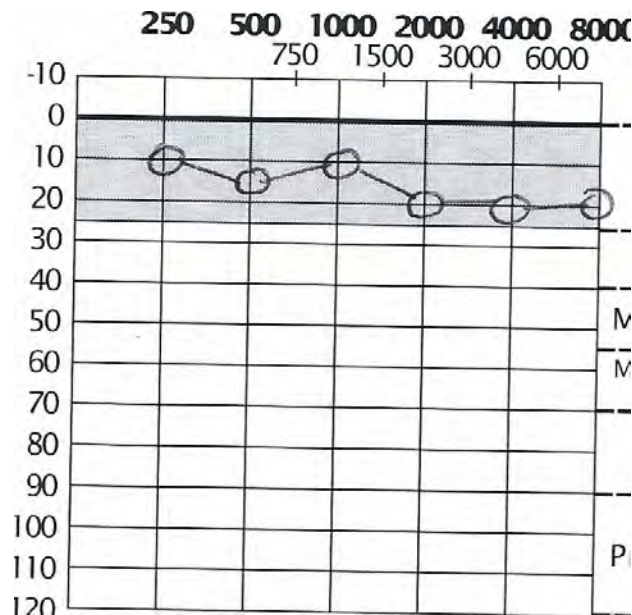
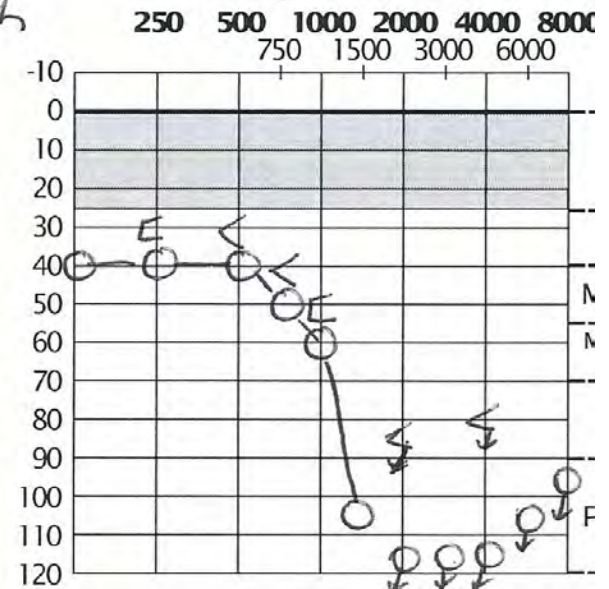
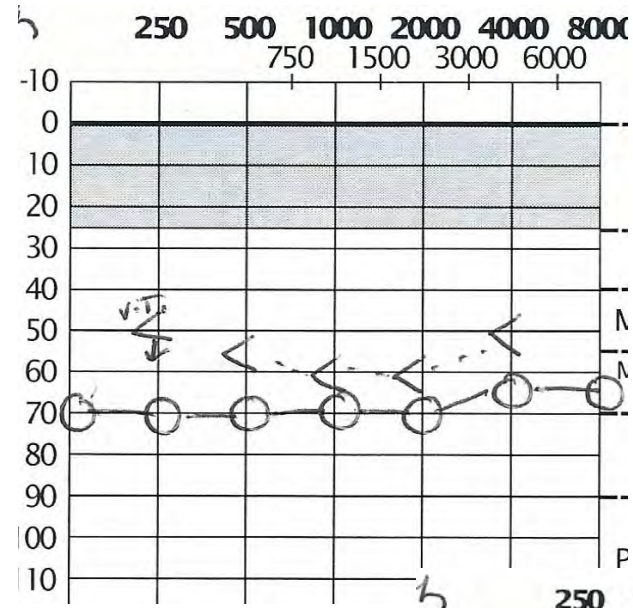
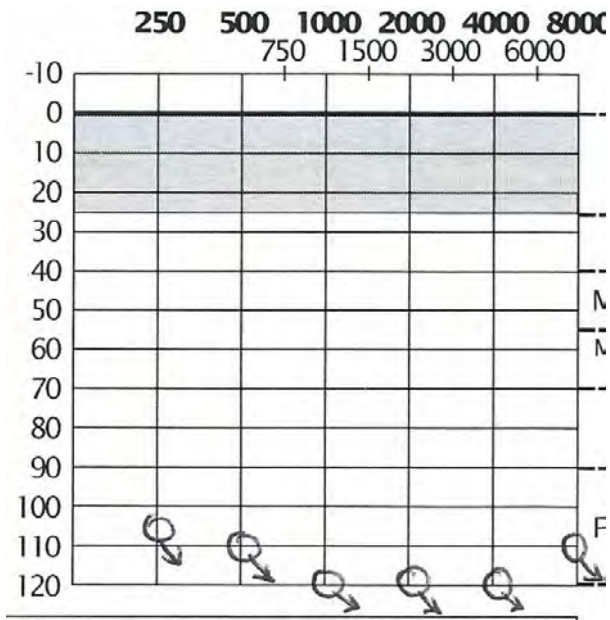
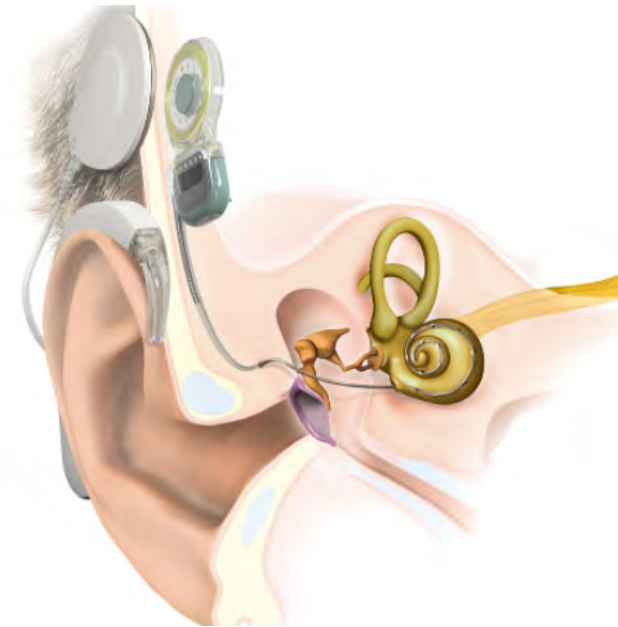
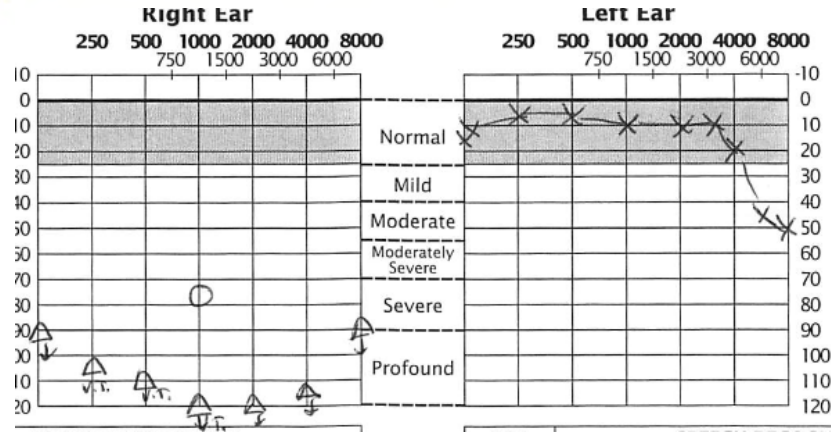


