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MAGAZINE

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Focus on Cochlear Implants



From your editor

This Magazine has no minutes or reports from the last NEC (December) meeting as these appeared in January's Magazine and the next NEC is held in conjunction with the March Conference and AGM. This is probably just as well as there have been many articles both about the focus topic and also shorter items of interest that BATOD members have sent in. My thanks to Pauline Cobbold who has gathered all the articles in.

The Cochlear Implant focus of this Magazine presented a challenge in that we wanted as many Implant teams as possible to have the opportunity to contribute. This may have resulted in a bit of overlap of information but you should have a good overview of what is going on in the Cochlear Implant world.

The BATOD website now has an on-line magazine folder in 'Publications' and the articles from January's focus on models of deaf education are available. Visitors are asked to submit information about their area/national provision. There will be a similar folder for cochlear implants and everyone is invited to submit more news, information and to share good practice. Items for submission should be sent to Magazine@BATOD.org.uk at any time.

Do remember that the BATOD website is continually being supplemented with items of interest and articles on various issues. Use this as a resource and send in items that can be shared. The quality and content of information is reliant on what BATOD members share with each other through the media of the Magazine and the website.

As the steering group at NEC is now considering a replacement editor for me, the format, style and content of the Magazine will be considered. If you have constructive ideas please share them with Paul Simpson, or indeed, think about becoming an editor yourself.



Magazine editor

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Cover Picture

Toby and his mum road test materials for review in the BATOD Magazine.



..... thoughts from my potting shed

Carole Torrance, President

Whilst potting up African violet cuttings in my potting shed, I was thinking about this article and realised that many of the things that are current are those I have mentioned in my previous article. I thought perhaps I could just revisit my previous 'thoughts' and see if anyone other than Ann and her team of proof readers would notice! This made me realise that sometimes things do move slowly so this will be an update of on-going business.

On 18 January 2005 BATOD was involved in a further meeting regarding the future of training courses for Teachers of the Deaf. Again there were representatives from the training courses, RNID and NDCS. There were responses to Wendy McCracken's proposals from groups and members across the UK. I think it has been heartening that there were responses from across the country as all areas will be affected. These responses are being collated and put together with statistics of numbers of deaf children and numbers (and age profile) of Teachers of the Deaf. The DfES recognises the need for increased numbers of Teachers of the Deaf as they have produced, with the involvement of many organisations including BATOD, a leaflet promoting recruitment. Thus it is hoped that when the case for tackling the concerns around the future of the training courses is made, they will appreciate its importance. The next meeting for this group is at the end of April and by that time all concerned will have a clearer idea of what proposals we are taking to the DfES.

Another on-going issue is the review and revamping of the BATOD survey. As previously mentioned, BATOD has been in negotiation with the Scottish survey - ADPS (the

Achievements of Deaf Pupils in Scotland). ADPS have an up-to-date data base and survey format that has been based on the BATOD survey. Sadly Dr Mary Brennan from Edinburgh University has been taken seriously ill and as she heads up ADPS things have come to a temporary halt. Hopefully next time I will have good progress reports on both Mary and the survey modernisation.

Accurate and robust statistics are vital for many aspects of our work including submissions to the DfES (eg on the need for Teacher of the Deaf training courses) so it is really important to continue to collect the data across the UK. There are also many other good reasons for the data collection as there is a need to have detailed research into all aspects of deafness and deaf education. A reliable source of data is essential for credibility.

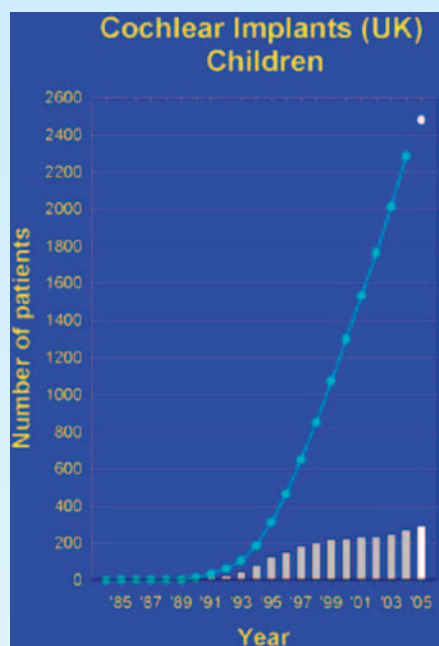
In the last few weeks I have had considerable difficulties with the exam arrangements for GCSE. Changes have been put in place without consultation or real announcement. If candidates are being presented this year we need them to be sitting mock exams under the same conditions as the real exams. This has been a shock for some pupils as well as the teachers as they try to sort out these arrangements. BATOD and many of its members have been pursuing this with both the Joint Council of Qualifications and the individual Awarding Bodies. More information about reasonable adjustments in examinations 2004-2005 is available about this on our website at www.BATOD.org.uk and follow Home/Articles/Reasonableadjustments/Concerns.

Carole

Cochlear implants in children: past, present and future?

Sue Archbold, Education Co-ordinator, The Ear Foundation

This edition of BATOD magazine is focussed on cochlear implantation – an intervention for deaf children which began in the UK in 1989, amidst much controversy. In the years since then, the numbers have grown rapidly – in the UK, there are currently about 2,400 children who have received implants. As can be seen from the graph (www.ihr.mrc.ac.uk) the numbers implanted on an annual basis have also grown over the years, until about 300 children per year are now implanted. The implication for Teachers of the Deaf is that now over half the profoundly deaf children beginning school have a cochlear implant and in some educational settings the children with implants outnumber those with hearing aids. Now that we have a large group of children with implants, some who have had their implants for some time and are growing to adulthood, what have we learnt and what has changed?



Apart from the changes in numbers, the procedures and criteria have changed over the years. Initially only those children with near total hearing losses were implanted; now children with some residual hearing are receiving implants. Children with aided thresholds of 50dB and even less, will routinely be considered for implantation; through their implant they are likely to receive sound in the region of 30dB across the speech frequencies, receiving useful high frequency information. Many children successfully have an implant in one ear and wear a hearing aid in the other. In some countries bilateral implantation is becoming the norm, giving benefits of localisation and of listening in noise.

In addition to children with some residual hearing being considered for implantation, the age of those implanted has also changed. Following an earlier diagnosis of hearing loss, children are being referred earlier for implantation and being implanted earlier.



Currently, the youngest child to be implanted in the UK was an infant of six months. On the other hand, increasing numbers of teenagers are requesting implants for themselves; these are likely to be those who are using their residual hearing well and use spoken language but who would receive more of the speech signal through an implant. Increasing numbers of children with complex needs are also receiving implants. This requires a great deal of careful assessment, particularly to ensure that there is a definitive assessment of the levels of hearing. Up to 40% of deaf children are likely to have another difficulty and one which an implant may not help. Interestingly, more deaf children of deaf parents are now receiving implants - in order to give them both spoken and sign language.

The procedure of implantation itself has now changed – the stay in hospital is likely to be one day and there will be minimal hair shave (if any) and a small scar behind the ear. The technology has changed over the years, enabling tuning of the external system to take place more easily with objective measures taken. In addition the external systems are smaller with ear level processors much more commonly used.

Cochlear implantation has been shown to be safe and devices largely reliable. In a series of 500 operations over 15 years on children at the Nottingham Cochlear Implant Programme, there have been 18 failed devices, all successfully

replaced, three cases of infection and three devices removed for other reasons. In the same group of children, the usage rate remains high, with over 90% of children continuing to choose to wear their implant systems all or most of the time, five years after implantation.

Although results from implantation can be very variable, we do know that age at implantation has a strong effect on outcomes. If we look at changes in a child's ability to use hearing to understand spoken language, five years after implantation, over 80% of children implanted under three can understand conversation without lipreading. If we look at speech intelligibility, we see a similar pattern, with 40% of children implanted below the age of three having speech with normal intelligibility, five years after implantation.

What have been the changes we have seen educationally? With regard to educational placement of children with implants, significantly more children implanted before the age of five go to mainstream schools and significantly fewer to schools for the deaf, when compared with a like group of children with hearing aids. When we look at communication and use of spoken language, we can see changes after implantation over time. In a study looking at the effect of communication mode on progress after implantation, those children using oral language at three years after implantation outscored those using sign language. However, when those who had always used oral language were compared with those who began using sign language and had changed to oral language after three years, there was no significant difference between them. A current research study, funded by NDCS, is looking at the pattern of changes in communication after implantation. Although the aim of cochlear implantation is to provide hearing for speech, for some children sign language has a role and the issue of cochlear implantation and sign language clearly needs investigation. The large UK study led by Quentin Summerfield (formerly of IHR) and in which many Teachers of the Deaf participated, has shown that children with implants are performing as children who are less deaf.

With this growing experience of implantation, what are the major issues?

- ◆ complexity of monitoring the device functioning
- ◆ complexity of device programming
- ◆ implementation of changes in technology over time
- ◆ management of device and technology difficulties

- ◆ length of time taken for progress – often years not months
- ◆ flexibility of educational support required: placement, levels of support and communication may change over time
- ◆ medical risks associated with implantation.

There are three other issues emerging as we gain more experience.

- ◆ It may be that implants sometimes work too well! Levels of intelligibility are sometimes such that it may appear to a non-specialist that the child has no difficulty in accessing the curriculum; this is a naïve view. These remain profoundly deaf children but function as less deaf than before implant.
- ◆ There are other children who do not do as well as one might have predicted. It is likely that these children have learning difficulties not identifiable prior to implantation, which now can be more readily identified when they have some useful hearing.
- ◆ Another recurring theme in discussion about implantation is the management of those with implants as they grow through adolescence, maintaining and developing implant use through these challenging times and supporting them in developing a secure identity as a deaf person with an implant.

In order to maximise the benefits of implantation, teachers need to know about:

- ◆ the differences between cochlear implants and hearing aids
- ◆ appropriate candidature
- ◆ expectations from implantation for different populations
- ◆ the fundamentals of an implant system
- ◆ the basics of the tuning process
- ◆ monitoring the system's functions and troubleshooting
- ◆ monitoring the child's progress.

These are some of the everyday knowledge and skills required; however, for them to be put in place and utilised effectively, there may need to be some organisational changes. Educational services need to look at how they:

- ◆ organise their services to provide effective, trained support in the classroom for those in mainstream
- ◆ provide placement and communication choices as children's needs change
- ◆ meet the challenges of sign-bilingualism and bilingualism and cochlear implants

- ♦ provide appropriate education for those for whom an additional language difficulty may become apparent after implantation
- ♦ provide support for the implant system and the amount of hearing it provides in the demanding environment of secondary or high school
- ♦ implement changes in technology and support them throughout the child's educational life
- ♦ provide for the psycho-social needs of the children as they grow to independence.

With growing numbers of children receiving implants at earlier ages, including those with complex needs, it is vital that teachers receive regular updates in the management of this rapidly changing technology. The developments are far from finished: bilateral implants, implants with electrical and acoustic stimulation, wholly implantable devices and those promoting hair cell regeneration are some of the technical developments which will be in use in our classrooms over the next ten years. At the Ear Foundation the education programme provides a bridge between the clinic-based services, home and school where the children actually use the technology.

As the Teacher of the Deaf of the first child to receive an implant, I find an entry in my diary from 1987:

"will all this come to anything and be worth the effort?"



Taking time out on the Variety Club bench at The Ear Foundation.

The outcomes we are seeing in many children are far beyond what we expected then, when we felt some deafened children may be able to hear environmental sounds and perhaps have an aid to lipreading. Who knows what the next ten years will bring?

BCIG

In 1989, Graham Fraser formed a group called British Cochlear Implant Group (BCIG) to bring together those working in the implant field, whatever their profession, to promote good practice.

It is a professional body with members including clinicians working in cochlear implant centres across the UK, experts and scientists working in the field, manufacturers of cochlear implant equipment and other professionals and members of the public with an interest in cochlear implantation.

BCIG aims to provide information in the field of cochlear implantation to patients, prospective patients, families, carers, educators and other interested parties.

All cochlear implant centres in the UK are members (there is a map on the website) and contact details can be found on www.bcig.org

With NDCS, BCIG has published Quality Standards for cochlear implantation - and the revised version is about to be launched at the BCIG meeting in Birmingham in April 2005.

BCIG also publishes guidelines for Teachers of the Deaf working with children with implants. These examples of good practice are unique in the world in endeavouring to cross professional and institutional boundaries in the support of these children.

Mechlen CI course

Rehabilitation specialists from Europe gathered in Mechlen, Belgium at the Cochlear Training and Education Centre for the first Nucleus Foundation Course.

The two and a half day course was attended by educational practitioners including Teachers of the Deaf (ToDs) from four UK Cochlear Implant Centres: Cambridge, Kilmarnock, Nottingham and South of England and also Teachers of the Deaf from Switzerland, Belgium and Denmark. As well as the formal training sessions there was the opportunity for the twelve ToDs on the course to network, share and discuss working with deaf children across Europe. Cochlear Corporation regularly provides such courses.

Guidelines for Teachers of the Deaf working with children with cochlear implants

Introduction

As both the benefits and responsibilities of paediatric implantation have become clear, the importance of the collaboration between education support services and cochlear implant professionals is being increasingly recognised and documented world-wide. Educators will provide long-term support and management and be responsible for supporting parents and children.

