

# **Diseases of the Larynx and Pharynx**





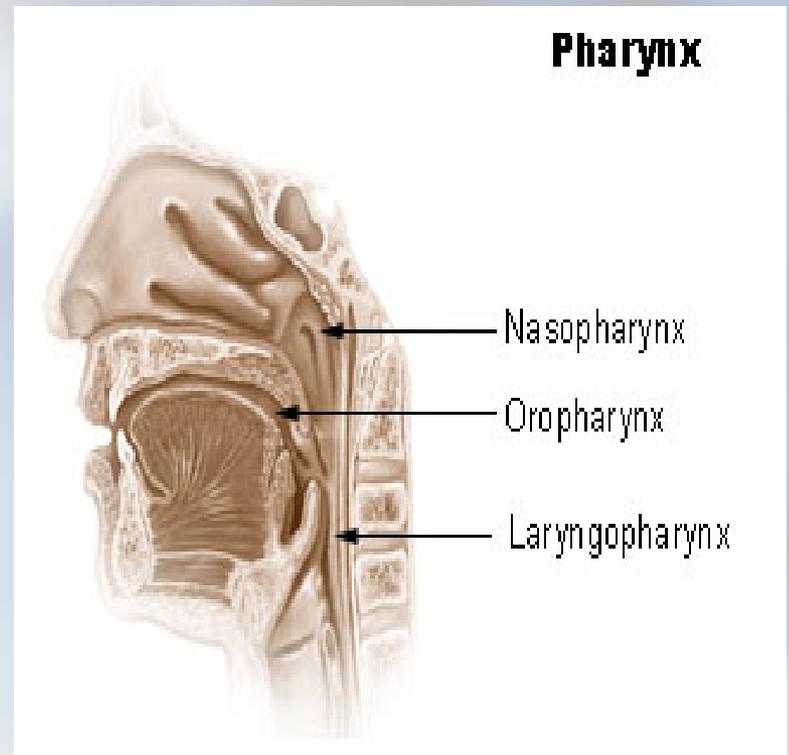
# Larynx and Pharynx

- **Pharynx** forms the cross roads of air and food passages
- **Larynx** is the protective sphincter of the air way, which also is the organ of phonation
- **Diseases of larynx** will affect phonation as well as disturb the air way
- **Diseases of pharynx** will mostly affect the food passage rarely the air flow



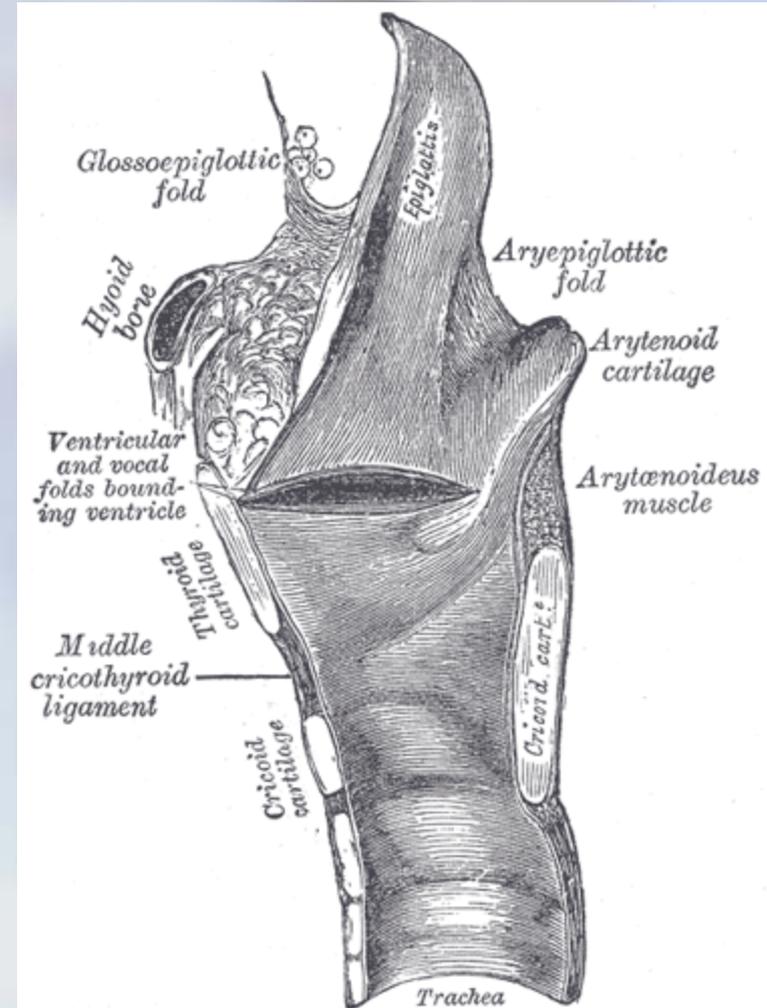
# Anatomical structure Pharynx

- Pharynx
  - Nasopharynx/PNS
    - Behind the nasal cavities above the soft palate
  - Oropharynx
    - From the junction of hard and soft palate to the level of the floor of vallecula
  - Hypopharynx
    - Lies behind the larynx and partly on each side known as pyriform fossae



# Anatomical structure of Larynx

- Larynx
  - Supraglottis
    - Above the vocal cords
  - Glottis
    - Space between the vocal cords
  - Subglottis
    - Larynx below the vocal cords





# Diseases of larynx and pharynx

- Congenital
- Traumatic
- Inflammatory/ Infections
- Other conditions
- Neoplastic



# Diseases of pharynx and larynx

- C/F:

