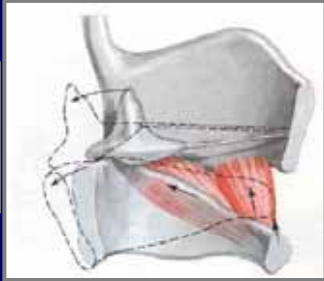


Vocal Cord Paralysis

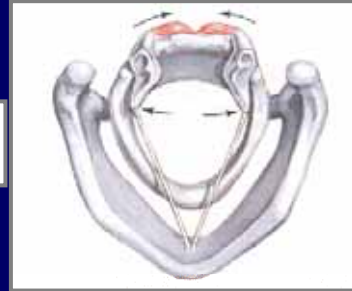
Prof. Mohamed Hesham
 ENT-Head & Neck Surgery Department
 Alexandria Faculty of Medicine
 Alexandria, Egypt

Cricothyroid muscle

- Tensor
- Adductor !



Posterior cricoarytenoid
• The only abductor muscle



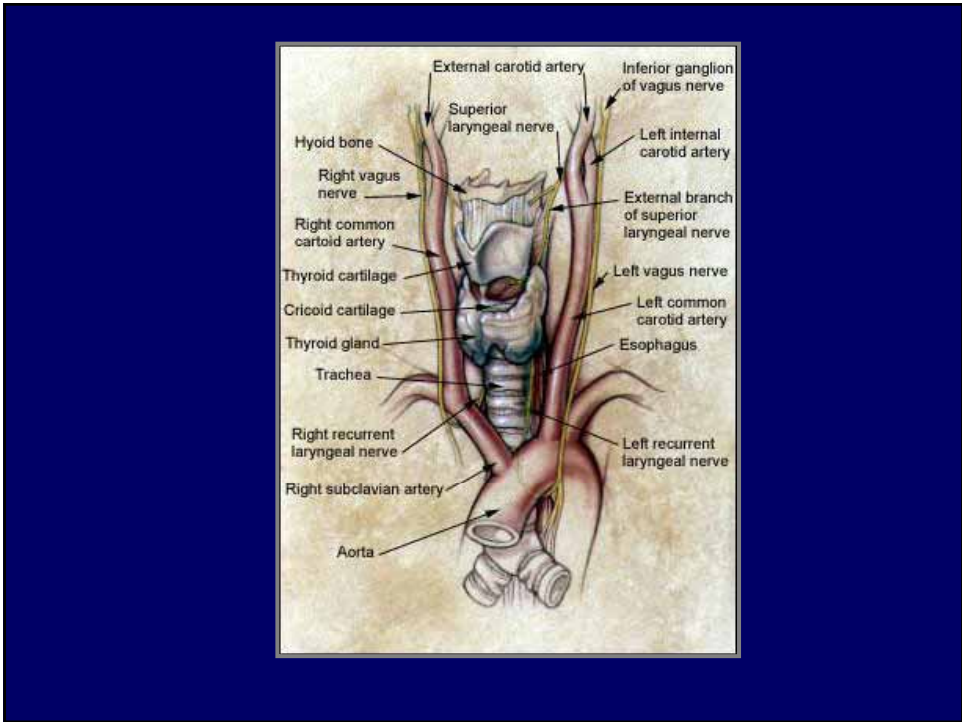
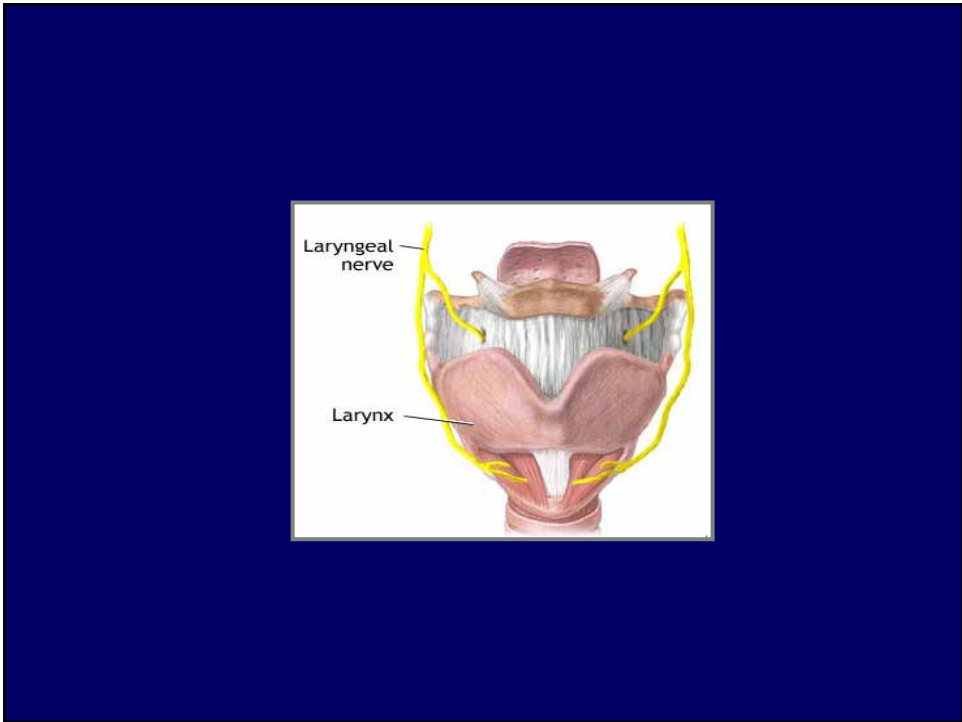
Cortex

