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Award Amount: **£125,000**



NOVEL MEDICAL DEVICE TO HELP CHILDREN WITH GLUE EAR TO HEAR

Background

Children with Otitis Media with Effusion (OME) and Auditory Processing Disorder (APD) have trouble screening out background noise, so surrounding sounds make it very difficult to understand speech. Around 3 million children suffer from OME in Europe, with incidence higher in many developing countries or particular populations. Incidence is more prevalent and long-lasting in children with Down's syndrome, cleft palate or other craniofacial problems. Approximately 5% of school-age children have some type of APD. In children with learning difficulties the prevalence of APD is 43%.

While 9/10 sufferers naturally get better within a year, children experiencing hearing loss are substantially disadvantaged at a critical time in the development of speech & language, listening and attention, socio-communication and auditory processing skills.

Technology

Bilateral bone conduction headset (to be worn by a child) wirelessly paired with a lapel microphone (worn by a parent, speech & language therapist or teacher) to assist a child's hearing. Bone conduction sends sound through bone to the cochlear, bypassing the blocked middle part of the ear that causes temporary hearing loss. This technology will reduce the impact that prolonged glue ear has on a child's speech and language, listening, attention and auditory processing development. In addition, software providing listening games, audiobooks and a hearing check will be developed that when paired with the headset, will further support the child develop skills compromised by the hearing loss, and enable tracking of the condition. The targeted technology and price point of this product set will make it the first to provide affordable hearing support in the current clinical pathway. The idea is currently at a working prototype stage with preliminary clinical data already obtained.

MTA support

With support from the MTA award, the team were able to obtain in-depth market assessment and health economics evaluation of the technology. Remaining funding is being used to develop the software application and refine the business plan, as well as develop a technical file ready for projected market entry within the next year.

Future work

The team are seeking a suitable commercialisation partner to support the future development of the device beyond the MTA award which is expected to complete in late 2019

A Joint Venture Partnership

