

Binaural Summation

A function of central auditory processing in which the listener perceives increased sound intensity when both ears are presented with a similar signal versus either ear alone.

Does having two ears improve performance over listening with one ear alone, when speech and noise are presented from the front?

TEST MATERIAL
AzBio Sentences



Summation is assessed by:

- Speech front, noise front with CI on
- Speech front, noise front with CI off
- Benefit is quantified as amount of improvement with CI on



Head Shadow Benefit

Head shadow occurs when the mass of the head creates an acoustic shadow preventing sound presented on one side from reaching the opposite side.

The Head Shadow Effect is assessed by:

- Speech front, noise to NE with CI on
- Speech front, noise to NE side with CI off
- Benefit is quantified as the amount of improvement with the CI on

Is performance improved when noise is on the side of the NE?

TEST MATERIAL
AzBio Sentences



Squelch

Requires central auditory processing to differentiate meaningful sound from background noise by comparing input from both sides.

Is performance improved when noise is on the side of the CI?

TEST MATERIAL
AzBio Sentences

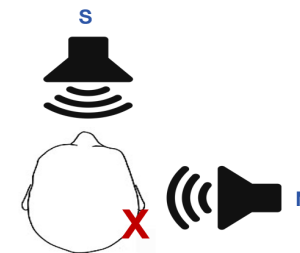
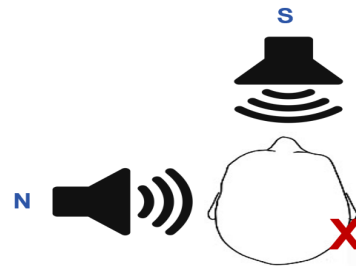
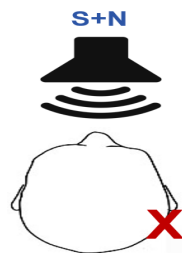
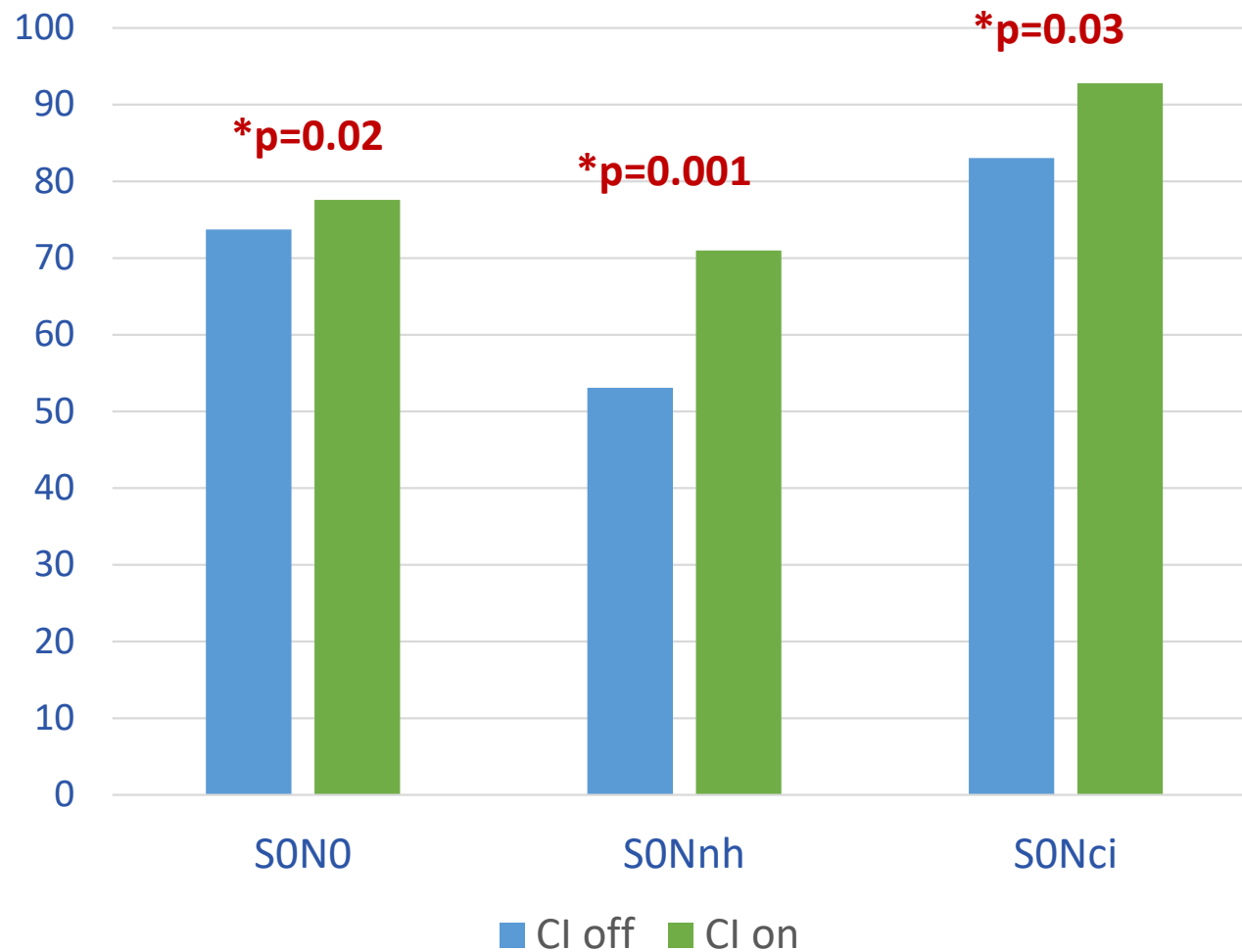


