

Lecture#

semester# 6

Otorhinolaryngology Nursing

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2nd Class

Adult Nursing

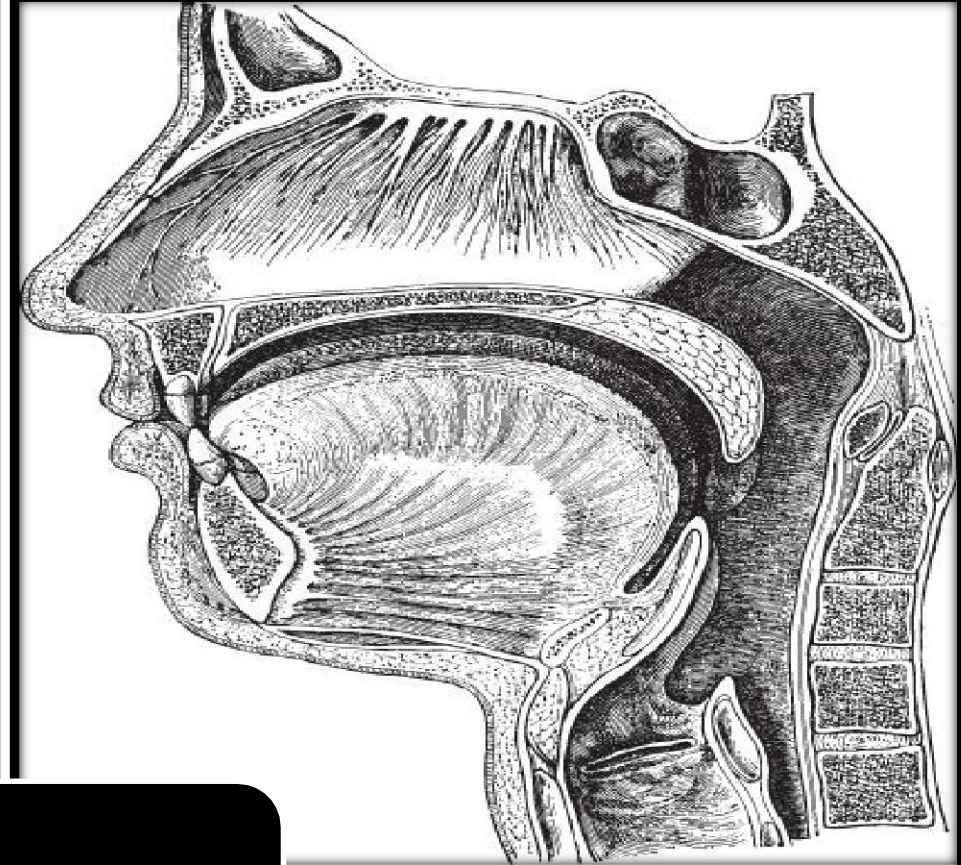
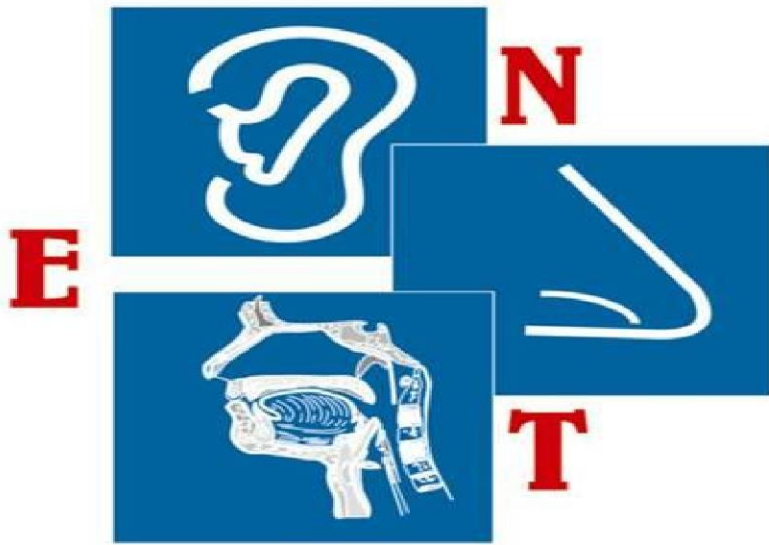
Otorhinolaryngology Nursing



*Covered Diseases:

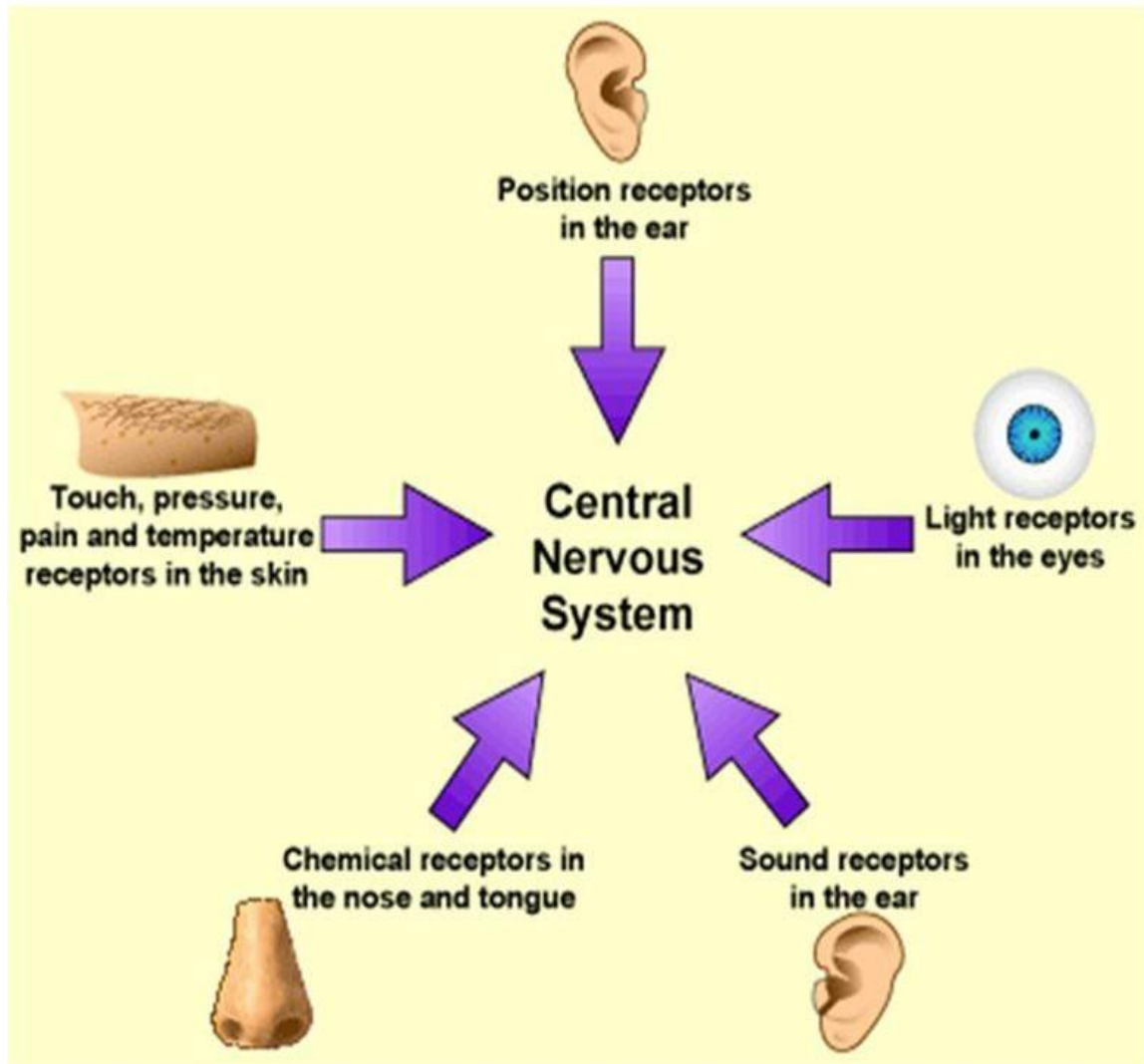
- ▶ **1. Otitis Media**
- ▶ **3. Sinusitis**
- ▶ **5. Tonsillitis & Adenoiditis**

Otorhinolaryngology Nursing



ENT

System?!