Dysphagia

Voice change

Throat pain

FB Sensation

Cough

Noisy breathing

Blood stained sputum

Hearing impairment

Blood stained sputum

Neck nodes



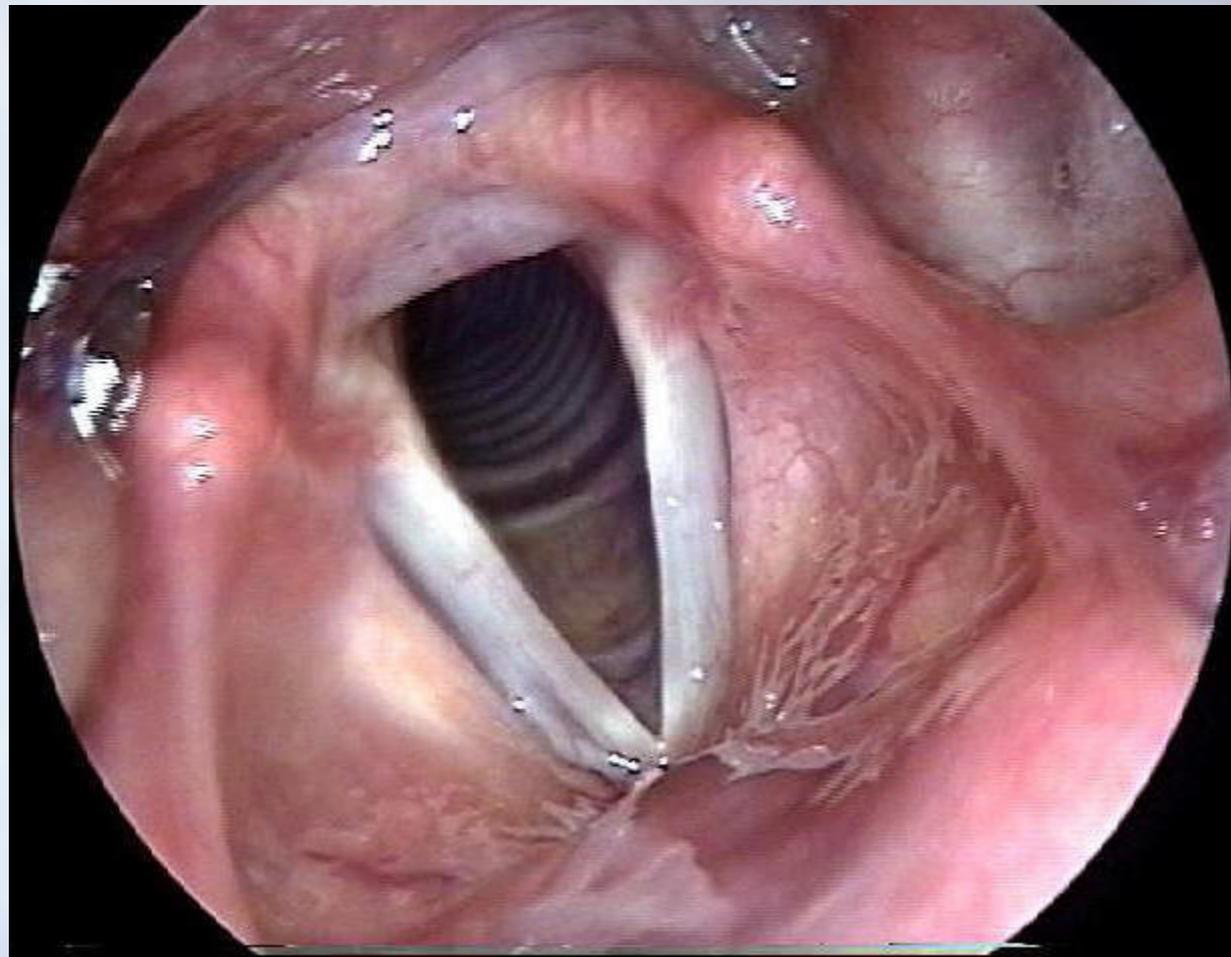
# Diseases of pharynx and larynx

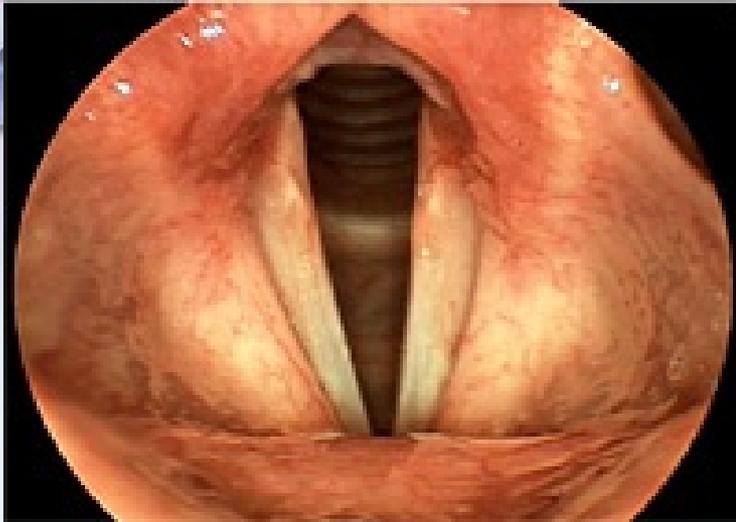
- Examination      Direct examination with head light  
IDL , PNS examination , FOL , RNE  
D/L , EUA
- Investigations      X rays , PTA , Tympanograms ,  
biopsy , Sputum AFB,  
US Scan, CT/MRI ,



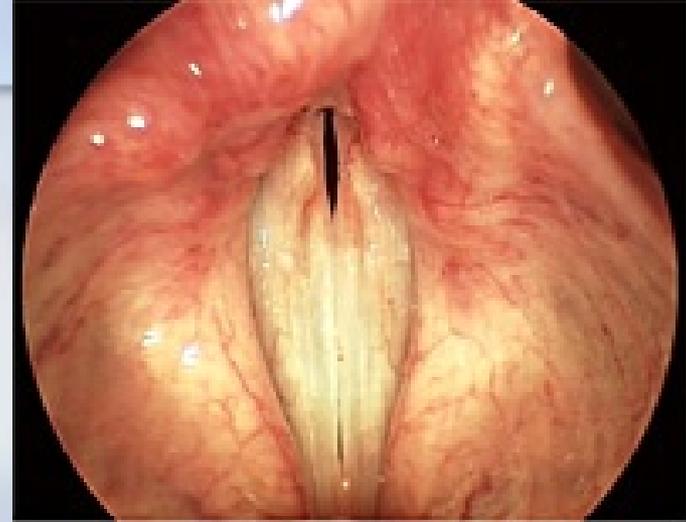
# Diseases of larynx

- Normal Larynx





Vocal cords open during breathing to allow air in out of lungs



Vocal cords closed durin speech so air from lungs Presses between them to cause vibration that and produce sound



# Diseases of larynx

- ❑ Diseases of larynx would give rise to,
  - Breathing problems
  - Voice changes
  - Cough
  - Pain
  - Bleeding
  - Stridor
  - Hoarseness

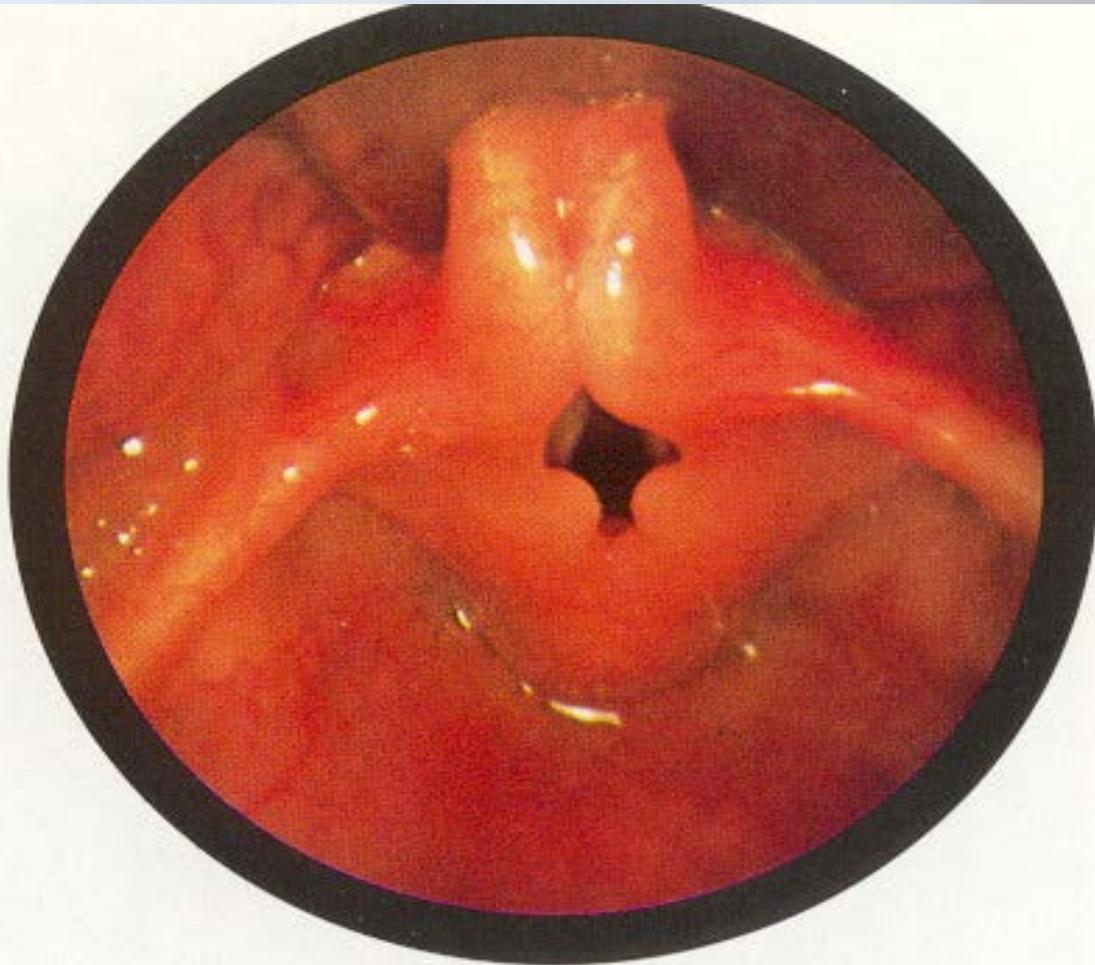


# Congenital Diseases of Larynx

## Laryngomalacia

- Is the commonest cause of congenital stridor
- Noticed within few days of birth
- but may become obvious when the child begins to be more active or develops an URTI
- increases in severity up to one year
- Resolves after that
- Stridor is intermittent appearing during crying feeding
- Diagnosed by D/L or endoscopy- rolled epiglottis,  
short aryepiglottic fold
- Management Surgery if necessary

# Laryngomalacia





# Congenital Diseases of Larynx

- **Vocal cord paralysis** - Diagnosed by IDL or FOL
  - Unilateral – Only voice change  
treated conservatively
  - bilateral - Develops stridor  
almost always need tracheostomy and  
corrective surgery later  
Lateralization of one cord
- **Subglottic stenosis** – diagnosed by CT
  - Presents with stridor
  - Might resolve spontaneously
  - May need tracheostomy / surgery



# Congenital Diseases of Larynx

- **Laryngeal cysts** - Diagnosed by FOL
  - Might be an incidental finding
  - Might get infected causing acute airway obstruction
  - Occasionally need tracheostomy
  - Excision - laser is the best
- **Subglottic haemangiomas** diagnosis by D/L or FOL
  - Might resolve spontaneously
  - Usually need a tracheostomy
  - Excision - laser is the best



# Trauma and foreign bodies of larynx

## ■ Causes

- Cut injuries, Penetrating
- Blunt trauma; clothesline injuries, sporting injuries, Manual strangulation
- foreign body

## ■ Symptoms

- Airway obstruction
- Aspiration of blood
- Voice change



# Trauma and foreign bodies of larynx

- Patient might have
  - Active bleeding
  - Laryngeal Oedema
  - Haematomas
  - Cartilage damage
  - Soft tissue damage



# Trauma and foreign bodies of larynx

## ■ Management

- Protecting the air way is most important
  - Might need a tracheostomy
- Endoscopy /Xray /CT scan to diagnose the extent
- Surgical treatment to restore function
- If only oedema steroids, Antibiotics and bed rest
- Large haematoms need draining
- Tissue damage may need surgical repair
- Foreign bodies should be removed

