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SGPGI

Nursing Officer

Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS)

(Nursing)

Volume - 2

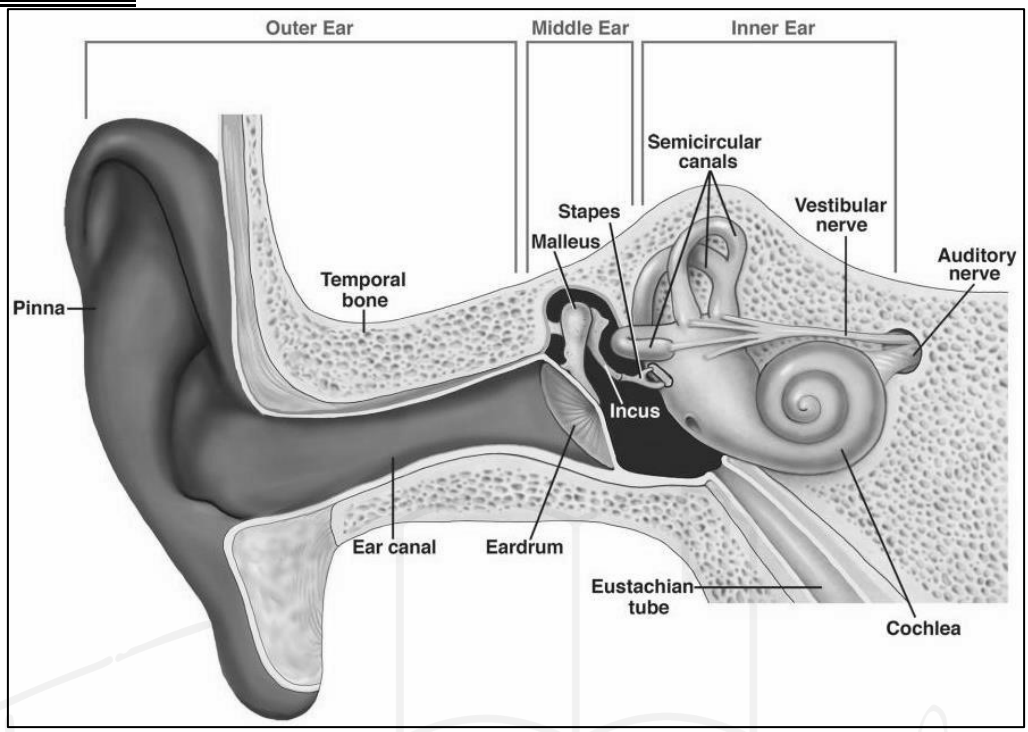
SIERRA INNOVATIONS

INDEX

1 CHAPTER

Ear Nose & Throat

Anatomy of Ear



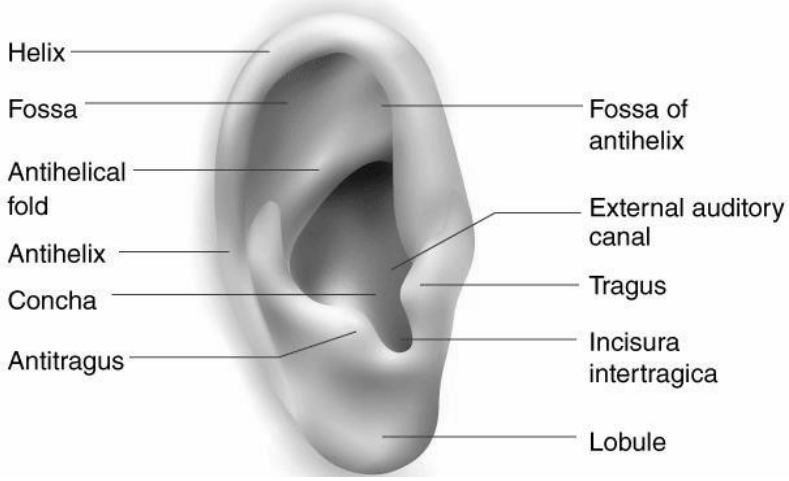
Division of Ear

The ear is divided into **3 parts**:

Part	Structures	Function
External Ear	Pinna (Auricle), External auditory canal, Tympanic membrane	Collects sound & directs to middle ear
Middle Ear	Ossicles (Malleus, Incus, Stapes), Eustachian tube	Transmits vibrations to inner ear; balances air pressure
Inner Ear	Cochlea, Vestibule, Semicircular canals	Hearing (Cochlea) & Balance (Vestibular system)

