

ENT SAQ

By: 430 ENT team

Communication and swallowing disorders

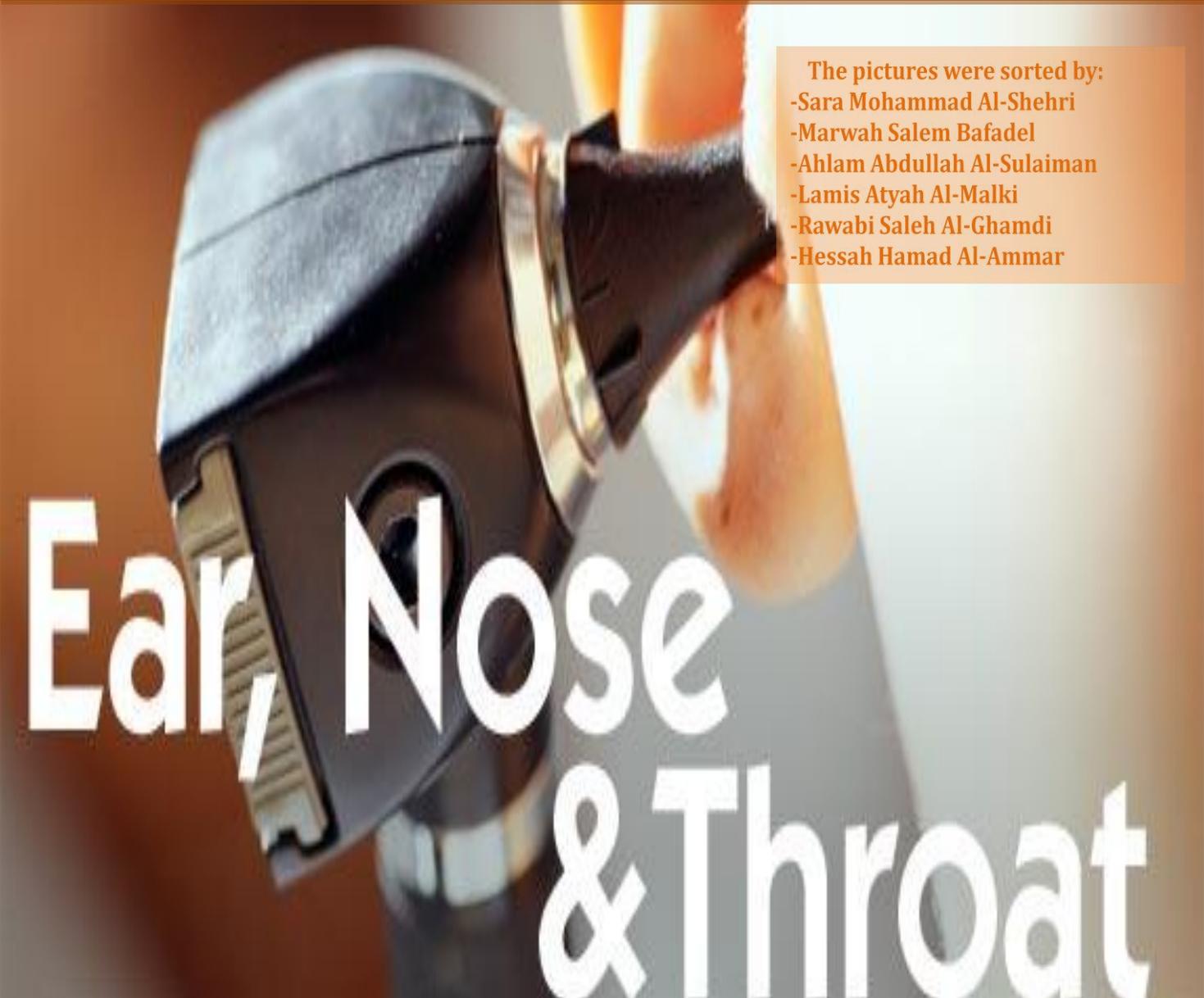
Done by: Mayyadah AlAbdely

Revised by: Ghada AlOtaibi

❖ Note: please refer to the original lecture given by the doctor

The pictures were sorted by:

- Sara Mohammad Al-Shehri
- Marwah Salem Bafadel
- Ahlam Abdullah Al-Sulaiman
- Lamis Atyah Al-Malki
- Rawabi Saleh Al-Ghamdi
- Hessah Hamad Al-Ammar