## ■ Complications

- May end up in stenosis
- Permanent tracheostomy



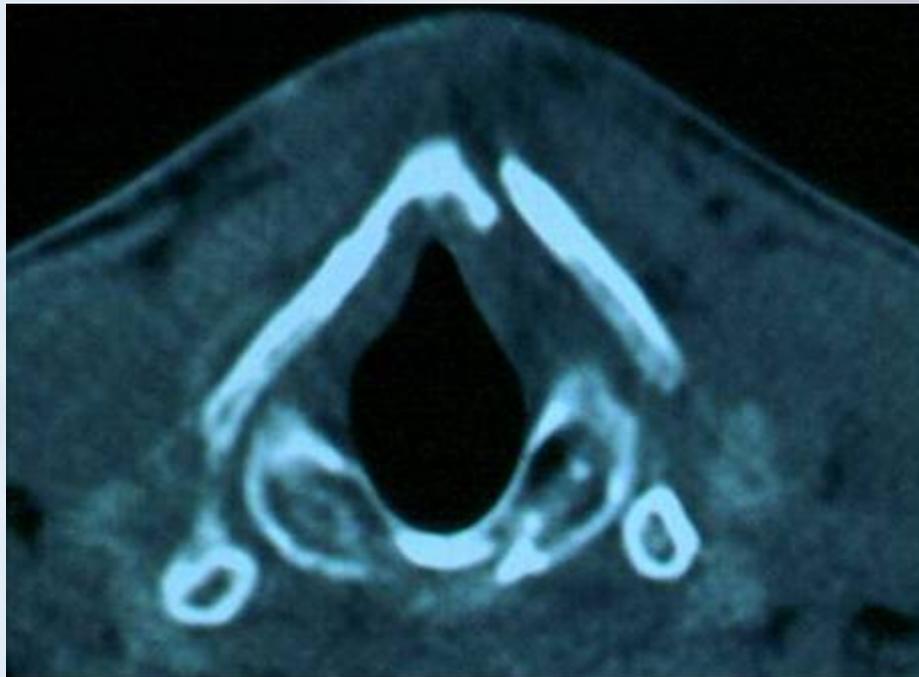
# Trauma and foreign bodies of larynx

- **Penetrating injury of larynx**



# Trauma and foreign bodies of larynx

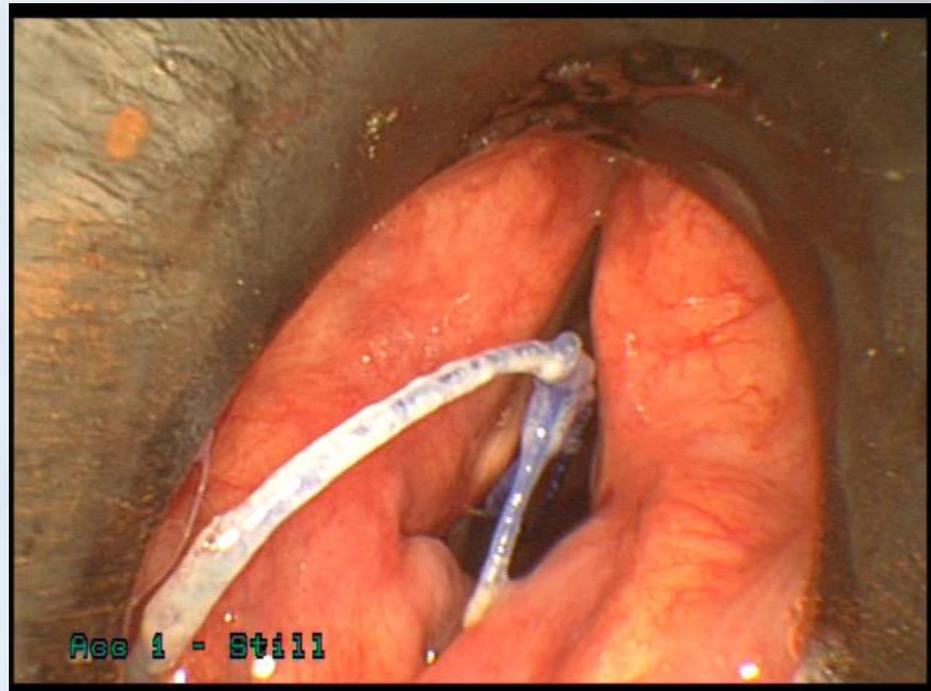
- **Fractured thyroid cartilage**





# Trauma and foreign bodies of larynx

- Foreign body in larynx



# Laryngeal Haematoma



# Laryngeal Haematoma





# Inflammations and Infections of Larynx

## ■ Acute Inflammations

- Laryngeal oedema due to allergy- Angioneurotic oedema
  - Caused by drugs, food and inhaled fumes etc
  - Patient will present with hoarseness of voice and/or stridor
  - IDL would reveal the site of oedema which might be supraglottic, and/or glottis
  - Occasionally need tracheostomy
  - Treated with Oral or IV steroids with antihistamines

# Laryngeal oedema





# Acute Infections of Larynx

## ■ Acute Laryngitis

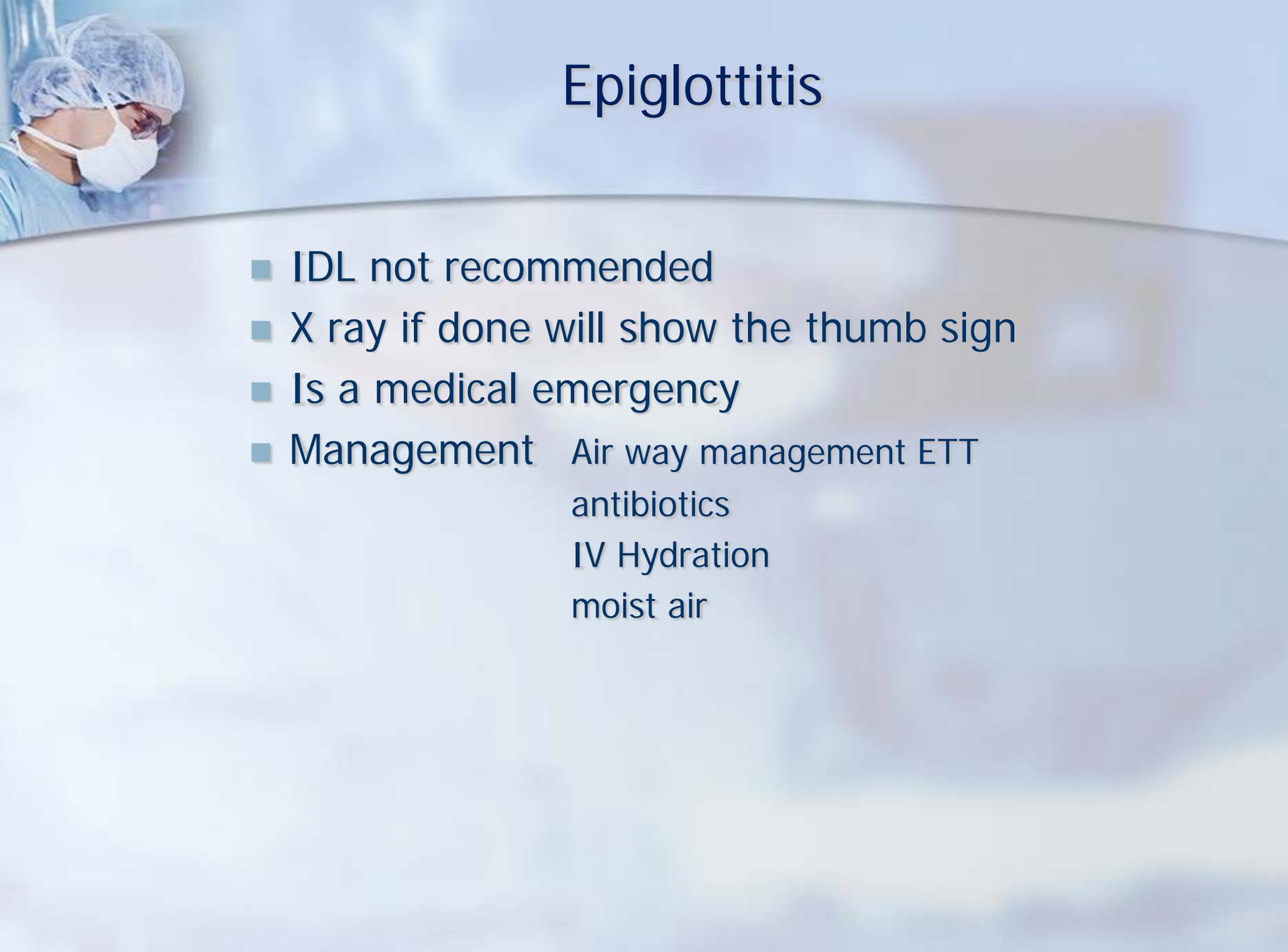
- At any age
- Viral, may develop a 2ry bacterial
- Gradual onset
- Fever, Hoarse voice and throat pain are the main symptoms
- IDL -Vocal cord inflammation
- Supportive treatment with voice rest is the only treatment , Antibiotics in secondary infection



