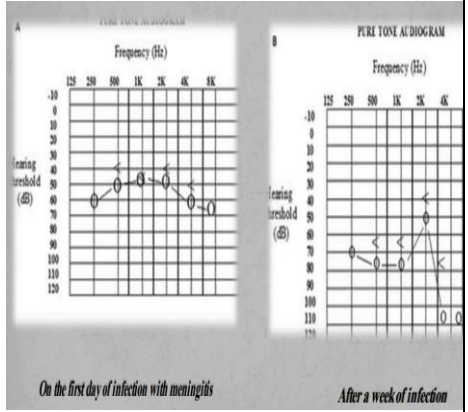


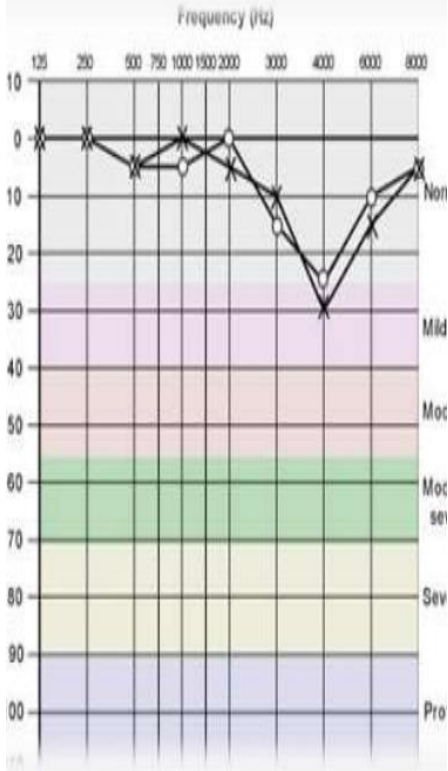


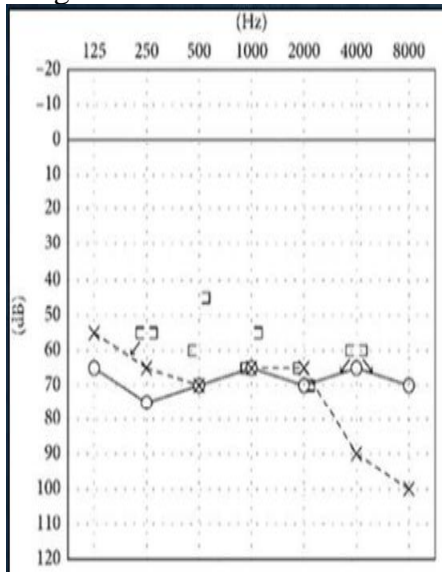
<i>N</i>	<i>Disorder</i>	<i>Definition</i>	<i>Symptoms</i>	<i>Diagnosis</i>
1	Otitis externa	An acute or chronic infection of the whole or part of the skin of the external ear canal	*The onset of symptoms is usually quick, lasting about 48 hours (about 2 days). *Most common symptoms include ear pain, drainage, and hearing loss. *Pruritus is more prevalent than pain in people with otomycosis.	*The EAC may seem abnormally swollen with fluid and redness *TM is redness if visible. may be slightly irritated *The color of purulent discharge may indicate the underlying cause. *Swollen and pinna eczema *Flat conductive hearing loss *Contraindication examination but in research, type B *Abnormal result in cases with effusion or with concomitant otitis media the pass rates for EOAE were 58.5%.
2	Otitis media	A middle-ear infection or inflammation that affects the mucous membrane lining of the middle-ear cleft, Main etiology, and risk factor: eustachian tube dysfunction, More in children		*PTA in OM results in mild moderate conductive hearing loss especially in low frequency sounds *In OM Tympanogram type B 1) Normal ECV: indicates ME effusion. 2)High ECV: indicates perforation of the TM Tympanogram Type c: end stages of ear infection. * Acoustic reflex: Pathology in ME: 1-ipsilateral OM in right ear. 2-ipsilateral OM in left ear. 3-bilateral OM *OAES: OM causes the sound to not reach the IE, which results in absent OAEs. *ABR: Conductive HL at LF due to OM, has been found to be
TYPES	ACUTE	a fluid appears in the middle ear with signs of acute infection	fever and rigors, Bleeding and drainage, Redness, Pain, Fullness	
	CHORONIC	a chronic and long-lasting inflammation of the middle ear and mastoid cavity	Fullness, Hearing problems, otorrhea, and sometimes true dizziness, tinnitus, and discharge	
	WITH EFFUSION	non-infected colorless fluid seen behind the	sometimes asymptomatic,	