Candidacy Has Evolved Rapidly





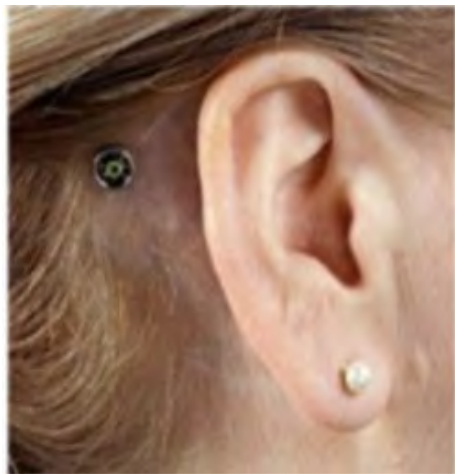
Options for SSD



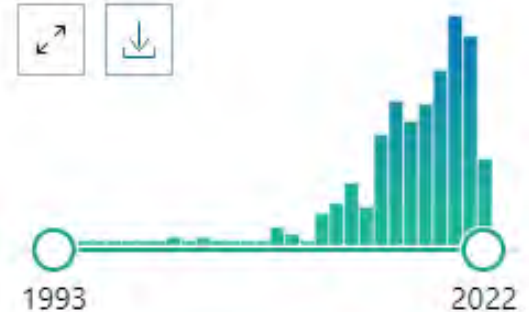
Phonak CROS P-13



Phonak CROS P-R



RESULTS BY YEAR

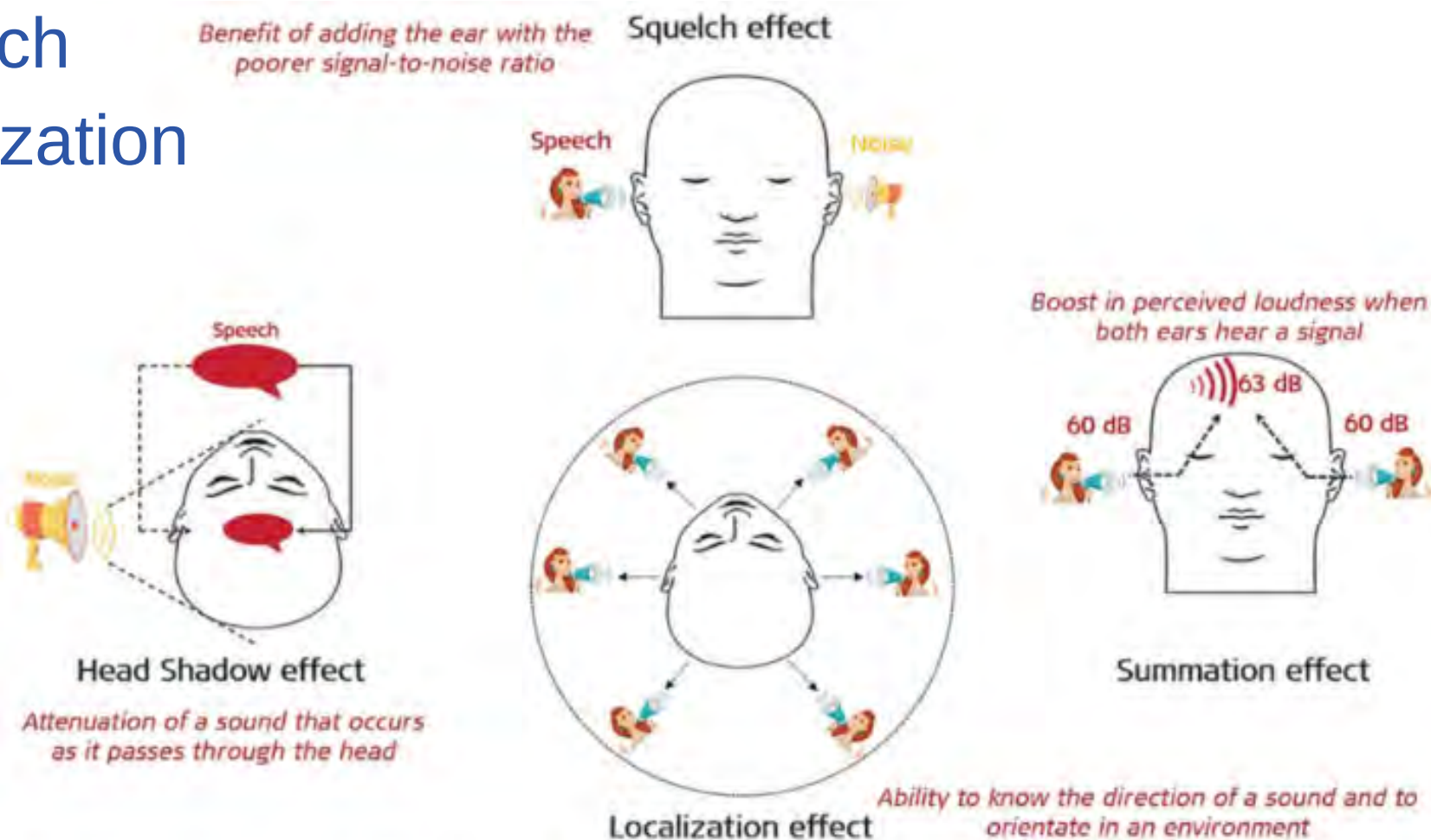


1993

2022

Benefits of Binaural Hearing

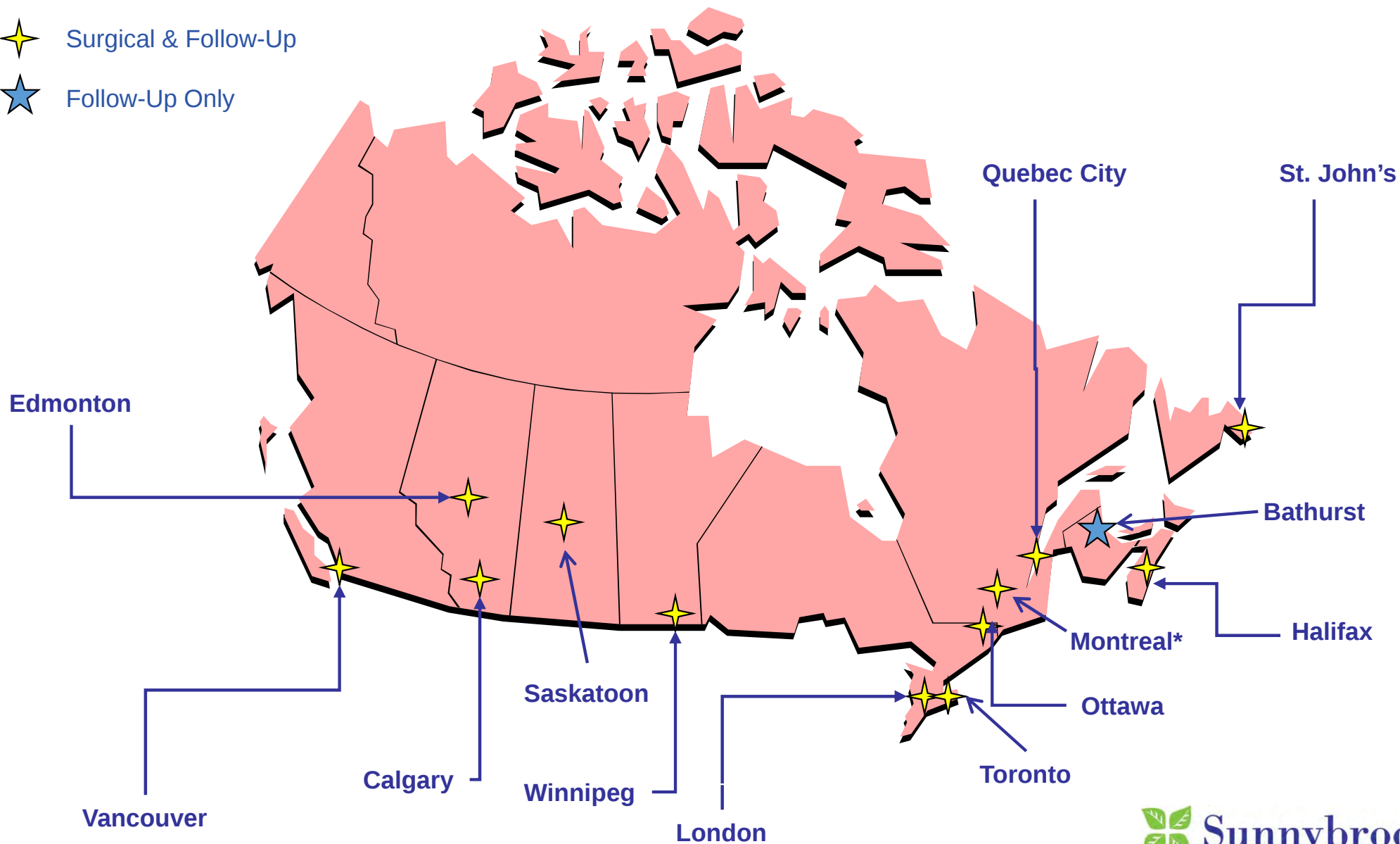
- Summation
- Head Shadow
- Squelch
- Localization



Illustrations of the various effects of binaural hearing (image courtesy of MED-EL).

Canadian Cochlear Implant Centres

- ★ Surgical & Follow-Up
- ★ Follow-Up Only





Study Design

- Prospective study
- Patients with unilateral hearing loss of recent duration

Subjects

- N=10 (avg. age = 49.3 years ; range = 30-57 years)
- 6 male, 4 female
- Audiometric thresholds in the better ear of normal to mild
- Audiometric thresholds in the poorer ear of severe to profound
- Short duration of hearing loss (<5 years)



Methods

Testing:

- CNC Words & AzBio Sentences in quiet and in + 5 dB SNR
 - good ear alone (poor ear plugged)
 - poor ear alone (good ear masked)
 - in best aided condition
- Adaptive HINT with speech presented from 0 degree azimuth and noise presented from 0, 90, or 270 degrees
- Subjective questionnaires (HUI3, SSQ, PHQ-9 for Depression, Tinnitus Handicap Inventory)