# Acute Infections of Larynx

## ■ Epiglottitis

- Rare
- Most often seen in children 3-6yrs
- Bacterial H Influenza
- Symptoms
  - Rapid onset –from a sore throat to very ill child in hrs
  - Voice not hoarse but muffled
  - Inspiratory stridor
  - Patient sitting and drooling ,High Fever



# Epiglottitis

- IDL not recommended
- X ray if done will show the thumb sign
- Is a medical emergency
- Management
  - Air way management ETT
  - antibiotics
  - IV Hydration
  - moist air







# Acute Infections of Larynx

- **Laryngotracheobronchitis**
  - Common in children
  - Bacterial infection after a common cold
- **Symptoms**
  - Gradual onset
  - Mild fever, hoarse voice followed by a croupy cough
  - May rarely develop stridor
- **Treatment**
  - Oral antibiotics
  - Steam inhalation
  - Very rarely ETT



# Chronic infections /inflammations

## ■ **Chronic Laryngitis**– Chronic inflammatory reaction of laryngeal mucosa

- Common in middle aged men
- Predisposing factors
  - Smoking
  - Chronic URTI or LRTI, Recurrent acute laryngitis
  - Vocal abuse
  - LPR
  - Mouth breathing
  - Hypothyroidism, DM, Vit A deficiency
- Symptoms
  - Gradual onset
  - Hoarseness is the main complain
    - More in the morning > mouth berthing and reduced swallowing > drying of mucosa, thick mucous
    - Improves when the throat has been cleared
    - Remains harsh , with periods of aphonia at times
  - No pain
  - Cough

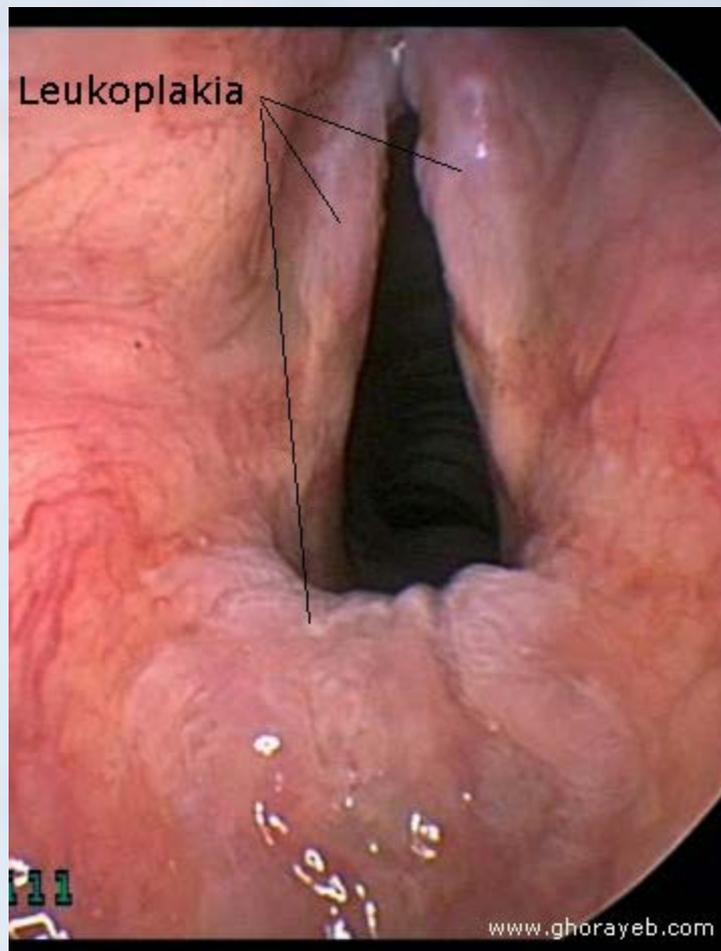


# Chronic Laryngitis

- Examination will reveal
  - Swollen red cords
  - White patches
  - Ulcers like lesions
- Can develop in to malignant lesions
- Treatment
  - Biopsy to exclude malignant change
  - Stop smoking
  - Treat reflux
  - Voice rest
  - Correct predisposing factors
  - Surgery or laser at times / RT ??
  - Frequent follow up



# Chronic Laryngitis





# Tuberculosis

- Almost always in patients with open pulmonary TB
  - Symptoms
    - Productive cough
    - Hoarseness of voice
    - Pain and Dysphagia
  - Examination
    - Irregular cords with redness and oedema
    - Granulomas and Ulcers
  - Diagnosis
    - Sputum /biopsy
  - Treatment
    - ATT



# Some other common conditions of larynx

## ■ Vocal cord nodules

- Benign condition
- Seen in Children as well as adults
- Due to voice abuse and incorrect use of voice
- Begins as a vocal cord thickening at the junction of post 2/3<sup>rd</sup> and ant 1/3

## ■ Symptoms

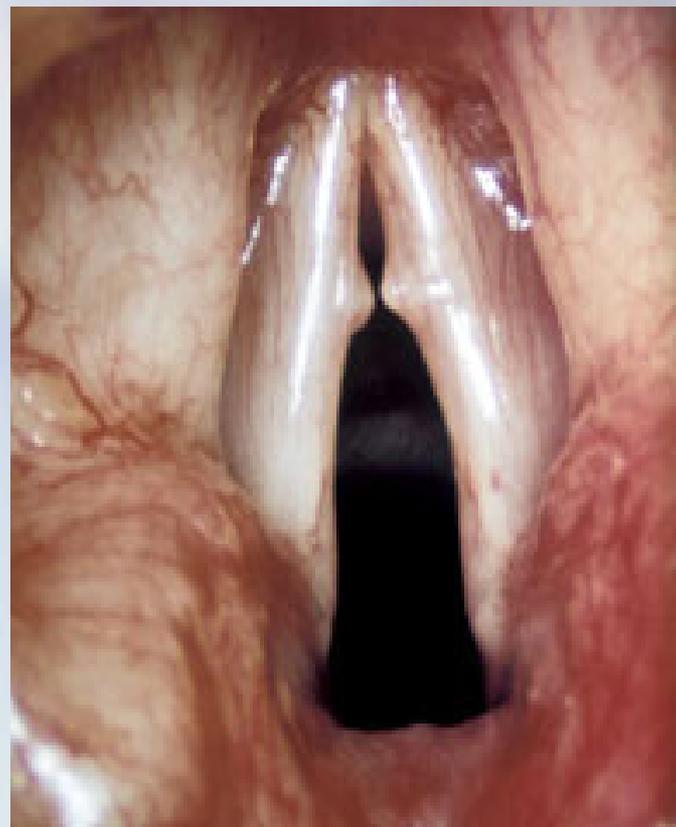
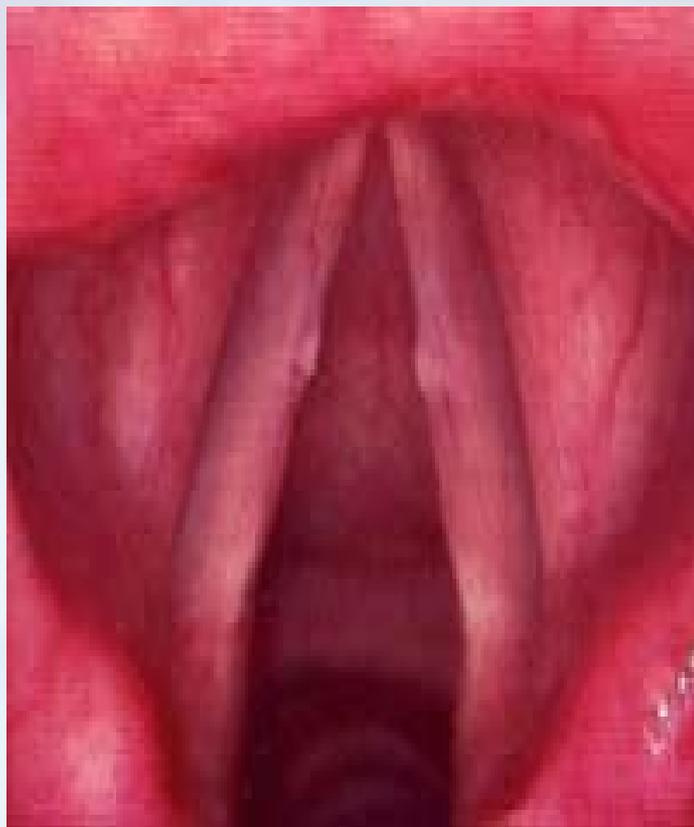
- Hoarseness of voice
- More towards the end of the day

■ Diagnosis           IDL

■ Treatment           Voice rest  
                              Speech therapy  
                              Surgery rarely