Sensory-
perceptual
System

Part 1: Ear

It is difficult to imagine what it would be like not to hear the world around us!



I would like you all to think about the mechanism that by which we can hear?

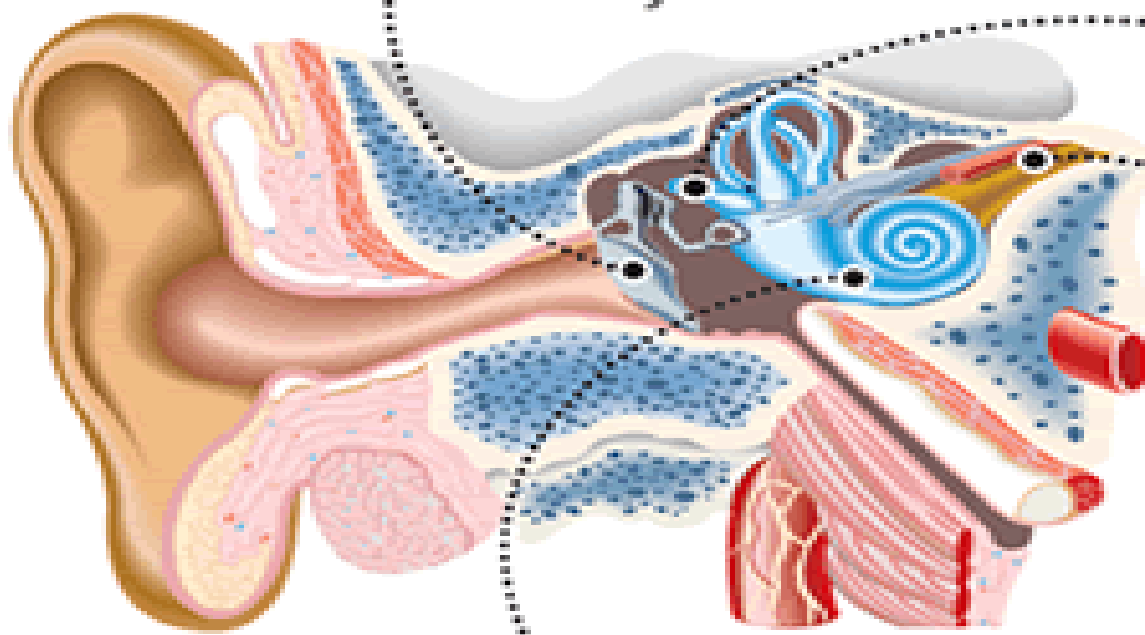
How We Hear

1.

Sound waves enter your outer ear and travel through the ear canal to your eardrum.

2.

Your eardrum vibrates with the incoming sound and sends the vibrations to three tiny bones in your middle ear.



3.

The bones in your middle ear amplify the sound vibrations and send them to your inner ear, or cochlea. The sound vibrations activate tiny hair cells in the inner ear, which in turn release neurochemical messengers.

4.

Your auditory nerve carries this electrical signal to the brain, which translates it into a sound you can understand.

Functions of the Ear

Hearing

Sound Conduction & Transmission Pathways:

Air

Bone

Balance & Equilibrium

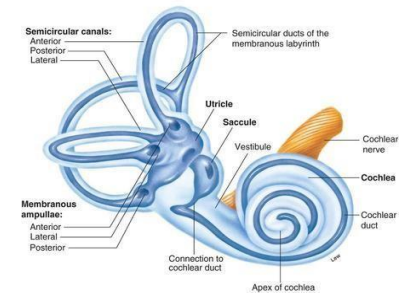
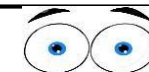
Body balance is maintained by the cooperation of:

The muscles & joints of the body (ie, Proprioceptive system)



The Labyrinth (ie, Vestibular system)

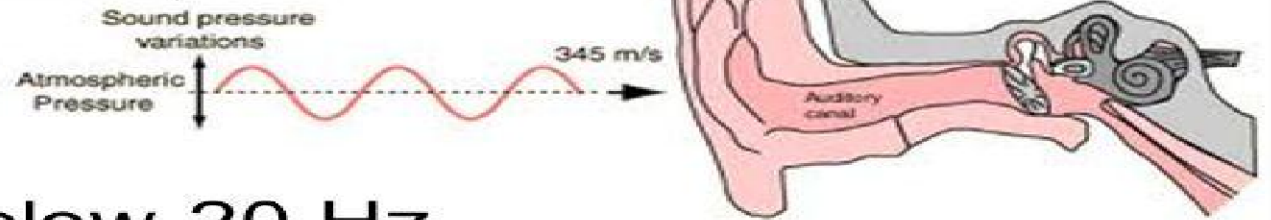
The eyes (ie, visual system)



Hearing Range

Human Range

- A healthy human ear can hear frequencies in the range of **20 Hz to 20,000 Hz**.



- Humans cannot hear below 20 Hz.
 - Sounds below 20 Hz - ***Infrasonic***
 - Sounds above 20,000 HZ- ***Ultrasonic***

INFRA SOUND

ULTRA SOUND



Most common problems of the ear

Vertigo

Balance & equilibrium problems

Earache: otalgia



Tinnitus

Hearing loss

Physical assessment of the ears consists of:

2

Auditory screening



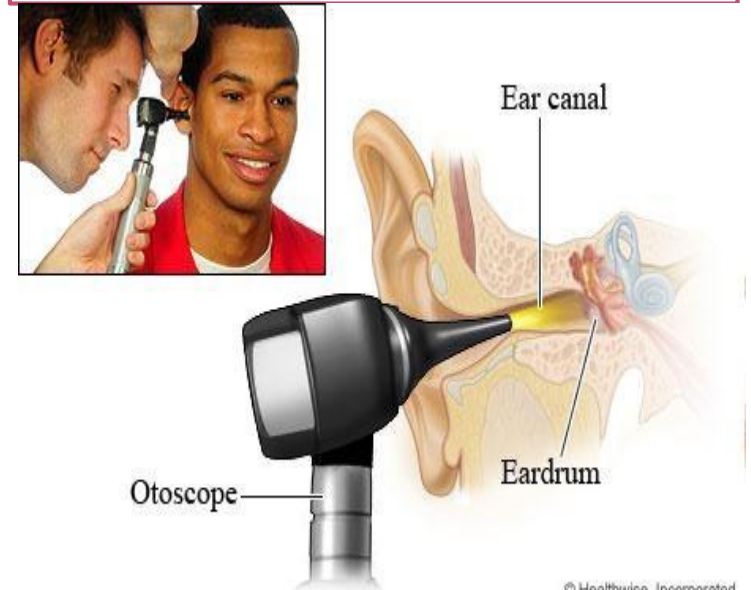
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Inspection & palpation of the external ear



