

UPPER RESPIRATORY TRACT INFECTIONS

SORE THROAT, SINUSITIS, OTITIS MEDIA

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objectives

- Sore Throat (clinical features, differential diagnosis, complications, management).
- Sinusitis including Allergic Rhinitis (Clinical features and management).
- Otitis Media in children (AOM and Secretory OM, Features, management).
- How can we modify help seeking behavior of patients with flu illness?
- How can we differentiate between Viral and Bacterial Infections?
- Update in management and role of Antibiotics.



MCQS



- **The duration of symptoms in subacute sinusitis is ?**

- A. Less than 4 weeks.
- B. Between 4 and 12 weeks.
- C. Between 4 weeks and 3 months.
- D. Between 5 weeks and 5 months.

- **A 30 Y/O male came to the clinic with complain of headache ,nasal discharge, fever and loss of smell. he is normal otherwise. He mentioned that he recently recovered from URTI.**

What is the most likely diagnosis ?

- A-Tonsillitis.
- B-Pre-septal cellulitis.
- C-Sinusitis.
- D-Allergic rhinitis.

- **An irritable 3 year old patient came with ear pain, difficulty in hearing , and fever. What is the diagnosis?**

- A. Pharyngitis
- B. Otitis Media
- C. Mastoiditis
- D. Sinusitis



- **A 5 years old boy came to the primary clinic because of sudden onset of deafness in left ear, history revealed presence of fever and otalgia for the last week, which are no more present. While examining the patient by otoscopy, what is expected to be seen ?**

A-Swelled and reddened tympanic membrane.
B-Bulging of tympanic membrane.
C-Retraction of tympanic membrane.
D-Ruptured tympanic membrane.

- **Which of the following patients who present with a sore throat should you start on immediate antibiotics therapy:**

A. 37.5c fever, conjunctivitis, runny nose, and a very bad headache.
B. An 80 year old man with history of congestive heart failure.
C. No fever. Congested nose and very painful to swallow solids and liquids.
D. No fever, clear discharge from the nose, coughing and shortness of breath.



- **A 4 year old child presented to the ER with dysphagia, respiratory difficulty and drooling for 12 hours. the ER doctor refuses to examine the child and he called the doctor. what is the best action that the doctor should do ?**
 - A-performing endoscopic examination to the larynx.
 - B-take a throat swab.
 - C-take the child to the OR
 - D-request an X-ray for the neck.

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Sore throat



Sore throat Definition

sore throat refers to pain, scratchiness or irritation of the throat that often worsens with swallowing

Clinical presentation

- Dry Throat
- Coughing.
- Rhinorrhea.
- Fever.
- Hoarseness.
- Headache.
- Pain or a scratchy sensation in the throat.

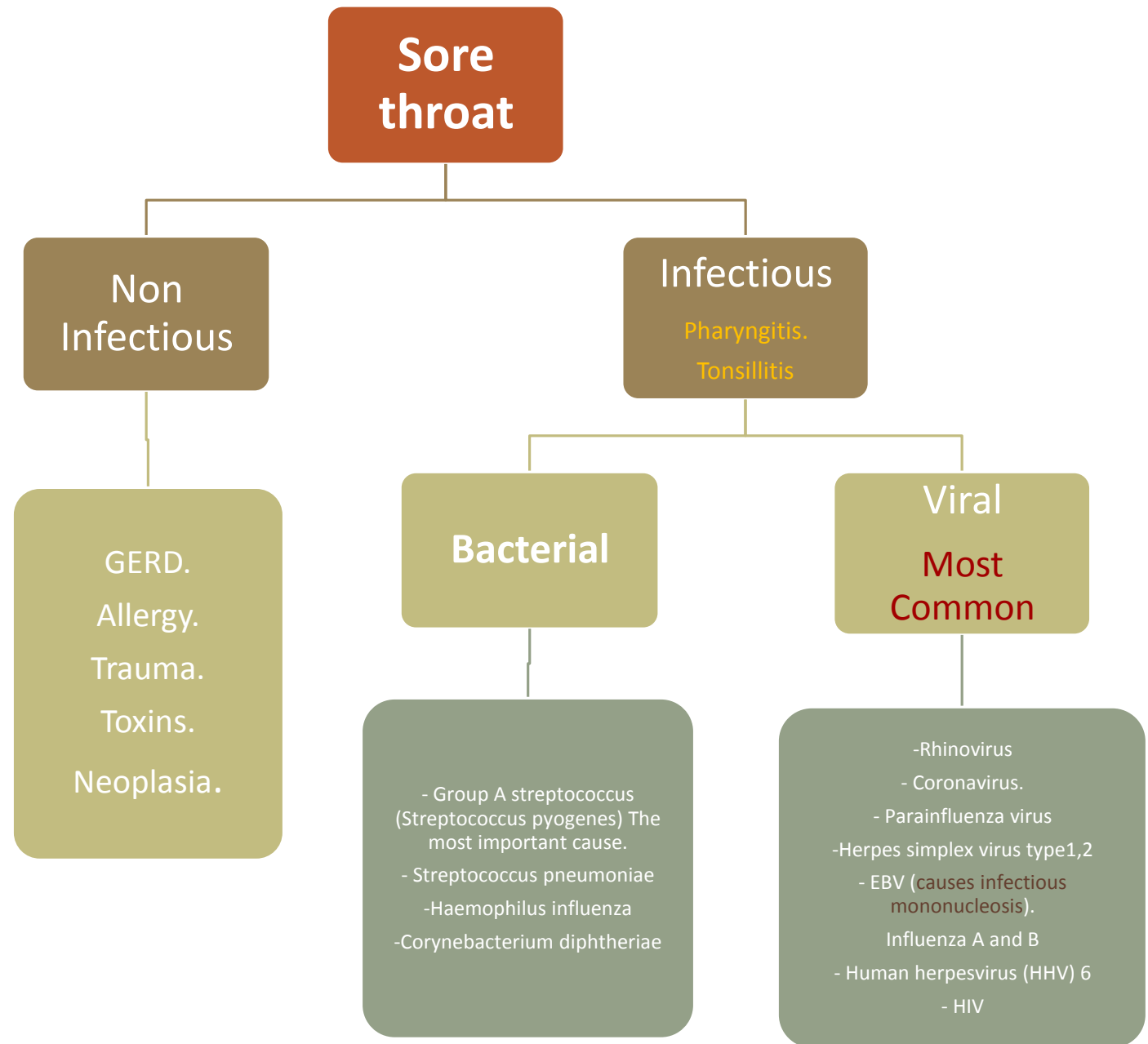


- Sore, swollen glands in neck or Jaw.
- Swollen, red tonsils.
- White patches or pus on tonsils.
- Pain that worsens with swallowing or talking.
- Difficulty swallowing.

Differential diagnosis

There are several causes of a sore throat.

- ✓ **The majority of sore throats are triggered by a viral infection.** Rhinovirus, coronavirus and parainfluenza virus.
- ✓ The most important and most common cause of bacterial pharyngitis is **group A beta haemolytic streptococcus (GABHS)** (5-20% in adults, 15- 30% in children aged 4-7 years).