# Vocal cord nodules





# Reinkes Odema

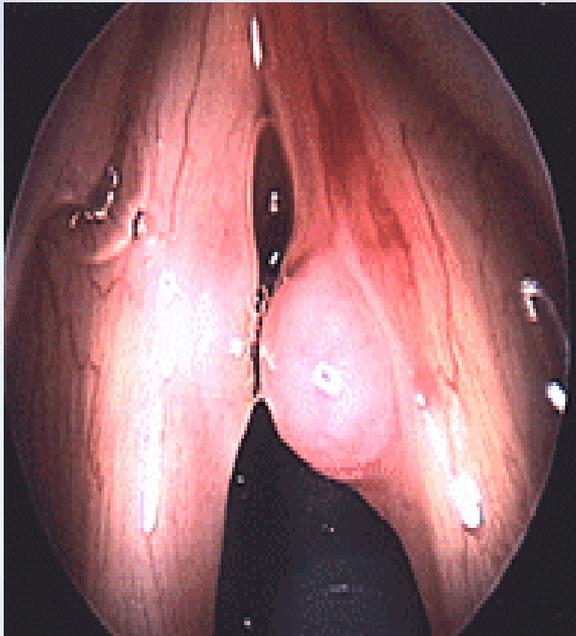




# Some other common conditions of larynx

- **Vocal cord polyps and cysts**
  - Present with hoarseness of voice
  - Diagnosed by IDL
  - Treatment surgery

# Vocal cord Cysts and polyps





# Some other common conditions of larynx

- **Vocal cord paralysis**
  - Unilateral /bilateral
  - In unilateral                      Hoarseness of voice
  - In bilateral                         Stridor
  - Caused by RLN Palsy
  - Common causes
    - Malignant Ca thyroid, Ca lung
    - Surgical trauma
    - Idiopathic
    - Inflammatory TB
    - Neurological



# Vocal cord palsy

- **Investigations**      to find the cause
- **Treatment**      Depending on the cause
  - **Unilateral**      Speech therapy / Surgery
  - **Bilateral**      Surgery



# Tumours of larynx

## ■ Benign Tumours :rare

### ■ Squamous Pappiloma

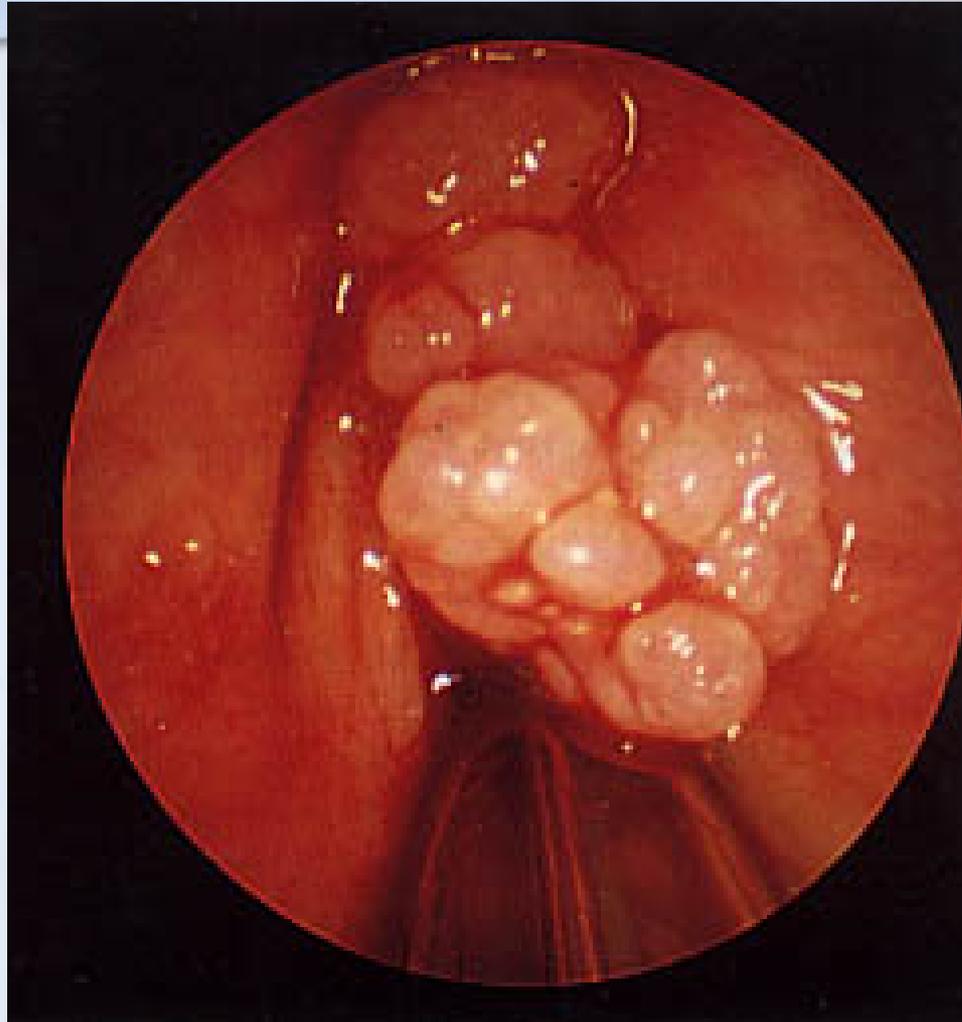
- Most common benign neoplasm of larynx
- Found in adult usually single and children multiple ( laryngeal papillomatosis)
- Recurrence common in children
- Found on true vocal cords
- Caused by Human pappiloma virus
- Malignant transformation extremely rare

- Symptoms  
Hoarseness of voice  
Stridor  
cough , Heamoptysis

- Diagnosis  
IDL, D/L ,FOL Biopsy

- Treatment  
Surgical /laser excision

# Squamous Papilloma of larynx





# Tumours of larynx

- Malignant Tumours

- **Carcinoma of Larynx**

- Common in males 40yrs-70yrs
    - Smoking , Alcohol, chronic laryngitis, Radiation are predisposing factors

- Symptoms

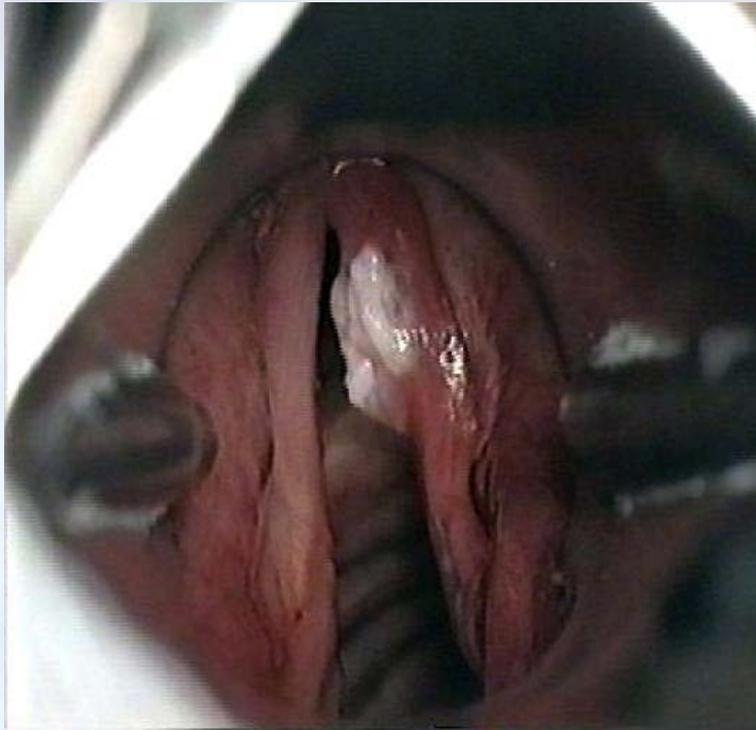
- Progressive Hoarseness of voice
    - Dyspnoea and stridor
    - Pain /Dysphagia
    - Neck swelling
    - Lump in the neck LNS
    - cough, Heamoptysis,



# Carcinoma of larynx

- Diagnosis
  - IDL
  - D/L, FOL and Biopsy
  - CT scan
- Treatment
  - Radiotherapy
  - Surgery

# Carcinoma of Larynx





# Causes of hoarseness

- Congenital
  - Vocal cord palsy
  - Other Vocal cord lesions cysts
- Trauma
- Inflammatory
  - acute/Chronic Laryngitis
  - TB
  - vocal cord oedema
  - vocal cord nodules
  - cysts and polyps
- Vocal cord Palsy
- Tumours
  - benign                  Papillomas
  - malignant              Carcinomas
- Metabolic
  - Hypothyroidism



# Diseases of pharynx

- Common problems are
  - Foreign bodies
  - Inflammatory conditions
  - Neoplasms