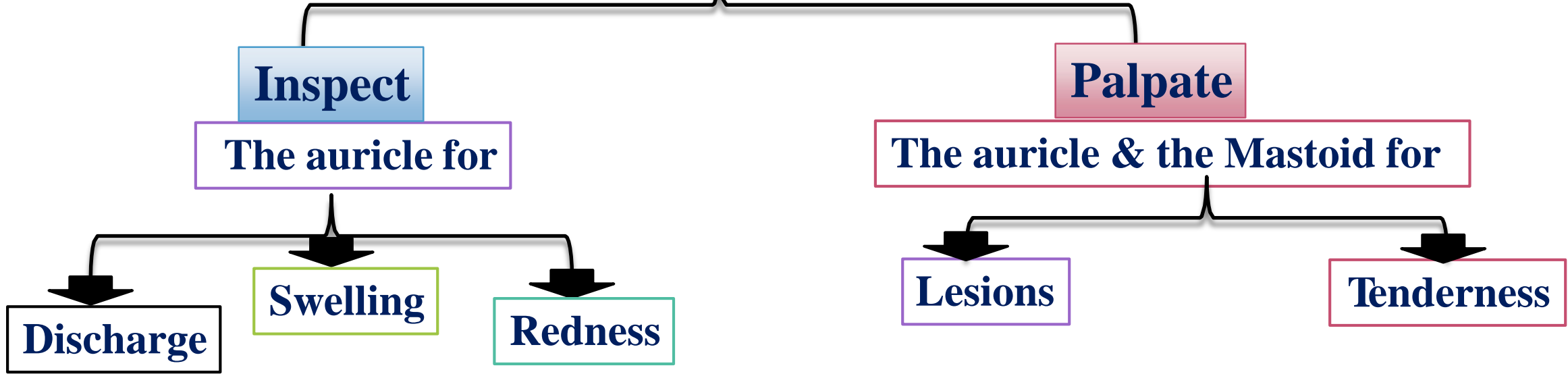
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Otoscopic assessment



1

Inspection & palpation of the external ear



It should be: firm, smooth, free from lesions & pain.

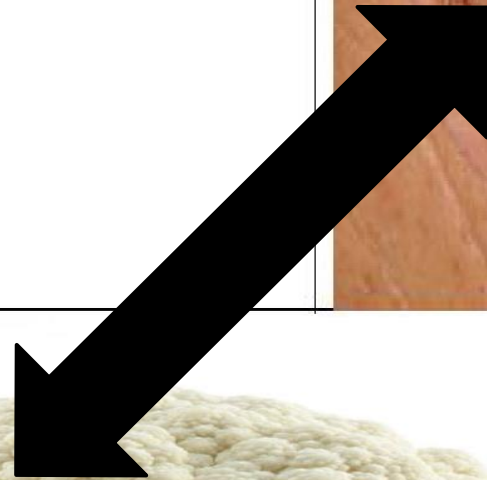
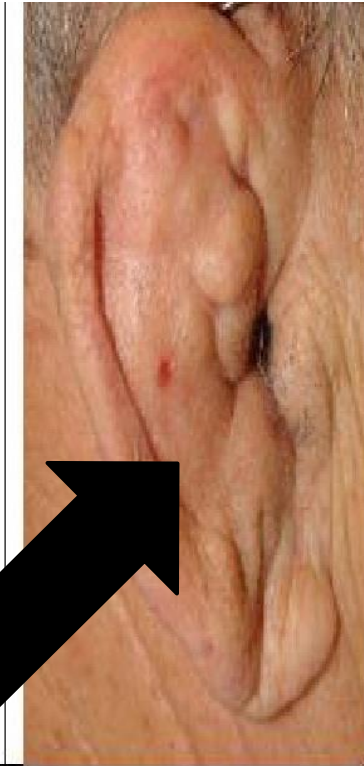
You may also see!

Cauliflower ear

Due to repeated trauma and hematoma

Common in boxers.

Treatment: cosmetic surgery.



Auricle hematoma



You may also see!

Post auricular scar

- 1-Tympanoplasty
- 2-mastoid surgery (mastoidectomy)
- 3-resection of benign parotid gland tumor

Benefit: cosmetic.



Mastoiditis



Otorrhea



Otorrhagia



Auditory Screening

A: Whispered voice test:

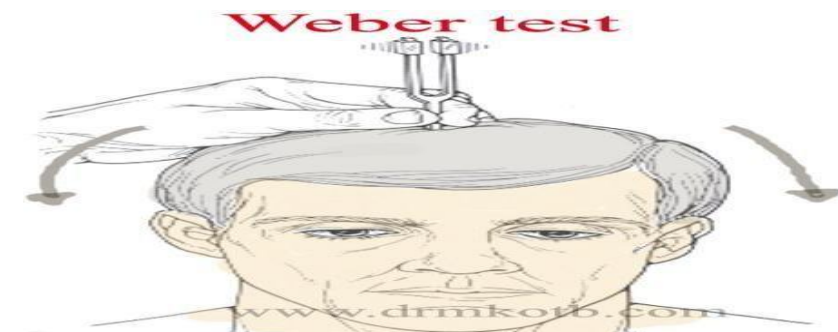
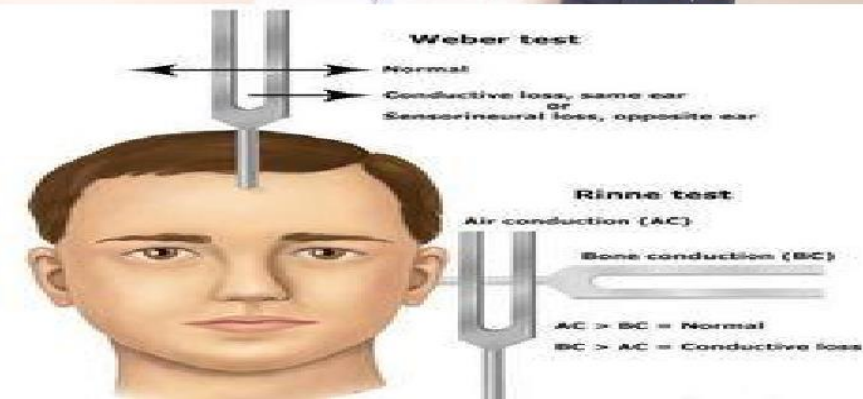
Client should be able to repeat whispered words.

B: Rinne test:

An air conduction time that is twice as long as the bone conduction time.

C. Weber Test:

Sound waves are heard equally in both ears



3

Otoscopic Assessment

Inspect the Tympanic Membrane:

Identify the color

Note for:

Lesions

Bulging

Retraction

Dilatation of blood vessels

Perforations

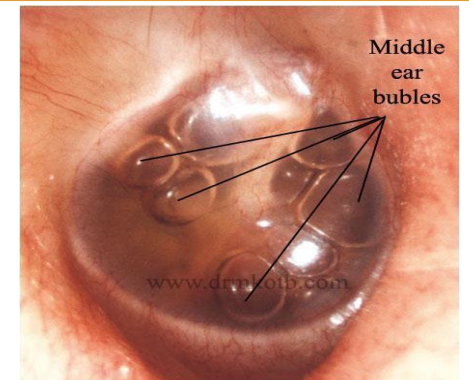
Bubbles or fluid level



Tear in tympanic membrane (eardrum)



ADAM.



www.drnelson.com

3

Otoscopic examination



Examination findings



Wax,
Conductive hearing



Foreign body in the ear

Otorhinolaryngology nurse should focus on observing:

► The signs of hearing difficulty during the physical examination, such as:

*Lip-reading, & speaking in a loud voice

Complains of ringing, buzzing, or roaring noise in the ears

Turns up the volume on the television or radio

Cups hand around ear during conversation

Frequently asks, "What did you say?"