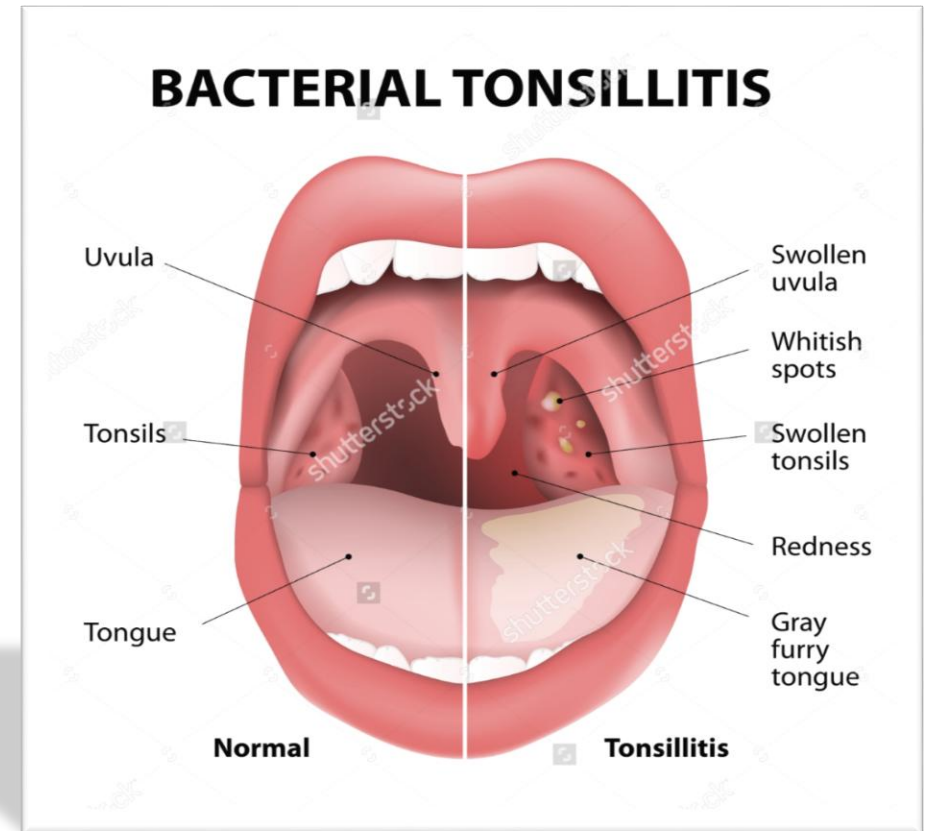


Examples of diseases that Commonly cause sore throat:

- ✓ Tonsillitis
- ✓ pharyngitis
- ✓ Epiglottitis

Tonsillitis

- Inflammation of tonsils.
- Commonly caused by: **Streptococcus Infection**.
- Could be caused by viral infections, such as: influenza virus, EBV .
- The main symptom is **Throat Pain**.

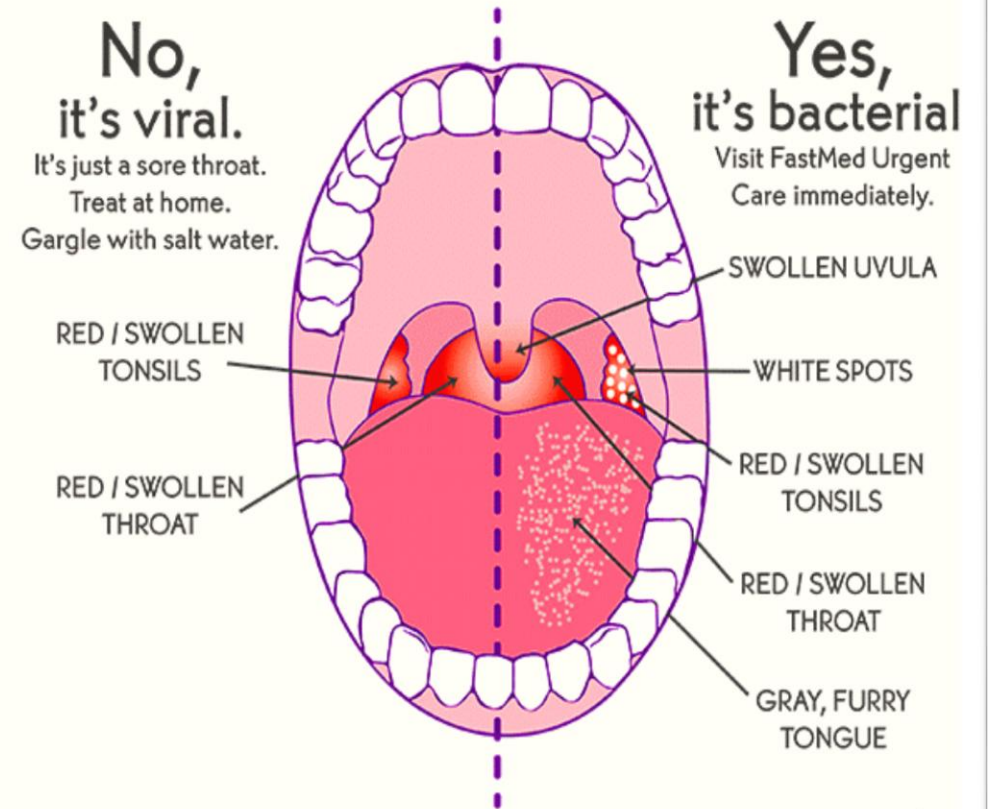




Pharyngitis

- Inflammation of the pharynx.
- Sudden and usually self limiting.
- Commonly caused by **viral infections** such as: common cold, influenza virus and mononucleosis.
- Less commonly caused by bacterial infection, such as: Group A streptococcus.
- The main symptom is **Throat Pain, dysphagia, fever and enlarged lymph nodes.**

Do I have strep throat?



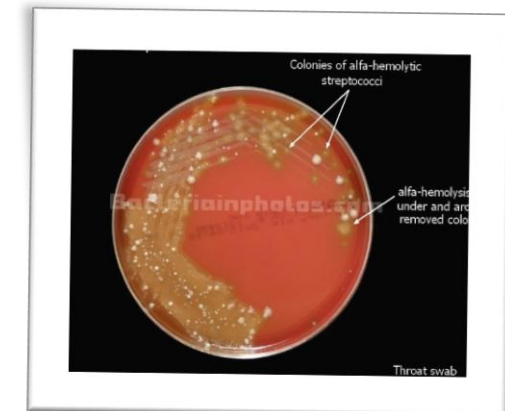
Diagnosis and investigations

- **History:** Ask question to differentiate between various causes and do systemic review.
- **Physical examination:** Assessment of airway patency, Temperature, Hydration status.
 - Head, ears, eyes, nose, Conjunctivitis, scleral icterus, rhinorrhea,
 - throat tonsillopharyngeal/palatal petechiae, tonsillopharyngeal exudate, oropharyngeal vesicular lesions.
 - Lymphadenopathy (cervical or generalized). -Cardiovascular evaluation.
 - Pulmonary assessment. -Abdominal examination. -Skin examination.
- **Investigation:** Throat swab and culture.
- **Treatment and follow up.**



Modified Centor Criteria

Feature	Score
History of fever	+1
Tonsillar exudates	+1
Tender anterior cervical adenopathy	+1
Absence of cough	+1
Age <15 add 1 point	+1
Age >44 subtract 1 point	-1



Management

- Most cases, whether viral or bacterial, are relatively benign and self-limited. Treated by rest and antipyretic and analgesics.
- The main aim of treating GAS infection is to prevent complications .
- Drink plenty of cool or warm fluids, and avoid very hot drinks.
- Eat cool, soft foods.
- Avoid smoking and smoky place.
- These are general roles that can be applied for viral or bacterial (pharyngitis or tonsillitis) .

Management of pharyngitis

- **All patients** : supportive care, Analgesics and Salt water gargling or anesthetic sprays may provide temporary relief from the pain of pharyngitis.
- **without confirmed group A Streptococcus (GAS) or history of rheumatic fever:**
Delayed or no antibiotic therapy.
- **with confirmed group A Streptococcus (GAS) or history of rheumatic fever:**

First line treatment is:

- **Amoxicillin:** children: 50 mg/kg/day orally given in 2 divided doses for 10 days, maximum 1000 mg/day; adults: 875 mg orally twice daily for 10 days or
- **Phenoxymethylpenicillin potassium:** children ≤ 27 kg: 250 mg orally two to three times daily for 10 days; children >27 kg and adults: 500 mg orally two to three times daily for 10 days or
- **Benzathine benzylpenicillin:** children ≤ 27 kg: 600,000 units intramuscularly as a single dose; children >27 kg and adults: 1.2 million units intramuscularly as a single dose

Management of tonsillitities

■ Acute tonsillitis not due to group A beta-hemolytic streptococcal infection:

The treatment mainly symptomatic (analgesics).

■ Acute tonsillitis due to group A beta-haemolytic streptococcal infection:

Analgesics + antibiotic therapy.

First line treatment is :

- **Amoxicillin**: children: 50 mg/kg/day orally given in 2 divided doses for 10 days, maximum 1000 mg/day; adults: 875 mg orally twice daily for 10 days or
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■ Recurrent episodes of tonsillitis : Tonsillectomy.