As more Teachers of the Deaf are working on cochlear implant teams, we need to share and promote consistency of practice, in consideration of:

- ♦ selection of appropriate candidates
- ♦ amount/nature of support that is necessary for each implanted child
- ♦ access of implant team professionals to children in different schools
- ♦ responsibilities of implant centre Teachers of the Deaf
- ♦ responsibilities of class teachers and local Teachers of the Deaf
- ♦ long-term effects of implantation on educational management and attainments
- ♦ long-term need for maintenance of the device and how this is best provided.

The guidelines cover:

- ♦ the roles and responsibilities of Teachers of the Deaf on implant teams
- ♦ access to schools and children by implant team professionals
- ♦ minimum standards of support
- ♦ direct contact
- ♦ indirect contact
- ♦ aims of outreach visits by implant centre teachers
- ♦ support needs: management of device
- ♦ information for local Teachers of the Deaf and class teachers.

The aim is to promote consistency of practice throughout the UK and a recognition of the needs of children with cochlear implants. They were drawn up bearing in mind that other professionals, for example, speech and language therapists, will be working with implanted children and the roles may overlap.

Rationale

The guidelines are based on the following premises.

- ♦ The aim of cochlear implantation is (unless there are other major difficulties for the child) to

provide access to spoken language through hearing, which was not possible for that child with hearing aids.

- ♦ The demand for, and incidence of, paediatric implantation is continuing to grow. The group will include:
 - very young children
 - adolescents
 - children with complex needs
 - deaf children of deaf parents.
- ♦ Many young children, without other significant learning difficulties, are able with appropriate support to acquire spoken language through audition after implantation. Some of these children are now in mainstream schools.
- ♦ Benefits are only seen in the long-term and continue to develop in the years post implantation.
- ♦ Long-term maintenance and management is vital in order to maximise these benefits.
- ♦ Monitoring long-term outcomes is essential.

Definitions

- ♦ Implant Centre Teacher of the Deaf (ICTOD) - the Teacher of the Deaf based at an implant centre
- ♦ local Teacher of the Deaf - Teacher of the Deaf local to child whether peripatetic or class teacher
- ♦ class teacher - where not Teacher of the Deaf
- ♦ keyworker - as defined in BCIG/NDCS Quality Standards document

The Guidelines booklet was included with a BATOD magazine mailing but if you cannot trace your copy or want to have more to hand out to colleagues please contact the BATOD Publications Manager (magazine@BATOD.org.uk) or download a copy from the BCIG website www.BCIG.org

In the Audiology Focus Magazine (September 2003 page 18) Jane Frew described a 'sister' publication to the BCIG booklet as the RNID Educational Guidelines Project launched 'Working with children with cochlear implants'. The publication is broad-based, addressing the development needs of children of different ages, using a range of communication approaches and in a variety of educational settings.

As well as background information about cochlear implants the publication provides practical advice, recommended activities and strategies to encourage the effective use of cochlear implants by deaf children of different ages and at different stages of development. It includes sources of information available for families and professionals.

Cochlear implantation and the future

Patricia M Chute, Ed.D; Helen C Buhler, Ph.D, Mercy College, Dobbs Ferry, NY

The field of cochlear implantation has evolved substantially over the past three decades such that more young children are receiving implants and individuals with more residual hearing can access this technology. When one quickly reviews the past, it becomes apparent that this technology is not only here to stay but will continue to improve. The challenges that face the industry are still the same as they were decades ago; to ensure that severe to profoundly deaf individuals receive high quality sound and that they function effectively in the presence of background noise. Towards that goal there are numerous possibilities that can be considered as one looks at the future of this technology.

The first and foremost issue facing researchers in this field is to improve the overall speech perception abilities of the recipients. This requires the future speech processors to select the best speech features to pass through the implant and present this information at optimal rates. The best rate may be different for each implant recipient and therefore flexibility in processing the sound will be required. Once the parameters that are necessary to make sound more understandable are identified, the ability to reproduce the coding of the sound more effectively must be realised. Additionally, the ability to code different types of signals, such as music, needs further investigation.

Delivery of the information via the electrode interface will also change. The proximity of the electrodes to the modiolus (the centre of the cochlear that contains the neural elements to be stimulated) will continue to improve. The number of electrode contacts and the use of nanotechnology (the ability to build machines on the scale of human cells) will allow more stimulation sites along the nerve. Electrode arrays that grow directly into the nerve may also be possible. Surgical techniques will continue to evolve as the demand for more precise electrode placement grows.

The ability to provide better perception in noisy environments will be the focus of attention as the performance continues to improve. Hybrid devices that combine both electrical and acoustical information are now being investigated. This will not only increase the potential number of candidates who can benefit from implant technology but it will also provide individuals who have severe high frequency hearing loss with better signal input.

Bilateral cochlear implants have been introduced in the past two years and the data continues to support their utility in both the areas of sound localisation and improved hearing in noise. The benefit this will have on children in classrooms has not yet been realised as the number of children with this configuration is still rather small. Clearly, the noisy classroom environment poses challenges for children learning under the best circumstances and therefore bilateral cochlear implants may provide the added signal boost that can be the difference between understanding and misunderstanding. The use of dual microphones in speech processors may also provide some relief from noise. These are presently being used in hearing aid technology with great success.

The development of the totally implantable cochlear implant system has reached the manufacturers' laboratories and shows great promise for the next decade. The challenge of developing a system that uses a microphone that can sustain moisture on a regular basis still remains the biggest hurdle. Methods of using the normal anatomy of the ear to provide this function are being investigated. In conjunction with these studies, those that are investigating hair cell regeneration are also being established. The combination of regenerating hair cells through a system that delivers a neural growth hormone in the ear may provide the best approach. How these new technologies and therapies will be translated for the later implanted adult or child is still unknown.

Finally, the role that the professional will play will not only be crucial but will require an additional set of skills that will increase in due course. Programming speech processors remotely may become more realistic as the technology changes. Delivering therapy over the internet or via interactive video lessons has already begun and will continue to develop over time. For the teacher in the classroom wireless FM technology that is used today may be replaced by classrooms that can deliver sound to the entire class in a more effective manner.

One thing remains clear. Cochlear implantation has had a profound impact on the way that we treat children and adults with severe to profound hearing loss. As the technology evolves we can look forward to a future that will provide deaf children and adults with the best method of accessing spoken language in the most natural manner.

One size fits all?

Tricia Kemp, Co-ordinator of CICS



Sixteen years ago when my profoundly deaf son was just six months old I was told that his first language would be BSL and that he would need special education - a sweeping statement. At that time, however, it has to be said that both predictions were likely to be true.

How different things are today! With the advent of cochlear implants things have swung the other way. Profoundly deaf children are having cochlear implants and parents are being told that normal speech and mainstream education are the expectation - another sweeping statement.

Yes, technology is a wonderful thing and clearly the benefits of cochlear implantation can be enormous but in advising parents of newly diagnosed deaf babies that implants are available and can make speech and mainstream education possible, some parents, obviously greatly relieved by this news, will never fully accept that their child is and will always be deaf. They are desperate for their child to be in mainstream education because that indicates 'normality' - whatever that means. Some are looking for what they want for their child rather than what that child actually needs.

As the parent of a deaf child and the Co-ordinator of CICS*, I would like to make not a sweeping but a common sense statement regarding education: it is not possible to compartmentalise any group of children, especially if they are deaf or have other special needs, into one type of educational provision.

Outcomes from paediatric cochlear implantation vary enormously and will continue to do so in the future especially as children are being implanted younger and younger before the existence of other difficulties has been identified. Cochlear implantation is not a miracle that immediately gives access to mainstream education for all children. Undoubtedly it provides this for some but even within this group the amount of support necessary will depend on the individual child. Other children will need more support and will be better suited to placement in a Hearing-Impaired Unit ('Unit') where more specialist help is available and others will need placement in a special school.

Amongst the population of deaf children, with or without cochlear implants, some will need sign support, others are oral (to varying degrees), some will need very little support, others will need a great

deal; and some will have additional difficulties.

It is clear that the needs of deaf children are far too diverse to be met in any one type of educational placement.

Inclusion sounds like a great idea and for some deaf children it works well. Placement in a local school gives the opportunity for friends and social opportunities close to home and, for the child and the parents, avoids the stress of a journey to a Unit or school for the deaf which may be some distance from home. If a mainstream setting is a small class with good acoustics, a competent teacher and appropriate support available if needed, then obviously an able deaf child will stand a good chance of accessing the curriculum and keeping up. Unfortunately, however, in the real world, a class can be around thirty children, acoustics are poor and a good deal of a teacher's energy is taken up in keeping control rather than teaching. In a class of thirty there will be a wide range of abilities to address. The last thing a mainstream teacher needs is to spend time making sure a deaf child has understood the content of a lesson and to deal with any equipment that the child may have.

There are about 40% of deaf children with additional difficulties and of the other 60% there will be many who will only thrive in a mainstream setting with a significant amount of support but will they get it and, if they do, will the Classroom Assistant have had appropriate and sufficient training to work effectively with deaf pupils? In many cases this scenario is merely an excuse for cost-cutting. Placing a deaf child in a mainstream school with limited support is the cheap option; but if there is little, or no support, it requires immense concentration and is exhausting for the child to understand and keep up with the teacher, let alone catch the incidental comments of their hearing peers throughout the school day. Inclusion? Perhaps, but at what cost to the deaf pupil?

If, in the other extreme, a child has and is totally reliant upon full-time, one-to-one support in order to access the curriculum this will exclude that pupil from learning from the class teacher with the hearing pupils. A full-time Classroom Assistant is unlikely to be a qualified teacher and faces the difficult task of effectively translating a lesson into language that can be understood by a deaf pupil who may be functioning at a lower linguistic level than hearing peers in the class. How can this be described as inclusion?

The danger of blanket inclusion is that it actually leads to total exclusion, leaving some deaf children unable to manage socially with hearing peers and unable to keep up with the pace of learning, thus falling behind and failing to reach their potential. Some Hearing-Impaired Units are able to provide an appropriate mixture of specialist teaching in small groups for specific subjects and support during integration into mainstream classes but more and more of these provisions are becoming mainstream based rather than Unit based, resulting in children struggling to keep up in a setting that is not specifically designed to meet their needs, ie mainstream with support, as opposed to the more structured and supportive environment provided by a Unit.

It is vital to have good early intervention to enable deaf children to build the foundations for learning at a later stage. At secondary school the pace of learning picks up enormously. A deaf child may already have a language delay and will simply not manage to keep up with the vast amount of new vocabulary presented to pupils at this stage of the curriculum, resulting in an ever-increasing language gap making it extremely difficult, if not impossible for the child to access the curriculum at an age appropriate level.

Delayed communication causes problems outside, as well as inside, the classroom. Good communication skills are vital if a deaf child is to develop real friendships with hearing peers. If they don't possess these skills at a young age and the problem is not addressed by appropriate input at an early stage, they will simply not catch up, especially those who have additional difficulties; and without good communication skills, deafness leads to isolation. Poor communication can lead deaf children to be left out of games at a young age and to be excluded from social chit-chat as they get older. In a mainstream setting there may only be one deaf child in the school and unless s/he can fully integrate s/he is likely to feel isolated and may even be a target for bullying just because s/he is different. In the short term this may lead to poor self-esteem and even behaviour difficulties and to mental health issues in later life.

The standard and choices of educational provision for deaf children need to be improved. Whilst it is clear that the Government's policy for inclusion works well for some children, it certainly does not work for all of them and it is important to ensure that there is a choice of high quality provision in all areas. Mainstream education with support, which is sometimes inadequate, is merely a cheap option for

the local authority and one cannot help wondering how much this is a factor in what they offer to parents as an appropriate provision for their child. It is no good having a child in mainstream education if that child's needs are not being fully met. This merely represents a short-term saving for the Local Authority with long-term adverse consequences for the child.

The role of a Teacher of the Deaf, whether in a special school or as a support in mainstream, remains vital for deaf children. More needs to be done to encourage teachers to enter this specialised field, perhaps by changing the structure of the existing lengthy training. There will always be a need for special schools but the number of these has been reduced to a dangerously low level. It is time for a re-think. More, not less special schools are required, spread appropriately across the country and research must be carried out to look at ways in which these schools can work effectively with mainstream schools to provide pupils with the best of both worlds. (A role model for this is already in existence in Hertfordshire.)

There is a real danger that the current generation of deaf children will be let down by a lack of investment in their education. In the right setting they will achieve but, without enough support and specialist teaching, many of them don't stand a chance. The 'system' must be made to work for, rather than against, deaf children.

Even with the tremendous benefits that technology can provide, life will be hard enough for deaf children as they become young adults. If they are to become independent, well adjusted members of society able to take their place and compete in the hearing world, they need an individually tailored educational programme to ensure that they reach their potential.

The danger of a blanket inclusion policy is that many deaf children will simply not be able to meet their potential because the system has let them down by looking at cost rather than individual needs.

'One size fits all' simply isn't good enough.

* Cochlear Implanted Children's Support (CICS) is a voluntary group, run by parents for parents, providing contact, information and support for families whose children have cochlear implants and for those who are considering an implant for their deaf child.