Ear, Nose
& Throat

Communication and swallowing

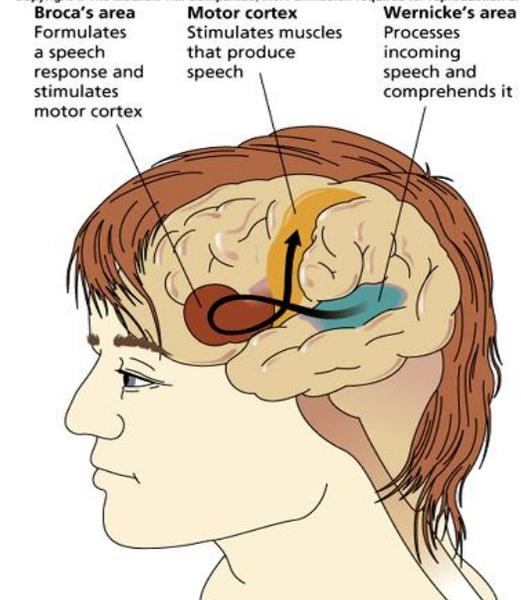
Language disorders

Anatomy

Central language control:

- The left hemisphere is the processor of language functions in almost all people regardless handedness. It is the dominant hemisphere.
- Language areas are distributed along the rolandic fissure
- Anterior language area mainly in the temporal region concerned with expressive aspect.
- Posterior language area mainly in the parietal region concerned with receptive aspect.

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Speech disorder

Normal Velopharyngeal Function

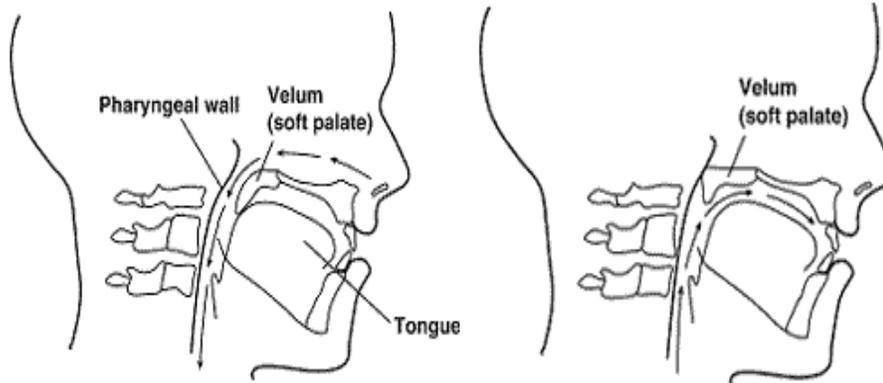


Fig. 1 Velum at rest.

Fig. 2 Velum during speech.

Causes of Hypernasality

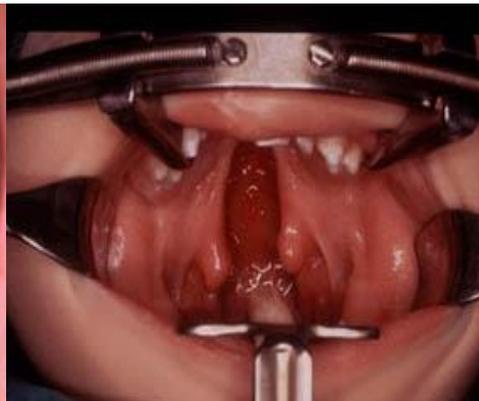
Organic:

Structural: (VP Insufficiency)
congenital

- Overt cleft palate. -
- Submucous cleft palate. (submucous cleft of the soft palate is characterized by a midline deficiency or lack of muscular tissue and incorrect positioning of the muscles. A submucous cleft of the hard palate is defined as a bony defect in the midline or center of the bony palate. This can sometimes be felt as a notch or depression in the hard palate. Often a submucous cleft palate is associated with a cleft (or “bifid”) uvula.)
- Non-cleft causes:
 - a. Congenital short palate.
 - b. Congenital deep pharynx.



submucous Cleft palate



Overt cleft palate



fistula in the
hard palate



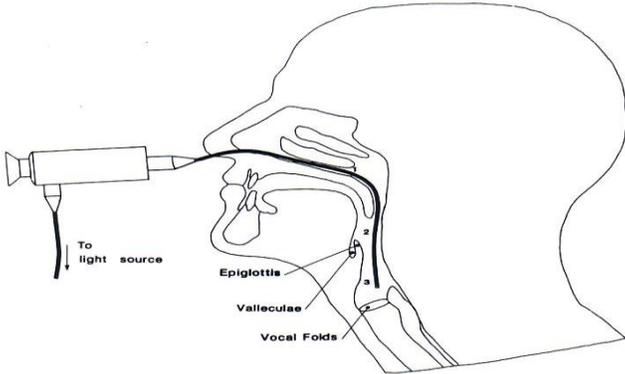
submucous cleft

Assessment of hypernasality (VPD)

Instrumental:

