MEDICAL DEVICES

Oticon's hearing aid uses AI: Are high tech tools for hearing loss ignoring mass market?

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Denmark's Oticon is tackling an unmet need among the hearing impaired with its recently launched Oticon Opn high-end hearing aid. Company vice president Don Schum touted Opn's ability to provide natural hearing in loud environments with multiple speakers.

It's the first hearing aid to use Oticon's new Velox data processing platform, which apparently increases speech understanding by 30 percent, and with less effort required.

"Patients who have hearing loss, especially sensory-neural hearing loss, are at a great disadvantage anytime there is other noise in the environment, especially other people talking," Schum said. "It's due to the nature of hearing loss. It creates a certain amount of

distortion in the auditory system, and when that distortion is spread the brain has a really hard time picking out the talker that the person wants to listen to, and suppressing other talkers."

Hearing aid companies have served customers facing complex hearing environments using so-called "narrow beam forming," but it isn't a very satisfying solution, according to Schum.

"It creates a very unnatural listening experience, because you always have to be looking at only the one person you want to talk to," he said, adding "People don't want to only stare one person at a time. It's just not the natural way to do things."

Oticon says Opn enables better hearing in complex environments by enabling a wider listening field so that patients can listen to more than one speaker at a time. It achieves this feat using a noise reduction system that updates itself every 10 milliseconds.

Opn can also leverage the Internet of Things. Using the web-based, If This Then That (IFTT) platform, the presence of a low battery can result in an automatic text message being sent to caretakers. And external objects on the IFTTT network, such as doorbells, can be programmed to interact with the hearing aid via algorithms known as "recipes."

Oticon began commercialization of Opn in June. It must be fitted by a licensed professional prior to use. Audiologists obtain the hearing aid on a wholesale basis from Oticon and set the sales price according to local market conditions Schum said. Therefore, he wasn't able to provide a specific price for the product, though he said it will be at the high-end of the market.

It's likely that lower-end versions will be made available over the coming years, for Schum explained that hearing aid companies typically launch premium products when they create a new platform and add less expensive devices over time.

Opn debuts as the hearing aid market receives renewed attention from investors, who were no doubt encouraged by the January 2015 sale of Siemens' hearing aid unit to a Swedish private equity firm in exchange for $2.68 billion.

Hearing aid company Earlens recently raised $51 million for its FDA-approved Contact Hearing device, which emits infrared light to create the perception of sound. It too seeks to improve natural sound quality and reduce feedback.

New Enterprise Associate is one of the main backers of Earlens. It also led a $25 million financing of Eargo, whose device's main pitch is its invisibility (at least externally). And at almost $2,000, the company says its device is about half the standard price.

The FDA has also shown interest in hearing aids, and in April hosted a public workshop on improving their accessibility, usage and innovation of the devices, for Schum said the three-quarters of the hearing impaired population do not use any devices.

And med tech can play a role improving the lives of the deaf too. 1776 Challenge Cup pitch competition finalist Pedius, based in Italy, is developing an app that enables the deaf to communicate over the phone by converting their text messages to speech.

Photo: Opn device from Oticon