ReSound

For people with Cochlear Implants

Spring 2022 Issue 73

Wheal Coates tin mine in the spring

Manchester Cicada — a charity supporting implant patients

This newsletter has been produced on behalf of the Manchester CICADA Charity

contents

Editorial

Welcome to the Spring edition of Resound for 2022.

In this issue as well as our regular update from Barbara Hitchins in the Lip reading corner we have news about a series of workshops that we are hoping to hold to help CI users come to grips with connecting their new processors with a range of devices.

In view of the aftermath of the pandemic, and in an efffort to reach out to all those members who are now spread far and wide we will be trying out delivery of these using Zoom sessions as well as in person sessions at the Implant clinic.

We continue to working closely with the Implant team at the Manchester Royal Infirmary and have welcomed a number of new members over the past year in spite of the restrictions that have been in place.

It is still our intention to try and organise some social gatherings but in view of the increasing cost ot travelling these days we will plan them as local events rather than regional ones. With this in mind look out for information coming on local contacts for these events. We are always looking out for pictures or short stories about actvities that you have been involved with locally such as the Southport Kite event for example so if you have anything you've been out to see let us know.

We have a section on our website with lots of photographs of memorable events that have been run over the years so feel free to browse at:

www.manchestercicada.org.uk

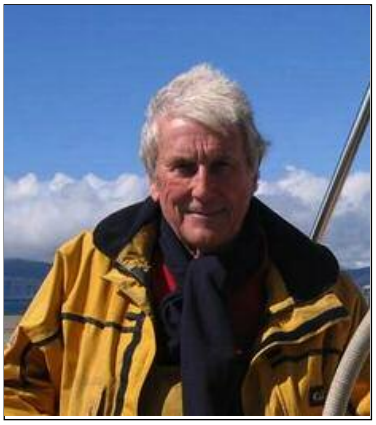
Once again, if you have a story to tell about your journey with the implant program we would love to hear from you, this magazine after all is about you.

We hope you enjoy this issue and if you've any comments, or stories to send along please let me know.

Kevin Williams - Editor

Musings on communication

by John Newton



There must have been a time long ago when the only way a human could communicate with another was by standing close together and talking, doing things with hands and arms or making faces.

We do know that smiling for example is absolutely universal among humans whatever their language. The origins of spoken language are disputed even among the experts but it's generally agreed that writing of any kind came a lot later.

Many thousands of years of human life must have passed before some bright spark thought of pressing a bit of stick into a slab of clay to create a message which you could send to someone over a distance (a lot of these that survive turn out disappointingly to be boring lists of foodstuffs or receipts for payments!).

For another few thousand years writing could only be copied by hand before first in China and then in Europe printing was invented and took over. In the 400 years after Gutenberg introduced his press using movable type, the number of books increased a thousandfold.

We now are experiencing another communication revolution although we still seem to drown in paper which we have got much attached to. Every month I get plaintive pleas from my bank to give up paper statements but I still like them and file them carefully but never look at them again.

However for those with hearing loss although we benefit a lot from the printed word, it overcomes our disability whether it's on paper in a letter or on a computer or phone screen, nevertheless the custom of our primeval ancestors is still paramount. We still like to stand close to our respondent, speak, gesture and pull faces. A smile is still a vital sign which communicates all sorts of things, moods and attitudes which are difficult or impossible to put into words. In some situations it's the only communication necessary and its absence is often disconcerting.

So when the pesky virus confined us all and specifically ruled out the primeval conversation method which works so well for the deaf, we turned to video conferencing with desperate enthusiasm. Old fogeys of both sexes who had disparaged all this modern communication via electronics suddenly became born again nerds, navigating around the Zoom screen with careless nonchalance, becoming amazingly familiar with our friends' taste in interior decoration. It seemed wonderful at the time but, and to be fair, it is wonderful but the shine for me is wearing off rapidly and I am not quite sure why (although being forced to look at my ancient face on the screen while the meeting is on may be a factor!)

I don't disparage the modern systems, in fact I am an enthusiast for them and particularly for the people with limited mobility or sensual impairment. I get very

impatient when an elderly frail relative I care much about tells me she doesn't know where she left her phone or that its battery is flat. In fact I suspect that video conferencing is here to stay as it has been for years among certain professionals. So what is missing?

