

# Phonak

## FAQs

### AudiogramDirect with Phonak Remote Support

AudiogramDirect is an in-situ hearing test within Phonak Target fitting software. Hearing care professionals (HCPs) can test clients' hearing directly through their hearing aids, taking into account the properties of the individual ear, the acoustic coupling, and the chosen hearing aids. AudiogramDirect is designed to check a client's hearing during a follow-up session, but can also provide a starting point for a new remote fitting if required. To access AudiogramDirect during a Phonak Remote Support session, Phonak Target 6.2.7 and higher must be downloaded and installed. Below are the frequently asked questions about using AudiogramDirect with Remote Support.

- **What testing can be completed using AudiogramDirect?**  
Air conduction (AC) thresholds can be measured at all audiometric frequencies between 250 Hz and 6000 Hz. Bone conduction (BC) thresholds and speech testing cannot be completed.
- **Which functions are not available during a Phonak Remote Support session?**  
Performing a Feedback & real ear test is not possible during a Remote Support session, as this function is disabled. Uncomfortable loudness level (UCL) measurements and the ability to present tones exceeding 100 dB HL are also disabled. The MPO cannot be increased, therefore it will not exceed previous MPO settings fitted in the clinic.
- **What should be considered to ensure sufficient headroom when pre-fitting the hearing aids?**  
It is recommended to adjust the MPO to a level that provides sufficient headroom during the pre-fitting of the hearing aids, before sending them to the client. In the fine tuning screen of Phonak Target, change the curve display to Output - HL. Increase the MPO by three clicks using the double arrow button. The MPO should not exceed 120 dB HL. After performing AudiogramDirect during a Phonak Remote Support session, the hearing aids will recalculate and set the MPO according to the thresholds obtained.
- **What properties of the individual ear and hearing aids does AudiogramDirect account for?**  
AudiogramDirect takes into account the hearing aid insertion depth, the acoustic coupling seal in the ear canal, the effects of venting, the receiver power of the hearing aids, the length of the SlimTube (when applicable), and the chosen hearing aids. The information entered into acoustic parameters must be accurate and match the acoustic parameters chosen in the AudiogramDirect preparation screen. There is no need for the client to temporarily occlude his or her ear as correction factors are applied based on the coupling used.

- **How are the tones produced and how do I know if they are calibrated?**

The tones generated by each frequency are produced within the hearing aid, the same way a low battery warning beep or program change beep is generated. The tones are measured in dB SPL and then converted to be shown in dB HL. The hearing aid is calibrated before it leaves the production facility.

- **Is there a latency effect or a delay in tone presentation when performing AudiogramDirect during a Phonak Remote Support session?**

A latency effect in signal transmission could potentially occur as this is dependent on the stability and strength of the internet connection from both the HCP and the client. Consider pausing a few seconds longer between tone presentations to account for this.

- **Which type of environment should the client be in when AudiogramDirect is performed?**

When AudiogramDirect is being performed, the client should be situated in a quiet environment. To overcome potential steady state environmental noise, it is recommended to measure thresholds using pulsed tones.

Environmental noise level can be viewed in Phonak Target. In the fine tuning tab, click on the client view checkbox in the top menu bar. When the client view screen opens, select the unaided display option. This view can provide an indication about the current environmental noise level where the client is. The environmental noise level should be below that of soft speech.

- **How does AudiogramDirect compare in measuring a threshold to a clinical audiological test?**

AudiogramDirect and a clinical audiological test cannot be directly compared as they serve different purposes. AudiogramDirect is performed using the client's hearing aids, in order to optimize a hearing aid fitting. Thus, variations are expected when comparing thresholds between AudiogramDirect and a clinical audiological test.

Studies have shown that both behavioral and/or physiological changes can lead to test-retest variability of audiometric test results of up to 10-15 dB.<sup>1,2</sup> Measured points using AudiogramDirect have been shown to fall within the range of +/- 15 dB among pure-tone averages when compared to recent standard audiograms.<sup>3</sup> These variations could be due to several factors, including the acoustic coupling, placement of the hearing aid within the client's ear, the client's behavior, and human error.

- **What happens if the client's hearing thresholds obtained through AudiogramDirect are significantly different from the client's clinical audiological test?**

If hearing thresholds are significantly different (+/- 24 dB) for a particular client when compared to the client's most recent clinical audiological test, it is recommended the client moves to a quieter space for a retest and checks the earpiece or receiver for wax or debris.<sup>3</sup> When possible, it is recommended that the client return to the clinic for a full hearing evaluation.

Until the client is able to return to the clinic for a full hearing evaluation, the thresholds obtained can be saved, but it is recommended to take into consideration the client's reports on sound quality to make further fine tuning adjustments as needed.

- **If the client changes the earpiece or tubing, do the thresholds obtained through AudiogramDirect change?**

If these changes are entered into Phonak Target (Acoustic parameters tab), then the hearing aid settings are recalculated, but the thresholds obtained through AudiogramDirect are not changed. To ensure accuracy, it is recommended to retest with AudiogramDirect if any changes are made to the acoustic parameters of the hearing aid.

- **Can I use a combination of a standard audiogram and AudiogramDirect for the hearing aid fitting?**

There is no option within Phonak Target to use both in one fitting. You must select one or the other as the basis for the hearing aid fitting. Phonak Target will notify you to recalculate the hearing aid settings based on the results chosen. Fine tuning changes and program options will not be affected by the recalculation unless specified.

## References

- <sup>1</sup>Landry J. & Green W. (1999). Pure-tone audiometry threshold test-retest variability in young and elderly adults. *Journal of Speech-Language Pathology and Audiology*, 23:2.
- <sup>2</sup>Stuart A., Stenstrom R., Tompkins C and Vanderhoff S. (1991). Test-retest variability in audiometric threshold with supra-aural and insert headphones among children and adults. *International Journal of Audiology*, 30:2, 82 – 90.
- <sup>3</sup>Vercammen, C. (2020). Audiogram and AudiogramDirect: comparison of in-clinic assessments. *Phonak Field Study News*. Manuscript in preparation.