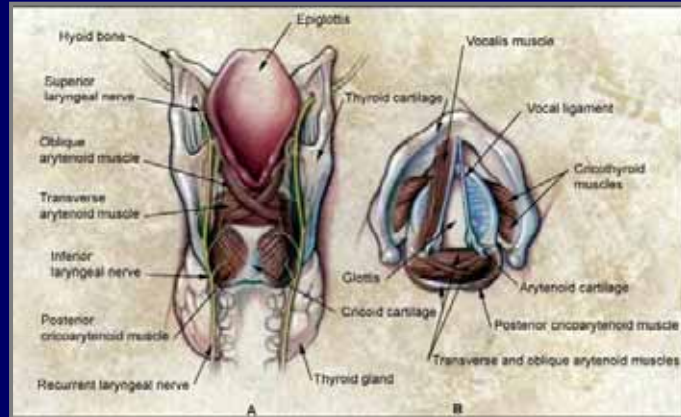
Medulla

SLN

RLN

Nerve supply of the larynx

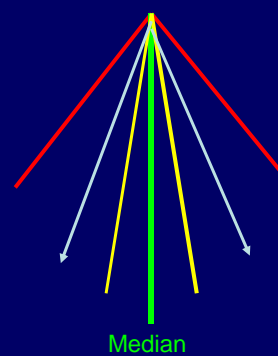




Vocal cord positions

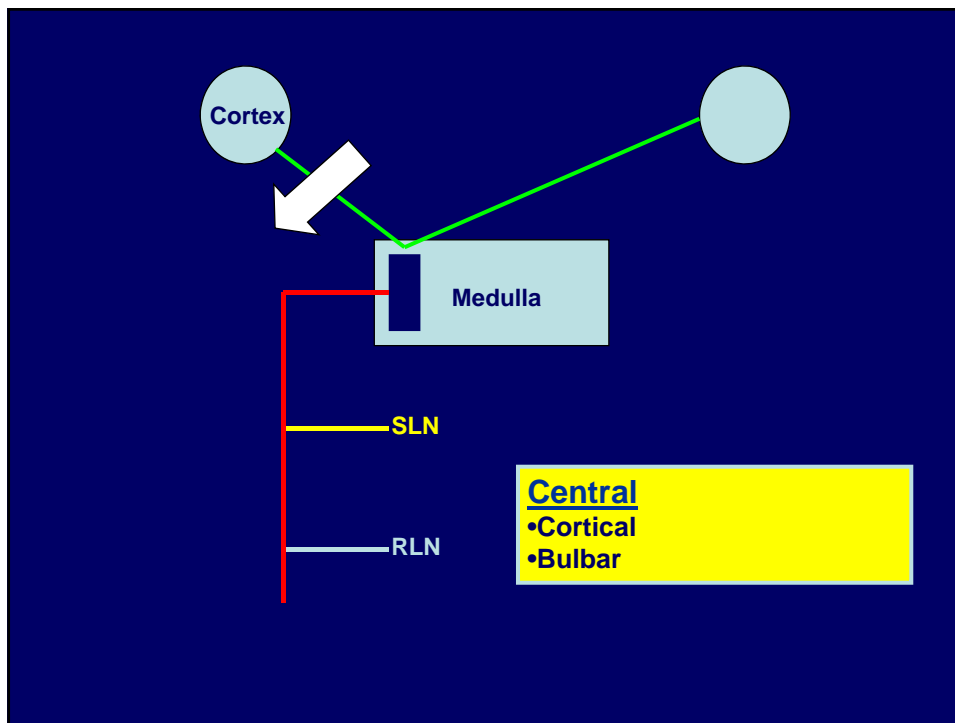
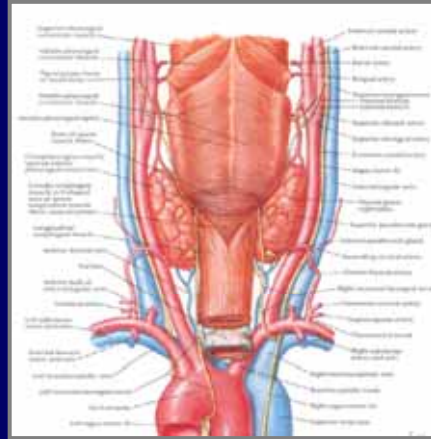
• Six positions are described by Negus, 1947

- Median
- Paramedian
- Cadaveric
- Full abduction



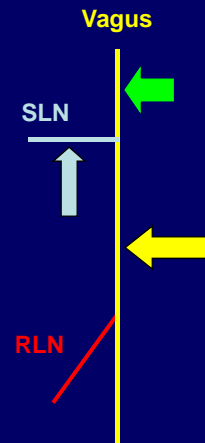
Acquired Cord paralysis

- It is a sign of a disease and not a diagnosis
- It may be due to a lesion at any point from the cerebral cortex to the neuromuscular junction
- Left RLN is more affected than the right due to its longer course



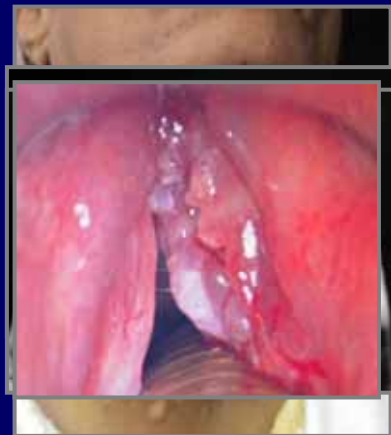
Peripheral injury

- Total vagus
- SLN
- RLN



Acquired Cord paralysis

- Malignant disease
- Surgical trauma
- Idiopathic
- Nonsurgical trauma
- Inflammatory
- Neurologic
- Miscellaneous



Acquired Cord paralysis

- Malignant disease
 - **Surgical trauma**
 - Idiopathic
 - Nonsurgical trauma
 - Inflammatory
 - Neurologic
 - Miscellaneous
- Thyroid surgery
 - Partial laryngeal surgery
 - Tracheal resection
 - Neck dissection
 - Cardiac Surgery

Acquired Cord paralysis

- Malignant disease
 - Surgical trauma
 - **Idiopathic**
 - Nonsurgical trauma
 - Inflammatory
 - Neurologic
 - Miscellaneous
- No cause is ever found for paralysis
 - Follow up for at least 18 months
 - Viral !

