Paediatric Bonebridge – Bilateral Asymmetrical Simultaneous Implantation

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Conclusion
Bilateral asymmetrical simultaneous Bonebridge implantation is safe, successful and cosmetically acceptable in the paediatric population. Asymmetrical positioning of the transducer does not impair the overall hearing outcome. The middle cranial fossa is a site that should be considered, particularly in the paediatric population where limited bone thickness can restrict options for transducer placement.

Objectives
The Bonebridge implant system is an effective solution for the treatment of conductive hearing loss. Due to the size of the transducer, its placement can be problematic in small paediatric mastoid bones (1).

This is the first description of the challenges and outcomes of bilateral simultaneous asymmetrical Bonebridge implantation in a paediatric patient.

Results
An 11 year old girl presented with bilateral chronic supplicative otitis media and conductive hearing loss. Her pre-operative PTA air conduction thresholds were between 75-30dBHL. Speech test score was 60% at 50dBL.

Pre-operative CT planning with the MED-EL FastView Software was used to identify optimum transducer placement. The right transducer was placed in the sinodural angle and the left transducer in the middle cranial fossa, using bilateral lifts (figure 1A, 1B, 1C). Symmetrical magnet placement was possible due to the flexible region between the transducer and demodulator. The surgery was uneventful with no postoperative complications.

Seven months following surgery the aided speech testing score was 100% at 50dBHA. The patient wears the processors daily with excellent compliance compared with hearing aids and reports improved sound quality. There was minimal projection of the internal component, see figure 2.

Methods
A literature search of Embase, MEDLINE and PubMed was performed and a retrospective review of the patient notes.

References