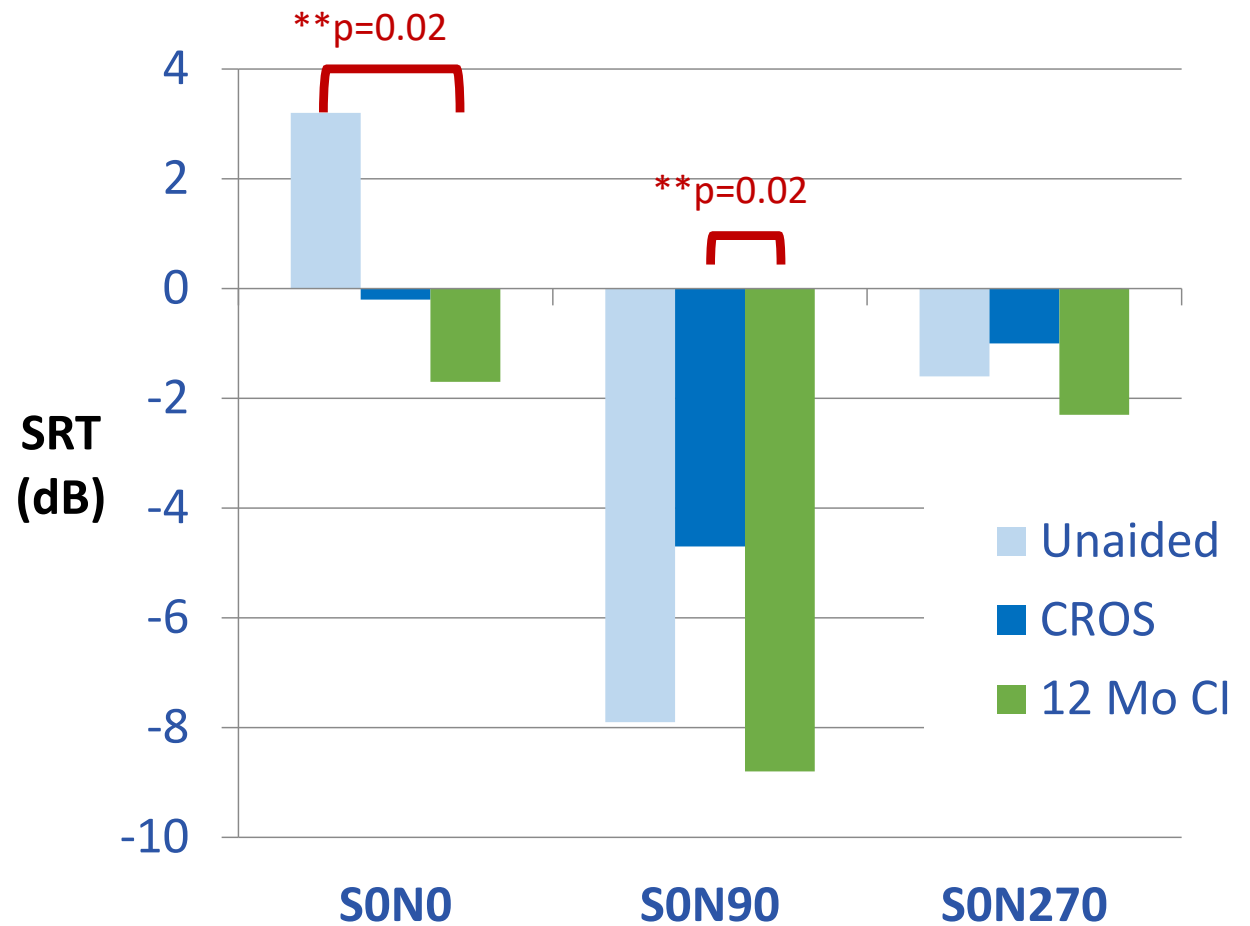
Methods

Testing:

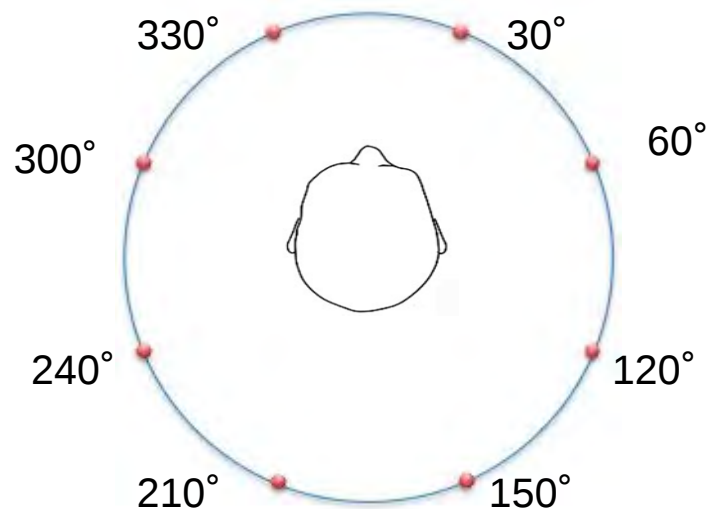
- Prior to surgery, patients were fit with a Phonak wireless CROS hearing aid for a one month trial
- Patients completed the aforementioned speech testing at one month post CROS fitting along with a questionnaire about their experience with the CROS HA



Adaptive HINT



Methods

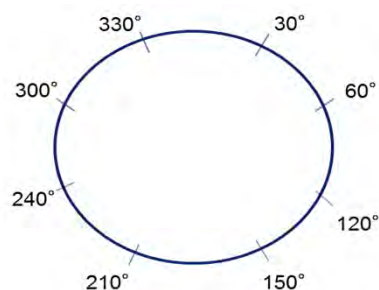


Localization testing was completed at the 3 months post CI activation

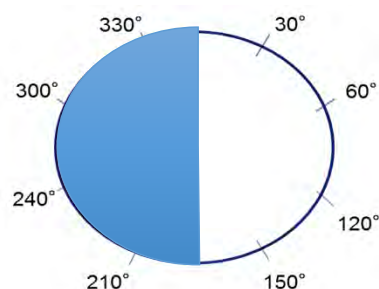
- unaided
- with the CROS hearing aid
- with the cochlear implant