Categorising hearing loss for those with cochlear implants

Marian Grimes Research Associate
Achievements of Deaf Pupils in Scotland Project

Background to the project

The Achievements of Deaf Pupils in Scotland (ADPS) project has been collecting annual data relating the education of deaf children and young people in Scotland since November 2000. The project is based within the University of Edinburgh and is funded by the Scottish Executive.

Teachers of deaf children all over Scotland provide information for ADPS, much in the same way as for the BATOD survey. Readers may remember a four-page insert about the project, which appeared in the BATOD magazine of February 2003. We have worked closely with BATOD and, in 2003, we arranged to collect and share relevant data on Scotland. This meant that teachers weren't asked to complete two survey returns in one year.

We have now collected four year's worth of data. As you would expect, one of the key types of information we ask for is hearing loss level. This means that we can report differences between groups of children with profound, severe, moderate and mild hearing loss levels. Can, or should, cochlear implanted children be described as 'profoundly deaf'? That is a question which we have debated since the beginning of the project. The following story describes the way our thinking has developed.

Ascertaining hearing loss levels: year 1

In the first year of the survey, we asked teachers to give us the calculated audiometric descriptor for each ear (unaided and aided), rather than individual threshold readings at each frequency. In other words, we asked them to say whether the child had a profound, severe, moderate or mild loss in each ear, by averaging the hearing threshold levels across all frequencies. We used the BATOD-approved audiometric descriptor system as recommended by the British Society of Audiology (BATOD, 2004). Where a child had a cochlear implant, teachers mostly classified the children as profoundly deaf in the unaided level options; one or two classified as severely deaf and others did not specify an unaided level.

Ascertaining hearing loss levels: year 2 onwards

In the second year of the survey, we had the opportunity to ask for more detail about hearing loss levels. So, from then onwards we have asked for specific readings at each frequency and have

calculated the average thresholds automatically - both for unaided and aided levels. This means that we have the capacity to categorise hearing loss levels in more detailed ways where this may be useful in the future. We have come across a number of examples where a child technically falls into one category but could be seen to fit functionally into a different category. For example, a pupil who is categorised as severely deaf when using the audiometric descriptor formula but is profoundly deaf in one ear and has a profound loss in the high frequencies in the other ear. There are likely to be more sophisticated formulas developed over time to take account of functionality. For example, Educational Audiologist Russell Brett argues that an 'Articulation Index' based on results of a relatively complex formula applied to aided hearing loss audiograms (Brett, 2003) is an effective alternative when assessing spoken language access services for a school pupil.

However, in line with the BATOD survey, for the moment at least, we continue to use the traditional audiometric descriptors when reporting findings by levels of hearing loss - using unaided levels.

Where did this leave children and young people with cochlear implants?

A lot of teachers provided detailed unaided audiogram information for children/young people with implants, based on the last unaided readings taken pre-implantation. A number of teachers phoned to ask for advice where this meant giving information that was a few years old - and a sizable proportion gave no threshold information at all.

We consulted with cochlear implant specialists and had long discussions about the 'common sense' as well as the technical aspects of the situation. If you view the implant as a very sophisticated hearing aid then, despite its intended permanency, you would still consider the hearing loss level of an implanted child as being profound. If the implant is disconnected, then the child is profoundly deaf.

So, in co-operation with an implant centre, we first considered the option of entering flat, high readings across all frequencies, where no thresholds had been provided for implanted children. This would have meant that all these children would automatically be categorised as profoundly deaf. However, we were uneasy about contriving any

information, however pragmatic. In particular, we were aware that a small number of the pre-implant unaided thresholds provided actually put the child within the severely rather than profoundly deaf category. So, it was not right to make the assumption of profound deafness in all cases.

We also considered using the aided thresholds but we would then need to categorise all children by aided rather than unaided thresholds, which would cause all manner of complications.

So the only option left was to simply categorise all cochlear implanted children as a distinct group. The main disadvantage is that it further splits the whole group, thus potentially reducing statistical significance when analysing against a number of other factors. However, weighing everything up, this is what we have decided to do, with the expectation that we will be able to see statistically significant patterns emerging over time - the benefit of longitudinal study. So, from 2001/02 findings onwards, when we show statistics broken down by hearing loss level, we now categorise children as 'profound', 'severe', 'moderate', 'mild' and 'cochlear implanted'. As with so many things, we don't necessarily see this as the end of the story, as it's still an issue for debate. Watch this space.

Do visit our website to see basic descriptive findings, as well as other details about the project. www.education.ed.ac.uk/ADPS

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<http://www.education.ed.ac.uk/ADPS>

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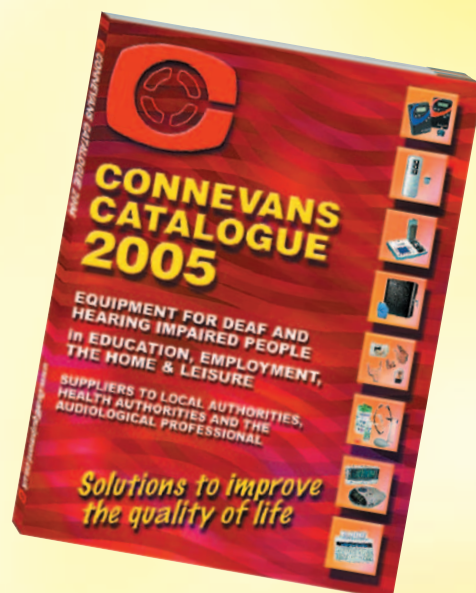
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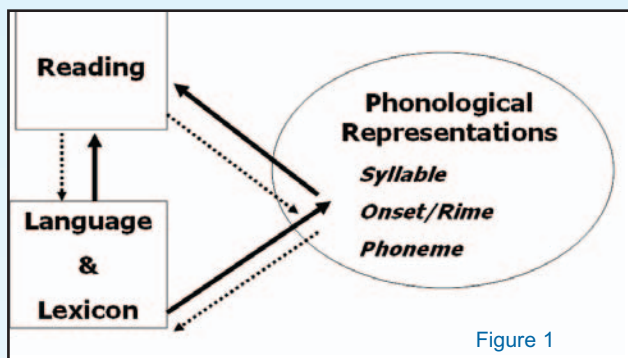
Phonological awareness

Dr Deborah James, Newcastle University

The first study of phonological awareness in children with cochlear implants was conducted for my doctoral dissertation which was supervised by Professor Usha Goswami at the Institute of Child Health. We collaborated with Great Ormond Street Hospital, the Institute of Sound and Vibration Research in Southampton and many schools and units in the South of England.

The main aims of the study were to:

- find out if phonological awareness in severely and profoundly deaf children developed in the same sequence as hearing children (syllable, rhyme, phoneme);
- assess whether children with cochlear implants had equivalent phonological awareness to that of profoundly and/or severely deaf children who used hearing aids;
- investigate whether phonological awareness was related to reading in deaf children.



The essential elements of the theoretical background to the study are shown in Figure 1 and summarised below.

- The way words are stored in the mental lexicon gradually changes during childhood.
- Words start off being stored, or represented, as whole word units but over time the size of the representational unit becomes smaller. The larger units of syllable and rhyme emerge before the phoneme which is the smallest unit.
- Re-organisation of word storage is caused by lexical development and learning to read.
- In hearing children there is a strong association between phonological awareness at the rhyme and phoneme level with reading.

Testing phonological awareness in deaf children poses particular challenges. Firstly, in order to be sure that the test does indeed test phonological awareness and not general language knowledge, the words used in the tests should be highly familiar

to the child. Secondly, we know from past research that deaf children are likely to use knowledge of the spelling of words (ie orthographic knowledge) to make phonological judgements even when pictures are presented. So phonological awareness tests for deaf children need to assess the extent to which deaf children use orthographic knowledge to make phonological judgements. For example, compare the skills that are required to make a judgement about the similarity of the initial sounds in the pair *comb/cat* with the pair *queen/kite*.

Nineteen children with cochlear implants took part in the study (mean age 8;4). They were seen twice over a twelve month period. Two groups of deaf children using hearing aids were also tested; eleven profoundly deaf (mean age 9;5) and ten severely deaf children (mean age 7;4). All the children were congenitally deaf, they were all rated as good users of their devices and they all had normal non-verbal reasoning skills. A new battery of computerised tests was designed to investigate syllable, rhyme and phoneme awareness. Each test required a similarity judgement (see Figure 2). The child made a choice out of three items as to which item had the same number of syllables, the same rhyme, or the same initial phoneme, as a cue item. The words in the tests were highly familiar and known to be acquired within the first three years of childhood. Each test was designed to examine the extent to which orthographic knowledge influenced phonological judgements. All words were presented as simple black and white line drawings. The written words were not presented.

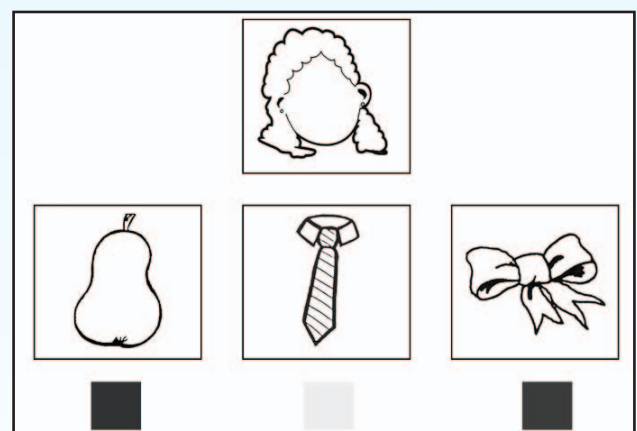


Figure 2 Example from the Rhyme Test
Trial items are, hair, pear, tie, bow. Participants made their selection by pressing a colour coded key on a button box. In this example, the participant had to choose the item that rhymed with the cue item at the top of the screen (ie hair). The correct choice in this trial was pear.

The results showed that:

- ◆ Phonological awareness developed over time in the cochlear implant users and in the same sequence as that found in hearing children (see Figure 3). Syllable and rhyme awareness developed before phoneme awareness. Children made most progress in rhyme awareness between the first and second data collection times.
- ◆ The cochlear implant users and the group of children with profound hearing impairment using hearing aids relied on orthographic knowledge to make phonological judgements to a far greater extent than children with severe hearing impairment.
- ◆ The performance of the cochlear implant users was similar to the performance of the profoundly deaf children with hearing aids but syllable awareness in the cochlear implant group was equivalent to the severely deaf group.
- ◆ There was no significant relationship between phonological awareness and reading after the effect of vocabulary knowledge was controlled.

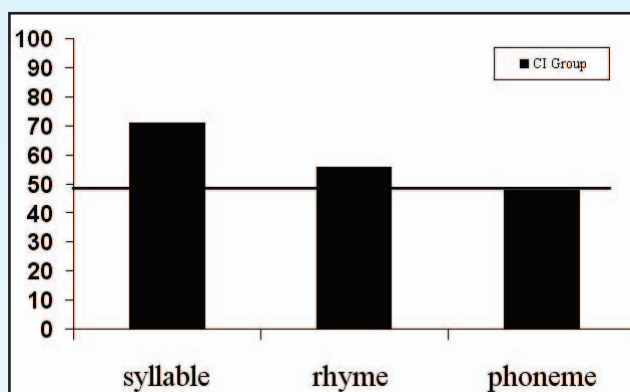


Figure 3
Percentage Correct on Phonological Awareness Tasks in the Cochlear Implant Group
Note: Scores above 50% were significantly above chance, syllable and rhyme awareness were above chance but phoneme awareness was not.

Implications for Practice

Based on my interpretation of the research findings and my experience as a speech and language therapist, I have summarised the main pedagogical implications for those who adopt a phonological approach to language and literacy development.

- ◆ Make sure you know the true level of phonological awareness of the child. If the child is at the syllable level and you are working on a strategy that involves the identification or manipulation of single sounds then the strategy is not likely to be effective.
- ◆ Promote phonological awareness development in the following sequence; syllable, onset/rhyme, phoneme.

- ◆ When working on phonological awareness, use vocabulary that you think the child will know or will easily learn.
- ◆ Use the written form of words to help develop the child's understanding of the internal phonological units.



Theo, Aaron and Sian with teacher Sarah Tate

Cochlear Implants International

Visit www.whurr.co.uk/Cii/Jump_Fr.html

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This new interdisciplinary journal will be of interest to audiologists, audiological physicians, speech and language therapists, otolaryngologists, nurses, neuro-otologists, Teachers of the Deaf, hearing therapists, cochlear implant manufacturers and others involved with hearing-impaired and deaf individuals.

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sound sense for a better life

Successful use of FM systems with cochlear implant speech processors

Elizabeth Wood South of England Cochlear Implant Centre
John Popplestone Connevans Ltd.