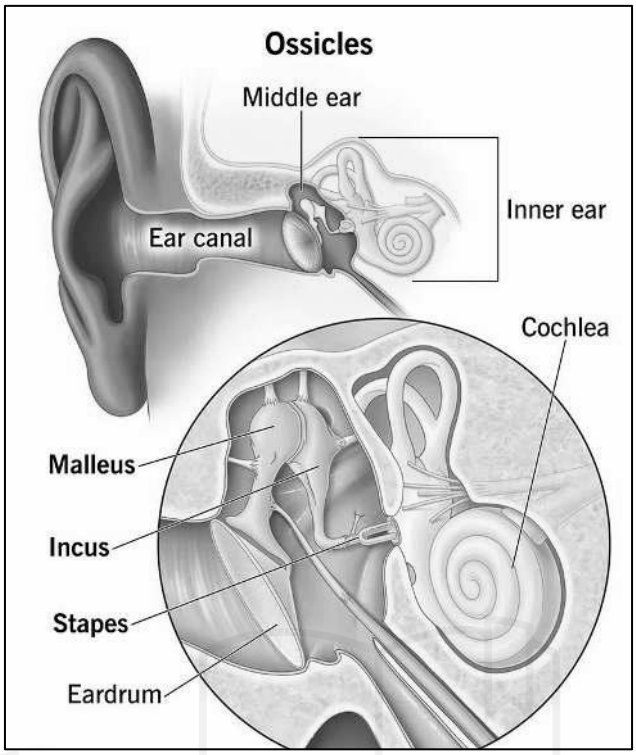
Detailed Anatomy

External Ear



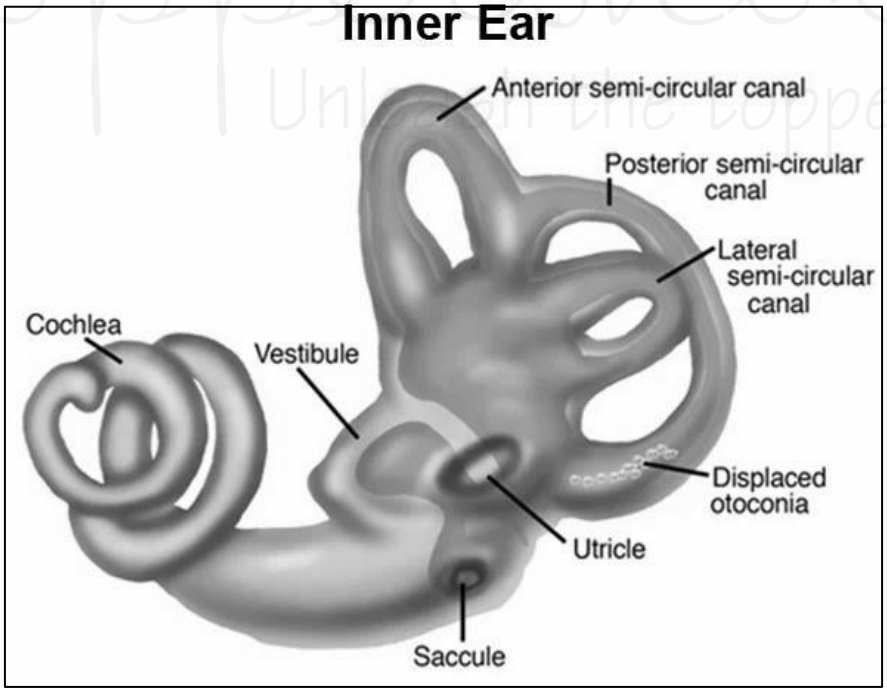
- **Auricle/Pinna** – made of elastic cartilage, collects sound.
- **External Auditory Canal** – 2.5 cm long, produces cerumen (earwax).
- **Tympanic Membrane** – thin, oval membrane that vibrates with sound waves.

Middle Ear



- **Ossicles** (tiny bones):
  - ✓ Malleus (hammer) → connected to tympanic membrane
  - ✓ Incus (anvil) → connects malleus & stapes
  - ✓ Stapes (stirrup) → connected to oval window of cochlea
- **Eustachian Tube** → equalizes air pressure between middle ear & throat.

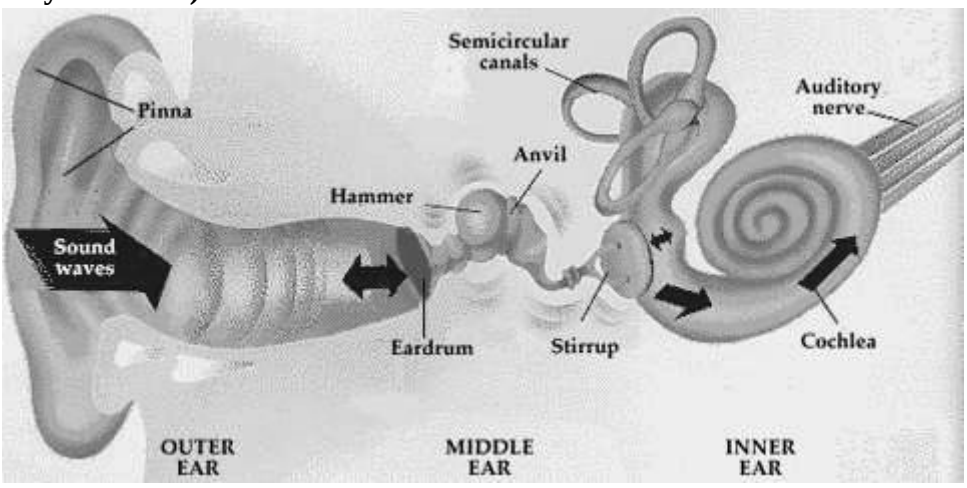
Inner Ear



- **Cochlea** → spiral structure for hearing (Organ of Corti with hair cells).
- **Semicircular Canals** → detect rotational movements (balance).
- **Vestibule** → detects linear movement & gravity (utricle, saccule).

Physiology

Hearing (Pathway of Sound)



Sound waves → External ear → Tympanic membrane → Ossicles → Oval window → Cochlear fluid vibration → Organ of Corti (hair cells) → Auditory nerve (Cranial Nerve VIII) → Brain (temporal lobe).

Balance (Equilibrium)

- **Semicircular canals** → rotational movements
- **Vestibule (utricle & saccule)** → linear movement & gravity

Types of Hearing Loss

Type	Cause	Example
Conductive	Problem in external/middle ear	Wax, Otitis media, Otosclerosis
Sensorineural	Problem in inner ear/auditory nerve	Meniere's disease, Noise trauma, Aging
Mixed	Both conductive + sensorineural	Chronic ear infection

Mnemonics

1. **Ossicles (Ear Bones): MIS**
   - ✓ **M**alleus
   - ✓ **I**ncus
   - ✓ **S**tapes

   Remember: *MIS transmits sound!*
2. Cranial Nerve for Hearing & Balance: 8th CN (Vestibulocochlear Nerve)
3. Mnemonic: *"Eight lets you hear great!"*

Nursing Booster Points (Exam High-Yield)

- **External ear** length: **2.5 cm**
- **Tympanic membrane**: pearly gray, vibrates with sound
- **Smallest bone in body** = **Stapes**
- **Eustachian tube**: maintains pressure, more horizontal in children (risk of otitis media)
- **Organ of Corti**: receptor for hearing in cochlea
- **Balance organ**: semicircular canals & vestibule
- **CN VIII**: auditory (vestibulocochlear nerve)

Physiology of Hearing & Balance

Physiology of Hearing

1. **Pathway of Sound**
   - ✓ Sound → **Pinna** → External auditory canal → **Tympanic membrane (vibration)** → Ossicles (**Malleus** → **Incus** → **Stapes**) → **Oval window** → Cochlear fluid movement → **Organ of Corti (hair cells)** → **Auditory nerve (CN VIII)** → Brain (Temporal lobe).

2. **Mechanism**
   - ✓ **Outer Ear**: Collects sound waves.
   - ✓ **Middle Ear**: Ossicles amplify sound (x20).
   - ✓ **Inner Ear**: Cochlea converts vibrations into nerve impulses.
   - ✓ **Brain**: Temporal lobe interprets sound.

Physiology of Balance (Equilibrium)

- ➢ Balance is controlled by **Vestibular apparatus of Inner Ear + Eyes + Proprioceptors (joints & muscles).**

1. **Static Equilibrium (linear movement)**
   - ✓ Organs: **Utricle & Saccule** (in Vestibule).
   - ✓ Detect gravity & linear acceleration.
2. **Dynamic Equilibrium (rotational movement)**
   - ✓ Organs: **Semicircular Canals**.
   - ✓ Ampulla with **Crista ampullaris** → detects head rotation.

