



MSTB-3 POST-OPERATIVE PROTOCOL

FOLLOW UP INTERVALS

Audiologic and speech perception testing are minimally conducted at three and 12 months post implantation for cochlear implant recipients.

TEST & ROOM SET-UP

Refer to the Protocol Document for calibration

1. Loudspeaker placed in corner of booth or on side wall
2. Patient seated 1 meter from the loudspeaker (consider marking the ceiling or floor for consistency)
3. Patient at 0° azimuth facing the speaker
4. Speech and noise collocated at 0° Azimuth (for AzBio sentences)
5. Sound Processor(s) set to patient's user settings
6. Listen to microphones of all CI, EAS and hearing aid components to ensure functionality

*Consider a second speaker at 45 degree angle for noise testing for SSD candidates.

POSTOPERATIVE UNAIDED AUDIOMETRIC TESTING

COMPLETED



1. Threshold testing for implanted ear is performed:

- a) If unaided thresholds are present prior to implantation
- b) At subsequent visits if audible with an acoustic component



2. Threshold testing in the non-implanted ear is performed:

- a) Annually
- b) If clinician has concerns regarding the reliability of previous test results
- c) If there are concerns of recent change in hearing



[Guidelines for Manual Pure-Tone Threshold Audiometry, as published by the American Speech-Language-Hearing Association, should be used for unaided audiometric testing.](#)

HEARING AID VERIFICATION

COMPLETED

1. Hearing aid verification is performed on each aided ear prior to performing speech recognition testing (hearing aid and/or acoustic component of the EAS) to ensure that the hearing aid used for testing meets targets as closely as possible.

- If optimal results cannot be achieved with the patient's bimodal hearing aid, consider using a clinic loaner hearing aid that is programmed and verified to meet prescriptive targets
- If optimal results cannot be achieved with the patient's acoustic component, the acoustic component should be replaced, optimized, and verified to meet prescriptive targets



POSTOPERATIVE AIDED TEST BATTERY	COMPLETED
<ul style="list-style-type: none"> Administer all tests using calibrated recorded material whenever possible For patients with residual hearing in the non-test ear NTE, careful consideration should be given to effectively isolate the test ear by: <ol style="list-style-type: none"> Plugging & placing circumaural phone over NTE (Plug & muff may be optimal for patients who struggle to process signal presented with masking noise) Use of effective masking in NTE Use of direct audio input (DAI) If testing a non-English speaker, use word or sentence tests in the patient's native language when possible 	
<p>Soundfield Detection Thresholds</p> <ol style="list-style-type: none"> Measure detection for each sound processor 250-6kHz using warble tones 	<input type="checkbox"/>
<p>CNC Quiet</p> <ol style="list-style-type: none"> Administer one 50-word list to implanted ear(s) at 60 dBA <ul style="list-style-type: none"> Complete for <u>everyday listening condition</u> (bimodal, bilateral) if additional information is desired. 	<input type="checkbox"/>
<p>AzBio Sentence Test</p> <ol style="list-style-type: none"> Administer one list at +10 signal-to-noise ratio (SNR). (Sentences presented at 65 dBA, Noise at 55 dBA) in the patient's <u>everyday listening condition</u> (bimodal, bilateral, unilateral) For additional information regarding patient's performance <ol style="list-style-type: none"> Test AzBio sentences in quiet (Sentences presented at 60 dBA), if +10 SNR is too difficult post-operatively. Test AzBio sentences at +5 SNR (Sentences presented at 65 dBA, Noise at 60 dBA), if +10 SNR is too easy post-operatively. Complete AzBio sentences for the implanted ear only if additional information is desired <p>*See Manual for additional information regarding optional SSD/AHL post-op testing conditions.</p>	<p style="text-align: center;"> <input type="checkbox"/> As Needed: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </p>

FUNCTIONAL OUTCOMES	COMPLETED
<p>Purpose: Questionnaires are used to compare to pre-operative results and evaluate functional listening.</p>	
<ol style="list-style-type: none"> Administer the CI-QoL 10 (The Cochlear Implant Quality of Life (CIQOL)) Administer SSQ-12 (Speech, Spatial and Qualities of Hearing Scale) When significant tinnitus is reported, administer the Tinnitus Handicap Inventory 	<input type="checkbox"/> <input type="checkbox"/> As Needed <input type="checkbox"/>
<p>*See Manual for additional information regarding functional outcome questionnaires</p>	



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BIMODAL USERS BEING CONSIDERED FOR BILATERAL CI	COMPLETED
<p>Refer bimodal patients for bilateral CI candidacy evaluation if:</p> <ul style="list-style-type: none"> a) there is little-to-no bimodal benefit observed for speech perception measures (except in cases of CI-alone ceiling effects for which bimodal benefit cannot be measured) b) there is an observed bimodal interaction or decrement such that speech and auditory perception is significantly poorer in the bimodal as compared to the CI-alone condition, and/or c) the patient reports little-to-no perceived benefit from the hearing aid in the non-implanted ear 	