

# Dysphonia –

Diagnosis, Decisive action and other Delights

Dave Pothier

# Definition

- **dysphonia** [dɪs'fəʊniə]  
*noun* any impairment in the ability to speak normally, as from spasm or strain of the vocal cords  
[ETYMOLOGY: 18th Century: New Latin, from Greek: harshness of sound, from dys- + *-phonia*  
*-phony*]  
**dysphonic** [dɪs'fβnɪk] *adjective*

# Definition

- Any abnormality of quality of sound of voice from any cause
- Not necessarily from cords
- Almost synonymous with hoarseness

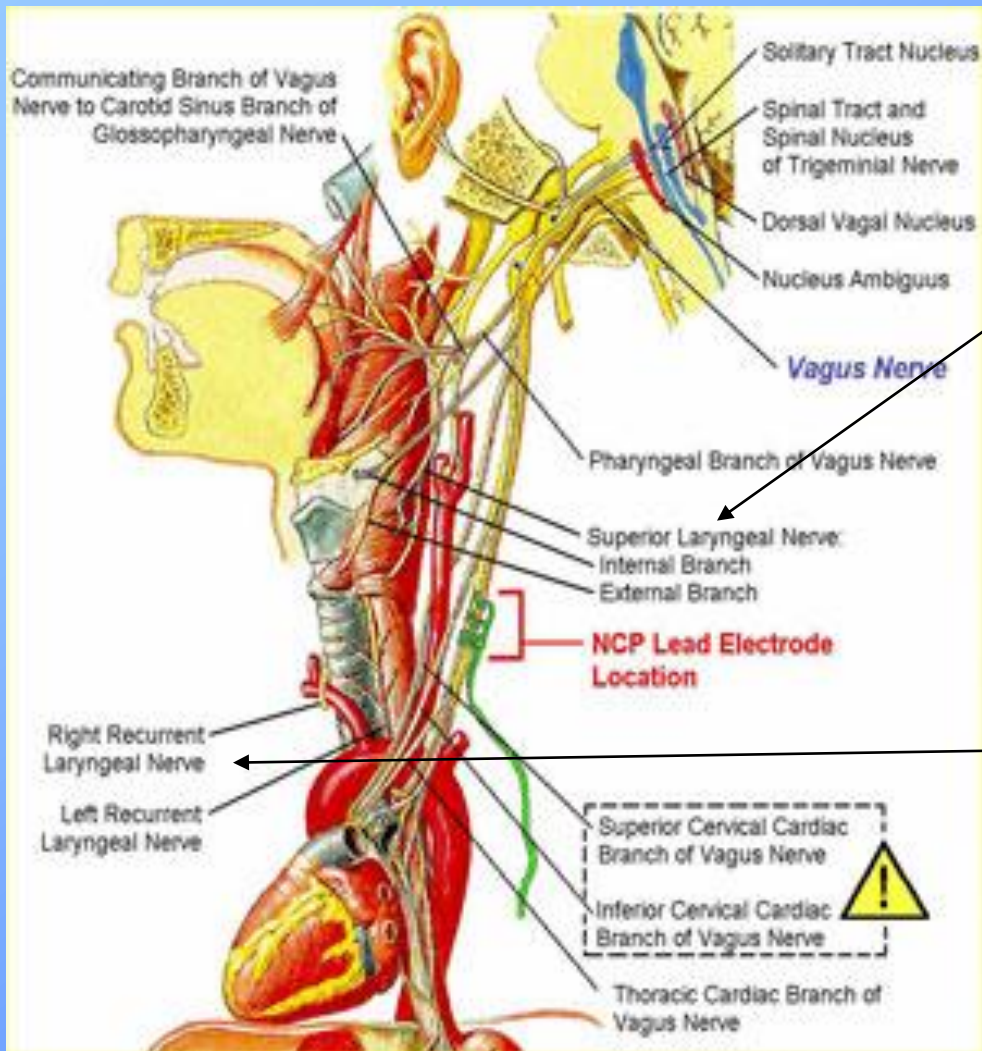