Generally, patients with severe episodes occurring at a frequency of more than 7 per year for one year, 5 per year for 2 years, or 3 per year for 3 years, and for whom there is no other explanation for the recurrent symptoms, benefit from tonsillectomy. Tonsillectomy is also indicated in children with additional exacerbating factors such as obstructive sleep apnoea; peri-tonsillar abscess; and PFAPA syndrome (periodic fever, aphthous stomatitis, pharyngitis, cervical adenitis).

Complications

- Middle ear infection (Otitis Media).
- Sinusitis.
- **Related to strep infection:**
 - Rheumatic fever and rheumatic heart disease.
 - Cardiac death.
 - Glomerulonephritis.
 - Peri tonsillar abscess.
 - Toxic shock syndrome.
 - Mortality from pharyngitis is rare but may result from one of its complications, most notably airway obstruction.

Effect of treatment of gas infection on complications

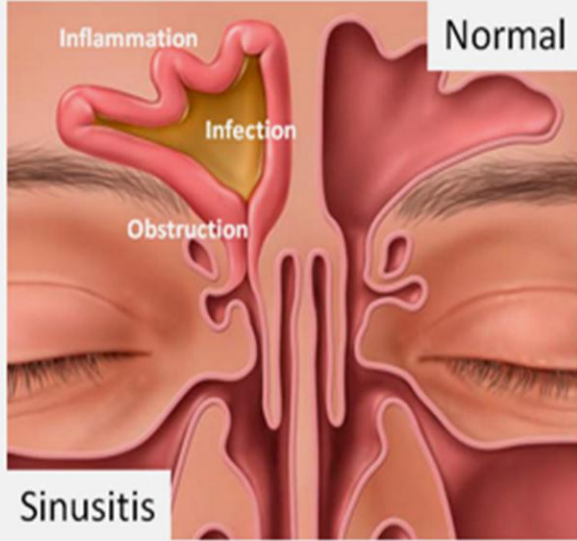
Q. *Which complications of streptococcal pharyngitis are affected by antibiotic treatment?*



A. Poststreptococcal glomerulonephritis does not appear to be prevented by antibiotic treatment of streptococcal pharyngitis. A meta-analysis that included nine such studies (involving 6702 patients) showed that administration of various regimens of intramuscular penicillin was associated with an 80% reduction in the incidence of acute rheumatic fever, as compared with no antibiotic treatment. A Cochrane review of randomized, placebo-controlled trials showed that antibiotic therapy significantly reduced the risks of acute otitis media and peritonsillar abscess.

SINUSITIS

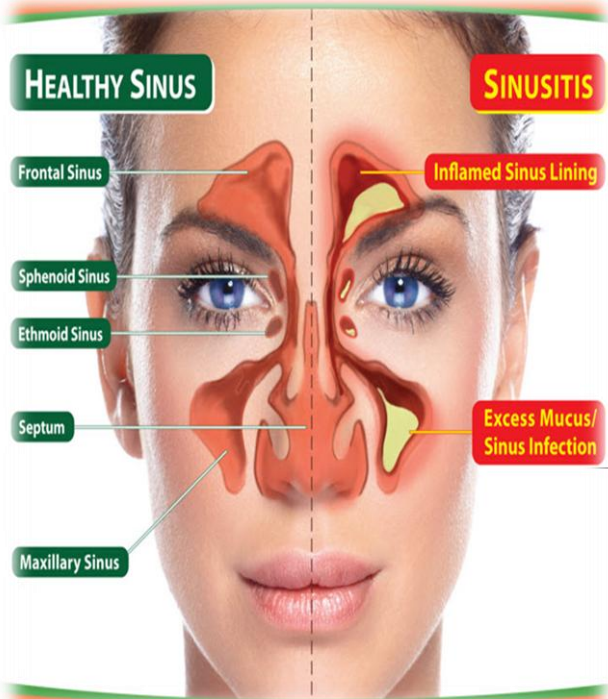




Sinusitis definition:

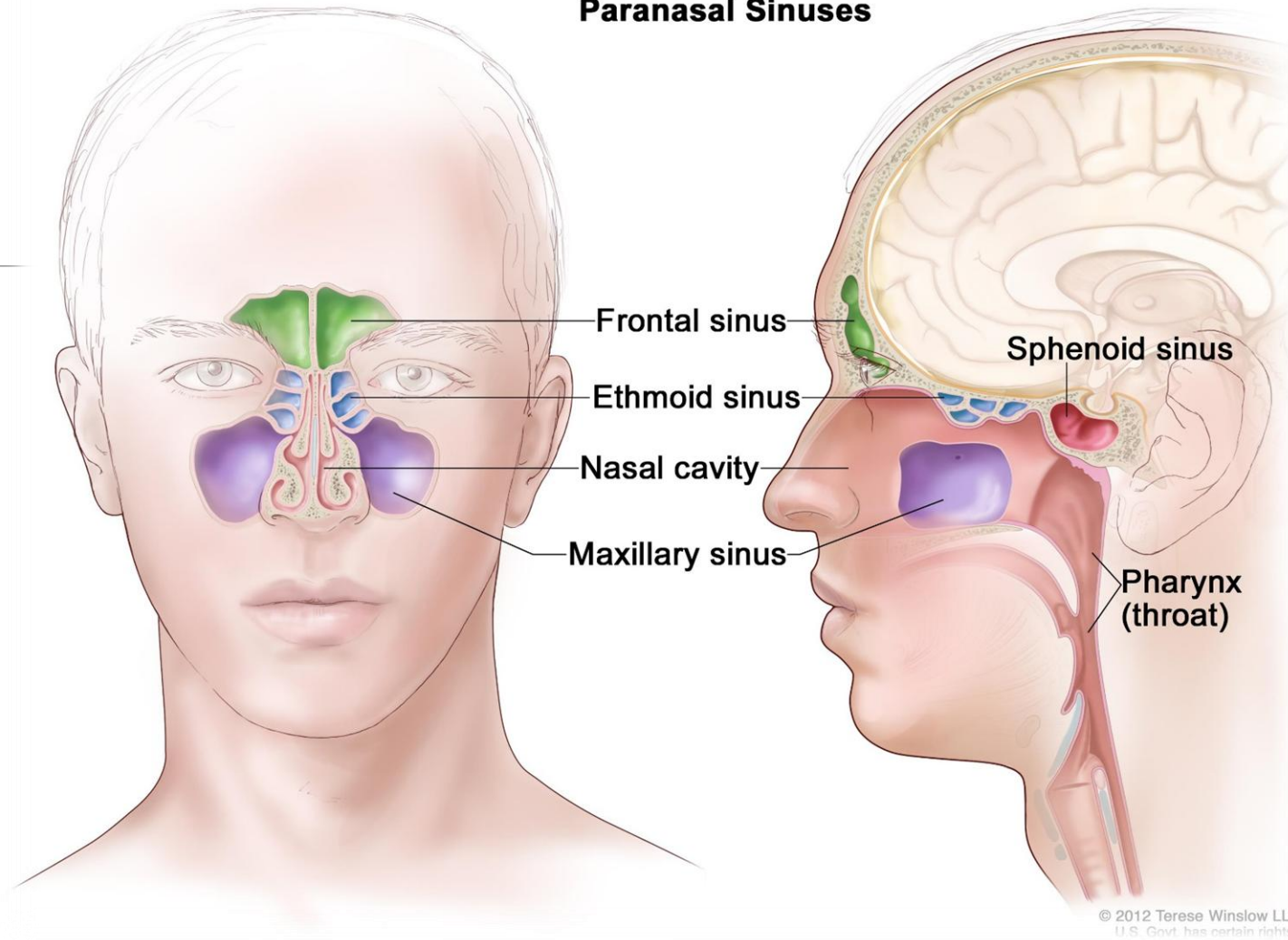
SINUSITIS AND RHINOSINUSITIS REFER TO INFLAMMATION IN THE NASAL CAVITY AND PARANASAL SINUSES, THAT IS CAUSED BY OBSTRUCTION, WHICH LEADS TO RETENTION OF SECRETIONS CREATING ENVIRONMENT THAT IS SUITABLE FOR GROWTH OF PATHOGENIC ORGANISMS.

