



# **Khalid H Al Malki, MD, PhD**

**Consultant, Associate Professor**

**Phoniatrics (Voice, Communication and Swallowing Disorders)**

**Head, Communication and Swallowing Disorders Unit (CSDU)**

**Deputy chairman, ENT Department**

**King Abdulaziz University Hospital**

**King Saud University, Riyadh, Saudi Arabia.**

**Head, Communication and Swallowing Division (CSDD)**

**ORL/HNS Department**

**Riyadh Military Hospital, Riyadh, Saudi Arabia**

**<http://faculty.ksu.edu.sa/kmalky/default.aspx>**





# *Organic Voice Disorders*



Khalid H Al Malki, MD, PhD

- (1) Congenital malformations.**
- (2) Traumatic conditions.**
- (3) Inflammatory causes.**
- (4) Laryngeal tumors.**
- (5) Neurological disorders.**
- (6) Endocrinal causes.**
- (7) Status post-laryngectomy.**

## **(1) Congenital malformations:**

1. Congenital web.
2. Laryngomalacia.
3. Sulcus vocalis.
4. Laryngocele.
5. Laryngeal cleft.

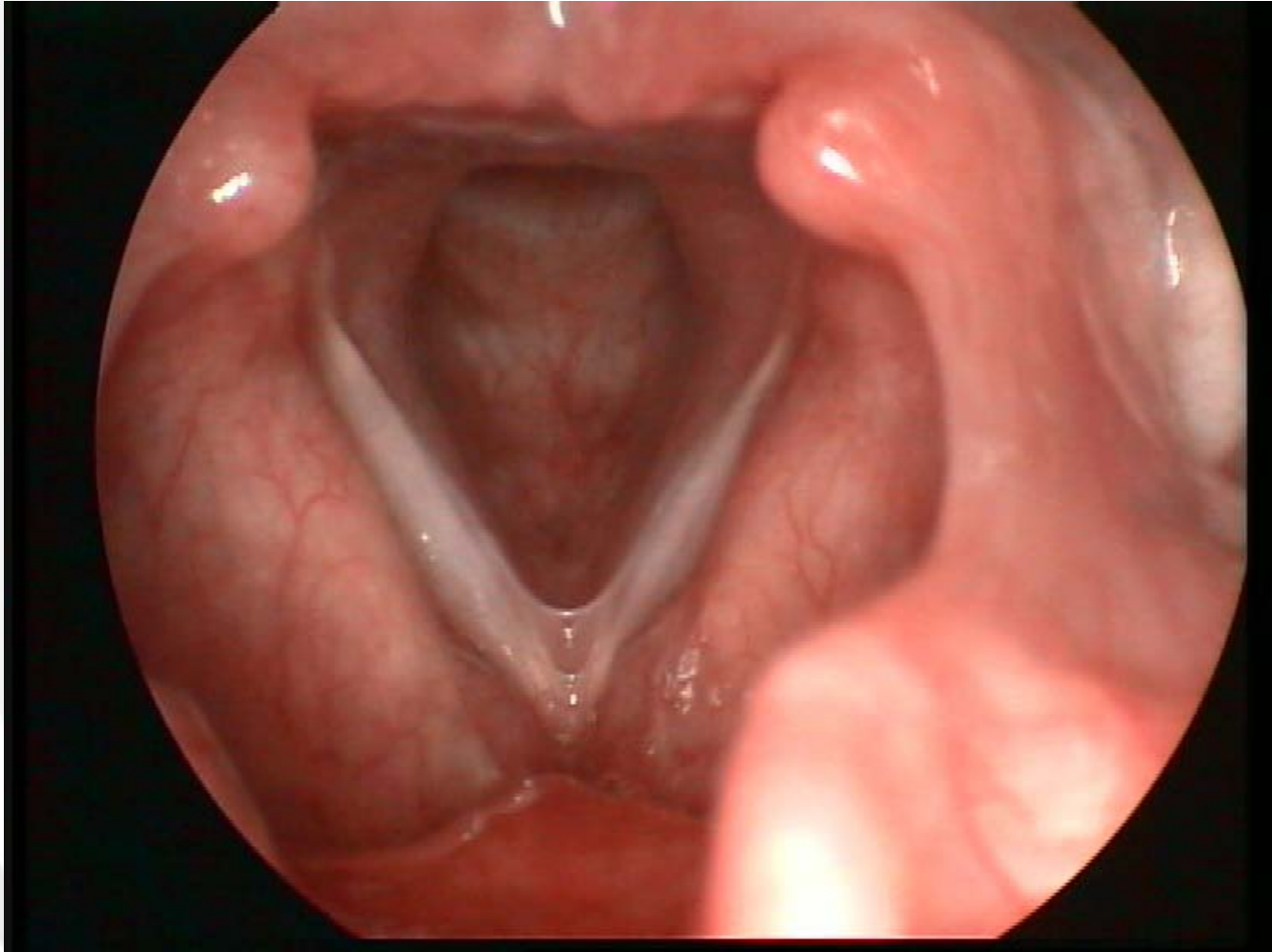
# (1) Congenital malformations:

## 1. Congenital web:

- A band which extends over:
  - a. Part of the glottis, or
  - b. All the glottis (atresia).
- Results from incomplete re-canalization of the glottis (during development).
- Glottic, supraglottic, or infraglottic.







# (1) Congenital malformations:

## 1. Congenital web:

**Symptoms** depend on the degree of glottic closure:

- a. Atresia: incompatible with life.
- b. Small web: may be asymptomatic ,or there may be high pitch, hoarse cry, cough,or stridor.



# (1) Congenital malformations:

## 1. Congenital web:

### Treatment:

- a. Atresia: Immediate insertion of bronchoscope or tracheostomy
- b. Web: Excision (endoscopic or open), then insertion of **keel** between the vocal folds to prevent recurrence.

# (1) Congenital malformations:

## 2. Laryngomalacia:

**Aetiology:** Unusual flaccidity of the laryngeal cartilages specially the epiglottis.

**Symptoms:** Inspiratory stridor.

Noted soon after birth, or may be delayed to weeks or months.