Hearing vs Balance

Function	Organ	Mechanism
Hearing	Cochlea (Organ of Corti)	Converts sound vibrations → nerve impulse
Static Balance	Vestibule (Utricle & Saccule)	Detect gravity, linear motion
Dynamic Balance	Semicircular canals	Detect head rotation

Mnemonics

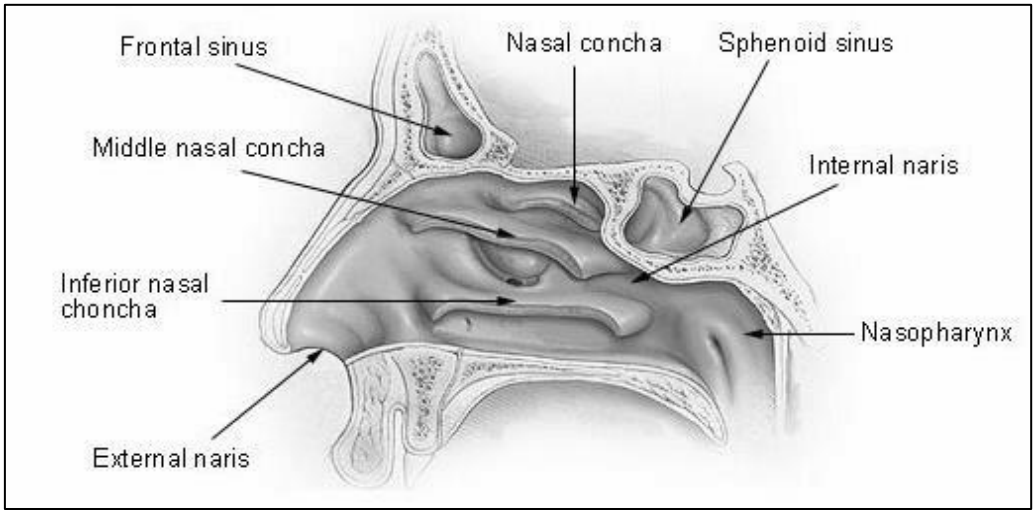
1. **Ear Ossicles → MIS**
   - ✓ **M**alleus → **I**ncus → **S**tapes
   - ✓ *MIS = Mechanical Impulse System*
2. **Balance Organs → SUV**
   - ✓ **S**emicircular canals → Rotation
   - ✓ **U**tricle → Linear motion
   - ✓ **V**estibule → Gravity

Nursing Booster Points

- ➢ **Organ of Corti**: Receptor for hearing.
- ➢ **CN VIII (Vestibulocochlear)** → hearing + balance.
- ➢ **Temporal lobe** → hearing center.
- ➢ **Cochlea** → sound, **Semicircular canals** → rotation, **Utricle & Saccule** → linear balance.
- ➢ **Eustachian tube** equalizes pressure → shorter in children (↑ infection risk).
- ➢ Damage to **inner ear** → sensorineural hearing loss.
- ➢ **Weber & Rinne tests** → differentiate hearing loss types (must-know for exams).

Anatomy of Nose & Paranasal Sinuses

Parts of Nose



1. **External Nose**
   - ✓ Made of **bone + cartilage**
   - ✓ Nostrils → openings for air entry
2. **Internal Nose (Nasal Cavity)**
   - ✓ Divided by **nasal septum** (can be deviated → DNS)
   - ✓ Lined with **respiratory epithelium (ciliated pseudostratified columnar epithelium with goblet cells)**
   - ✓ Functions: **air conduction, humidification, filtration, smell**

Functions of Nose

- ➢ Respiration → passage of air
- ➢ Filtration → hairs & mucus trap particles
- ➢ Humidification → adds moisture
- ➢ Olfaction (smell) → olfactory nerve (CN I)
- ➢ Resonance for speech

Paranasal Sinuses

Sinus	Location	Drainage Site
Maxillary	Largest; in cheek bone	Middle meatus
Frontal	Forehead bone	Middle meatus
Ethmoid	Between eyes	Superior & middle meatus
Sphenoid	Deep behind ethmoid	Sphenoethmoidal recess

- ➢ All are **air-filled cavities** in skull bones.
- ➢ Functions: **lighten skull weight, resonance of voice, warm & moisten air**.

Nose vs Sinuses Functions

Structure	Main Function
Nose	Breathing, smell, humidification, filtration
Maxillary Sinus	Lightens face, resonance
Frontal Sinus	Resonance, air conditioning
Ethmoid Sinus	Air filtration, mucus drainag
Sphenoid Sinus	Protects vital structures (pituitary, optic nerve nearby)

Mnemonics

1. **Paranasal Sinuses → FEMS**
   - ✓ **F**rontal
   - ✓ **E**thmoid
   - ✓ **M**axillary
   - ✓ **S**phenoid

   Remember: *"FEMS light up your face"* (functions: lighten skull & resonance).
2. **Nasal Functions → SHARP**
   - ✓ **S**mell
   - ✓ **H**umidification
   - ✓ **A**ir filtration
   - ✓ **R**esonance
   - ✓ **P**assage for respiration

Nursing Booster Points

- ➢ **Nasal septum deviation** → causes DNS (common ENT problem).
- ➢ **Respiratory epithelium** → pseudostratified ciliated columnar with goblet cells.

- **Olfactory nerve (CN I)** → smell receptor in roof of nasal cavity.
- **Maxillary sinus** → most commonly infected sinus (due to poor drainage).
- **Functions of sinuses** → lighten skull, warm/moisten air, resonance for speech.
- **Frontal sinus** → close to brain, risk of meningitis if infected.

Physiology of Nose (Respiration & Smell)

Physiology of Nose in Respiration

- **Air Passage** → Nose is the entry point for inspired air.
- **Filtration** → Nasal hairs & mucous trap dust, bacteria, pollen.
- **Warming & Humidification** → Air passes over vascular nasal mucosa → warms & moistens.
- **Resonance** → Helps in voice production.
- **Defense** → Sneezing reflex expels irritants.

Physiology of Smell (Olfaction)

1. **Olfactory Region**
   - ✓ Located at **roof of nasal cavity**.
   - ✓ Contains **olfactory receptors (bipolar neurons)**.
2. **Pathway of Smell**

   Odor molecules → dissolve in mucus → stimulate **olfactory receptors** → olfactory nerve (CN I) → olfactory bulb → olfactory cortex (temporal lobe).

   Unique feature → Olfactory signals bypass thalamus (direct to cortex).