Shows loss of sense of humor

Avoids group activities



Hearing aids types

Postauricular Hearing aid

or

behind the ear (BTE)



BAHA: Bone Anchored Hearing Aid

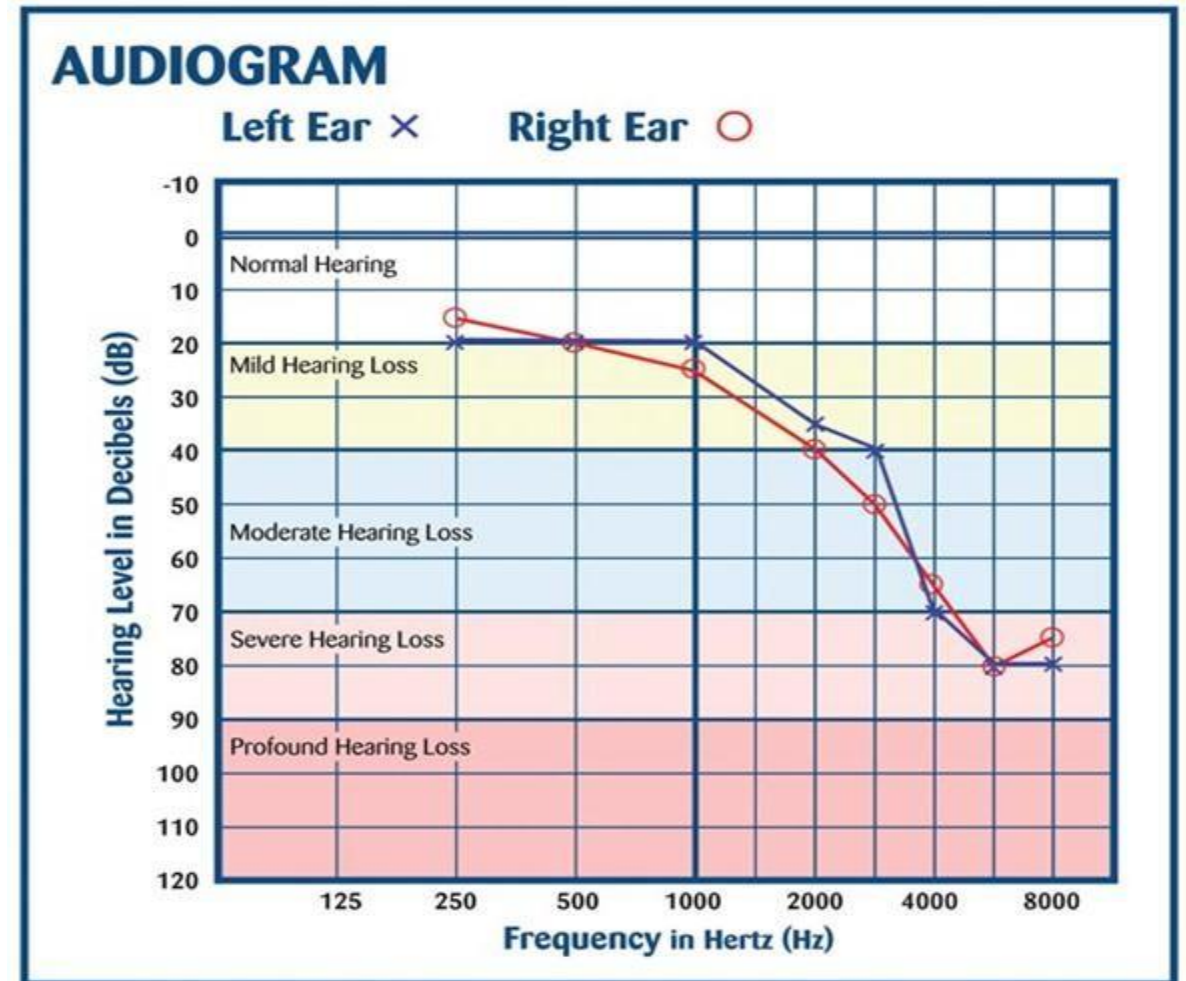
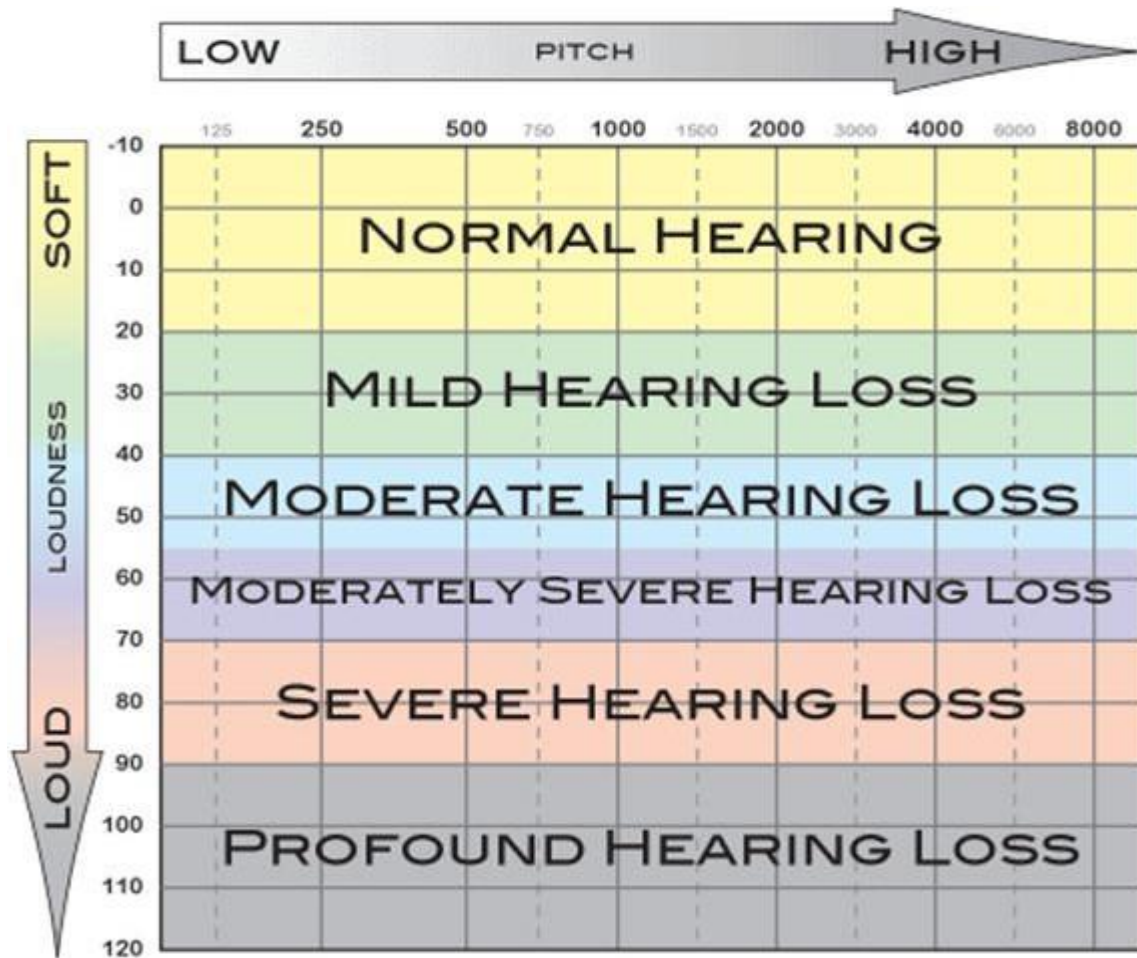


Nursing skills when communicating with clients who are hearing impaired

- **Determine if the client reads lips. If so, face the client & reduce background noise to a minimum.**
- **If client is using a hearing aid, check to see that it is in working order.**
- **Always face the client.**
- **Speak at a normal pace in a normal tone of voice.**
- **Focus on nonverbal cues from the client.**
- **Use gestures & facial expressions to reinforce verbal messages.**
- **Provide pen & paper to facilitate communication if client is literate.**
- **Try to use sign language when convenient!**

Diagnostic Procedures

Audiometric Test



As a nurse who is providing care in the ENT field, you have to know the: ►

TABLE 52.7 OTOTOXIC DRUGS

Aminoglycoside antibiotics

Amikacin
Gentamicin
Neomycin
Streptomycin
Tobramycin

Other antibiotics

Erythromycin
Minocycline
Vancomycin

Diuretics

Bumetanide
Furosemide
Hydrochlorothiazide

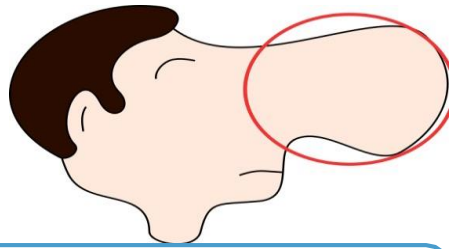
Other drugs

Cisplatin
Indomethacin
Methotrexate
Salicylates

▶ As a nurse who is providing care to a client with hearing loss, you have to know the possible nursing diagnosis:

- ▶ Disturbed sensory perception: hearing related to altered sensory reception and transmission
- ▶ Impaired verbal communication related to impaired hearing
- ▶ Impaired social interaction related to impaired hearing and decreased communication skills
- ▶ Disturbed body image related to impaired hearing and use of assistive hearing devices
- ▶ Ineffective coping related to difficult communication
- ▶ Deficient knowledge related to care of hearing aid due to lack of prior experience

Part2: Nose sinuses &!