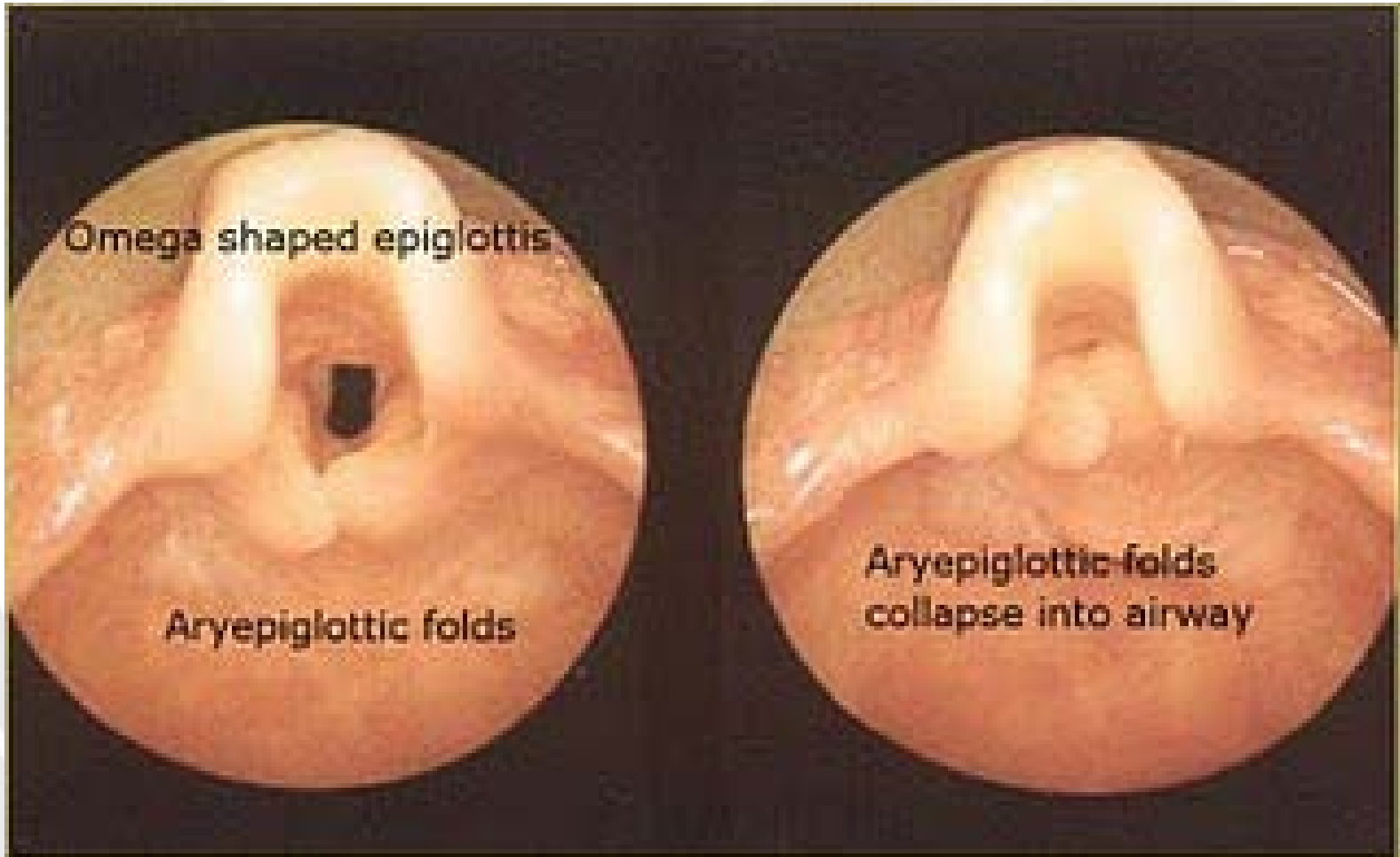
# (1) Congenital malformations:

## 2. Laryngomalacia:

### **Fiberoptic laryngoscopy:**

- Flaccid curled omega shaped epiglottis.
- Epiglottis is drawn on the glottis during inspiration.
- Both vocal folds are usually normal.
- Signs of LPRD.