I think the answer is that communication is much more complex than we actually understand and that sharing three-dimensional space with someone allows us to use our whole body and all our senses to relate to the others in the room. It's not just head and shoulders that matter. I know for example that I can recognise my son reliably from 200 yards away by his gait, his way of walking. Posture and movement are as important as gesture and facial expression. (We don't talk about smell very much, it's a bit infra dig and we may not even be aware that it's a factor but I am sure it often impinges on our subconscious). In any sort of business meeting what happens before and after the formal proceedings can be just as important or even more important than what is on the agenda.

So I hope that we are not saying good bye to live get togethers for ever. I hope we will keep having social encounters of various kinds in various places even if they are messy and disorganised.

But whatever we do must we keep smiling!

Marmoset monkeys solve hearing tests on the touchscreen

Leibniz Institute for Primate Research (DPZ) and at the Institute for Auditory Neuroscience

Researchers have developed an automated auditory training program that marmoset monkeys can perform in their familiar environment on a voluntary basis. The team has accomplished getting non-human primates to complete a series of tests in which they hear different sounds and then match them to the appropriate, previously learned visual stimuli by clicking on a touchscreen. This allows scientists to track which sounds the animals can hear and discriminate.

According to estimates by the World Health Organization (WHO) more than five percent of the world's population is affected by hearing loss and deafness, which is mostly caused by loss of hair cells in the ear.

For future treatment, researchers are focusing on optogenetics, a genetic engineering method that they hope will make auditory nerve cells in patients sensitive to light. The optical cochlear implants developed at the Göttingen Campus, which convert sound waves into light instead of electricity, could provide a much more differentiated sound spectrum and thus enable a hearing impression that is much closer to natural hearing than with current cochlear implants.

However, before clinical trials in patients can begin, tests in animals, including monkeys, are necessary.

A team of researchers led by Marcus Jeschke at the German Primate Center -- Leibniz Institute for Primate Research (DPZ) and at the Institute for Auditory Neuroscience led by Tobias Moser at the University Medical Center has taken a new approach. They have developed an automated auditory training program that marmoset monkeys can perform in their familiar environment on a voluntary basis.

The star of the show

The team has accomplished getting non-human primates to complete a series of tests in which they hear different sounds and then match them to the appropriate, previously learned visual stimuli by clicking on a touchscreen. This allows scientists to track which sounds the animals can hear and discriminate. The monkeys themselves decide whether, when and for how long they participate in a hearing test

Nature Communications

Common marmosets communicate using a variety of sounds, including chirps, whistles and trills. Their extensive sound repertoire makes them an important animal model for studying the auditory system and treating hearing loss. After testing in rodents and before application in humans, a research endeavor as complex as the development of an optical cochlear implant must also verify efficacy and safety in non-human primates that are more similar to humans.

In this regard, researchers at the DPZ are paying particular attention to animal welfare and, consequently, to improving experimental methods. In the training program developed at the DPZ, each marmoset monkey can perform the hearing tests in its familiar environment in the animal house in the company of its social partner. For this purpose, a device created at the Göttingen Campus is hung on the cage. The animals are gradually introduced first to the device itself, then to the interaction with the device, and finally to the tasks. In doing so, the researchers take advantage of the animals' natural curiosity, that inspect new objects with an open attitude. The animals are trained to interact with a touchscreen by means of positive reinforcement, in which the correct behavior or the correct solution of a task is rewarded with an offer of a tidbit.

"We were able to train common marmosets for behavioral experiments in which they associated a species-specific sound and an artificial sound to two different images. Then we replaced the acoustic stimuli by other acoustic stimuli to test whether animals can abstract from what they have learned so far. This was also successful." explains Jorge Cabrera Moreno, one of the first authors.

Antonino Calapai adds: "In previous studies, it had been shown that monkeys can solve difficult visual tasks, but fail in the auditory domain even with seemingly simple tasks. For example, baboons succeed in locating food based on visual but not auditory cues." The ability of common marmosets to perform acoustic tasks so well makes them ideal model animals for hearing system research.

Initially, the animals learn that they can receive rewards by touching the screen, while still being monitored by the researchers via video transmission.

Later, the training runs fully automatically. Each animal trains according to its individual learning speed in many finely adjusted stages. The programming ensures that each animal is presented with tasks that it is capable of solving. Only if this works reliably, the animal is introduced to the next, more complicated, task.

