The field of cochlear implants in children has expanded remarkably over 40 years. Elizabeth Tyszkiewicz reflects on success and current challenges and calls for a national review of outcomes for young adults who received their implants in childhood.

As the cases presented above show, cochlear implant teams in the UK support children with a bewildering variety of attainment, need, social environment, or conditions additional to hearing loss. We have clear and stringent guidelines from NICE (National Institute for Health and Care Excellence) to define the patient group who, on the basis of the evidence, are thought to benefit most [3]. We have generally well-resourced departments. Yet, in day to day work, clinical and ethical questions such as these are commonplace:

• Should we offer cochlear implant surgery when years of experience of similar cases to this one tell us that we should have severe doubts about the outcome?
• What is the place of auditory brainstem implant (ABI) in a paediatric service?
• Is it ethical to work strictly within the NICE guidelines in the case of children who, our experience and
observation tell us, would benefit more from a cochlear implant system than from their hearing aids, but who fall outside the NICE criteria?

For example, the two-year old child whose audiogram is shown in Figure 1 is likely to struggle with spoken language development using hearing aids, but the current guidelines do not allow her to be offered a cochlear implant system.

Despite, or perhaps because of questions such as these, paediatric cochlear implants continue to be a fascinating and compelling field to work in, and those who have that privilege are usually enthusiastic about their part in it. There have been astounding results, with children and their families embracing the new technology, and making it a part of every aspect of learning and development.

Auditory verbal therapy, which specifically targets the auditory potential of each individual, and works to the strengths of the family, has gone from a minority preference to a mainstream option.

We have university students, young professionals, musicians, and sports enthusiasts among the many young people now growing to adulthood as the first cohort of born-deaf children to use cochlear implants. There are also severely disabled young people whose experience of the world, and contact with their family and friends, has been enhanced by access to hearing. On the other hand, we may have as much, or more to learn from those who are disappointed, or disaffected, or who have become non-users of their devices. Review of these cases plays a crucial part in our gradual establishment of a long-term knowledge base for auditory implant technologies. For example, we now know that some children with congenital profound deafness who began using cochlear implants when they were already well beyond the pre-school years, struggled to gain any appreciable benefit, and sometimes abandoned the use of their devices [4].

Taking into account this early experience, most cochlear implant teams in the UK are now extremely cautious about proceeding with cochlear implant surgery in such cases. On the other hand, children with severe to profound hearing loss, who did not initially fall within the criteria for benefit, may come forward for re-assessment, and go on to be satisfied cochlear implant users. The message is clear: every year of experience, every methodical review of the available data, and every set of well-documented outcomes consolidates practice, and allows us to make the best possible decisions on behalf of our paediatric patients.

It will be fascinating to hear from all of them what their experience has been, and what advice they have for the next generation of cochlear implant users, manufacturers and clinicians. There is a strong case for a national review of outcomes in today’s young adults, with both objective measurements and patient views of their life as cochlear implant users.

The tradition of collaborative working and data collection that is characteristic of cochlear implant practice in the UK makes it a favourable choice for such a study. The results would provide a rich resource for professionals, academics and patients in the next 40 years of hearing technology development.

References


3. NICE. Cochlear implants for children and adults with severe to profound deafness. 2009; [https://www.nice.org.uk/guidance/ta166](https://www.nice.org.uk/guidance/ta166). 


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**Figure 1. Paediatric borderline candidate.**

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