# Diseases of pharynx

## ■ Foreign bodies

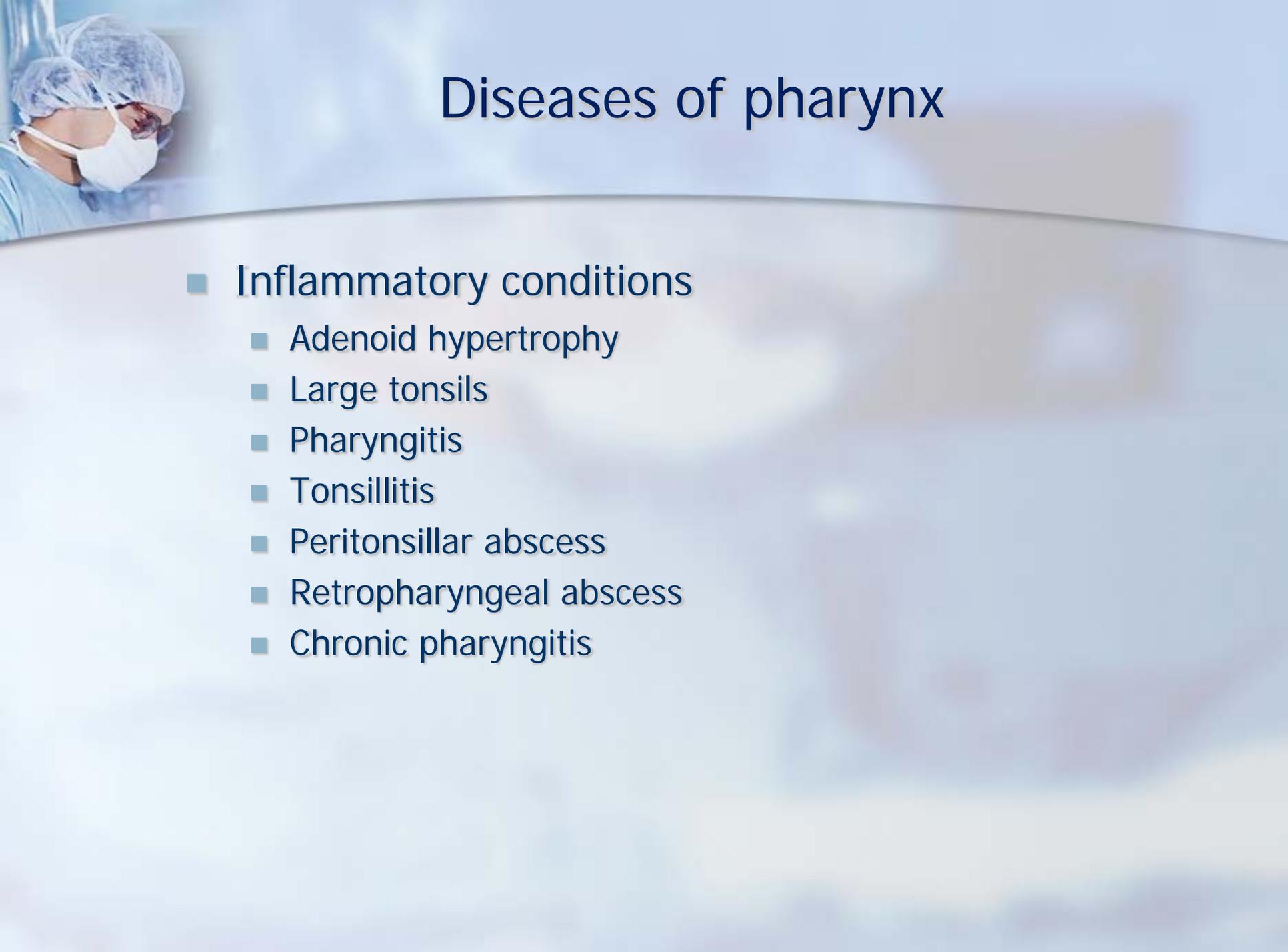
- Commonest is fish bones
  - Tonsils, Post Tongue, Pyriform fossa, Postcricoid
- Other FBs
  - Children Coins, Button batteries etc
  - Adults Dentures
- Presentation
  - History of FB
  - FB sensation
  - Dysphagia
  - SOB in children
- Diagnosis
  - Direct examination
  - IDL
  - Xray
- Treatment
  - Removal of FB
    - button batteries Immediately
    - Dentures as early as possible

# Tonsillar Foreign body



# Foreign body in Pharynx





# Diseases of pharynx

- **Inflammatory conditions**
  - Adenoid hypertrophy
  - Large tonsils
  - Pharyngitis
  - Tonsillitis
  - Peritonsillar abscess
  - Retropharyngeal abscess
  - Chronic pharyngitis



# Inflammatory conditions

## ■ Adenoid Hypertrophy

- A problem of childhood
- Regress with age
- Due to recurrent URTI and Allergy
- Symptoms
  - Snoring
  - Mouth Breathing
  - Sleep disturbance
  - Otitis Media Recurrent AOM and OME
- Diagnosis
  - Xray , EUA PNS
- Treatment
  - Steroid nasal drops
  - Antihistamines
  - Surgery in pts with Sleep apnoea, OME

# Adenoid hypertrophy X ray

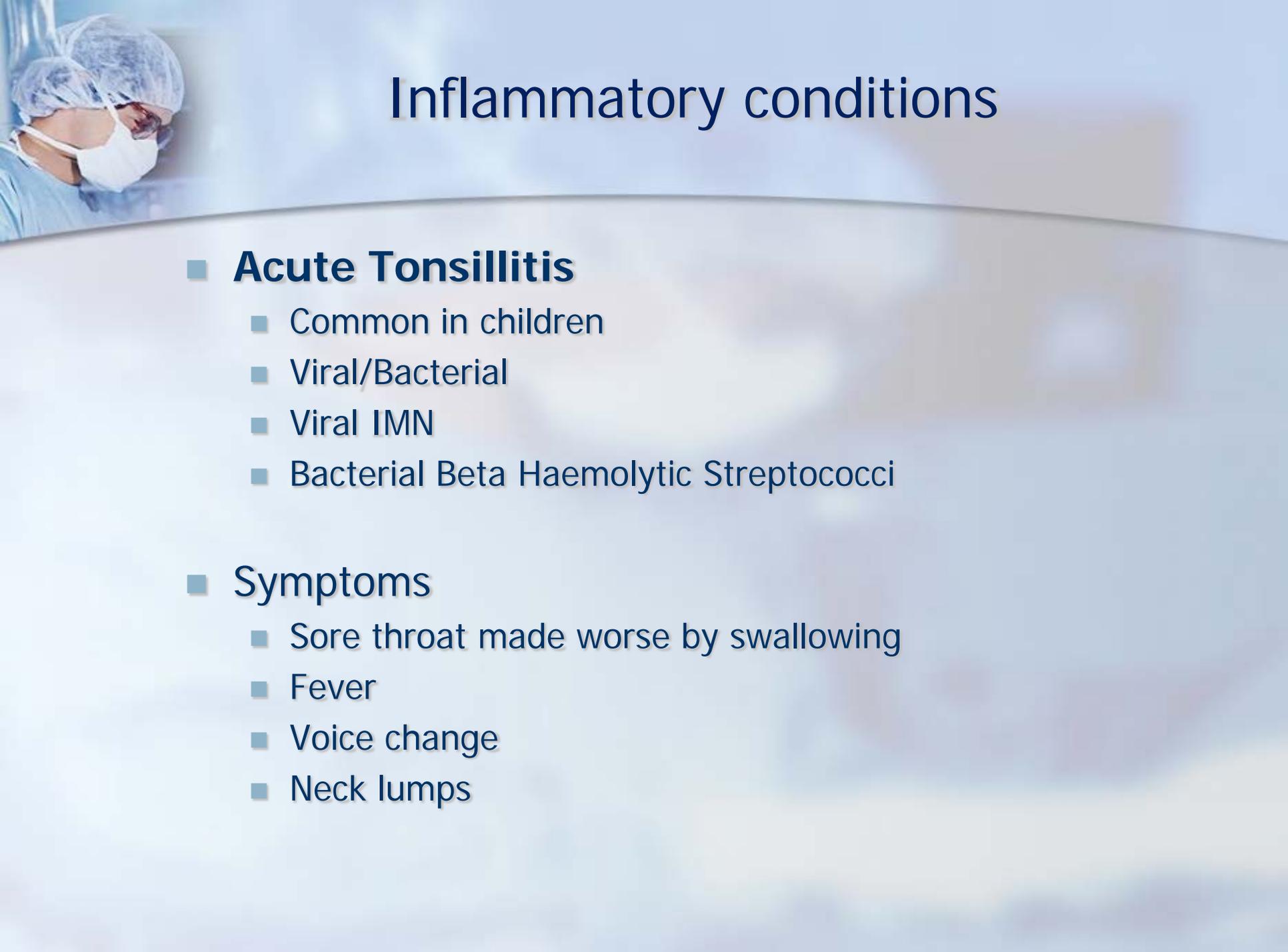




# Inflammatory conditions

## ■ Acute pharyngitis

- Most common cause of sore throat
  - Often diagnosed as tonsillitis
  - Commonly viral
  - May also be allergic in origin
- 
- |               |   |
|---------------|---|
| ■ Symptoms    | Viral Sore throat > URTI<br>Allergic                  |
| ■ Examination | Only a redness of mucosa                              |
| ■ Treatment   | Symptomatic<br>Antihistamines in allergic sore throat |