Functions of Nose

Function	Structure Involved
Filtration	Nasal hairs, mucous
Warming	Nasal mucosa (blood vessels)
Humidification	Mucous glands
Smell	Olfactory receptors (CN I)
Resonance	Paranasal sinuses

Mnemonics

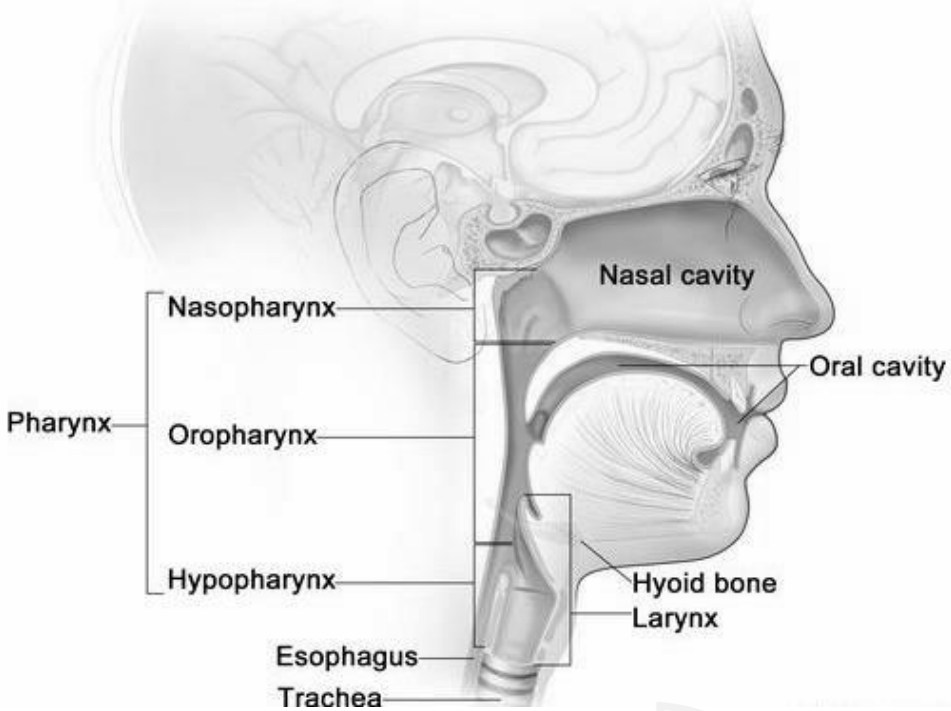
1. **Nose Functions → FRESH**
   - ✓ Filtration
   - ✓ Resonance
   - ✓ Entry (Air passage)
   - ✓ Smell
   - ✓ Humidification
2. **Olfactory Nerve = CN I**
3. Mnemonic: *"CN One helps you smell the fun."*

Nursing Booster Points

- **CN I (Olfactory nerve)** → smell.
- **Olfactory receptors** → located in roof of nasal cavity.
- **Paranasal sinuses** → resonance of voice.
- **Nasal mucosa** → highly vascular → warms inspired air.
- **Sneezing reflex** → protective mechanism.
- **Anosmia** (loss of smell) → causes include sinusitis, head trauma, COVID-19, aging.

Anatomy of Throat (Pharynx & Larynx)

Pharynx



Overview

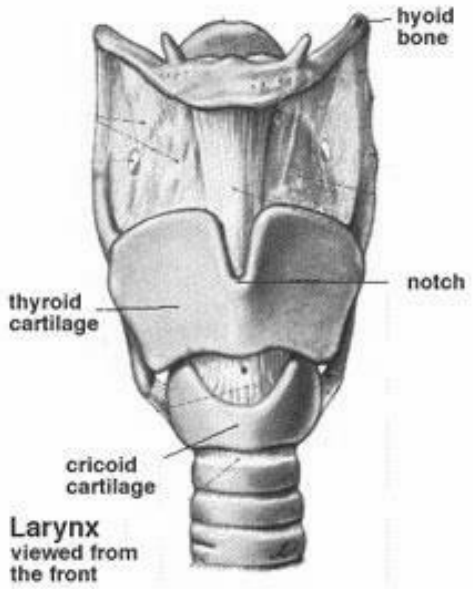
- Musculomembranous tube: **12–14 cm** long.
- Extends from **base of skull → C6 vertebra (esophagus begins).**
- Common passage for **air & food**.

Divisions of Pharynx

Part	Location	Structures
Nasopharynx	Behind nasal cavity	Eustachian tube opening, pharyngeal tonsil (adenoid)
Oropharynx	Behind oral cavity	Palatine tonsils, lingual tonsil
Laryngopharynx (Hypopharynx)	Behind larynx	Opens into larynx (airway) & esophagus (food)

Clinical: Infection in nasopharynx spreads to middle ear → **Otitis media**.

Larynx (Voice Box)



- Location: **C3–C6 vertebrae**
- Length: ~5 cm
- Functions: **voice production, airway passage, protection during swallowing**

Cartilages of Larynx

Type	Names
Single	Thyroid, Cricoid, Epiglottis
Paired	Arytenoid, Corniculate, Cuneiform

- **Thyroid cartilage** → largest ("Adam's apple")
- **Cricoid cartilage** → complete ring, below thyroid cartilage
- **Epiglottis** → leaf-shaped, prevents aspiration

Vocal Cords

- **True vocal cords** → sound production
- **False vocal cords (vestibular folds)** → no sound, protective role

Pharynx vs Larynx

Feature	Pharynx	Larynx
Length	12–14 cm	5 cm
Function	Passage for air & food	Voice, airway protection
Divisions	Nasopharynx, Oropharynx, Laryngopharynx	Cartilages + vocal cords
Nerve supply	Glossopharyngeal (IX) & Vagus (X)	Vagus (X, recurrent laryngeal branch)

Mnemonics

1. **Pharynx Divisions → NOL**
   - ✓ Nasopharynx
   - ✓ Oropharynx
   - ✓ Laryngopharynx

   ***"NOL** = No One Leaves without swallowing."*
2. **Laryngeal Cartilages (Single) → TEC**
   - ✓ Thyroid
   - ✓ Epiglottis
   - ✓ Cricoid
3. **Laryngeal Cartilages (Paired) → ACC**
   - ✓ Arytenoid
   - ✓ Corniculate
   - ✓ Cuneiform

Nursing Booster Points

- **Pharynx**: connects nose, mouth → esophagus & larynx.
- **Tonsils** → lymphoid tissues (palatine, pharyngeal, lingual).
- **Nasopharynx** infection → can spread to ear (otitis media).
- **Larynx** = "voice box" → contains vocal cords.
- **Nerve supply of larynx** → Vagus nerve (X) via **recurrent laryngeal nerve**.
- **Epiglottis** prevents aspiration → during swallowing, covers laryngeal inlet.
- **Cricoid cartilage** = only complete ring of cartilage in airway.
- **Clinical**: Injury to recurrent laryngeal nerve → hoarseness of voice.

Physiology of Throat (Swallowing, Speech & Airway Protection)

Physiology of Swallowing (Deglutition)

Swallowing = **complex reflex** involving **mouth, pharynx, larynx, esophagus**.

