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# *Cognition and Hearing Health: A Call to Action, and How We Can Help Our Patients*

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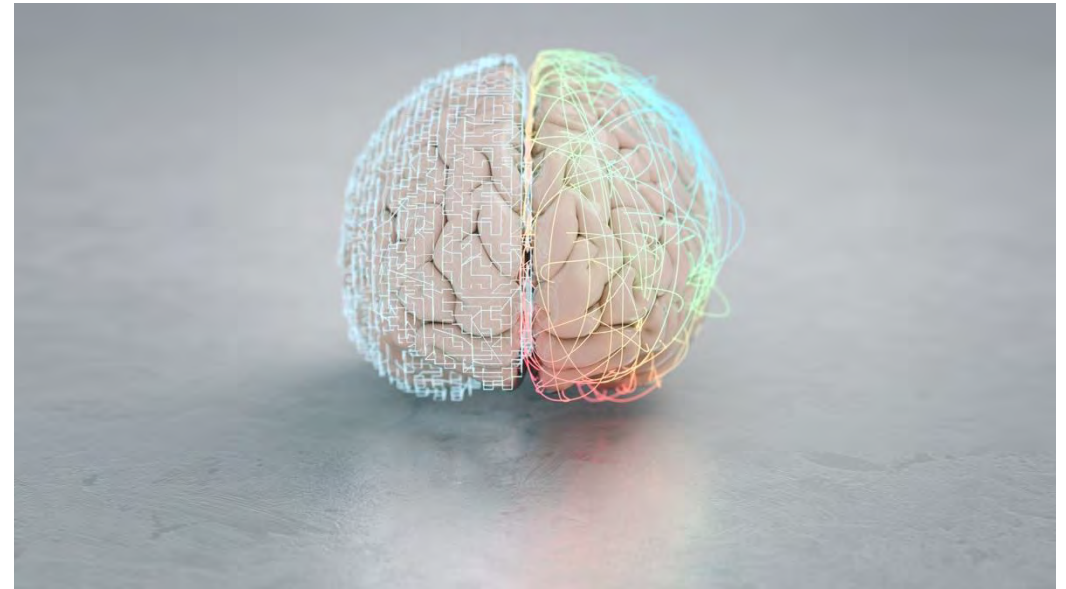
January, 2025



# Learning Outcomes

- 1) Identify manifestations of the social and emotional impact of hearing loss.**
- 2) Discuss recent research linking cognition and hearing loss and list the potentially modifiable risk factors for dementia.**
- 3) Explain ways to talk about research findings regarding cognition and hearing loss in the clinic, and detail certain hearing aid selection and programming considerations that may optimize the fitting for individuals with cognitive decline.**

