

National Network of Teleaudiology in Clinical Practice for Cochlear Implant Patients

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To obtain hearing benefits after cochlear implantation it is crucial to optimally fit electrical stimulation parameters individually for each patient and to provide extensive hearing rehabilitation. It requires an experienced, multidisciplinary team to undertake repeated sessions with the patient in the cochlear implant (CI) clinic. For the majority of patients necessary visits require long travels from their home, associated with high cost, time, and travel weariness. To address the aforementioned problems the National Network of Teleaudiology was established in 2009, consisting of 19 cooperating centers spread around the country, with teams ready to provide medical and rehabilitation care at a satisfactory level, but lacking necessary experience to provide more sophisticated parts of the procedure. To overcome this problem, the use of telemedicine has been proposed. Experts from the CI clinic establish a teleconference connection with the patient and support specialist and use remote desktop software to access a remote computer and perform measurement and fitting - so called telefitting. This method has been assessed under controlled conditions and has been proved to be safe, reliable, and well accepted by both patients and specialists. Electrical stimulation parameters obtained during telefitting did not differ greatly from values obtained during standard, face-to-face fitting. However, assessment of day-to-day use of this technology was still missing. The aim of this paper is to present the results of a large-scale clinical introduction of telefitting, based on experiences gained during day-to-day use of the National Network of Teleaudiology. Results of study investigating real-live patients' assessment of telefitting method and proposed model of postoperative care and patients' time and money savings calculations will be presented. The development of the National Network of Teleaudiology from the stage of first scientific projects to working system covering the whole country and its components will also be described.

Keywords: teleaudiology, telemedical network, cochlear implants