

Tele-rehabilitation for cochlear implant recipients using remote fitting

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Introduction

The number of cochlear implant (CI) recipients is significantly increasing due to improved implant and signal processing technology as well as broader indication criteria. In Germany, more than 3000 patients receive an implant per year and more than 30.000 patients have already been implanted. The major ENT-clinics are challenged by the organization of an efficient and satisfying long-term aftercare concept to guarantee the necessary yearly check-up and service.

Methods

The German Hearing Center (Medical University Hannover, Hannover) in cooperation with auric hearing systems (Rheine) has developed a remote care network for patients living in far distances to the clinic. The remote fitting soft- and hardware is based on the proven remote fitting technology from auric and has been tailored to the specific needs of cochlear implant subjects featuring real-time HD audio and video transmission.

The data transmission is highly secured using a VPN (virtual private network) point-to-point broad-band internet connection.

17 out of 50 auric hearing centres in Germany are equipped with the programming hardware and the involved hearing aid acousticians are trained to assist the remote fitting procedure.

The reimbursement of the new aftercare procedure could be negotiated with health insurance companies through a so-called "integrated care contract" involving the clinic, auric and local ENT-specialists. Thus, the audiological and medical expertise can be provided at the remote locations.

The clinic keeps track of the patients' development by synchronizing the programming data (MAP) and speech test results with the remote care centers.

Results

In 2013, approx. 150 remote fitting sessions have been performed and a total number of 400 sessions is expected for 2014.

Conclusion

A remote care network for CI recipients offers close-to-home aftercare while keeping up the high fitting quality of the cochlear implant center. Travel costs and absence at work are being minimized for the patient.