Introduction

The latest generation of super-power bone-conduction devices (BCD) has proven to be beneficial in adult patients with conductive and mixed hearing loss (Bosman et al., 2018). A high maximum force output (MFO) will address more of the listener’s auditory range. A high MFO is especially relevant when fitting a BCD on a soft band as this may compensate for some of the power loss in transcranial transmission (Figure 1).

Methods

Super-power BCDs were fitted on a soft band in six children (<3 years).

Results and Conclusions

All six children tolerated the super-power devices well with no aversive reactions for loud sounds. Thus, a superpower BCD on soft band can indeed be beneficial in children and should be considered as the audiological option of choice.

References


Figure 1. Transfer of environmental sounds (0–120 dB SPL) by a BCD on soft band with 80 dB HL MFO and +15 dB gain and 15 dB transcutaneous damping. The MFO reaching the cochlea is only about 65 dB HL re. RETL_{dbc} (red area in audiogram). A superpower BCD with 90 dB MFO increases cochlear MFO to 75 dB HL (green area). Note that a cochlear MFO of 75 dB HL is well below the Loudness Discomfort Level (‘D’) for direct bone-conduction (Hodgetts, 2007).