

Benign Laryngology for the FRCS

Ashley Hay

Head and Neck Consultant

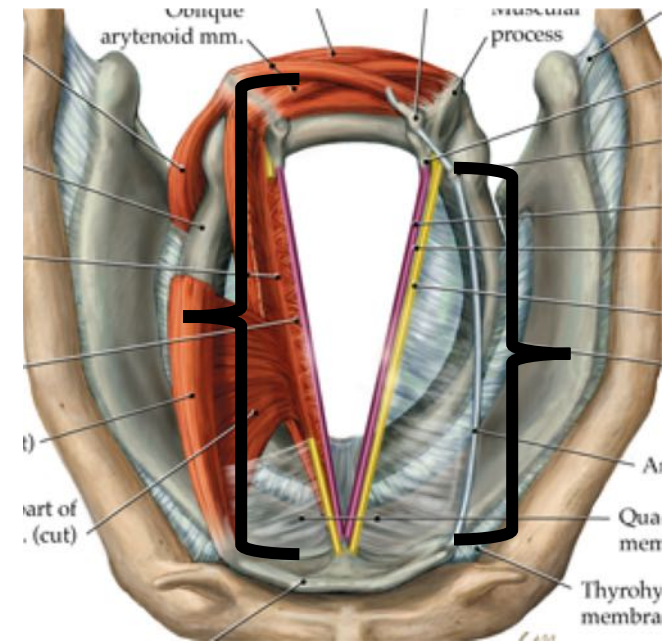
Edinburgh Cancer Centre, ENT Department

Edinburgh

- Laryngology for the exam
- Anatomy
- Physiology
- What might you be asked to draw
- Things to know about
- Cases of common pathology

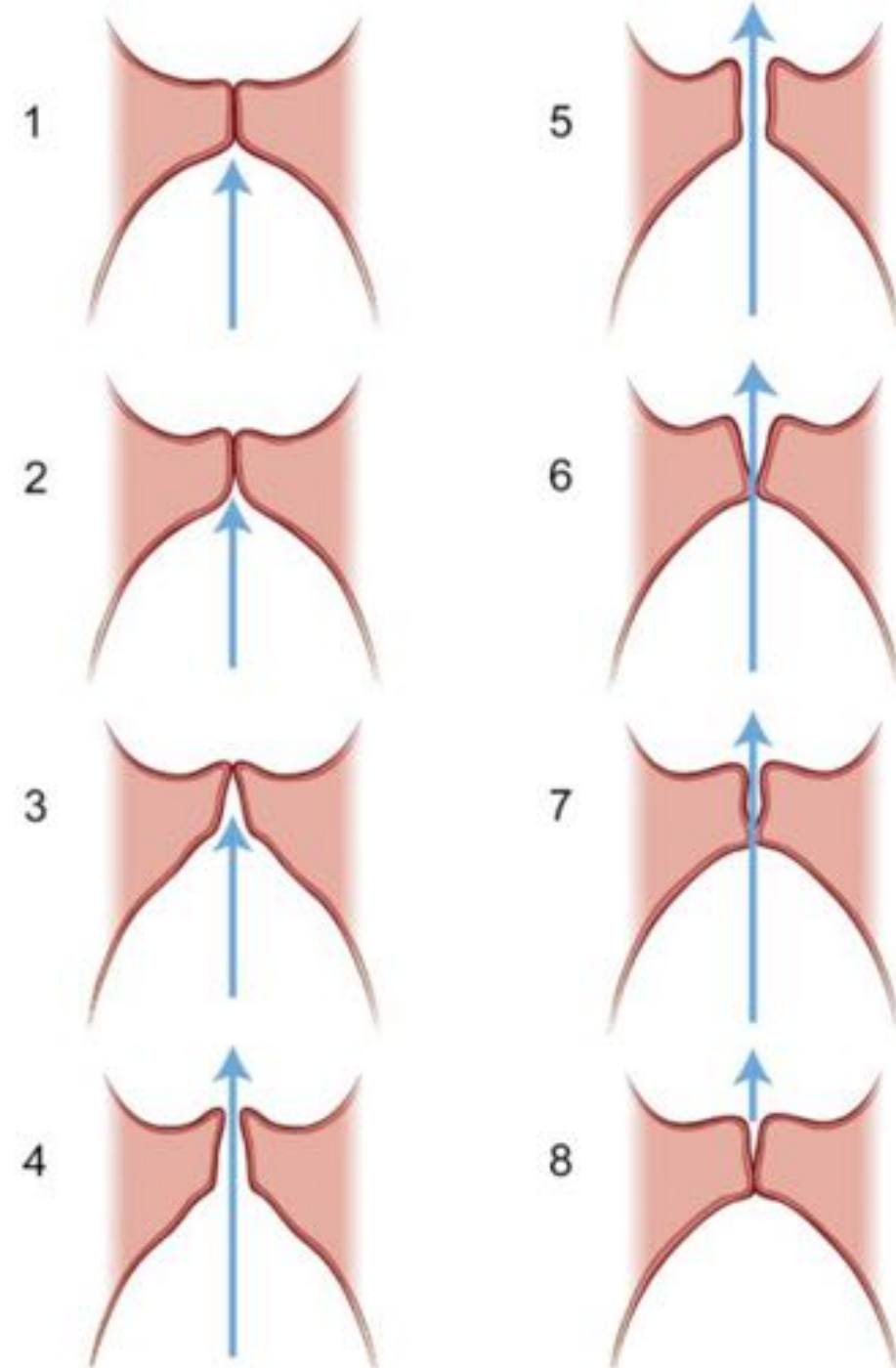
Anatomy

- Vocal cord versus vocal fold
- Subglottis:
 - Definition
 - Starts 1cm below the lowest part of the free edge of vocal fold
 - Ends at the first tracheal ring