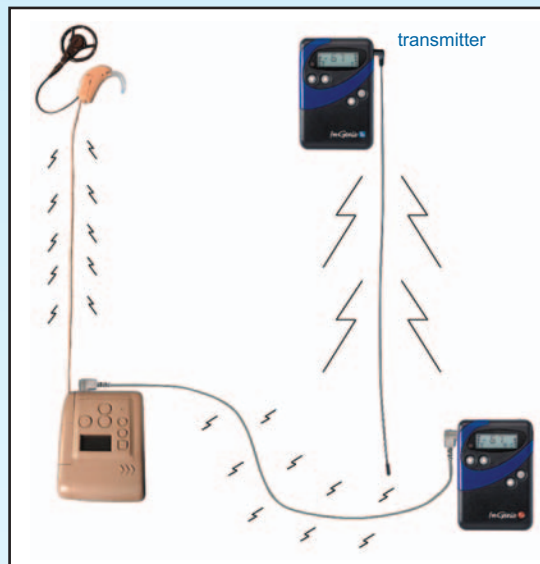
Rationale and Background

Cochlear implants and FM Radio Aid systems have now been in successful use for a number of years. In the past there were problems associated with combining the two systems and there was therefore a tendency for people to feel that trying to use them was not worth the potential problems. From an audiological perspective we need to remind ourselves that the microphone used to input sound into the cochlear implants is very similar to that of a hearing aid and suffers from the same deterioration of signal to noise ratio over distance. In other words if the cochlear implant user is not within a metre of the sound source they are going to have difficulties in distinguishing wanted sounds from background noise. Providing the user is able to report signal quality, so that any problems that may occur can be dealt with, the use of radio microphones in these circumstances can provide the same real benefits as for hearing aid users.

When radio microphones were first used with cochlear implant systems they were connected to the speech processor using a simple lead suitably attenuated for the input socket on the speech processor. It was found that the radio microphones worked with the cochlear implant but suffered from very poor range and tended to cut in and out. An investigation was carried out by Connevans Ltd and Cochlear UK Ltd and subsequently with Medel and Advanced Bionics (Boyle P et al 1997).

Understanding the performance Speech Processors

The speech processors of multi channel digital cochlear implant systems generate radio frequency energy during operation. This energy is present on the leads connected to the speech processor and also emanates from the case of the speech processor. Speech processors operate at a rate of between 2.5MHz and 49MHz depending on the particular system. The speech processor can generate frequency harmonics in the frequency region used by radio microphone systems. It was found that some of the radio frequency energy generated by the speech processor was present on the connecting lead. As this was also the aerial of the receiver this interference could block the wanted signal from the radio microphone transmitter resulting in poor range. To solve this, radio



frequency filters were fitted into the lead at the speech processor end of the connecting cable. The new lead was tested and it was found that the range was increased to an acceptable level of between 15 to 20 metres.

Later speech processors use a higher transmission frequency and as a consequence are less likely to generate radio frequency harmonics in the frequency region used by the radio microphones, even to the extent that it has not been necessary to use radio frequency filters in the lead in some cases.

Can all Radio Aids be fitted with all cochlear implant speech processors?

Connecting leads or a connecting adaptor are available to connect all commonly used FM systems in the UK to the three cochlear implant manufacturers' speech processors.



Research findings from studies carried out at the South of England Cochlear Implant Centre (SOECIC) between 1999 and 2005 have established compatibility and benefit for the main UK Radio Aids with all Nucleus Cochlear Implant speech processors (including most recently using the Phonak MicroLink MLxS with the ESPrit 3G).

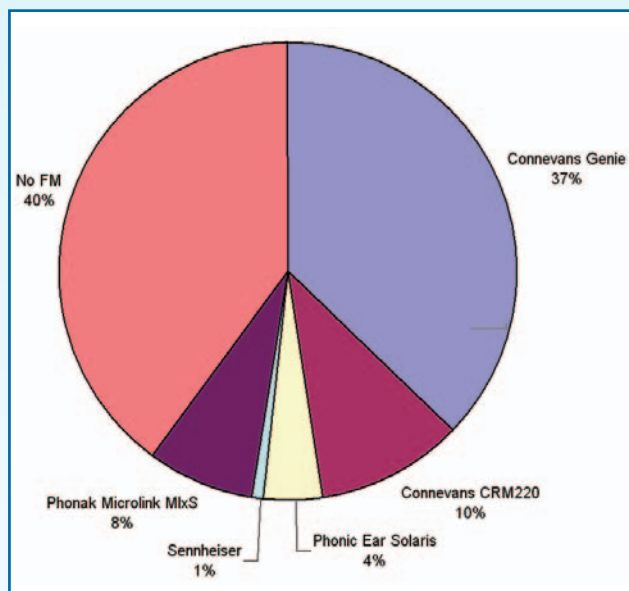
Research rationale

Older children and adults who are able to report on sound quality listened to a speech discrimination task in pink noise for these studies. We also tested the systems at distances of up to 10 metres to simulate classroom conditions. An adapted version of The McCormick Automated Toy Test (Ousey et al 1989, McCormick 1997) was used.

Use of FM with cochlear implants in the UK

A survey carried out by SOECIC (Wood et al 2000) established that 33% of all children in the UK who had received a cochlear implant were using an FM system. This survey is currently being updated and results are due to be presented in July 2005.

Radio Aids fitted at the South of England Cochlear Implant Centre (SOECIC) January 2005 N=145 children



The majority of the children who do not use FM are those who are in their first year post implant.

Gaining the Benefits of a radio microphone system

The following notes are a guide to those who look after Radio Aid equipment being used with cochlear implant speech processors.

The initial set up of the Radio Aid is usually carried out by the Cochlear Implant centre so that the input into the Speech Processor is at the correct level and the results can be validated. If the level is not set

correctly it will probably be either too low with the result that the user will not obtain adequate benefit with the Radio system, or too high with a danger of saturating the input of the Speech Processor. This will affect the clarity of the signal which would not be at a comfortable level for extended listening. If the user reports high levels of background noise when there is no input into the microphone of the Radio Aid then it is likely that the output from the Radio Aid receiver has been set too high and requires adjustment.

All Radio Aid receivers have a muting device that turns off the audio in the absence of a radio signal. There are occasions when the radio energy emanating from the processor can be sufficient to open the mute resulting in the user reporting 'white noise' type shushing noises. The solution is to keep the transmitter on all the time and to mute the microphone of the transmitter when the teacher is not talking to the cochlear implant user. This facility is built into some systems, on others it can be achieved by putting a switch in the external microphone lead.

Because of the masking effect of the radio emissions from the processor all transmitters should be used on their long range setting. On some systems the transmission power is already set to this and cannot be altered.

Fitting considerations

As with hearing aids, it is important that the setting of a radio aid is validated. This can be done by informal testing (eg by asking the user to repeat words at an appropriate distance) and by using monitor earphones, by a speech discrimination task (preferably in noise) or by objective testing (eg in a test box).

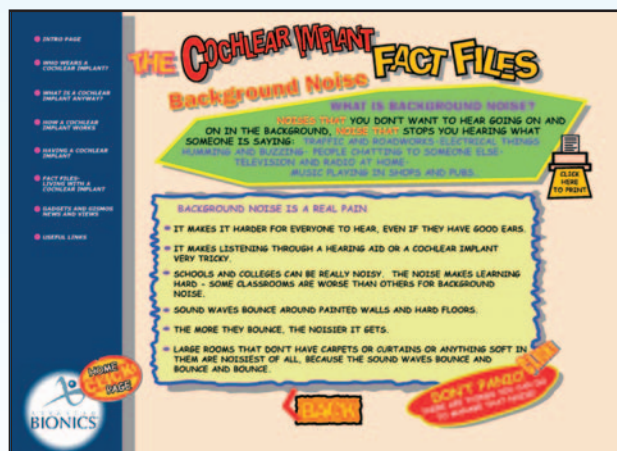
At the initial Radio Aid fitting at the implant centre we validate the volume setting by using the McCormick ATT speech discrimination task and by informal checking and observation. Work is in progress in the UK by members of the NDCS FM Working Party to develop a method of objective testing using a test box.

A child must have a stable map and be a reliable user of their implant before a Radio Aid is fitted. As an extra piece of equipment is being issued it is important that the user can report on faults or any extraneous noises so that if there are any issues with interference they can quickly report the problem to an adult. Good lines of communication are vital between the implant centre and local professionals.

Fitting notes

- ♦ A young child is likely to need approximately one year until their 'map' is stable, before a Radio Aid is fitted.
- ♦ Advice may need to be given with reference to the 'best transmitting frequency' to use.
- ♦ It is important to follow the 'connecting and switching on sequence' (this is particularly important when using the Nucleus ESPril 3G).
 - ✓ Check the FM system is working.
 - ✓ Switch off the speech processor.
 - ✓ Connect the FM cable to the speech processor then the FM receiver.
 - ✓ Switch on the FM transmitter.
 - ✓ Switch on the FM receiver.
 - ✓ Switch on the speech processor.
 - ✓ The sensitivity of the speech processor should be turned down to a minimum setting to check the user is receiving the FM signal, then turn it back to its usual setting. (Lowering the sensitivity effectively reduces the input from the speech processor microphone).
 - ✓ Turn off in the reverse order.
- ♦ For the Nucleus ESPril 3G the monitor earphones need to be switched off on the programme used for FM when using the speech processor with a Phonak MicroLink MLx or MLxS. (The monitor earphones take power from the batteries in ESPril 3G which can result in poor performance in normal use). The other programme can be used to check the combined signal with the earphones if required).
- ♦ If you don't think the Radio Aid is working try switching the processor off and on again.

Elizabeth Wood and John Popplestone would like to acknowledge the invaluable assistance from all their co-workers.



Soundfield FM

Soundfield systems are becoming more commonly used in school, either a classroom amplification system or a portable desktop system. Research evidence (Wood et al 2002) suggests that these systems can give benefit, however it is important that the room itself has had some acoustic treatment, otherwise the child will receive a poor combined signal.

In our experience the following combinations give varying degree of performance if the distance from the sound source is greater than one metre. We have rated them in the order of best to worst.

- ♦ Cochlear implant connected to a Radio Aid within an acoustically treated classroom fitted with a Soundfield System.
- ♦ Cochlear implant connected to a Radio Aid.
- ♦ Cochlear implant with a personal Soundfield System directly in front of the user.
- ♦ Cochlear implant in a classroom fitted with a Soundfield System
- ♦ Cochlear implant on its own.

Conclusions

An increasing number of children with a cochlear implant are being fitted with an FM system and they are successfully using the combined system to access the curriculum in an educational environment. More training programmes are being developed to enable professionals to enhance their skills and increase their understanding of the issues involved in the successful use of FM systems with cochlear implants.

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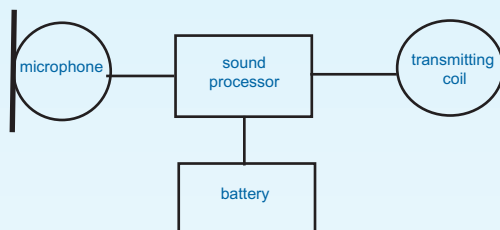
Generic troubleshooting of a cochlear implant system

Richard Hughes, Clinical Specialist, Advanced Bionics UK Ltd

With the number of children with cochlear implants increasing, management of cochlear implant (CI) equipment in the classroom is becoming more important. Existing troubleshooting guides for CIs focus on the reported problems/solutions and are for specific devices (see final paragraph). In this article a complementary approach is taken with the focus on systematically checking the components of a CI. This approach has the advantage that the recommendations, though general, are applicable to all CI devices.

Cochlear Implants

Cochlear implants consist of both internal and external components. The internal components consist of the implantable stimulator electronics and the electrode array. Determining if there is a problem with the internal component of a CI requires specialised testing at the child's implant centre. When problems do occur with a CI it tends to be due to a problem with the external equipment. Therefore, the remainder of the article will focus on the external components of a CI which are shown in the diagram below.



External components of a cochlear implant Troubleshooting

If a problem is suspected with a child's CI then the external components of the CI need to be systematically checked and the faulty component replaced. If the cables, battery or transmitting coil are faulty then these can be replaced in class, the child may have a spare, or there may be spare equipment in the school. Should there be a problem with the processor, microphone or internal device then the child's implant centre should be contacted. In systematically checking a CI's external equipment it needs to be remembered that there may be more than one faulty component and that the fault may be intermittent.

Checking the batteries

Are they fully charged?

Are they correctly inserted into the processor?

Is there any corrosion on the battery contacts?

Processors may have indicator lights or a display symbol to show the charge status of the battery.

Some processors can have an audible alarm enabled to indicate when the battery is running out.

Checking the microphone

Use listening earphones provided by the implant manufacturer to test the microphone.

Again, indicator lights on the processor can indicate that the microphone is detecting sounds. If the microphone is suspected to be faulty, then using a device specific auxiliary/lapel microphone with the processor might confirm a faulty microphone and provide a short-term solution.

Checking the sound processor

Is the processor switched on?

Is the correct programme location selected?

Is the volume setting correct?

Is the sensitivity setting correct?

The display lights on the processor can show if there is a problem with the electronics of the processor or if a programme location has been corrupted by static electricity.

Checking the cables

Are the cables twisted, frayed or broken?

Particular weak points are at the ends of the cable where it attaches to the processor and the transmitting coil. With body-worn processors another way to check the integrity of the cable is to use the listening earphones. Listen to the microphone and check that the signal doesn't become intermittent.

Checking the transmitting coil

Use a signal check accessory that is provided by the manufacturer.

In some devices, processor display lights and audible alarms indicate that the coil is not correctly transmitting information to the internal device.

Checking the whole system - Ling Sounds

The quickest way to see if a CI is working is to check that the implanted child can detect or identify the Ling sounds (oo,ah,m,ee,sh,ss) using audition alone. In this way the whole system, both internal and external, can be checked. When the test is done on a regular basis the teacher develops an awareness of a child's typical performance with the implant and deviations from this can be quickly noted and troubleshooting initiated.