# Context

- Common referral
- Potentially sinister symptom
- Many benign causes

# Anatomy / physiology

- Vagus nerve
  - Larynx

# Vagus nerve



**SLN:**

**Internal br. –  
Sensation above  
cords**

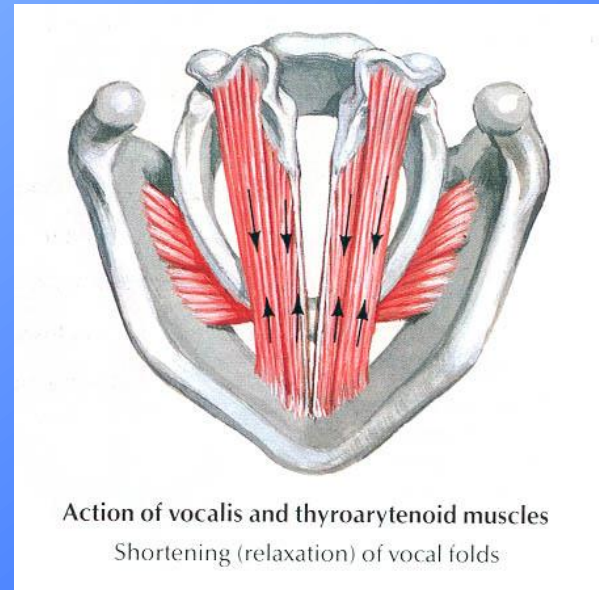
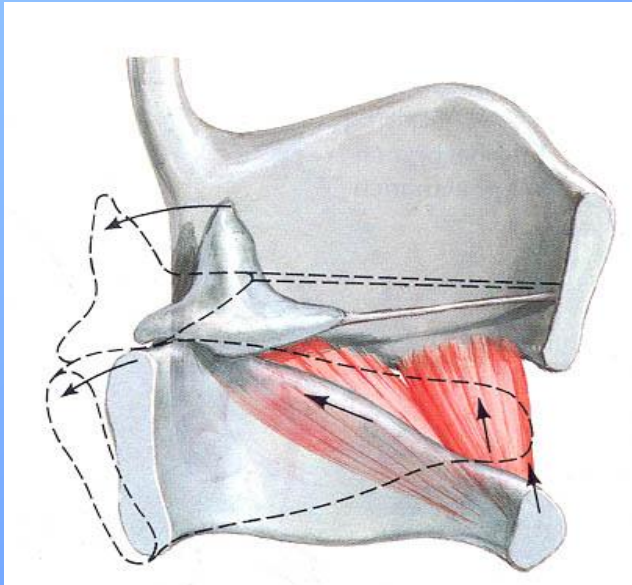
**External br. -  
cricothyroid  
muscle**

**RLN:**

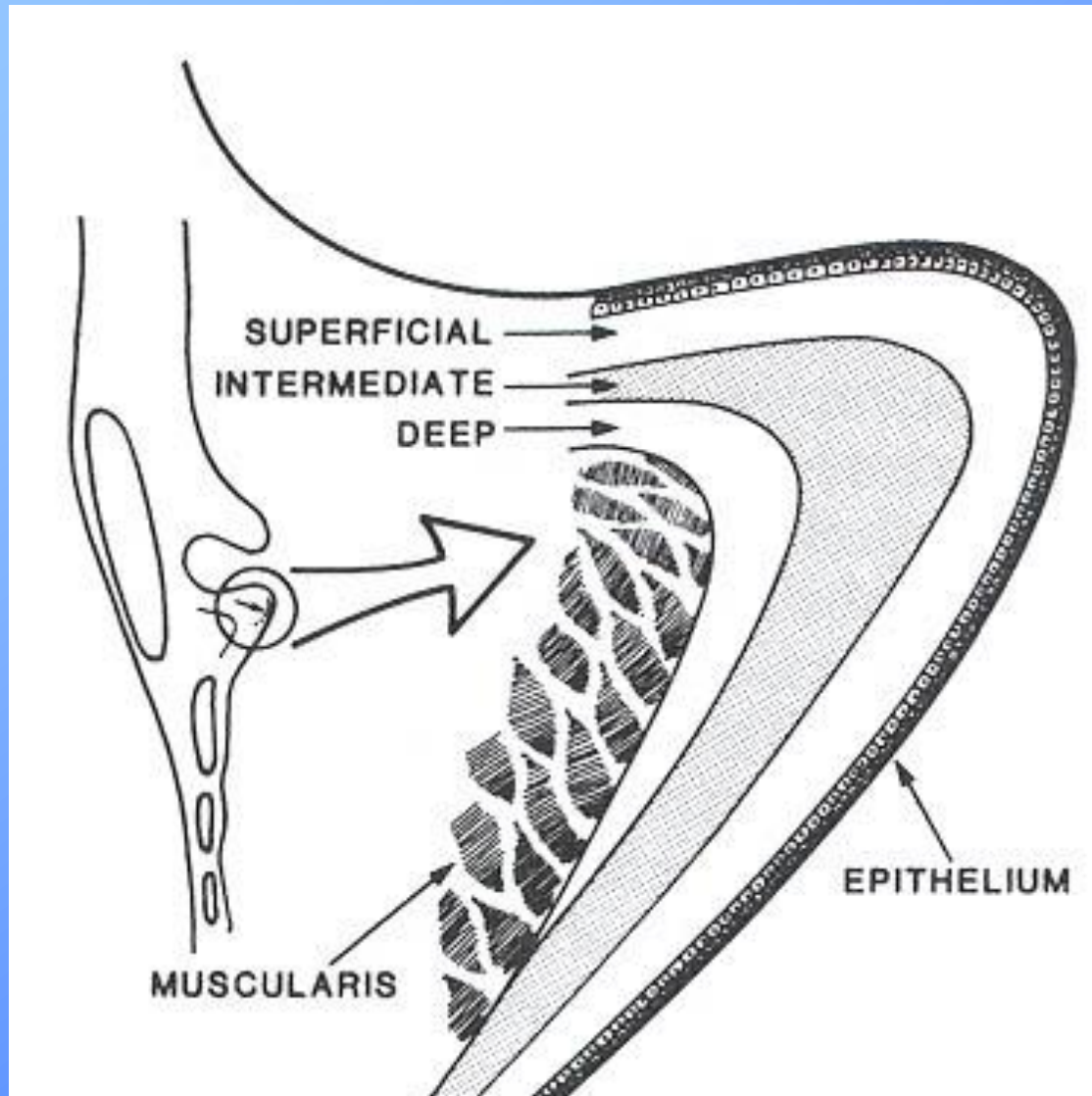
**All other muscles**

**Sensation below cords**

# Larynx



# Cords





# Diagnosis

“Any patient with hoarseness of two weeks duration or longer must undergo visualization of the vocal cords”

