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Newsletter

NATIONAL COCHLEAR IMPLANT USERS ASSOCIATION NEWSLETTER

NCIUA

Covid - 19 and Cochlear Implantation

Prepared by Richard Byrnes on behalf of NCIUA

We are all only too well aware of the impact of this pandemic on our personal lives; lockdown, loss of freedoms, isolation, potential infection and hopefully not, mortality. Face masks have prevented lip reading for those who rely on it.

In parallel the NHS has been hugely impacted and has diverted almost all its resources to treating those who have been infected. In doing so it had to cease all elective surgery excepting emergency situations. Building Nightingale hospitals & contracting for large sections of the private medical hospitals, all in order to provide maximum bed capacity for the tens of thousands required. At one stage it was estimated that less than 20% of NHS bed capacity was available for treatment other than for Covid-19.

Early on NHS published a priority schedule for non Covid treatment. Step1a allowed surgery within 24 hours; step 1b within 72 hours; step 2 delayed surgery for 4 weeks; step3 surgery delayed for 3 months; and step 4 surgery delayed for more than 3 months. Under ENT and cochlear implantation in particular, immediate surgery was approved for life-threatening middle ear conditions and within 72 hours for cochlear implantation arising out of acute severe meningitis. Cochlear implants for prelingual deafened children had their surgery delayed by 4 weeks and this also covered cochlear implantation device failure. Cochlear implant surgery in general was delayed to over three months. And throughout all patients had to be screened for Covid-19 prior to admission.

Working within these parameters surgeons and implant centres had to adapt their procedures to satisfy national guidelines on health and safety in the midst of this pandemic.

Surgery creates aerosols (droplet spray) both from the wash down necessary during incisions and wound treatment but also from the drilling necessary into bone structure. Double screening was introduced both to protect the surgeon and the scrub nurse who would be in the immediate vicinity as well as the anaesthetist. Throughout all this access was still needed to the microscopes that are a key feature in cochlear implantation. PPE facemasks introduced generally throughout NHS proved generally unsatisfactory in theatres and it was found that foam packed goggles were often used instead by the surgeon.

Audiologists and reception staff also had to adjust their routines following the required spacing specifications. Waiting rooms have been modified or even abandoned if they were originally too small. All visits had to be done on an appointment only basis with the appointee being called into the reception area by phone in order to minimise contact.

Naturally facemasks were necessary throughout the process. Audiologists used screens to isolate themselves from their candidates and throughout cleanliness became a high priority than usual. All contact areas including even acoustic booths had to be sanitised after usage. All of these requirements slowed down the throughput of candidates irrespective of the subsequent surgical restraints. Thus again apart from the initial virtual cessation of activity in cochlear implant centres the numbers being seen and treated were hugely reduced.

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But as lockdown was progressively reduced and eliminated and with the experience of all the adjustments made to live with this new situation the rate of assessment and surgery began to improve though it is estimated that it could be up to a year before treatment levels get back to normal. The choice of the word normal here has to be questioned now. Because there is widespread opinion that even when pandemic has been effectively eliminated by vaccines and other forms of control which will have allowed society to resume its previous patterns of activity, the ENT Department overall will not go back to its former practices. The phrase the 'new normal' is what is now being anticipated. The use of telemedicine or virtual healthcare as it is also known has been accelerated by the pandemic and has enabled professionals to act independently of the former strictures of NHS protocols. Polls indicate that 5% of patients are already using it and 58% would do so if it was available.

GPs, through a cycle of zero contact, triage by telephone or online, consultation by video, have transformed their work practices. Thus the world of telemedicine has been increasingly used and has proved very effective not just because of the pandemic scenario because of a new way of interacting quickly and professionally with patients requiring NHS treatment both of the primary and secondary levels.

Telemedicine in cochlear implantation already exists at several centres in the UK with the remote care pathway named CHOICE. Telemedicine is used across the world particularly in countries where geography creates large travel distances- Australia, India, Africa, and the USA.

Have you had any adverse experiences during this pandemic?
What do you think of the prospects of the new normal?
Please write back to secretary@nciua.org.uk

Cochlear implant programming during the Covid Pandemic. A prospective from the Auditory Implant Centre, Belfast.

Amanda Speers, Audiological Scientist/Joint Audiology Lead, Auditory Implant Centre, Belfast.

Prior to the Covid lockdown in March 2020, auditory implant centres within the UK were currently facing their biggest challenges to date. An aging population, expansion of patient candidacy due to the introduction of NICE TA 566 , leading to increase in service users, changes in the public's expectations and rising economic costs were pushing service boundaries. In addition, it is was also well documented that only 5% of adults who might benefit from an implant are currently receiving one in the UK *(Raine, 2013)*[2] .

