EXECUTIVE SUMMARY

(Re)habilitation in Children

Treatment process in patients referred to a cochlear implant centre

Preoperative Assessment	Surgery and In-patient Care	Postoperative care
Medical	Multidisciplinary Team	Fitting + Tuning
Audiological	Clinical Facilities	Rehabilitation + Assessment
Hearing Aid Evaluation		Follow-up + Long Term Maintenance
Communication		
Psychological Status		
Information + Counselling		

Key points

- Primary caregivers of the CI recipients should be actively involved in the (re)habilitation process to maximise the outcome.
- A successful (re)habilitation process requires both standardized protocols for the professionals involved in the (re)habilitation process AND a flexible customized approach to meet the individual CI recipient's needs.
- Each CI centre should provide a physical and environmental setup for (re)habilitation for children to maximize the benefit they could obtain from their implants.
- Ongoing counselling throughout the rehabilitation process is important to avoid unrealistic expectations regarding auditory perception, speech and language development, and educational progress.

Background

- Rehabilitation outcomes can be very heterogeneous in children.
- Therefore, the aim is to standardize and improve the outcomes of paediatric rehabilitation.
- One further step towards standardization was done by the European KA202 Erasmus+ project "VOICE1.

Team structure

- Successful (re)habilitation requires a multidisciplinary team comprising at minimum an otolaryngologist, audiologist, and a SLT specialist, AND parent/family/caregiver involvement. Ideally, a liaison worker supports the cooperation between the CI recipients' family and the (re)habilitation professionals.
- A successful (re)habilitation team may also benefit from the inclusion of professionals from other fields, e.g. a psychologist or social worker.
- All team members should be regularly trained in developments in the field of cochlear implantation. The professionals involved should have the training opportunities to become experts in the field of (re)habilitation and education of children with a CI.
- The (re)habilitation team should coordinate the assessment procedure, surgery, fitting, (re)habilitation, and aftercare.
- The (re)habilitation team should meet on a regular basis to ensure effective internal communication and high-quality service.
- Children with complex needs might require a specialized service and specialized staff.

Accommodation

- Proper and easily accessible accommodation should be provided to ensure undisturbed counselling and treatment.

Preoperative assessment and counselling[2]