# Workup

History

Examination

Investigations

# History

- URI
- Trauma (blunt and sharp to skull + neck)
- Intubation
- Pulmonary problems

# History

- Gastrointestinal
  - LPR
- Autoimmune
  - RA
- Endocrine
  - Hypothyroidism

# Neurologic disorders

**Table 2. NEUROLOGIC DISORDERS RESULTING IN DYSPHONIA**

Type of Disorder	Causes
Hypoadduction	Parkinson's disease Muscular dystrophy Myasthenia gravis Shy-Drager syndrome Traumatic brain injury Abductor spasmodic dysphonia
Hyperadduction	Adductor spasmodic dysphonia Pseudobulbar palsy Huntington's disease
Mixed ab- and adductor components	Multiple sclerosis Ataxic (cerebellar) dysphonia Amyotrophic lateral sclerosis
Vocal tremor	Parkinson's disease Benign essential tremor Spasmodic dysphonia Palatopharyngolaryngeal myoclonus

# Surgical History

- Skullbase procedures
- Carotid endarterectomies
- Thyroidectomies
- Aortic aneurysm repairs

# Medications

**Table 3.** COMMON MEDICATIONS ASSOCIATED WITH DYSPHONIA

Medication Class	Example	Side Effect	Comments
Antihistamines	Diphenhydramine	Dryness of vocal tract	Less drying with newer agents
	Loratadine	Dryness of vocal tract	
Decongestants	Pseudoephedrine	Viscous secretions	
Motion sickness	Meclizine	Dryness of vocal tract	
Diuretics	Furosemide	Dryness of vocal tract	These agents do not reduce vocal fold edema
	Spirolactone	Dryness of vocal tract	
Alpha-adrenergic (antihypertensive)	Terazosin	Viscous secretions	
	Methyldopa		
Cough suppressants	Over-the-counter drugs	Dryness of vocal tract	
Tricyclic antidepressants	Amitriptyline	Dryness of vocal tract	
Serotonin reuptake inhibitors	Fluoxetine	Dryness of vocal tract	
Phenothiazines	Chlorpromazine	Dryness of vocal tract	
Anti-Parkinsonian drugs	L-Dopa	Dryness of vocal tract	
Chemotherapy	Vincristine	Vocal-cord paralysis	Reversible
Steroid pulmonary inhalers	Beclomethasone	Vocal fold irritation <i>Candida</i> overgrowth Vocal-cord bowing	
Vitamin C		Dryness of vocal tract	Only in large doses
Retinoic acid derivatives	Isotretinoin	Dryness of vocal tract	
Androgen	Danazol	Lowers vocal pitch	Irreversible
Aspirin/nonsteroidal anti-inflammatory drugs		Predisposes to vocal fold hemorrhage	

# Social History

Tobacco

Alcohol

LOW



# Occupational History

Levels of voice use:

Level 1 – singer / actor

Level 2 – teacher

Level 3 – doctor / lawyer

Level 4 – bricklayer

# Associated Symptoms

**Table 1.** SYMPTOMS SUGGESTIVE OF SPECIFIC LARYNGOLOGIC DIAGNOSES

Symptom	Associated Diagnoses
Breathiness	Vocal fold paralysis, vocal fold mass lesion
Vocal fatigue	Vocal fold atrophy or paralysis, neurogenic dysphonia
Choking	Vocal fold paralysis, CVA
Odynophonia	Vocal fold granuloma, MTD
Paralaryngeal pain or tension	Muscular tension dysphonia
Laryngospasm	Gastroesophageal reflux disease, nerve injury
Stridor	Bilateral vocal fold paralysis, laryngeal stenosis, paradoxical vocal fold motion
Dysphagia	Laryngeal carcinoma, or unilateral vocal fold paralysis, CVA
Vocal tremor	Parkinson's disease, spasmodic dysphonia, benign essential tremor, myoclonus
Velopharyngeal insufficiency	myasthenia gravis, ALS, vagal paralysis
Globus	LPR, neurologic disease

CVA = cerebrovascular accident; MTD = Muscular tension dysphonia; ALS = amyotrophic lateral sclerosis; LPR = Laryngopharyngeal reflux