The respective learning level of the animals is stored, so that an animal can always start again at the respective level reached after breaks. In this way, the training can also contribute to the mental well-being of the animals through cognitive occupation. The animals always decide for themselves whether, when and for how long they engage with the device.

"Our results showed that common marmosets kept participating in the psychoacoustic behavioral experiments with high engagement even when the device was highly familiar to them." The animals could remain in their familiar environment and in the company of their social partners. "With this method, one person can train several animals in parallel and the results are of such high quality that we will be able to use this training and testing method for our research on optical cochlear implants in the future," concludes study leader Marcus Jeschke.

Story Source:

Materials provided by Deutsches Primatenzentrum (DPZ)/German Primate Center. Note: Content may be edited for style and length.

Where did that sound come from?

Neuroscientists have developed a computer model that can answer that question as well as the human brain

Neuroscientists developed a computer model that can localize sounds. The model, which consists of several convolutional neural networks, not only performs the task as well as humans do, it also struggles in the same ways that humans do when the task is made more difficult by adding echoes or multiple sounds.

The human brain is finely tuned not only to recognize particular sounds, but also to determine which direction they came from. By comparing differences in sounds that reach the right and left ear, the brain can estimate the location of a barking dog, wailing fire engine, or approaching car.

MIT neuroscientists have now developed a computer model that can also perform that complex task. The model, which consists of several convolutional neural networks, not only performs the task as well as humans do, it also struggles in the same ways that humans do.

"We now have a model that can actually localize sounds in the real world," says Josh McDermott, an associate professor of brain and cognitive sciences and a member of MIT's McGovern Institute for Brain Research. "And when we treated the model like a human experimental participant and simulated this large set of experiments that people had tested humans on in the past, what we found over and over again is it the model recapitulates the results that you see in humans."

Findings from the new study also suggest that humans' ability to perceive location is adapted to the specific challenges of our environment, says McDermott, who is also

a member of MIT's Center for Brains, Minds, and Machines.

McDermott is the senior author of the paper, which appears today in Nature Human Behavior. The paper's lead author is MIT graduate student Andrew Francl.

Modeling localization

When we hear a sound such as a train whistle, the sound waves reach our right and left ears at slightly different times and intensities, depending on what direction the sound is coming from. Parts of the midbrain are specialized to compare these slight differences to help estimate what direction the sound came from, a task also known as localization.

This task becomes markedly more difficult under real-world conditions -- where the environment produces echoes and many sounds are heard at once.

Scientists have long sought to build computer models that can perform the same kind of calculations that the brain uses to localize sounds. These models sometimes work well in idealized settings with no background noise, but never in real-world environments, with their noises and echoes.

To develop a more sophisticated model of localization, the MIT team turned to convolutional neural networks. This kind of computer modeling has been used extensively to model the human visual system, and more recently, McDermott and other scientists have begun applying it to audition as well.

Convolutional neural networks can be designed with many different architectures, so to help them find the ones that would work best for localization, the MIT team used a supercomputer that allowed them to train and test about 1,500 different models. That search identified 10 that seemed the best-suited for localization, which the researchers further trained and used for all of their subsequent studies.

To train the models, the researchers created a virtual world in which they can control the size of the room and the reflection properties of the walls of the room.

All of the sounds fed to the models originated from somewhere in one of these virtual rooms. The set of more than 400 training sounds included human voices, animal sounds, machine sounds such as car engines, and natural sounds such as thunder.

The researchers also ensured the model started with the same information provided by human ears. The outer ear, or pinna, has many folds that reflect sound, altering the frequencies that enter the ear, and these reflections vary depending on where the sound comes from. The researchers simulated this effect by running each sound through a specialized mathematical function before it went into the computer model.

"This allows us to give the model the same kind of information that a person would have," Francl says.

After training the models, the researchers tested them in a real-world environment. They placed a mannequin with microphones in its ears in an actual room and played sounds from different

directions, then fed those recordings into the models. The models performed very similarly to humans when asked to localize these sounds.

"Although the model was trained in a virtual world, when we evaluated it, it could localize sounds in the real world," Francl says.

Similar patterns

The researchers then subjected the models to a series of tests that scientists have used in the past to study humans' localization abilities.

In addition to analyzing the difference in arrival time at the right and left ears, the human brain also bases its location judgments on differences in the intensity of sound that reaches each ear.

