels
b. Techniques to counter hypofunction
   • Using a hard glottic attack to initiate phonation
   • Coughing or throat clear to initiate phonation
   • Bear down on arms of a chair
   • Strengthening exercises

c. Techniques focusing on vocal hygiene/Optimize vocal endurance
   • Avoid speaking in noisy settings and too loudly
   • Reduce amount of talking
   • Minimize excessive throat clearing
• Consider your environment

• Monitor use of meds

• Avoid smoking and alcohol consumption

• Increase fluid intake

• Warm up/Cool down exercises

e. Techniques to optimize voice quality
  • Training appropriate pitch

• Speak at an appropriate rate

• Use of proper posture when speaking
• LSVT (Lee Silverman Voice Treatment) most often used with patients diagnosed with PD

• Psychogenic
  o Reflexive Phonation:
    o Chant-talk:
      o Cognitive/Behavioral therapy involves psychologist co-treatment