Squelch is assessed by:

- Speech front, noise to CI side with CI on
- Speech front, noise to CI side with CI off
- Benefit is quantified as the amount of improvement with the CI on

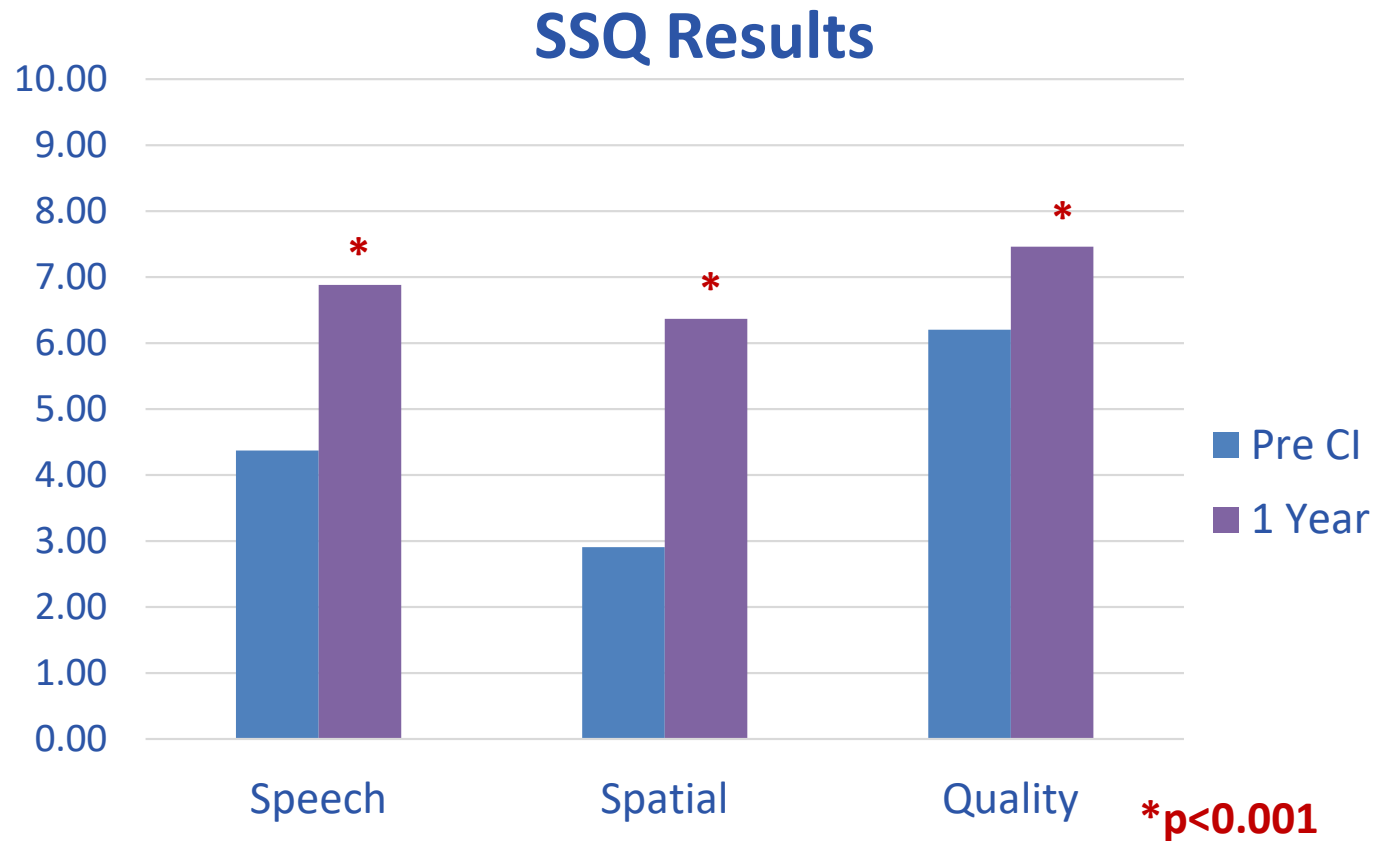


Spatial Hearing



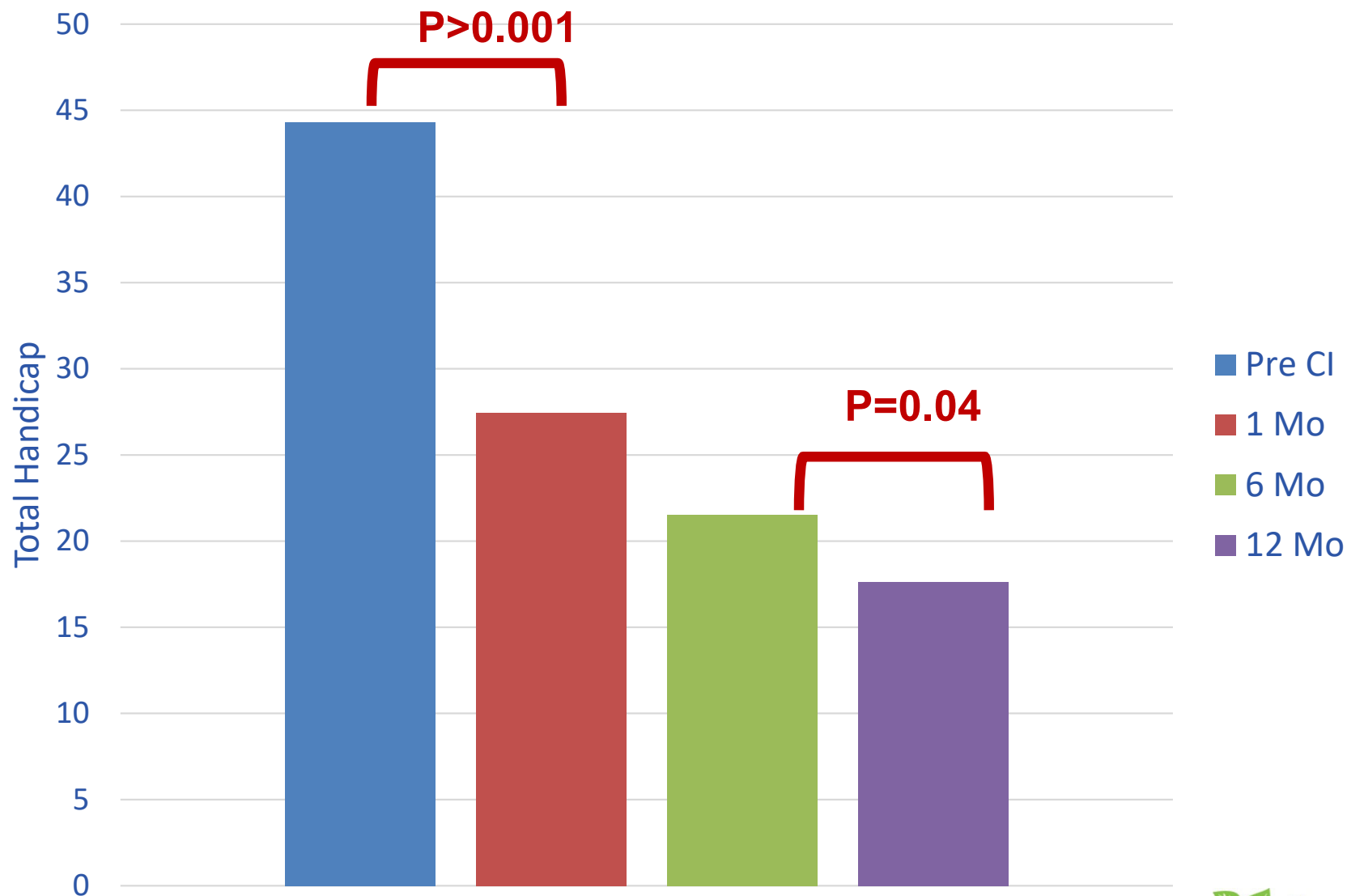


Speech, Spatial, Qualities Questionnaire





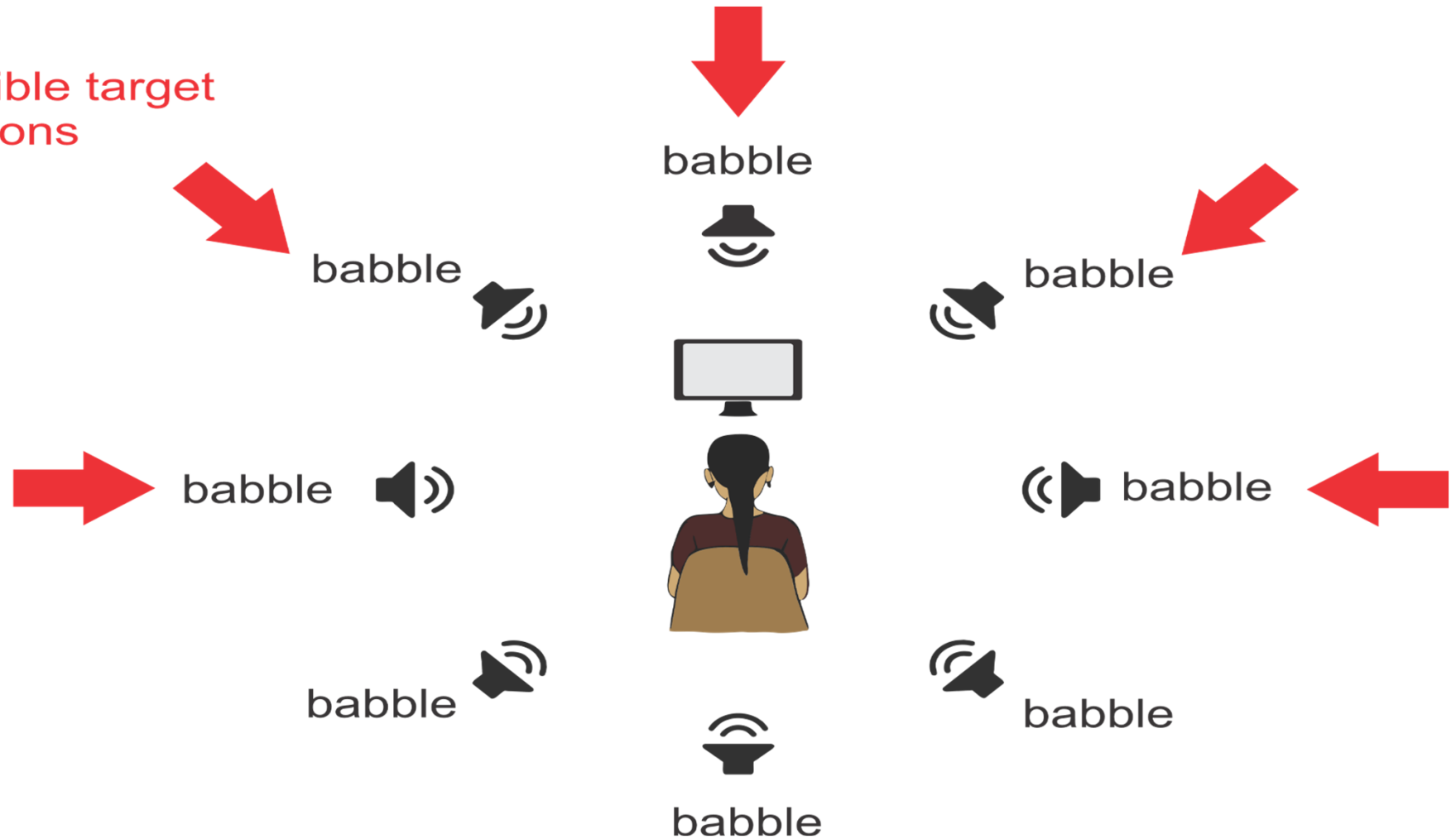
Tinnitus Handicap Inventory





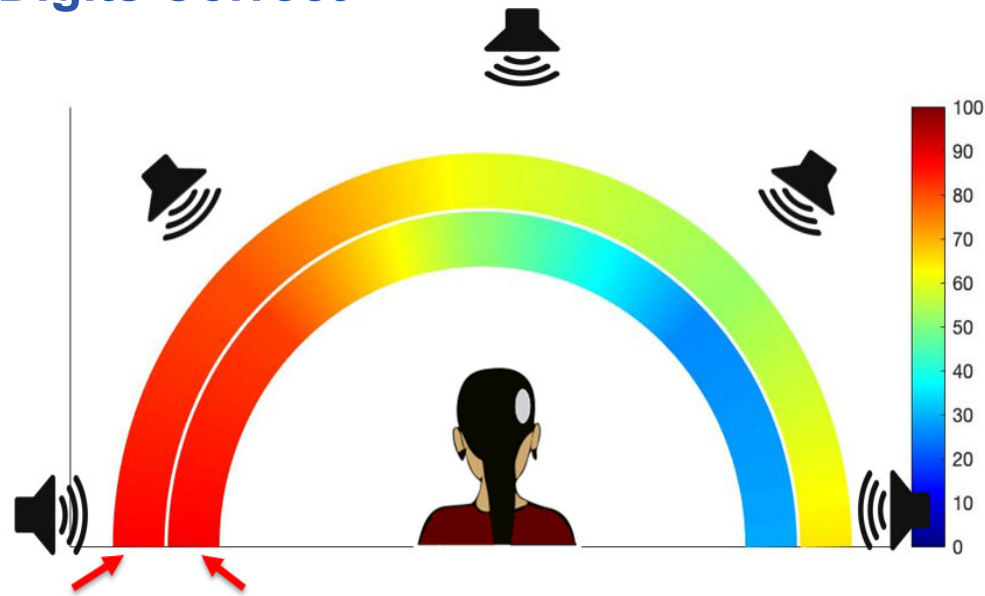
Listening Effort