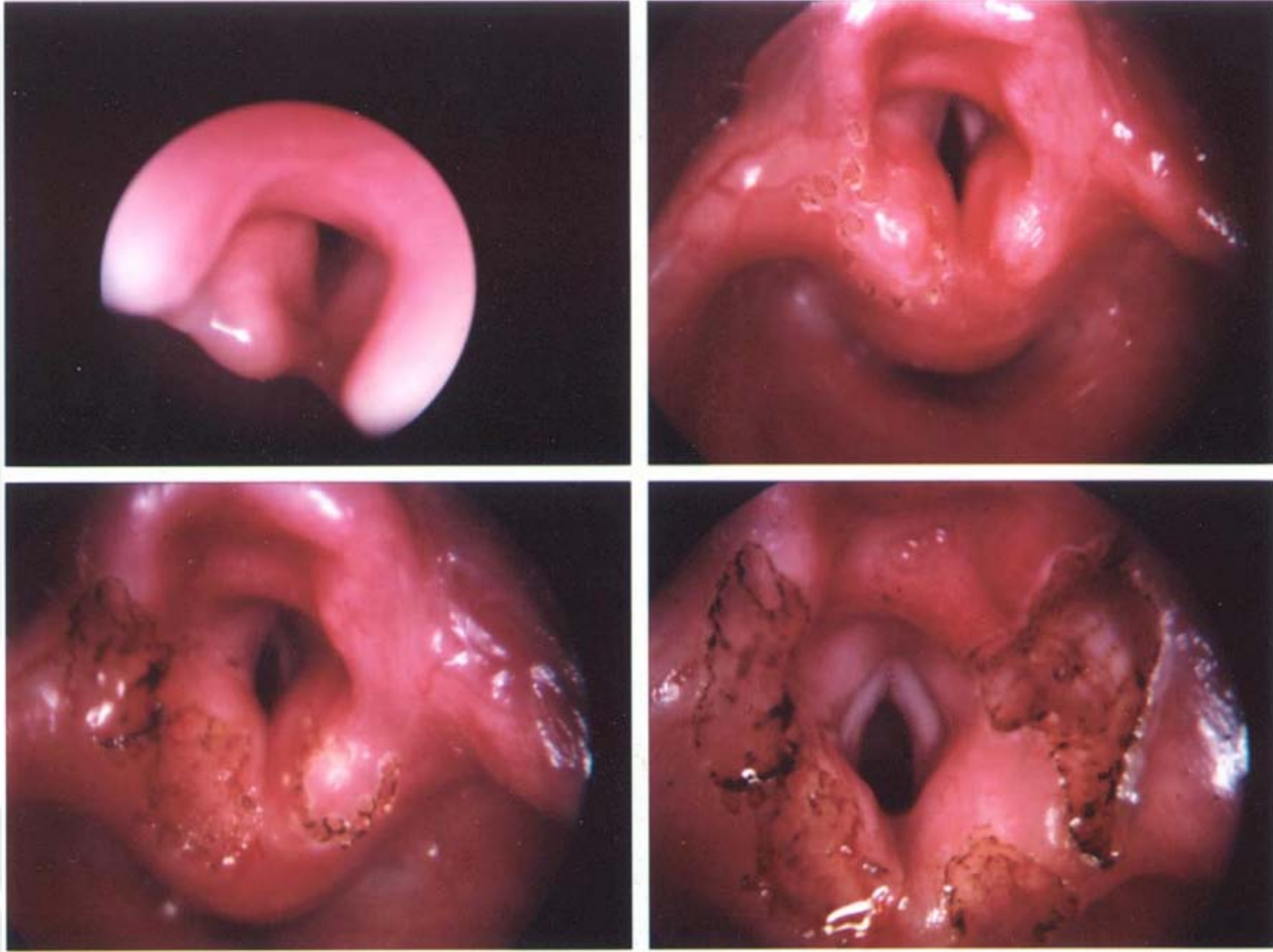


# (1) Congenital malformations:

## 2. Laryngomalacia:

### Treatment:

- [a] Mild cases: Observation, stridor usually disappears by the age of 12-24 months.
- [b] Severe cases: **Supraglottoplasty.**
- [c] Tracheostomy is rarely required as it may result in lower respiratory tract infection.



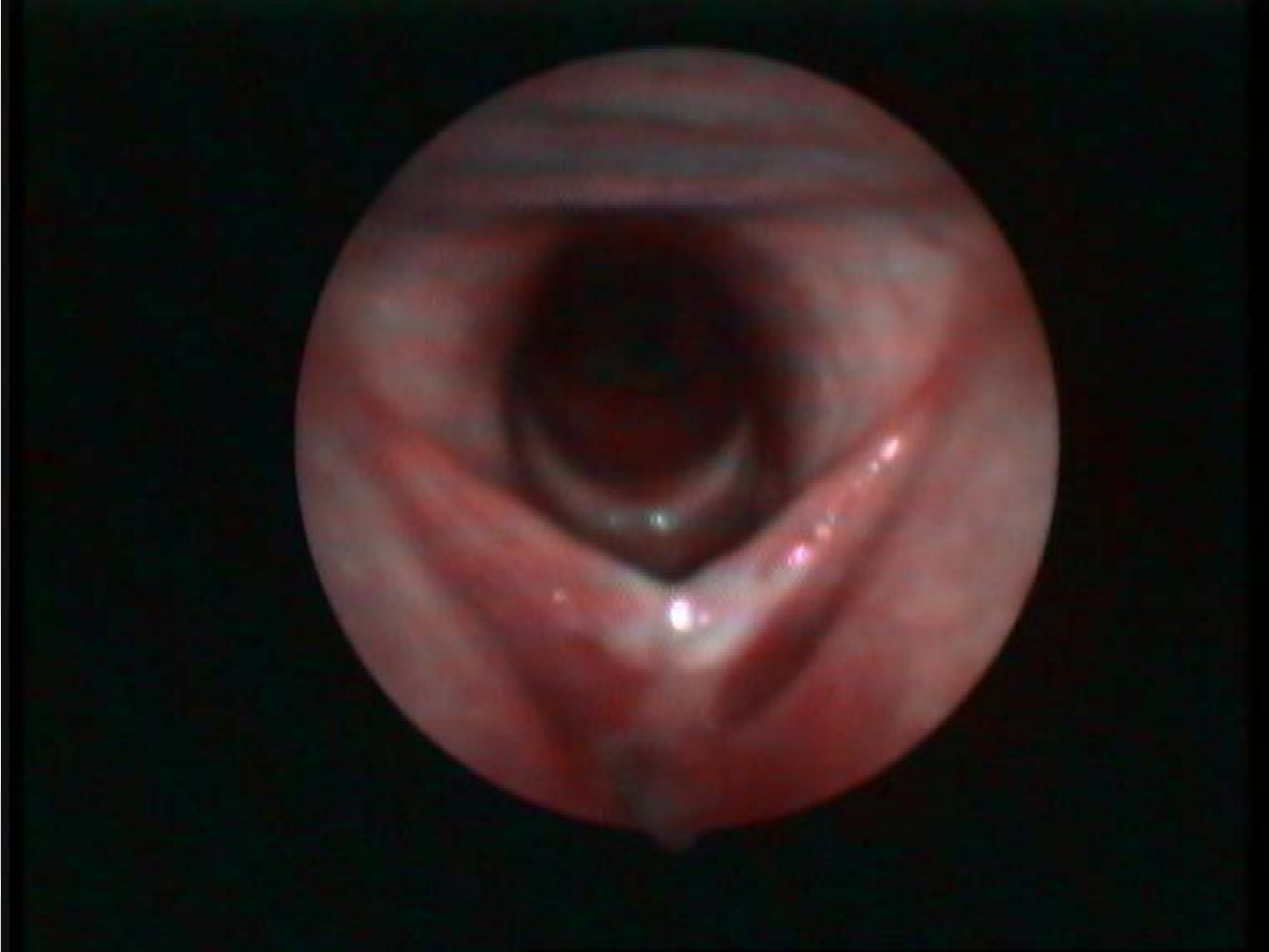
## **(2) Traumatic conditions:**

### **1. Mechanical trauma:**

- Blunt physical trauma.
- Sharp wounds.
- Vocal trauma.
- Foreign body.

### **2. Physical trauma:**

- Thermal (burns).
- Chemical (caustics).