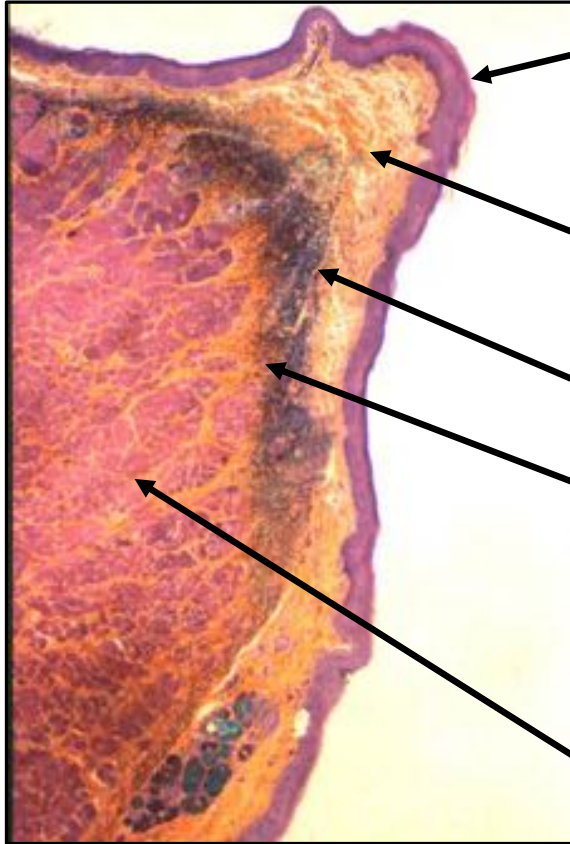
Physiology

- Functions of larynx
 - Airway protection, Regulation of respiration and Speech
- What is required for Sound production
 - Power/Air source- Lungs
 - Vibration element- Larynx
 - Phonation- Articulation, Resonators
- What happens at the level of the vocal cord
 - Mucosal wave propagation
 - Subglottis pressure wave



What do you need to draw

- Larynx
- Vocal cord in cross section



- Squamous epithelium (0.05mm)

- Lamina Propria (1.5mm)

- Superficial (SLLP; Reinke's space)

- Vocal ligament

- Intermediate (ILLP; elastin)

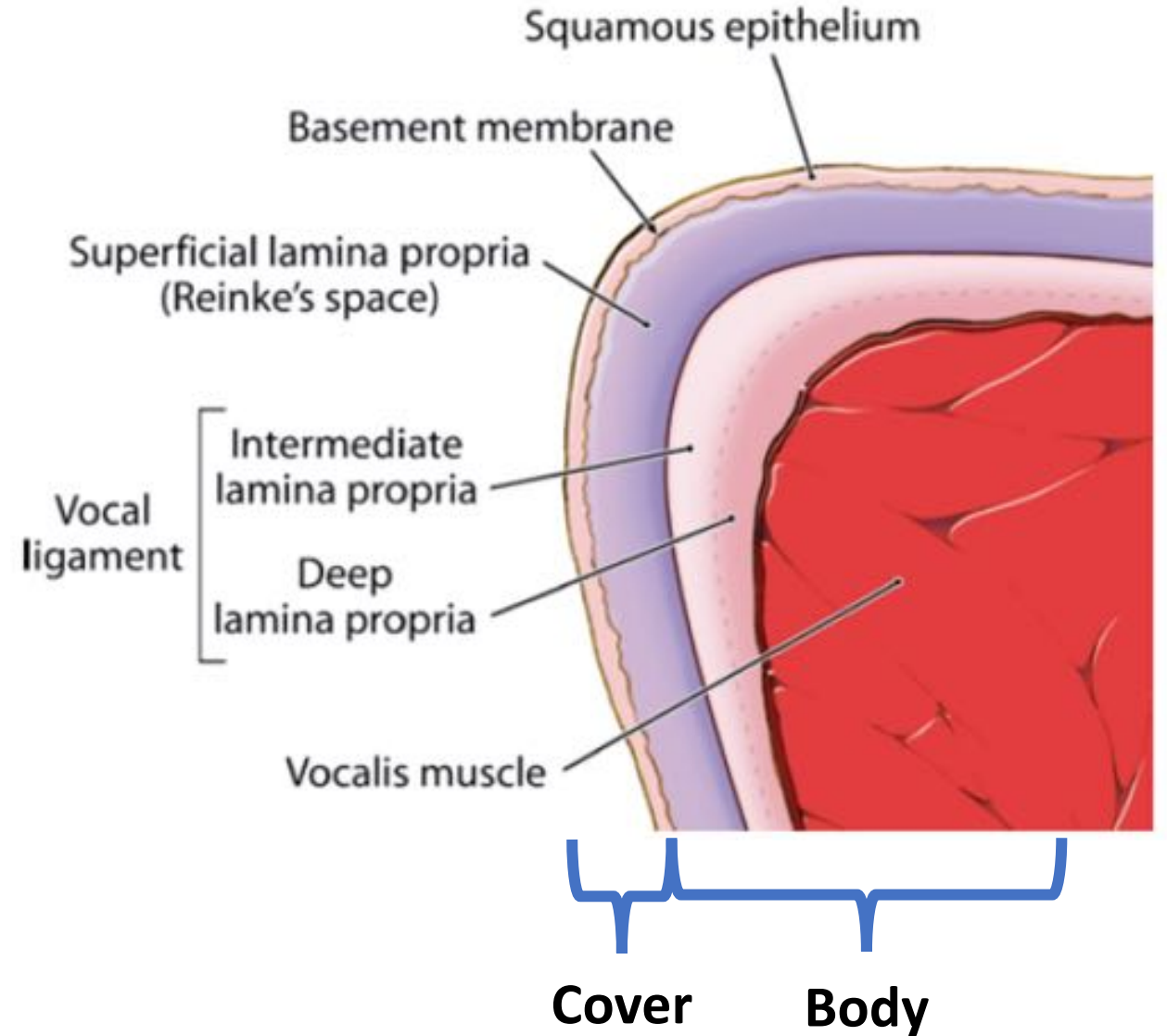
- Deep (DLLP; collagen)

