Rehabilitation Options for Patients with Normal Hearing and Auditory Complaints

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Keeping things legal

- No financial conflicts of interest
- The information presented and the opinions expressed herein are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs, Department of Defense, or the United States government

Background

Normal-hearing individuals with a history of TBI often report issues communicating in background noise

- 62% - 92.5% of Veterans with blast-related TBI self-report auditory difficulties

Lew et al., 2007; Oleksiak et al., 2012; Tepe et al., in press

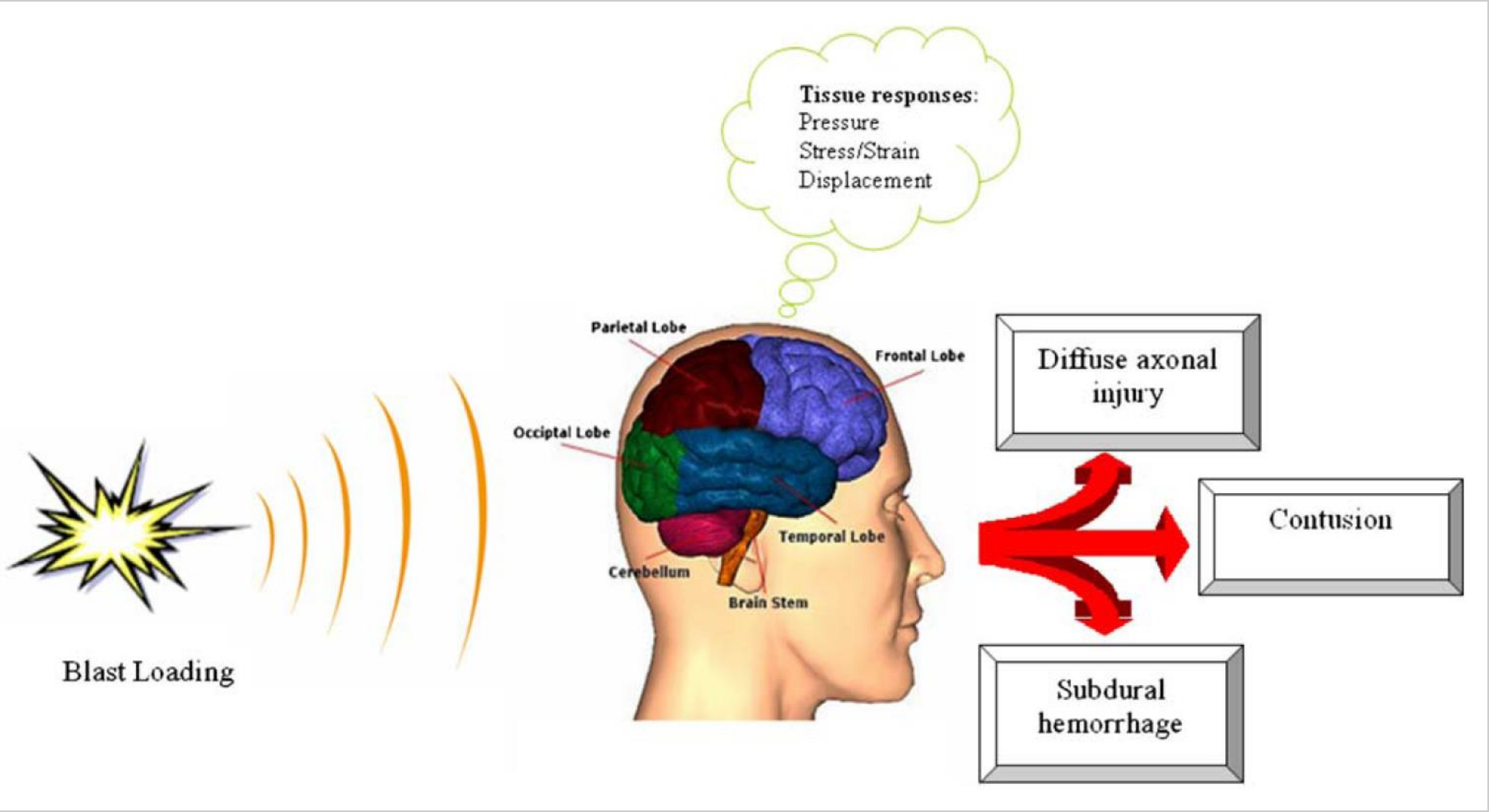
Background

"My daughter won't talk to me anymore because I ask her to repeat herself so much."

