

# **‘ WAY INTO AIRWAY ’**

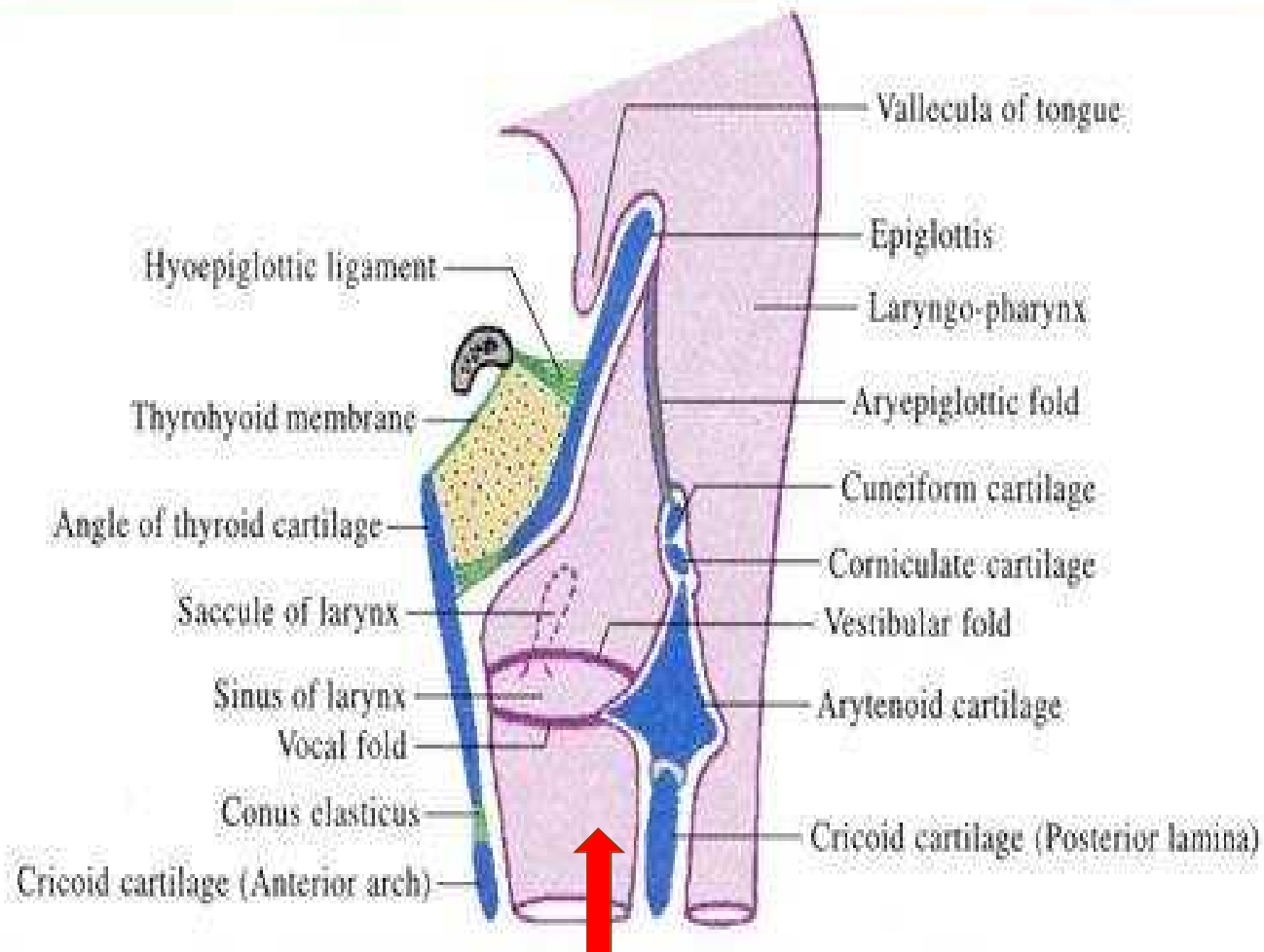
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# ANATOMY



# ACQUIRED SUBGLOTTIC STENOSIS

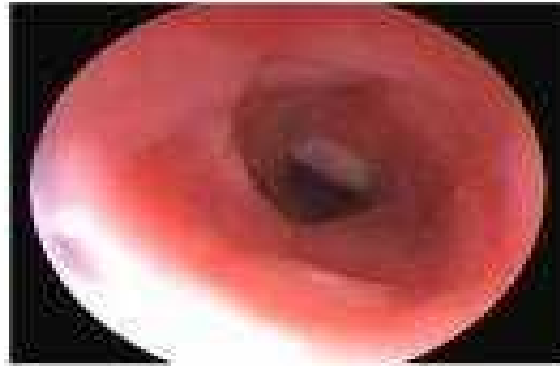
- Intubation & Mechanical ventilation – Most common cause
  - Neonates/Pre Term
  - Prolonged intubation
  - E.T Tube Size/Replacement/Movement
  - Infection/Shock
  - Fluid overload
  - Gastro-Oesophageal reflux
  - Small Cricoid
- Incidence - 1-8%