Pathophysiology:



- OBSTRUCTION OF SINUS DRAINAGE PATHWAYS.
- CILIARY IMPAIRMENT.
- ALTERED MUCUS QUANTITY AND QUALITY.

Paranasal Sinuses



The **Maxillary sinuses** are the most common site (85%), followed by **Ethmoidal** (65%), **Sphenoidal** (39%), and **Frontal** (32%) involvement.

Etiology:

NON-INFECTIOUS:

- BLOCKING OF THE SINUSES OPENINGS DUE TO INCREASED SECRETION OF MUCUS IN RESPONSE TO COLDS OR ALLERGIES.
- NASAL SEPTUM DEVIATION OR NASAL POLYPS BLOCKING THE OPENING OF THE SINUSES.
- PROBLEMS WITHIN THE SINUSES DUE TO A MEDICAL CONDITION.

Infectious:

Viral (Rhinovirus, influenza, and parainfluenza viruses).

Begins with viral inoculation via direct contact with the conjunctiva or nasal mucosa.

Bacterial (Streptococcus pneumonia, Haemophilus Influenzae, Moraxella catarrhalis).

Nosocomial bacterial sinusitis may develop in patients in the intensive care unit, particularly in those with prolonged intubation.

Fungal (Aspergillus).

Classification:

Acute sinusitis: less than 4 weeks (Usually starts with cold like symptoms such as a runny, stuffy nose and facial pain).

Subacute sinusitis: 4-12 weeks.

Chronic sinusitis: more than 12 weeks.

Recurrent acute sinusitis: diagnosed when the infection occurs 2-4 times per year.

Symptoms of sinusitis:

Pain and Tenderness Around Your Cheeks, Eyes or Forehead

Nasal Congestion

Nasal Discharge

A Reduced Sense of Smell

Fever

Postnasal Drip

Cough

Fatigue

Bad Breath (Halitosis)

A Sinus Headache

Toothache

Diagnosis:

Physical examination:

Anterior rhinoscopic examination.

Endoscopic examination.

Brief dental exam.

A basic evaluation of ocular and neurological function.

Altered speech (indicating nasal obstruction)

Purulent nasal secretions.

Facial erythema.

Tenderness overlying sinuses.

Mucosal erythema.

Diagnosis:

Investigations:

CBC, ESR: Nonspecific.

Culture: Life-threatening illness or an immunocompromised status or those who have disease that is unresponsive to therapy or patients in the ICU.

CT scan: Only in cases of treatment failure, chronic rhinosinusitis, when complications are suspected, or in the preoperative evaluation of surgical candidates.

Fiber optic sinus endoscopy: To exclude structural lesions, fungal disease, and granulomatous diseases.

Urgent referral:

Urgent early referral is essential for patients with symptoms that are concerning for complicated ABRS or have evidence of complications on imaging. These include patients with:

High, persistent fevers $>102^{\circ}\text{F}$.

Periorbital edema, inflammation, or erythema.

Cranial nerve palsies; abnormal extraocular movements; proptosis; vision changes (double vision or impaired vision).

Severe headache.

Altered mental status.

Meningeal signs.

Differential diagnosis:

Common cold “Generally do not have facial pain”.

Allergic Rhinitis “Common causes of rhinorrhea and nasal congestion”.

Any cause of Facial Pain or Headache.

Nasal Foreign body.

Tonsillitis.

Tumors of the Nasal cavity/Sinuses (Sinonasal tumor).

Acute viral rhinosinusitis treatment:

Symptomatic treatment usually including:

Analgesics and antipyretics: such as NSAID and acetaminophen can be used for pain and fever relief as needed.

Saline irrigation: For symptoms relief.

Intranasal glucocorticoids: Are likely to be most beneficial for patients with underlying allergic rhinitis. It decreases the mucosal inflammation which improves sinus drainage.

Oral decongestants: It may be useful when eustachian tube dysfunction is a factor for patients with AVRS. These patients may benefit from a short course (three to five days).

Intranasal decongestants: If used, topical decongestants should be used sparingly for no more than three consecutive days to avoid rebound congestion, addiction, and mucosal damage associated with long-term use.

Antihistamines: Used for symptom relief due to their drying effects, and are often associated with adverse effects (drowsiness, xerostomia)

Acute bacterial rhinosinusitis treatment:

Observation and antibiotic therapy usually

Prevention:

- Maintain good sinus hygiene by drinking plenty of fluids to keep nasal secretions thin.
- Saline nasal sprays help keep the nasal passages moist, helping remove infectious agents.
- Don't smoke, and avoid being too near people who are smoking.
- Try to stay away from things you know you're allergic too.

Allergic Rhinitis

Rhinitis, which occurs most commonly as allergic rhinitis, is an inflammation of the nasal membranes.

Clinical Features

- Sneezing.
- Itching: Nose, eyes, ears, palate.
- Rhinorrhea.
- Postnasal drip.
- Red eyes.
- Congestion.
- Headache.
- Tearing.
- Fatigue.
- Drowsiness.
- Malaise.

Diagnoses

Physical Examination:

- **Allergic Shiners:** dark circles around the eyes and are related to vasodilation or nasal congestion.
- **Nasal crease:** A transverse crease across the lower half of the bridge of the nose; caused by repeated rubbing and pushing the tip of the nose up with the hand. (Allergic Salute)
- Thin, watery nasal secretions.
- Deviation or perforation of the nasal septum.



Labs:

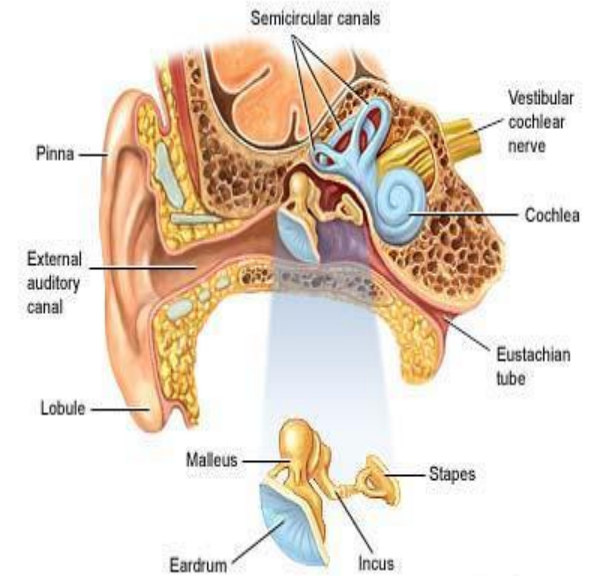
- **Total Serum IgE and Total Blood Eosinophil Count**
Both are **Neither sensitive nor specific** for allergic rhinitis, but the results **can be helpful** in some cases **when combined with other tests**.
- **Allergy Skin Tests** will produce a wheal to specific allergens due to edema and vasodilation
- **Radioallergosorbent Test (RAST).**
Immunoassays **test to detect allergen-specific IgE antibodies in the serum** have limited utility in the diagnosis of allergic rhinitis.

Management

- Environmental control measures and **allergen avoidance**.
- **Pharmacologic management**: Patients are often successfully treated with **oral antihistamines**, **decongestants**, or both.
- **Immunotherapy**: This treatment may be considered more strongly with **severe disease** or **poor response to other management options**

Anatomy Of The Middle Ear :