		tympanic membrane in the middle ear	hearing loss, tinnitus, fullness with no fever and pain	related to the * Delay of ABR latency *.
3	Tympanosclerosis	It is a scarring and thickening of the tympanic membrane that manifests as a whitish/ yellow appearance of dense connective tissue, and on the structure of the middle ear, due to hardened calcium deposits. Which makes a hearing loss in some cases	<p>Tympanosclerosis in most cases is asymptomatic, so it is often clinically undetectable until hearing loss develops</p> <p>*These factors may lead to it:</p> <p>*Chronic fluids in the ear (Otitis media with effusion).</p> <p>*Untreated or consequences of severe middle ear infection.</p> <p>* Repeated eardrum rupture in some situations.</p> <p>*Myringotomy surgery</p>	<p>*PTA: Commonly conductive hearing loss, it could be mixed and sensorineural hearing loss</p> <p>*OAE: absent</p> <p>*Tympanogram: type As or type B</p> <p>*In otoscope chalk patches appear but they are rarely problematic. Also, there is a hardening of the ear in a mild case of tympanosclerosis that is not substantial; it is usually just a small, oval-shaped white patch in the upper right quadrant of the ear, and the patient is not aware of it. A considerably larger, white, oval-shaped zone will emerge in the ear in more severe cases of tympanosclerosis</p>
4	Otosclerosis	<p>*It is a result of growth of new spongy bone on the stapes in the middle ear; causing the fixation of ossicles, and restricting the volume of vibration passed to the inner ear, and weak sound transmission to the inner ear</p> <p>*Noticeable in the third decade.</p>	<p>*A progressive hearing loss.</p> <p>*A bluish cast to the whites of their eyes.</p> <p>*Difficulty hearing while chewing.</p> <p>*Tinnitus in the affected ear.</p> <p>*Schwartz sign</p>	<p>*Otoscopy examination: normal mobile of the tympanic membrane, with reddish blush on the promontory of the cochlea</p> <p>* Pure Tone Audiometry: golden standard for otosclerosis. Shows Carhart notch</p> <p>*Tympanometry: shows type As tympanometry.</p> <p>*Acoustic Reflex: absent</p> <p>*OAE: very sensitive to changes in the middle or inner ear, audio frequency signals from the cochlea to the ear canal transmitted through the ossicular chain. Absent but recovery is possible after stapedotomy.</p>
5	Cholesteatoma	*Cholesteatoma is a benign skin growth that can develop in the	*Brown/ yellowish drainage that smells bad "otorrhea."	show deep retracted cyst with purulent discharge, polyps can be present especially attic polyps

		middle ear; that takes the form of a sac with onion-like keratin rings. *This skin cyst grows behind the ear drum or behind the mastoid bone	<ul style="list-style-type: none"> * Ear pain. *Dizziness, vertigo *Ear fullness. *Perforated or retracted TM. *Caused CHL. *May cause SNHL or mixed. *Facial paralysis or weakness. *Infections 	<p>which usually characterize cholesteatoma</p> <ul style="list-style-type: none"> *Tympanometry will show type B (perforation) or type C (ETD) *Pure Tone Audiometry will confirm CHL. *OAEs is absent confirming middle ear dysfunction. * Speech audiometry is not affected because the problem is CHL
6	Meningitis	is inflammation of the protective membranes covering the brain and spinal cord	<ul style="list-style-type: none"> *Fever *Stiff neck *Headache *Confusion *Increased sensitivity to light *Balance impairment *Tinnitus. * Hearing loss (SNHL). * Cochlear ossification 	<p>*Tympanometry: type A</p> <p>*ABR: No response (flat ABR)., Appearance of waves 1 to 3 only., Wave number five (V) is the only one to emerge.</p> <p>*OAE: absent</p> <p>PTA:</p> 
7	Acoustic neuroma	known as vestibular schwannomas, are regularly benign, slow-growing tumors that emerge from the Schwann cells that shape the sheath of the vestibular branch of the VIIIth nerve	<ul style="list-style-type: none"> *Hearing loss, *steadily worsening over months to years *Albeit in uncommon instances sudden and happening on just a single side or more serious on one side. 2. Tinnitus in the impacted ear. 3. loss of balance. 4. Dizziness (vertigo). 5. Blockage or fullness within the ear. 	<p>*PTA: A) Two-thirds have asymmetric high frequency sensorineural hearing loss ordinarily higher than 30 dB at three or more frequencies either gradually progressive (majority) or sudden hearing loss.</p> <p>B) Almost one-third will have either low-frequency or mid-frequency loss, and as numerous as 12% of patients can have typical hearing within the nearness of an acoustic neuroma</p> <ul style="list-style-type: none"> * Speech Audiometry: gross discrimination disability, two thirds had a discrimination score of 30% or less. Half of them had completely no capacity for understanding speech. *Acoustic reflex: missed *OAE: EOAE was not present