- Nasopharyngoscopy
- Nasometry

Flexible nasopharyngoscopy



normal closure

VPD



Nsometry

Treatment of VPD

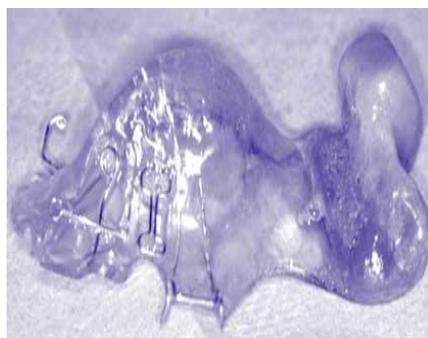
Pharyngeal flap



Prosthetic Devices



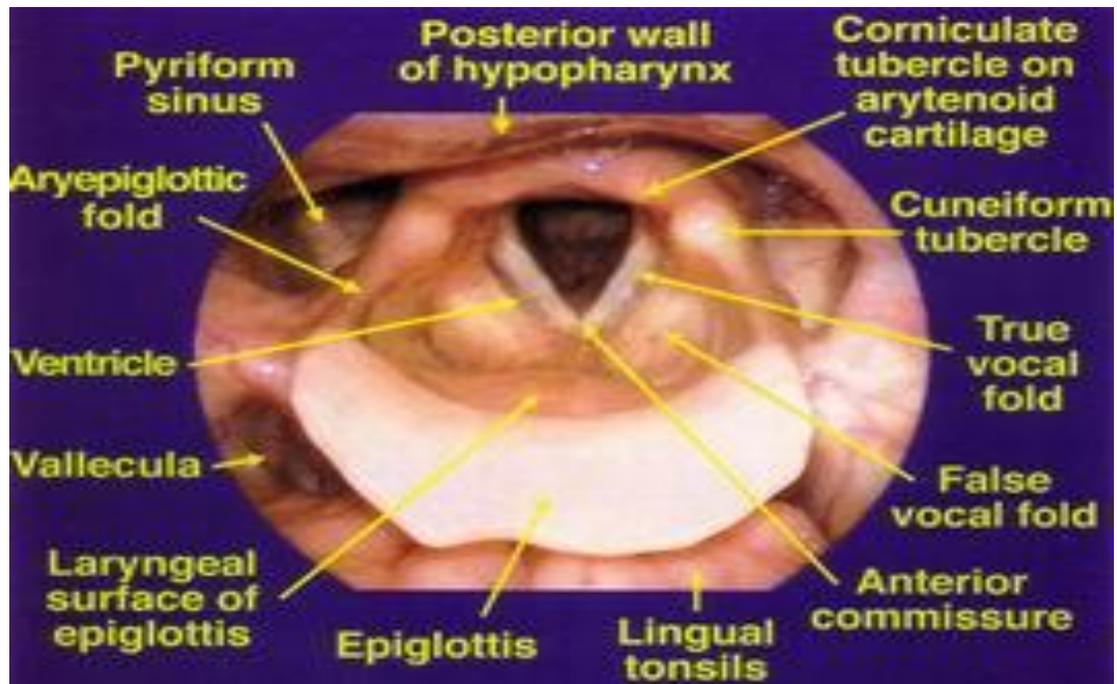
Palatal lift: to raise the velum when there is poor velar movement (i.e. dysarthria)



palatal speech bulb: to occlude nasopharynx

Communication and swallowing

Anatomy



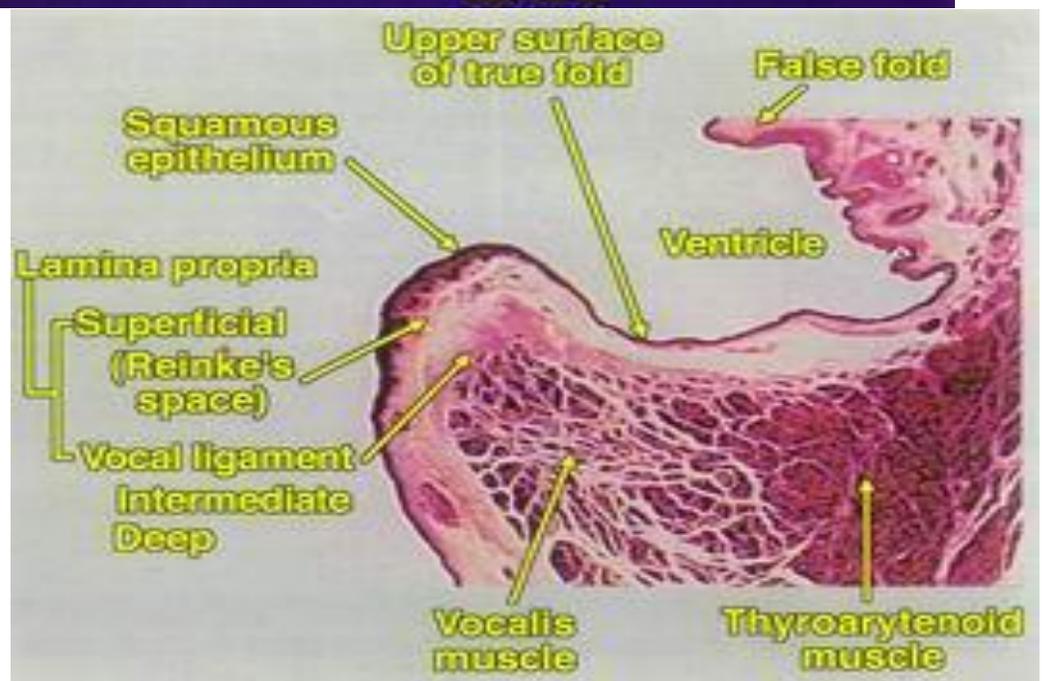
Cross section of the vocal cords which contains :
Mucosa :

