Common Voice Disorders

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Clinical Anatomy

- Supraglottic
- Glottic
- Subglottic

Hoarseness

- Changes to the quality of the voice is dysphonia
  - Usually a vocal cord problem
- Changes in the ability to articulate is considered dysarthria
  - Central process or difficulty with tongue motion
- Memory impairment inhibiting voice production is aphasia

Normal Voice Production

- Airflow produces a wave across the surface of the true folds
- The frequency of vibration is the pitch
- The volume is dependent on the subglottic pressure
Polyps

Acquired lesion due to trauma/injury
Several types based on:
- Shape
  - Sessile
  - Pedunculated
- Color/content
  - Hemorrhagic
  - Angiomatous
  - Hyaline

Sessile Polyp

- Medial edge swelling
- Treat with voice rest and therapy
- Surgery if no improvement

Pedunculated Polyp

- Less responsive to therapy and rest
Polyp Surgery

- Conventional
  - General anesthesia – knife or laser
- Fiberoptic
  - Awake with local anesthesia – laser

Nodules

- Due to repeated voice misuse
- Bilateral and symmetric
- Primary treatment is therapy

Vocal Misuse/Trauma

- Causes injury at the junction of the anterior and middle third of the true fold
- Produces a hemorrhagic lesion

Cyst

- Similar to a polyp
- Do not respond to therapy
- Need to remove to improve the voice
Cancer

- More common in smokers
- Reflux may be a factor
- Anyone with hoarseness over 2 weeks needs a laryngeal exam

Warning signs
- Progressive dysphonia (can be mild)
- Otalgia with normal exam
- Do not need: throat pain or swallowing complaints

Vocal cord paralysis

- Etiologies
  - Iatrogenic (60%)
  - Idiopathic (20%)
  - Neoplastic (10%)
  - Traumatic (5%)
  - Infectious (5%)

- Testing
  - Imaging course of vagus nerve

Paralysis/Paresis

- Treatment options
- Therapy
- Injection laryngoplasty
- Medialization laryngoplasty
### Neurologic Disorders
- Spasmodic dysphonia
- Essential tremor
- Treatment = Botox

### Papilloma
- HPV (type 6 and 11)
- Primary treatment is surgical
- Cancer risk

### Candidiasis
- Common with steroid inhalers
  - 25% of inhaler users develop hoarseness
- Following oral steroids or antibiotic use
- Can have without oral involvement

### Conclusion
- Any patient with voice changes over 2 weeks should have a laryngeal exam
- Acquired voice disorders (polyps and nodules) need therapy as part of treatment
- Multiple therapeutic options available and most voice disorders can be treated with good results
- More procedures are performed without general anesthesia
Common Voice Disorders

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Common Voice Pathologies

- Vocal fold lesions:
  - Polyps, nodules, cysts
- Vocal fold neoplasms:
  - Papilloma, leukoplakia, carcinoma
- Inflammatory conditions:
  - Laryngopharyngeal reflux, sicca, granuloma, edema
- Neurogenic conditions:
  - Vocal fold paralysis/paresis, presbylarynx

Assessment of the Larynx

- Listen
- Indirect mirror laryngoscopy
- Flexible/rigid laryngoscopy
- Direct microlaryngoscopy

Videolaryngostroboscopy
### High Speed Videolaryngoscopy

![Image of larynx](image)

### Laryngopharyngeal Reflux

- Different clinical entity from Gastroesophageal Reflux
- Symptoms of globus, throat pain, throat clearing, dry cough, sticky pharyngeal mucous, dysphonia, dysphagia, postnasal drainage
- Heartburn and indigestion present in 40%

### Inflammatory Conditions of the Larynx

- Laryngopharyngeal reflux
- Vocal fold granuloma
- Polypoid corditis (Reinke’s edema)
- Laryngeal sicca

### Diagnosis of LPR

- History
- Laryngoscopy
- EGD/Transnasal awake esophagoscopy
- Barium esophagram
- pH probe/impedence testing
LPR Findings on Laryngoscopy

- Vocal fold edema/erythema
- Pseudosulcus
- Postcricoid edema
- Interarytenoid mucosal thickening (pachydermia)
- Dry mucous in piriform sinuses/larynx

Laryngopharyngeal Reflux

Treatment of LPR

- H2 blockers
- Proton Pump Inhibitors
- Mucosal protectants: Carafate
- Avoidance of late night meals
- Daily hydration
- Dietary modification
- Surgical interventions
Vocal Fold Granuloma

- Etiologies:
  - Intubation, Laryngopharyngeal reflux, throat clearing and cough
- Exam findings:
  - Fleshy mass at vocal process
- Symptoms:
  - Dysphonia, globus, throat pain, dyspnea

Vocal Fold Granuloma

- Treatment:
  - Proton Pump Inhibitor
  - Cough suppressant
  - Vocal rest
  - Surgery:
    - Laryngoscopy with excision
    - Awake LASER treatment
    - Steroid injection
Polypoid Corditis

- Edema of superficial lamina propria
  - Reinke’s edema

- Causes:
  - Tobacco abuse
  - Inhaled medication effects
  - Inhalant injury
  - Metabolic disorders: Hypothyroidism
  - Untreated Obstructive Sleep Apnea
Polypoid Corditis

• Etiology
  – Tobacco abuse, Medication Drying Side Effects, Inhaled Steroid use, Dehydration, Autoimmune

Laryngeal Sicca

• Etiology
  – Tobacco abuse, Medication Drying Side Effects, Inhaled Steroid use, Dehydration, Autoimmune

Laryngeal Findings
  – Thick/sticky secretions, laryngeal crusting, fungal overgrowth, vocal fold edema/erythema

• Treatment:
  – Improving hydration
  – Tobacco cessation
  – Minimizing medication use
  – Sialogogues: Evoxac or Salagen
  – Diflucan
  – Laryngeal debridement and culture
### Paradoxical Vocal Fold Dysfunction

**• Primarily a breathing disorder**
- Vocal fold adduction during respiration
- Dyspnea at rest, exertion, exposure to chemicals/perfumes

**• Other symptoms**
- Cough, dysphonia, globus, throat pain
- Stridor/wheezing
- Laryngeal tightness

**Treatment:**
- Rule out other respiratory disorders
- Treat concurrent laryngeal irritants:
  - Allergy, reflux, postnasal drainage, sicca
- Laryngeal control therapy
- Manage concurrent psychosocial stressors
- Avoidance of triggers
- Biofeedback exercises

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**Kinesthetic**

Low abdominal breathing can be felt by placing a hand on the abdomen while lying down and breathing or placing your hands on your abdomen while breathing.

**Visual**

Low abdominal breathing can be visualized by looking at your hands or looking at the book placed on the abdomen.