Stages of Swallowing

1. **Oral Stage (Voluntary)**
   - ✓ Tongue pushes bolus → oropharynx.
2. **Pharyngeal Stage (Involuntary)**
   - ✓ Soft palate elevates → closes nasopharynx.
   - ✓ Epiglottis closes larynx → prevents aspiration.
   - ✓ Food passes → pharynx → esophagus.
3. **Esophageal Stage (Involuntary)**
   - ✓ Food propelled via **peristalsis** → stomach.

Physiology of Speech (Phonation)

- **Larynx (Vocal cords)** → produce sound.
- **Vocal cords** vibrate → sound generated.
- **Resonance** → modified by pharynx, nose, mouth, sinuses.
- **Articulation** → tongue, teeth, lips form words.

Nerve Supply:

- **Recurrent laryngeal nerve (Vagus X)** → motor to vocal cords.
- **Superior laryngeal nerve** → pitch control.

Airway Protection

- **Epiglottis** → covers laryngeal inlet during swallowing.
- **Cough reflex** → clears irritants/foreign bodies.
- **Closure of vocal cords** → prevents aspiration.

Throat Functions

Function	Organ Involved
Swallowing	Tongue, pharynx, epiglottis, esophagus
Speech	Vocal cords, resonance cavities, articulators
Airway protection	Epiglottis, vocal cords, cough reflex

Mnemonics

1. **Stages of Swallowing → OPE**
   - ✓ Oral
   - ✓ Pharyngeal
   - ✓ Esophageal

   ***"OPE** → Open Path for food."*
2. **Speech Formation → VRAA**
   - ✓ Voice (larynx)
   - ✓ Resonance (pharynx, nose, sinuses)
   - ✓ Articulation (tongue, lips, teeth)
   - ✓ Air (lungs)

Nursing Booster Points

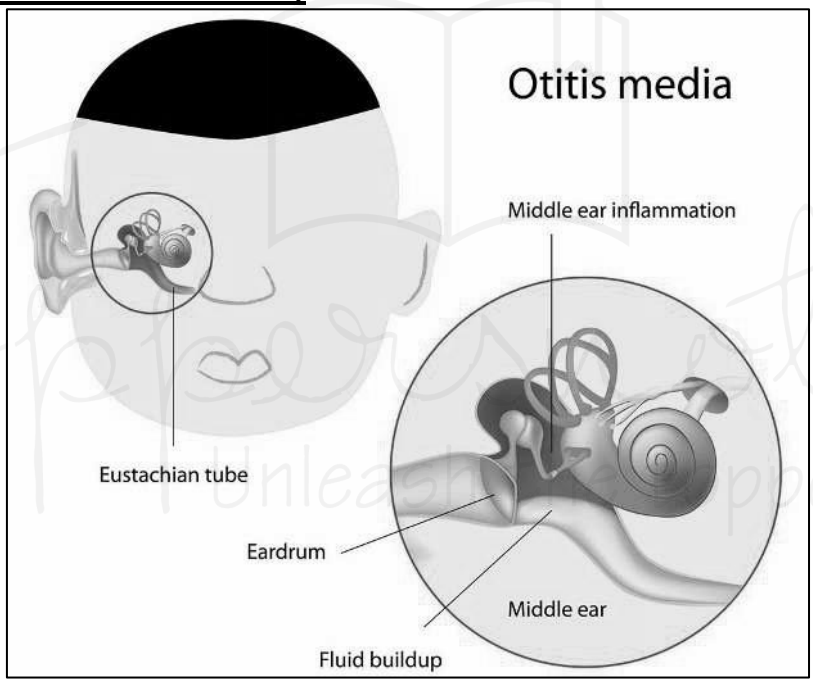
- Swallowing involves both **voluntary & involuntary** stages.
- **Soft palate** prevents nasal regurgitation.
- **Epiglottis** = main guard of airway during swallowing.
- **Speech** requires lungs (air), larynx (voice), pharynx/nose (resonance), tongue/lips/teeth (articulation).
- **Recurrent laryngeal nerve injury** → hoarseness/aphonia.
- **Superior laryngeal nerve** → controls pitch (tensing vocal cords).
- **Cough reflex** → vital protective mechanism against aspiration.

Disorders of the Ear

Otitis Externa (Swimmer's Ear)

- **Definition**
  Infection/inflammation of **external auditory canal**.
- **Causes**
  - ✓ Swimming (moisture → bacterial/fungal growth)
  - ✓ Trauma (cotton bud use)
  - ✓ Allergies
- **Symptoms**
  - ✓ Ear pain (↑ with tragus movement)
  - ✓ Itching, swelling, redness
  - ✓ Discharge (foul-smelling)
  - ✓ Hearing loss (conductive, temporary)
- **Nursing Management**
  - ✓ Keep ear dry
  - ✓ Local antibiotic/antifungal drops
  - ✓ Analgesics for pain
  - ✓ Avoid inserting objects

Otitis Media (Middle Ear Infection)



- **Types**
  - ✓ **Acute Otitis Media (AOM)** → sudden, bacterial/viral infection.
  - ✓ **Chronic Suppurative Otitis Media (CSOM)** → long-standing infection with ear discharge.
- **Symptoms**
  - ✓ Ear pain, fever (acute)
  - ✓ Ear discharge (chronic)
  - ✓ Hearing loss (conductive)
- **Complications**
  - ✓ Mastoiditis
  - ✓ Brain abscess, meningitis (serious!)
- **Nursing Management**
  - ✓ Warm compress for pain relief
  - ✓ Antibiotics, analgesics
  - ✓ Myringotomy (drain pus)
  - ✓ Aseptic dressing for discharge

Hearing Loss

Type	Cause	Feature
Conductive	Wax, Otitis media, Otosclerosis	BC > AC, Weber to affected ear
Sensorineural	Aging (presbycusis), Noise trauma, Meniere's	AC > BC, Weber to normal ear
Mixed	Both causes	Combination features

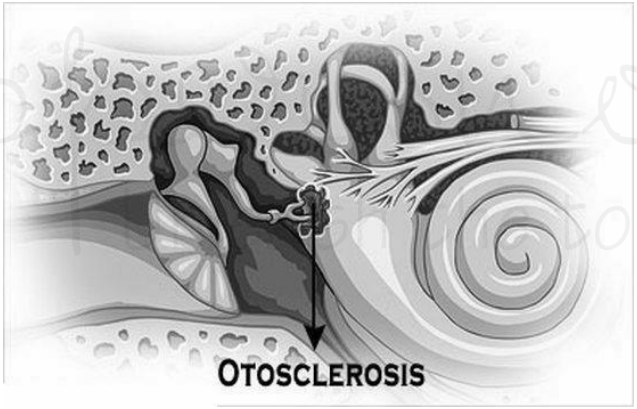
Tests: Weber & Rinne (already covered).

