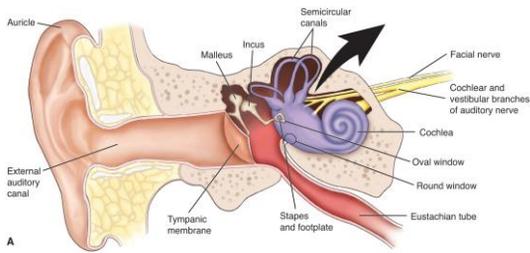


Hearing & Balance Disorders

R.Thomas

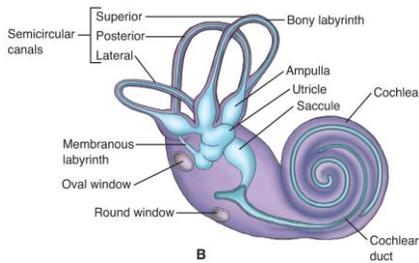
Anatomy of the Ear



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Anatomy of the Inner Ear



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Assessment

- ❖ Inspection of the external ear
- ❖ Otoscopic examination
- ❖ Gross auditory acuity
- ❖ Whisper test
- ❖ Weber test
- ❖ Rinne test



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Diagnostic Evaluation

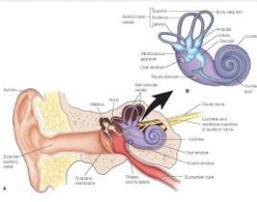
- ❖ Audiometry
- ❖ Tympanogram
- ❖ Auditory brainstem response
- ❖ Electronystagmography
- ❖ Platform posturography
- ❖ Sinusoidal harmonic acceleration
- ❖ Middle ear endoscopy

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Hearing Loss

- o Deafness
- o Risk factors
- o Types
 - o Conductive
 - o Sensorineural
 - o Mixed
 - o Functional
 - o Preventions



Manifestations

- ❖ Early symptoms
 - Tinnitus: perception of sound; often “ringing in the ears”
 - Increased inability to hear in a group
 - Turning up the volume on the TV
- ❖ Impairment may be gradual and not recognized by the person experiencing the loss
- ❖ As hearing loss increases, person may experience deterioration of speech, fatigue, indifference, social isolation or withdrawal, and other symptoms

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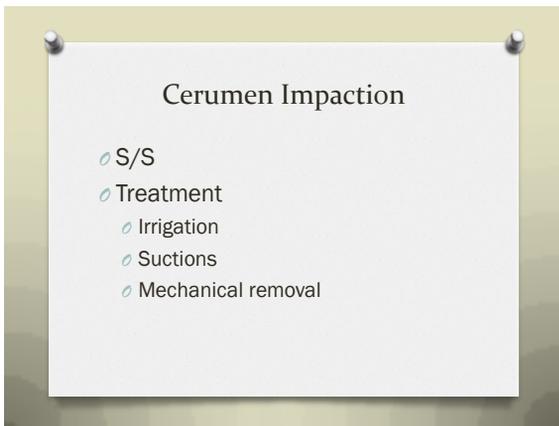
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Guidelines for Communicating With Hearing Impaired Persons

- ❖ Use a low-tone, normal voice
- ❖ Speak slowly and distinctly
- ❖ Reduce background noise and distractions
- ❖ Face the person and get their attention
- ❖ Speak into the less impaired ear
- ❖ Use gestures and facial expressions
- ❖ If necessary, write out information or obtain a sign language translator

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Foreign Body

- o Removal may be by irrigation, suction, or instrumentation
- o Objects that may swell (e.g., vegetables or insects) should not be irrigated
- o Foreign body removal may require extraction in the operating room

External Otitis (Otitis externa)

- o Etiology
- o S/S
- o Treatment
 - o Pharmacological
 - o Prevention
- o Malignant External Otitis

Perforation

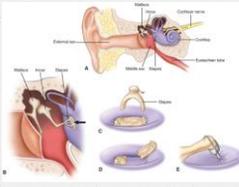
- o Infection or trauma
- o Treatment
 - o Spontaneous healing
 - o Tympanoplasty

Otitis Media

- o Acute
 - o Antibiotics
 - o Myringotomy
- o Serous
 - o Corticosteroids
- o Chronic
 - o Cholesteatoma
 - o Treatment
 - o Pharmacological
 - o Surgery
 - o Tympanoplasty
 - o Ossiculoplasty
 - o Mastoidectomy

Otosclerosis

- o S/S
- o Treatment/ Management
 - o Stapedectomy
 - o Nursing Care



Nursing Process: Patient Undergoing Mastoid Surgery—Assessment

- ❖ Health history
 - ❖ Include data related to the ear disorder, hearing loss, otalgia, otorrhea, and vertigo
 - ❖ Duration and intensity, causes, and previous treatments
 - ❖ Medications
 - ❖ Physical assessment
 - o Erythema, edema, lesions
 - o Discharge; color and odor
 - o Review audiogram results

Nursing Process: Patient Undergoing Mastoid Surgery—Planning

- ❖ Major goals include
 - Reduction of anxiety
 - Freedom from pain and discomfort
 - Prevention of infection
 - Stable or improved hearing and communication
 - Absence of vertigo and injury
 - Increased knowledge of disease, surgical procedure and postop care

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Interventions #1

- ❖ Reduction of anxiety
 - Reinforce information and patient education
 - Provide support and allow to discuss anxieties
- ❖ Relieving pain
 - Medicate with analgesics for ear discomfort
 - Note: Occasional sharp, shooting pains may occur as the eustachian tube opens and allows air into the middle ear. Constant throbbing pain and fever may indicate infection
- ❖ Preventing injury
 - Safety measures such as assisting with ambulation
 - Provide antiemetics or antivertigo medications

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Interventions #2

- ❖ Improving communication and hearing
 - Note: Hearing may reduce for several weeks after surgery because of edema, accumulation of blood and fluid in the middle ear, and dressings and packings
 - Use measures to improve hearing and communication as discussed in "Communicating with Hearing Impaired Persons."
- ❖ Preventing infection
 - Monitor for signs and symptoms of infection
 - Administer antibiotics as ordered
 - Prevent contamination of ear with water from showers, washing hair, and so on

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Patient Education

- ❖ Medication education: analgesics, antivertigo medications
- ❖ Activity restrictions
- ❖ Safety issues related to potential vertigo
- ❖ Instruction regarding potential complications and reporting of problems
- ❖ Follow-up care

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Meniere's Disease

- o Endolymphatic hydrops
- o S/S
 - o Vertigo, tinnitus, hearing loss
- o Dx
- o Treatment
 - o Low-sodium diet; 1,000-1,500 mg/day
 - o Meclizine (Antivert); tranquilizers-valium, antiemetics-promethazine, and diuretics may also be used
 - o Surgical management to eliminate attacks of vertigo; endolymphatic sac decompression, middle and inner ear perfusion, and vestibular nerve sectioning

- o Tinnitus
 - o Etiology
- o Labyrinthitis
 - o Bacterial or viral
 - o IV antibiotics
 - o Fluids
 - o Antihistamines
 - o Antiemetics
- o Acoustic Neuroma: tumor of the VIII cranial nerve
 - o Surgery
 - o Complications