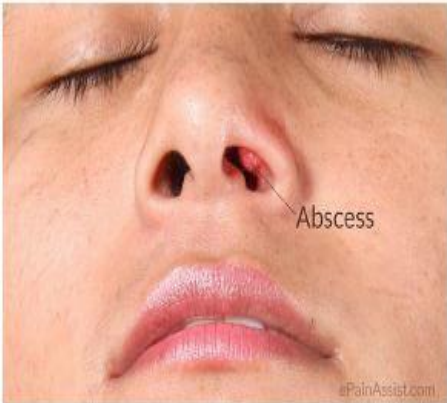


Inspect for:

- Discharge (rhinorrhea).
- Epistaxis.
- Obstruction or block
- Anosmia after head injury



Septal hematoma



@PainAssist.com



Deviated nose



Rhinophyma



Prominent nose

Part3:The Throat

Symptoms to look for:

- Horsiness/dysphonia.
- Sore throat.
- Dysphagia.
- Cough.
- Strider.



9879h_hr www.fotosearch.com

Laryngeal mirror

Check vocal cord mobility by asking the patient to say (EEE)

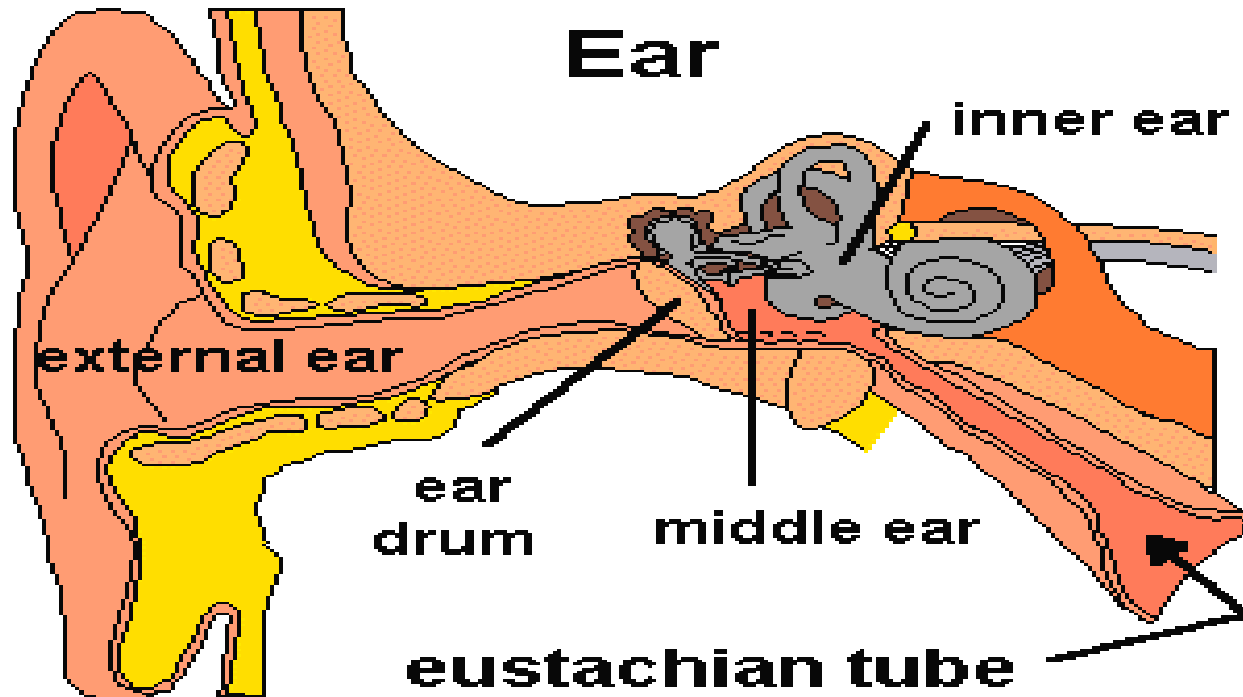
► 1. Otitis Media

Is a general term for inflammation of the:

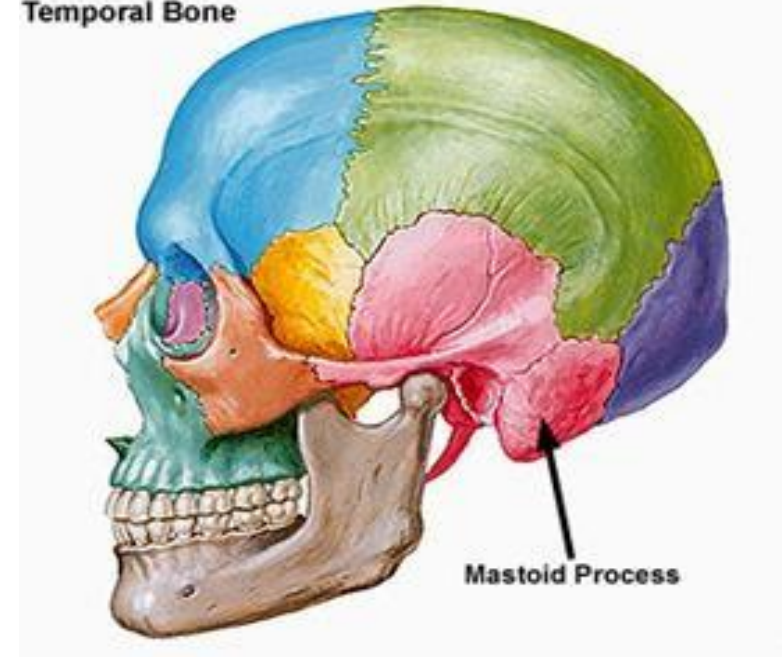
1
Eustachian tube

2
Middle ear

3
Mastoid



Temporal Bone



▶ Otitis Media

If it continues

Longer than 3 months

Chronic O M

If it continues

Less than 3 months

Acute O M

Serous OM

Middle ear effusion

Fluid results from a negative pressure in the middle ear caused by Eustachian tube obstruction

Most common in infants & young children. That's because a child's eustachian tubes are narrower & shorter than an adults', & it's easier for fluid to get trapped in the middle ear.