# Examination

- General Examination
- Full ENT Exam
- Other systems
- Chest

# Investigations

Nasendoscopy

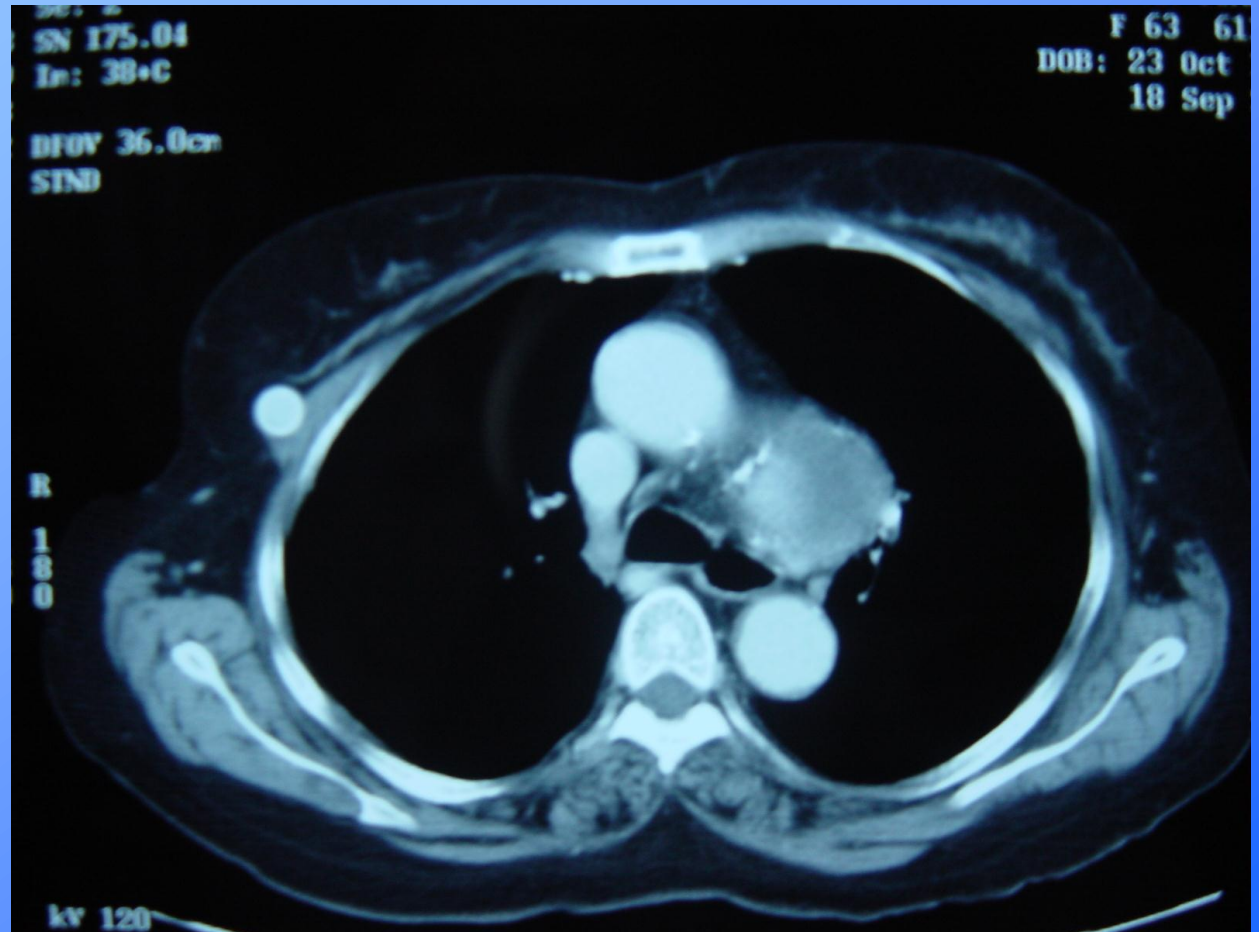


Indirect laryngoscopy



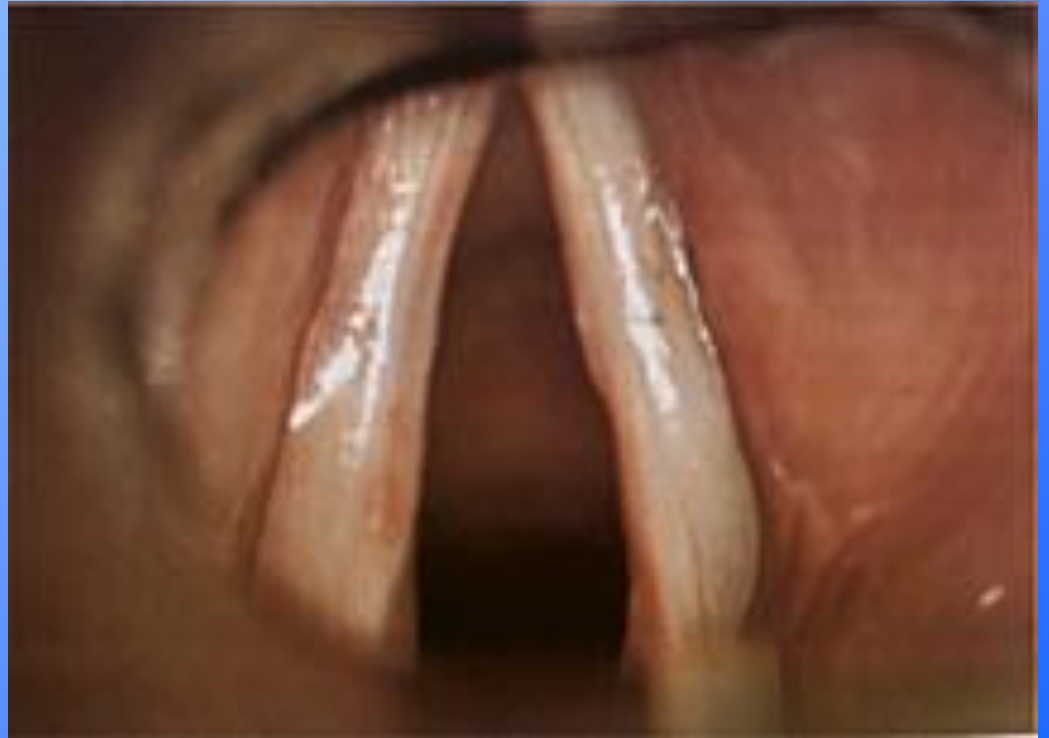
# Imaging

- CT
  - Chest
  - Neck
- MRI



# Direct pharyngolaryngoesophagoscopy

- Tissue diagnosis
- Panendoscopy with direct vision



# Direct pharyngolaryngoesophagoscopy

- NB subglottis must be visualised



# Causes

Neurological

- Brain or nerves