			6. Speech-recognition difficulties	*ABR: small is normal in 30-50 % cases, medium and large is identified, wave V latency * Tympanometry: Tympanograms and static compliance are typical *Balance: detecting abnormal, involuntary eye movements, a condition known as nystagmus
8	Presbycusis	aging process hearing loss, without obvious organic etiology but different internal and external factors coexist, as noise exposure, tobacco use, inflammations, certain diet	*Difficulty in speech perception. * May complain of tinnitus or ringing in ears. *May exhibit vertigo. *Communication breakdown. * May complain of discrimination of some frequencies. *Impacted cerumen	*OTOSCOOPY: Impacted cerumen Intact Tympanic membrane. * OAE: DPOAE decreased for frequencies above 2 KHz for individuals 30+ years Increase in frequency = decrease on DPOAE\ *PTA: in the six decades it is typically bilateral at first in the high frequency range (40 to 59), At (60 to 80) years of age, lower frequencies are also affected The threshold values for males are poorer than for females *Tympanometry: type A *ABR: 0.2 ms increase in the latency values for 25 to 55 years of age, Amplitude as it reduced for all wave *Speech audiometry: The patients have significant problems with understating speech in noisy backgrounds, that is why their SRS thresholds are elevated, Neural presbycusis: poor WRS Metabolic: good SRS, Mechanical: average SRS
9	Noise Induced Hearing Loss (NIHL) as a working hazard and as conflict/ War hazard (Compare between the two types)	Noise is a very high-level sound and one of the most important health hazards. *Noise-induced hearing loss is a permanent auditory damage, causing sensory neural hearing loss. * Usually bilateral and progressive	Dizziness, Vertigo Transient tinnitus, Fullness, Speech sounds are muted Difficulty comprehending speech and conversation in environments with background noise. *Difficulties in face-to-face conversations. * Sounds like whistles and buzzers, which are	*OAE: Noise exposure causes smaller OAEs or none at all (absent EOAEs) *Tympanometry: type A PTA:

			<p>high frequency sounds may be muffled by any degree of NIHL.</p> <p>*Consonants in words like 'fish' and 'fist' are hard to distinguish.</p> <p>*The hearing loss is not usually noticed until the person's communication becomes severely impacted</p>	 <p>*ABR: Abnormal ABR at wave 1, small amplitude, delayed or absent.</p> <p>* SPEECH-IN-NOISE-TEST: Difficulties in speech comprehension</p>
10	Ototoxicity	Ototoxicity is a medical term which results from exposure to drugs or chemicals that damage the inner ear or the vestibulocochlear nerve, often impairing hearing and balance.	<p>May be temporary or permanent:</p> <p>*Hearing loss.</p> <p>*Dizziness</p> <p>*Vertigo.</p> <p>*Hyperacusis.</p> <p>*Aural fullness.</p> <p>*Unsteady gait.</p> <p>*May include tinnitus.</p> <p>*Vomiting and nystagmus,</p> <p>*Difficulty in understanding speech.</p>	<p>*Tympanometry: Results in type A tympanogram indicating normal middle ear functioning</p> <p>*PTA: Typical audiogram will depict bilateral high frequency sensorineural hearing loss (SNHL).</p> <p>*ABR: lengthening of latency and disappearance of wave five (v) have been associated with diminishing hearing</p> <p>OAE: OEA's results showed severe hearing loss in lower frequencies, which are crucial for speech perception (1000-3000 Hz). The lowest amplitudes were found in subjects with symptomatic ototoxicity</p>
11	Functional Hearing Loss	Apparent loss of hearing without an organic disorder or with	Source of referral; e.g., is there	*Acoustic reflex: ipsilateral acoustic reflexes present at 500 Hz, 1KHz, 2KHz and 4KHz.