Acquired Cord paralysis

- Malignant disease
- Surgical trauma
- Idiopathic
- Nonsurgical trauma
- Inflammatory
- Neurologic
- Miscellaneous



Acquired Cord paralysis

- Malignant disease
- Surgical trauma
- Idiopathic
- Nonsurgical trauma
- Inflammatory
- Neurologic
- Miscellaneous

- Viral
- Bacterial

Acquired Cord paralysis

- Malignant disease
- Surgical trauma
- Idiopathic
- Nonsurgical trauma
- Inflammatory
- **Neurologic**
- Miscellaneous

- Cerebrovascular disease
- Parkinsonism
- Neuropathies; Alcohol, DM

Acquired Cord paralysis

- Malignant disease
- Surgical trauma
- Idiopathic
- Nonsurgical trauma
- Inflammatory
- Neurologic
- **Miscellaneous**

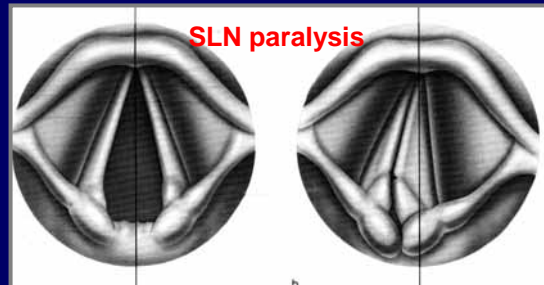
Chest causes

- | | |
|------|---------------------|
| Rt | Apical TB |
| Left | |
| | Corpulmonale |
| | Aortic aneurysm |
| | Open heart surgery |
| | Mediastinal masses |
| | Hypertrophied heart |

Assessment

Symptoms and Signs

- Voice
- Breathing
- Aspiration



Cord position	
Phonation	Slight hoarseness
Respiration	No stridor
Aspiration	Slight

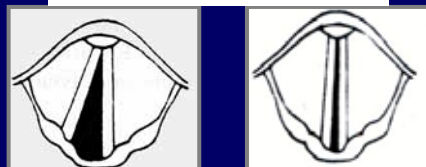
Assessment

Symptoms and Signs

- Voice
- Breathing
- Aspiration



Unilateral RLN Paralysis



Cord position	Paramedian
Phonation	Mild hoarseness
Respiration	No stridor
Aspiration	Mild

Assessment Symptoms and Signs

- Voice
- Breathing
- Aspiration



Bilateral RLN Paralysis

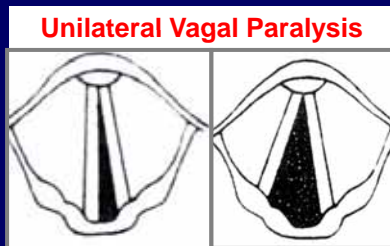


Cord position
Phonation
Respiration
Aspiration

Paramedian
Mild hoarseness
Severe stridor
Mild

Assessment Symptoms and Signs

- Voice
- Breathing
- Aspiration



Cord position
Phonation
Respiration
Aspiration

Intermediate
Breathy voice
No stridor
Severe

Assessment

Investigations

Radiology

- Chest X Ray
- Barium swallow
- CT Scan

Assessment

Investigations

Laboratory

- CBC
- FBS
- TB

Assessment

Investigations

Panendoscopy

- Direct Laryngoscopy
- Bronchoscopy
- Esophagoscopy
- Nasopharyngoscopy

Treatment

Unilateral Paralysis

General rules

I. When

- Unless the nerve is mechanically interrupted recovery is the rule rather than the exception.
- Most recoveries take up from 6-12 months.
- In unrecoverable cases; the contralateral vc compensates by moving across the midline to achieve a satisfactory glottic closure.

So, Expectant policy is advised for 6-12 months
+ speech therapy before definitive treatment.

