

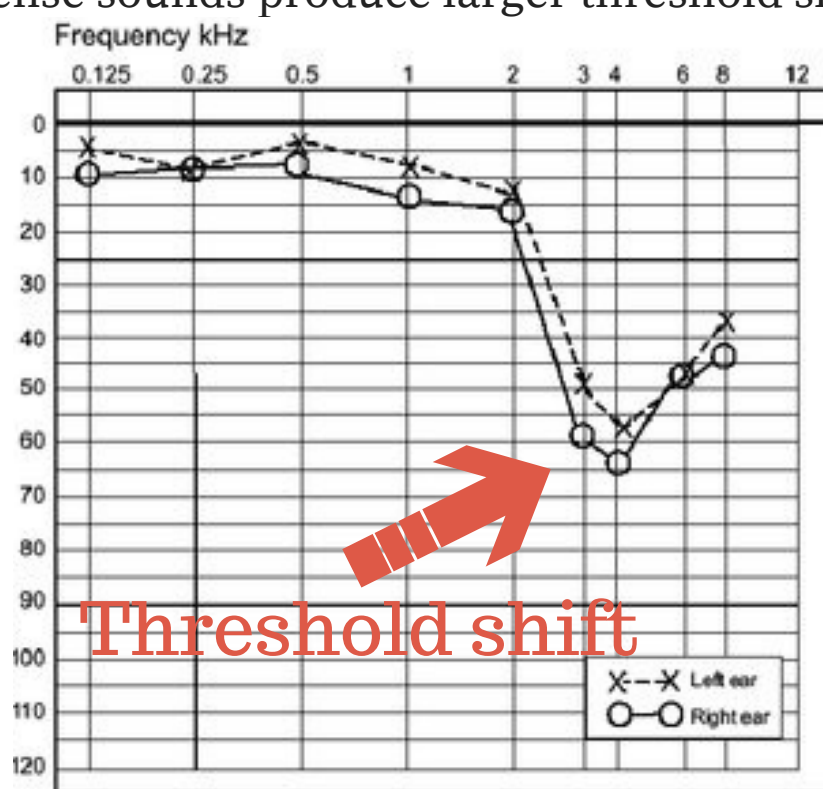


# NOISE INDUCED HEARING LOSS

Episode 20.1

## THE PROBLEM!

- Noise and aging are most responsible for permanent hearing loss in North American adults. Leads to decreased QOL
- Loud, higher frequency sounds > 4000 Hz are more hazardous than lower frequency sounds
- Loud, continuous sounds are more hazardous than loud, intermittent sounds if duration of exposure is the same
- More intense sounds produce larger threshold shifts



## PATHOPHYSIOLOGY

- Loud sounds cause damage to hair cells in the Organ of Corti. Disallows their movement, becomes stiffer and less responsive to stimulation
- Aging likely additive to NIHL
- Always sensorineural, typically bilateral
- Rate of hearing loss worse in first 10-15 years of exposure

## DIAGNOSIS AND MANAGEMENT

- History --> aural fullness, tinnitus, muffled hearing
- Physical exam --> r/o CNS cause, imbalance, and external / middle ear pathology
- Audiometry (ideally over period of years; done annually)
- Measure noise exposures with dosimeter
- Administration to reduce noise exposure < 90 dB x 8hrs day
- Hearing protection devices