- **Nursing Care**
  - ✓ Hearing aids for conductive loss
  - ✓ Cochlear implant for sensorineural loss
  - ✓ Communication techniques (lip reading, sign language, written notes)

Meniere's Disease

- **Definition**
  Disorder of **inner ear (endolymphatic hydrops)**.
- **Triad of Symptoms (Exam Favorite)**
  - ✓ **Vertigo** (spinning)
  - ✓ **Tinnitus** (ringing in ears)
  - ✓ **Sensorineural Hearing Loss**
- **Management**
  - ✓ Low-salt diet (↓ fluid retention)
  - ✓ Diuretics, sedatives, antiemetics
  - ✓ Avoid caffeine, alcohol
  - ✓ Safety: prevent falls during vertigo attacks
  - ✓ Surgery (endolymphatic sac decompression) if severe

Otosclerosis



Definition

Abnormal bone growth → fixation of **stapes bone** → conductive hearing loss.

Symptoms

- Progressive hearing loss
- Tinnitus
- Normal tympanic membrane

Management

- Hearing aid
- **Stapedectomy surgery**

Common Ear Disorders

Disorder	Main Feature	Management
Otitis externa	Pain, itching, discharge	Keep dry, antibiotic drops
Otitis media	Pain, fever, discharge	Antibiotics, myringotomy

Hearing loss	Conductive/Sensorineural	Hearing aids, implants
Meniere's	Vertigo + Tinnitus + SNHL	Low salt, diuretics, safety
Otosclerosis	Conductive loss, stapes fixation	Stapedectomy

Mnemonics

1. **Meniere's Triad → VTH**
   - ✓ Vertigo
   - ✓ Tinnitus
   - ✓ Hearing loss

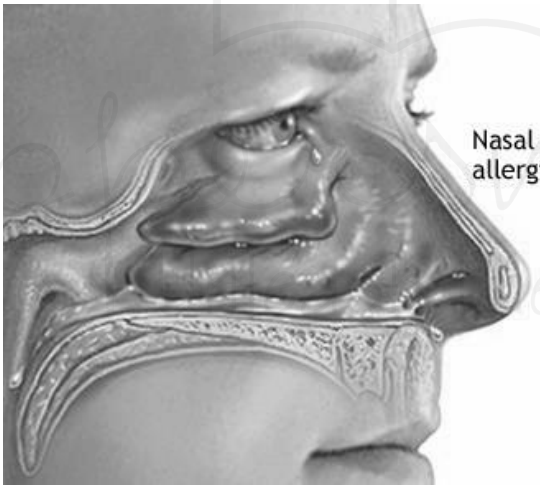
   "Meniere's = Very Tired Hearing."
2. **Causes of Conductive Loss → WOT**
   - ✓ Wax
   - ✓ Otitis media
   - ✓ Tympanic membrane perforation

Nursing Booster Points

- **Otitis externa** → pain ↑ with tragus movement.
- **CSOM** → chronic ear discharge, risk of meningitis.
- **Hearing loss** → use Weber & Rinne to differentiate.
- **Meniere's disease** → Triad: vertigo + tinnitus + SNHL (high-yield).
- **Otosclerosis** → smallest bone stapes gets fixed → treated by stapedectomy.
- **CN VIII damage** → sensorineural hearing loss.
- **Safety priority in Meniere's** = prevent falls.

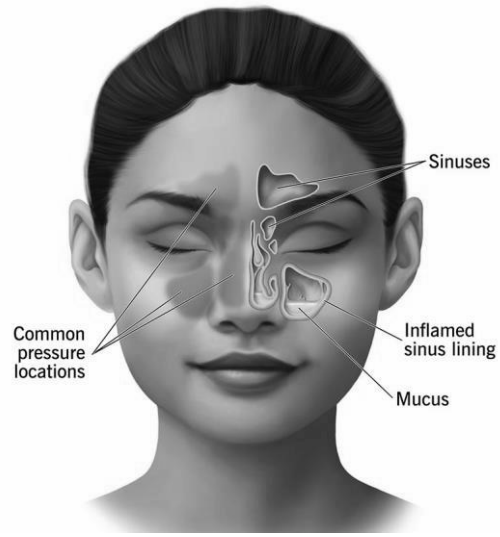
Disorders of Nose

Rhinitis



- **Types**
  - ✓ **Allergic rhinitis** (hay fever, seasonal)
  - ✓ **Viral rhinitis** (common cold)
  - ✓ **Atrophic rhinitis** (chronic, foul smell, crusting)
- **Symptoms**
  - ✓ Sneezing, nasal congestion, watery discharge
  - ✓ Itching, headache, postnasal drip
- **Management**
  - ✓ Avoid allergens
  - ✓ Antihistamines, decongestants
  - ✓ Steam inhalation
  - ✓ Saline nasal spray

Sinusitis



- **Definition**
  Inflammation of **paranasal sinuses** (acute or chronic).
- **Causes**
  - ✓ Upper respiratory infection (viral/bacterial)
  - ✓ Deviated nasal septum
  - ✓ Nasal polyps
- **Symptoms**
  - ✓ Facial pain/pressure (worse on bending forward)
  - ✓ Headache
  - ✓ Purulent nasal discharge
  - ✓ Nasal congestion, fever
- **Management**
  - ✓ Steam inhalation
  - ✓ Nasal decongestants
  - ✓ Antibiotics (if bacterial)
  - ✓ Surgery (FESS – Functional Endoscopic Sinus Surgery) if chronic

Epistaxis (Nosebleed)

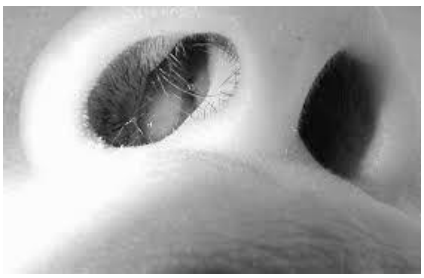
- **Sites**
  - ✓ **Little's area (Kiesselbach's plexus)** = most common site.
- **Causes**
  - ✓ Local: trauma, nose picking, infections
  - ✓ Systemic: hypertension, bleeding disorders, drugs (aspirin, anticoagulants)
- **Management (First Aid)**
  - ✓ Sit upright, lean forward
  - ✓ Pinch nostrils 10–15 mins
  - ✓ Ice pack over nose bridge
  - ✓ Cauterization/packing if bleeding persists

Deviated Nasal Septum (DNS)

- **Features**
  - ✓ Nasal obstruction
  - ✓ Recurrent sinusitis
  - ✓ Epistaxis
  - ✓ Headache

- **Management**
  - ✓ Septoplasty or submucous resection surgery

Nasal Polyps



- **Features**
  - ✓ Soft, painless growth in nasal mucosa
  - ✓ Causes obstruction, loss of smell (anosmia)
  - ✓ Associated with allergy, asthma, chronic sinusitis
- **Management**
  - ✓ Steroid spray
  - ✓ Surgical removal (Polypectomy, Endoscopic sinus surgery)