1-Squamous epithelium

2-lamina propria which contains:

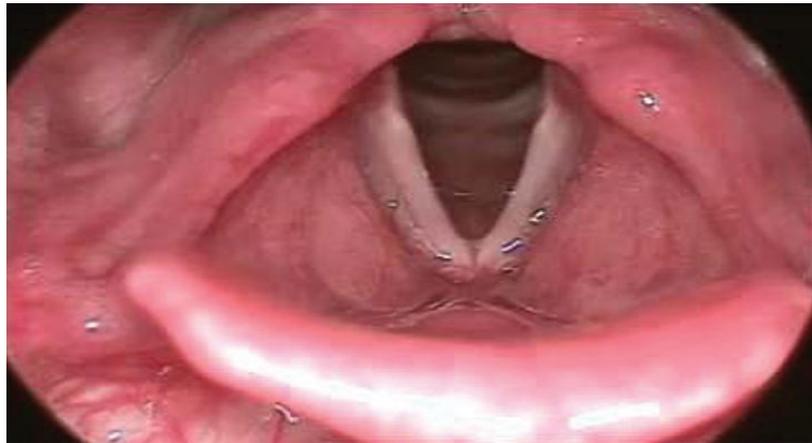
- a-the superficial layer

-b- the intermediate and deep layers which form the vocal ligament



Voice disorders
Organic voice disorders:

Normal



Laryngomalacia (congenital)

Omega shape epiglottis
common in children aged 1 to 2

symptoms : breathing problem especially when he is laughing or playing he can have a noisy breathing (stridor)

Treatment: Depends on the degree if Mild case: observation and tell the family that this condition is self-limiting.

But in severe cases :where it's interfere with respiration surgery is done



Congenital vocal folds web (Congenital)

symptoms: The symptoms depends on the stages of the web .

When the web extend posteriorly ,it will obstruct the air way and the patient will suffer from breathing related problems and he will present early

Treatment: Surgical excision but I have to be aware from post surgical atresia (eg: After the incision in approximately two weeks ,there will be adhesion or synchea between the vocal cords when they are closed to each other , so they put something between them to prevent the adhesion.



Laryngeal cleft (Congenital)

It is a rare congenital abnormality in the posterior laryngotracheal wall . It means there is a gap between the oesophagus and trachea, which allows food or fluid to pass into the airway.

Types: **Type I** extends no further down than the vocal cords

type II extends below the vocal cords and into the cricoid cartilage

type III extends into the cervical section of the trachea

type IV extends the furthest—into the thoracic section of the trachea

Management :Surgery



Type 1 in the arytenoid clefting



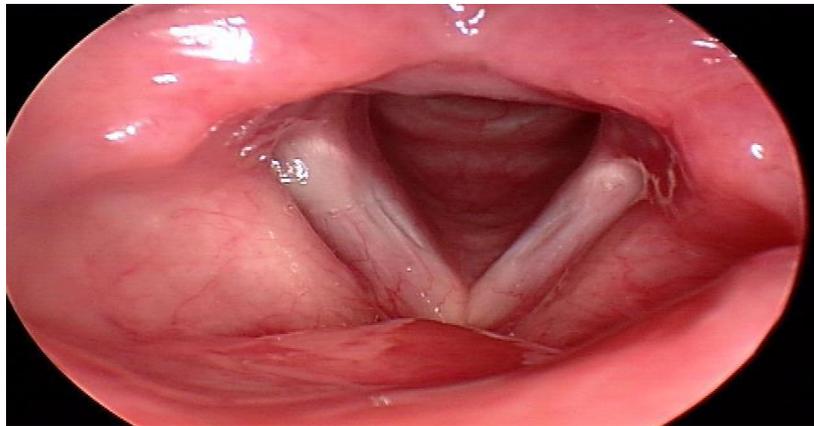
This is Severe type when the cleft extend deep to the

Sulcus Vocalis (Congenital)

Very difficult condition to diagnose , it's rare but common here in KSA ,

symptoms: severe dysphonia

Treatment: Surgery (vocal cord augmentation to decrease the gabs)



Laryngopharyngeal Reflux (Inflammatory)

Refers to retrograde flow of gastric contents to the upper aero-digestive tract, which causes a variety of symptoms, such as cough, hoarseness, and asthma

symptoms: hoarseness, postnasal drip, sore throat, difficulty swallowing, indigestion, wheezing, chronic cough, globus pharyngis and chronic throat-clearing.

treatment: behavioral changes including weight loss and dietary changes are advised.

Further medical management using proton-pump inhibitors is common practice,

When medical management fails, Nissen fundoplication can be offered.