### **(3) Inflammatory causes:**

1. Acute laryngitis.
2. Chronic laryngitis.



## **(3) Inflammatory causes:**

### **1. Acute laryngitis:**

The most common cause of laryngeal symptoms.

Usually viral infection.

#### **Symptoms:**

- dysphonia and even loss of voice.
- cough, fever, and often symptoms of rhinitis.

## **(3) Inflammatory causes:**

### **1. Acute laryngitis.**

#### **Laryngoscopy:**

Erythema and edema involving vocal folds and often the supraglottis.

#### **Treatment:**

- Voice rest and hydration.
- May be oral antibiotics.
- Most conditions are self-limited and resolve in about 1 week.

### **(3) Inflammatory causes:**

#### **2. Chronic laryngitis:**

- Respiratory scleroma.
- Candida laryngitis.
- TB laryngitis (primary or secondary).

## **(4) Laryngeal tumors:**

1. Benign (eg Recurrent Respiratory Papillomatosis).
2. Dysplasia.
3. Malignant (Laryngeal Carcinoma).

## **(4) Laryngeal tumors:**

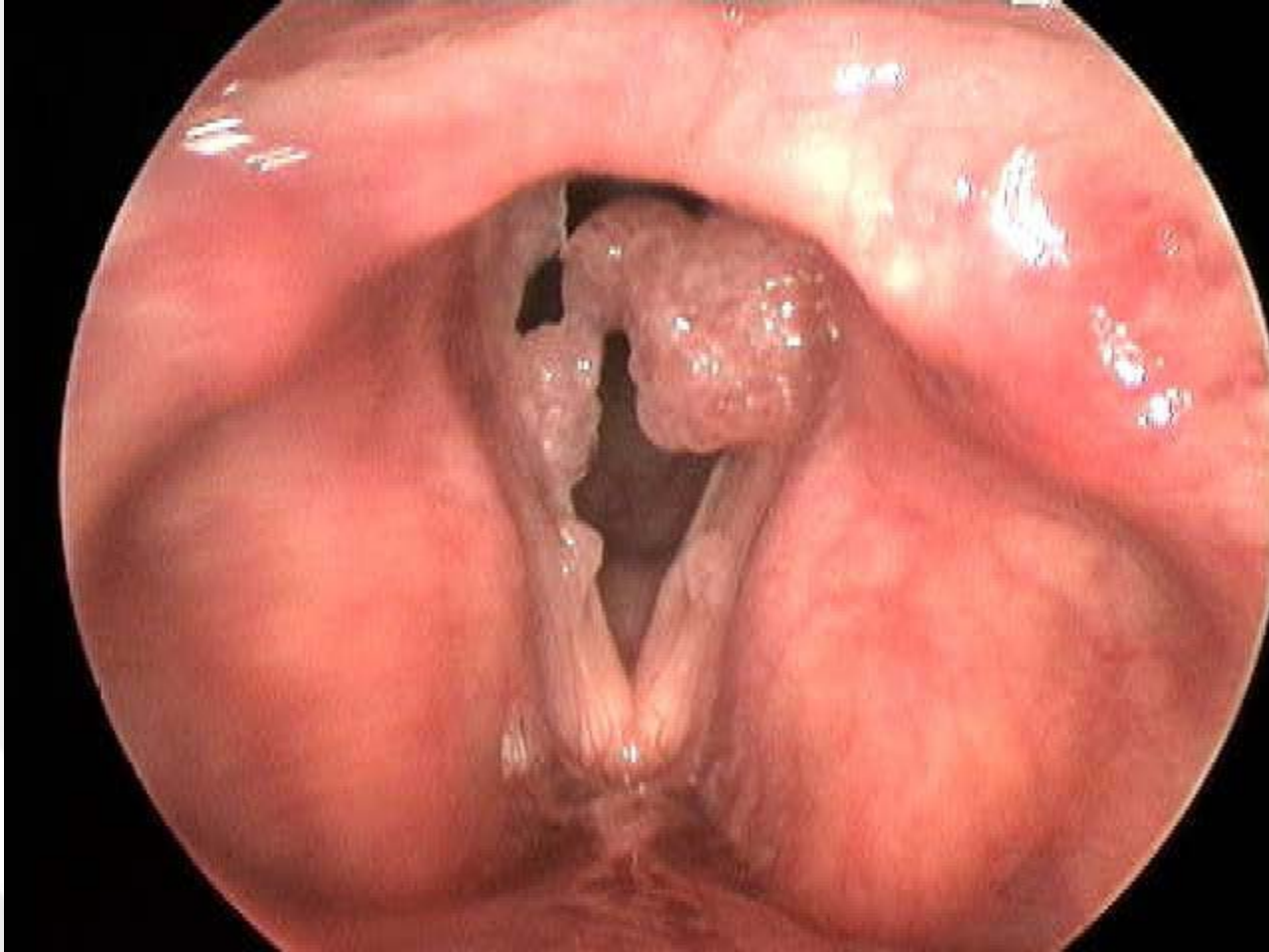
### **1. Benign:RRP:**

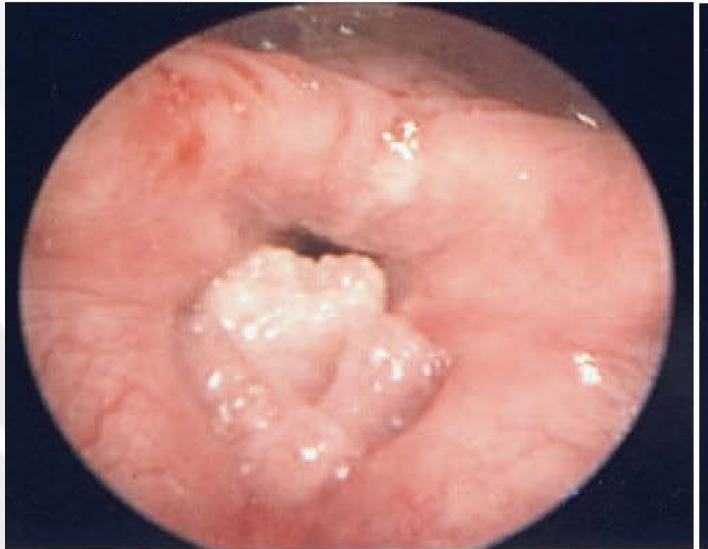
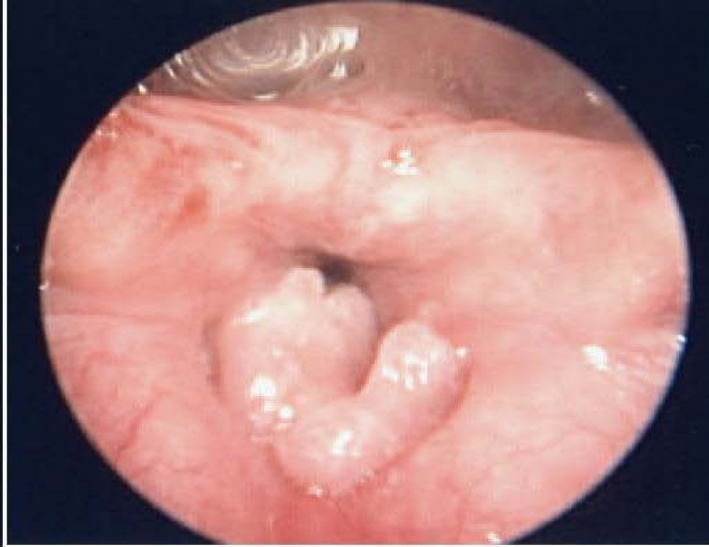