# DIAGNOSIS

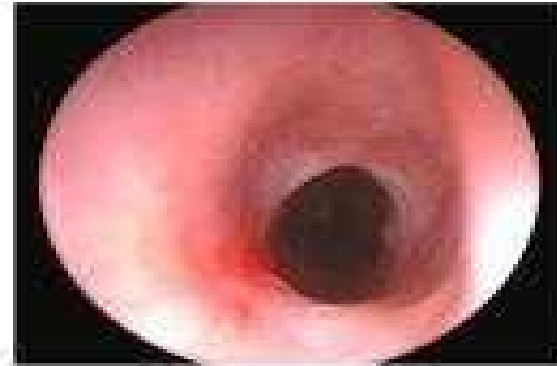
- Gold standard – Trans Nasal Flexible Laryngoscopy (TNFL)/ Direct Laryngo Tracheo Scopy (DLTS)
- Look for location/length of stenosis
- Graded by the diameter of largest bronchoscope/Endotracheal tube that can be passed through the stenotic segment

# STAGING

- **Myer-Cotton staging system:**



**Grade 1**  
Stenosis 0-50%



**Grade 2**  
Stenosis 51-70%



**Grade 3**  
Stenosis 71-99%



**Grade 4**  
Stenosis 100%

# TREATMENT

- **Grade I & II** – Observation
- **Grade II symptomatic** – Endoscopic repair/dilation/expansion procedure
- **Grade III & IV** – Open surgical repair

# OPEN SURGICAL PROCEDURES

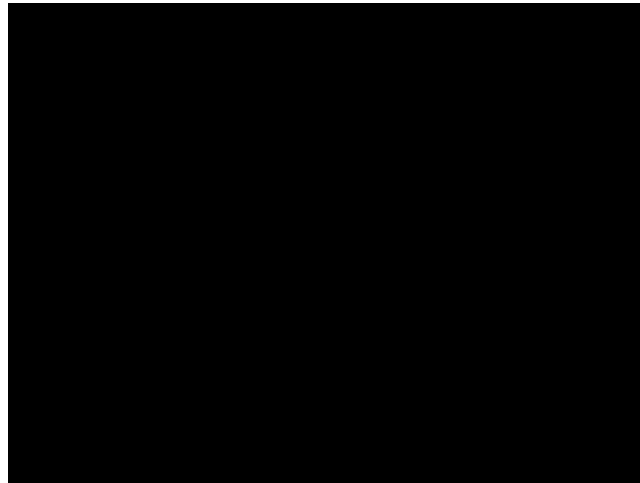
- Segmental resection – Partial Cricotracheal resection with Thyrotracheal Anastomosis
- Tracheal resection with Cricotracheal and Tracheotracheal anastomosis
- Expansion procedure – Anterior/Posterior Cricoid split with cartilage graft reconstruction

## 1<sup>st</sup> CHILD

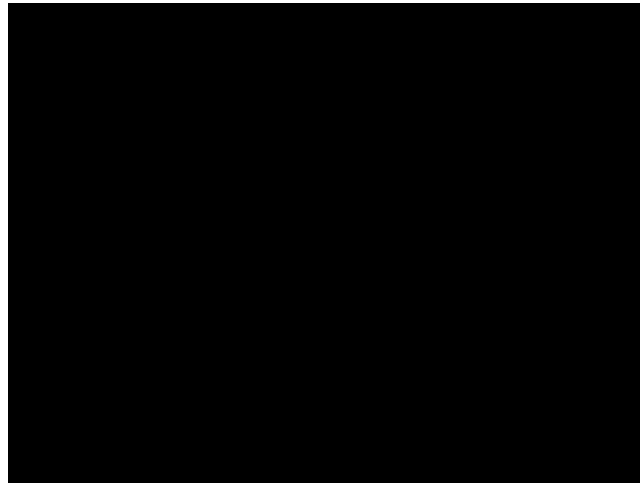
- 7 year old male child
- Japanese B Encephalitis
- Mechanical Ventilation - Brief
- Recovered without neurological sequelae
- Post Extubation stridor



