Field trial news

From Unitron's Audiology Centre

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Made for all phones. Best in conversations.

The sophisticated processing of the Tempus™ platform is available in Moxi™ All, Unitron's first direct connectivity hearing instrument. It provides the wireless communication capabilities of the SWORD™ (Sonova Wireless One Radio Digital) chip and the benefits of Unitron's best in conversations technology. Field trial validation tests demonstrated that the Tempus high-end binaural features are fully functioning in Moxi All.

Moxi All is driven by the Tempus platform, Unitron's best in conversations technology. The power behind Tempus is SoundCore,™ a system of four features: SoundNav, Sound Conductor, Spatial Awareness, and SpeechPro.

The premium binaural feature of the Tempus platform is SpeechPro, a system of three advanced technologies (Speech Locater, Speech Focus, and Dynamic Spatial Awareness) working together to enhance conversation in noisy environments. SpeechPro uses binaural spatial processing to:

1. Determine the direction of speech (front, back, left, or right)
2. Apply an optimal directional strategy
3. Restore spatial cues used for localization

In order to perform binaural processing hearing instruments must communicate and share information. Traditionally Unitron hearing instruments have communicated using near field magnetic induction (NFMI). With Moxi All this communication is accomplished using Bluetooth® Low Energy (LE).

During the field trial validation process for Moxi All, testing was conducted to confirm that the benefits provided by SpeechPro were maintained with the new wireless communication method.

The performance of SpeechPro in Moxi All was compared to the performance of SpeechPro in Moxi Fit (a product using NFMI communication). SpeechPro was evaluated by comparing sentence speech reception thresholds (sSRT) obtained using a modified version of the Hearing in Noise Test (HINT).[1]

- Nine subjects were fit with both Moxi All and Moxi Fit hearing instruments at the Pro technology level on the Tempus platform
- All instruments were fit to NAL-NL2 targets and verified with real ear measurements
- sSRT thresholds were obtained for speech presented from different directions (front, left, and back)
- A four microphone recording of public-eating-area background noise was presented simultaneously at 0, 90, 180, and 270° at 70 dBC.

The mean sSRT scores for speech from each direction are shown in Figure 1 (lower scores indicate better performance). Student's t-tests for paired samples were used to analyze the results for statistical significance (Table 1). No significant difference was found for any direction when comparing SpeechPro performance between Moxi All and Moxi Fit.

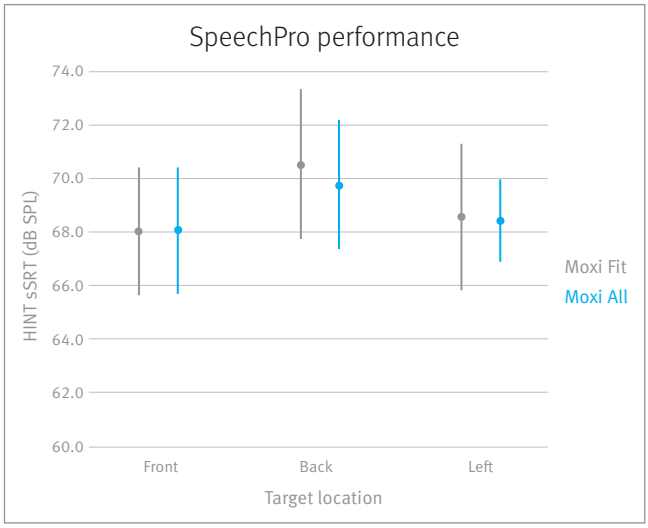

Figure 1 Mean HINT results based on location of target for Moxi Fit and Moxi All

Target	Change in mean HINT score (dB)	p-value
Front	0	0.96
Back	-0.8	0.49
Side	-0.2	0.81

Table 1 Summary of change in HINT score
Change = sSRT Moxi All – sSRT Moxi Fit

The above results illustrate that patients fit with Moxi All hearing instruments have access to the same benefits of SpeechPro as those fit with other Tempus hearing instruments. Moxi All provides truly hands-free phone calls on all mobile phones[2] with the full power of the Tempus platform's best in conversations technology.

For further details on Moxi All and all it has to offer, please visit unitron.com or contact your local representative.

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Favorite sound: my children laughing

1. Nilsson, M., S. Soli, and J. Sullivan, Development of the hearing in noise test for the measurement of speech reception thresholds in quiet and in noise. Journal of the Acoustical Society of America, 1994. 95(Feb): p. 1085-99.
2. Smartphones and traditional mobile phones with a compatible Bluetooth Hands-Free Profile

At Unitron, we care deeply about people with hearing loss. We work closely with hearing healthcare professionals to provide hearing solutions that improve lives in meaningful ways. Because hearing matters.

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