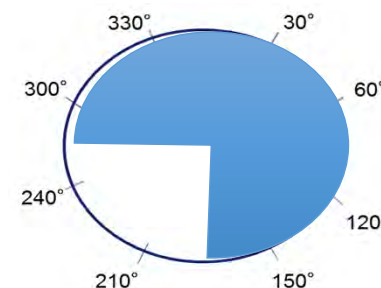
Localization



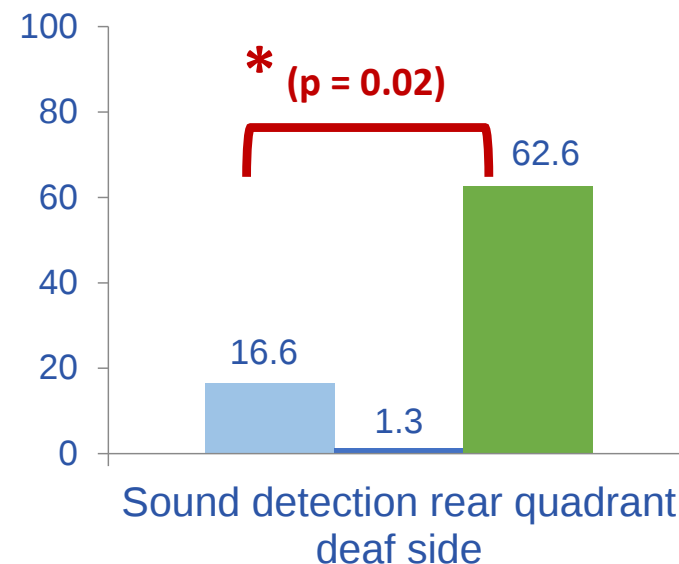
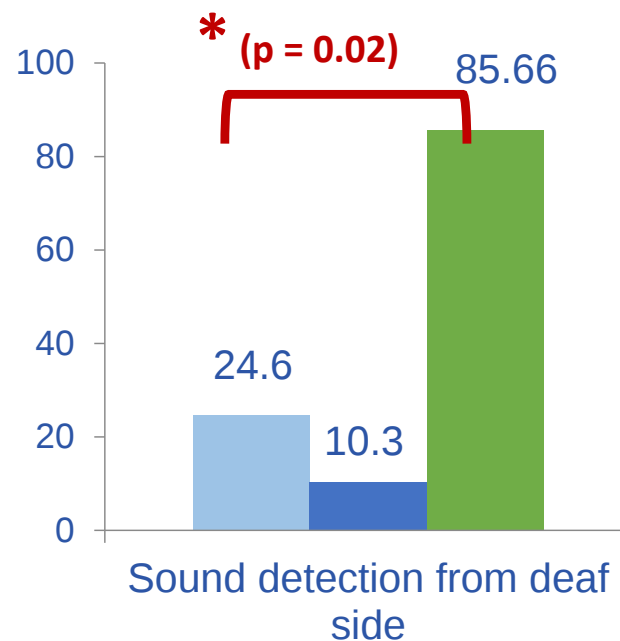
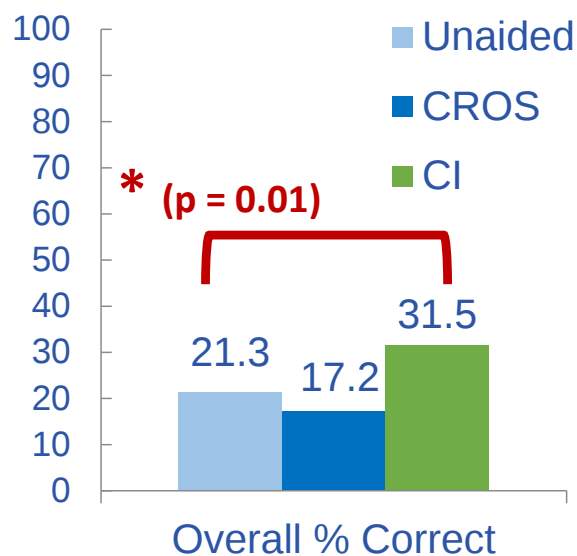
Azimuth Correct