"I mostly stay alone because I can't hold normal conversations with people. It's embarrassing when I can't understand what people are saying."

"I can't hear the radio in my squad car. I worry that I'm missing information that could put people at risk, even though they told me my hearing was normal."

Background



Chafi et al. (2010)

Background

Research points to TBI-related central auditory dysfunction:

- Poorer performance on speech-in-noise perception tasks
- Poorer performance on behavioral tests of central auditory processing
- Impaired neural encoding of auditory information

Gallun et al., 2012; 2016; Koerner et al., 2018; Saunders et al., 2015

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Survey of Audiologists

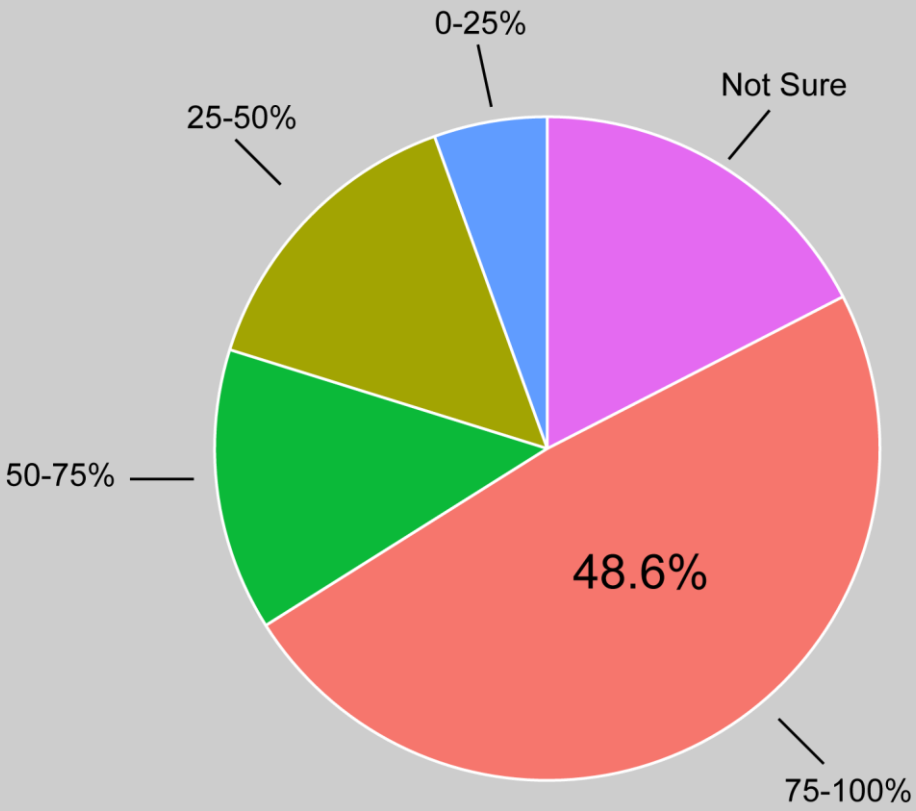
Purpose:

- Determine how audiologists are currently treating individuals with normal hearing sensitivity
- Determine how well different treatment methods are working in the clinic

- Use survey results to design methodology for randomized control trials to assess the effects of various treatment options

