

# Educational audiology and Covid-19

Joe O'Donnell, Educational Audiologist, reflects on how the pandemic has affected his freelance practice within Scotland

*"Real change doesn't come without crisis."*  
– Charles Eisenstein

The Covid-19 pandemic has had many well-documented negative impacts. However, there have also been many positive outcomes. If we have been lucky enough to have been able to continue to work during the pandemic, we will have seen some of these in our work. What these unusual events can force us to do is work in a different way. Many of these changes will only be temporary and we will return to our normal way of working when circumstances allow. However, we may have discovered that some of the changes we had to make have been more effective or more efficient and have had benefits we had not expected. Some things may change completely, while others may change to some extent or be completely new activities that we were not doing before but we will now continue to pursue in our job.

Pre-Covid, my main activities focused on face-to-face, indoor meetings and activities with the families of deaf children, the children themselves either at home or in education settings, the staff in these educational settings and the multidisciplinary teams made up of individuals from the specialist hearing impairment (HI) teams within health and education. During the first lockdown my main focus was on keeping in touch with parents and on maintaining equipment. Because of my relationship with parents, I was able to contact them by phone and they knew that they could contact me at any time if there were any issues with their children's equipment.

I decided to concentrate my time on ensuring that all personal hearing aid devices were working effectively. For children wearing hearing aids this meant checking hearing aids, changing earmould tubing and checking radio aid functioning, if the child was using one at home. This got me looking at a protocol that would ensure that this was done in a safe way. I would instruct parents to put the hearing aids, earmoulds and radio aid transmitter in a bag, and they were to leave the bag on the doorstep once I had phoned to say I was outside. I would then clean all equipment and do all the checks and repairs necessary before putting the equipment back in the bag and leaving it at the doorstep. On the doorstep I was also able to have a quick chat with parents and children at a safe distance. This approach worked really well, and I began to use it when replacing broken equipment and eventually when setting up new radio aid equipment.

Before the pandemic I would generally set up new radio aid equipment in school. I would invite parents to attend but very often they were not able to attend due to work or other commitments. When setting up radio aid equipment during the Covid lockdowns I was able to do home visits at any time during the day as everyone was at home. Once children started to go back to school, I generally arranged

to visit homes during the early evening. Test box measures were carried out in my car, and listening checks were performed by listening into the hearing aid with a stetoclip whilst walking around my car, listening to a speech signal from the test box being captured by the radio aid microphone (yes, I did get some odd looks). Once the hearing aids and transmitter were set up appropriately, I would take the equipment back to the door and ask the child to put their hearing aids on. I was able to check how the transmitter was working at a distance by walking down the path or away from the door to an appropriate distance while speaking into the microphone. I would ask the children to comment on the quality of the speech signal they were receiving through the remote microphone. I have found this experience to have the greatest effect on parents. They were able, at first hand, to see and hear the positive reaction of their child to the use of the remote microphone. If the child was too young to comment the parent could see the change on the child's face and the increased eye contact. I would also invite parents to listen in to the equipment by using their own stetoclip or one I provided.

On the doorstep, I am able to show the family how the equipment works; how to turn it on, turn off and mute it.



Joe on the doorstep

I emphasise the importance of muting, particularly in school. The family is encouraged to think about situations around the home and in their social lives where the system can be used. We are able to talk about how the transmitter can be connected to other devices so that the child's hearing aids effectively become wireless earphones. We can talk about how this can be used for online learning and how parents can get auditory access to the sessions by the use of an audio splitter. With older children we have been investigating the use of the Roger Pen with speech-to-text apps such as 'Otter.ai' <https://otter.ai> and 'Live Transcribe'

<https://www.android.com/accessibility/live-transcribe/>

Use of these apps with the appropriate radio aid technology can be discussed with parents and children. Charging issues can be discussed, and also, how the device can be safely carried back and forwards to school. We also talk about how the device can be cleaned so that everyone feels safe using it. If the transmitter has a removable neck cord, then I will provide schools and families with their own. For some families of young children who are looked after by grandparents and/or childminders and attend nursery, I will provide as many cords as necessary so that everyone feels safe using the equipment. Phonak has been very helpful in this by providing me with extra neck cords free of charge.