		<p>insufficient pathological evidence to explain the extent of the loss</p> <ul style="list-style-type: none"> *Adult seeking financial or other *Children seeking attention. *Persons with psychological disorders 	<p>compensation involved?</p> <ul style="list-style-type: none"> *Patient's history; e.g., seeking attention *Behaviors during the interview; e.g., exaggerated hearing postures or extremely heavy and obvious reliance on lip reading. *Performance on routine hearing test 	<p>*OAE: Patients with FHL show normal TEOAEs, although if there is a possibility of a retro cochlear disorder, ABR testing should also be done.</p> <ul style="list-style-type: none"> * (DPOAE) was also performed and bilateral DPOAEs were present suggestive of normal outer hair cell functions *Tympanometry: bilateral 'A' type tympanogram * TEST-RETEST RELIABILITY Lack of consistency on repeated measures is one indicator of functional hearing loss * PTA and SRT Patients with FHL show an incompatibility between PTA and SRT. SRT will be lower(better) than PTA without any explanation *PTA: Look after these: interaural attenuation, cross hearing, and shadow curve
12	Peri lymphatic Fistula	<p>is an abnormal condition that happens due to infiltration of the perilymph fluid from inner ear as a result of tear or rupture of the thin membranes that separate the inner ear and middle ear, these membranes are oval and round window. As a result of this tear or rupture the middle ear cavity which is air filled will become perilymph fluid filled from inner ear causing fluid exchange that would change the pressure affecting the auditory and vestibular system</p>	<ul style="list-style-type: none"> *Sudden or progressive SNHL. *Motion intolerance. *Nausea and vomiting. *Tinnitus and vertigo. *Aural fullness. <p>Symptoms will get worse when the patient does heavy lifting, or bending over, sneezing, coughing</p>	<p>*Otoscopy: normal Or Reveal fluids behind tympanic membrane</p> <p>*PTA: normal, Or in a big number of patients SNHL</p> <p>*CT: which produces a 3D X-ray image of the fistula</p> 
13	Superior Semicircular Canal Dehiscence (SSCD)	<p>*It is a common disorder from a group that called "third window abnormalities," characterized by an</p>	<p>*Vertigo/dizziness caused by pressure altering activity.</p> <p>2. Tullio's phenomenon</p>	<ul style="list-style-type: none"> *Acoustic reflex: Often absent. *Tympanometry: Intact (Type A) * Puretone Audiometry: Conductive hearing loss, and fluctuating or progressive

		<p>abnormal opening thinning or complete absence of the bony labyrinth part of the canal in the inner ear causing a third window</p> <p>* It is frequently misdiagnosis because it mimics other vestibular disorders' symptoms</p>	<p>(sound-induced vertigo).</p> <p>3. Ear fullness/pressure.</p> <p>4. Autophony (Hearing internal sounds louder than the normal levels, like eye blinking, heartbeat, or joint movements).</p> <p>5. Sensitivity to specific external sounds and vibrations such as door slamming and manufacturing equipment.</p> <p>6. Brain fog.</p> <p>7. Conduction hyperacusis.</p> <p>8. Underdo migraines.</p> <p>9. Involuntary head movements in response to loud sounds.</p>	<p>sensorineural hearing losses were found.</p> <p>Large air-bone gap at the lower frequencies (250, 500, and 1,000 Hz).</p>
14	Meniere's disease (MD)	<p>Sudden idiopathic endolymphatic hydrops it seems • due to overproduction (by striavascularis) or under absorption (by endolymphatic sac) of endolymph, so it affects the inner ear structure which causes unilateral fluctuating sensory neural hearing loss but it could be bilateral 27% with a problem in speech recognition and it called a "labyrinthine storm" because of sudden symptoms occurrence, in the other conditions if the cause is known we call it Meniere's syndrome</p>	<p>*Backed up fluids lead to swelling and pressure.</p> <p>*Swelling distorts balance information.</p> <p>* Swelling distorts sound information</p> <p>*Distorted information travels to the brain.</p> <p>* The interview with the patient will help us to assumption of what the problem will be. Patients with Meniere's disease will say they experience ear fullness, hearing loss in one ear, feel dizzy that can range from a few minutes to a few hours and</p>	<p>*Otoscopy: No abnormality is seen in the tympanic membrane; cone of light was seen</p> <p>*Tympanometry: Type A for both ear</p> <p>*OAE: Absent in the affected ear</p> <p>*PTA: There is unilateral SNHL.</p> <p>*In the early-stage hearing loss is more in the low frequency- rising curve. As the disease progresses middle and higher frequencies get involved and the audiogram becomes flat.</p> <p>*Speech Audiometry: Difficulty in speech recognition.</p>

			have trouble with balance. These symptoms make us suspect that he suffers from Meniere's disease so the patient will be tested for any evident balance and hearing problem	
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WITH BEST WISHES
ROIA RABEE