Troubleshooting guides

Further information regarding troubleshooting can be found at the following websites:

Advanced Bionics devices

www.bionicear.com/professionals/tools.asp

Cochlear devices

www.cochlear.com/149.asp

Med-el devices

http://download.medel.com/daten/pdf/MKT3029E_r10.pdf

Ling Sound Test

www.audiologyonline.com/articles/arc_disp.asp?id=728

www.ncpublicschools.org/docs/ec/sixsoundtest.pdf

Cochlear implantation and cued speech internationally

Anne Worsfold, Executive Director, Cued Speech Association UK

How can we ensure that implanted children reach their potential? Research and case studies from Europe and America suggest that the early and constant use of Cued Speech by family members and professionals can significantly improve the children's ability to benefit from the implant.

Cued Speech and Cochlear Implantation are frequently described as 'perfect partners' because Cued Speech gives sound-by-sound access to spoken language by visual means, perfect for optimising language development prior to implantation and for supporting the child in the early years post implantation.

A French study¹ shows that children who had full and consistent exposure to Cued Speech prior to implantation performed considerably better in a number of tests than children brought up aurally or with French Sign Language. Tests showed that both three and five years after implantation Cued Speech children had significantly better:

- ♦ perception of words in open lists
- ♦ speech intelligibility (measured on the Nottingham scales).

In Spain Cued Speech is the norm in some cochlear implant centres with several specifically recommending its use. In addition, the Complemented Oral Model (Modelo Oral Complementada, MOC) project in southern Spain uses Cued Speech within an oral programme and many of the children in the programme are implanted (at present they have 20 children between 11 and 18 months). The aim is not just to provide first class support for the children but also to publish research. The programme has now been running for over twelve years and early results are outstanding, with some areas of linguistic development better than age appropriate.²

From America Jane Smith writes: *'For nearly 20 years, I have been a communication specialist with deaf children who have cochlear implants (CIs). The vast majority of these deaf children use Cued Speech.*

Although CIs have been an amazing breakthrough for the deaf, outcomes differ from child to child. I would not take the chance of denying a child a visual representation of spoken language until I was sure that they were learning everything through listening. Cued Speech helps clarify and verify what is heard; it actually accelerates the learning of language and listening.

Many deaf children who receive CIs perceive environmental sounds but progress in the perception of speech is much slower. Deaf children who use Cued Speech perceive speech more quickly.

Until recently, most of my students were receiving CIs after age three - after they had acquired language. I observed that children who used Cued Speech had a 'phonological grid' already internalised when they began to listen with their CIs. They were able to learn auditorily what they had internalised visually already. Progress in learning to listen came quickly because they already had this internal grid of phonemes. Cued Speech helps children interpret the sounds they are hearing via electrical stimulation as the same sounds they are seeing through Cued Speech.

For children aged three and under who learn Cued Speech at the same time as they get their implant, Cued Speech is also a huge benefit. Cued Speech develops an internal phonological model of speech and language that facilitates reading later. The child not only hears but also sees syllables and stress patterns. A child can see morphological structures that are difficult to hear - plurals, possessives and tenses for example.

After a certain amount of time - which varies for all kids, Cued Speech children learn vocabulary and academic information through listening alone. Many parents drop the use of Cued Speech at home (except at bath time or at the pool) but continue to have their child use it in school in the mainstream via a Cued Speech transliterator. This is because Cochlear Implants have not conquered the obstacles of noise, distance and the speed and amount of information delivered in an academic classroom.

Most of my CI/Cued Speech kids have advanced language, vocabulary and listening abilities. Examples include: a second grader who received the highest score in her grade on a standardised state test in a high-performing elementary school last spring and a first grader who is the best reader in her class.

These examples are outstanding but unusual for deaf children (or any child for that matter). Their success can be attributed to their innate talent and possibly more importantly to the use of Cued Speech with their cochlear implant.³

In England successful case studies include Alexandra who had very delayed language until her parents started to cue. Over the next two years she quickly caught up and prior to the implant her mother wrote that *'professionals recognised that her receptive language with Cued Speech appeared to be age appropriate and questions were raised as to whether Alexandra might have become so dependent on this form of communication that she might experience difficulty in adjusting. In fact, the transition from cueing to fully oral communication happened completely smoothly. After as little as three months, the clarity of her speech improved significantly and other people started to understand her. Cued Speech continued to be valuable in language acquisition for some months to come, reinforcing the links between the language she knew visually and the new sounds she was hearing. Even now it is still invaluable in noisy situations, when the implant is not in use and in breaking down the sounds in words which hearing children also find difficult!*

'It is now 4½ years since we learned how to Cue and 2½ years since Alexandra received her Cochlear Implant. Her progress has been everything we could have hoped for. Her reading age and vocabulary are both above her chronological age and her personality has become more settled. Deafness has ceased to be an insurmountable problem. The only regrets we have are that she didn't receive the benefits of Cued Speech and her Cochlear Implant much earlier.'

At Alexandra's twelve month post implant assessment her Teacher of the Deaf wrote: *'In my 30 years experience of working with profoundly deaf children, I have never witnessed the remarkable progress that Alexandra and her parents have made throughout this year, following implant. In my opinion, Alexandra is a little girl who is now totally oral/aural, in her ability to develop speech and language and shows listening levels which one would not normally anticipate until at least two or three years of wearing her processor'*.

Why is Cued Speech so successful? Hearing people use their knowledge of the sounds of English when they learn to cue. Deaf children brought up with Cued Speech work in the opposite way. They acquire an internal model of sound-based English through Cued Speech - even if they can't hear it. Once the implant gives them access to speech sounds these can be plotted onto the model of sound-based English they have already internalised. Belgian research - and many case studies - demonstrates that children brought up with Cued Speech can think in sound-based language.⁴

It is this visual access to sound-based language that enables a deaf child to acquire an understanding of spoken language without delay pre-implant and also uniquely primes the child for the acquisition of spoken language when it becomes available post implant. As Jane Smith, with her 20 years experience, said: *'Cued Speech helps clarify and verify what is heard; it actually accelerates the learning of language and listening'*.

By Anne Worsfold with grateful thanks to Maureen Brenton and Pat Cove for their translations of source documents.

For details about cueing in the UK contact:
Cued Speech Association UK
9 Duke Street Dartmouth Devon TQ6 9PY
Telephone (voice and text) 01803 832 784
Fax 01803 835 311
email info@cuedspeech.co.uk
web www.cuedspeech.co.uk

References

- 1 Study produced by Nadine Cochard, Marie-Noelle Calmels, Geraldine Pavia, Christine Landron, Helene Husson, Anne Honegger, Bernard Fraysse. Text by Nadine Cochard (Paediatric Unit of cochlear implants - CHU/CESDA Toulouse)
- 2 MOC website www.uma.es/moc or email Prof. Santiago Torres monreal@uma.es.
- 3 First published in the magazine of the National Cued Speech Association (USA.)
- 4 Various research including: Leybaert, J. & Charlier, B. (1996), '**Visual Speech in the Head: The Effect of Cued Speech on Rhyming, Remembering and Spelling**. *Journal of Deaf Studies and Deaf Education*, Vol. 1, pp. 234-248.

Cued Speech is a method of clarifying all the sounds of spoken language visually in real-time, using simple handshapes in different positions near the mouth to clarify ambiguous or invisible lip patterns. It can be used with different spoken languages (in Spain and in French-speaking countries Cued Speech is known as LPC or PC) and within a range of different educational models from sign bilingual to its more common role supporting oral/aural practices.

Proofreading - a thankless task?

Without the support of Alison Weaver, Corinda Carnelley, Gill Wilding, John Edge, Paul Simpson and occasionally John Bannister the Magazine would be full of typos, spelling mistakes, unclear sentences and unanswered questions. My sincere thanks to this team for their efficient use of 'Track Changes' in Word and advice about articles.



Listening Boxes

Barb Hay SOECIC

Listening Boxes evolved from Listening Bags, an idea used by various CI Centres and Education teams to provide parents with structured activities to assist the development of listening skills. The boxes are used as part of the rehabilitation programme for children who have had cochlear implants.

What are Listening Boxes?

Listening Boxes are sturdy, stackable, portable, easily recognisable and contain specific activities, targeting a range of particular listening skills. The contents always include toys to reinforce a particular skill, usually the words to a song or rhyme for parents to sing with their children (remembering the importance of developing pitch, rhythm and intonation) and a book for shared reading. The contents are listed on laminated sheets which provide advice and step by step instructions on how to use the items effectively.

Why were they developed?

Listening Boxes were developed to build up children's listening skills and to give parents specific ideas on how to support their child's listening development. Each box provides ideas on how children can experience sound in a meaningful and fun way. Before parents leave the Centre the ideas contained in the box are explained, along with suggestions for how the box could be used at home. An underlying aim is to encourage parents and families to spend regular 'quality' time at home reinforcing the skills between visits from centre staff.

When are Listening Boxes used?

Listening Boxes are particularly useful at early stages of development, to demonstrate to parents how to work with their child on listening skills. Each Box has a specific reference to a listening stage:

- ♦ auditory detection (knowing there is sound present);
- ♦ auditory discrimination (knowing that there are different types of sound);
- ♦ identification (knowing what the sound represents eg doorbell);
- ♦ comprehension (knowing that words/sounds have meaning and acting on that).

The activities are used to reinforce listening skills on a 1:1 basis whilst integrating meaningful concepts in a fun way.

How are they used?

A simple step-by-step laminated instruction sheet is included on how to use the Listening Boxes. The specific purpose and goals for the box are on the front. From the front of the box, parents and

professionals can quickly and easily see the specific listening intent of each box.

A box developed to encourage auditory detection may simply have 'responding to sound' and 'turn taking' as its specific goals. The box may only contain a drum and a ball with instructions on how these may be used to develop the skill of auditory detection. The advice may include;

- a) banging the drum while encouraging the child to 'listen';
- b) soft and loud banging;
- c) marching to the beat of the drum;
- d) playing the 'Wake Up' game - taking turns to be asleep and waking up when the drum is banged;
- e) throwing the ball when they hear the beat of the drum;
- f) playing a simple hide and seek game with the drum.

A more complex Listening Box may involve developing the skills of auditory identification or comprehension, including activities in, for example, auditory selection, turn-taking, auditory memory, singing, role play and language building.

A 'loan card' system ensures a record of who has borrowed the box and the date of return.

Conclusion

It is fun collecting items and making Listening Boxes and the production reaps rewards and good feedback from both the children and their parents. The boxes are widely used and they are an invaluable tool in assisting parents in the development of their children's listening.

Parent Comments on Listening Boxes:

- ☺ *'Very inspirational.'*
- ☺ *'Interesting with lots of variety.'*
- ☺ *'Inspires parents to have confidence to work with their child.'*
- ☺ *'I like the suggested activity and how it's broken down.'*
- ☺ *'Captures my child's attention.'*



Children's FM Working Group Meeting

November 2004, chaired by the NDCS
Report by Stuart Whyte, A&ICT Committee

Soundfield and Related Issues

Prof Julie Dockrell, Head of the School of Psychology and Human Development at The Institute of Education, gave an update on current research looking at the use of soundfield systems in Hertfordshire schools.

The project will report on how soundfield systems can be used effectively. Preliminary findings from the three-year project showed that over 70% of teachers were using soundfield and almost 70% of children recognised the benefit the system.

To ensure optimum installation it is important that teachers are consulted about how they use their classroom space. It was also clear from the FM Group that Soundfield systems are used more effectively when teachers feel trained and supported in their use of the system (and its connectivity to auxiliary audiovisual devices).

Cochlear Implants and Personal FM Systems

Elizabeth Wood, of the South of England Paediatric Cochlear Implant Centre and Riaan Rottier,

Technical Support Specialist at Cochlear Europe, lead a discussion on the verification and evaluation of FM systems with cochlear implants.

Behavioural testing with speech in quiet conditions and in noise was discussed. An FM advantage of 10dB can be measured using soundfield levels of 35dB with FM and 45dB without FM. However, testing in realistic conditions will mean the automatic gain control (AGC) engages and the true FM advantage will be unknown. When a 70dB speech signal in noise fluctuating to 80dB is presented, the AGC of the implant processor is activated. If the coil sensitivity is turned down to avoid AGC (not UK procedure), then access to environmental sounds is reduced.

The Group agreed that if ToDs were undertaking electroacoustic tests in the field for ongoing comparative purposes (with a stable map and all leads, coil and setting the same) then a 65dB signal should be used with the implant.



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Cochlear implants in children with complex needs

Alex Wheeler Great Ormond Street Hospital

Children with complex needs

Children referred for assessment fall into three main groups:

- 1 those who have been diagnosed prior to referral
- 2 those who are diagnosed with additional difficulties as part of the assessment process
- 3 those whose additional difficulties only become apparent following cochlear implantation.

Diagnosis prior to referral

These children usually have an identified aetiology eg a syndrome or collection of identifiable features, or they may have a difficult birth history.

The children may have very clear needs eg dual sensory impairment and an appropriately modified assessment protocol will be implemented. Some children will have significant developmental delay which will also influence the way in which they are assessed.