Treatment

Unilateral Paralysis

General rules

I. When

Indications for early surgical intervention

- Professional voice users
- If one could not expect complete or adequate recovery so the distress of weak voice and cough should be treated early.

Treatment

Unilateral Paralysis

General rules

I. What to do

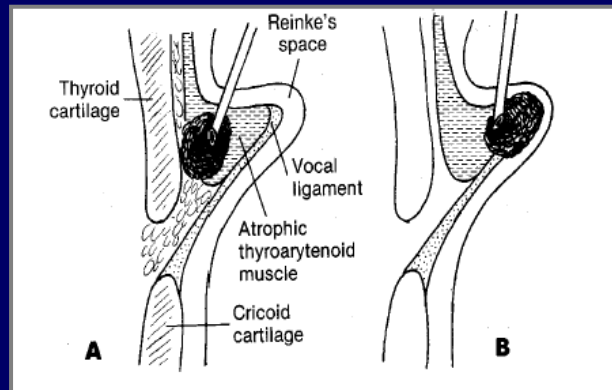
Displace the paralysed vocal cord from the paramedian position to or near the midline

Medialization procedures

- Intracordal Injection
- Surgical medialization
- Vocal fold reinnervation

Treatment

Unilateral Paralysis



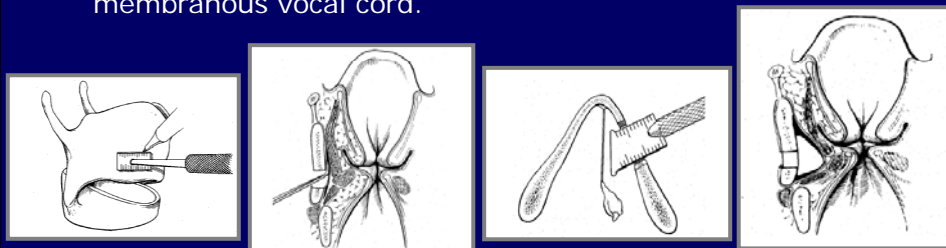
Treatment

Unilateral Paralysis

Surgical Medialization Procedures ML Laryngeal Framework Surgeries

1. Idea Isshiki 1974 (Thyroplasty I)

An implant is placed between the thyroid cartilage and the vocalis muscle to medialize the membranous vocal cord.



