“I Hear, but I don’t understand!”
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Scope of Practice

Prevention
Identification
Assessment
Rehabilitation

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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
  --Otits 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 Heschel’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