- More sensitive to injury

- Vocalis muscle

VF function

- Hirano- 1974
- Cover and body theory
- Fundamental frequency of Vocal Fold
 - Length
 - Mass
- Vocalis muscle
- Cricothyroid muscle



Things to know about

- Assessments of the voice
 - Objective
 - GRABAS/ CAPE- V
 - Subjective
 - RSI/ VHI
 - Stroboscopy
 - Speech therapy

Vocal Handicap index- VHI

My voice makes it difficult for people to hear me.	0 1 2 3 4
People have difficulty understanding me in a noisy room.	0 1 2 3 4
My voice difficulties restrict personal and social life.	0 1 2 3 4
I feel left out of conversations because of my voice.	0 1 2 3 4
My voice problem causes me to lose income.	0 1 2 3 4
I feel as though I have to strain to produce voice.	0 1 2 3 4
The clarity of my voice is unpredictable.	0 1 2 3 4
My voice problem upsets me.	0 1 2 3 4
My voice makes me feel handicapped.	0 1 2 3 4
People ask, "What's wrong with your voice?"	0 1 2 3 4

Reflux Symptom index- > 10 abnormal

1. Hoarseness or a problem with your voice.	0 1 2 3 4 5
2. Clearing your throat.	0 1 2 3 4 5
3. Excess throat mucus or postnasal drip.	0 1 2 3 4 5
4. Difficulty swallowing food, liquids or pills.	0 1 2 3 4 5
5. Coughing after you ate or after lying down.	0 1 2 3 4 5
6. Breathing difficulties or choking episodes.	0 1 2 3 4 5
7. Troublesome or annoying cough.	0 1 2 3 4 5
8. Sensations of something sticking in your throat or a lump in your throat.	0 1 2 3 4 5
9. Heartburn, chest pain, indigestion, or stomach acid coming up.	0 1 2 3 4 5

- Voice therapy is targeted at educating patients about general behaviors and practices that traumatize the midmembranous region, reducing compensatory maladaptive behaviors that serve to worsen the trauma, and addressing patient-specific factors that worsen the injury.
- During voice therapy sessions you may be asked to:
 - Discuss your voice problem in greater detail. When did it start? Is it getting worse? Does it vary?
 - Discuss how you use your voice, both personally and professionally.
 - Modify the way you are breathing.
 - Produce voice in different ways such as humming or singing.
 - Try to match an audio taped model of voice.
 - Learn exercises to help balance and strengthen your vocal mechanism.
 - Learn strategies to keep your voice strong and healthy for the future.

Symptoms and Conditions

- Breathiness
- Vocal fatigue
- Choking
- Odynophonia
- Paralaryngeal pain
- Laryngospasm
- Stridor
- Vocal tremor
- Velopharyngeal insufficiency
- Globus

