

Laguna Honda Hospital
Clinical Rehabilitation Symposium
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“I Hear, but I don’t understand!”

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Clinical Audiologist Scope of Practice

Prevention

Identification

Assessment

Rehabilitation

ASHA 2016

Clinical Assessment

To confirm or rule out hearing loss:

Pure-tone Audiometry: air conduction and bone conduction threshold assessment

Speech Audiometry: Speech recognition and reception assessment

Middle-Ear Function: Tympanometry and Acoustic Reflex assessment

Also important:

Otoscopic inspection of the ear canal

Case history information

Chart notes and physician referral notes

“I hear you, but....”

Elemental Factors that reduce auditory understanding:

Peripheral Auditory Pathway Obstruction

- Earwax (cerumen) occlusion

 - A 100% occlusion reduces hearing by 5-15 dB in the low frequencies

Middle-ear Effusion

- Otitis Media: serous or mucoid

- Eustachian Tube Dysfunction

Sensorineural Hearing Loss

Physiological Damage to the Cochlear Hair Cells

--inner and outer hair cells receive physical sound waves and transduce them into electro-chemical impulses

The function of the hair cells can be disrupted by:

age noise exposure medications
accident or injury

Auditory Pathway Disruption

Neurological Distortion caused by a decrease of electro-chemical transmission can result in 'phonemic regression'

"Retrocochlear" pathology such as an acoustic neuroma will impact speech understanding, usually on the affected side

Vascular abnormalities associated with CVA will affect comprehension

Closed-head injury, TBI, temporal bone fracture, dislocation of the auditory ossicles can also be responsible for lack of auditory comprehension

We Hear With Our Brain

“Brain Hearing” is the result of as many as 86 billion neurons receiving input from about 10,000 other neurons

The auditory cortex, located in the Heschl’s gyrus of the temporal lobe is where all sound is decoded

Cognitive function is adversely affected by hearing loss

Acoustic isolation has been associated to an increase of confusion in both dementia and Alzheimer disease

How to Help

Identify and Refer for assessment:

Residents who display obvious hearing impairment

TBI or Closed-head injury

Sudden changes in hearing or understanding

Residents who are known to produce significant cerumen

Residents being given medication known to be ototoxic

Hearing aids can be provided to residents who qualify under current Medi-Cal guidelines

Final Thoughts

Follow the Golden Rule of Communication: “Talk **to** me; not **at** me”

Proximity: close the distance between your mouth and your listener’s ear

Clarity: use a slightly slower speech rate and a slightly louder volume

Allow for processing: give the listener a little time to process what’s been said

Remember: The older the person is, the more time it will take them to understand

Be in the same ‘linguistic neighborhood’ as your listener: use words that are understandable; avoid complex or abstract ideas; keep words simple and direct

Eye Contact: Our eyes help our ears to hear