**Fungal infection (Inflammatory)**

Presentation: a history of immune compromised patient(diabetic patient or patient in immune suppressive drugs)

Treatment:Antifungal drugs



Laryngoscleroma (Inflammatory)

chronic specific infection it is Rare here but common in Egypt

Treatment :

In early stage: Selective antibiotic :ciprofloxacin , the response is good

If left untreated : the patient can develop granulation tissue and end in subglottic stenosis



This early stage of this condition (crustation)



This is late stage when we see granulation tissue and subglottic stenosis This early stage of this condition (crustation)

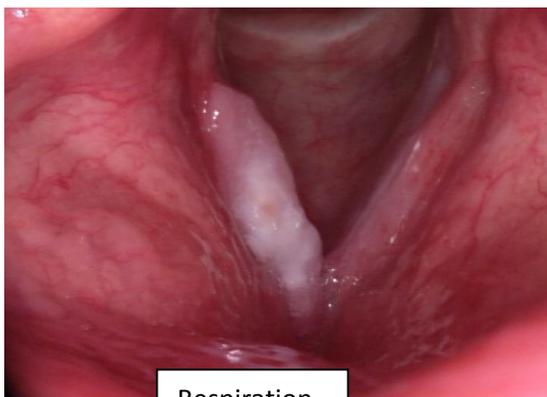
Laryngeal carcinoma (Neoplastic)

Right vocal cords shows squamous cell carcinoma

symptoms : dysphonia

Management: surgical

Notice The land mark to decide the direction of the lesion



Respiration



phonation



Advanced malignancy , Cancer (Neoplastic)

Left vocal fold paralysis (Neurological)

Unilateral Left vocal fold paralysis (Neurological) Notice during the abduction the left vocal cords is slightly abducted than the other one

symptoms :Aspiration , dysphonia

Treatment is :Augmentation of the vocal cord by medialization laryngoplasty to reduce the gab



Foreign body

In this case there is history of Swelling of the left side of the neck after 3 days from aspiration and choking during eating.

- **Finding:** There is Bone of chicken in pyriform sinus (notice that this is the first area that you have to look for in case of suspicion of foreign body)



respiration



phonation

Non-organic voice disorders:
Habitual:

Hyperfunctional dysphonia

Larynx shows No organic lesion but there is **incomplete adduction in phonation** called (phonatory gap) , this is a sign of exhausted muscle



respiration



phonation

Phonasthenia

there isn't organic lesion , just there is there is(phonatory gab)



respiration



phonation

**.Voice disorders:
Benign vocal folds lesions**

Vocal Fold Nodules: Adult Type

symptoms :Dysphonia

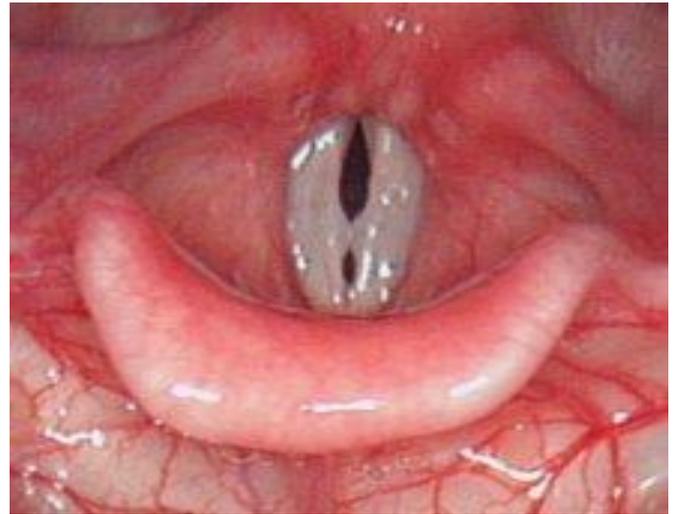
Management: Voice rest and voice therapy dont say surgery

Note: vocal cord nodule always Bilateral symmetrical nodules

In (adult and juvenile type) but the nodules look more softer in juvenile type.



respiration



phonation

Vocal Fold Nodules: Juvenile Type

Notice that the juvenile type nodules are softer than the adult type

symptoms :It comes with children who has hyper functional disorder



respiration



phonation

Left Vocal Fold Polyp with a Reaction

Treatment :Excision just for the polyp not the reaction



respiration



phonation

Left Vocal Fold Polyp (The same finding as previous one just that there is sessile hemorrhagic polyp without reaction)