UVCP, VC mass

Atrophy, neurogenic dysphonia

VCP, CVA

Granuloma, Muscle tension

Muscle tension

LPR, GORD, nerve injury

B/L VCP, Stenosis, paradoxical

Parkinson's, spasmodic, myoclonus

MG, MND, Vagal injury

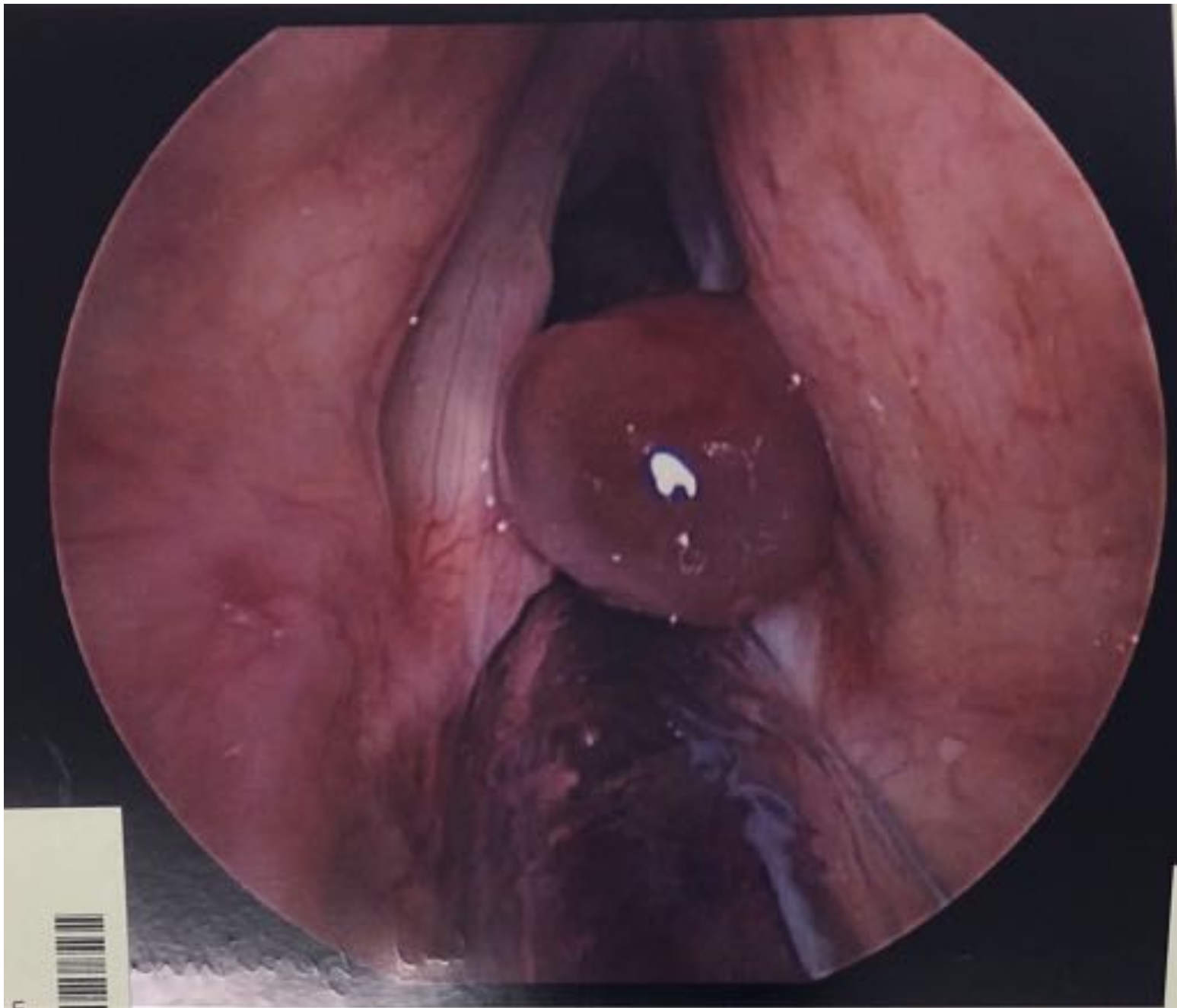
LPR

Exam Format

- Starter question
 - What is this?
 - Simple question
- Competence question
 - Pushing you for 6
 - Assessing emergency safe
 - Level of a first day consultant
- Show your knowledge
 - Score 7 and 8s

