

Making connections.
Bilateral Cochlear
Implant Audit



Results from the National Paediatric Bilateral Cochlear Implant Audit

Who was involved?

The project included 1001 children, aged from a few months to 17 years. Roughly half of the children received their two implants simultaneously (at the same surgery); the other half were implanted sequentially. The children received their implants at one of the following centres:

- Auditory Implant Centre, Belfast
- Birmingham Children's Cochlear Implant Programme
- West of England Paediatric Cochlear Implant Programme, Bristol
- Emmeline Centre, Cambridge
- Cardiff Paediatric Cochlear Implant Programme
- Great Ormond Street Cochlear Implant Programme, London
- Guy's and St Thomas' Hospital Paediatric Cochlear Implant Programme, London
- Manchester Cochlear Implant Programme
- North East Cochlear Implant Programme, Middlesbrough
- Nottingham Auditory Implant Programme
- The Oxford Cochlear Implant Programme
- Royal National Throat Nose and Ear Cochlear Implant Programme, London
- University of Southampton Auditory Implant Service
- St George's Hospital Cochlear Implant Programme, London



A localisation test was set up at the centres

Key Findings

Localisation

Children with bilateral cochlear implants could work out where a sound was coming from significantly better than children with one cochlear implant

One year after receiving the second implant, the children with sequential implants localised better than they had done before

This localisation improvement appeared to be greater if there was a smaller time interval between the two implants



Bilateral cochlear implants improved listening skills in most children

Speech Perception

After receiving the second implant, children's listening in noise generally improved

This improvement appeared to be greater if there was a smaller time interval between the two implants

Initially the children with sequential implants relied heavily on their first implant, and struggled when there was noise on this side. However, as time progressed, the children began to also use their newer implant to hear in background noise

Parents' Views

Parental questionnaire results indicated that children gained significant benefit from two cochlear implants compared to one in terms of communication, family relationships, education and social adjustment

This benefit was greater for children who received the second implant before five years of age

Parents also reported that children with two implants showed better localisation, speech understanding and quality of hearing compared to children with just one cochlear implant

Parents' views were included in the audit





The audit results showed improvements in quality of life

Quality of Life

The majority of children wore their cochlear implants all of the time, and there were no differences between simultaneously and sequentially implanted children

Both groups of children showed improvements in quality of life. Sequentially implanted children showed greater improvement if the interval between their first and second implant was four years or less

The vast majority of parents said they would recommend bilateral implants (both simultaneous and sequential) to other families

The results mentioned here reflect the average performance of children with bilateral cochlear implants in this project. We did observe a huge variability in outcomes across all measures, so the results cannot be used to guide the clinical care of individual children.

For further information, please visit
www.bilateralcochlearimplants.co.uk