Pathophysiology

As inflammation occurs,

The nasopharyngeal mucosa becomes edematous & discharge is produced

When fluid, pus, or air builds up in the middle ear, the Eustachian tube becomes blocked

Impairs middle ear ventilation

Leads
to

S&S

- ▶ **Fever**
- ▶ **Earache**
- ▶ **Feeling of fullness in an affected ear following upper respiratory infection**
- ▶ **Nausea & vomiting**
- ▶ **Mastoid tenderness**
- ▶ **Reddened, bulging tympanic membrane**
- ▶ **Progressive hearing loss**
- ▶ **Vertigo**
- ▶ **Disorientation**

OTITIS MEDIA – OTOSCOPIC EXAM



Normal tympanic membrane

Otitis media with purulent material seen behind the tympanic membrane



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Diagnostic Test

- ▶ **Complete Blood Count (CBC)**
- ▶ **Ear drainage culture**
- ▶ **Audiometric & whisper voice tests**

Therapeutic Measures

Medical

Antibiotics & Analgesics

Surgical

Myringotomy

Laser-assisted Myringotomy
Vaporizes the tympanic membrane

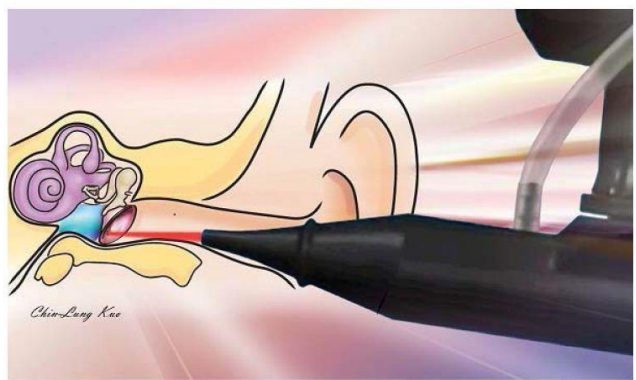
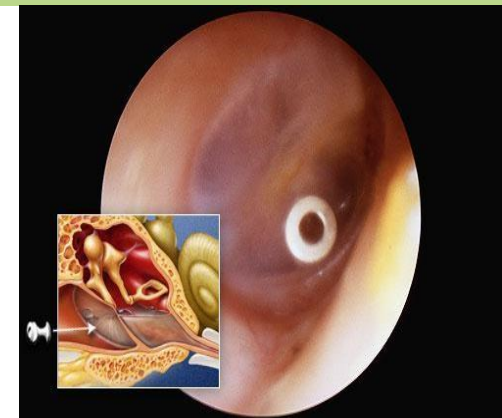


Figure 3: Laser myringotomy

Transtympanic Tubes
Inserted to keep the incision open



Traditional Myringotomy
An incision is made in the tympanic membrane and fluid is allowed to drain out or is suctioned out of the middle ear

Complications

Tympanosclerosis

Deposits of collagen and calcium on the TM. slowly progress. These deposits appear as chalky white plaques on the tympanic membrane and contribute to conductive hearing loss.

Mastoiditis



Tympanic membrane perforation



Permanent hearing loss

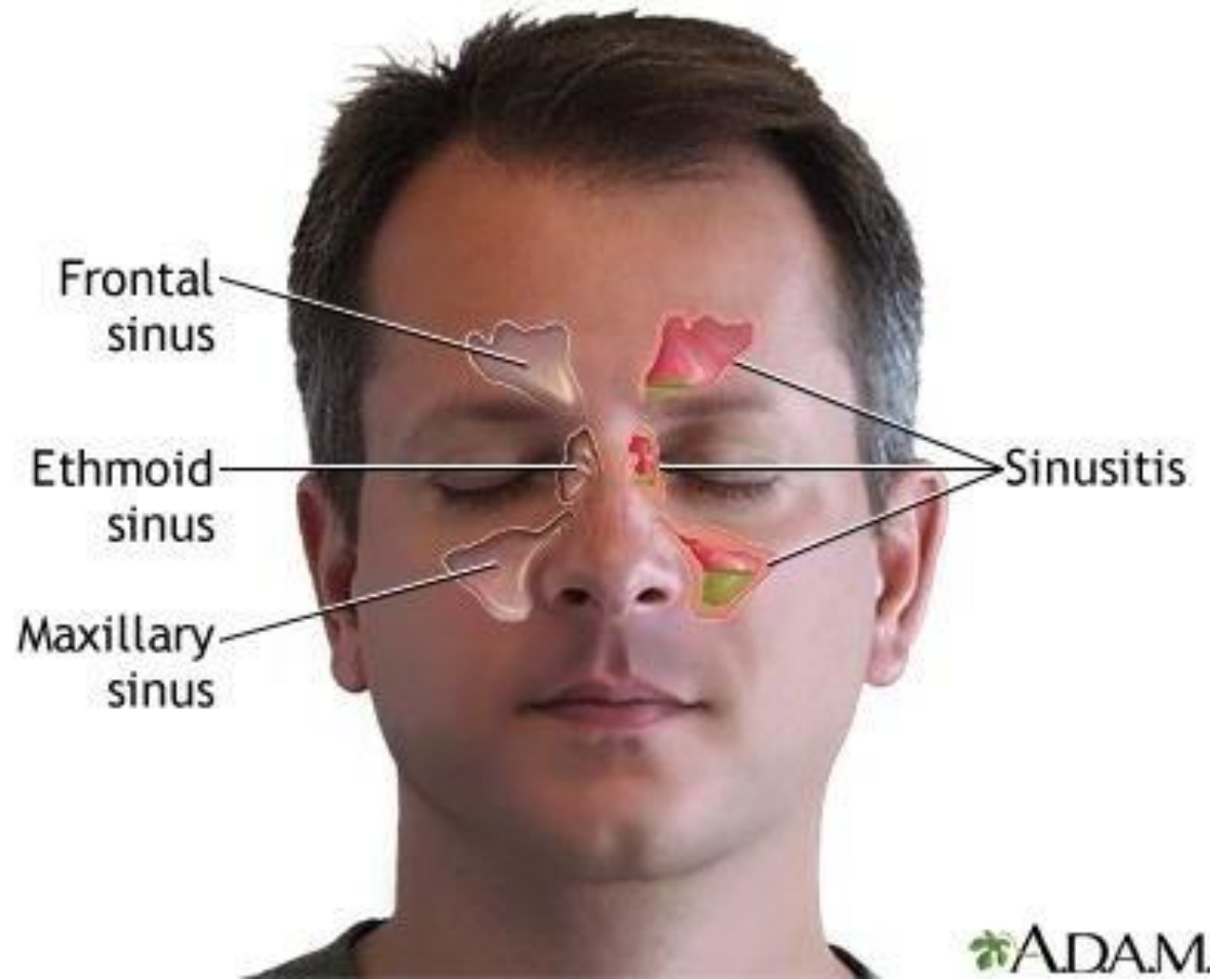


Nursing Care Plan

Nursing Interventions

- Assess the increase in temperature (an indication of the infection process)
- Assess the presence of enlarged lymph nodes in the neck area
- Assess the possibility of deafness
- Assess nutritional status & adequacy of fluid intake
- Intervene by using pain relieving measures
- Work on improving healing process by preventing further infection & tissue injury
- Work on reducing client's anxiety by providing him/her with the necessary info

2.Sinusitis



Sinusitis

Definition:

is inflammation of the mucosa of one or more sinuses.

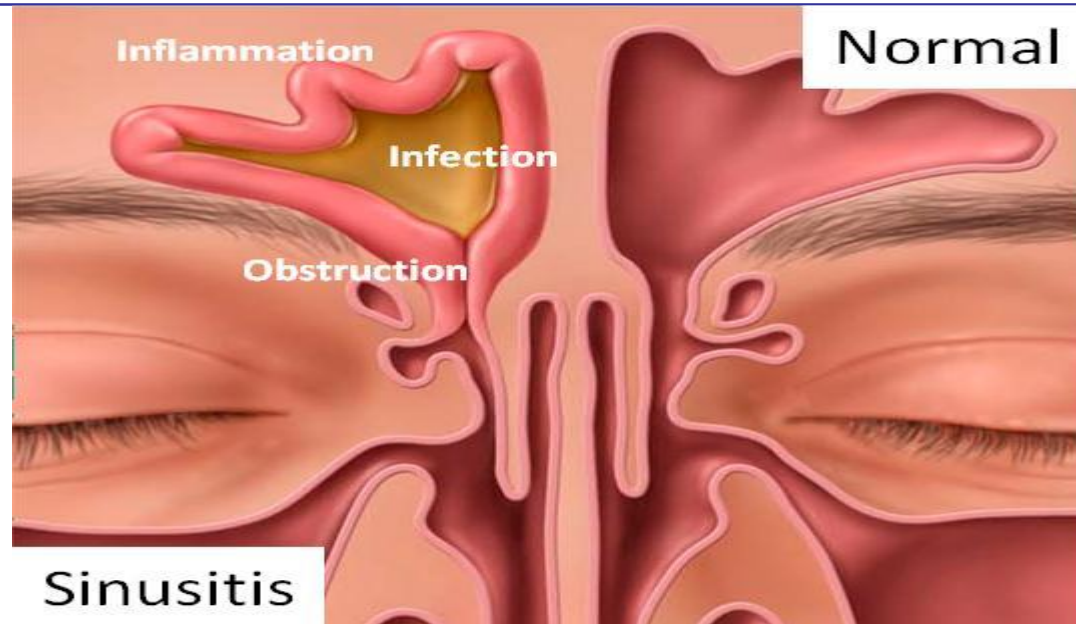
An Inflammation of the lining membrane in any of the hollow areas (sinuses) of the skull around the nose. Sinusitis may be caused by anything that interferes with air flow into the sinuses and the drainage of mucous out of the sinuses.