Cases

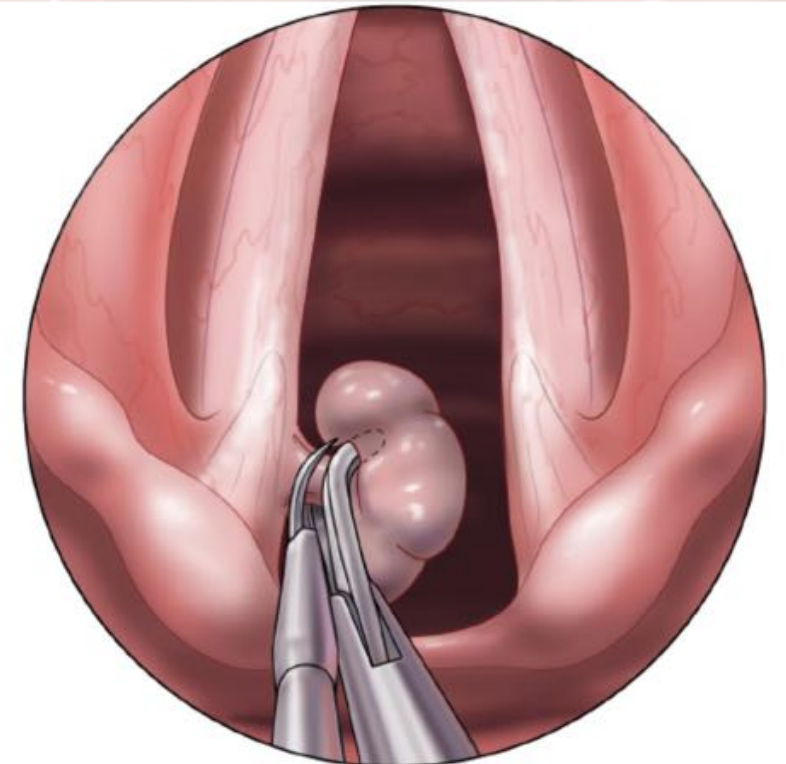
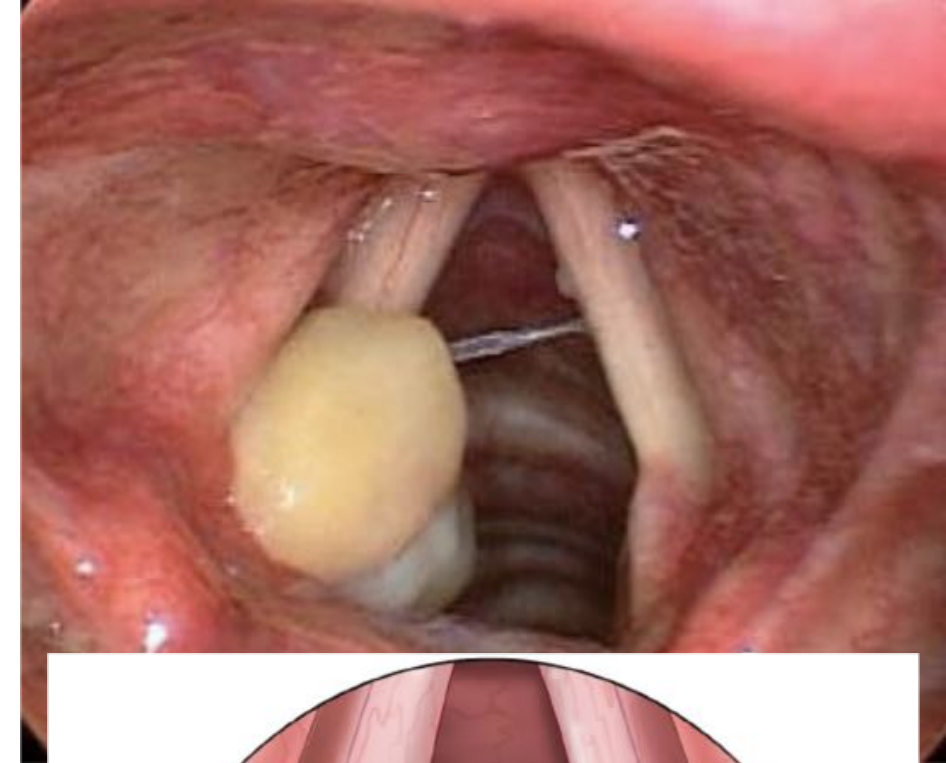
- Globus
- Polyps, Nodules, Reinke's, Webs
- Assessment of professional voice
- Dysplasia
- Papillomata
- Plummer-Vincent- Kelly
- Pharyngeal pouch
- Stridor
- Vocal cord palsy
- Laser in laryngology
- Chronic aspiration
- Dysphagia
- Trauma