Nose Disorders

Disorder	Key Feature	Management
Rhinitis	Sneezing, congestion	Antihistamines, avoid allergens
Sinusitis	Facial pain, purulent discharge	Decongestants, antibiotics
Epistaxis	Nosebleed (Little's area)	Pinch nose, cautery, packing
DNS	Nasal blockage, headache	Septoplasty
Nasal polyps	Obstruction, anosmia	Steroids, surgery

Mnemonics

1. **Epistaxis First Aid → PIE**
   - ✓ Pinch nostrils
   - ✓ Ice pack
   - ✓ Erect (sit upright, lean forward)
2. **Causes of Sinusitis → 3 D's**
   - ✓ DNS
   - ✓ Disease (URI, allergy)
   - ✓ Drugs (irritants, smoking)

Nursing Booster Points

- **Most common site of epistaxis** → Little's area (Kiesselbach's plexus).
- **Most commonly infected sinus** → Maxillary sinus.
- **DNS** → main complaint = nasal obstruction.
- **Nasal polyps** → painless, soft, associated with allergy/asthma.
- **Atrophic rhinitis** → foul smell, crust formation.
- **Sinusitis pain** worsens on **bending forward**.
- **First-aid priority in epistaxis** = lean forward, pinch nose.

Disorders of Throat

Tonsillitis

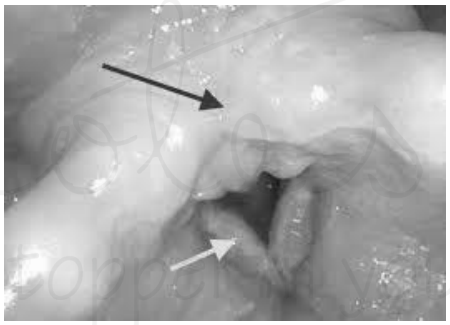
- **Definition**
  Inflammation of **palatine tonsils** (common in children).
- **Causes**
  - ✓ Viral (adenovirus, influenza)
  - ✓ Bacterial (**Streptococcus pyogenes**)
- **Symptoms**
  - ✓ Sore throat, fever, difficulty swallowing
  - ✓ Enlarged, red tonsils ± white exudates
  - ✓ Tender cervical lymph nodes

- **Complications**
  - ✓ Peritonsillar abscess (quinsy)
  - ✓ Rheumatic fever, glomerulonephritis (if streptococcal)
- **Management**
  - ✓ Antibiotics (if bacterial)
  - ✓ Analgesics, warm saline gargle
  - ✓ **Tonsillectomy** if recurrent/severe

Pharyngitis

- **Definition**
  Inflammation of **pharynx** (sore throat).
- **Causes**
  - ✓ Viral (most common)
  - ✓ Bacterial (streptococcus)
  - ✓ Irritants (smoke, dust, alcohol)
- **Symptoms**
  - ✓ Painful swallowing
  - ✓ Sore throat, redness
  - ✓ Fever, malaise
- **Management**
  - ✓ Supportive care (fluids, rest)
  - ✓ Analgesics, gargles
  - ✓ Antibiotics (if bacterial)

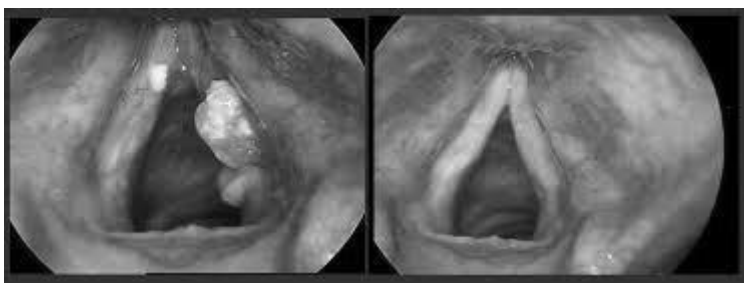
Laryngitis



- **Definition**
  Inflammation of **larynx & vocal cords**.
- **Causes**
  - ✓ Viral infection (flu, cold)
  - ✓ Overuse of voice (shouting, singing)
  - ✓ Irritants (smoking, dust)
- **Symptoms**
  - ✓ Hoarseness of voice
  - ✓ Painful speech, throat irritation
  - ✓ Dry cough
- **Management**
  - ✓ Voice rest
  - ✓ Steam inhalation
  - ✓ Avoid smoking, irritants
  - ✓ Analgesics

Laryngeal Cancer

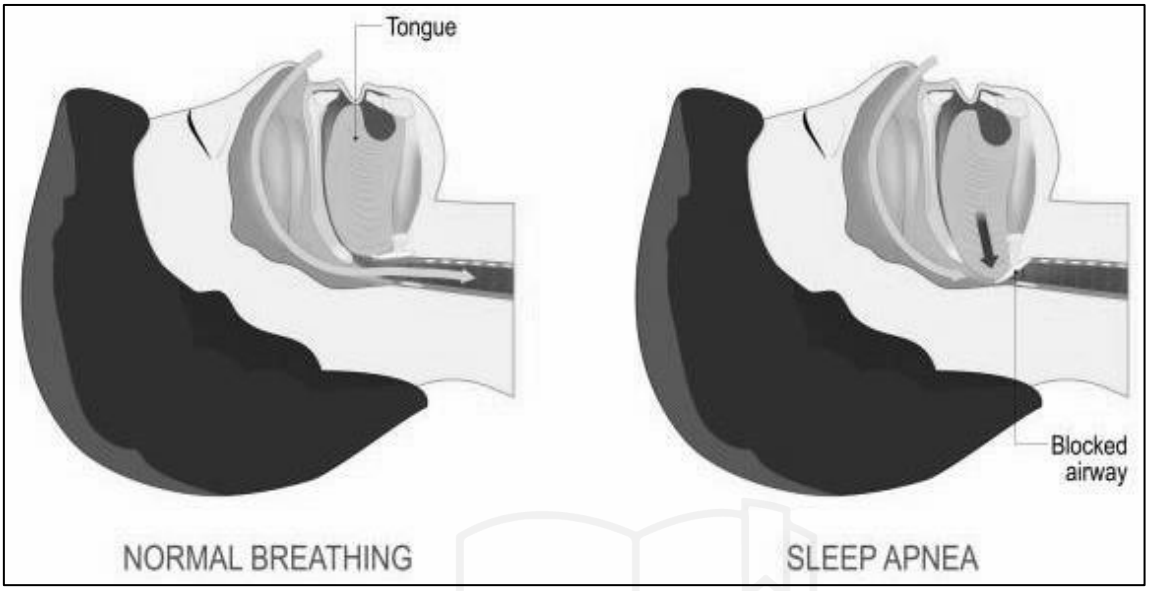
Risk Factors



- ✓ Smoking, alcohol (major)
- ✓ HPV infection
- ✓ Chronic laryngitis
- **Symptoms**
  - ✓ Persistent hoarseness (>2 weeks)
  - ✓ Lump in neck (lymph nodes)
  - ✓ Dysphagia, sore throat, hemoptysis (late)