Previous studies have shown that the success of both of these strategies varies depending on the frequency of the incoming sound. In the new study, the MIT team found that the models showed this same pattern of sensitivity to frequency.

"The model seems to use timing and level differences between the two ears in the same way that people do, in a way that's frequency-dependent," McDermott says.

The researchers also showed that when they made localization tasks more difficult, by adding multiple sound sources played at the same time, the computer models' performance declined in a way that closely mimicked human failure patterns under the same circumstances.

"As you add more and more sources, you get a specific pattern of decline in humans' ability to accurately judge the number of sources present, and their ability to localize those sources," Francl says. "Humans seem to be limited to localizing about three sources at once, and when we ran the same test on the model, we saw a really similar pattern of behavior."

Because the researchers used a virtual world to train their models, they were also able to explore what happens when their model learned to localize in different types of unnatural conditions. The researchers trained one set of models in a virtual world with no echoes, and another in a world where there was never more than one sound heard at a time. In a third, the models were only exposed to sounds with narrow frequency ranges, instead of naturally occurring sounds.

When the models trained in these unnatural worlds were evaluated on the same battery of behavioral tests, the models deviated from human behavior, and the ways in which they failed varied depending on the type of environment they had been trained in.

These results support the idea that the localization abilities of the human brain are adapted to the environments in which humans evolved, the researchers say.

The researchers are now applying this type of modeling to other aspects of audition, such as pitch perception and speech recognition, and believe it could also be used to understand other cognitive phenomena, such as the limits on what a person can pay attention to or remember, McDermott says.

The research was funded by the National Science Foundation and the National Institute on Deafness and Other Communication Disorders.

Story Source:

Materials provided by Massachusetts Institute of Technology. Original written by Anne Trafton. Note: Content may be edited for style and length.

AudioStream Update

As part of our commitment to provide outstanding support and care, we want to make you aware of an AudioStream update which became available on 17th January 2022.

AudioStream users should automatically receive a push notification, via the AudioKey 2 app with instructions on how to complete the firmware update via their mobile device.

Please visit our AudioStream Product Support page for more information, as well as helpful tips and tricks about their device.

https://www.mede/l.com/support/product-support/accessories/audiostream/audiostream_overview

Here at MED-EL we want to provide our users and caregivers access to information, resources and services in one convenient place.

Introducing the myMED-EL Portal – your personal access to everything MED-EL!

From the myMED-EL Portal, our users and caregivers can access the myMED-EL Shop for all their accessories and spares as well as the MED-EL Academy to learn more about their devices and about MED-EL. You'll also have access to your very own Download Centre, which will provide you with resources on software updates and new product information wherever you are!

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myMED-EL Shop details at: https://my.medel.com/

If you have any questions about the myMED-EL Portal, please email our dedicated Customer Service team at customerservice@medel.co.uk

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MED-EL Meet Up - Hearing Implant Information Days in 2022

We wanted to share with you news of our upcoming events for existing implant users and those who may be considering a hearing implant.

Are you an existing implant user?

Come along to see 'what's new' as well as receive tips and advice about getting the most out of your audio processor.

Are you considering a hearing implant?

Choosing the right implant is a big decision. Find out more about hearing implants, connectivity and lifestyle accessories, and chat to families who have been in your position.

Something for everyone

- Meet our HearPeers Mentors
- Ask the experts
- Free lunch & refreshments

Coming to an area near you!

5th March – Leeds

19th March - Glasgow

30th April – Cardiff / Bristol

21st May – Newcastle

18th June – Belfast

8th October – Chester

3rd December – Birmingham

If you would like to enquire about any of the above events, please email marketing@medel.co.uk.

To register to attend please visit our website https://www.medel.com

or use the QR code here

SCAN ME

Lip reading corner

Barbara

This section of the magazine is a regular feature in future editions of Resound. Many of us consciously or unconsciously lip read when talking to others, and this has become infinitely more obvious during the pandemic.

We have two members, Barbara Hitchins and Alison Cookson who are both active members of ATLA and deliver lipreading classes in the North West.

Alison

Innovative new approach to lipreading for people with hearing loss

by John Diconsiglio, George Washington University - Credit: Unsplash/CC0 Public Domain

For the 17% of American adults, or 36 million people, who live with hearing loss, navigating daily life can be an exhausting gauntlet of lost conversations. Older adults with hearing loss in particular often find noisy situations overwhelming and may opt to avoid gatherings they once enjoyed, risking isolation and even cognitive decline.