Case 1

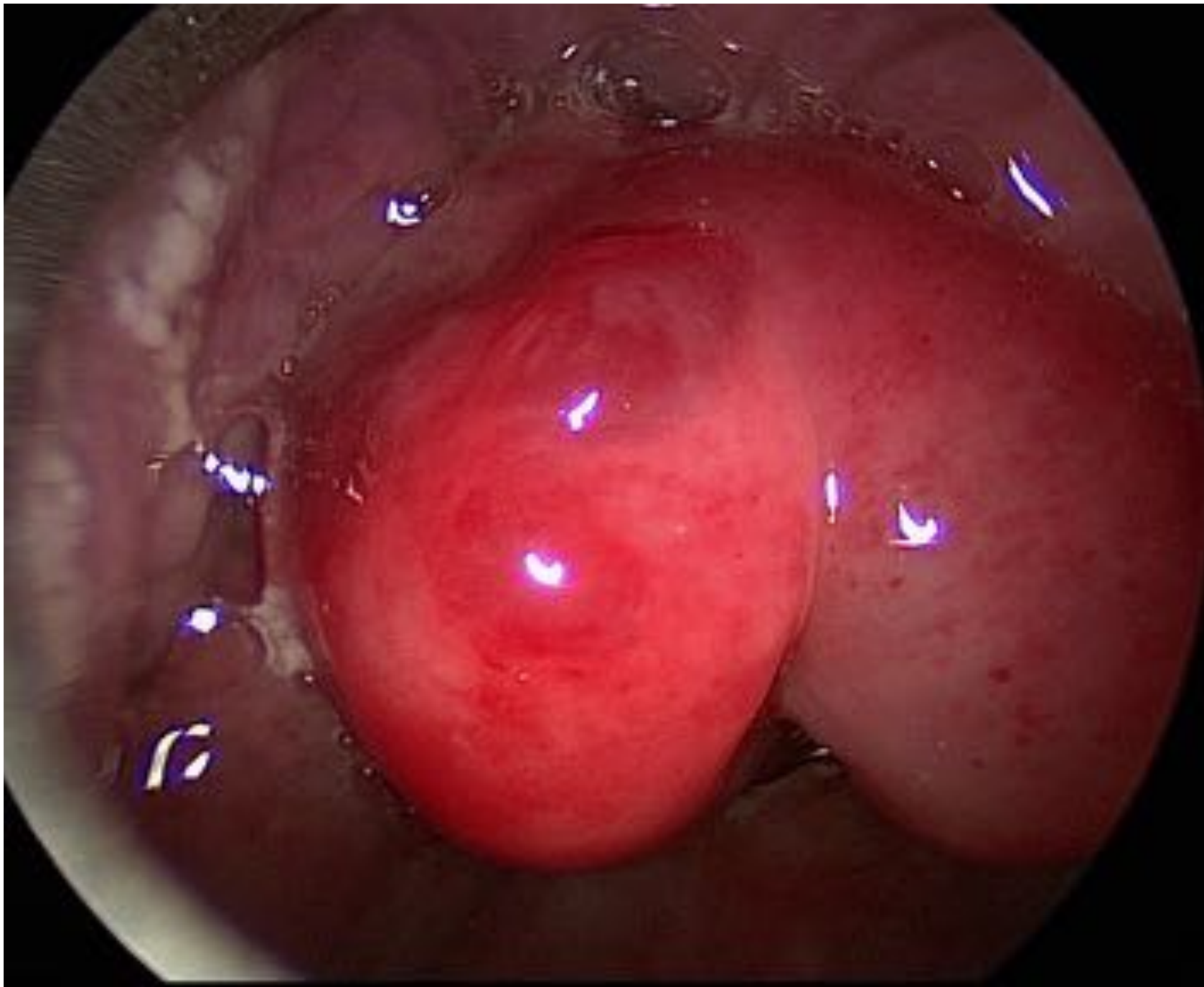
- What is this?
- Salient points in history
- Treatment options
- Higher level:
 - Mx of recurrences

- What is this?
 - This is an operative photograph showing a laryngeal lesion
 - This is a vocal cord granuloma
- Salient points in history
 - Age, sex, comorbidities
 - Intubation history- traumatic or prolonged
 - Reflux
 - Symptoms
- Treatment options
 - Small versus big, Intubation versus contact
 - Small- Conservative
 - Big- Excision
- Higher level:
 - Mx of recurrences
 - Pathophysiology/ Etiology
 - How do you perform microlaryngoscopy
 - Patient position
 - Airway



Case 2

- 44 YO female referred to ENT
- Admitted with fever, cough, SOB, pain on swallowing and voice change
- 1) Describe how you would manage this patient
- 2) Differential Diagnosis
- 3) What tests/ investigation would you do



Case 2

- What does the picture show?
 - How would you manage this?
 - Who would you talk to?
-
- Talk me through an awake trachy
 - Epiglottic abscess
 - Abx choice
 - H. influ immunization

Case 3



Case 3- Vocal cord nodules

- Describe appearance
 - Mid membranous symmetrical lesions in keeping with vocal cord nodules
- What would you cover in the history?
 - Vocal abuse/ misuse, children, females
 - Vocal demand/ profession, social
 - Vocal hygiene
- Differential diagnosis
 - Vocal fold polyps- B/L or contralateral reactive lesion
 - Fibrous mass
 - Cyst
 - Pseudocyst

Case 3

- Management
 - Vocal hygiene
 - SLT
 - Conservative management
 - When to operate?
- Operative techniques
- What is involved in SLT
- What vocal hygiene advice do you give

What should I do more of?

Drink fluids – 6-8 glasses a day.
This helps hydrate the mucosa in the throat.

Wet the throat regularly during the day.
Inhale water vapour using a steamer cup
or a cold air mister.



Gargle with tepid water to wet the mouth and
throat especially if you use asthma inhalers.



Stress leads to strain. Spend time during
the day to **relax**.



**If you have an acute infection follow
this advice:**

1. Increasing fluid intake
2. Regular Steam inhalation
3. Rest the voice, or use very gently.
Do Not Whisper
4. Do not gargle with Aspirin

What should I do less of?

Talk less. The vocal cords vibrate millions
of times during the day. Cutting down
talking will help rest the voice.



Avoid irritants – vocal cords can be sensitive
to irritants especially if they are dry.



Avoid using a LOUD voice.

A quiet voice reduces damage to the vocal
cords.



Case 4

- 30 YO Female
- On/ Off feeling of lump in the throat
- Intermittent voice changes

- What would you cover in this history?
- What investigations would you do?