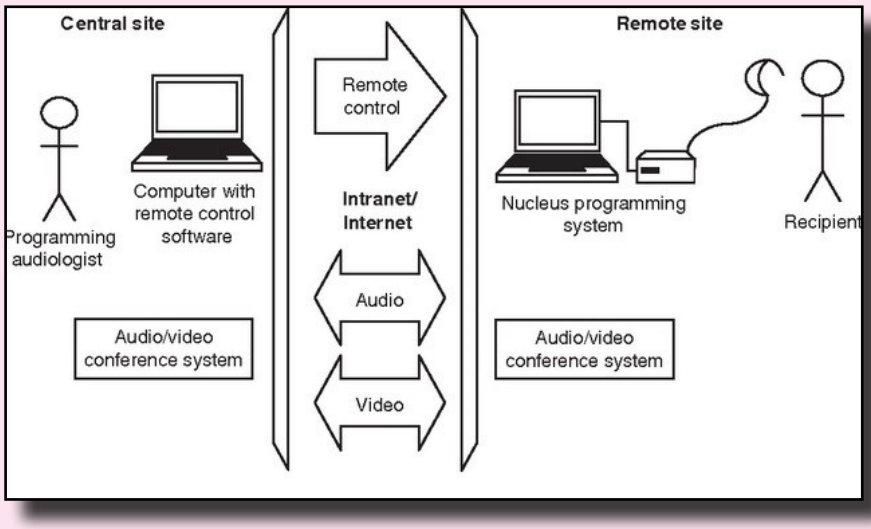
The Auditory Implant Centre, Belfast (AIC) had over the last couple of years been successfully implementing new innovative systems to run in the clinic without compromising the efficiency of its care to patients and the service. These include the use of Cochlear ™ Nucleus ® CR220 remote intra operative system in the operating theatre during patients surgeries and also Cochlear™ Nucleus Fitting Software (NFS) for switch on and initial tunings. Covid and lockdown upped the ante so to speak for our service as the building we are housed in and pictured below became a primary & community care COVID-19 Centre.

All services including ours at the centre were and still are temporarily stood down. At the time of lockdown our service had 14 paediatrics and 6 adults at various stages ranging from Switch On to 5 weeks post implant not to mention the regular reviews and upgrade patients. Basically the team had to pack up and move to a nearby private hospital that would act as an emergency hub for our service. The clinical staff set up to work remotely from home and to cover emergency repairs and troubleshooting while the medics looked after emergency wound/site problems and the admin staff relocated to nearby hospital.

Telemedicine in the form of remote programming is not new to cochlear implantation and has been shown to be an effective means of cochlear implant service delivery (Slager et al, 2019) . Various formats of remote working are used within UK centres such as remote care, lead by Dr Helen Cullington at the Auditory Implant Service at the University of Southampton and also in the form of satellite clinics led by the the Scottish Implant Team in the Highlands and Islands.

At the outbreak of Covid innovations were also occurring to ensure continuity of care for cochlear implant patients who had recently had surgery. Luckily for us, our colleagues in Southampton had conducted the first remote switch on in the UK and very kindly shared their protocol with the other UK centres. We were able to tailor this and create our own protocol through collaborating with services within the Belfast Health and Care Trust such as IT, information governance and externally from Cochlear UK.

The diagram below shows our adapted test setup.



My fellow colleague, Nicola and I set up the operating system and after running a practise session between our home locations we were ready to go. All patients who were deemed eligible for programming were contacted and consent given by them to use Microsoft teams. The patients agreed to pick up and drop of the programming kit. The remote kit contained a Microsoft tablet which had the Cochlear Nucleus Custom Sound 5.2 and team viewer software installed on it. The programming software was password protected so the patient could not access it directly. We decided to use a programming pod rather than the wireless pod as it was not reliant on the patient's internet. Microsoft teams was the audio /video system deemed suitable and approved for virtual clinics by our Trust and team viewer was the remote control software used. In team viewer the patient simply relays their unique remote control ID and password to the clinician who gains control of the tablet and accesses custom sound programming in the normal way. Information was emailed to the patient on what Microsoft Teams was, how it works and how to install the App. Laminated instructions were also included with the kit so patients could follow a step by step guide.

Nicola rolled it out to our first paediatric patient whose father incidentally worked in IT so he could help us troubleshoot. Both clinician and patient were in their home environment using their own devices to access Microsoft teams mainly on phone or tablet. Our administrative team made a Microsoft team booking which is linked to our PAS system and can record our activity. The booking was cc to clinician, parent/patient and also our SLT's for them to join the session. In 1 session we had an Arabic interpreter helping us with 3 Syrian brothers all who were all implanted in February. In theory any other professionals can join the session.