respiration



phonation

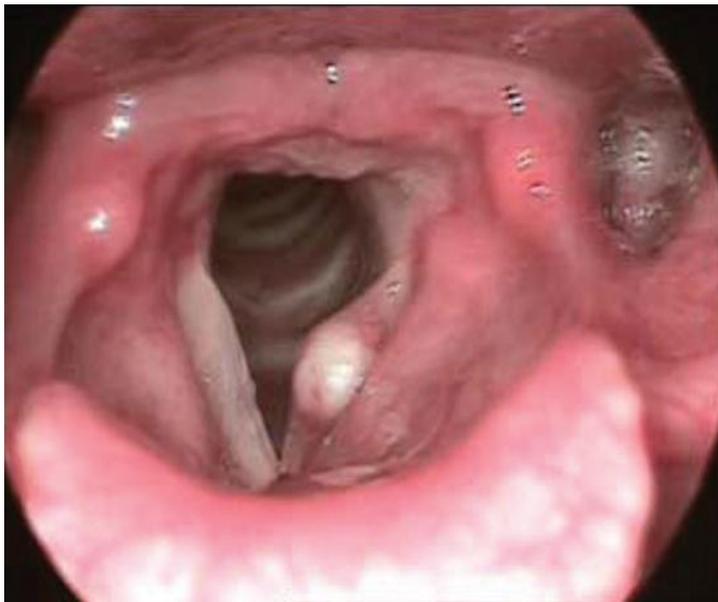
Right Vocal Fold Polyp

It's Pedunculated polyp , this is easier in excision than the previous one
-always the polyp has well defined edge - so it's Not a cyst , the cyst has ill defined edge



Left Vocal Fold cyst

Treatment:Surgical excision



Bilateral Reinke's edema

symptoms: common with female smoker Because this condition cause deepening of the voice so the male will not complain because they do not notice this change



Right-sided Intubaion Granuloma

presentation : History of prolonged intubation after for example : cardiac surgery and the Lesion must be in posterior part of the vocal cord

Treatment : conservative treatment and you can discharge the patient



respiration

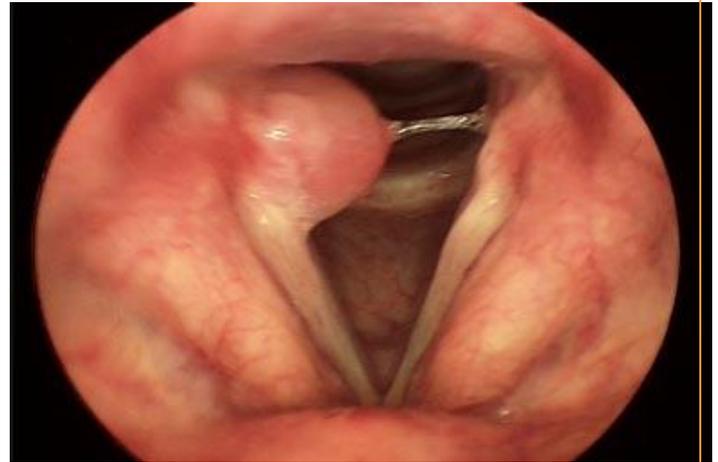
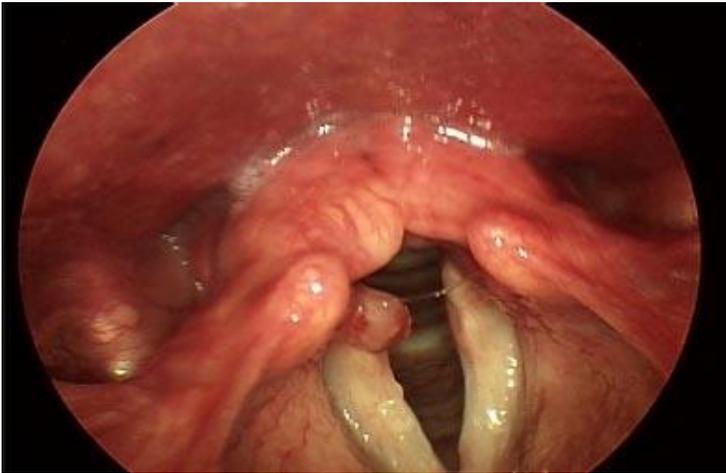


phonation

Right-sided Contact Granuloma

Etology : reflux

Treatment : anti reflux thereby by conservative thereby for long time Note that the granuloma is posterior lesion in opposite to the polyp which is Anterior lesion



Assessment of dysphonia:

Video stroboscopy with Rigid or fixable Laryngoscopy



Allow Visualization Of Mucosal Waves. through the Stroboscope

Used For : 1- Diagnosis Of Voice Disorder 2-follow Up 3-research 4-medicolegal During Phonation Vocal Fold Adducted But The Mucosa Open And Closed Through The Waves Or Vibrations

High speed laryngeal imaging



Pharyngeal pH Monitoring



For GERD A Device fixed in the oropharynx and sense the PH of reflux

Computerized speech lab. (CSL)



- **CSL (Computerized Speech Lab)**
- **For : Voice Analysis**
- **or knowing how big is the problem after diagnosing with an other instrument**
- **remember CSL Is Not Diagnostic ,,,**
- **Used For : -Follow Up ,Research ,Medico legal**