Globus

- What advice do you give to the patient?
- Possible interventions
- Evidence base for
 - Nasal Tx
 - PPI
 - Alginates

LPR

- 50% of presentation with voice symptoms
- Differences between LPR and GORD
- How to assess?
- Features you would see?

Case 4



Examine the Posterior Larynx
VF Granuloma
Pachydermia
Erythema
Oedema
Pseudosulcus
Blunting of Supraglottis

Case 5

74 YO man

Sudden onset breathy voice

Difficulty in shouting

SOB



- History

- Symptoms
- Associated symptoms

- Diagnosis

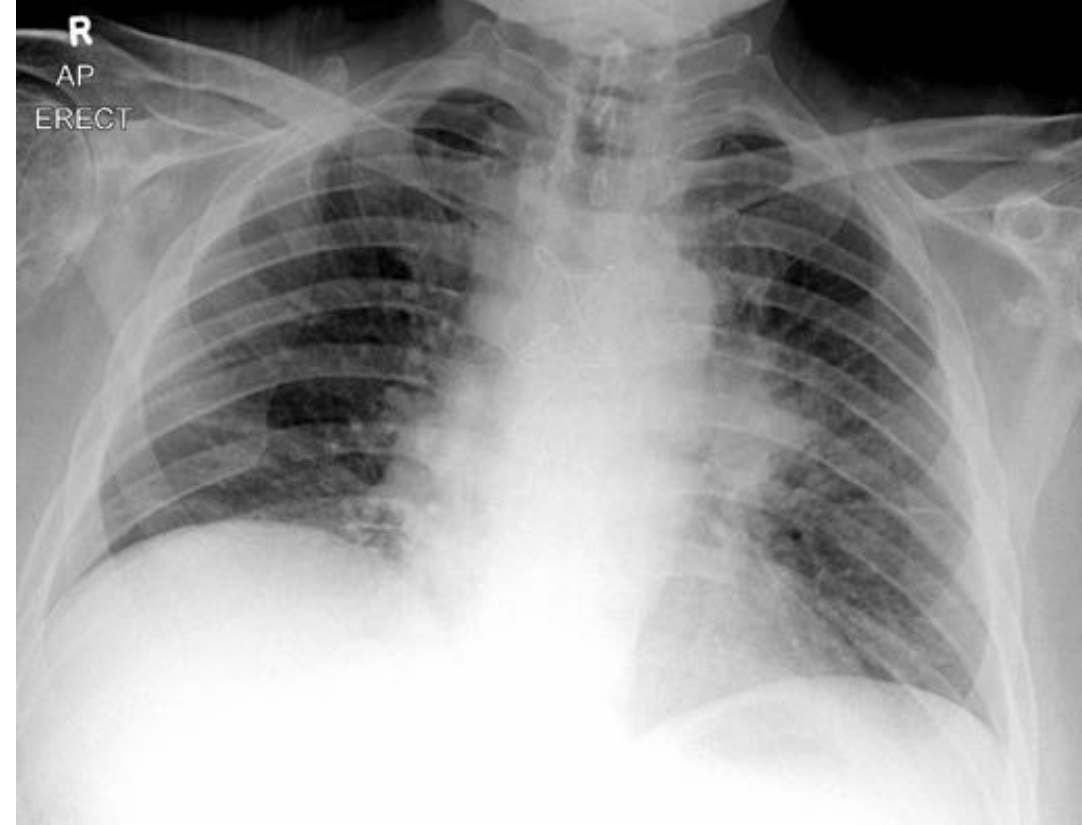
- Malignant disease, iatrogenic, idiopathic