The biggest advantage of setting up the equipment at home has been parents seeing their child's reaction when the microphone is switched on. I have often wanted to video this to show parents and staff but now parents see it for themselves. This makes it more likely that they will start to use the equipment in a wide range of situations. It also means that they will advocate more strongly for its use in and around the school when meeting with their child's teacher. Another advantage is that children become the 'experts' when showing others how to use the device. I always ask the school-aged children to imagine I am their teacher, and they are to explain to me how the transmitter works. I explain that I will be sending a video to their teacher on how to use the equipment appropriately and safely, but I want them to show their teacher and their classmates, too. Generally, I feel that setting up the equipment in this way makes it more likely that the parents and children feel that the equipment really belongs to them. They are in control of it, not me or the school. This sense of ownership is important in not only ensuring that this very expensive equipment is used to its full potential but also that it is looked after appropriately. I always let parents and children know how much the equipment costs. However, I also mention that the only equipment that never breaks or gets damaged is equipment that is never used.



Recording set up

Another new area that has developed within my job and that is linked to the setting up of radio aid equipment, has been the production of short instruction/information videos. I started making these videos for teachers to take the place of the face-to-face instruction I would normally carry out. I now have videos for all the different types of radio aids that are used, how to connect these to multimedia devices and, more recently, how to connect them to live caption apps such as Otter and Live Transcribe. I have more recently started making videos on troubleshooting common radio aid and hearing aid problems. I will continue to develop this area even when we can return to face-to-face contact and use the videos to back up and consolidate the information that has been given.

How to go about making these videos opened up a whole new world for me. I began by using the free version of the Screencastify extension on Google Chrome <https://www.screencastify.com> to record and edit my videos. It allows you to record, edit and share videos. The recordings can be easily shared via email, embedding code, YouTube, Google Classroom and more. I now caption all my videos and do this by uploading the video from Screencastify to the Veed.io website <https://www.veed.io> where I have an account. This is a simple online video editor that adds subtitles to your video and allows you to edit content. Once I have completed the subtitling, I upload the completed video to my YouTube channel. I then send out the links to these videos to staff and parents.



Connect the Roger Pen to a multimedia device

In order to improve the quality of the videos, I have had to invest in some hardware. I have recently invested in a Document Camera. This is a modern version of the old overhead projector system but it is more versatile as it can operate across an internet connection, allowing you to work with more people than just those in the room with you. I now use it to record my instruction videos, instead of my iPhone camera. The quality is much better, and it has its own recording software so I do not need to use the Screencastify extension anymore (I must remember to cancel that subscription!) The added advantage of the Document Camera is that I can also use it during live webinars or inservice training as it is very easy to switch between the computer camera and the document camera when presenting. If required, the output from both cameras can be displayed at the same time. During the past year I have been involved in many different types of training events, and having the facility to easily show people the technology I am talking about or the way to set up or fix equipment will be really useful in the future. I believe these types of online events have been generally very successful and are here to stay. If this is the case, then we need to share ideas about the best types of technology to use during these sessions.

Microphones are also very important. Up until quite recently I have been using a Phonak Roger Pen. I connect the Roger Pen to my computer by Bluetooth. I like this because there are less wires to manage. From the videos I have made with and without the Roger Pen, I can hear the difference that its microphone makes. It has also been very useful during training sessions with staff to highlight the benefits of close microphone distance, which is the basic advantage of using a radio aid system. I use the Roger Pen as I have been provided with one by Phonak as a demonstration model but there are many cheaper options,

and most dedicated microphones will enhance the quality of your speech when communicating online. More recently, I have purchased a dedicated USB microphone, the Rode NT.

Pre-Covid, when working directly with children in school, much of my time was focused on gathering information from the child and the school. I feel that one of the main aims of my job is to find out how each child's hearing loss or listening difficulty is affecting the way they engage with the world. Only when we know that can we put in place strategies and technologies that will support each child in overcoming the difficulties they face. In order to gather this information, I generally use the Listening Inventory for Education (LIFE) questionnaire. During the

past year I have had to look at other ways of doing this. I have been asking parents and school staff to carry out the questionnaire with the child, and then I have been using the responses to compile the first draft of a profile that basically states what the child wants the teacher to know about the difficulties they are facing, and what they want them to do to address some of the issues.

I have found that some parents and teachers have gained a lot by being more involved in this activity with the child. Many parents have said that they had not been aware that their child had had a particular difficulty or that they had been experiencing the difficulty to such an extent. Teachers have also mentioned this. The parents and teachers are now able to see the link from the questionnaire to the profile and this may make it more likely that the profile is seen as a 'live' document that can be used as a focus for regular meetings with the child on how things are going in and around the school. In the future, I will have to find a way of involving more parents and teachers in this activity so that these benefits are maintained.

These are some of the things that have changed for me during the pandemic and are probably the ones I will try to maintain and develop further, even as we move out of the crisis and back to a more normal way of working. ■



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