11 out of 14 paeds (79%) and 4 out of 6 adults (67%) participated in remote programming. All were Cochlear Nucleus 7 patients with CI 612 and 622 implants. 1 hybrid patient was also included. In addition Cochlear Europe was able to facilitate the provision of the loaner laptop to enable the use of a 2nd remote kit.

Moving forward, the team are participating in an internal audit to ANassess patient satisfaction of remote programming to see if could be used as a mainstream tool within the clinic. If positive, it is hoped that implementing remote programming within the clinic will have a significant social cost impact to patients. Patients would be able to save in terms of travel costs and loss of working days if kits could be couriered directly to patients.

References:
National Institute for Health and Care Excellence. Cochlear implants for children and adults with severe to profound deafness. Technology appraisal guidance [TA566] Published date: 07 March 2019.

Raine, C. Cochlear implants in the United Kingdom: Awareness and utilization. Cochlear Implants International. Volume 14, 2013 - Pages S32-S37
Slager et al. Remote programming of cochlear implants. Otology Neurotology. 2019 March: 40 (3)

Manufacturers News

From Advanced Bionics

Amidst the disruption and uncertainty related to COVID-19, the health and safety of our recipients, hearing care providers, and employees are of the utmost importance to us. Our doors remain open and we are doing our best to ensure that we can provide support for you all.

Connect with AB representatives for support virtually
If you wish to speak with a member of the AB Consumer Specialist team and receive individualised, face to face 'virtual' support, we continue to offer 'Communicate with Success' sessions where you will receive an appointment at a time that suits you, on an online platform that will be easily accessible. These virtual events are suitable for AB users and anyone considering cochlear implants. We provide support and counselling, peer support, guidance on free access to aural rehabilitation tools, as well as device troubleshooting and care. Here is the link to our virtual 'Communicate with Success' booking form: www.advancedbionics.com/uk-events

Step into HearingSuccess Webinars
We are excited to announce a series of free webinars, to guide you through resources and tools to empower you towards Hearing Success! Videos from Advanced Bionics mentors, support on specific resources to improve communication and troubleshooting tools. https://www.gotostage.com/channel/stepinto-hearingsuccess-users-of-hearingaids-or-ci

AB Customer Service Care
We are working closely with all CI centres to ensure replacement items are available if you have any faulty equipment. Please make contact in the normal way and expect your replacements to be sent out to you as quickly as possible. Our telephone and email services are open and staffed in the usual way during office hours; +44 (0) 1223 547 888 and customerservice.gb@advancedbionics.com

Connect with an AB mentor
We have over 60 AB mentors throughout the UK and Ireland that are keen to support you during this time and beyond. If you would like to connect with someone who has been through cochlear implantation and is using AB technology, email Hear-UK@advancedbionics.com and we will put you in touch with a mentor.

Our AB Mentors have an independent, active and welcoming Facebook group ideal for any AB user or anyone considering cochlear implants. Please see the link below for the 'Advanced Bionics UK & Ireland – Users Group' to join nearly 500 others in this group. https://www.facebook.com/groups/106572427383/?ref=share

Like and follow our NEW AB UK Facebook page!
We recently launched our own AB UK Facebook page so we could become closer to our UK AB users at this time and beyond. We would really appreciate if you could Like and Share (and share, share, share!) this page. Be sure to follow us at fb.me/AdvancedBionicsUK

From Cochlear

Cochlear accelerates ground-breaking remote health services

It's certainly a strange time we find ourselves in and the current situation has presented its challenges one way or another, but with these challenges comes the opportunity to think and act differently.

Cochlear has been working in partnership with implant centres to fast-track some of our new services to help provide extraordinary remote support to recipients and professionals during this time. Where clinic visits have not been possible face-to-face, we have been introducing new services that aim to minimise disruption and keep people hearing using remote solutions. Below are examples of the great work implant centres are doing in collaboration with Cochlear bringing this exciting technology to life:

You may have seen on the news earlier this year how Southampton overcame a difficult situation using remote programming, which is an exciting development not often used in the UK. An 18-month old's sound processors were switched-on for the first time despite the clinic being closed to patients. Audiologists conducted the switch-on from home using specialist software linking remotely with the child's parents via video link many miles away. This was a huge success and gave this child access to sound who otherwise may have been left without hearing for many months. Excitingly, some other implanting centres are also starting to use this technology.