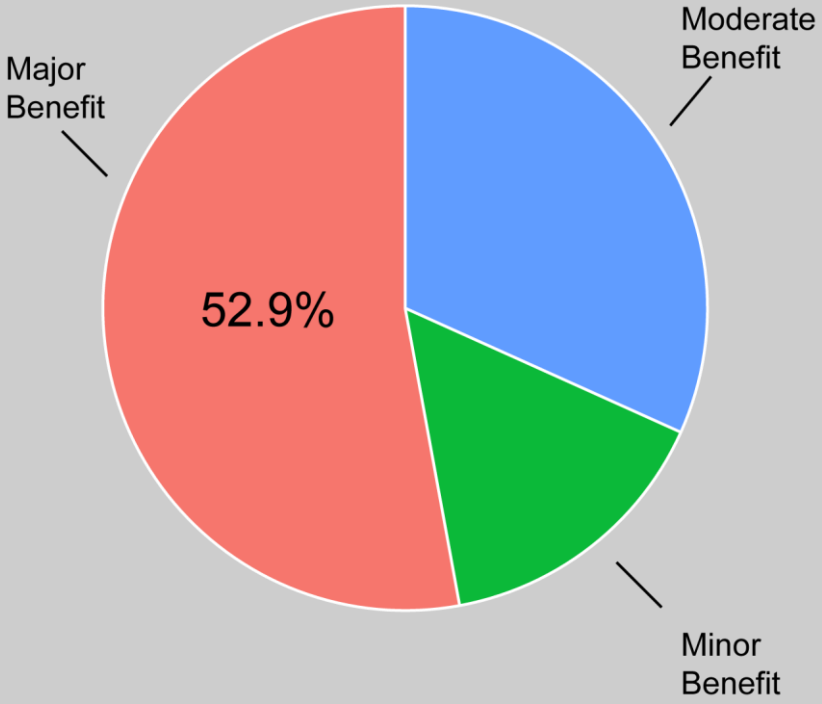
Hearing Aids:

How many patients keep the hearing aids?



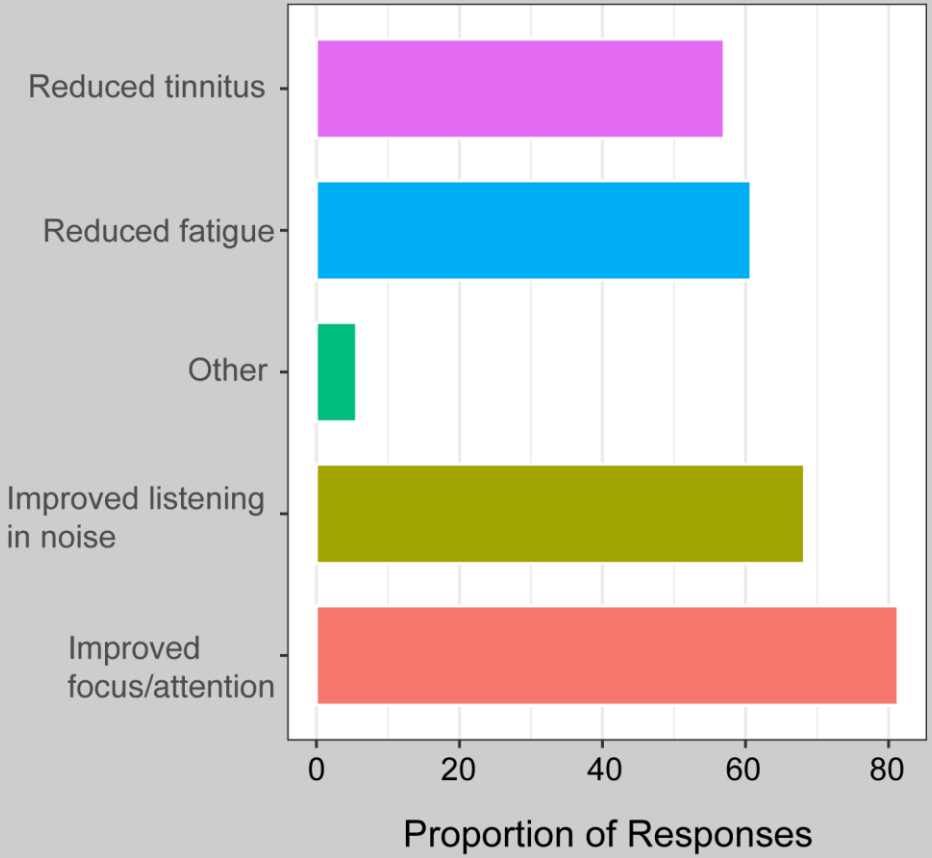
n = 109

Do you feel that these adults receive benefit from the hearing aids?