Hemisphere Correct



Rear Quadrant



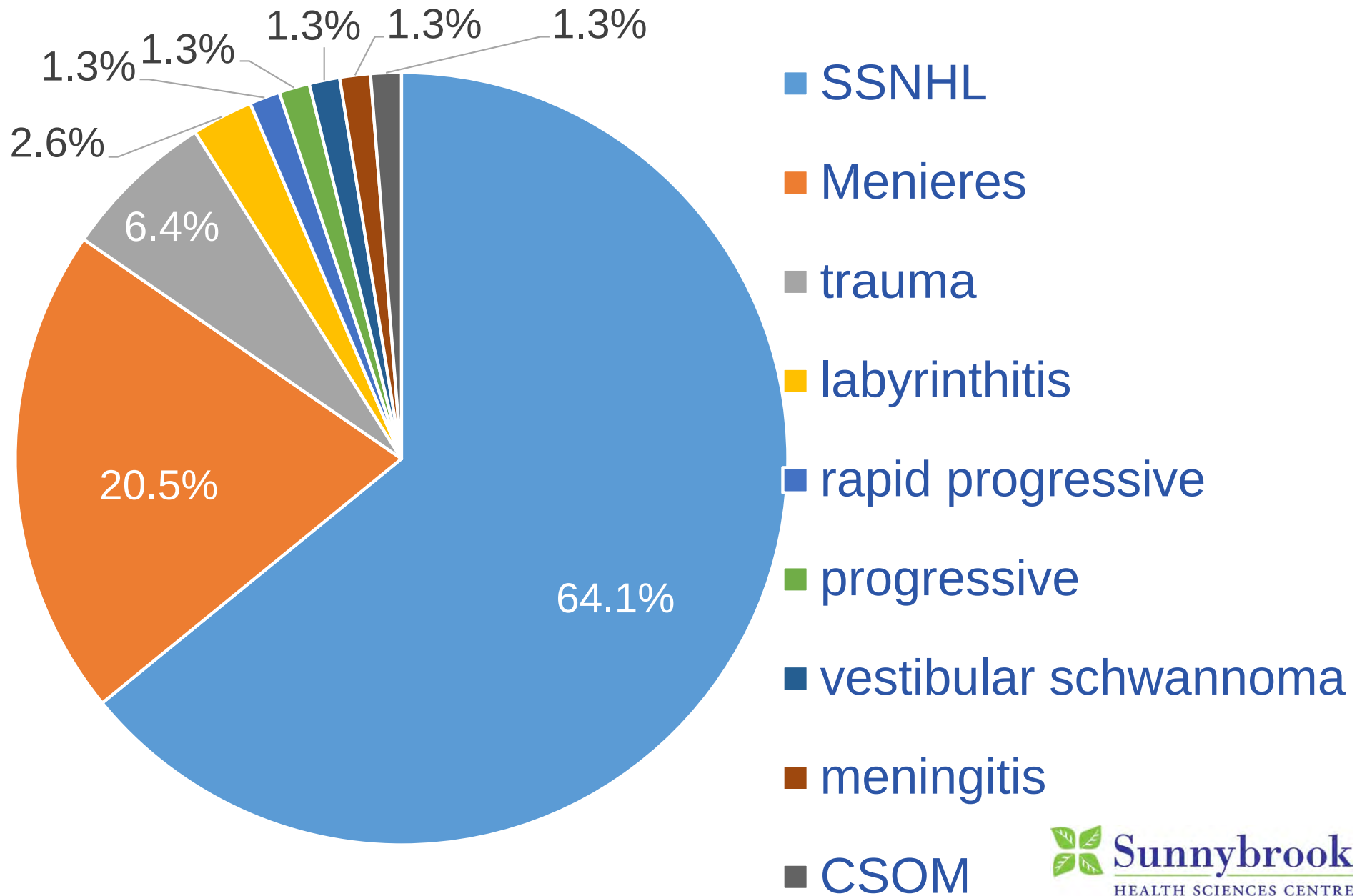


Subject Demographics

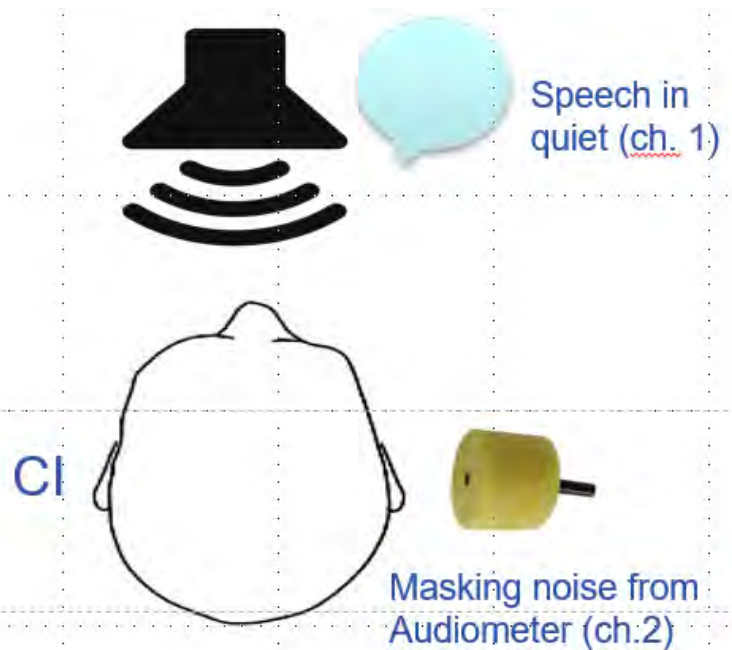
Demographic	Number
Patients	77
Average Age in Years	54.6 (Range: 18-75)
Gender	55% Male/45% Female
Side implanted	55% Right / 45% Left
Mean PTA (.5, 1, 2, 4 kHz) implanted side (dB)	82.4
Mean PTA (.5, 1, 2, 4 kHz) contralateral (dB)	17.6



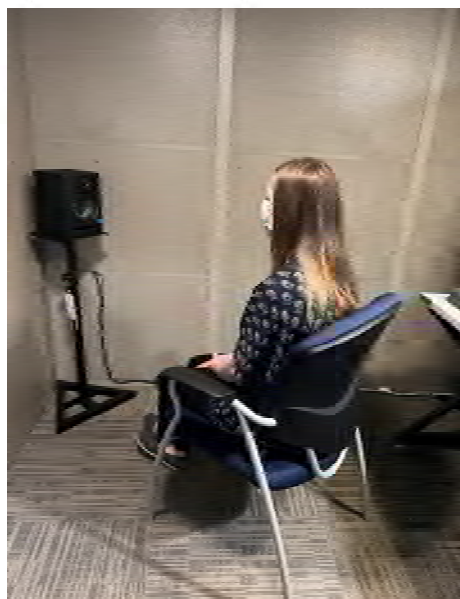
Etiology



How to Isolate the CI for Speech Perception Testing?