- Ix

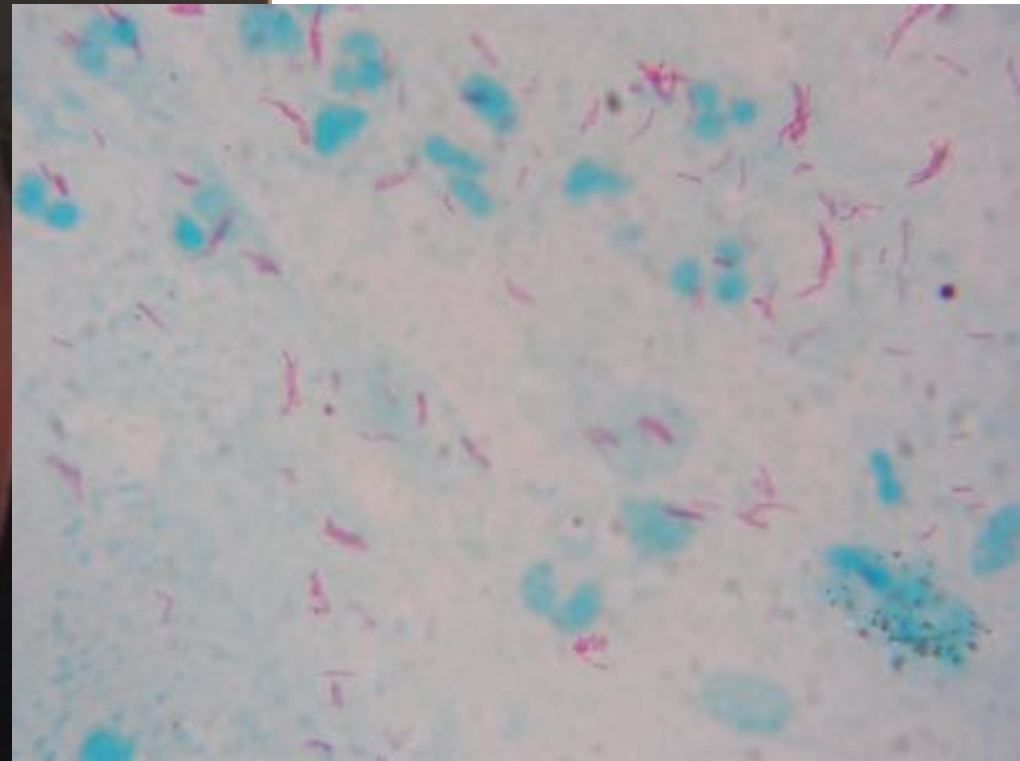
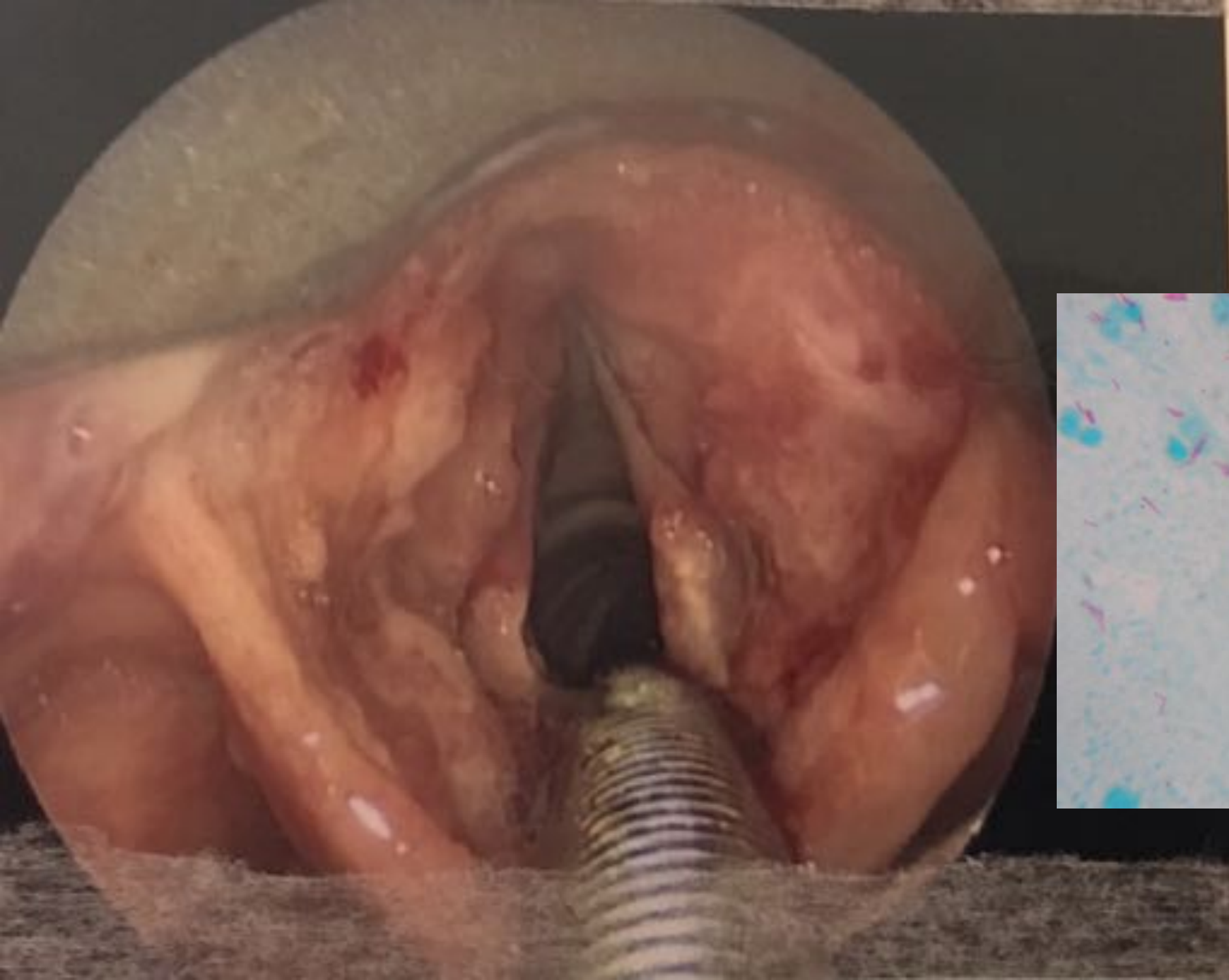
- FNE, Neck exam, cranial nerves, stroboscopy and electromyography
- CXR, CT, MRI, FNAC etc

- Management

- Depends on pathology and disability
- Injection augmentation, medialisation laryngoplasty



Rare conditions of the larynx



Thank you

- Questions??