At Great Ormond Street Hospital (GOSH), some of these children may have been attending other departments for some time prior to referral. In a number of cases the issues are purely medical eg can the child be safely anaesthetised for four hours to undergo a CI operation? Can the child have a CI and a shunt on the same side of the head?

Those who are diagnosed with additional difficulties as part of the assessment process

A surprising number of children continue to come through for assessment with very little prior investigation beyond an initial assessment of hearing loss.

Once referred, these children will have an in-depth medical/aetiological work up and this may throw up an unexpected diagnosis. For example most of the children on the GOSH Cochlear Implant Programme (CIP) with Usher syndrome (significant hearing loss with gradual loss of peripheral vision, leading to tunnel vision) were diagnosed as part of the CI assessment process.

As most teams are now assessing very young children, it is rare for a child to arrive with a diagnosis of autistic spectrum disorder which tends to be identified at a later stage. However a number of these children are picked up during the second stage of assessment with speech therapists, clinical psychologists and Teachers of the Deaf.

Those whose additional difficulties only become apparent following cochlear implantation

Many children are now being implanted at around their second birthday or even younger. It can be extremely difficult to pick up children with emerging language or communication disorders at this young age and often these will only become apparent later.

CIP professionals now have greater experience of watching children develop through the system so we are getting better at spotting the warning signs which may prompt us to refer on for further specialist assessment and enable us to counsel parents regarding the likely range of outcomes.

I find one of the most difficult issues to get across when counselling parents regarding expectations of cochlear implantation is the difference between providing a child with an improved range of sound sensations and enabling them to make sense of it. Cochlear implants are very good at providing detection of sound across the normal frequency range of speech but interpretation and comprehension of this auditory information is another matter entirely. This is usually the primary issue when deciding on a recommendation to offer a cochlear implant.

Ultimately, having a diagnosis or clear understanding of a child's additional needs may help us to make this decision, based on our known outcomes. We have certain clear predictors of outcomes eg development of pre-linguistic skills, early development/cognitive functioning, which apply to all children. In addition to this we must take into account the way in which the child's additional difficulties may have affected their development; for example a deaf-blind child will probably present with 'developmental delay' but we need to assess whether the child has made - or is capable of making - the degree of progress that would be expected from a child suffering from a high level of sensory deprivation. Sometimes we find that children are much more capable than had been previously supposed.

Our results show us that some children with similar aetiologies tend to show similar outcomes. For example young 'Usher' children often progress slowly in the initial period post-implant, particularly in terms of the development of their expressive language skills (sign as well as oral) but may well catch up later. (This is possibly linked to delayed

motor milestones/myelination). We find that children with Waardenburg's Syndrome are more likely to develop an additional language disorder following implantation.

More controversially, it is our experience that children on the autistic spectrum (but possibly excluding Aspergers) do not make much progress with learning to use the sound information provided by a cochlear implant, even with aided thresholds at 35-40dBA. It is likely that they have an associated auditory processing disorder. However other implant programmes may have different experiences.

'Quality of Life' is a much debated issue. Should we sometimes implant children who are multiply handicapped, for whom the development of oral language skills is not a realistic outcome but who might benefit from enhanced environmental awareness and an increased sense of 'connectedness' with the outside world?

With a severely disabled child there is always the danger that the hearing loss is seen as something which can be 'fixed' by a cochlear implant when other disabilities are untreatable. These families are often inundated with information from a wide range of professionals, many of whom will not have direct experience of deafness. Ultimately all those concerned with the child, families and professionals, have to decide whether a cochlear implant is likely to enhance the child's quality of life or will simply prove an additional distraction, taking time and resources from other areas of the child's development for very little benefit.

In conclusion I believe it is very important not to make assumptions about what children with complex needs are able to achieve both with hearing aids and potentially with a cochlear implant. This group has a right to an assessment which defines and then takes into account particular abilities and disabilities and seeks to provide an objective judgement on the likely balance of benefit. In practice this is one of the most challenging tasks that I have faced in my career to date.

Visual difficulties? Make contact...

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Sense

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Bringing teenage deafblind cochlear implant users together

Louisa Booth, Advanced Bionics UK

Sense, the organisation for deafblind people, has collaborated with The Ear Foundation and through them with cochlear implant centres across the UK, to bring deafblind teenagers with cochlear implants together for the first time. It is tough for deaf teenagers to acknowledge increasing visual difficulties, so we were pleased to see teenagers, accompanied by family members, attending from as far afield as Belfast, Aberdeen, Nottingham and London. Two young deafblind adults, Emma and Clare, from the UCL cochlear implant programme, also attended to act as role models.

Connor, from Belfast, has KID Syndrome and the other teenagers have Usher Syndrome and they face the knowledge that although they can see something at present, their vision may deteriorate. It was therefore great for them to meet Emma and Clare, who talked honestly and enthusiastically about work, social life and their extensive travels. Emma, asked what she liked best about her implant, thought it was probably the fact that it had saved her life. One night, while she was travelling alone, in Sri Lanka, she was walking back to her hotel and simply did not see it. She walked straight past the hotel, down a road that led into the wilds and then suddenly heard the noise of someone shouting behind her. The sound made her turn and notice the hotel she had missed. As she talked, horizons opened up for the teenagers and, indeed, for all the adults. Deb Wilson, from The Ear Foundation, and Louisa Booth, from Advanced Bionics, then led a discussion amongst the teenagers. What became increasingly clear is that whilst, understandably, the parents were concerned, the teenagers themselves were keen to face the world, preferably independently.

The day was sponsored by Advanced Bionics, Cochlear and MedEL and also by Pizza Express, who generously donated a room to meet and lunch, thus giving the teens a taste of ordering food in a restaurant. After lunch there was a London Bus ride, a walk along the Thames and a trip on the London Eye. Altogether, it was a really good day and we urge anyone working with a teenage cochlear implant user with visual difficulties to contact Sense, The Ear Foundation or Advanced Bionics about the next meeting (contact details in opposite column).

Working with pupils with CIs in an oral environment

Pat Tufnell, Vivien Ogg Mary Hare Grammar School

Over the last five years Mary Hare has seen a rapid growth in the numbers of pupils with Cochlear Implants entering year 7 and in those who are implanted whilst they are at the school, up to and including year 13.

On entry, some pupils have long experience of cochlear implant use. The level of support continues and sometimes includes counselling during the re-implantation process. A late decision to have an implant is often after many years of consideration or it may be a decision made as the result of a sudden or gradual deterioration in hearing. Other pupils make the decision after seeing the success of their peers eg in use of the telephone. We also offer support to pupils and their families when a CI is not recommended.

Currently, 30% of the school population have CIs - a total of 66 pupils from thirteen centres across the UK and one centre in Australia!

As an oral school the effective use and management of personal and educational amplification is fundamental to our philosophy and teaching. The use of a cochlear implant is regarded as just another type of personal amplification by both staff and pupils.

Whilst the development of individual listening skills is crucial, we also focus on the skills of listening within a group and this is something that all teachers of the school promote in their teaching style. Additional help in this area is the focus of two CI groups which meet weekly.

How audiological needs are met

- ♦ All staff are familiar with the range of cochlear implant types and their appropriate management eg checking function, battery management etc.
- ♦ Regular updates are provided through staff meetings.
- ♦ All staff have copies of the safety guidelines produced by the BCIG. Risks are assessed and appropriate action is taken eg all CI pupils have a huggie or an earmould to secure their implant during PE.
- ♦ The Audiology team continues to assess CI pupils in conjunction with the CI centres. Management of the non-implanted ear is just as important as that of the implanted ear.
- ♦ Form teachers retain information on the type of implant and CI centre in an Audiology file.
- ♦ Form teachers have a checking kit ie signal checker and monitor earphones.
- ♦ Group hearing aids are adapted to allow direct input into the system. The adapted interface makes use of the direct input facility on the CI and a lapel microphone.

- ♦ Spare parts and accessories are kept stocked and replaced as used. Each centre is asked to supply spare external parts to be kept at school.
- ♦ At each centre we have a named person as a point of reference.
- ♦ Liaison and exchange of information with implant teams through telephone calls/emails/ team visits.
- ♦ Continued information exchange with the pupils' families.

How speech and language therapy needs are met

- ♦ Collaborative work with audiology eg listening groups, sharing reports.
- ♦ Collaborative work with CI teams on planning eg on target setting following assessment.
- ♦ Cochlear implant groups for different language levels but based on developing listening skills.
- ♦ All sessions begin with a warm up activity which includes the Ling five sounds and activities to identify individual sounds, minimal pairs etc.
- ♦ Copying intonation patterns and emphasis, deriving meaning from intonation patterns, work on dynamic range of voice, meaningful sentence completion, collecting information around the group in order to solve puzzles etc.
- ♦ Individual therapy for some pupils as individual needs require eg if there are additional needs such as speech dyspraxia, specific work on grammar or rate of speech, voice pitch or dynamic range.

As the pupils are teenagers the approach is very much one of partnership. Older pupils will manage their own spare parts for their CI and inform the Audiologist when replacements are required, thereby fostering independence. Appointment times for listening groups are flexible to allow for other commitments eg music lessons.

The pupils effectively counsel and support others who are considering having a cochlear implant. Such pupils attend a CI group session and have the opportunity to question the group and participate. This allows them to see that work has to continue after a CI and what is possible.

In partnership with the CI centres, we recognise and discuss with pupils that there is no guarantee of success. However, staff members are committed to helping each pupil achieve his or her maximum potential whether their personal amplification is through a CI, hearing aids or a combination of both.

Growing Up, Moving On

Eileen McSporry

Birmingham Children's Cochlear Implant Programme

Adolescence is such a time of change and transition and we need to hold in mind the aspects of the young person that are still rather child-like and those that have the maturity of a young adult. These aspects fluctuate repeatedly throughout the assessment period and the progression from a child and family-centred to an adult-oriented healthcare service. Importantly, we recognise that hearing loss, cochlear implants and transition in healthcare are only part of the wider transition from dependent child to independent adult.

The Birmingham Children's and the Midlands Adult Cochlear Implant Programmes services for young people have developed to meet the needs of a growing population of teenagers who were given their cochlear implants as children as well as those young people who are referred to the teams as teenagers. The emphasis is on joint team working. The services are integrated into the multidisciplinary teams of the two programmes to ensure an assessment and transition process that is age appropriate, developmentally appropriate and comprehensive. This flexible approach, involving staff who work on both programmes, takes developmental and psychosocial readiness into account and links to other social transitions in the young person's life to provide continuous levels of care. Emphasis is on young people themselves being increasingly involved in the planning and delivery of the service according to their communication, social and cultural circumstances.

Key elements

- ◆ Members of staff with particular experience in working with young people take the role of key workers.
- ◆ Dedicated adolescent-friendly environments with a range of appropriate resources.
- ◆ Young people themselves are increasingly involved in the planning and delivery of the services according to their own perspectives,

- communication, social and cultural circumstances.
- ◆ Comprehensive adult assessment services enabling the young person to make informed decisions with appropriate support from carers and team staff.
- ◆ Scheduling appointments and surgery to take into account the young person's educational career.
- ◆ Provision of planned therapy programmes to meet the individual needs of each young person.
- ◆ Addressing needs and providing support for parents/carers whose role is evolving at this time in the young person's life and health care.
- ◆ Offering psychosocial support for the young person and family members in relation to emotional well being.
- ◆ Promoting functional communication and life skills through discussion and real-life experiences.
- ◆ Educational and social events with our teenage group.
- ◆ Active encouragement and support for the young person to self-advocate and to learn to take increased responsibility in decision making and for their own clinical healthcare.
- ◆ Mediation between parents/carers and the young person with issues surrounding cochlear implant use.
- ◆ Liaison with local support professionals and agencies with reference to further education, employment and lifestyle issues.
- ◆ Continuous programmes of care with a seamless transition to adult services.

For further information, please contact Eileen McSporry or Kate Hanvey Birmingham Children's Cochlear Implant Programme Aston Academy of Life Sciences, Aston University Birmingham B4 7ET
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Checking Cochlear Implants and hearing aids at Mary Hare School



The Group Hearing Aid adapted for Cochlear Implant users at Mary Hare School

Management of cochlear implants within a special school where the curriculum is delivered in BSL

Frances Pye

Educational Audiologist, RSD Derby

The management of children with cochlear implants within any special school or unit involves managing relatively large numbers of children with differing needs. This requires organisation, communication and negotiation with teaching and support staff and implant centres. At RSD Derby we have the additional factors of residential care staff, several implant centres and the delivery of the curriculum in BSL.

We have nine children with cochlear implants and a diverse group in terms of age, ability (from the very able to those with additional learning difficulties including autistic spectrum disorder and specific language difficulties), social and emotional needs, attitude to implant, age at implantation, length of time post implant and benefits gained from the implant.

In many ways the management of a child with a cochlear implant in school is no different from the management of a child with hearing aids. More people are involved with the child so communication is more important and there are a lot more meetings! The practical issues of checking, promoting independence in management by the child and prompt repairs remain the same. The crucial difference is that of the child's greater sensitivity to sound and different auditory development needs.

Practical issues

Large numbers and a residential situation bring additional practical issues.