- **Diagnosis**
  - ✓ Laryngoscopy, biopsy
- **Management**
  - ✓ Radiation, chemotherapy
  - ✓ Laryngectomy (surgical removal)
  - ✓ **Nursing Care**: Tracheostomy care, speech therapy, psychosocial support

Obstructive Sleep Apnea (OSA)



- **Definition**
  Repetitive upper airway obstruction during sleep → apnea episodes.
- **Causes**
  - ✓ Obesity
  - ✓ Enlarged tonsils/adenoids
  - ✓ Nasal obstruction
- **Symptoms**
  - ✓ Loud snoring
  - ✓ Daytime sleepiness, morning headache
  - ✓ Witnessed apnea episodes
- **Management**
  - ✓ Weight reduction
  - ✓ CPAP (Continuous Positive Airway Pressure)
  - ✓ Surgery (if structural cause)

Throat Disorders

Disorder	Main Symptom	Key Management
Tonsillitis	Sore throat, fever, enlarged tonsils	Antibiotics, tonsillectomy
Pharyngitis	Red, painful pharynx	Supportive, antibiotics if bacterial
Laryngitis	Hoarseness of voice	Voice rest, steam inhalation
Laryngeal cancer	Persistent hoarseness	Surgery, radiation, tracheostomy care
OSA	Snoring + apnea episodes	CPAP, weight loss

Mnemonics

1. **Tonsillitis Complications → PAR**
   - ✓ Peritonsillar abscess
   - ✓ Acute rheumatic fever
   - ✓ Renal (glomerulonephritis)

2. **Laryngeal Cancer Risks → SHA**
   - ✓ Smoking
   - ✓ Heavy alcohol use
   - ✓ Acid reflux/HPV
3. **Sleep Apnea Symptoms → STOP**
   - ✓ Snoring
   - ✓ Tired (daytime sleepiness)
   - ✓ Observed apnea
   - ✓ Pressure (high BP)

Nursing Booster Points

- **Tonsillitis** → bacterial (strep) → risk of rheumatic fever & glomerulonephritis.
- **Pharyngitis** → most cases viral → supportive treatment.
- **Laryngitis** → hallmark = hoarseness.
- **Laryngeal cancer** → persistent hoarseness = red flag.
- **Nursing care post-laryngectomy** → airway management (tracheostomy), speech rehab, psychological support.
- **OSA** → obesity = biggest risk, CPAP = gold standard treatment.

Nursing Management in ENT

ENT Assessment Techniques

- **History Taking**
  - ✓ Ear: pain, discharge, tinnitus, vertigo, hearing loss.
  - ✓ Nose: obstruction, bleeding, loss of smell, discharge.
  - ✓ Throat: sore throat, hoarseness, dysphagia, snoring.
- **Physical Examination**
  - ✓ **Ear** → Otoscopy (external canal, tympanic membrane).
  - ✓ **Nose** → Anterior rhinoscopy, sinus tenderness.
  - ✓ **Throat** → Inspection (tonsils, pharynx, larynx with mirror/laryngoscope).
  - ✓ **Neck** → Lymph node palpation.

Diagnostic Procedures in ENT

Test	Purpose
Otoscopy	Inspect tympanic membrane
Audiometry	Hearing assessment
Tuning Fork Tests (Weber, Rinne)	Differentiate hearing loss
Tympanometry	Middle ear function
CT / MRI	Sinus, brain, tumor assessment
Laryngoscopy	Inspect vocal cords, larynx
Culture & Sensitivity	Identify infection

Emergency Management in ENT

1. **Airway Obstruction**

- Causes: foreign body, trauma, edema, tumor.
- **Nursing actions:**
  - ✓ Ensure airway patency.
  - ✓ Heimlich maneuver (foreign body).
  - ✓ Oxygen administration.
  - ✓ Prepare for emergency tracheostomy/intubation.

2. **Severe Epistaxis**
   - ✓ Sit upright, lean forward.
   - ✓ Pinch nostrils 10–15 min.
   - ✓ Ice pack over nose bridge.
   - ✓ Nasal packing if bleeding persists.
3. **Foreign Body in Ear/Nose/Throat**
   - ✓ Do not blindly probe.
   - ✓ Refer ENT specialist for removal.
   - ✓ Maintain airway if throat foreign body.

Post-Operative Nursing Care (ENT Surgeries)

1. **Tonsillectomy**
   - ✓ Position: side-lying (prevent aspiration).
   - ✓ Observe for hemorrhage (frequent swallowing = red flag).
   - ✓ Cold fluids, avoid hot/irritant foods.
2. **Mastoidectomy**
   - ✓ Monitor dressing for discharge/bleeding.
   - ✓ Maintain aseptic wound care.
   - ✓ Educate patient: avoid water entry into ear.
3. **Tracheostomy Care**
   - ✓ Maintain airway patency (suctioning).
   - ✓ Keep spare tracheostomy tube at bedside.
   - ✓ Humidified oxygen.
   - ✓ Stoma care (aseptic technique).
   - ✓ Communication support (writing board, gestures).
4. **Laryngectomy**
   - ✓ Airway management is priority.
   - ✓ Speech rehabilitation (esophageal speech, speech prosthesis).
   - ✓ Nutritional support (NG tube initially).
   - ✓ Psychological support (body image disturbance).

ENT Nursing Management

Condition	Nursing Priority
Tonsillectomy	Watch for bleeding, side-lying position
Mastoidectomy	Prevent infection, dry ear care
Tracheostomy	Airway, suction, stoma care
Laryngectomy	Airway + speech rehab + nutrition
Epistaxis	Lean forward, pinch nose, cold compress

Mnemonics

1. **Tonsillectomy Bleeding Signs → FSS**
   - ✓ Frequent swallowing
   - ✓ Spitting blood
   - ✓ Shock signs (tachycardia, pallor)
2. **Tracheostomy Care Essentials → AHOS**
   - ✓ Airway
   - ✓ Humidified oxygen
   - ✓ Observe stoma/dressing
   - ✓ Suction as needed

Nursing Booster Points

- **ENT emergencies** = airway first (always priority).
- **Post-tonsillectomy** → frequent swallowing = suspect bleeding.
- **Tracheostomy bedside** → keep spare tube & obturator always.
- **Epistaxis first aid** → sit up, lean forward, pinch nose, cold compress.
- **Audiometry** = gold standard for hearing assessment.
- **Laryngectomy patients** → need psychological & speech therapy support.
- **Never blindly probe** foreign bodies in nose/ear → ENT removal only.