n = 104

How do these adults with normal hearing thresholds say that they benefit from the hearing aids?



n = 107

Additional Comments on Hearing Aids:

"Family reports significant improvement in personality and communication…"

"I feel like my APD patients are my most loyal hearing aid wearers…often 14 hrs. per day"

"I have never, in almost 20 years, have had anyone return their devices, in fact they return stating that their lives are much improved…"

Additional Comments on Hearing Aids:

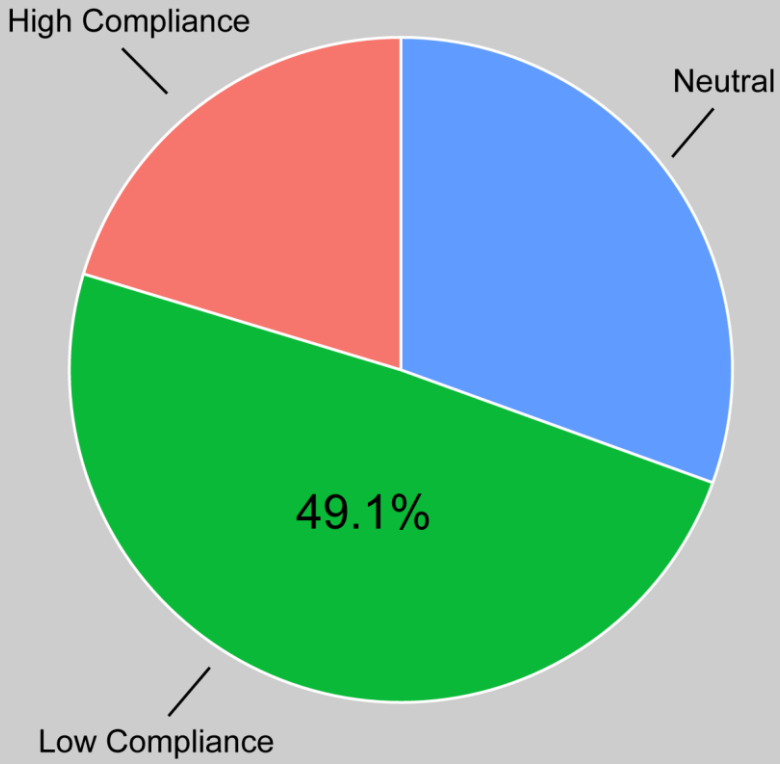
"…most don't feel the cost of aids is worth it"

"…feel like it is a case by case basis and am not completely sure they are obtaining significant benefit for speech understanding…"

"They don't return the hearing aids but also don't tend to wear them either."

Auditory Training:

How compliant are patients with sticking to the recommended auditory training protocol (i.e. do they complete the recommended number of sessions or hours of training)?



n = 59

Summary

- Normal-hearing patients may benefit from amplification from hearing aids
  - Survey results provided details about hearing aid fitting procedures that can be used to develop future research studies for examining this approach in individuals with brain injury

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- Issues with compliance might limit benefit from auditory training programs
  - Future research will work on developing more user-friendly and effective auditory training games

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- Normal-hearing patients may benefit from amplification from hearing aids
  - Survey results provided details about hearing aid fitting procedures that can be used to develop future research studies for examining this approach in individuals with brain injury
- Issues with compliance might limit benefit from auditory training programs
  - Future research will work on developing more user-friendly and effective auditory training games
- Rehabilitation approaches should be individualized to patient needs

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