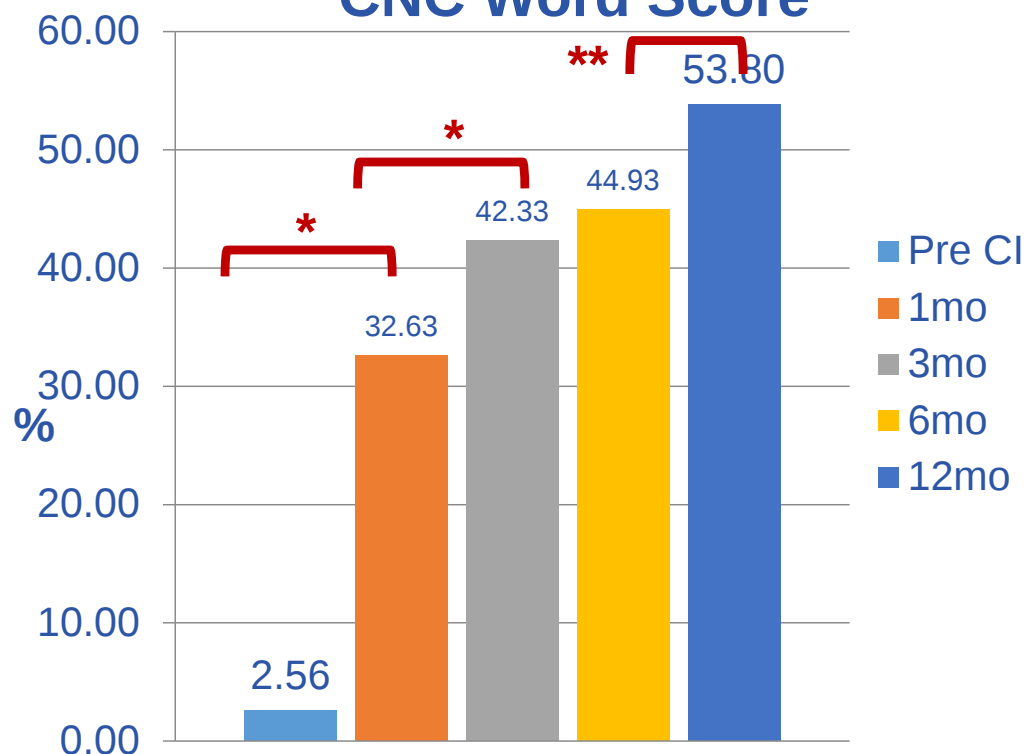


Testing in Quiet



Speech Perception Outcomes

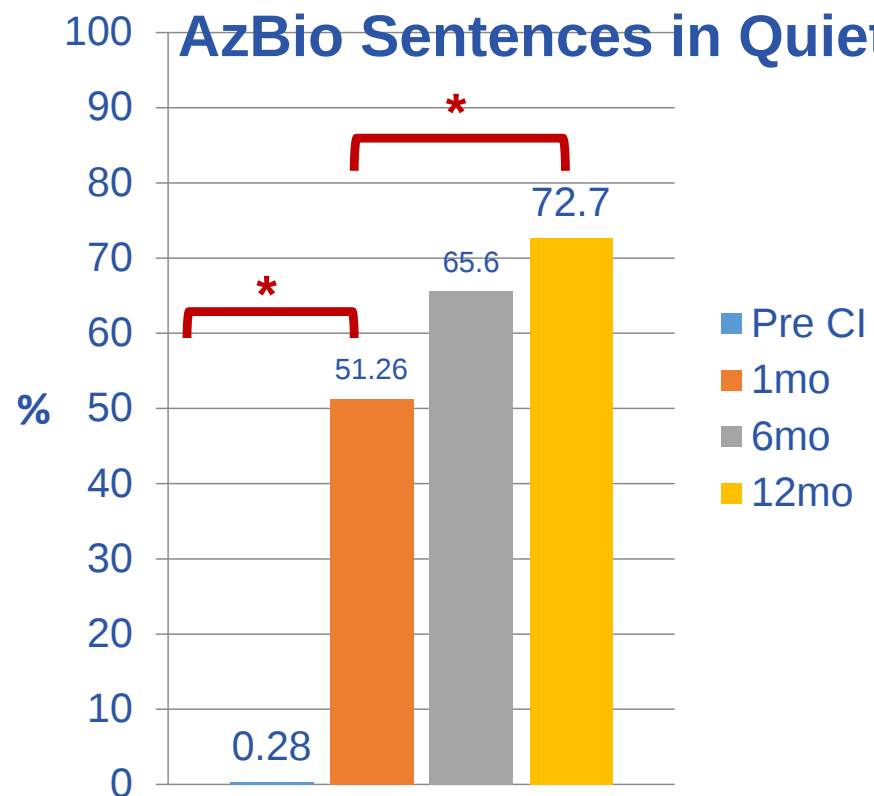
CNC Word Score



* $p < 0.001$

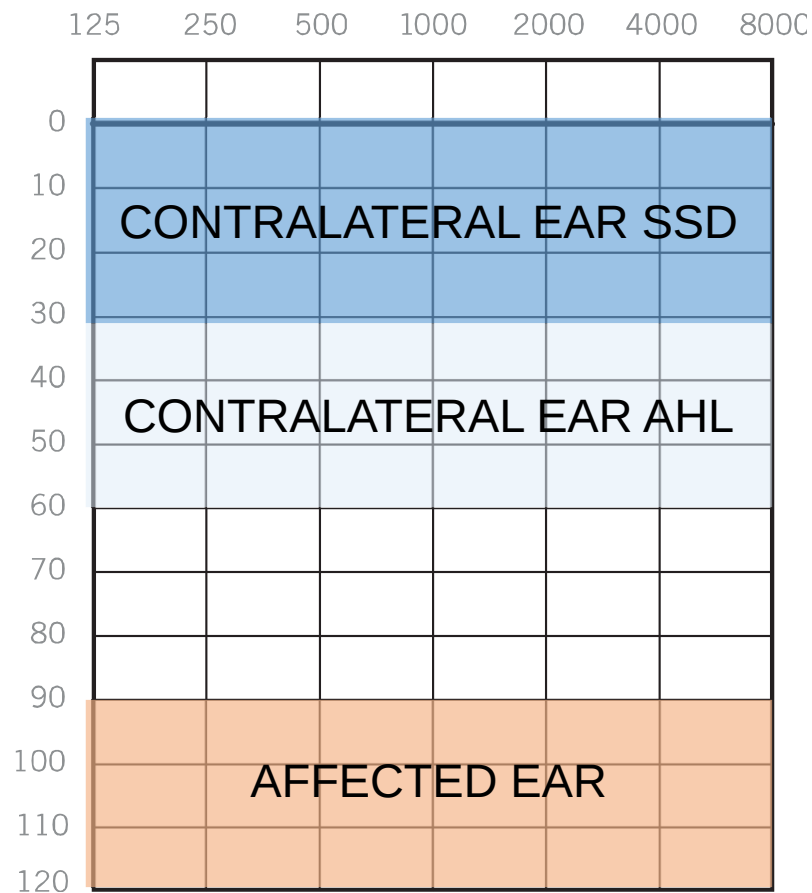
** $p = 0.02$

AzBio Sentences in Quiet



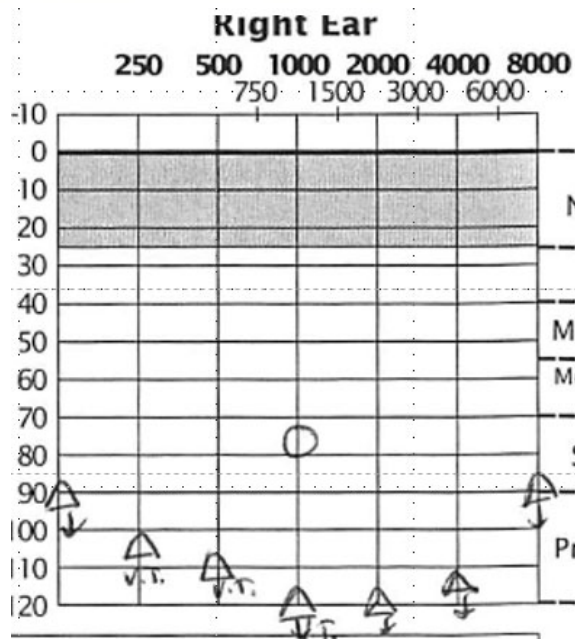


MedEl Clinical Protocol

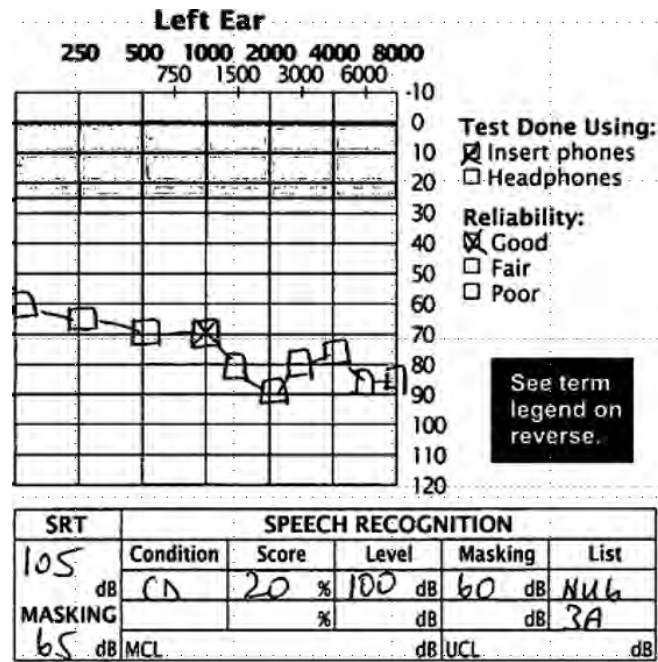




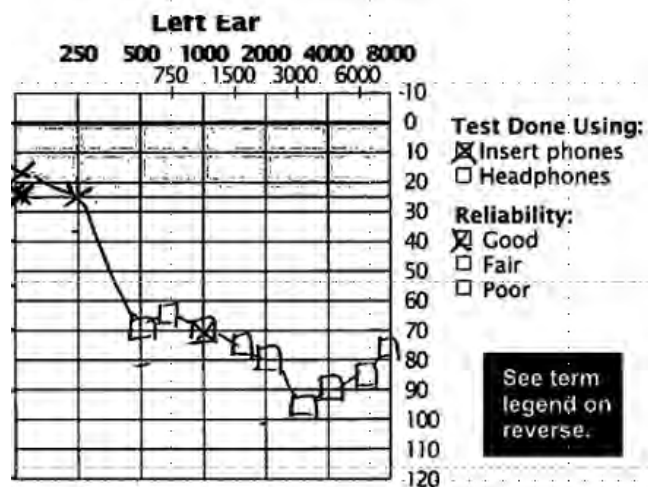
Potential SSD Candidates