Muscular

- Medical causes

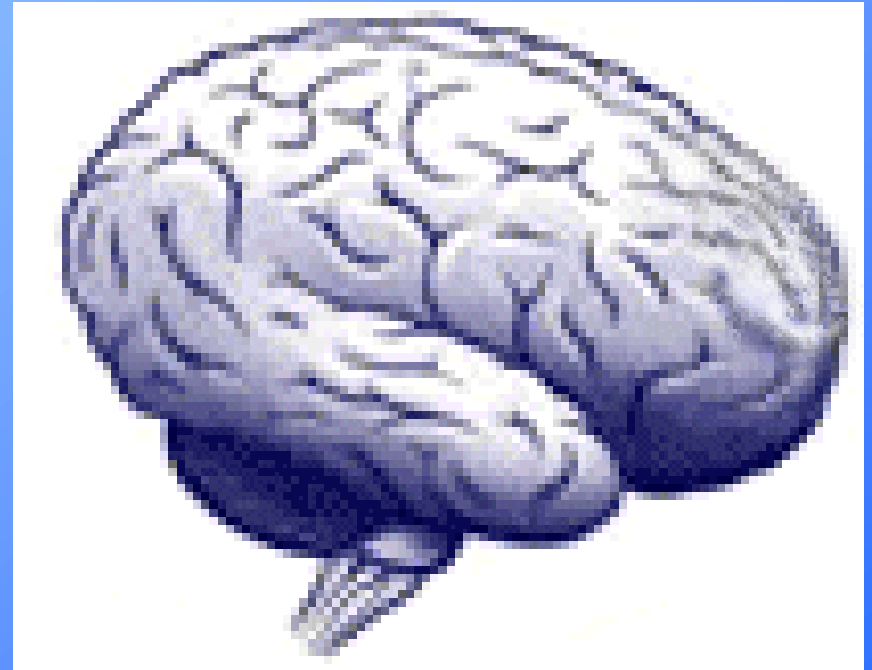
Cord pathology

- A multitude



# RLN pathologies

- Brain nucleus ambiguus: stroke + HI
- Other neurological problems



# RLN pathologies

- Neck lesions

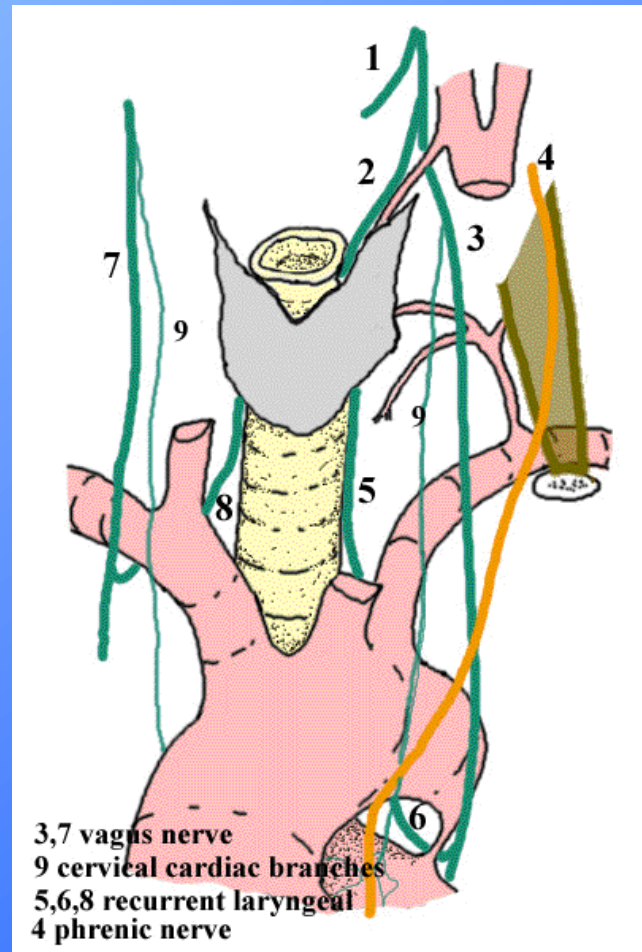


# RLN pathologies

- Neck lesions

Tumour

Trauma





# Cord Causes

Surgical Sieve:

Congenital        - laryngeal abnormalities  
                     - neurological abnormalities

Acquired...