# Pre op Endoscopy

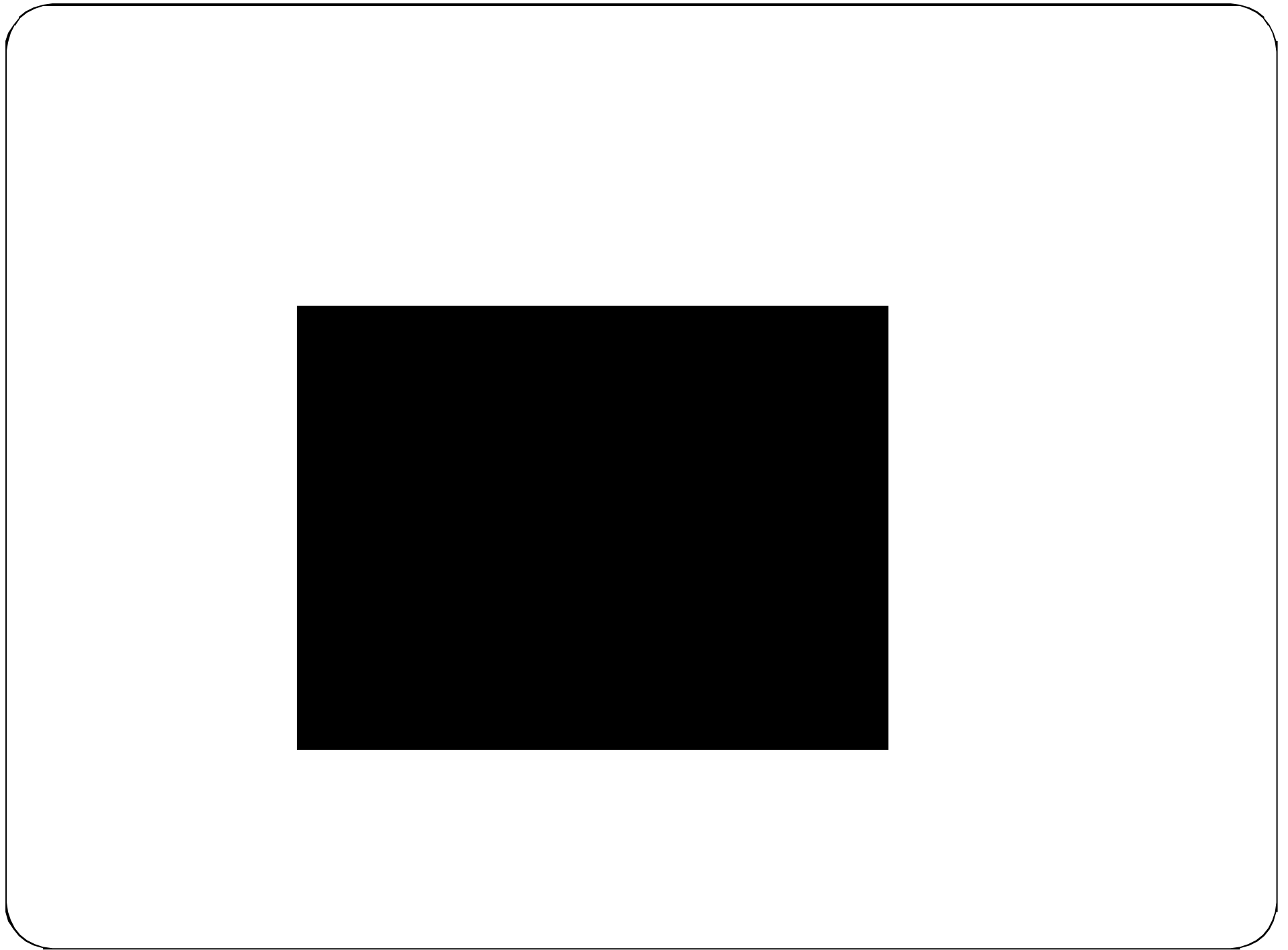


# Post op Endoscopy



## 2<sup>nd</sup> CHILD

- 2 ½ year old female child
- Underwent corrective surgery for Tetralogy of Fallot (TOF)
- Ventilated post operatively for 7 days
- Developed stridor post extubation



## 3<sup>rd</sup> CHILD

- 9 month old female infant
- Referred from Coimbatore for post extubation stridor



## 4<sup>th</sup> CHILD

- 2 ½ year old male child with nephrotic syndrome
- Ventilated for pulmonary oedema
- Developed post extubation stridor





## 5<sup>th</sup> CHILD

- 10 year old male child
- Meningo Encephalitis
- Post Extubation stridor
- Underwent DLTS – subglottic stenosis
- E.T tube downsized, local steroid applied and extubated 48 hrs later

## 6<sup>th</sup> CHILD

- 2 year old female child with Nephrotic syndrome
- Ventilated for pulmonary oedema
- Post Extubation Stridor
- Underwent DLTS

## 7<sup>th</sup> CHILD

- 2 year old male child
- Button battery ingestion
- Tracheo Oesophageal fistula
- On Gastrostomy – No oral intake for 10 months.





# TAKE HOME MESSAGE

- Peep into airway whenever in doubt – Do DLTS
- Try to decrease morbidity
- Treatment of subglottic stenosis does not end with tracheostomy



**THANK YOU**

# LEAD CONSULTANTS

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