The most common benign lesion of the larynx and trachea.

Caused by human papilloma virus (types 6 and 11).

More common and more aggressive in children.







## **(4) Laryngeal tumors:**

### **1. Benign:RRP:**

#### **Symptoms:**

- Change of voice.
- Difficulty in breathing.

#### **Treatment:**

- Surgical excision (debulking):  
Microdebridement, Laser.
- Medical treatment: limited effect.
- Vaccination: research.





**Microdebrider** is a disposable blade is a hollow metal tube coupled to suction that cuts obstructing tissue and simultaneously removes it from the airway.

## **(4) Laryngeal tumors:**

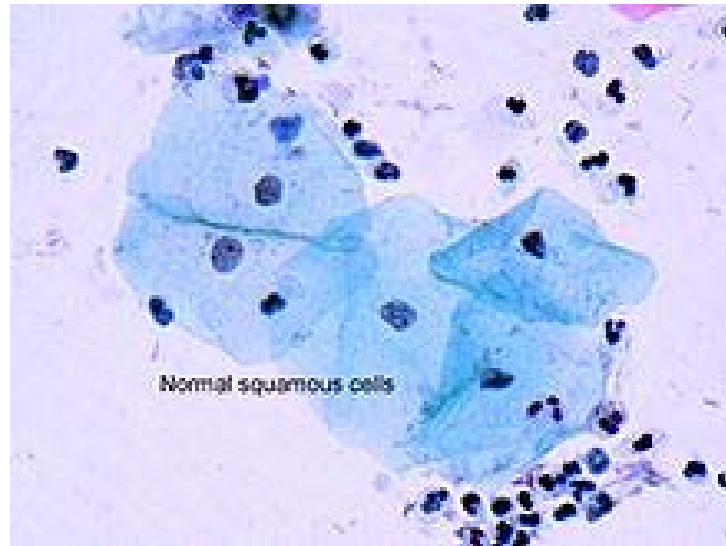
### **2. Dysplasia:**

Development of immature cell in vocal fold epithelium (pathological diagnosis).

Non-keratenizing squamous cell epithelium.

Pre-cancerous.

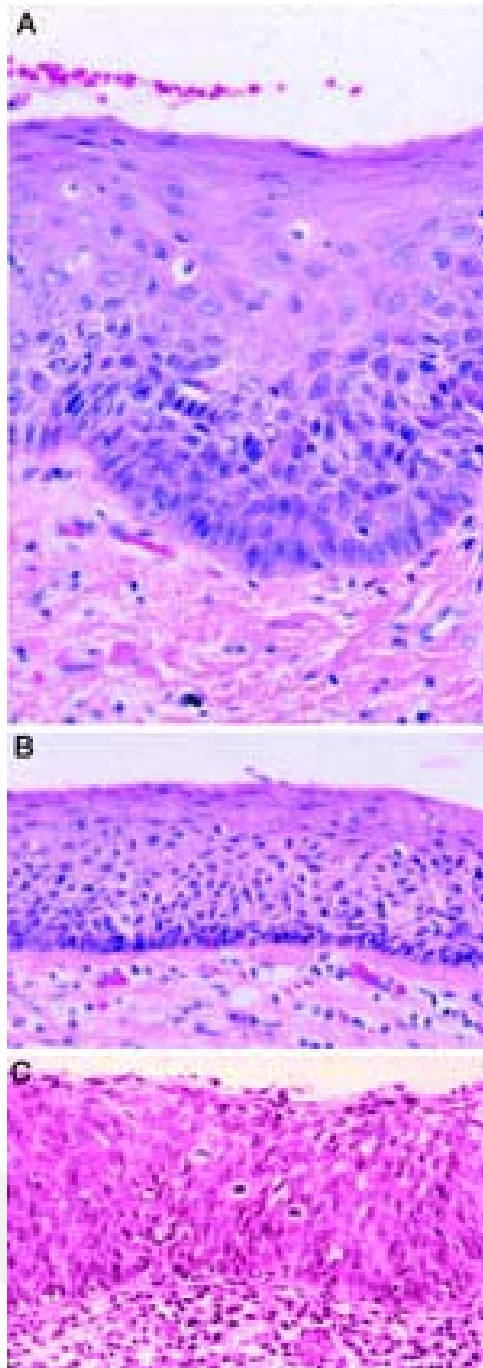




Normal squamous cells



Dysplastic cells



**A.** Mild dysplasia.

**B.** Moderate dysplasia.

**C.** severe dysplasia with full-thickness replacement of the squamous epithelium by atypical, small, immature cells (carcinoma *in situ*).

