

## **HOME REHABILITATION CLINIC as a form of support for parents of implanted children**

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When the child is diagnosed with a hearing impairment, the decision what treatment should be applied initiates and determines the rehabilitation management. When we are working with children, especially with the prelingually deafened ones, our first priority must be to teach them to be aware of sounds and to make them realize that hearing may serve as a method to obtain information about the environment. Such approach is in line with principles of the auditive-verbal therapy, the most widely accepted rehabilitation method in Poland.

Implementation of the so defined task in praxis involves different forms of activity. Intensified auditory training should be complemented and supported by other activities such as exercises aimed at development of manual dexterity, training of memory and visual analysis and synthesis helping to improve reading skills and to enlarge child's vocabulary. Such multidisciplinary approach is possible in the specialized centers, where implanted patients remain under the care of the team of specialists during the postoperative rehabilitation. The rehabilitation team at the Institute of Physiology and Pathology of Hearing includes clinical engineers, speech therapists, educators and psychologists, who conduct individual therapy and organize systematic group therapy sessions.

Our patients come from all parts of Poland. Regular attendance in meetings requires from them, and their carers, an investment of time and money in terms of travel, necessary leave of absence from work and/or school and additional costs. Moreover, the travel weariness may adversely influence patient's commitment and readiness to fulfill tasks set by the therapist. In spite of patient's and therapist's efforts the meeting may be little effective. Tiredness affects also parents, who may begin to question the usefulness of such activities.

On the other hand, parents or carers may find it difficult to perform all activities requisite for the right progress of rehabilitation. They need help and support, because it is they who in the end become the true authors of child's success and carry the most load of the rehabilitation process, performing the program step by step in everyday activities. The properly planned rehabilitation management involves parents/carers and takes into account the need to train them to their tasks.

Most parents are unprepared for such a job. They have limited knowledge of child's problems and needs, particularly of a hearing impaired child. They need training and steady access to information. The communication regarding the aim and performance of the exercise should be clear and understandable.

Our specialists have set themselves the task of creating a flexible and easy to work with tool that would combine our knowledge and experience and could provide steady support for parents and child in their daily rehabilitation activities at home. The result is a set of training materials named the 'Home Rehabilitation Clinic' ('Domowa Klinika Rehabilitacji' in Polish).



Fig. 1 : 'Home Rehabilitation Clinic' – the cover

The materials consist of 12 CDs. Volumes 1 and 2 include theoretical material on the diagnostics and treatment of different types of hearing loss. The authors are physicians, engineers, speech therapists, psychologists and teachers of deaf. Topics include selection of most important information about different aspects of hearing dysfunctions, from the diagnostic management, various devices assisting in hearing, available therapeutical procedures and consequences of choosing each therapeutical approach.

The theory, however, is only a starting point, a foundation on which the practical skills are to be built. It is necessary to create a common vocabulary of concepts and terms, so that parents and carers could understand the therapist and take the advantage of his ideas and propositions to organize and properly implement the therapy. The largest part of the material, volumes 3-12, consists of the exercises for auditory, speech and language training.

Auditory training materials consist of various sets of environmental and speech sounds, aimed to train detecting, discriminating and identifying sounds. Speech and language exercises include sets of words, sentences or popular expressions covering Polish vocabulary, grammar and articulation.

Exercises were ordered according to their difficulty level. Parents have the option, for example, to use visual cues during the listening, tasks or to omit them, appropriately to the child's individual capabilities. Each exercise includes simple instructions, easy to understand and to apply. There is also an option of skipping to more advanced exercises, to encourage a child to put greater effort in listening and to practice the abilities learned during the auditory training by speaking and trying to build more and more complicated sentences.

The order of the material is designed to assist parents in planning the activities and scheduling the progress of activities. Materials include also a battery of tests and special questionnaire designed to collect and evaluate the information on child's progress.

Information and tools provided by the Home Rehabilitation Clinic may also be useful for the local rehabilitation specialist managing the patient's therapy. The specialist may use provided forms to collect information of patient's progress and it is very easy to send them through email to the Institute's Rehabilitation Clinic, which can be an additional form of monitoring the patient.

All materials contained on CDs may be printed out as sets of exercises or illustrations, which means that they may be used also by families who do not own a computer.

Popularity of the 'Home Rehabilitation Clinic' among parents and increasing demand from the constantly growing group of implanted patients are the encouragement to develop the program and add new elements. Recently we have prepared a set of materials directed to a relatively new group of patients: children with partial deafness who received cochlear implants. Before the implantation those patients have become accustomed to limited reception of acoustic signals and their auditory memory holds only the impressions based on low frequency hearing. This deficiency of speech perception had negative influence on speech quality and intelligibility in those individuals. Limited perception of many sounds, including speech, may hamper participation of social life, limit the access to information media and cause the sense of being different, leading, in many cases, to deterioration of the overall psychological condition.

After implantation those individuals become able to hear 'new', high frequency sounds and it means that they have to re-organize their world of hearing sensations. Moreover, established pronunciation habits may hamper development of the correct articulation pattern, particularly in longer, spontaneous utterances. It is necessary to provide them with the training materials fitted to their particular needs: auditory training based on the

joint reception of signals, articulation exercises using the vocabulary of a person who is already a user of spoken language as well as information about the particular areas of psychology that may help parents/carers define and understand their child's problems.

Summarizing, the 'Home Rehabilitation Clinic' is addressed primarily to parents and/or carers of implanted children. Its goal is to provide an easy access to the knowledge and experience of different specialists, to assist in organizing rehabilitation therapy sessions at home, without costly travel to sometimes distant rehabilitation centers and to facilitate the exchange of information about patient's progress. It serves also to change the widespread opinion that the short and long-term rehabilitation of a patient with hearing and/or speech dysfunction may only be conducted in a highly specialized center.

Rehabilitation of a hearing impaired child is a process that needs time, it is unrealistic to expect that it could be speeded up. However, it is possible and advantageous to shorten the time consumed by the exchange of information, planning and organizing the therapy. To serve this purpose the 'Home Rehabilitation Clinic' is not only a collection of materials, but also a management program distributing the tasks among the all participants of the rehabilitation process.