It can be either acute or chronic.



Chronic sinusitis is diagnosed if symptoms are present for more than 2 months and are unresponsive to treatment.

The maxillary and ethmoid sinuses are the most commonly affected.



Sinusitis pathophysiology

The inflammation is often the result of a bacterial infection and may follow a viral upper respiratory illness. Because the mucous lining of the nose and sinuses is continuous, nasal organisms easily travel to the sinuses. When the infected mucous lining of the sinuses swells, drainage is blocked. Bacteria that normally reside in the sinuses multiply in the retained secretions.



Sinusitis Signs & Symptoms

The patient usually has pain over the region of the affected sinuses and purulent nasal discharge. If a maxillary sinus is affected, the patient experiences pain over the cheek and upper teeth. In ethmoid sinusitis, pain occurs between and behind the eyes. Pain in the forehead typically indicates frontal sinusitis. Fever may be present in acute infection, with or without generalized fatigue and foul breath.



The patient who has received inadequate treatment, or who has not complied with treatment, is at risk for complications:

Sinusitis *Complications*

Uncontrolled sinusitis may spread to surrounding areas, causing osteomyelitis, cellulitis of the orbit (infection of the soft tissues around the eye), abscess, or meningitis.

Sinusitis Diagnostic Tests

Uncomplicated sinusitis may be diagnosed based on symptoms alone. If repeated episodes occur, x-ray examination, a computed tomographic (CT) scan, or magnetic resonance imaging (MRI) may be done to confirm the diagnosis and determine the cause. Nasal discharge may be cultured to determine appropriate antibiotic therapy.

Therapeutic Interventions

Treatment is aimed at relieving pain and promoting sinus drainage.

- Adrenergic nasal sprays such as oxymetazoline constrict blood vessels and therefore reduce swelling, but they should be used cautiously by patients with heart disease or hypertension because vasoconstriction increases blood pressure.
- Nasal irrigation with normal saline solution and a bulb syringe has helped some sufferers of chronic sinusitis.
- Acetaminophen or ibuprofen is given for pain and fever.
- Antibiotics are used only if bacterial infection is suspected, as in the patient with purulent drainage and fever.

Nursing Care

Patients with uncomplicated sinusitis are cared for at home. Instruct the patient to increase water intake to 8 to 10 glasses per day unless contraindicated. Excess water might be contraindicated in patients with fluid overload, such as those with cardiovascular compromise or kidney disease. Pressure may be relieved if the patient maintains a semi-Fowler's position, as in a reclining chair. Explain use of hot moist packs, analgesics, and prescribed medications. Instruct the patient to finish the antibiotic prescription even if he or she is feeling better before it is completed and to call the physician if pain becomes severe or if signs of complications such as a change in level of consciousness occur.

Nursing Care

Patient-Centered Care

- Encourage the use of steam humidification, sinus irrigation, saline nasal sprays, and hot and wet packs to relieve sinus congestion and pain.
- Teach the client to increase fluid intake and rest.
- Discourage air travel, swimming, and diving.
- Encourage cessation of tobacco use in any form.
- Instruct the client on correct technique for sinus irrigation and self-administration of nasal sprays.

3. Tonsillitis & Adenoiditis

Tonsils

Lymphoid tissue that lie on each side of the Oropharynx

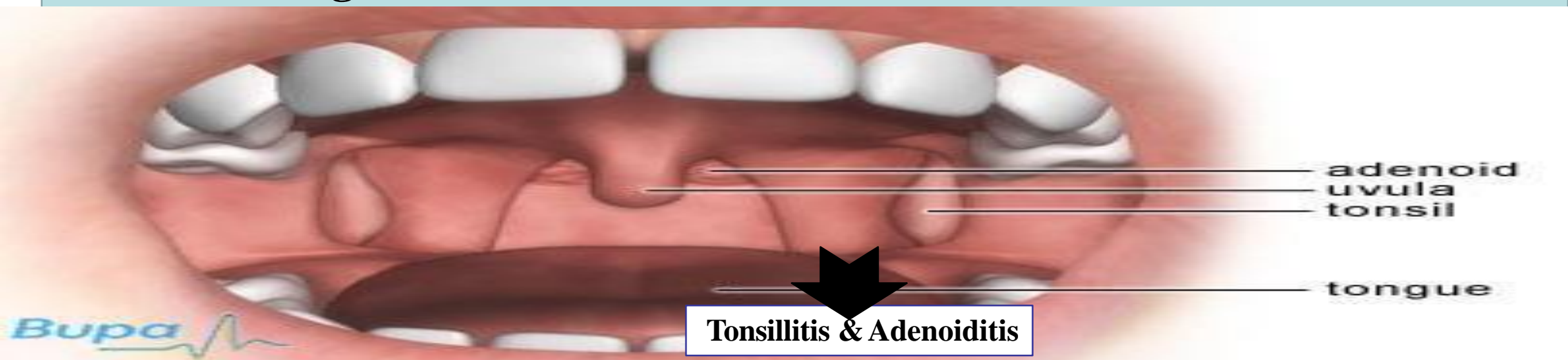
Adenoids

Lymphoid tissue located at the back of the Nasopharynx

They filter microorganisms to protect the lungs from infection

Tonsillitis occurs when:

