Best Practice Protocols

Electroacoustic verification of SoundRecover using GN Otometrics AURICAL

The following step-by-step protocol using different stimuli (i.e. calibrated Ling 6 signals and live voice production) for verifying SoundRecover is described below for the GN Otometrics AURICAL.

1. Disable SoundRecover in the hearing aids using the fitting software.

2. Evaluate the shape and gain of the hearing aid fitting using speech stimuli (i.e. Rainbow Passage or ISTS) with SoundRecover disabled.
   a. Ensure that the aided speech spectra meet prescriptive targets to give as broad a bandwidth of audibility as possible. If necessary, adjust the output response to optimize the fitting.
   b. Note: MPO measurements are not valid in the frequency-lowered region. Therefore, always measure MPO with SoundRecover disabled.

3. Enable SoundRecover. Choose moderate-level stimuli (calibrated Ling 6 signals and/or live speech) to represent /s/ and /sh/ respectively.
   a. Live voice productions of isolated /sh/ and /s/ can be measured with the GN Otometrics AURICAL FreeStyle in OtoSuite. Select "Signal Type" and then "Live Voice." A VU meter above the graphs shows the dB level at the reference microphone. This helps with having as consistent signal as possible when performing live speech productions of sounds.
   b. For the calibrated Ling 6 stimuli, select Ling 6 /s/ and /sh/ under "Signal Type". This will allow for further evaluation of the frequency location of the lowered signal and to determine whether these phonemes are audible. However, depending upon audiometric configuration, it is important to note that audibility of /s/ is not always possible.
   c. Similar to live voice, these calibrated speech sounds better reflect the true bandwidth of the frication bands and are well suited for evaluation of overlap between /sh/ and /s/. If confusion between /sh/ and /s/ is a concern, measuring these phonemes can help evaluate the settings and determine if too much frequency compression has been applied.
   d. Use the weakest SoundRecover setting that provides audibility when possible and check for separation of /s/ and /sh/. Adjust as necessary to optimize benefit.

4. Compare the output responses for the stimuli used to evaluate SoundRecover and fine tune to avoid complete spectral and/or level overlap of their responses.

5. Perform a listening check, prior to completing a fitting with frequency lowering. If you cannot detect any difference between aided /s/ and /sh/, consider the spectral overlap of these sounds and the possibility of a milder frequency lowering setting. Listening checks may be done with a stethoclip, using the "Listen in the coupler" utility, or the "Listen at the eardrum" utility. The latter two utilities are accessed within the AURICAL software, and allow you to listen over headphones at a comfortable loudness level. This may be a helpful option when performing listening checks on high-power hearing aids.

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