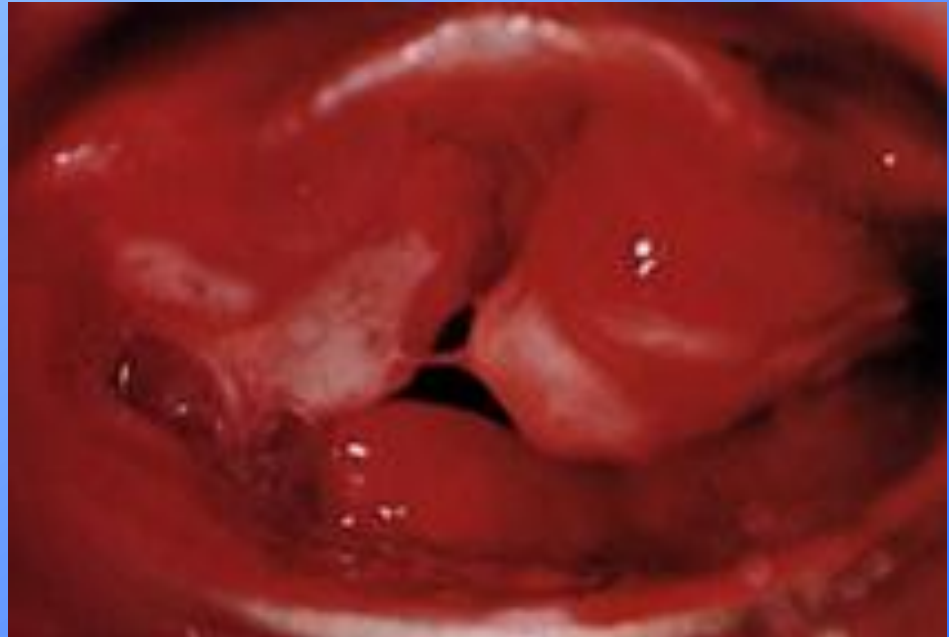
# Inflammatory / infective

- Laryngitis
  - infective
  - chemical (GORD)
- Supraglottitis
- Pharyngitis



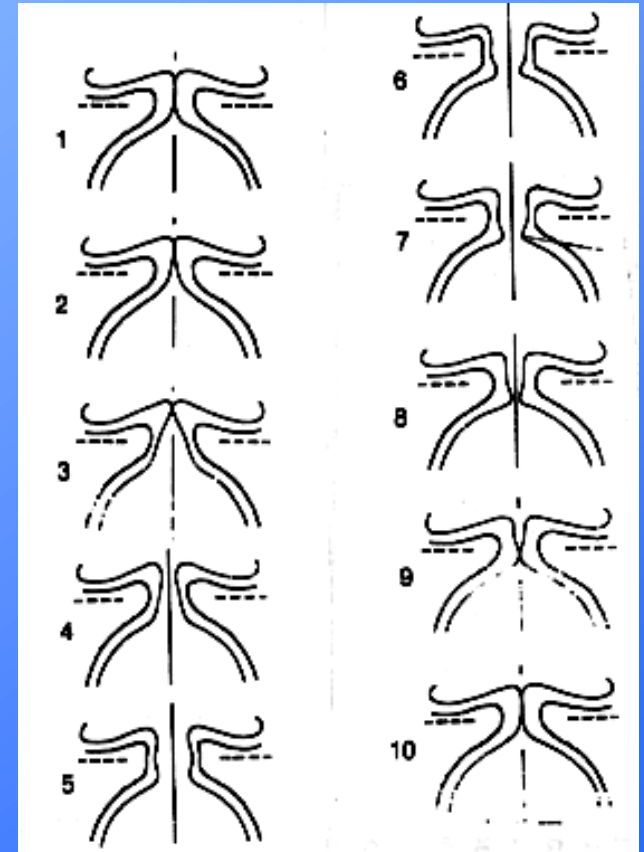
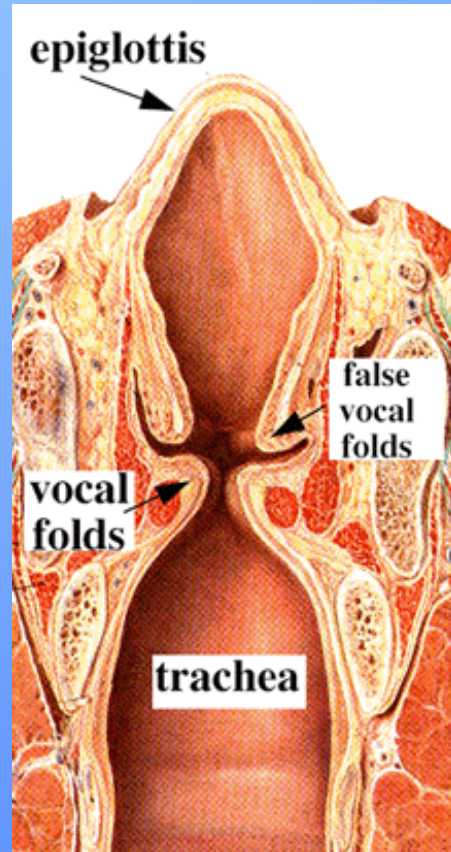
# Traumatic