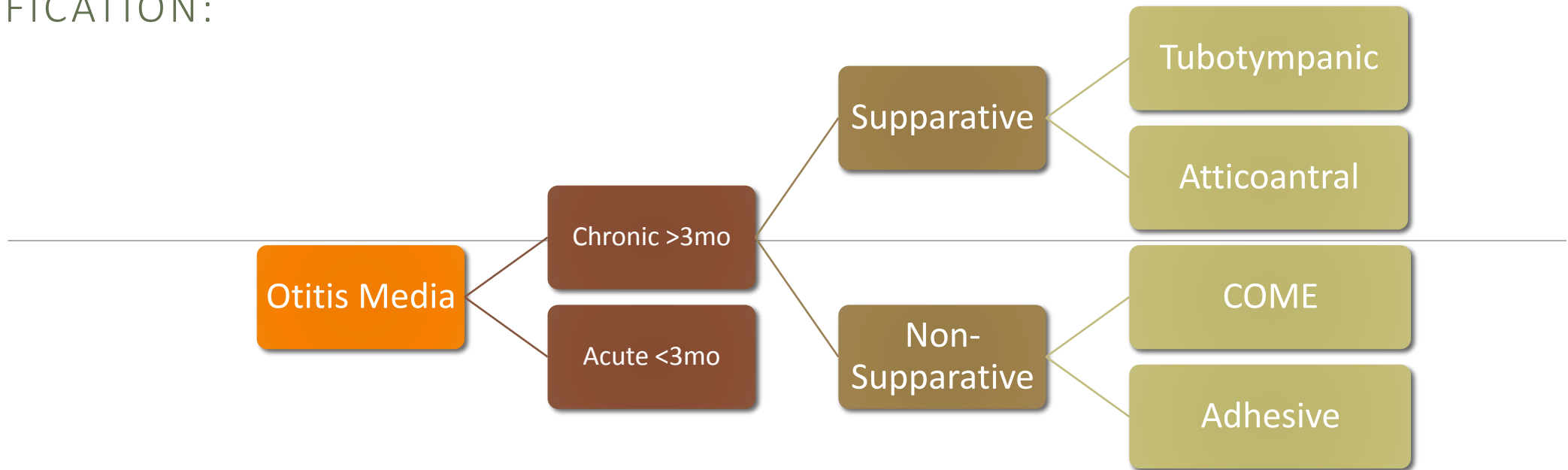
- LARGELY FORMED BY THE TYMPANIC MEMBRANE Laterally.
 - CONSIST OF: AUDITORY OSSICLES : MALLEUS, INCUS, AND STAPES.
 - THEY TRANSMIT SOUND WAVES FROM TYMPANIC MEMBRANE TO THE PERILYMPH OF THE INTERNAL EAR.
-
- EUSTACHIAN TUBE RUNS THROUGH THE MIDDLE EAR ORIGINALLY FROM THE NOSE TO VENTILATE THE MIDDLE EAR SPACE, ENSURING THAT ITS PRESSURE REMAINS AT NEAR NORMAL ENVIRONMENTAL AIR PRESSURE.



Otitis Media

DEFINITION: OTITIS MEDIA IS AN INFECTION OF THE MIDDLE EAR THAT CAUSES INFLAMMATION (REDNESS AND SWELLING) AND A BUILD-UP OF FLUID BEHIND THE EARDRUM. IT'S MAINLY A DISEASE OF CHILDHOOD.

CLASSIFICATION:



Etiology of acute otitis media

- **BACTERIA:**

1. **STREPTOCOCCUS PNEUMONIAE.**
2. **NON-TYPABLE HAEMOPHILUS INFLUENZAE.**
3. **GROUP A BETA-HEMOLYTIC STREPTOCOCCUS.**
4. **STAPHYLOCOCCUS AUREUS.**
5. **MORAXELLA CATARRHALIS.**

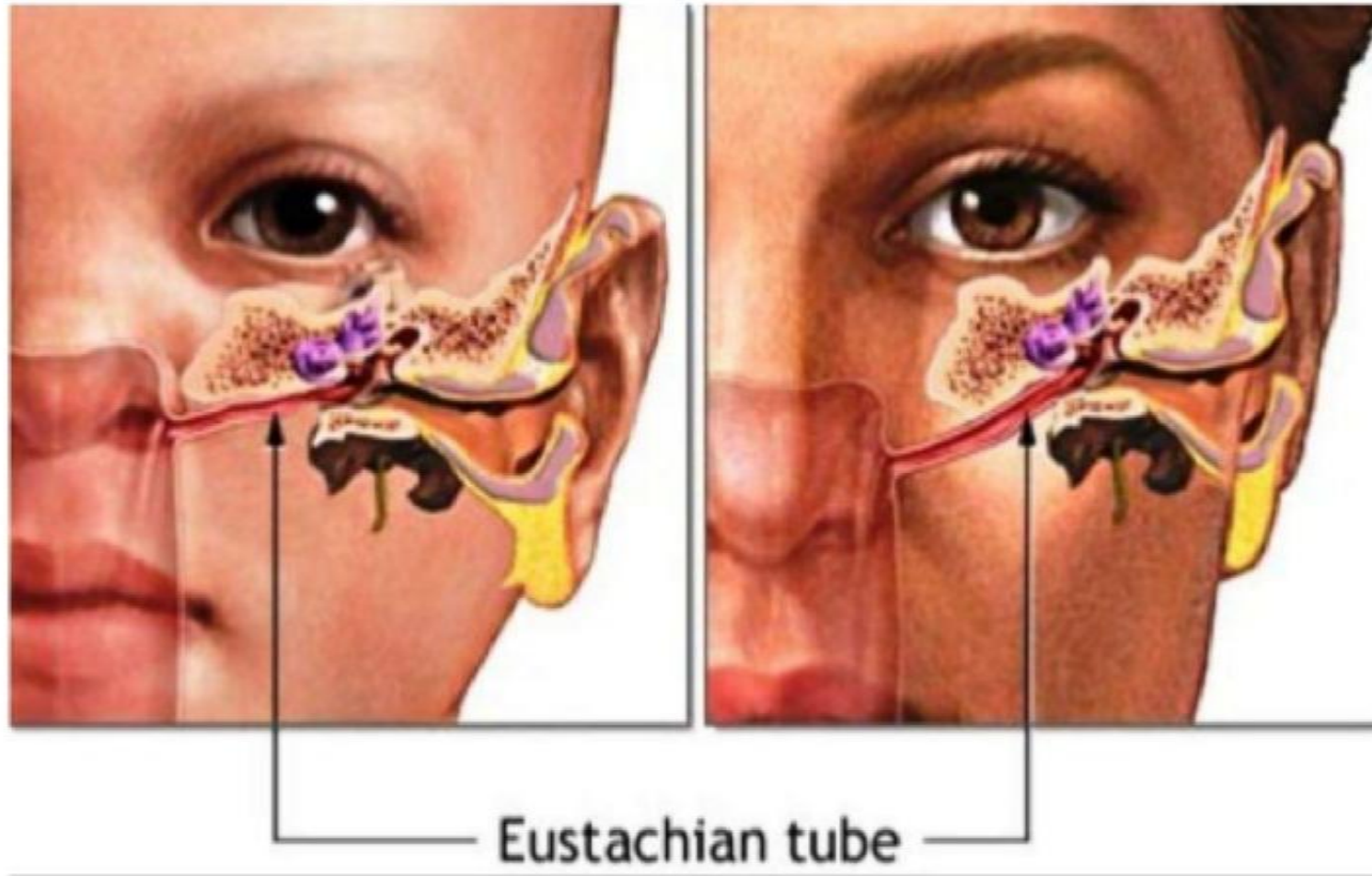
- **VIRUSES:**

1. **RESPIRATORY SYNCYTIAL VIRUS.**
2. **INFLUENZA VIRUSES.**
3. **RHINOVIRUSES.**

Route of infection:

- Eustachian tube(most common)
- External auditory canal(rare)
- Blood born

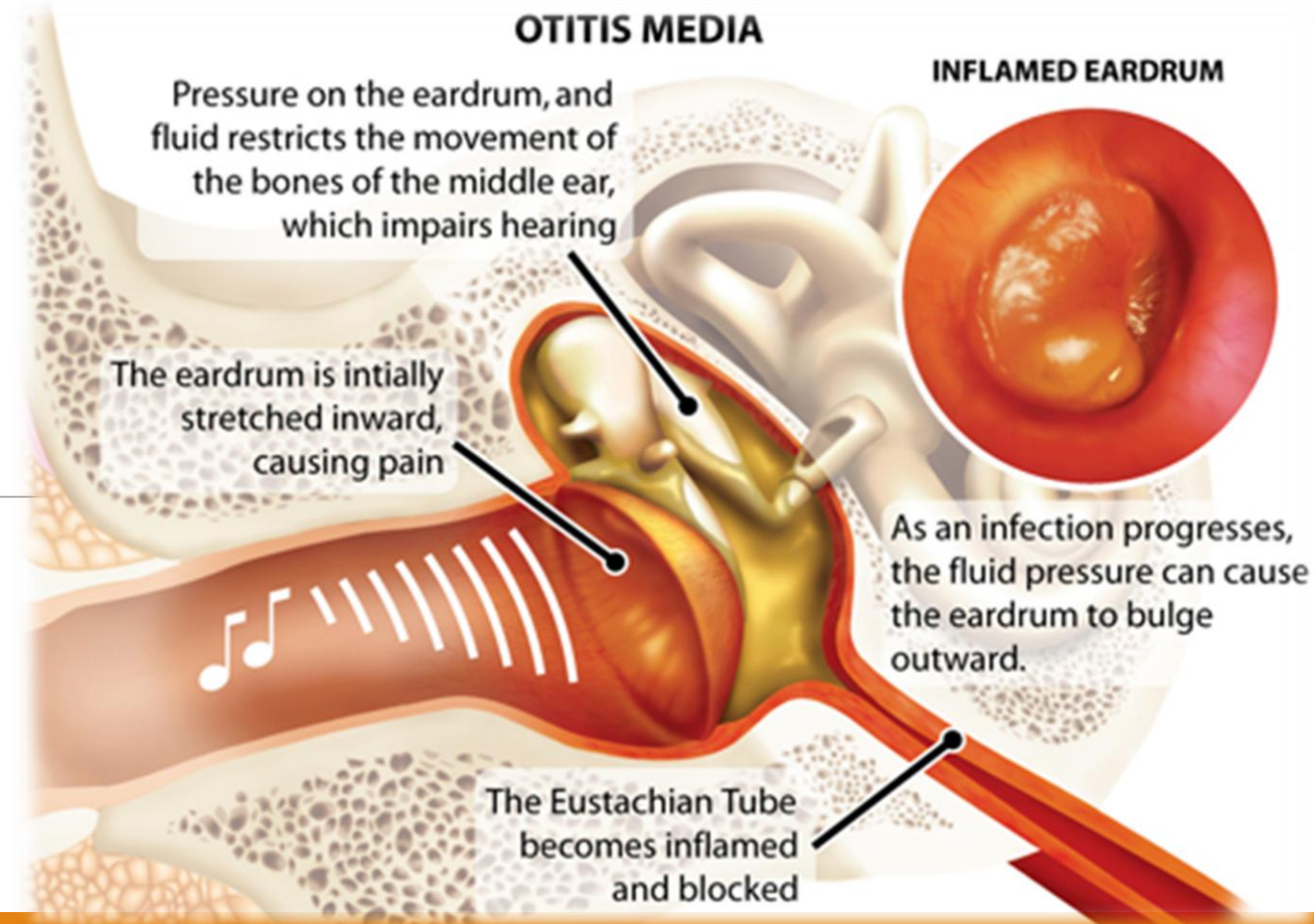
Adult vs. Child (< 7 yr)



Signs and symptoms of Acute Otitis Media

■ AOM IMPLIES RAPID ONSET OF DISEASE ASSOCIATED WITH ONE OR MORE OF THE FOLLOWING SYMPTOMS:

- Otalgia.
- Otorrhea.
- Deafness.
- Fever.
- Headache.
- Irritability.
- Loss of appetite.
- Vomiting.
- Diarrhea.



Pathophysiology

Under normal conditions the the mucociliary action of eustachian tube is to **drain any accumulated secretions, infection, or debris** from the middle ear spacer.

Upper respiratory viruses can infect the middle ear and can impair this process.

Virus can cause an inflammation of the nasal passages and eustachian tube, which disrupts the normal mucociliary clearance

A middle ear **effusion develops**, and nasopharyngeal **bacteria contaminate** the effusion.

Effusion is followed by **inflammatory response** , suppuration and subsequent pressure against the tympanic membrane lead to **pain and fever**.

Predisposing Factors

- AGE (MORE COMMON IN CHILDREN).
 - MALES.
 - CROWDED LIVING CONDITIONS.
 - BOTTLE FEEDING.
 - ASSOCIATED CONDITIONS:
 - cleft palate.
 - Immunodeficiency.
 - ciliary dyskinesia.
 - cystic fibrosis.
 - craniofacial abnormalities (e.g. Down syndrome).
 - URTI and adenoid hypertrophy.
-

Acute Otitis Media: Stages

Stage	Pathophysiology
Tubal occlusion	<ul style="list-style-type: none">• ET dysfunction• Retracted Tympanic membrane ± Loss of light reflex• Discomfort / Earache
Suppuration	<ul style="list-style-type: none">• Presence of pus in middle ear• Bulging of tympanic membrane• Fever
Rupture	<ul style="list-style-type: none">• Resolve of pain and fever• Otorrhea• Deafness
Resolution	<ul style="list-style-type: none">• Either self heal or persist (COME)

Diagnosis

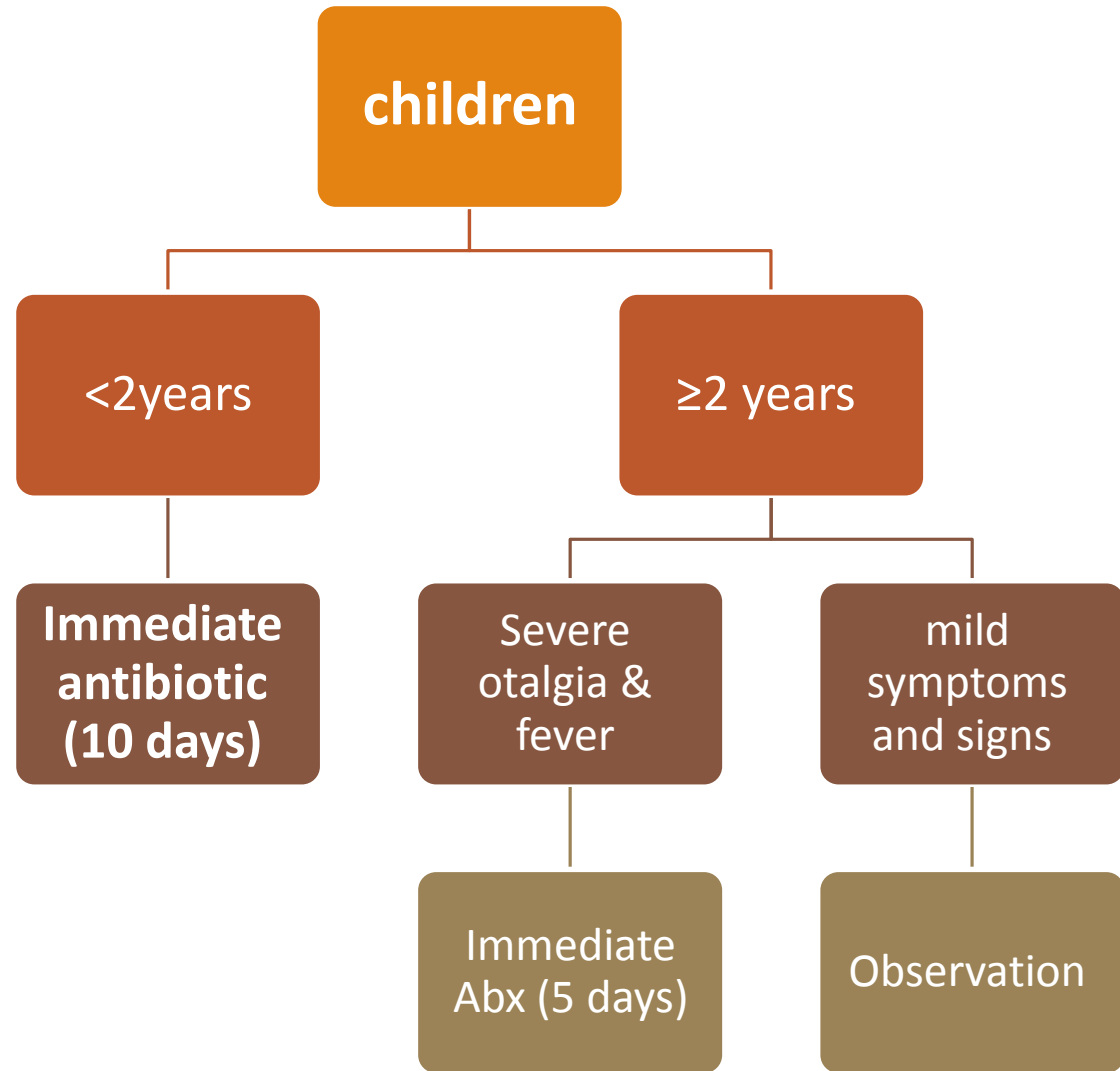
- **Otoscopy is the standard diagnosis of acute and chronic otitis media.**
- The following findings may be found on examination in patients with AOM:
 - Signs of inflammation in the tympanic membrane.
 - Bulging of the tympanic membrane.
 - Perforation.
 - Presence of an opaque serum like exudate.
 - Pain with/without pulsation of the otorrhea.
 - Fever.