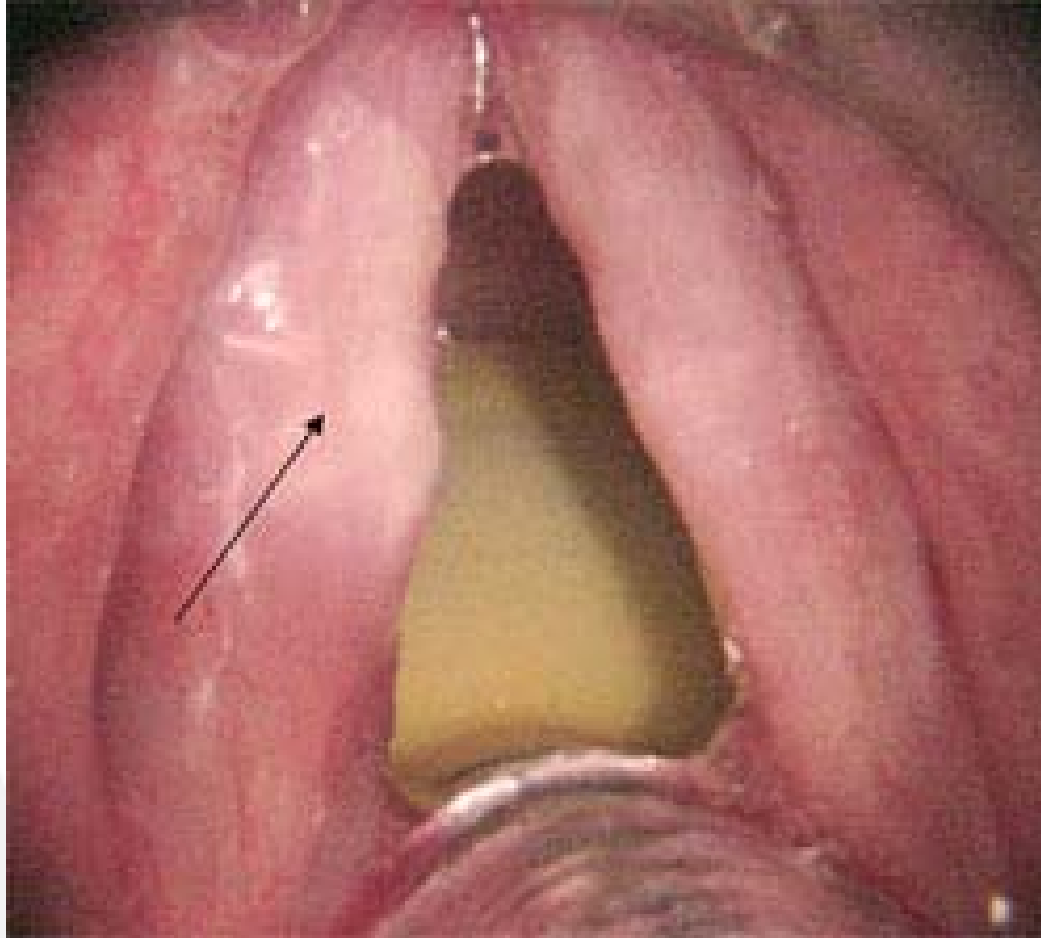
## **(4) Laryngeal tumors:**

### **2. Dysplasia:**

It is the outcome of long-standing laryngeal irritation: smoking, alcohol, LPRD, .....

Whitish (leukoplakia) or reddish (erythroplakia) patch on vocal fold mucosa.

Non-vibrating segment on laryngeal stroboscopy (Not mucous !!!).





