

Meet the inventor

Dr Tamsin Brown

Community Paediatrician

Cambridgeshire Community Services

Invention: Hear Glue Ear



Briefly describe your idea

An inexpensive off the shelf bone conduction headset to help children with glue ear. Hearing loss is often associated with the condition due to an accumulation of fluid in the middle ear; the device by-passes the middle ear when transferring sound and aids hearing in affected children.

Why is your idea so unique?

There is no solution for children when they have this problem other than to be seen by a practitioner over many months for repeat hearing tests and eventually a possible grommet operation. This means for the child many months of poor hearing potentially affecting speech and language development and other areas of development such as attention and listening skills, auditory processing and social communication skills.

What impact has the innovation had or is likely to have?

It provides a solution that requires no additional appointments to aid hearing and development during a currently conservatively managed watchful waiting period. I dare to hope that one day it might change NICE - National Institute of Clinical Excellence- guidelines on the management of glue ear.

What gave you the idea?

From personal experience as my own child had glue ear and I could see her speech and language suffering. Despite knowing how to manage the medical system, being in that specialty myself, my daughter's grommet operation still took one year to take place. After the grommets fell out, the glue ear came back but my past paediatric clinics/experience had already taught me how developmentally and educationally disadvantaged affected children could be. It was this that drove me to find a solution.

What backing have you received to develop your idea?

HEE, Health Education East of England (HEEoE), The British Society of Audiology (BSA) and Cambridge Hearing Trust (CHT) have all provided funding. However for me the best backing has been in the support received from professionals whom I admire: especially the way they have given up precious time to help because they think this project is important.



What have been the major challenges faced?

The research process has been incredibly challenging especially the funding of my own time which I have not managed to secure as yet. Thankfully, the project itself has funds and that is amazing and means it can progress.

Initially, no one really listened. I kept asking: "Why aren't we using bone conduction technology?"; only to be told "No, we don't do that", "It's nice you are thinking outside the box, but now it's about digital hearing aids", "It's a good idea, but there is probably a good reason why we don't do that." Eventually I happened to be in a queue with an eminent ENT surgeon and having asked him the same question; he gathered everyone together and said "We must do this". Without him, I wouldn't have started.

After that experience I just loved arriving at HEE and realising there was a whole company who listened – it was liberating!

What is the current situation with the innovation and future plans for it?

The headset manufacturer is currently making a smaller child sized headset which is also lighter. Excitingly, there has been some interest from a team of healthcare clinical engineers who think they will be able to custom make an even better microphone to pair with the headset.

Funding from HEE enabled me to buy an important piece of audiology equipment

we needed to start the research project. Research was delayed by a lengthy ethical approval process, but since this has now been approved we have recently started recruiting patients and collecting data about hearing levels, quality of life and developmental skills of children suffering from glue ear: One group will be managed under current NICE guidelines, the other group will have the same management but will be given the device to use at home as well.

From your own experiences what advice/tips would you give to other people who have an idea for a new invention in their Trust

Apply to HEE, they will listen and help. You will meet like-minded-people, who are enthusiastic to hear new ideas and can provide funding to support the development of promising new innovation. This is a refreshing change.

Find a mentor if you can. In my experience, if you don't have a colleague who will be that person, HEE will take on the role and provide the appropriate expertise and support.

Every time you bump your head on a problem, of which there are many, don't give up, learn from it and move on. The whole process is very daunting but exciting: so, "feel the fear and do it anyway".