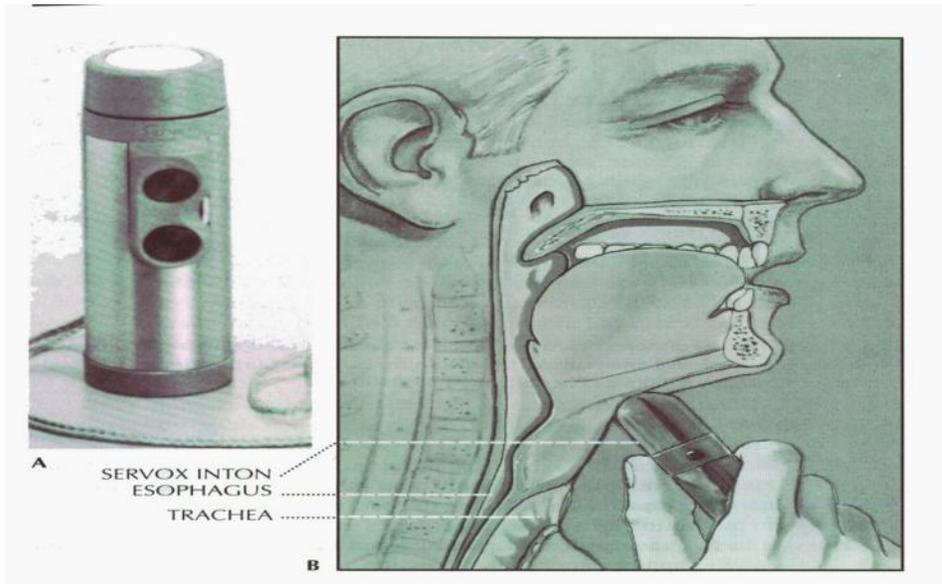
Phonatory Aerodynamic System (PAS)



Assess the phonatory air flow
During (phonation and vibration)

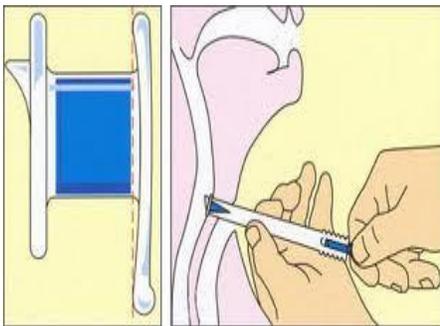
Management of voice disorders

Artificial larynx



Artificial larynx in patient who got total laryngioctomy , can induce mechanical voice

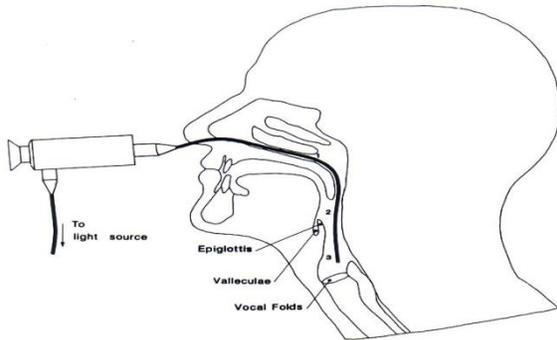
Tracheo-esophageal puncture



Tracheo---esophageal puncture ,it is The most common procedure done for the patient who undergoes laryngectomy an instrument is introduced itrachea and through the air entryinto trachea ,the phonation will occur

Assessment of dysphagia:

Investigations:



FEES

FEES protocol of evaluation (Langmore, 2003):

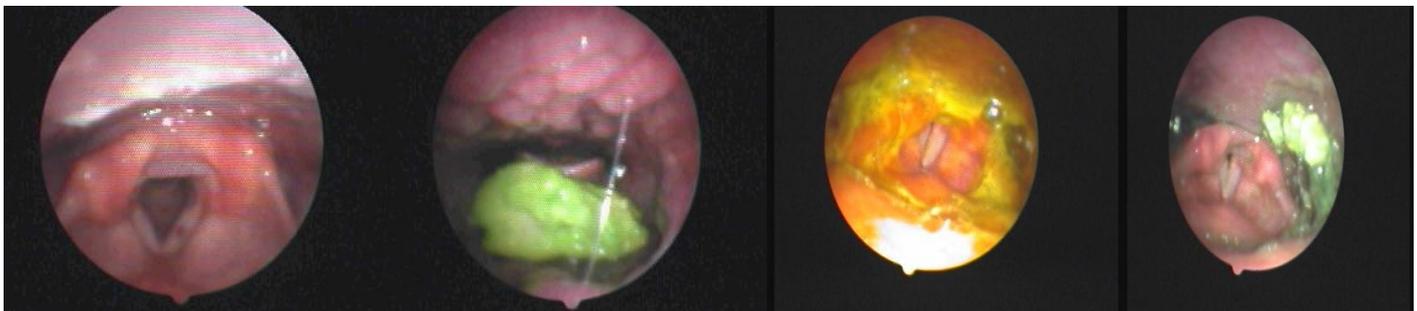
- I. Anatomic and physiologic assessment.
- II. Assessment of food and liquid swallowing.
- III. Assessment of therapeutic interventions