## **(4) Laryngeal tumors:**

### **2. Dysplasia:**

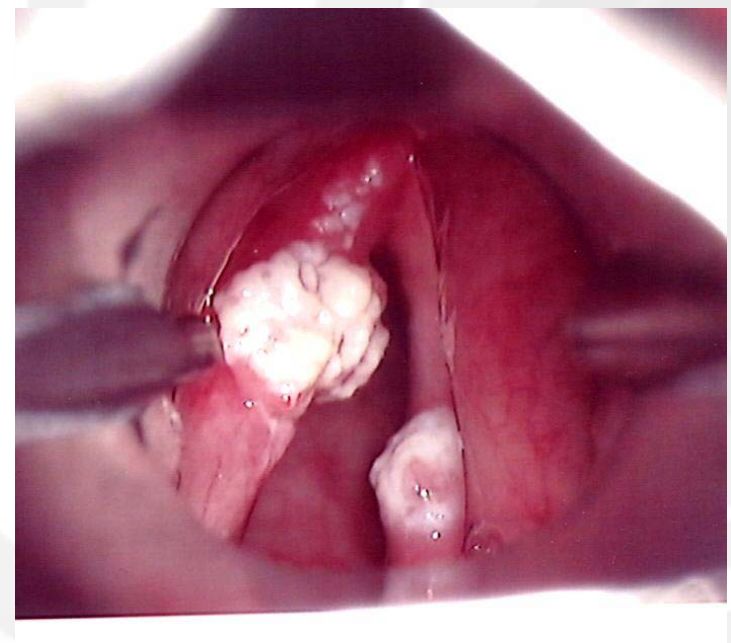
#### **Treatment:**

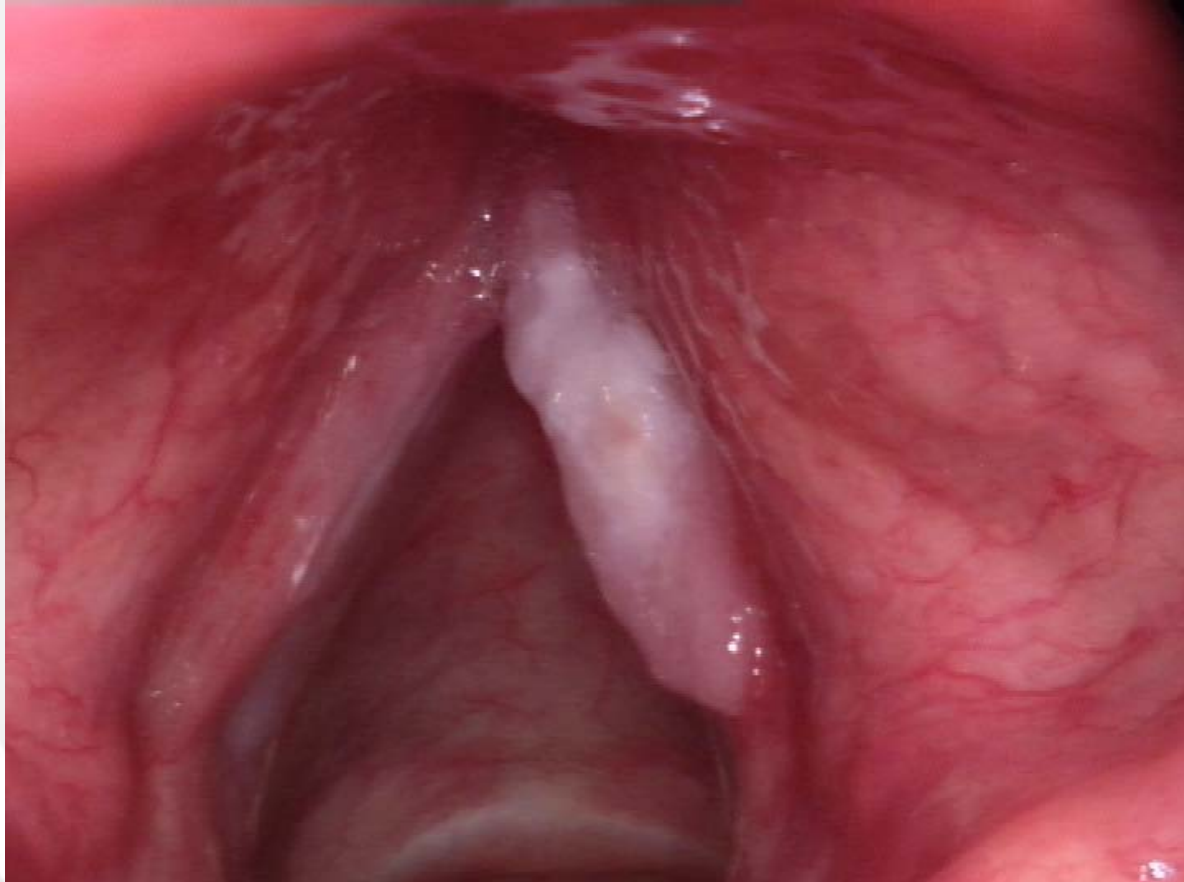
- Biopsy for histopathology.
- Surgical removal (laser or cold instruments).
- Radiotherapy.
- Medical treatment of LPRD (causion).
- Voice therapy.
- Follow up with stroboscopy is mandatory.



## **(4) Laryngeal tumors:**

3. Malignant (Usually squamous cell carcinoma).







## **(5) Neurological disorders:**

Presented in the last  
lecture.

## **(6) Endocrinal causes:**

1. Thyroid gland dysfunction.
2. Gonadal dysfunction.
3. Virilization of voice.
4. Premenstrual changes.



## **(6) Endocrinal causes:**

### **1. Hypothyroidism:**

**Pathology:** Vocal folds infiltration with myxoedematous material.

**Voice:** Strained and excessively low pitched.

**Speech:** - Distortion of lingual sounds (increase tongue size).  
- Ataxic dysarthria (infiltration of the cerebellum).



## **(6) Endocrinal causes:**

### **2. Virilization of voice:**

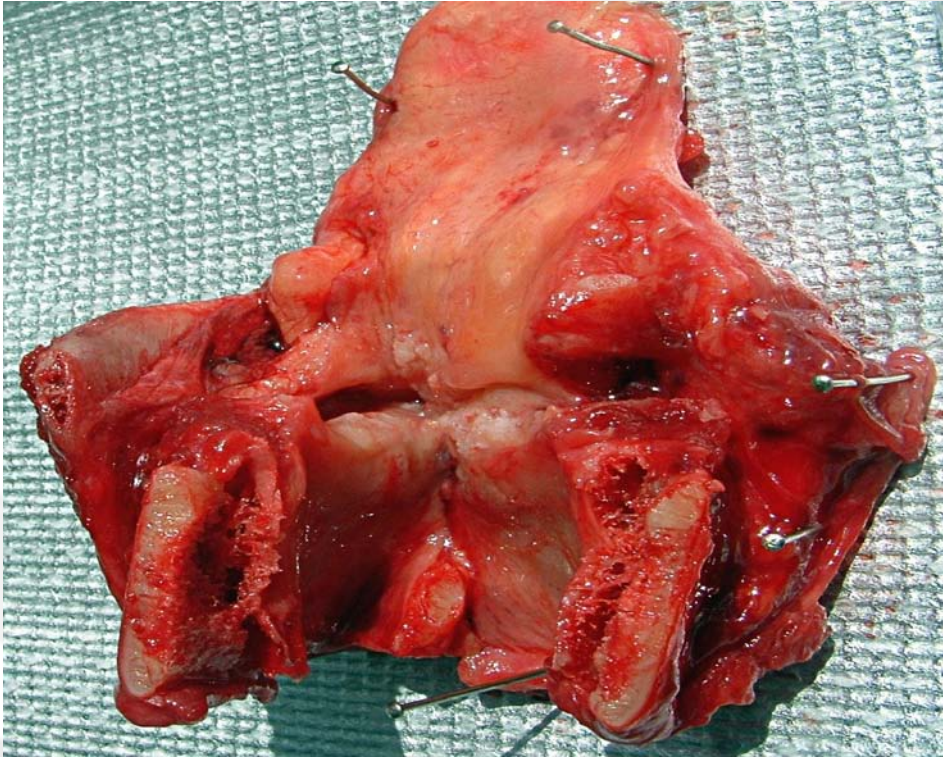
Development of male voice in a female.