Now, researchers from the Columbian College of Arts and Sciences (CCAS) Department of Speech, Language and Hearing Science are helping adults with hearing loss join the conversation through novel approaches to lipreading training. Combining knowledge from cognitive neuroscience with real-life lessons from their lipreading training sessions, a team of experts, Professor of Speech, Language, and Hearing Science Lynne E. Bernstein; Associate Research Professor Silvio P. Eberhardt; Associate Research Professor Edward T. Auer; and Clinical Coordinator of Audiology Nicole Jordan, are stressing lipreading as a vital component for improving audiovisual speech recognition amid noise.

Through a pair of National Institutes of Health-funded studies, the team is conducting remote lipreading training with more than 200 people with hearing loss, introducing innovative new strategies along with their own state-of-the-art training software.

Their approach emphasizes the relationship between seeing and hearing in communication, drawing in part from cognitive neuroscience studies led by Bernstein and Auer that track visual speech as a complex process across the visual, auditory and language processing areas of the brain. "It is now acknowledged more widely that there are two [speech processing] pathways, one through the ears and one through the eyes," Bernstein said.

Still, lipreading presents significant challenges, not the least of which is that it can be extremely hard to learn. In fact, some experts still believe that lipreading can't be taught, a claim the CCAS researchers reject. "Lipreading ability is not an inborn trait," Bernstein said. Instead, the team's findings suggest that properly-taught lipreading can help people with hearing loss, as well as people with normal hearing, use both listening and looking skills to bolster their ability to communicate.

"When good lipreading is combined with hearing, even when it is impaired, the

results are typically better than the sum of hearing alone plus lipreading alone," Bernstein said. "That is: 1 + 1 often equals a lot more than 2."

Seeing the talker

Given the sophistication of digital hearing aids and cochlear implants, the CCAS experts said researchers are often too quick to underestimate the benefits of looking at people when talking, a process that has become even more challenging with the prevalence of face masks during the pandemic. But even the highest functioning devices have limitations, especially in noisy settings. While the researchers said hearing aids can improve speech in noise by 2 or 3 decibels, some studies show that visual speech combined with hearing speech is functionally equivalent to 12 or more decibels of noise reduction.

"Hearing aids are just that: aids," Jordan said. "In instances where the hearing aids alone are not enough, lipreading can help bridge the gap between hearing and understanding." And, the researchers maintained, the pandemic has only heightened the importance of visible speech. "Now, more than ever, people are realizing that they rely on lipreading and facial expressions more than they realized," Jordan said.

Observing a person's face can offer an array of communication information from social cues to speech signals. But while good listeners may be adept at making eye contact, skilled lipreading requires being carefully attuned to the lower part of the face, a tactic that improves with effective lipreading training. "The first thing that happens is [lipreaders] learn how to look, in the sense that instead of paying attention to the talkers' eyes, they start looking at their mouths," Bernstein said.

At the same time, the researchers point to decades of flawed training methods which often overemphasize guessing or place too much focus on sounding out individual letters rather than recognizing full words. "We don't want somebody looking at mouths and saying, "Well, the tongue is between the teeth. I think that's a T-H sound,'" Auer said. "You'll never be able to do that fast enough to actually perceive speech."

Instead, the team's training uses software to analyze errors and give feedback based on the words the lipreader actually thought the talker said, the "near miss" errors that sound far off but may be surprisingly close to correct. For example, a lipreader may see the sentence, "Proof read your final results," and think the talker said, "Blue fish are funny." The software algorithm would note the near misses, such as the "r" and "l" in "proof" and "blue" which look similar but are actually visually distinct.

The team's other recommendations include tailoring training to different ability levels and varying sample-talkers to showcase numerous vocal tracts and dialects. Just as important, they noted, is acknowledging that learning to effectively lipread is a long-term process, but one that can ultimately succeed in the right conditions.

"We shouldn't expect anyone to improve their lipreading overnight," Bernstein said. "But our studies show that, with good training, people keep improving. We've never seen anyone top out."

The researchers are currently recruiting adults with hearing loss or with normal hearing for their studies at the SeeHear website.