# How Does Cognition Relate to Hearing Loss?





**28.8 million**  
U.S. adults could benefit  
from using hearing aids.



**Only 1 in 4 U.S. adults ages 20 and over who could benefit from hearing aids has used them.**

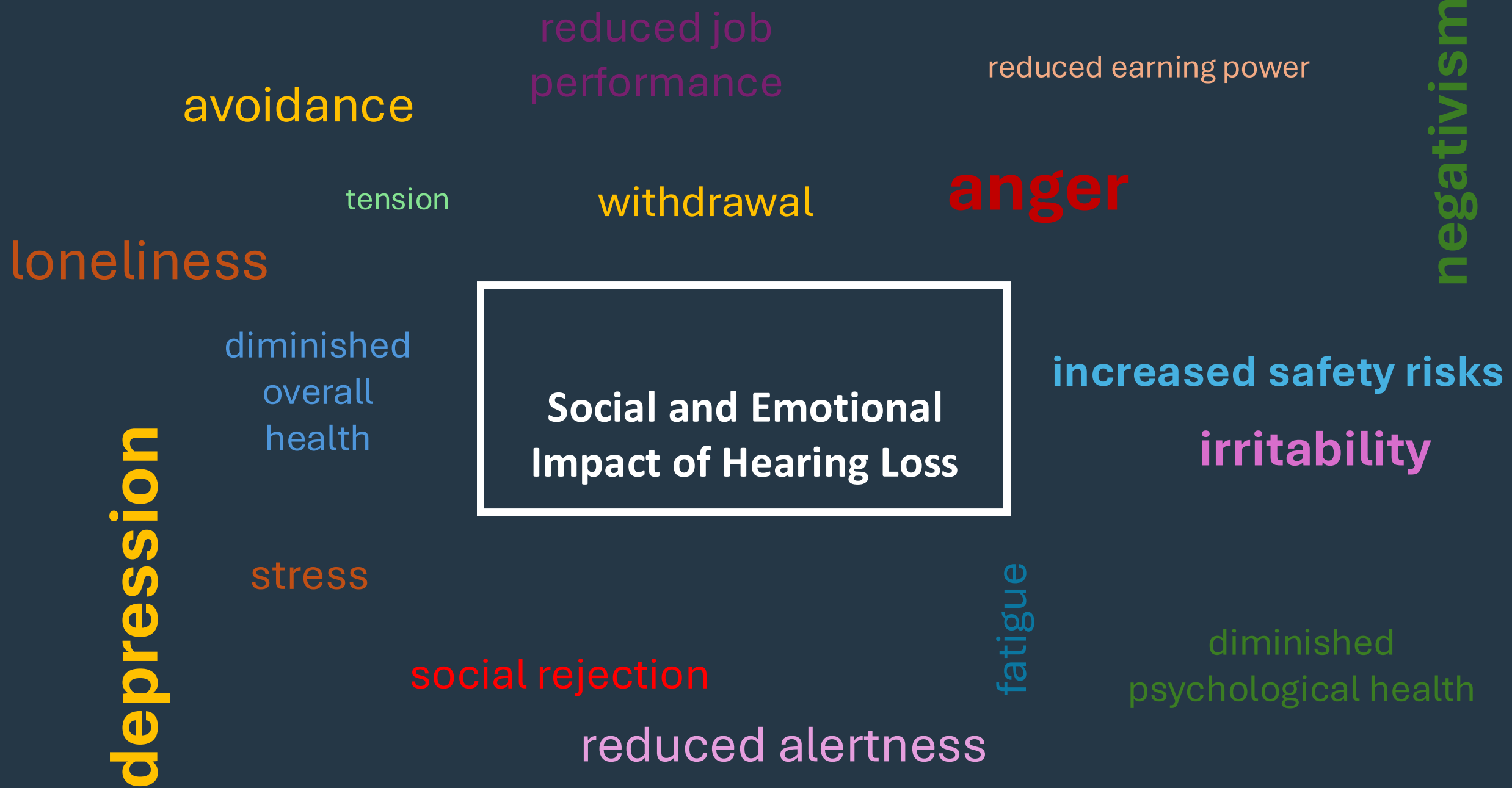


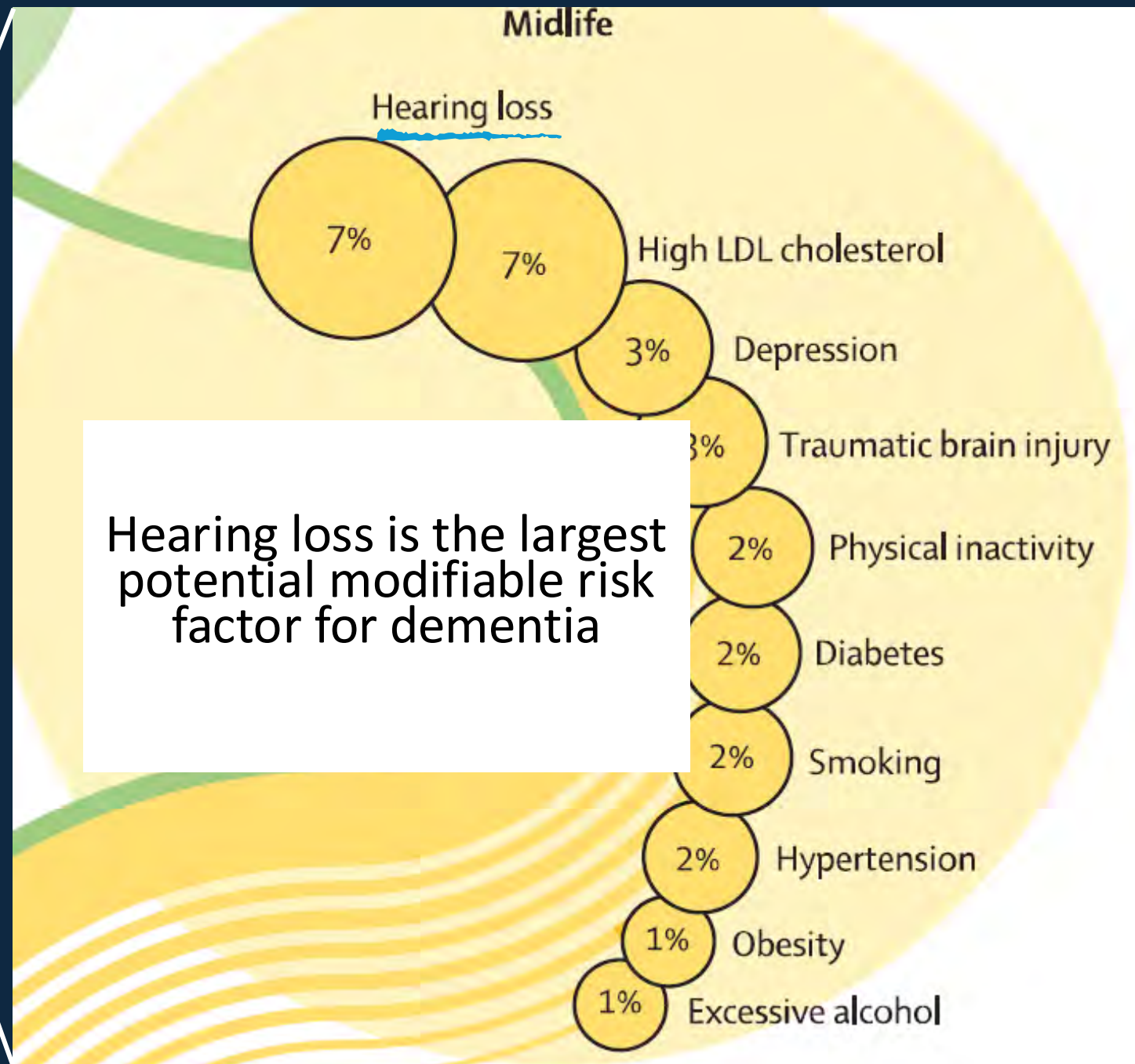
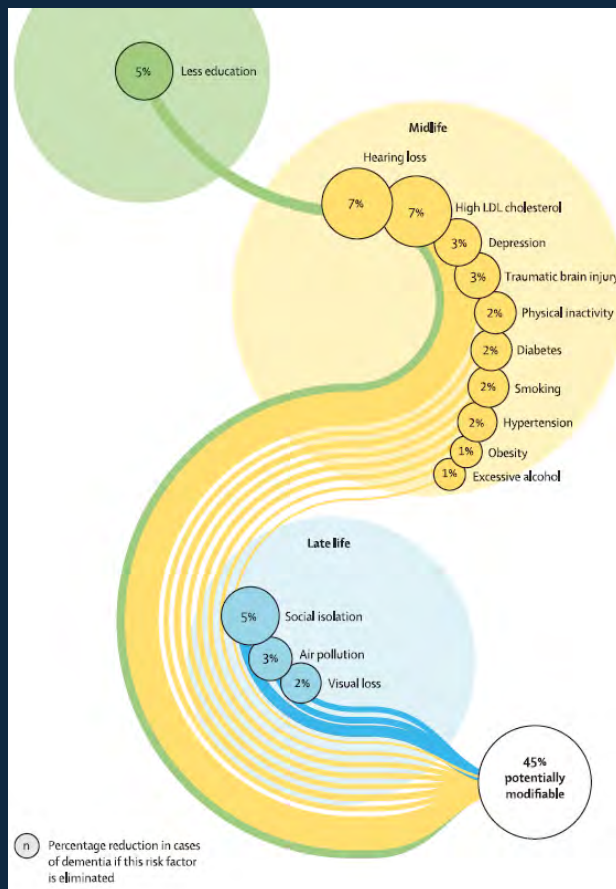
About **1 in 6** adults (16%)  
**ages 20 to 69**