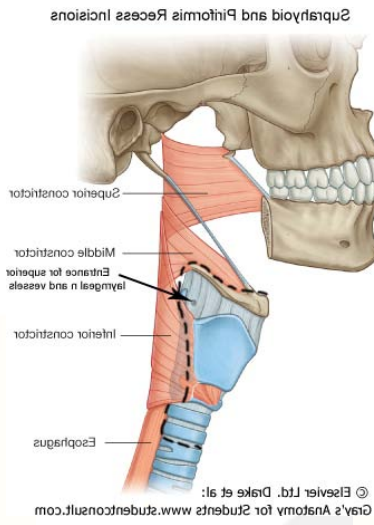
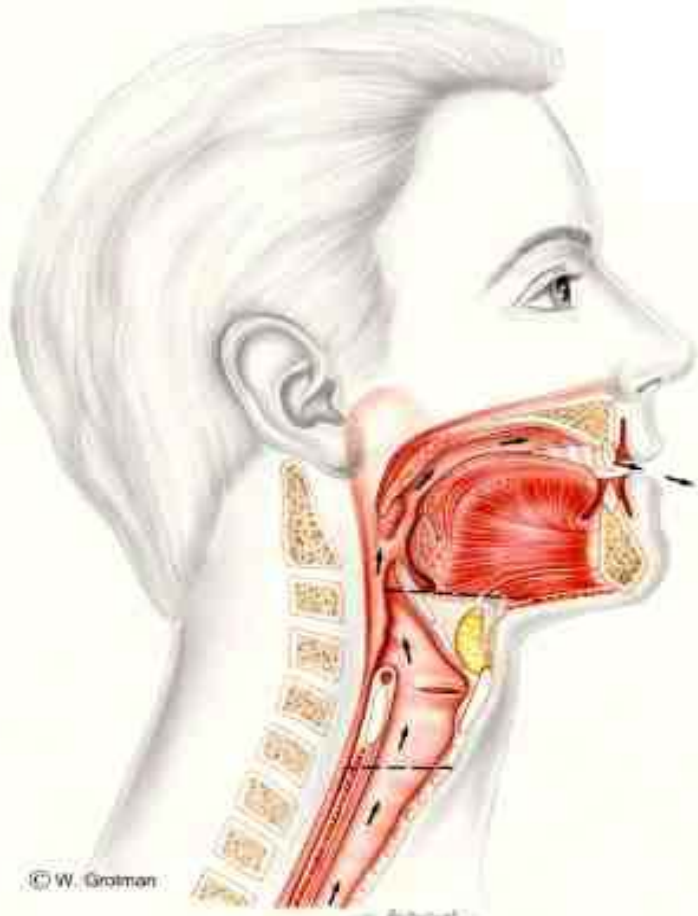
The larynx grows to a larger size.

Voice is low pitched with pitch breaks.

Drugs, as testosterone, can lead to **irreversible** voice changes.

# (7) Status post-laryngectomy:

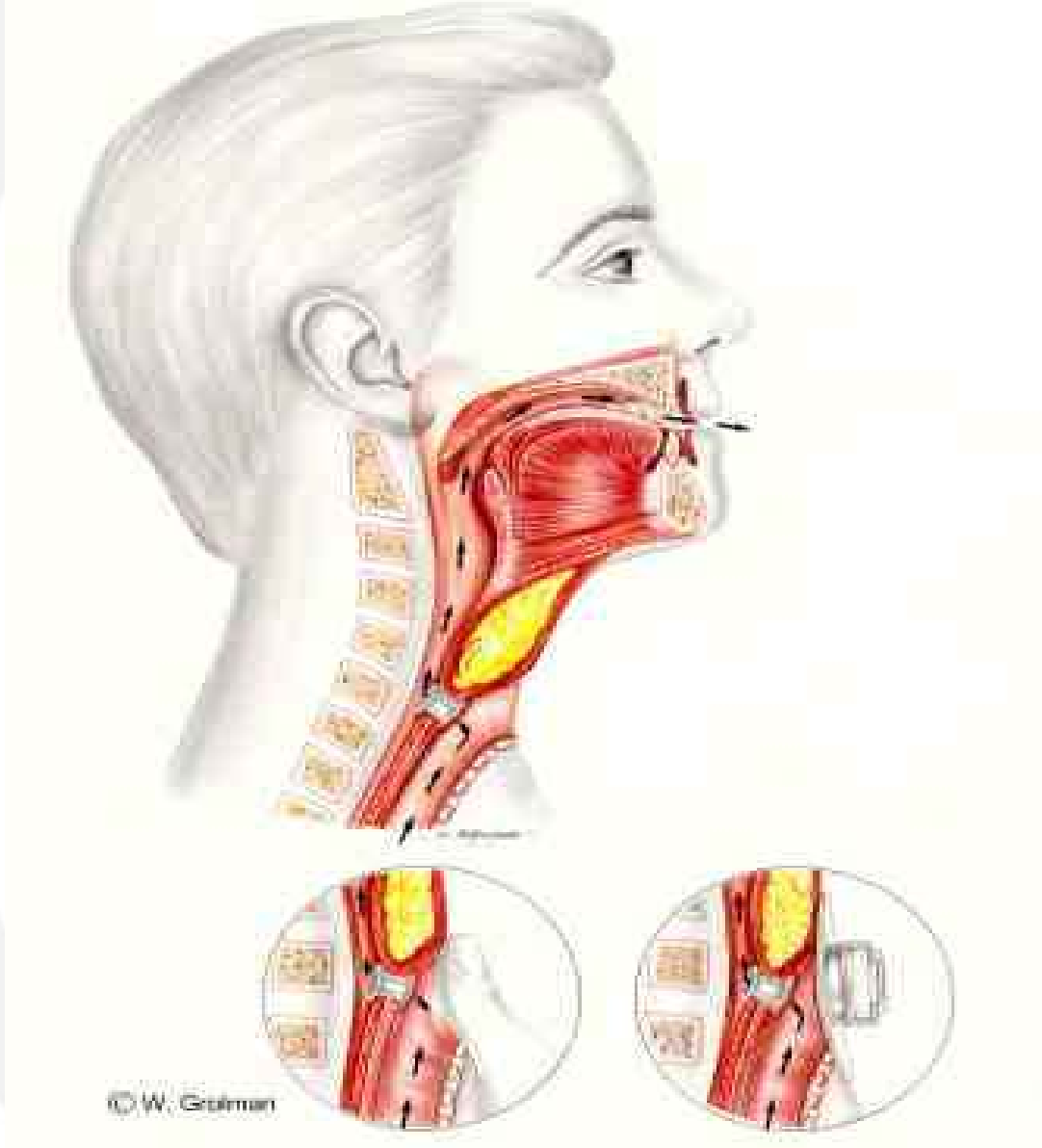








## Tracheostomy with Tracheo-esophageal Puncture



## Tracheo-esophageal Puncture (TEP)



كرسي بحث  
أمراض الصوت والبلع



# Thank You

Khalid H Al Malki, MD, PhD

