New mobile device for CI-assessment

Otocube: In 2010, professor Paul Govaerts from Antwerp and Ghent Universities as well as the companies De Oorgroup and Otoconsult in Antwerp-Deurne, Belgium, turned to ABC Geluid in Gouda, Holland, with a question. Would the company be able to develop an audiological cabin that could be carried as a suitcase? In 2013 the result of all research, development and testing work, the Otocube, saw the light.

ABC Geluid proved to be able to answer professor Govaerts' question with a 'yes'. The engineering was done by ABC geluid, the Univserity of Madrid, the University of Amsterdam and a German university. The product was tested in CI-centers in several countries. To name them: in Belgium the University Hospitals of Ghent, Liège, Louvain tested it, and also The Eargroup and the Cochlear Technology Centre in Mechelen. In the Netherlands the University Hospital Nijmegen was included in the test. In France the University Hospitals of Montpellier, Clairmont-Ferrand and the Rehab Centre Montpellier participated. In Morocco Doctor Berada joined the testing.

Positive test results

On average, the Otocube was regarded as fit for mobile testing. Centres valued the fast and calibrated speech audiometry with the software called 'A§E Diamond'. It was called a worthy alternative for overoccupied soundproof booths. Other remarks include the possibility of realtime monitoring of the sounds presented in the spectral and temporal domain and the "brilliant" idea to use a long headpiece cable to connect the CI recipient. The look and feel, dimensions and weight were also mentioned as positive features. In 2013 the result of all research, development and testing work saw the light: a compact audiology cabin, called Otocube, especially aimed at CI fitting, at a fraction of the price of an audiological cabin.

Plug and play

At that, its makers also call it more practical in use than an audiology cabin. On the site of the product it says: "It outperforms a clinical booth in acoustical insulation and contains all electronics, high-end amplifier and loudspeaker included to deliver well calibrated sound between 10 and 120 dB HL to the CI processor in the box. Close the box and take a long headpiece cable to transfer the sound from the processor to the patient's ear. The box easily connects "plug and play" to your laptop or PC. Thanks to our custom-made audiological software A§E, you readily perform audiometry, speech audiometry in any language, loudness scaling, spectral discrimination, temporal fine structure tests, etc."

International attention

The Otocube was sent in for the prestigious Dutch **Herman Wijffels innovation award** for health care from Rabobank and eventually ranked among the best five nominees. The information offered for the nomination reads: *"With fitting of cochlear implants a lot of progress is still possible. The technical opportunities of CI's are in the present clinical practice not used to their full potential. A CI has in fact hundreds, and in combination many thousands of fitting options. The present clinical practice uses only a handful of those, three to four on average (..). The test box for cochlear implants OtoCube enables fitting of cochlear implants and technologically advanced hearing aids in an automated testing procedure, better and in a shorter time. The patient receives a better hearing result, the doctor and insurance company save on hours spent."*

The new product attracts attention from all over the world. Two Otocubes are already sold in Belgium, one in Sao Paolo, Brazil, and one more in Marrakesh, Morocco.

LvdE

Sources: www.otocube.com, www.otoconsult.com, www.abcgeluid.com