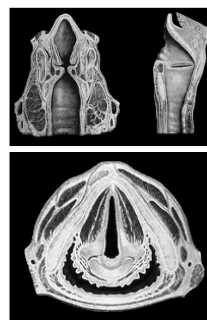


Common Voice Disorders

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Medical Director
The OSU Voice and Swallowing Disorders Clinic
The Ohio State University Wexner Medical Center

Clinical Anatomy

- Supraglottic
- Glottic
- Subglottic

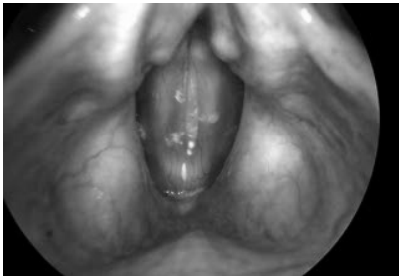


Hoarseness

- 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

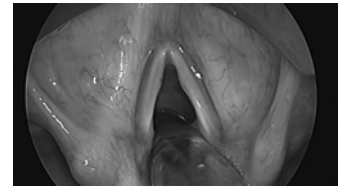
Normal Voice Production

- 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



Sessile Polyp

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

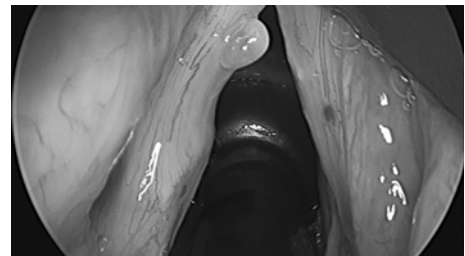


Polyps

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

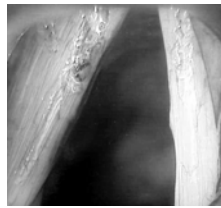
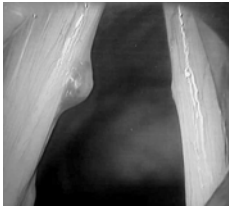
Pedunculated Polyp

- Less responsive to therapy and rest



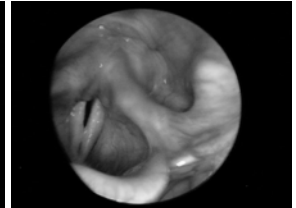
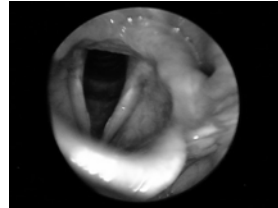
Polyp Surgery

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



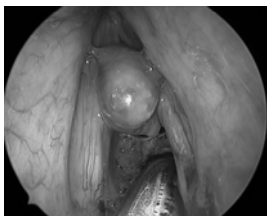
Nodules

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



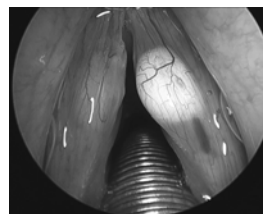
Vocal Misuse/Trauma

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



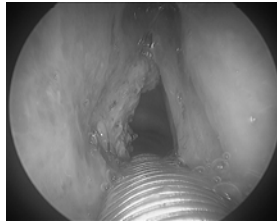
Cyst

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



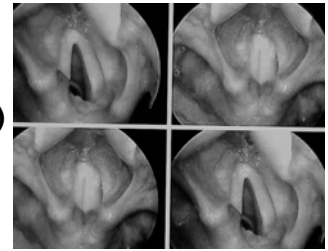
Cancer

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



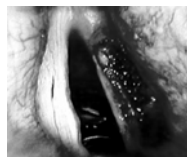
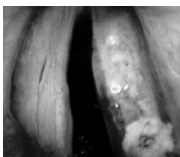
Vocal cord paralysis

- Etiologies
 - Iatrogenic (60%)
 - Idiopathic (20%)
 - Neoplastic (10%)
 - Traumatic (5%)
 - Infectious (5%)
- Testing
 - Imaging course of vagus nerve



Cancer

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



Paralysis/Paresis

- Treatment options
- Therapy
- Injection laryngoplasty
- Medialization laryngoplasty