"The Southampton team, they were amazing. I cannot praise them enough really, the effort of the team – they were just brilliant, and they made it happen." Mother of recipient.

The Cochlear™ Nucleus® 7 sound processor in combination with the amazing new feature in our Nucleus® Smart App allows recipients to check their hearing health from the comfort of their own home. Remote Check is a convenient, at-home testing tool that allows patients with a Cochlear Nucleus 7 Sound Processor to complete a series of hearing checks on their compatible iOS device. Results are sent via the Smart App directly to their clinic to be reviewed by their audiologist. They can then communicate back to the recipient through the app to help with any questions or concerns they may have. Cochlear has opened up this technology across the UK and Ireland, allowing more recipients and healthcare professionals to take advantage of these features.

Our number one priority is to provide on-going support to ensure recipients stays on-air with their Cochlear implant. Our Customer Services have remained open throughout the pandemic and we are continuing to find more ways to offer support during these times. With that in mind, we have also enabled a direct to patient repairs service in partnership with implant centres. Should recipients encounter a fault with their device, Cochlear may be able to deliver the repair directly to a recipient's home address.

"Thank you for being so helpful today, with all the hospital department closed! I was so grateful for your help." Recipient comment.

We have started to offer an Upgrade Direct to Recipient service for older children and adults. This enables us to ship a new processor directly to the recipients home along with all the accessories they will need in a Cochlear backpack. We hope that by enabling a "contactless" upgrade option recipients can continue to gain access to Cochlear's latest technology.

All these developments are very exciting and changing the world we all live in. As we start to recover from the current situation clinics can choose to enable these services, but this will be dependent on their capacity to do so. Our recipients and healthcare colleagues are always our top priority, and we will continue to look for new ways to support them.

From MED-EL

NEW PRODUCT INFORMATION

RONDO 3

Incredibly Simple. Simply Incredible.
Simple Hearing - whether it's cars on the road or other conversations in a restaurant, noise can disrupt the understanding of speech anywhere, but not with the RONDO 3: with two omnidirectional microphones, three types of enhanced noise reduction, and Adaptive Intelligence, provide superior hearing performance in any environment.
Simple Handling - No cables, no changing batteries, no hassle. The RONDO 3 is pre-charged and ready to use straight out of the box. It is light, extremely slim and barely visible on the head. The integrated battery never needs to be removed, provides power for a full day of unlimited hearing, and can be charged wirelessly. It couldn't be any more convenient.
Simple Connectivity - AudioLink enables wireless audio streaming and has an integrated remote microphone for social situations, or meetings. RONDO 3 settings can be adjusted via the FineTuner Echo or the AudioKey 2 app. With the app, parents can regularly monitor their children's audio processor and, if necessary, can help locate it if misplaced.
Power for the whole day – with inductive charging, the integrated battery can be fully charged within 3 hours and provides enough power for an entire day*.
Manage it your way – with the new AudioKey 2 app you can check the RONDO 3's status and battery level as well as adjust settings from a smartphone.
* battery life up to 24hr, but may vary depending on individual situation, accessory usage, etc.

AudioStream for SONNET & SONNET 2

Directly streaming music and phone calls to your SONNET series audio processor is easy with AudioStream! You can put it on like your regular battery pack cover to enjoy high-quality streaming of music and phone calls directly to your SONNET or SONNET 2*.
• AudioStream is easy to use and suitable for all ages*.
• With AudioStream, you can experience music in true stereo for better sound quality.
• The SONNET, and SONNET 2, with AudioStream is backwards compatible with all our multi-channel hearing implants - even our very first MED-EL COMBI 40 CI users implanted as early as 1994 - which again underlines MED-EL's core value of placing you at the centre of everything we do.

To find out more about any of the above products visit www.medel.com.
* The AudioStream is compatible with most modern Android and iPhone devices. If you have a query of whether a device is compatible, please email clinicalsupport@medel.co.uk.

SONNET 2 & Accessories' Hands-on Videos
The SONNET 2, AudioLink, and AudioKey Hands-On Videos are now available to watch on our YouTube channel.

The series of short 'How-to' and 'Support' videos provides guidance on how to get the most out of your audio processor, such as handling, changing covers, and charging. To watch the videos, visit the MED-EL YouTube channel at www.youtube.com/MEDELnetwork or via the MED-EL website on the relevant product pages at https://www.medel.com/en-gb/support/product-support

From Oticon Medical

Get Connected With the Neuro 2 Streamer!
We're pleased to present a **new family of connectivity options for Neuro 2** that let Neuro 2 patients wirelessly connect their electronic devices and stream sound to their cochlear implant processor.