Barbara's tips

In the last Resound, I wrote about why it can be so difficult to understand what is said, when we are in a noisy or crowded setting. This time I will talk about what you, and the person you are talking to, can do to help you hear.

- Try and find a quiet place, with good lighting. Position yourself so the light falls on the other person's face.
- Find out the topic of the conversation, and ask closed (yes/no) questions.
- Ask people to speak clearly and naturally, not shouting.
- Ask people to repeat or rephrase what they say, if you don't understand.
- Ask people to write things down - it's good to have a pen and paper handy.
- Try to get the gist of what is said, rather than trying to hear every word.

If you want to find out more about lipreading, or find a lipreading class, go to atlalipreading.org.uk. There's lots of useful information, and you can click on classes, and search for a town, to find out if there are classes near you. There are also online classes, search **OnlineOnly** to find a list.

CI accessory support workshops

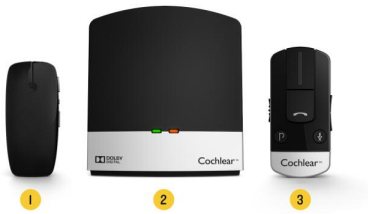
As users of implants supplied by MRI we are well used to coming home from the initial CI fitting with a large bag/case, suitcase of extra add-ons to go with our new device.

With hand on heart, how many of us have made much use of these once we have settled down with things after the initial fitting?

There are many reasons, ranging from not understanding how to use them, how to set them up, what they actually do, what is the most beneficial situation for us and remembering to charge them up! Each of the items is designed to address a specific problem/situation and it's fair to say that for many people, some of these will not be relevant or important.

Staff at the clinic have to make decisions based on a chat at the initial CI fitting as to what accessory would be of use and try to set it up there and then, or show us how to find the instructions in the manual. This has proved difficult as there is so much information to try and take about the new CI before learing about pairing it with an accessory.

Everyone's situation is different, for some people it is more beneficial to be able to hear the television more clearly, for some it's hearing conversations better at social events and for others to be able to use a mobile phone for telephone conversations, so a different accessory my be supplied to everyone, also not everyone has the same mobile phone so pairing with a phone tends to be more specific.



We have been discussing with the MRI ways of providing practical help for CICADA members in setting up and using the accessories provided. The ideal way to deliver this would be to hold workshops at MRI where a member of the Implant team can demonstrate the accessory and attendees would get the chance to practice setting up their own equipment.

However our users are located from Scotland, the Isle of Man and down to North Wales and so travelling to Manchester for a workshop is not always a practical option.

We are therefore exploring the use of Zoom to be able to deliver remote workshops and the first trial Zoom workshop will take place shortly, if successful this will enable us to deliver both in house and remote sessions so as to include more people.

For more information contact: secretary@manchestercicada.org.uk

NHS Develops World-First Bedside Genetic Test To Prevent Babies Going Deaf

NHS national medical director Stephen Powis said: "The successful trial of this bedside test is fantastic news for the hundreds of babies – and their parents – who would otherwise lose their hearing when given this common antibiotic in intensive care situations.

"Through world-class innovation, the NHS is delivering cutting edge treatments to save and improve patients' lives as well as delivering on the commitments of the NHS Long Term Plan."

Professor Bill Newman, a consultant in genomic medicine at **Manchester University NHS Foundation Trust** and Professor of Translational Genomic Medicine at the **University of Manchester**, led the Pharmacogenetics to Avoid Loss of Hearing (PALoH) study. He said: "I am absolutely thrilled with the success of the study, and that this testing is now going to be used in three of our Trust's Neonatal Intensive Care Units – it's actually going to make a real difference so babies are not going to lose their hearing for a preventable reason.

"The trial demonstrated that you can deploy rapid genetic testing in a clinical setting, and that the tests can be carried out within the 'golden hour' when severely unwell babies should be treated with antibiotics."

Following the completion of the ground-breaking study, the NHS Genomic Medicine Service Alliance and the NHS will be exploring how this technology can be launched as part of a clinical service through the NHS Genomic Medicine Service.

Around 300 nurses are being trained to use the machine across MFT at Saint Mary's Hospital, Wythenshawe Hospital, and North Manchester General Hospital, and the test is expected to be routinely used in all the hospitals' neonatal units within weeks, which are

part of Saint Mary's Managed Clinical Service within the Trust.