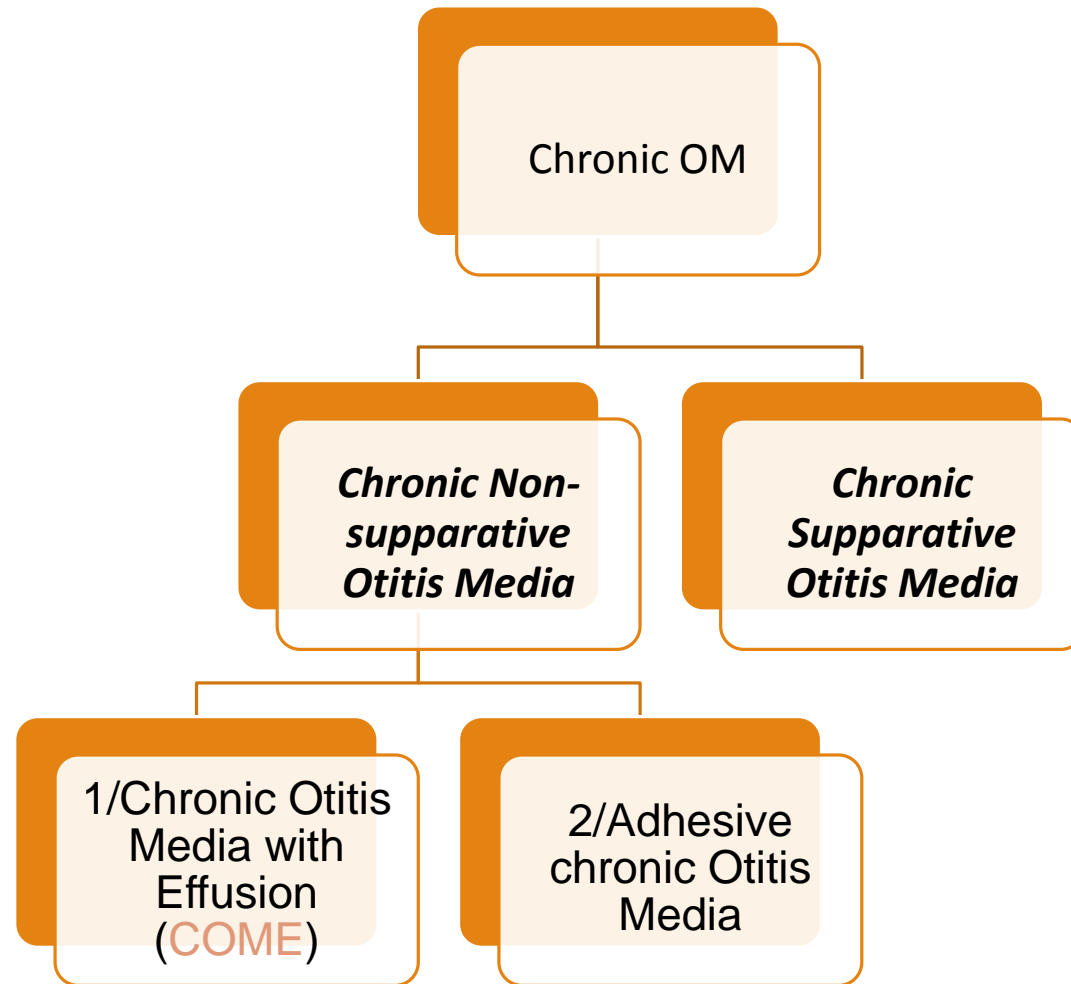
Management

- **Systemic and topical analgesics.**
- **Antibiotics:**
 - **Amoxicillin** is the first drug of choice.
 - For patients who report penicillin allergy :
 - Cephalosporin/Macrolides.
 - Pneumococcal resistant : TMP-SMX.
- Who are normal with mild symptoms and signs and no otorrhea, initial observation may be appropriate.

Management

- Systemic and topical analgesics.
- Antibiotics:
 - Amoxicillin is the first drug of choice
 - 75 to 90 mg/kg/day (twice)





Chronic Non-suppurative Otitis Media

1/Chronic Otitis Media with Effusion (COME)

- Usually a result of improperly treated AOM.
- Usually self-limiting (within 3 months).
- Doesn't benefit from antimicrobial therapy.
- Hearing evaluation is critical (Pure tone audiometry).

“Hearing loss indicate intervention”

- Most patients only require watchful waiting.
- Some may require Tympanostomy (Ventilation) tube
- Children at risk of speech or learning problems.
- Hearing loss ≥ 40 db.
- Structural damage of tympanic membrane.



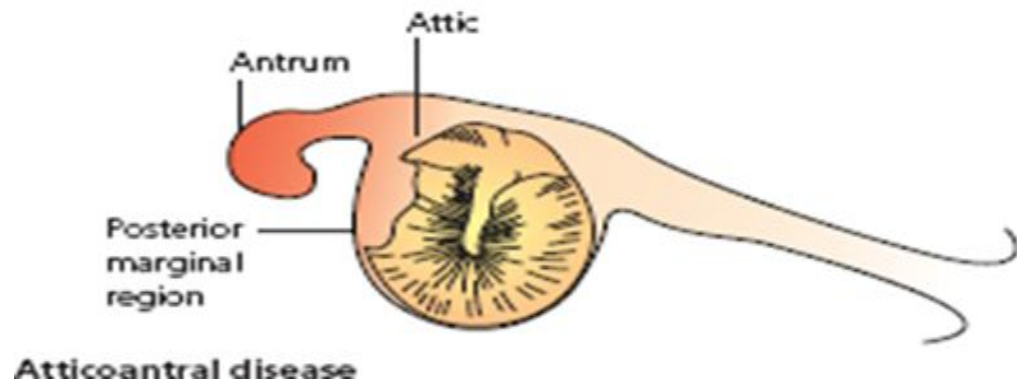
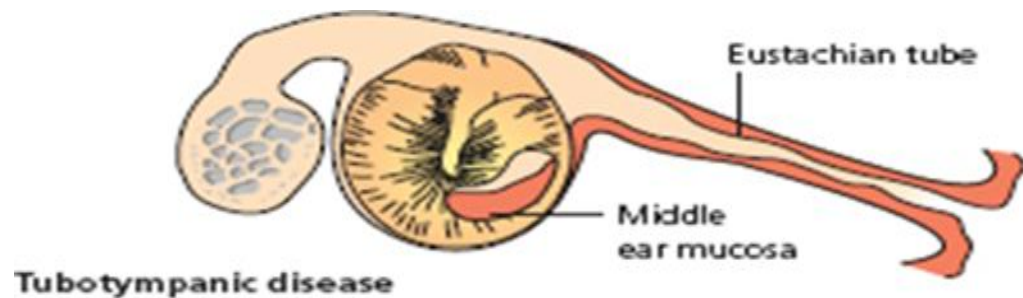
2/Adhesive chronic Otitis Media

Formation of adhesion in the middle ear after reactivation and subsequent healing of either CSOM or OME. Usually requires Tympanostomy tube.