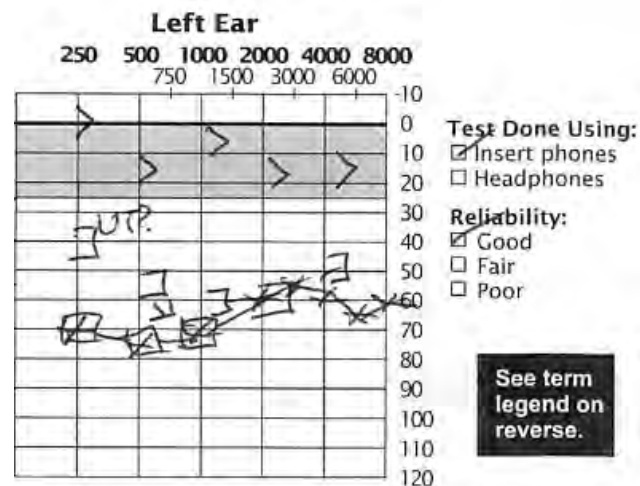
Rt. AzBio = CNT
Rt. CNC = CNT



Lt. AzBio = 20%
Lt. CNC = 8%



Lt. AzBio = 24%
Lt. CNC = 16%



Pre-labyrinthectomy

SRT	SPEECH RECOGNION				
	Condition	Score	Level	Masking	List
85 dB	CA	8 %	95 dB	55 dB	NUL
MASKING	CA	12 %	105 dB	65 dB	3A-4A
45 dB	MCL	90	dB	UCL 95	dB

SRT	SPEECH RECOGNION				
	Condition	Score	Level	Masking	List
80 dB	CA	64 %	90 dB	60 dB	4B
MASKING		25 %	100 dB	dB	
50 dB	MCL	90	dB	UCL	dB