Communication today means more than face-to-face conversations. The new Oticon Medical Streamer XM lets you wirelessly connect your Neuro 2 to all your electronic devices. Connect and enjoy direct sound on the phone, for video chats, listening to music and much, much more. Once the Streamer has been enabled by your cochlear implant audiologist, it turns your Neuro 2 into a wireless headset. With the Streamer you can easily:

• Stream sound, including voice and music, from your smartphone or virtually all other Bluetooth devices
• Control the volume and change programs on your Neuro 2 using the Streamer as your remote control
• Use loop systems through the Streamer's built-in telecoil function.

For more information about the Streamer, please visit www.oticonmedical.com/uk

ConnectLine App
Neuro 2 Patients also use the ConnectLine App to get even more out of their Cochlear Implant. With the ConnectLine App, you can:

• Change Neuro 2 programs, adjust the volume or mute the sound environment
• Select an audio source and adjust streaming levels
• Answer or make calls on your phone
• Play music
• And more…

The ConnectLine App is available for iPhone®, iPad® and Android™ smartphones and tablets and can be downloaded for free on the App Store® and on Google Play™.

More connectivity options
Neuro 2 users get even more connectivity options by using these additional ConnectLine accessories with the Streamer:

• TV Adapter – Stream sound from your TV to Neuro 2

• Microphone – Worn by your conversation partner, for example in a noisy environment, and transmit the voice to your Neuro 2
• Phone Adapter – Receive and make calls from your landline phone and stream them to Neuro 2
• FM receiver – Ideal for school use. The Streamer has a built-in Euro pin that enable a Roger™ or FM receiver to be attached.

In praise of directional microphones

Ever since multichannel cochlear implants became an established technology in the 1990s one of their limitations has been that quite modest amounts of background noise substantially reduce the user's ability to conduct a conversation, and increase the strain involved in doing so. Over the same period all of the CI manufacturers have tried various methods of reducing the effects of background noise, but with very limited success.

However over the last few years the CI manufacturers have taken on board some of the directional microphone techniques which had been developed by the hearing aid manufacturers for their high-end models. My experience as a user has been that a well set up directional microphone system – which attenuates sound coming to your ear from the sides and allows your hearing to concentrate on sound sources ahead of you – can work very well. Pretty well all current production speech processors now provide some form of directionality.

Hence I was interested to see that the May 2020 issue of Cochlear Implants International included a quite lengthy paper by authors from several hospitals in Finland reporting on the effectiveness of the directional microphones fitted in the 3 traditional manufacturers' systems, in terms of improving speech perception in noise. Although the study set out to find out which particular system works best, it concludes that in practice the 3 firms have slightly different approaches to the issue [and use different terminology to describe their products] so it is difficult to do a reliable apples-for-apples comparison of their products.

Nevertheless the broad picture is that, ignoring the detailed differences, pretty well any modern directional microphone set up is going to give at least 5dB [and possibly 10dB] improvement in signal to noise ratio, which is a very substantial benefit. It fits with my own experience using the Beam facility on my current processor, which works well enough for me to prefer to use the Beam setting [rather than an omni-directional microphone] as my default programme. I find it particularly useful when talking to people in rooms with poor acoustics, where your ear is being assailed by duplicate copies of the sound bouncing off walls and ceilings.

So I'd urge those members who have a fairly recent speech processor to experiment with the directional microphone facility if they haven't already done so. For the members who using an earlier model of speech processors I guess we can only hope that you are able to receive an upgrade before too long!

Paul Tomlinson

Can You Help in a Research Project?

Dr Bob Carlyon and Dr John Deeks of the MRC Cognition and Brain Sciences Unit, University of Cambridge (www.hearing-research.group.cam.ac.uk) are recruiting adult Cochlear and Advanced Bionics users to further their research aims to understand the reasons why hearing through a cochlear implant is not perfect, and to find ways of improving it in the future. They have been researching cochlear implant listening for more than 15 years, and present their findings in journals and conferences every year. They say:

If you are willing to help, we will ask you to visit our research Unit at the University of Cambridge. There is plenty of on-site parking, and we are a short taxi ride from the train station. Visits last for about three hours, with plenty of breaks. We will play sounds through your implant, using our own speech processor, and ask you either just to listen, or to make judgements about pitch or loudness. To compensate for your participation, we will pay your travel costs (car mileage, train tickets), plus a contribution for your time with us at the Unit.

The CBU implements government-recommended safety procedures to protect staff and participants from Covid 19.

If you would like to take part or would like to know more about our research, please contact Dr John Deeks at: john.deeks@mrc-cbu.cam.ac.uk

National Cochlear Implant Users Association

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