Chronic Suppurative Otitis Media

Otorrhea / tympanic membrane perforation is a must in CSOM

Tubotympanic (Safe)	Atticoantral (Unsafe)
Simple perforation and Discharge	Large perforation and offensive discharge
Central perforation	Marginal perforation
Intermittent	Persistent
Low risk of complications	High risk of complications (Cholesteatoma)
Doesn't require Mastoidectomy	Requires Mastoidectomy



1. Tubotympanic type (Safe):

- Simple perforation
- Intermittent non offensive non bloody ear discharge
- On examination (central perforation)

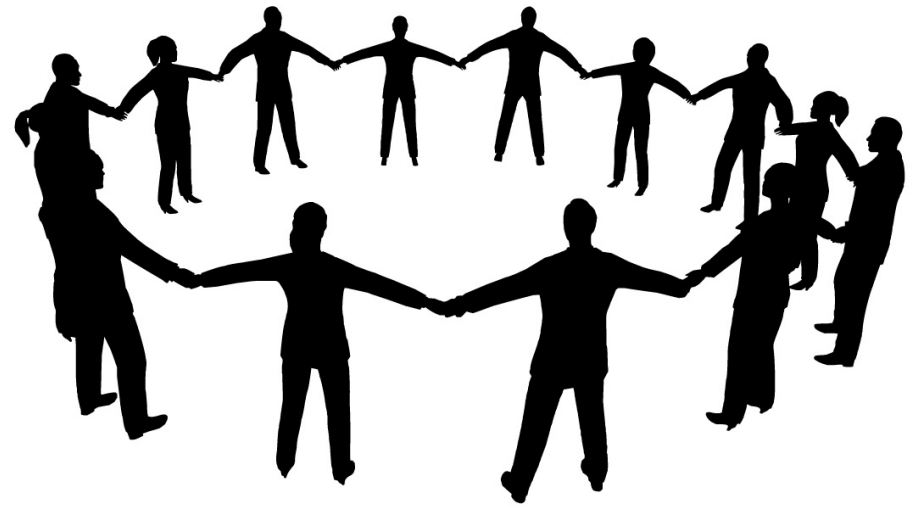
2. Attico-antral (unsafe):

- Chronic ,Scanty, offensive and bloody ear discharge
- On examination marginal perforation
- You may see cholesteatoma

Complications of Otitis Media

- Periauricular abscess
- Facial nerve paresis
- Labyrinthitis
- Labyrinthine fistula
- Mastoiditis
- Temporal abscess
- Intracranial abscess
- Meningitis
- Sigmoid sinus thrombosis
- Cerebrospinal fluid (CSF) leak

How to modify help seeking behavior of patients with flu illness ?



How to modify help seeking behavior of patients with flu illness ?

- Raise awareness of the seriousness of seasonal flu in high risk patients.
- Increase the will to seek help in affected patients.
- Increase awareness of the ways to protect infection within the household and work environment.
- Increase the public attitude toward vaccination and encourage high risk people to get vaccinated early.



How to modify help seeking behavior of patients with flu illness ?

- Provide incentive to businesses to take care of flu ridden workers, with paid leaves or forced sick leaves.
- Make flu vaccines available in more health care centers, and provide them for less cost.
- Raise awareness on personal hygiene and ways to avoid infecting other people or avoiding getting sick from contact with other people.
- Advise flu patients to stay away from work and public for a day after their symptoms are alleviated.



Viral vs. Bacterial

Bacterial	Viral
<ul style="list-style-type: none">• Fever• Infection spreads to nearby organs• Pus or whitish covering of mucous membranes• Recurrent infections are common	<ul style="list-style-type: none">• Low grade fever or no fever• Mostly contained and self limiting• No pus, only clear discharge, if any at all• Generalized malaise and fatigue

Role of antibiotics

Antibiotic prescribing:

- Do not start antibiotics without clinical evidence of bacterial infection.
- To help prevent the development of resistance it is important to only prescribe antibiotics when they are necessary, and not for self-limiting mild infections.
- Obtain cultures to narrow the use of broad spectrum therapy.

Nice Guidance to URTI

For all antibiotic prescribing strategies, patients should be given advice about the usual natural history of the illness, including the average total length of the illness (before and after seeing the doctor):

- acute otitis media: 4 days
- acute sore throat/acute pharyngitis/acute tonsillitis: 1 week
- common cold: 1½ weeks
- acute rhinosinusitis: 2½ weeks
- acute cough/acute bronchitis: 3 weeks

Nice Guidance to URTI

A no antibiotic prescribing strategy or a delayed antibiotic prescribing strategy should be agreed for patients with the following conditions:

- Acute otitis media.
- Acute sore throat/acute pharyngitis/acute tonsillitis.
- Common cold.
- Acute rhinosinusitis.
- Acute cough/acute bronchitis.

Depending on clinical assessment of severity, patients in the following subgroups can also be considered for an immediate antibiotic prescribing strategy in addition to (a no antibiotic or a delayed antibiotic prescribing strategy):

- Bilateral acute otitis media in children younger than 2 years.
- Acute otitis media in children with otorrhoea.
- Acute sore throat/acute pharyngitis/acute tonsillitis when three or more centre criteria are present.

Nice Guidance to URTI

- When the no antibiotic prescribing strategy is adopted, patients should be offered:
- reassurance that antibiotics are not needed immediately because they are likely to make little difference to symptoms and may have side effects, for example, diarrhoea, vomiting and rash
- a clinical review if the condition worsens or becomes prolonged.

Nice Guidance to URTI

An immediate antibiotic prescription should only be offered to patients in the following situations:

- If the patient is systemically very unwell
- If the patient has symptoms and signs suggestive of serious illness and/or complications
- If the patient is at high risk of serious complications because of pre-existing comorbidity.
- If the patient is older than 65 years with acute cough and two or more of the following criteria, or older than 80 years with acute cough and one or more of the following criteria:
 - Hospitalization in previous year.
 - Type 1 or type 2 diabetes.
 - History of congestive heart failure.
 - Current use of oral glucocorticoids.

Nice Guidance to URTI

When the delayed antibiotic prescribing strategy is adopted, **patients should be offered:**

- Reassurance that antibiotics are not needed immediately because they are likely to make little difference to symptoms and may have side effects, for example, diarrhoea, vomiting and rash
- Advice about using the delayed prescription if symptoms are not starting to settle in accordance with the expected course of the illness or if a significant worsening of symptoms occurs
- Advice about re-consulting if there is a significant worsening of symptoms despite using the delayed prescription.

A delayed prescription with instructions can either be given to the patient or left at an agreed location to be collected at a later date



role
play

MCQS



• **The duration of symptoms in subacute sinusitis is ?**

A. Less than 4 weeks.

B. Between 4 and 12 weeks.

C. Between 4 weeks and 3 months.

D. Between 5 weeks and 5 months.

• **A 30 Y/O male came to the clinic with complain of headache ,nasal discharge, fever and loss of smell. he is normal otherwise. He mentioned that he recently recovered from URTI. What is the most likely diagnosis ?**

A-Tonsillitis.

B-Pre-septal cellulitis.

C-Sinusitis.

D-Allergic rhinitis.

• **An irritable 3 year old patient came with ear pain, difficulty in hearing , and fever. What is the diagnosis?**

A. Pharyngitis

B. Otitis Media

C. Mastoiditis

D. Sinusitis



- **A 5 years old boy came to the primary clinic because of sudden onset of deafness in left ear, history revealed presence of fever and otalgia for the last week, which are no more present. While examining the patient by otoscopy, what is expected to be seen ?**

A-Swelled and reddened tympanic membrane.

B-Bulging of tympanic membrane.

C-Retraction of tympanic membrane.

D-Ruptured tympanic membrane.

- **Which of the following patients who present with a sorethroat should you start on immediate antibiotics therapy:**

A. 37.5c fever, conjunctivitis, runny nose, and a very bad headache.

B. An 80 year old man with history of congestive heart failure.

C. No fever. Congested nose and very painful to swallow solids and liquids.

D. No fever, clear discharge from the nose, coughing and shortness of breath.



- **A 4 year old child presented to the ER with dysphagia, respiratory difficulty and drooling for 12 hours. the ER doctor refuses to examine the child and he called the doctor. what is the best action that the doctor should do ?**
 - A-performing endoscopic examination to the larynx.
 - B-take a throat swab.
 - C-take the child to the OR**
 - D-request an X-ray for the neck.

- **Which of the following patients who present with a sore throat should you start on immediate antibiotics therapy:**
 - A. 37.5c fever, conjunctivitis, runny nose, and a very bad headache.
 - B. An 80 year old man with history of congestive heart failure.**
 - C. No fever. Congested nose and very painful to swallow solids and liquids.
 - D. No fever, clear discharge from the nose, coughing and shortness of breath.



THANK YOU

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