- Direct trauma



# Traumatic

- nodules



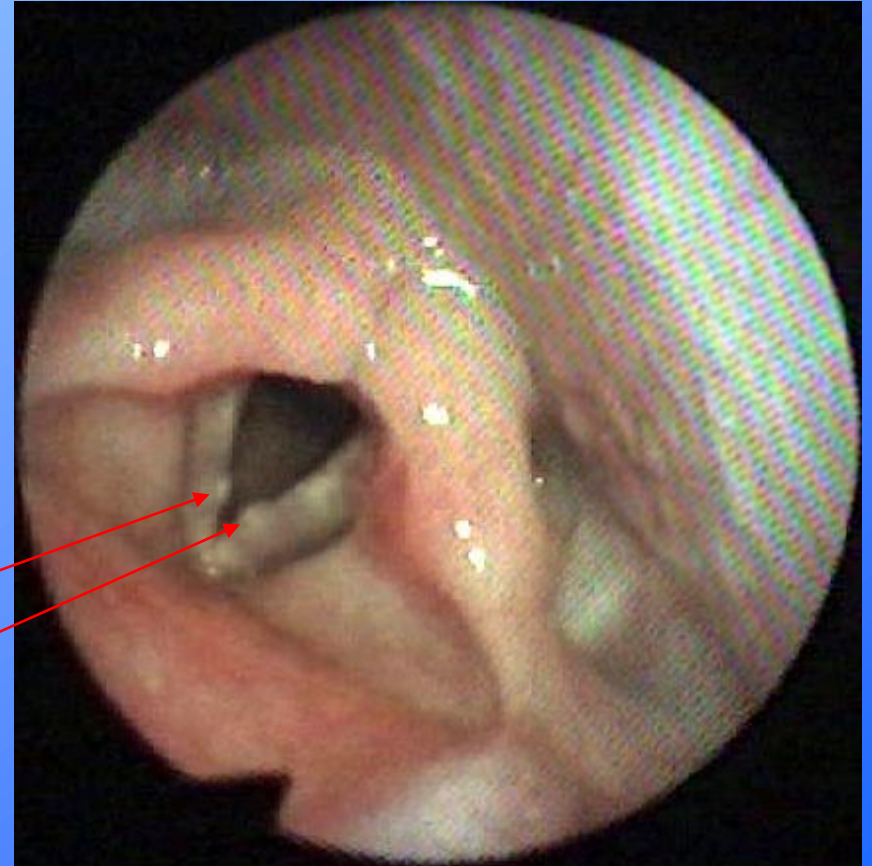




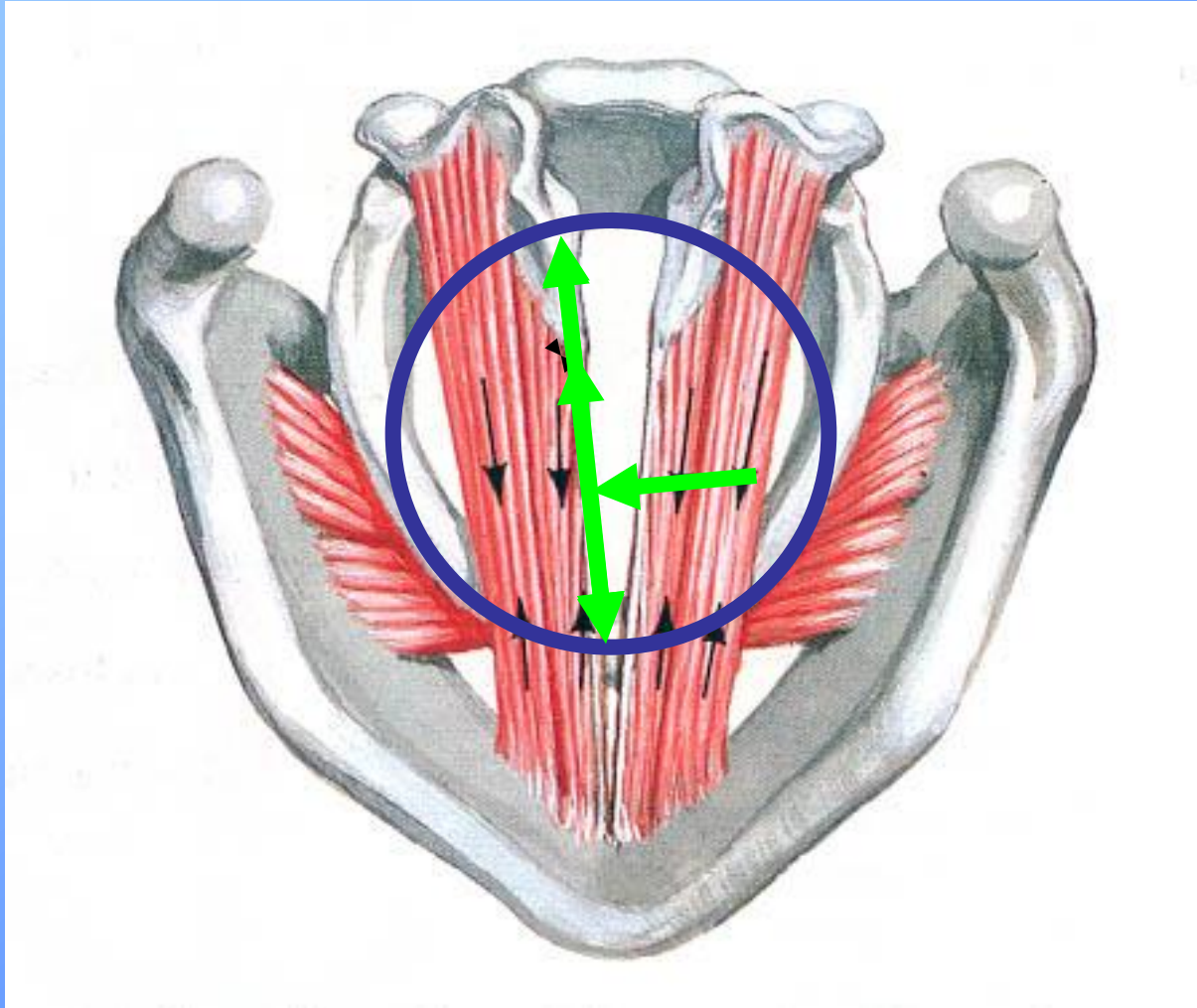
# Traumatic

- Chronic trauma to cords

(vocal nodules)



# Traumatic



# Granulomata

- Intubation
- Trauma
- Chronic inflammation
- GORD
- Throat clearing



# Granulomata

- Intubation
- Trauma
- Chronic inflammation

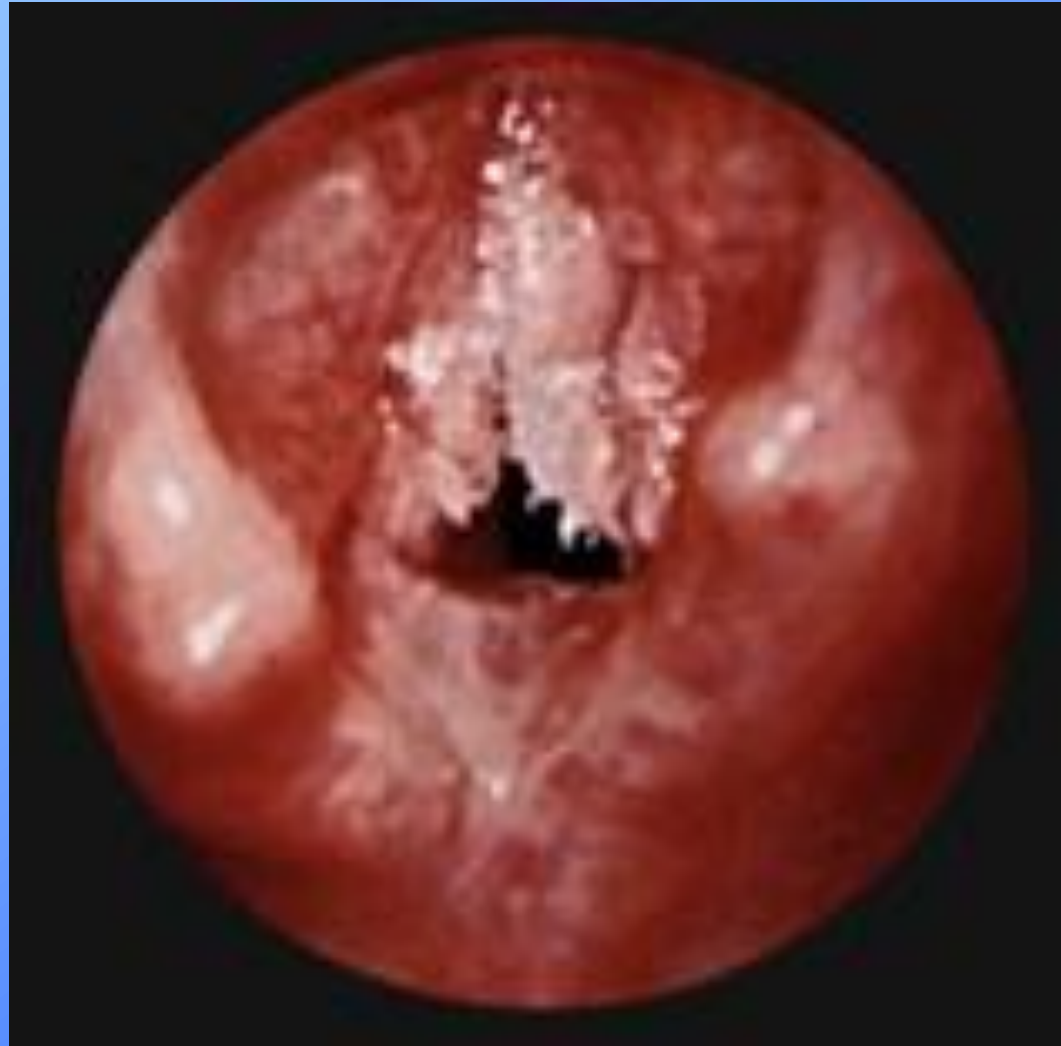


# Granulomata

- Treatment usually conservative
- Treat causes
- Medical: treat causes
- SpTp
- Surgical: excision +/- bx.

# Neoplastic

Benign



# Neoplastic

Malignant





# Voice abuse / smoking

## Reinke's Oedema

Submucosal oedema of the cords



# Radiation injury

- Post radiotherapy dysphonia

Cords injured

Surrounding structures distorted



# Summary

- Common complaint
- Needs urgent evaluation
- Assess entire pathway to cords
- Low threshold for ML

Any questions about hoarse  
people?