Treatment Bilateral Paralysis

Paramedian position



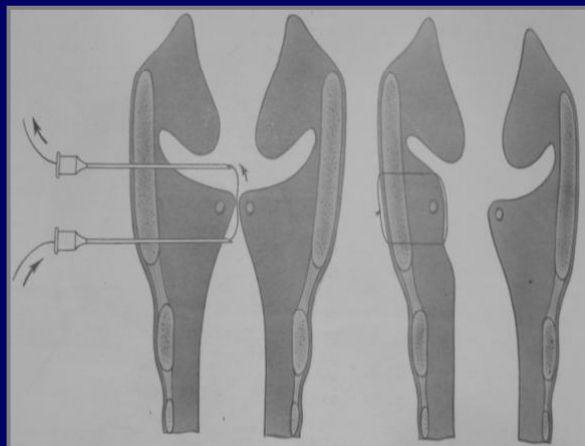
Stridor
Bil. RLN injury



- Lateralization
- Widening procedures
- Reinnervation

Treatment Bilateral Paralysis

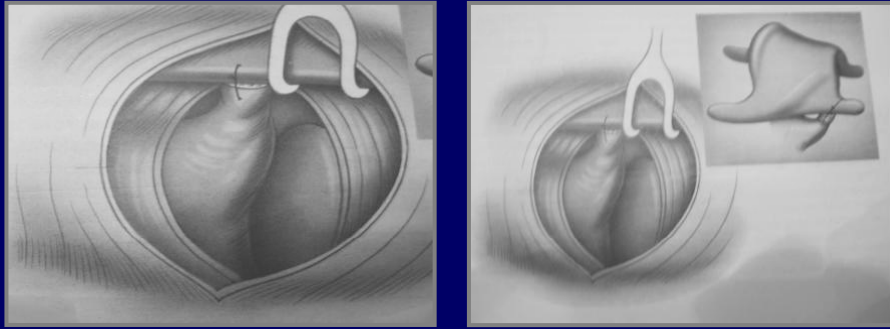
Arytenoidopexy
Endoscopic



Treatment Bilateral Paralysis

Arytenoidopexy

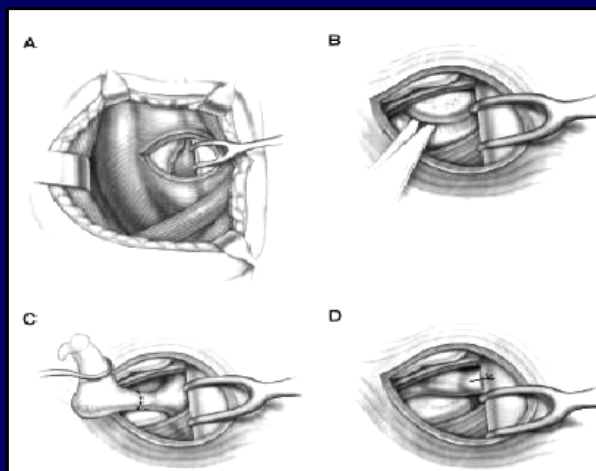
External



Treatment Bilateral Paralysis

Arytenoidectomy

External Approach



Treatment Bilateral Paralysis

Endoscopic

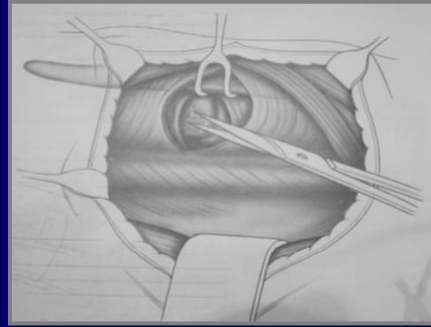
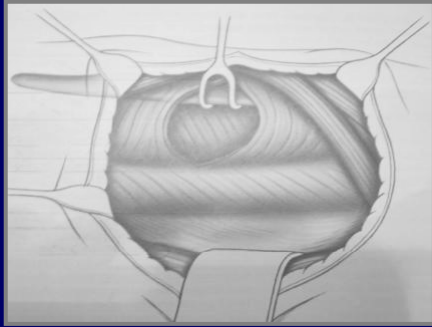
- Posterior Cordectomy
- Arytenoidectomy



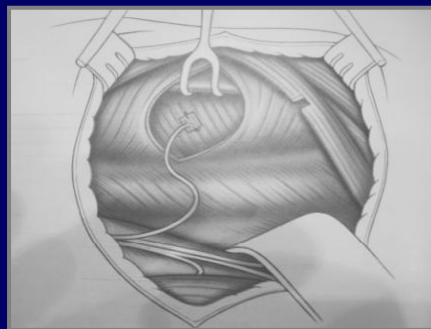
Post partial cordectomy



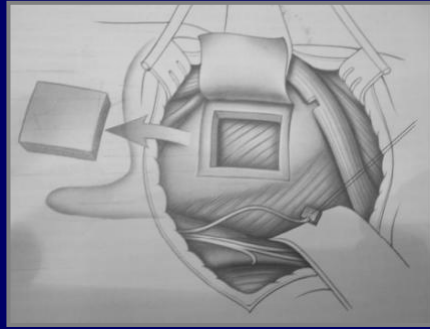
Reinnervation



Reinnervation



Reinnervation



Treatment

Complete paralysis

Intractable aspiration

- Nasogastric tube, Cuffed tracheostomy
- Vocal cord augmentation, Cricothyroid myotomy
- Total Laryngectomy
- Surgical Closure of the larynx
 - Epiglottic flap operation
 - Diversion procedure
 - Glottic closure
 - Epiglottopexy