Normal FEES

residue

residue

residue

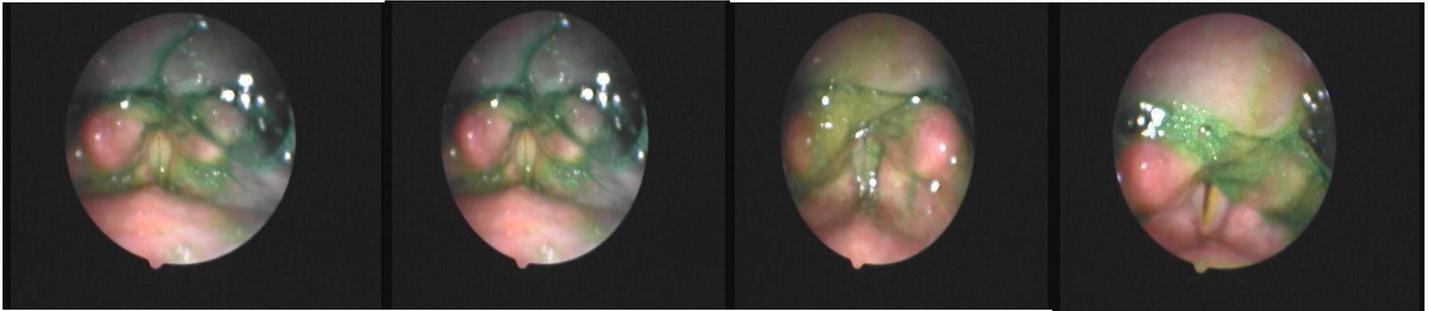


penetration

penetration

penetration

aspiration



Aspiration: When the subglottic space is not seen clearly, it means this material has entered the airway (below the vocal cord) and coughed out

VFES (MBS). (modified barium swallow)



Normal



Aspiration (MBS)
Bolus is aspirated and enter trachea

SAQ Cases

Case 1:

. What is your diagnosis?

Tongue tie. Ankyloglossia, also known as tongue-tie

B. What is the treatment?

Division of frenulum. Intervention for ankyloglossia does sometimes include surgery in the form of frenotomy (also called a frenectomy or frenulectomy) or frenuloplasty.



Case 2

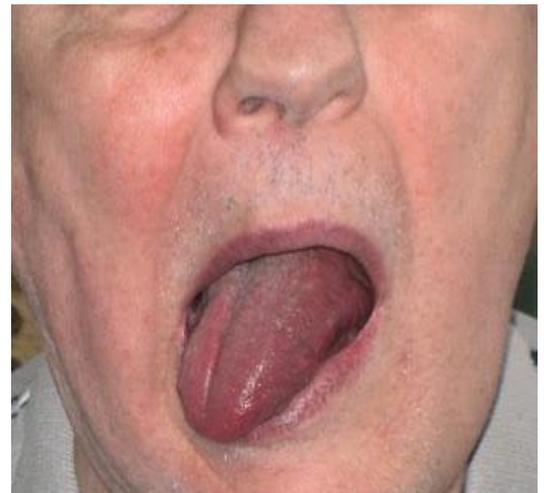
This patient present with history of trauma.

A. What is your diagnosis?

RT hypoglossal nerve palsy.

B. Mention 2 presenting symptoms.

- 1- Difficulty in speech.
- 2- Atrophy.



Case 3

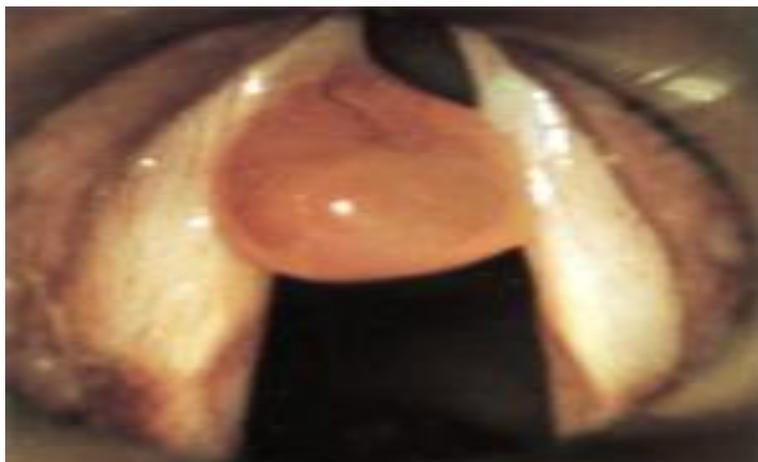
Teacher develop hoarseness for 3 months

A. what is the diagnosis?

Unilateral left vocal cord polyp

Give 2 methods of treatment:

- 1- speech therapy
- 2-Surgical excision



Case 4

A. Identify:

CSL (Computerized Speech Lab)

B. Give 2 Uses?

- Follow Up
- Research
- Medicolegal