Possible target locations

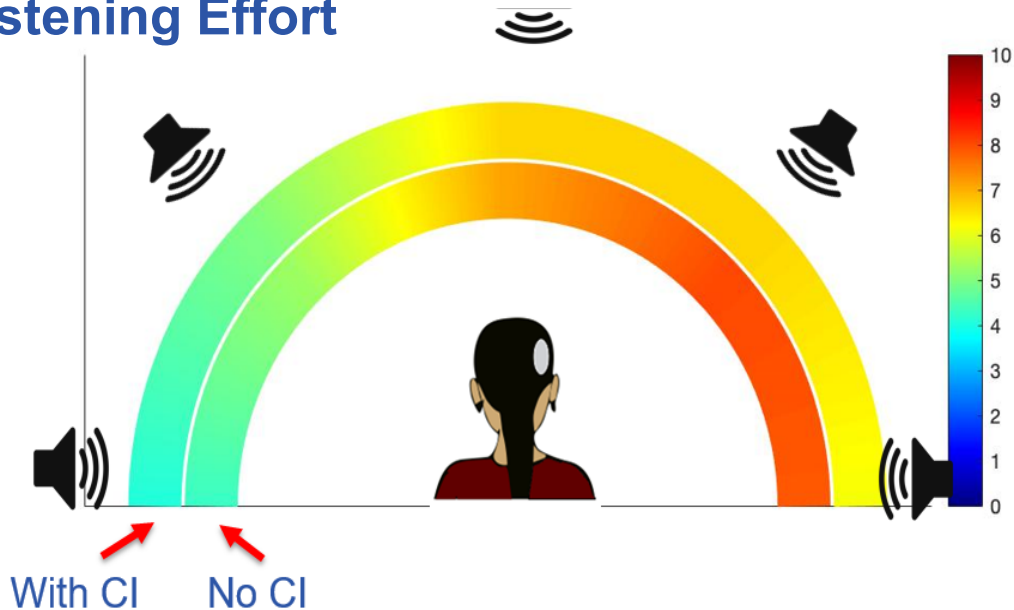


Hearing Performance and Listening Effort

Digits Correct

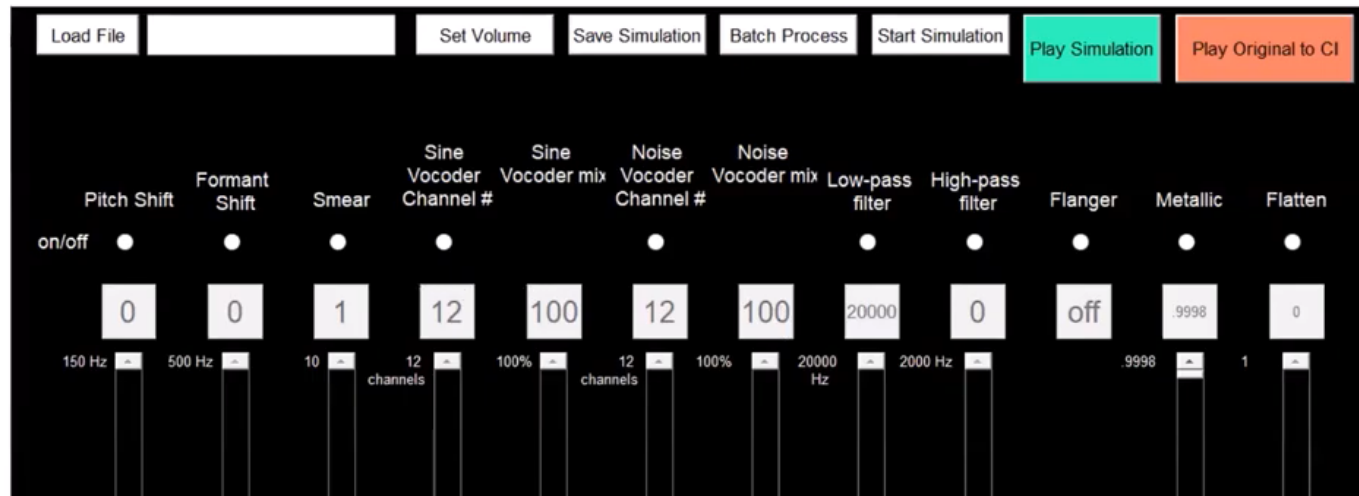


With CI
Listening Effort



What Does a Cochlear Implant Sound Like?

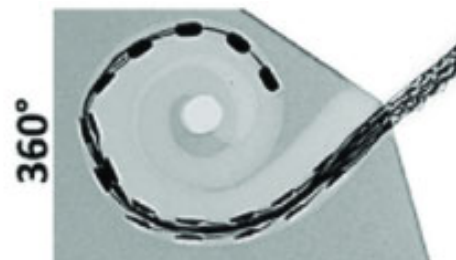
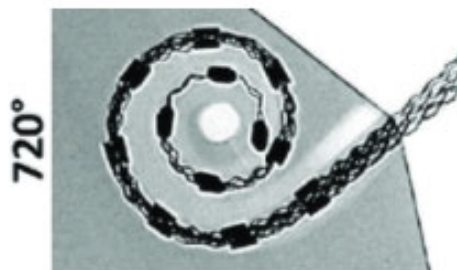
Experimenter's console



Do you like camping?



The sun is finally shining.





Conclusion