- ♦ Processor serial numbers need to be noted - especially with the ear level processors which can come off so easily and all look the same.
- ♦ Well labelled spares available in school and residence (many look the same but are not).
- ♦ Efficient systems for fault reporting within school and good follow up with the many implant centres need to be established.
- ♦ Communication with parents needs to be efficient.

Auditory development

Where the curriculum is delivered in BSL, the attention to development of auditory awareness needs an additional focus and individual tailoring for each child. Again, communication is the key. Communication between the families, speech and language therapists, audiologists and Teachers of the Deaf in school and on the implant teams - not an easy task!

In the Nursery and Key Stage 1 curriculum, appropriate listening situations can easily be woven in to the lesson plans and the rest of the classroom activities. Both Deaf and hearing staff are in every class. Involvement of educational audiologist and SLT in the classroom ensure all potential listening situations are exploited.

At Key Stage 2 and beyond, when the demands of the curriculum become more prescriptive, the needs of the child with a cochlear implant need to be remembered and included in the planning. Every one working with the child needs to know their sensitivity to sound and need for varied and relevant spoken language as well as BSL. Listening opportunities outside the classroom need to be provided.

The child's attitude to the implant

Children's attitudes to the implant can vary tremendously and are often dependent on the benefits they feel it gives them. Within our group there is a child accessing mainstream French classes who is extremely distressed by any processor problem, a child who has progressed to wearing the harness and processor but will not tolerate the coil on her head and a child who has totally rejected the implant and is back with a hearing aid. Each situation needs to be carefully managed in conjunction with the child's family and implant centre.

At the end of the day we are dealing with children. They will always come up with a new way to test our management of any situation. Would we have it otherwise?



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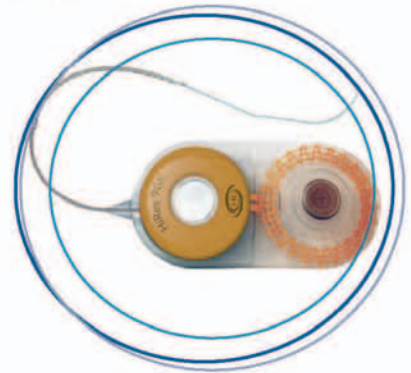
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Working with teenagers

Elizabeth Beadle

Teacher of the Deaf/Young people's coordinator
Nottingham Cochlear Implant Programme/The Ear Foundation

In the light of a small amount of research and in order to support teenagers with cochlear implants in a social setting, Nottingham Cochlear Implant Programme, in collaboration with the Ear Foundation, runs residential programmes during the summer. Young people have the opportunity to meet and make new friends in a social setting.

These programmes are divided into three age ranges, 11-12 years, 13-14 years and 15-16 years to fit in with appropriate age divisions within the education system and to allow for maximum integration within the age ranges.

The courses are of three days duration with a two-night residential stay. Activities are organised according to the needs of the individuals attending and include educational and recreational elements. Each course has a theme and the activities are arranged around the theme. For example in 2004 one group had tennis as its theme. Focus of the sessions included gaining tennis skills, team work and group co-operation. Activities on this course also included going for a meal in a local restaurant where the individuals had to order, eat and pay for their own meal as well as behave appropriately in a public place. A further activity to encourage the development of social skills was an expedition into Nottingham City Centre. Participants were divided into small groups and had three tasks to complete in the centre; the purchase of a drink, the gathering of information with a view to purchase a mobile phone and to find out what was showing at the cinema and the cost of tickets. A session on audiology was arranged to inform the Teenz about the technology of their cochlear implant and provide up to date information on the accessories available to them. One of the surgeons from the Nottingham programme spoke to the young people about the surgery itself. All the teenagers were very interested in how the implant got into their heads, how it works and they asked some very detailed questions, quite rightly. For many teenagers their parents made the decision about implantation when they were young. The teenagers need to understand the technology and its risks themselves and come to own the decision for themselves.

One of the main aims of the course is to provide a peer group for these Teenz with cochlear implants, many of whom are educated in a mainstream setting and may never see another deaf teenager on a regular basis.

Living together for three days allows friendships to develop - email addresses and phone numbers are exchanged at the end of the course. Feedback from the Teenz themselves indicates the value of the

courses. Approximately 80% of the participants return for a second course and the friendships which begin on the summer programmes continue throughout the year.

Teenz United

Five times each year Teenz United meets. This is a Saturday meeting to encourage teenagers with cochlear implants to get together. The name was chosen by the Teenz themselves. Meetings are held at the Ear Foundation in Nottingham and also at outside venues. In previous years meetings have been held in London, usually in January and in Birmingham. On these occasions, Teenz from other programmes have the opportunity to travel to the venue with their group and meet up with other teenagers with cochlear implants from elsewhere in the country. This provides the opportunity for the Teenz to meet and make new friends and again the contacts are generally maintained. Activities on these days are aimed at giving the Teenz experience of an activity they may not have had the opportunity to experience eg bridge swinging and canoeing, whilst encouraging discussion between Teenz about the issues which matter to them.

Teenz United produces a magazine three times each year aimed at keeping the Teenz informed of technology, activities and forthcoming events. This magazine is distributed to all who have attended the Ear Foundation, each cochlear implant centre and the manufacturers.

Attendance on the Summer residential programmes and at Teenz United Saturdays is open to all Teenz with a cochlear implant regardless of where they were implanted. Professionals wishing to support the group are also welcomed. Contributions to the Teenz United magazine are welcomed from Teenz wherever they live and at whatever level they wish to contribute.

email Elizabeth.Beadle@gmc.nhs.uk



fun at the launch of the ci-4teenz website

THE EVALUATION OF A WEBSITE FOR TEENAGERS

www.ci-4teenz.com

Elizabeth Beadle¹, Louisa Booth², Rachel England¹, Sarah Evans¹, Wendy Horler³ and Pete Sedgwick⁴

A website providing up-to-date and independent information about cochlear implants for teenagers went on-line in September 2002. It was a multi-centre project involving teenagers from Nottingham, Oxford, St Thomas' and UCL Cochlear Implant Programmes. Teenagers need accurate, teenage-friendly information about cochlear implants. Furthermore, since they are often geographically isolated, and face pressure from peers without implants, hearing about other teenagers with implants is important. The teenagers' website was created to meet these needs. (Fig.1)

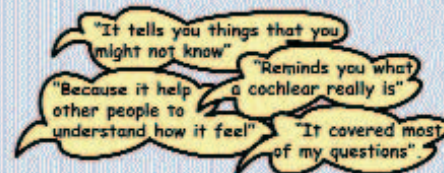
The returned questionnaires indicated that teenagers:

- enjoyed using the website
- were comfortable with its interactive content
- found the material accessible and informative
- used the site for teaching purposes, to explain to friends, family and teachers about deafness and cochlear implants
- were glad to read about the experiences of peers with cochlear implants.

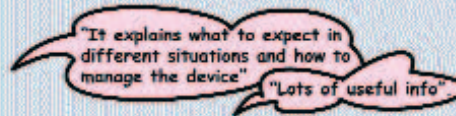
Adults commented that the site also had a wider appeal to younger children and some adults who appear to be attracted by the vivid graphics used to convey complex information without undue reliance on the written word.

'Living with a cochlear implant-Fact Files' (Fig.5) was most helpful to both groups, with 'How a cochlear implant works' coming a close second for the teenagers.

The teenagers liked 'Living with a cochlear implant' because:



Adults commented:



Website preferences

Respondents were asked to identify their favourite section of the website, the section they did not like and the most helpful section of the website. Responses can be seen in figures 2 (teenagers) and 3 (adults). Data appears incomplete because 17/22 teenagers did not identify any of the website as disliked, while 7/29 adults said they liked everything.

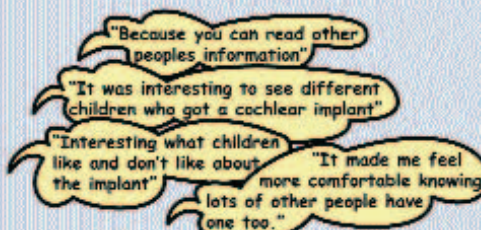
What is your favourite bit of the website?



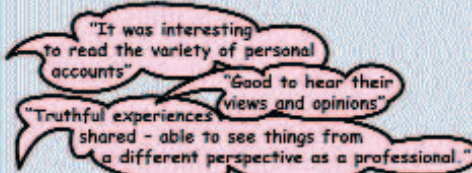
Fig.4 Who wears a cochlear implant?

Evidence from Fig.2 and 3 suggests that the section 'Who wears a cochlear implant?' (Fig.4) was the favourite for both teenagers and adults.

Typical comments from teenagers on this section include:



Adults were also interested in the individual experiences, saying for instance:



What bit of the website is most helpful?

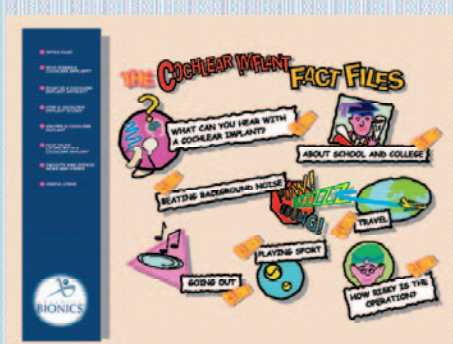


Fig.5 Living with a cochlear implant - Fact Files

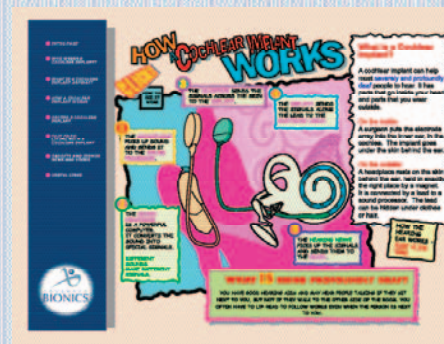
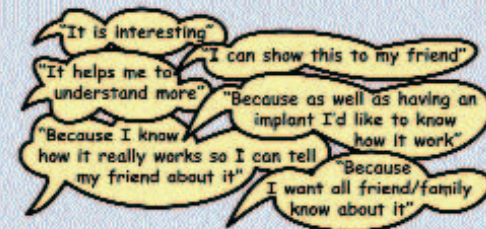


Fig.6 How a cochlear implant works

The teenagers, who are already experienced implant wearers, liked 'How a cochlear implant works' (Fig.6) because:



What bit of the website don't you like?

Most respondents gave no answer, stating they liked it all. One adult had difficulty accessing News and Views from a home computer, while 4 teenagers just found it 'not interesting', although 4 others chose it as their favourite section.

Conclusion

Teenagers use the www.ci-4teenz website to increase their own understanding of their implant and also to explain things to friends and family. Those isolated in mainstream settings with no deaf peer group find the chance to read about the experiences of others especially rewarding. Adults find the website useful with both deaf and hearing students for teaching and counselling purposes, and as a tool to support the national curriculum and GCSE science. We conclude that the website is fulfilling its brief and meeting a need.

Our thanks to the teenagers, families, educators and clinicians who took part in this project. We have appreciated their whole-hearted enthusiasm and support. Thanks also to The Ear Foundation for hosting the teenagers' meetings and to Advanced Bionics for their financial support.

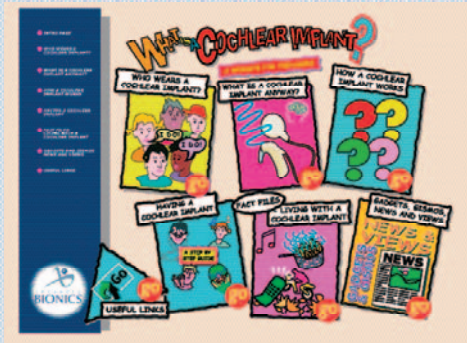


Fig.1 Home Page

The objective of this study was to establish whether the website is being used, and by whom, and to evaluate its effectiveness as a means of conveying information to teenagers. Particular consideration has been paid as to whether teenagers themselves enjoyed using it and found the material interesting, accessible and helpful.

Method

Cochlear implant centre professionals, educators, and teenage cochlear implant users from across the United Kingdom were mailed a questionnaire consisting of open and closed questions to ascertain website use and value. Information was also collected from website administration data.

Results

Website administration data indicated that in the year since launch in September 2002, the website was accessed by teenagers, their families and educators via computers in North America, mainland Europe and the United Kingdom. As of October 2003, the website had received over 58,000 hits.

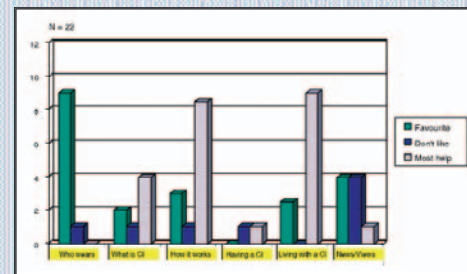


Fig.2 Teenager Website Preferences

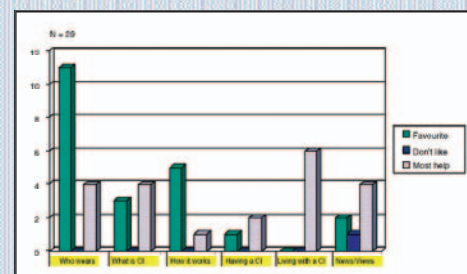


Fig.3 Adult Website Preferences

Fifty-six questionnaires were returned, including 25 from teenage cochlear implant users aged between 10.5 to 17 years, 1 from a 15 year old considering implantation, 1 from a 12 year old hearing sibling and 29 from adults working with teenagers. The majority (40/56) had accessed the website between 1 and 5 times, while 13 had accessed the site over 5 times. All except one respondent liked what they saw. The teenager who gave a negative response nevertheless commented that certain sections of the website were interesting, and had enjoyed reading other people's views and how they felt.

