Conclusion: With 18 years of follow up, we acquire a more comprehensive knowledge of the effectiveness of CI and postoperative rehabilitation.

Objectives: To retrospectively review the surgical and rehabilitation outcomes of 427 pediatric cochlear implantees (427 unilateral and 73 bilateral).

Methods: 427 pediatric patients received CI between 1999 and January 2018. Surgical complications rate, reimplantation and tests regarding their auditory performance, intellectual ability, sound perception, speech production, language development and reading skills were administered. Their genetic characteristics and radiological data were also examined.

Results: So far, we have published a total of 32 SCI journal articles related to CI.
- 16 (3.74%) cases were found to have major complications.
- 3D MRI showed an incidence of 21.2% for cochlear nerve deficiency in preoperative imaging study of candidates.
- Most of the implanted children had normal performance intelligence quotient (IQ), but their verbal IQ dragged behind their normal-hearing peers.
- A significant prevalence of genetic mutations (33.5%) was identified in these children with CIs. these genetic mutations was associated with good long-term auditory performance outcomes after implantation.
- After 2.5 years of implant use, most of the children were intelligible to people who had a little experience of deaf people’s speech and understood common phrases without lipreading.
- After 4 years of use, they can communicate over the telephone with familiar talkers.
- The Chinese literacy and reading skill of the children who received CI at a young age fell within the normal range of their hearing age mates, at least after 5 years of implant use.

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