The provision of cochlear implants for SSD has been proven to be a successful treatment option to restore the benefits of binaural sound processing

- better localization for most but not all – not to the same degree as natural hearing
- more balanced sound – improved listening effort
- Improved listening in noise but still challenging
- Improved hearing in the implant ear but not to the level of the normal ear (AzBio ranges 0%-98%)
- Potential of tinnitus suppression
- Need for longer term rehab.
- Importance of consistent use

Questions?

Contact -

Contact@CanadianAudiology.ca

Webinar recording, and PDF will be posted to the CAA website within a few business days.

For those attending this session live you will receive a thank you for attending email. That is your record of attendance and CEU.

CAA Webinars Upcoming and On Demand

AUDITORY SCENE ANALYSIS : UNDERSTANDING THE FUNDAMENTAL MECHANISMS OF AUDITORY PERCEPTION AND PERSPECTIVE FOR AUDIOLOGICAL REHABILITATION – THURSDAY, JUNE 9TH, 2022 – 2PM EST +

ARCHIVED WEBINAR: NEURAL CORRELATES OF LISTENING EFFORT WITH ANDREW DIMITRIJEVIC – AIRED FRIDAY, APRIL 29TH, 2022 +

ARCHIVED WEBINAR: CAA CLINICAL PLACEMENT WEBINAR – APRIL 19TH, 2022 +

ARCHIVED WEBINAR: IDA WEBINAR – IMPROVING CLIENT MOTIVATION AND SATISFACTION THROUGH PERSON-CENTERED CARE WITH ENA NIELSEN & HELLE GJØNNES MØLLER – AIRED: FEBRUARY 24, 2022 +

ARCHIVED VCM: VIRTUAL CONFERENCE MODULES – FALL 2021 +

ARCHIVED WEBINAR: COMMUNICATION ACCESS FOR CHILDREN VIA PERSONAL REMOTE MICROPHONE SYSTEMS: WHAT DOES RESEARCH TELL US? WITH DAWNA LEWIS: AIRED: JUNE 29TH, 2021 +

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SAVE THE DATE

CONFERENCE & EXHIBITION

Sheraton on the Falls Hotel
Niagara Falls, Ontario
October 12–15, 2022





Canadian Academy of Audiology
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Thank You