The filtering function becomes overwhelmed with a virus or bacteria

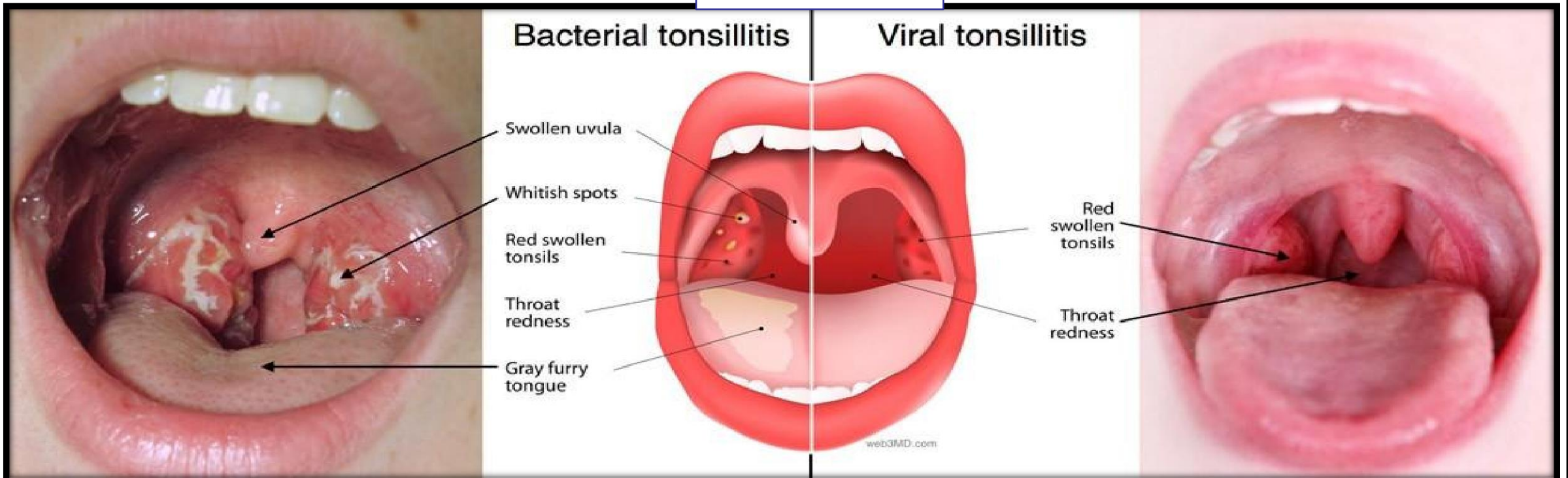


Tonsillitis is usually

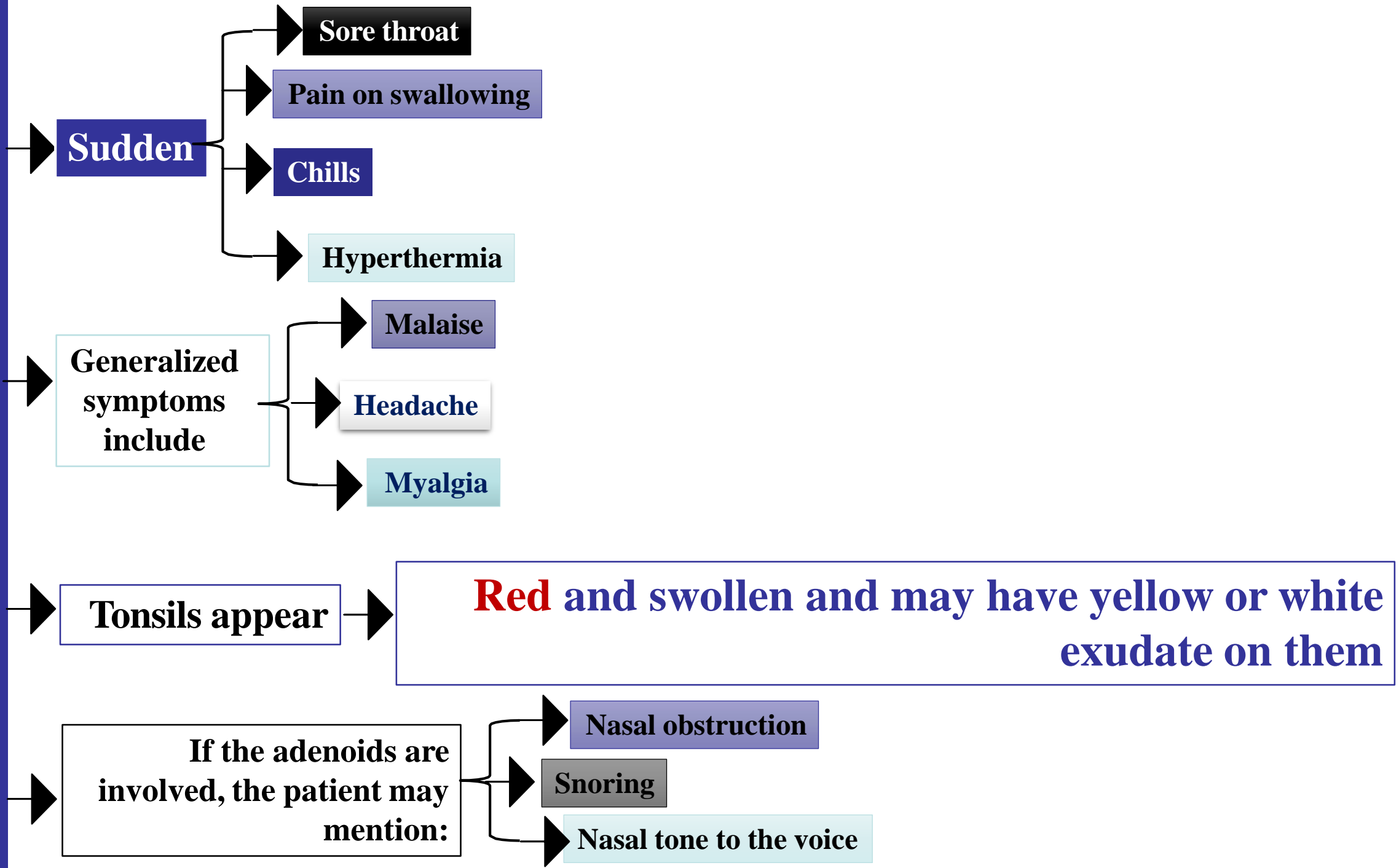
Viral

However, **bacteria can cause it too!**

Comparison



Symptoms & Signs



Diagnostic Tests

A throat culture is done to

&

Discover the causative organism

Determine effective treatment

A white or differential blood cell count

can also help identify whether the infection is:

or

Viral

Bacterial

A chest x-ray may be done if respiratory symptoms are present

Therapeutic Measures

Medical

Surgical

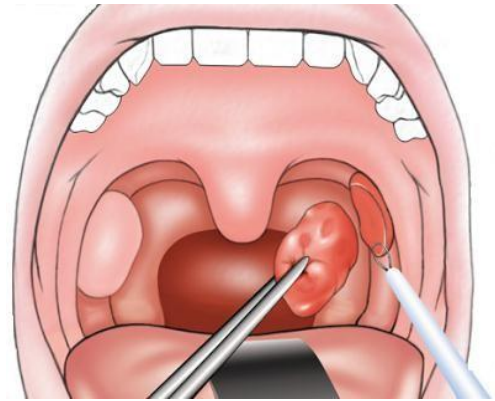
In case of bacterial infection

Acetaminophen, lozenges, & saline gargles

If tonsillitis becomes chronic or if breathing or swallowing is affected

Antibiotics

Tonsillectomy/
Adenoidectomy

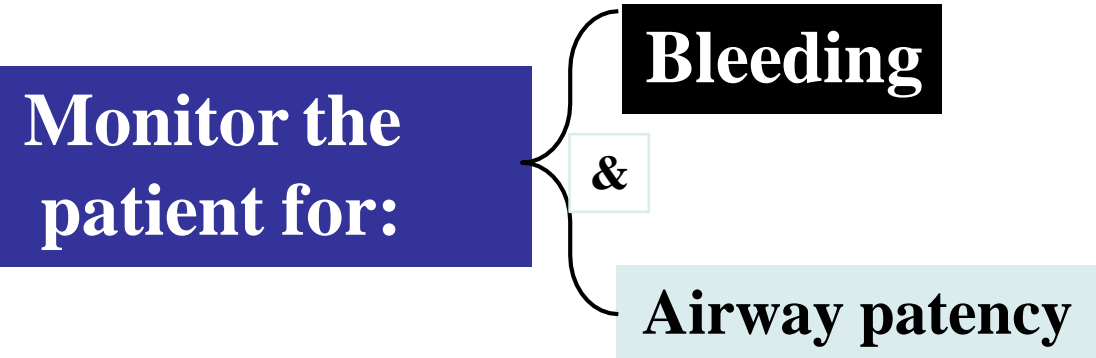


Comfort & support:
While the virus is running its course



Tonsillectomy/ Adenoidectomy Postoperative Nursing Care

After the tonsillectomy, the patient is maintained in a semi-Fowler's position to reduce swelling and promote drainage



Encourage fluids for hydration; cold fluids may help reduce pain & bleeding

Red-colored drinks are avoided because they interfere with observation for bleeding

A room humidifier helps prevent drying

Keep suction equipment available for emergencies