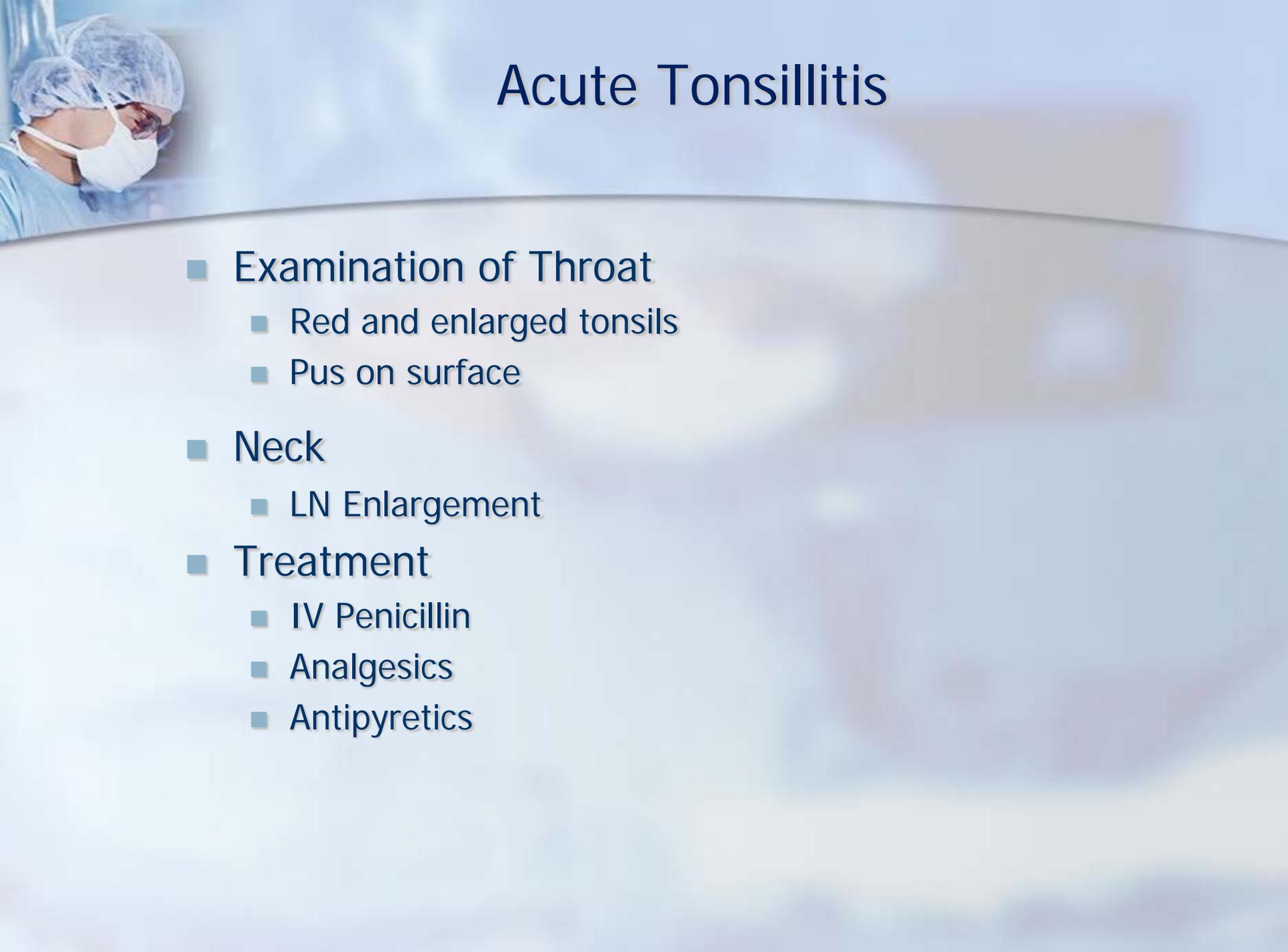
# Inflammatory conditions

## ■ Acute Tonsillitis

- Common in children
- Viral/Bacterial
- Viral IMN
- Bacterial Beta Haemolytic Streptococci

## ■ Symptoms

- Sore throat made worse by swallowing
- Fever
- Voice change
- Neck lumps



# Acute Tonsillitis

- Examination of Throat
  - Red and enlarged tonsils
  - Pus on surface
- Neck
  - LN Enlargement
- Treatment
  - IV Penicillin
  - Analgesics
  - Antipyretics





# Inflammatory conditions

## ■ **Peritonsillar Abscess**

- Abscess deep to the tonsil
- Usually occurs as a complication of acute tonsillitis
- Common in adults
- Usually unilateral

## ■ **Symptoms**

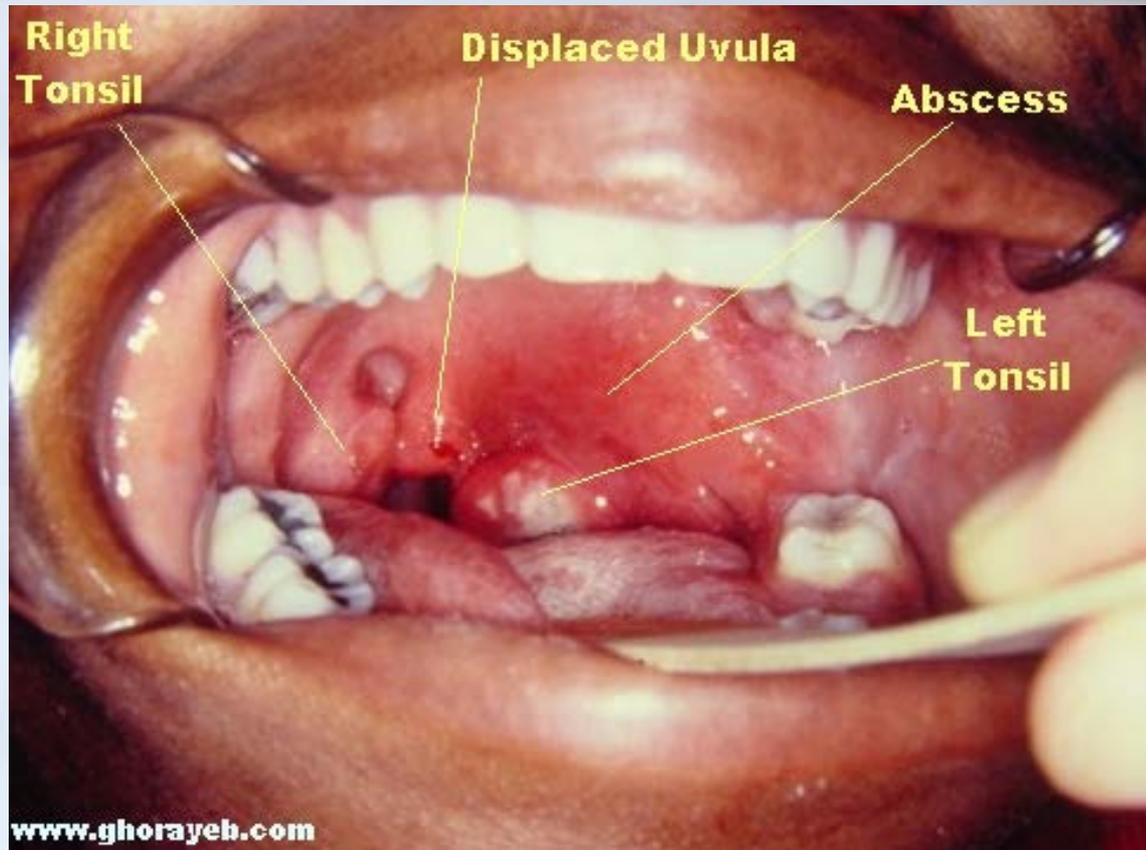
- Sore throat
- Fever
- Severe throat pain
- Odynophagia
- Trismus
- Voice change and drooling of saliva



# Peritonsillar Abscess

- Examination
  - Inflamed tonsil
  - Oedema and inflammation of soft palate
  - Uvula pushed to opposite side
- Treatment
  - I & D
  - Antibiotics IV Penicillin and Metronidazole
  - Analgesics and Antipyretics
  - Throat gargle

# Peritonsillar abscess





# Inflammatory conditions

## ■ **Recurrent tonsillitis**

- Is more common in children
- May also occur in adults
- May be as frequent as 8 to 10 attacks per year
- Causes absence from school and work
- Could lead to serious conditions such as Rheumatic fever

## ■ **Management**

- Confirm that the attacks are true tonsillitis
- ?Prophylactic antibiotics
- Is an indication for tonsillitis



# Large tonsils

- Is a common presentation in clinics
- Some pts may not have any symptoms
- Others may have snoring, Mouth breathing
- May cause sleep apnoea in children as well as adults
  
- Management
  - No medication to reduce the size of tonsil
  - Large tonsils alone does not need any treatment
  - Indications for surgery
    - Severe snoring
    - Sleep apnoea
    - Unilateral enlargement