About **1 in 3** adults (30%)  
**ages 70+**

# Hearing Loss & Hearing Aid Use

*Source: NIH NIDCD (2015)*

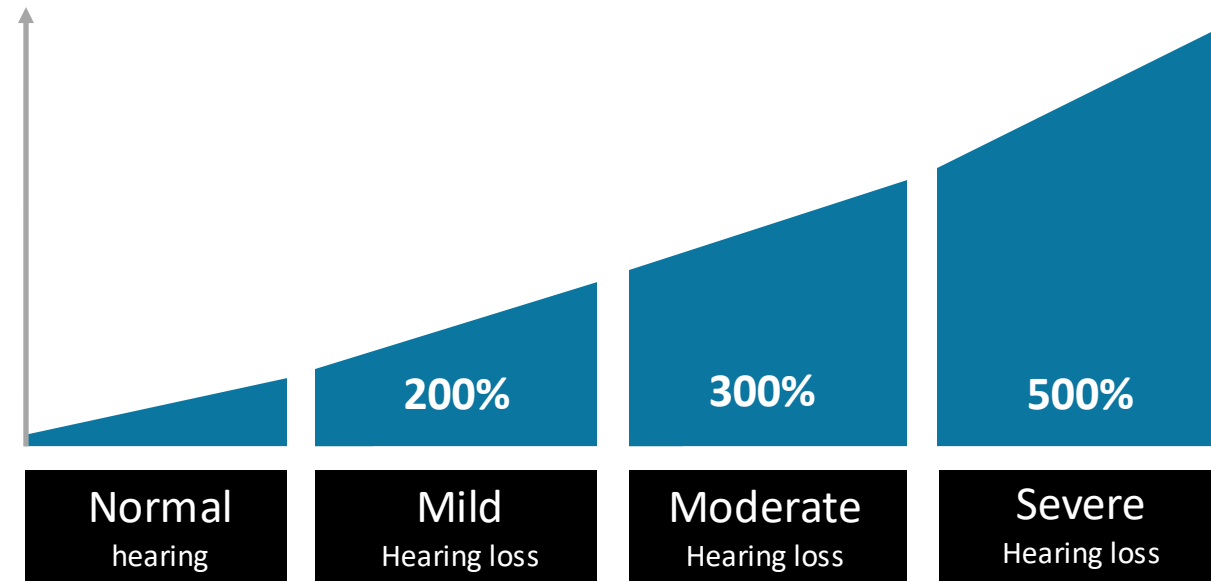




# 1989

2011

### Increased Risk of Dementia With Degree of Hearing Loss



2023

**In older adults at increased risk for cognitive decline, hearing intervention slowed down loss of thinking and memory abilities by 48% over 3 years.**

# Counseling and Referrals

- Have a family member present
- Focus on good communication strategies
- Help patient understand their hearing loss and health effects
- Provide resources to the patient on how to use their hearing aids
- Discuss realistic expectations
- Provide positive messaging focusing on the known benefits of addressing hearing loss (improved communication, quality of life, and aging)
- Make appropriate referrals





## Hearing Aid Style Considerations

- Dexterity
- Visual Considerations
- Durability
- Power/amount of hearing loss
- Ease of Use

# Hearing Aid Technology Recommendations

- Automation
  - Directionality
  - Noise Reduction
- Programming capabilities:
  - Adjusting attack/release times
  - Maximum adjustability and customization
- Compatibility with accessories



# Example of Hearing-Related Comments in the Lancet Report

Poor speech-in-noise hearing, which involves difficulty understanding speech amid background noise, is associated with a 1.91 times higher odds (95% CI, 1.55-2.36) of developing dementia.

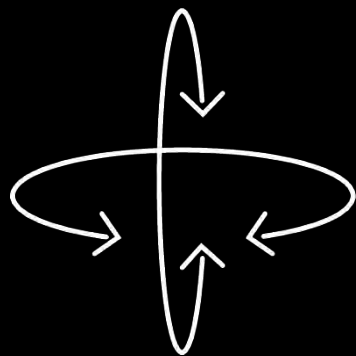
Stevenson JS, Clifton L, Kuźma E, Littlejohns TJ. Speech-in-noise hearing impairment is associated with an increased risk of incident dementia in 82,039 UK Biobank participants. *Alzheimers Dement* 2022; 18: 445–56

# Where does this information lead us?

- Hearing-in-Noise
  - This is the biggest issue for those with hearing loss and plays into dementia risk.
- We need to make sure we solve this problem when treating patients.
- HOW?
  - Hearing aids with 4-microphone beamformers when needed
  - Companion Mics
  - TV Streamers
  - Auracast

# Programming Considerations for People with Cognitive Decline

- Lower Distortion
  - Limit frequency lowering and other features that may distort the signal integrity
    - Arehart et al. (2013): Older listeners with poor working memory are more susceptible to the effects of signal distortions (such as those inherent in frequency lowering) in noisy environments
- Slower Time Constants
  - Gatehouse et al. (2003, 2006): People with poor cognitive abilities perform better with slower WDRC



# ReSound 360 All-Around





Spatial Cue Preservation



Binaural Listening



Speech Intelligibility

**All of These Contribute to Healthy Aging**



Thoughts? Ideas? Questions?

Thank you for joining!