Professor Dame Sue Hill, Chief Scientific Officer for England and Senior Responsible Officer for Genomics in the NHS, said: "Genomic medicine is transforming healthcare, and this is a powerful example of how genetic testing can now be done extremely quickly and become a vital part of triage – not only in intensive care but across our services.

"It also shows the importance of thinking about how advances in technology can rapidly transform how we use genomics closer to care for our patients."

Professor Newman, who is Associate Lead, Hearing Health Genomic Solutions at NIHR Manchester Biomedical Research Centre (BRC), said the team had successfully transferred the accuracy of the machine in the lab to working effectively in a ward.

At the same time, clinicians adapted quickly to incorporate the test into their routine care for very sick children in the neonatal ward.

The idea for the test came five years ago, and trials started in 2020 with further adaptations and fine-tuning so that the current machine, which is called the Genedrive System, is now fully CE certified to be used in a clinical setting.

Study results were published in JAMA Pediatrics – the top-ranked paediatrics journal in the world – last week.

Backed by £900,000 funding from the National Institute for Health Research (NIHR) and support from the charity Royal National Institute for Deaf People, the Genedrive System, which costs £80 per baby, was developed by Genedrive, a start-up based at the University of Manchester.

It was developed in close collaboration with Professor Newman's team at Manchester Biomedical Research Centre.

Mike Hobday, Director of Policy and Campaigns at the National Deaf Children's Society, said: "The National Deaf Children's Society welcomes the publication of this important study. The introduction of a rapid test to identify susceptibility to deafness caused by the antibiotic gentamicin will be greatly valued by many families of newborn babies.

"Up to now the genetic test has taken too long to return from the lab to be useful for babies requiring urgent treatment but a rapid test will be a game-changer."

David Budd, CEO of Genedrive, said: "There is a significant drive within the NHS to alert healthcare professionals to the impact of antibiotic-induced hearing loss and encourage them to consider genetic testing prior to initiation of treatment.

"It's a great example of using human genetics to guide specific therapy, which is now taking front and centre in clinical management globally.

The application of Genedrive's technology shows how a rapid, affordable, point-of-care test could impact patients' treatment and quality of life across this as well as a wide range of fields."

Notes

As we move from the lockdown, keep an eye open on the website and Facebook pages for more news of events and meet up's. Also if you can access a PC we can organise Zoom chats as well.

We would welcome any feedback or suggestions for events, articles for Resound especially on your experiences of the lockdown.

Either email secretary@manchestercicada.org.uk

Or write to me at the address below, all submissions are welcome.

CICADA

Website:www.manchestercicada.org.uk

Facebook group:Manchester CICADA club

Secretary direct contact:Text 07533217730

Main contacts for cicada listed at the bottom of this page.

Manchester Implant Centre

The Richard Ramsden Centre for Auditory Implants,Peter Mount Building, Manchester Royal Infirmary, Oxford Road,Manchester, M13 9WL

Main Contact Details:
TeL: 0161 701 6931 (Appointments)
TeL: 0161 276 8079 (repairs and spares)

* Please check the website regularly for updates on what the clinic are doing in the light of the virus outbreak.

http://www.manchestercicada.org.uk/implant-clinic/

National Support organisations

British Tinnitus Association:
https://www.tinnitus.org.uk/
Hearing Link:
https://www.hearinglink.org/
RNID (Action on Hearing Loss):
https://www.actiononhearingloss.org.uk/
Disabled Travel Advice:
http://www.disabledtraveladvice.co.uk/
Meniere's Society:
http://www.menieres.org.uk/
National Deaf Children's Society:
http://www.ndcs.org.uk/
National Association of Deafened People (NADP): http:// www.nadp.org.uk/

Equipment Suppliers for Deaf People

Sarabec: https://www.sarabec.com/
Connevans: http://www.connevans.co.uk
Hearing Link UK: https://www.hearinglink.org/
RNID (Action on Hearing Loss):
https://www.actiononhearingloss.org.uk/

COVID-19 information links.

(Just some official ones which you can subscribe to to get updates)
Main government website whih has links to information and also a facility to be on a mailing list for updates which is handy.

https://www.gov.uk/coronavirus

Most local council websites now have a corona virus section to tell us what they are doing and what services may be affected.

If you need help for other thngs during the duration of the virus then contact social services in the first instance.

Chairman	**Honorary Treasurer**	**Hon Secretary**
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