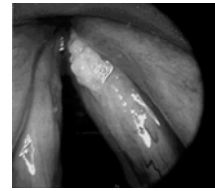
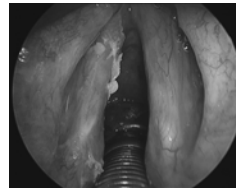
Neurologic Disorders

- Spasmodic dysphonia
- Essential tremor
- Treatment = Botox



Candidiasis

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



Papilloma

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



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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Assessment of the Larynx

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

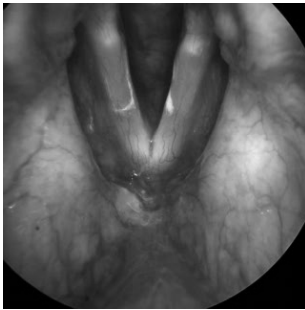
Common Voice Pathologies

- 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

Videolaryngostroboscopy



High Speed Videolaryngoscopy



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

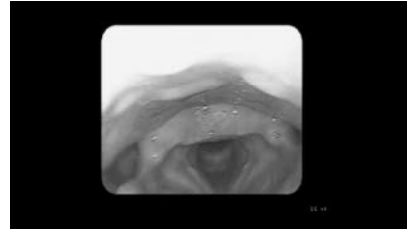
Diagnosis of LPR

- 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



Laryngopharyngeal Reflux



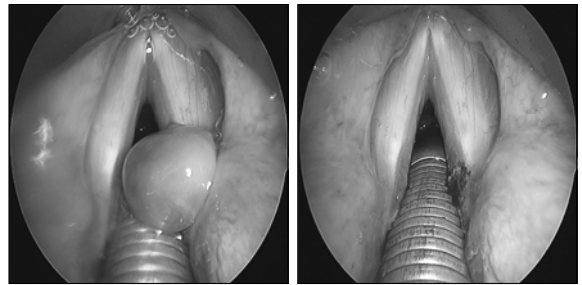
Treatment of LPR

- 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



Vocal Fold Granuloma



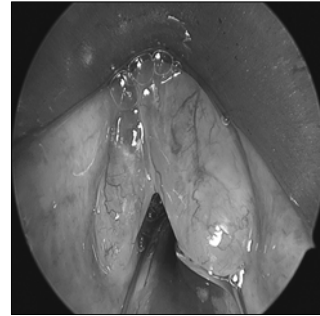
Vocal Fold Granuloma

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

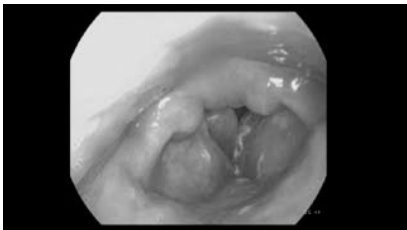
Polypoid Corditis

- Edema of superficial lamina propria
 - Reinke's edema
- Causes:
 - Tobacco abuse
 - Inhaled medication effects
 - Inhalant injury
 - Metabolic disorders: Hypothyroidism
 - Untreated Obstructive Sleep Apnea

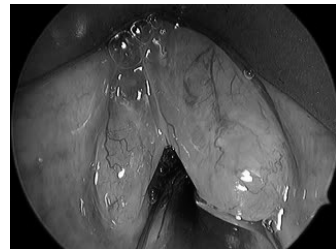
Polypoid Corditis



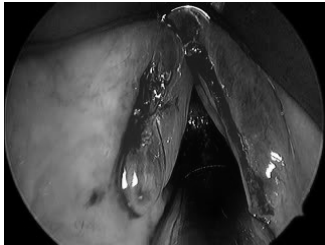
Polypoid Corditis



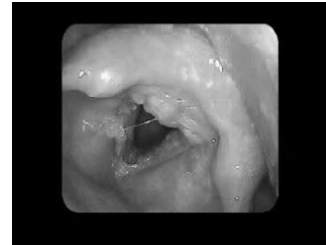
Polypoid Corditis



Polypoid Corditis



Laryngeal Sicca



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

Laryngeal Sicca

- 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

Paradoxical Vocal Fold Dysfunction

- 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

Paradoxical Vocal Fold Dysfunction



Paradoxical Vocal Fold Dysfunction



Biofeedback Cues

Kinesthetic

Low abdominal breathing can be felt by placing a book on the abdomen while laying 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.