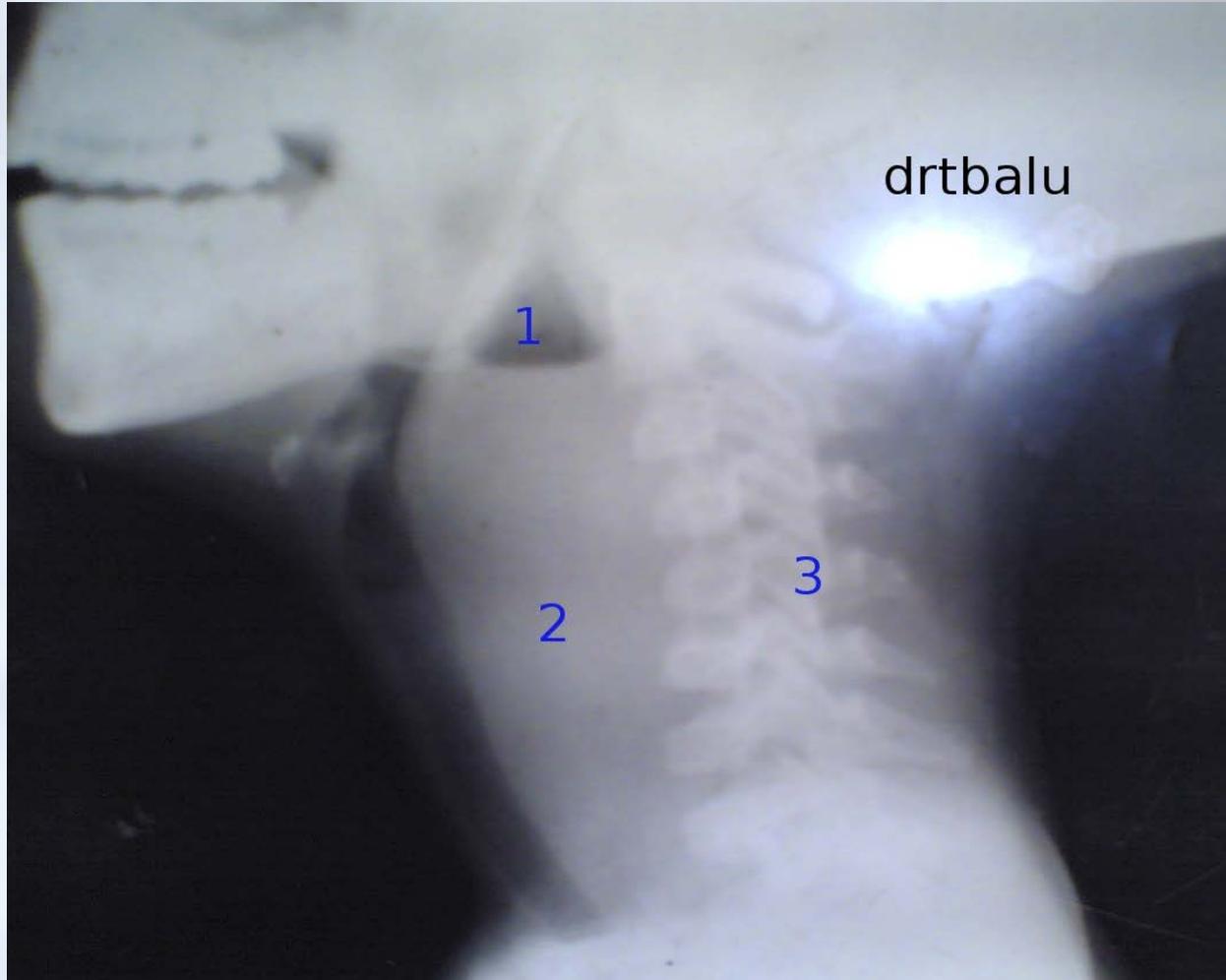


# Inflammatory conditions

## ■ Acute Retropharyngeal Abscess

- Most often due to a FB penetrating the pharyngeal wall
- Can occur with a infected retropharyngeal lymph node
  
- Symptoms
  - Fever
  - Dysphagia
  - Severe pain during swallowing
- Examination
  - May see a swelling in post pharynx
- Xray
  - Post pharyngeal opacity
- Treatment
  - I & D under GA
  - Antibiotics

# Retropharyngeal abscess





# Inflammatory conditions

## ■ Chronic Pharyngitis

- Diagnosed by most doctors
- Patients C/O chronic sore throat, FB Sensation
- Pharynx may show lymphoid tissue hypertrophy
- Might be due to
  - Allergy
  - Postnasal drip
  - Irritants Smoking, Alcohol
  - Laryngo Pharyngeal Reflux
  - Fear of cancer
- Management
  - Exclude any organic problem
  - Treat the associated problems PND,LPR
  - Reassure the pt



# Tumours of pharynx

- Malignant tumours
  - Nasopharyngeal carcinoma
  - Oropharyngeal carcinoma
    - Tonsils
    - Post. tongue
    - Post. pharyngeal wall
  - Hypopharyngeal
    - Pyriform fossa
    - Post. cricoid
    - Post. wall



# Tumours of Pharynx

## ■ **Nasopharyngeal Carcinoma**

- Symptoms
  - Neck lump LN enlargement
  - Ear symptoms Tinnitus, hearing loss
  - Blood stained nasal discharge
  - Nasal obstruction
  - pain , headache
  - Nerve palsies
- Examination
  - neck nodes
  - Fluid in middle ear
- Diagnosis
  - RNE, CT/MRI
- Treatment
  - Radiotherapy
  - Surgery ??



# Tumours of Pharynx

- Tumours of Oropharynx & hypopharynx

- Symptoms

- **Oropharyngeal**

- Sore throat , Discomfort
- Throat pain during swallowing /radiating to ear
- Voice change
- Neck lump

- **Hypopharynx**

- Throat pain Radiating to ear
- Progressive dysphagia
- Haemoptysis
- Hoarseness of voice
- Neck lump



# Tumours of Oropharynx & hypopharynx

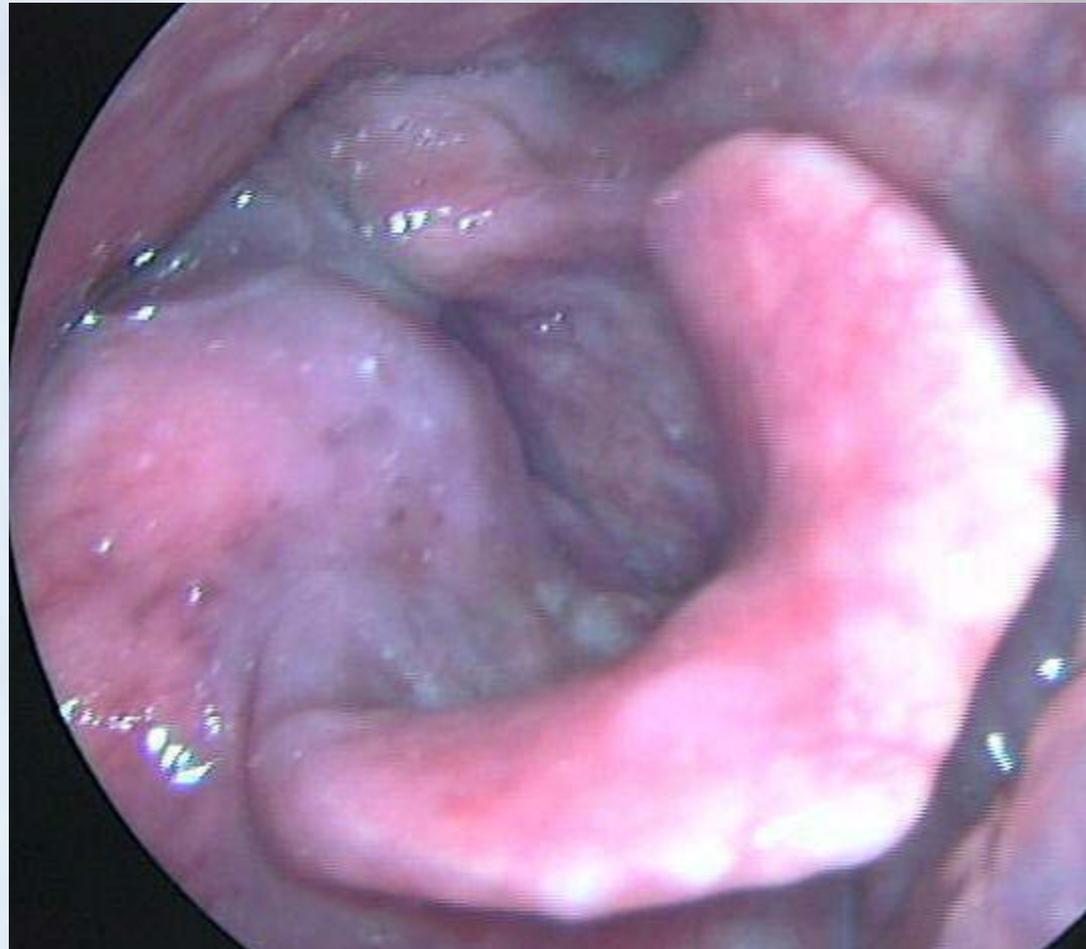
## ■ Diagnosis

- Examination of throat Palpation and IDL or FOL Would reveal most tumours
- EUA ,D/L is needed in diagnosing some hypopharyngeal tumours
- Neck examination for LNs

## ■ Treatment

- Radiotherapy
- Surgery

# Pyramiform fossa tumour





# Oropharyngeal tumour