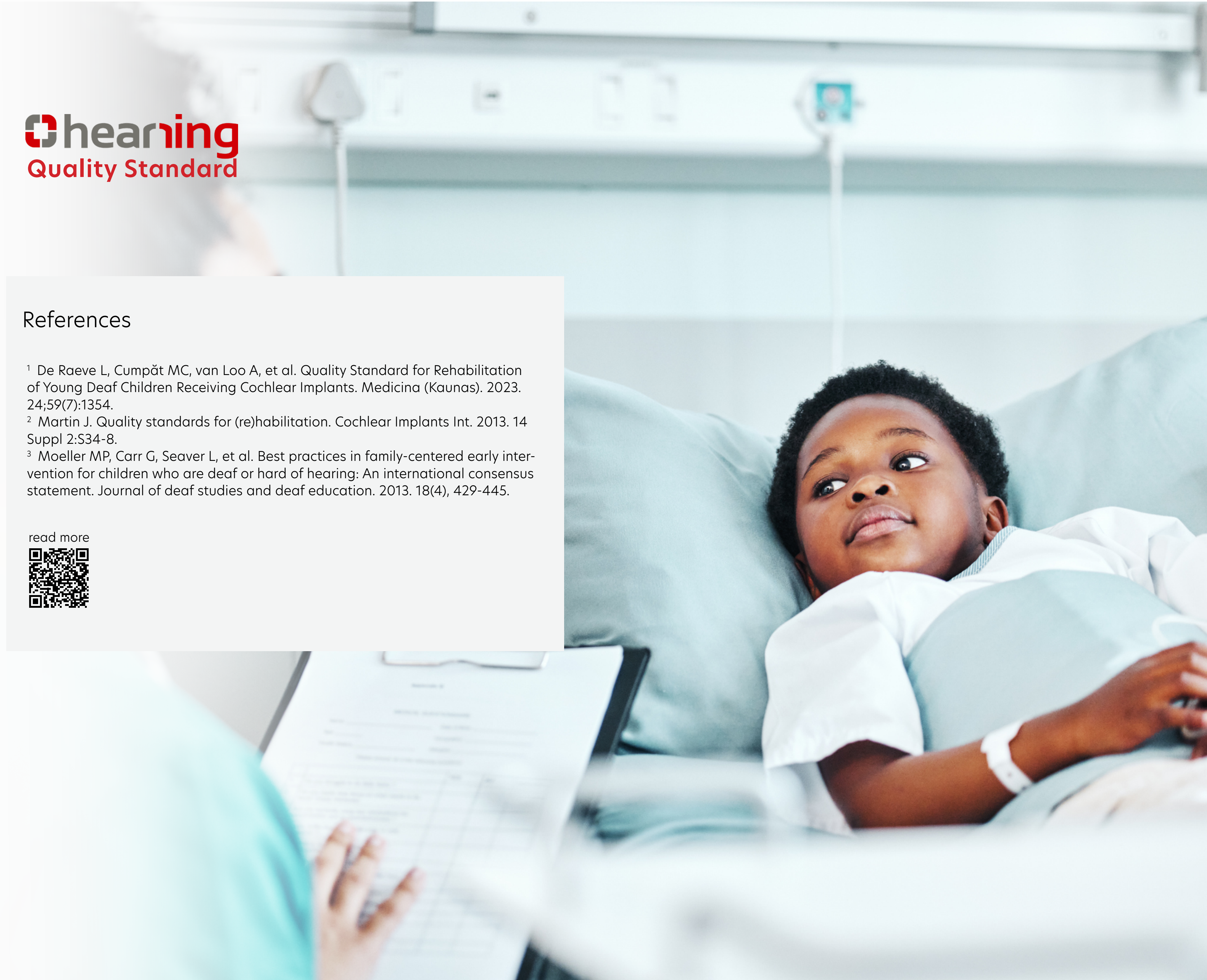
- The (re)habilitation team should provide information to parents/caregivers in a clear and understandable manner. This may also involve interpreters and/or written summaries in addition to verbal counselling.
- The counselling process should also include the aspect of device selection.
- Preoperative counselling to children should involve family support and education, goal setting, preoperative assessment, a preoperative habilitation programme, the involvement of associated organizations, and scheduling a final discussion for the end of the assessment period.
- A child with a bilateral severe to profound hearing loss should be bilaterally supplied with a CI, preferably before the age of 18 months.

Postoperative (re)habilitation and assessment[1]

- Postoperative (re)habilitation should begin right after first fitting.
- Monitoring of auditory skills, early communication, and/or spoken language development should be performed at 3-month intervals.
- Appropriate audiological tests, standardized speech perception tests when appropriate, and functional hearing assessment using questionnaires should be performed at 6-month intervals for constant hearing monitoring.
- Instructions on the use of the audio processor should be given by the audiologist/(re)habilitation therapist to the parent/caregiver at first fitting and should be repeated at least twice within six months after first fitting.
- Music should also be an integral part of paediatric rehabilitation.
- Optimal outcomes require a family-centred (re)habilitation approach where primary caregivers are actively involved and the therapeutic process. This approach should emphasize facilitating family-child interactions rather than child-focused intervention.[3]

Device failure[2]

- If an internal device failure is suspected, the CI recipients and/or their parents/caregivers should be offered an appointment promptly to check the device's internal and external components
- If re-implantation is agreed upon with the CI recipients and their parents/caregivers, it should be carried out as soon as medically possible and appropriate to minimize auditory deprivation



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[1] De Raeve L, Cumpăt MC, van Loo A, et al. Quality Standard for Rehabilitation of Young Deaf Children Receiving Cochlear Implants. Medicina (Kaunas). 2023. 24;59(7):1354.
[2] Martin J. Quality standards for (re)habilitation. Cochlear Implants Int. 2013. 14 Suppl 2:S34-8.
[3] Moeller MP, Carr G, Seaver L, et al. Best practices in family-centered early intervention for children who are deaf or hard of hearing: An international consensus statement. Journal of deaf studies and deaf education. 2013. 18(4), 429-445.

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