

**Conclusions:** Psycho-acoustic evaluations of pitch for electrical hearing often show disappointing results. However structured habilitation within a musical context can help develop the ability to repeat intervals, or melodic sequences and to sing in tune.

#### E027

##### **Cochlear Implantation: parental stress and effect on parent-child interaction**

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**Aim:** This pilot study aims to assess the amount of stress experienced by parents, during the period of CI-surgery and rehabilitation. Furthermore, the relation between the perceived stress and the parent-child interaction is examined.

**Material and Methods:** The Parental Stress Index and Erickson-scales were used to assess 5 CI children, pre-implant and at 12 and 24 months post-implant. Two control-groups were examined at comparable intervals; 5 hard-of-hearing children with hearing-aids and 4 hearing children. Children were between 10–23 months of age.

Non-parametric analyses of variance between groups were performed.

**Results:** In the period of implantation normal levels of stress were reported. Furthermore, no significant differences were found between the stress in families with children with a CI, with hearing-aids and hearing children. The quality of the parent-child interaction was comparable among the three groups.

**Conclusions:** In families no increased levels of stress were perceived during and after the CI-procedure.

#### E028

##### **Long term educational and psychosocial outcomes**

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**Aim:** Nijmegen Implant Centre values monitoring of emotional wellbeing, to provide optimal individual guidance and to establish adequate long-term support within educational facilities. The study aims to identify specific needs for different groups of children.

**Material and Methods:** Standardized evaluations at 5 years post-implant of auditory abilities, spoken-language, educational attainments and psychosocial development were performed in 100 children with normal-learning potential. Correlations between these variables were computed. Non-parametric analyses of variance were performed to identify effects of age of implantation and communication-code.

**Results:** Significant relations between auditory and spoken-language skills with long-term school and psychosocial outcomes were found.

**Conclusions:** Many children in deaf education show limited auditory and spoken-language development. Although their educational needs are met in school, still many psychosocial problems were reported. In children with good spoken language skills, in mainstream settings, less psychosocial problems were reported. Their guidance can be focused on more subtle pragmatic abilities and communication-strategies.

#### E029

##### **Parental's view of children with cochlear implant: developmental and educational aspects**

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**Aim:** To evaluate, from the parental point of view, developmental and educational features of pre-school deaf children with cochlear implant.

**Method:** Qualitative study. Twenty parents of implanted children were interviewed. Questions were posed in a semi-structured basis and traced main characteristics of schooling and age when implant was performed, in what ways it helped. We searched for information about what language was used, if sign language was present and if so in what degree, the best and worst qualities of cochlear implant. Relation with teachers was investigated to analyze the difficulties in inclusive classrooms.

**Results:** Parents related their children behavior had changed, becoming more interactive and less anxious getting better comprehension about the environment.

**Conclusion:** Cochlear implantation changed the recipient behavior. This might contribute to future scholastic achievements.

#### E030

##### **Friends and bullies in youth with cochlear implants**

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**Aim:** Past literature revealed children with Hearing Impairments to experience social difficulties. Whether being Cochlear Implanted eradicate social problems is still a matter of debate.

**Material and Methods:** Presenting children (N=186; 9–15-year-old; 73 HI of which 26 CI) with questionnaires about friendship quality, being bullied and self esteem related to peers, will expand the knowledge about children's own experience of their social competence.

**Results** reveal that overall the sample of children with hearing impairments have lower quality friendships, are more bullied, and have a lower peer-related self esteem than normal hearing children. Children with CI were no different from children wearing regular hearing aids.

**Conclusions:** Being Cochlear Implanted did not seem to improve the social functioning of this sample of children with hearing impairments, yet the age of implantation seems an influential factor.

#### E031

##### **Music for little digital ears – Music training with preschool children using cochlear implants**

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**Aim:** Little is known about music perception of early implanted deaf children with CIs. This study aimed to examine the effects of a music training program on the musical and linguistic skills of pediatric CI users.

**Methods:** Ten pediatric CI-users received multi-disciplinary music training for 3 months. Their musical and linguistic skills were tested pre- and post-training and compared to a CI and a NH control group.

**Results:** The music group demonstrated higher music test scores than CI controls and performed comparably to NH in pitch discrimination after training. The increase of the music group's linguistic performance was slightly higher than controls'. Parental feedback indicated that training stimulated everyday musical behavior.

**Conclusion:** Pediatric CI users may benefit from music training and enjoy participation in music making activities. The proposed training offers a stimulating environment and substantial listening practice and may support long-term musical, linguistic, and cultural development of these children.