Manchester adolescent cochlear implant programme

Christine Anderson

Co-ordinator Manchester Adolescent Cochlear Implant Programme

In the summer of 1997 the Centre developed a programme to support adolescent cochlear implant users. This population is too old to be supported within a paediatric environment but still needs regular one-to-one intervention and intensive school support. By providing a specialised service for this age group, the Manchester Programme is able to offer the support necessary for these cochlear implant users to gain maximum benefit from their devices. A total of 96 young people are supported by the adolescent cochlear implant programme.

Criteria for referral to the adolescent programme

Criteria are selected according to evidence-based practice and experience. They are set to ensure that patients who receive a cochlear implant are most likely to obtain benefit from the device. None of the criteria outlined below exclude patients with additional physical disabilities or learning difficulties.

For adolescent patients, it is important that the patients themselves are involved at every stage of the assessment process and receive all of the information they need to reach their own conclusions about the cochlear implant as a potential option for them.

The Adolescent Cochlear Implant Programme accepts referrals for assessment of patients over the age of 10 years who are still receiving support from an educational department or school and fit into one of the following groups.

- ♦ Patients who were born with hearing and have recently acquired a profound hearing loss. A child with a suspected hearing loss following meningitis should, of course, be referred for assessment immediately so that cochlear implant surgery can be fast-tracked in the event of any ossification of the cochlea.
- ♦ Patients who have had some benefit from appropriately fitted hearing aids in the past but whose hearing has deteriorated to the point where powerful hearing aids are no longer helpful.
- ♦ Patients who were born with a profound hearing loss, have received some benefit of spoken language learning through consistent use of appropriately fitted amplification but who might receive significantly more auditory information from a cochlear implant.
- ♦ Additional factors which need to be considered as part of the evaluation include the patient's mode of communication in the home environment and an educational setting where

the curriculum is delivered through speech, evidence of auditory processing and learning through oral/aural communication and support services in place for the patient post-implant.

- ♦ MRI scan indicates that there are no radiological contra-indications and that the patient's cochlea is suitable to receive an electrode array.

Post Implant care

The aim is to minimise the period of time between the adolescent receiving their implant and the initial programming session. The initial programming session is offered 10-14 days following surgery. Patients are offered an initial series of four programming and habilitation appointments over a period of two to three weeks, with further appointments as required. Appointments are offered on a twice monthly basis for the first three months and monthly for the following three months, with further support as agreed with the implant user.

The habilitation package is tailored to the individual and offers regular appointments at the implant centre, outreach visits to home, school or college to liaise with local support professionals and provision of training and information to schools/colleges as requested. Training and support is also provided on use of assistive listening devices with the cochlear implant and using the telephone. The habilitation package is customised to take into account the individual needs and preferences of each adolescent. The aim is to encourage the individual to exploit the potential of their equipment and to advise on techniques to develop auditory processing skills. Specific activities are provided for practice and carryover.

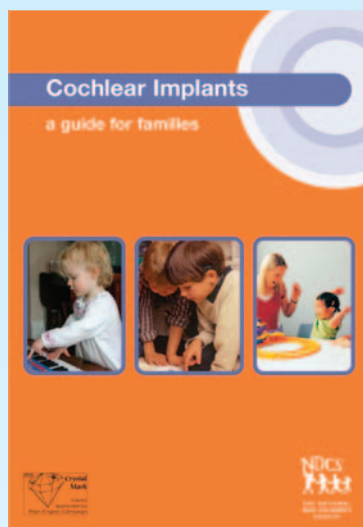
Adolescents are also offered the opportunity to meet and share experiences with other adolescent implant users on the activity days run by the programme. Previous outings have included ten-pin bowling, a trip to the BBC Manchester news studios, an African Drumming workshop and an art workshop.

Audiological appointments are offered to adolescents at 3, 6 and 9 months within the first 12 months, followed by 18 months and then at 24 months and annually following.

On transition to the adolescent programme from the paediatric programme, local services are contacted and offered support and training to suit their needs; this may include INSET to the new educational placement.

Cochlear Implants - a guide for families

A new booklet from The National Deaf Children's Society



The NDCS has produced a brand new booklet for parents - 'Cochlear Implants - a guide for families'.

It has been written, with support from the Ear Foundation, to give families clear, balanced information about cochlear implants, at the point where they are making a decision to go ahead with the assessment.

The first half of the booklet is a factual introduction to cochlear implants and an overview of the assessment process, surgery and follow-up care. Although the booklet is an overview, families who want to do more research are given contacts and recommended website links to find out more.

The second half of the booklet features families' stories, in their own words. Families explain how they felt about the assessment process and the surgery and how they came to make the decision about whether or not to go ahead. They also explain more about their child's life with an implant. The booklet has been awarded the Plain English crystal mark from the Plain English Campaign.

The book will be available from the end of March. If you wish to be put on our mailing list for a copy, email us at helpline@ndcs.org.uk, order on-line at www.ndcs.org.uk or write to us at:

Information team
NDCS
15 Dufferin Street
London
EC1Y 8UR

The booklet is free to families and professionals. Professional ordering more than three copies will be asked to pay a small postage charge. Please contact NDCS for more details.

Teenage programme at Southampton

Sarie Cross

Working with teenagers can be a joy and a challenge. The South of England Cochlear Implant Centre (SOECIC) is a combined adult and children's programme and we see deaf children and adults from eight months to eighty years of age. We benefit enormously from dealing with clients of all ages as it helps to shape the ways in which we meet the needs of all our implant users. At the South of England Cochlear Implant Centre we have forty young people, aged between 13 and 18, with cochlear implants.

There are four groups of teenagers at SOECIC.

Young people who:

- were implanted as young children and are now adolescents
- would not have been considered suitable candidates for a cochlear implant when they were younger but changing criteria in respect of degree of hearing loss now means that a cochlear implant may be beneficial
- have progressive hearing losses which have deteriorated to the level such that an implant has become appropriate for them
- have been deafened suddenly.

The first three groups will have had some experience of deafness and the deaf world, unlike the final group. This group may experience a great range of feelings and have specific needs in coming to terms with their deafness, as well as undergoing the operation and rehabilitation for a cochlear implant.

We recognised the challenges that working with these young people can pose and we therefore introduced protocols and procedures to meet their changing needs and attitudes.

One of our aims is to ensure that we are giving the young people the opportunity to manage their own needs in relation to the cochlear implant. The young person is encouraged to increase their knowledge of their hearing loss and to manage their own equipment. All of the young people have the opportunity to attend at least part of the appointment without the presence of a parent and sign language interpreters are provided where appropriate.

A peer group is very important in the teenage years and SOECIC invites the young people to attend social activities. We join with the national organisation Teenz United for an annual outing and we also have a social event for teenagers at SOECIC. Additionally, a newsletter is sent out twice a year, which includes contributions from the young people.

Keeping the links working

Cecilia McAnallen

Deputy Director/Senior Speech & Language Therapist
Regional Cochlear Implant Centre, Belfast City Hospital Trust

The Regional Cochlear Implant Centre (RCIC), Belfast City Hospital Trust, was established in 1992 and both the Paediatric and Adult Cochlear Programmes are based in the same Centre. This provides a continuity of service for our growing Paediatric Cochlear Implant recipients, some of whom have already progressed to tertiary education and employment. Altogether 90 adults and 90 children from all over Northern Ireland, as well as some from the South of Ireland, have received implants at the Centre.

The Cochlear Implant Team currently consists of a Director/Consultant Otolaryngologist, two Audiologists, two Speech and Language Therapists, an Advisory Teacher of the Deaf, an Administrator and a part-time secretary. The team's Advisory Teacher, Joanne Clarke Lyttle, provides a link between the Cochlear Implant Team and the local teaching professionals. She visits a wide variety of nurseries, schools, hearing-impaired units and colleges, liaising with the teachers of the children who have received implants in Belfast City Hospital.

Recent developments at the Belfast Cochlear Implant Centre have included the bilateral implantation of children who have suffered hearing loss as the result of meningitis. Bilateral implantation circumvents the possible problem of ossification in both cochleas which may prevent future implant placement in either ear. It also has the added benefit of capturing the 'better ear' in these cases and may provide additional benefits in sound localisation and speech discrimination in noise. Four children have already received bilateral

implants under this protocol and the team is monitoring the outcomes closely.

The Cochlear Implant Team has been active in inviting leading professionals to Belfast to speak on a variety of topics relating to sensori-neural hearing loss and cochlear implantation. These seminars have been of interest and benefit to our local Teachers of the Deaf, Speech and Language Therapists and Audiologists. Recent events hosted by the team have included the British Cochlear Implant Group AGM: a workshop by Professor Warren Estabrooks on Auditory Verbal Therapy approaches to habilitation of deaf children; and a seminar by Dr Josephine Marriage on the Sensory Processing Disorders associated with Autism.

In January 2005 the Team hosted the annual 'Listening to Learn' conference, which is sponsored by Cochlear Europe Ltd, at the Ramada Hotel in Belfast. This year's theme was 'From New Born Hearing Screening to success at school'. The key speaker, Professor Carol Flexor, from the University of Akron Ohio USA, gave an inspirational and stimulating presentation entitled 'Issues that need to be considered for successful Inclusion'. Another key speaker at the event was Dr Kai Uus MD Phd from the Audiology and Deafness Research Group, University of Manchester. Dr Uus presented an 'Evaluation of the Newborn Hearing Screening Programme in England'. The delegates, a mixture of parents and professionals, came from all over the UK and Ireland, as well as Malta, Poland, the Ukraine and the Czech Republic.



Contact details for the Cochlear Implant Team at Belfast City Hospital:
Regional Cochlear Implant Centre
Middle Dufferin,
Belfast City Hospital Trust, Lisburn Road,
Belfast BT9 7AB Tel: 02890 263 603
Email: Cecilia.McAnallen@bch.n-i.nhs.uk or
CITeam@bch.n-i.nhs.uk

Editor's note

We hope to receive an article about bilateral implantation in children from RCIC for publication in a future Magazine and on the website.



Title: Nottingham Early Assessment Package

Publisher The Ear Foundation

Date of Publication: July 2004

ISBN No: CD ROM

Price: £30

Available from

The Ear Foundation, Marjorie Sherman House
83 Sherwin Road, Lenton, Nottingham
NG7 2FB

Reviewer: Corinda M Carnelley
Peripatetic Teacher of the Deaf

The Nottingham Early Assessment Package (NEAP) was developed for the assessment of deaf infants within a cochlear implant programme with staff from Nottingham Cochlear Implant Programme. The package was produced with support from Cochlear Europe.

The assessments used in the areas of communication, the development of auditory skills and speech production are now available on CD Rom.

As a peripatetic teacher of pre-school children, I find recording progress to be an ongoing conundrum - both in providing parental information and for reports to the service and other professionals. Whilst I acknowledge that testing deaf children of any age is never easy, at least standardised test scores can show progress (or not!) Showing (and proving) progress in the under-threes has always been a challenge.

I have been on one of the Nottingham training courses for NEAP and returned feeling full of enthusiasm and confident in my abilities. My reports were going to be better than ever (!) - full of incredibly useful information so that I could show the amazing progress of some of my caseload. I filed all the papers in my personal development folder and that's where they still are.

Frankly, there were just too many of them and I felt overwhelmed by the acronyms - LiP; ILiP; CAP; MAIS; SNAP etc.

However, this new CD has all of the tests, in an easy to access format. They are divided into three areas; Auditory Perception; Communication and Language Development; and Speech Production Development. The individual tests (all nine of them) are all there, under their relevant area.

Each test is introduced in a five section format.


- 1 What does it measure?
- 2 Why use it?
- 3 Assessment guide
- 4 Examples - and here there are some really interesting video clips
- 5 Test yourself/guidelines

Suddenly, it all becomes quite clear and, on loading the CD into the computer and having a look, I felt as full of enthusiasm as I had on my return from the course. Somehow, it all seems so much easier - there are helpful pointers throughout and even the most technophobic amongst us would be able to use the CD to access the information required. For assessing the skills and abilities of young deaf children and for monitoring their development, this is an absolutely essential purchase - everything you could ever need, in an easy to access format. It could also be useful in nursery/infant units as a baseline and far more relevant than the Foundation Stage Profile. I highly recommend it.

LiP	Listening Progress Profile
CAP	Categories of Auditory Performance
ILiP	Infant Listening Progress Profile
MAIS	Meaningful Auditory Integration Scale
SNAP	Story Narrative Assessment Procedure

☺☺☺☺☺	Quality
☺☺☺☺☺	Value for money
☺☺☺☺☺	Educational usefulness
☺☺☺☺☺	Overall

honestly!



editor's note

The Ear Foundation does have some training courses planned for the Nottingham Early Assessment Package. From the BATOD calendar - 23 June 2005 and Peter Ring, Education Administrator, tells me that another course is being planned for December (there was one last December).

Phonak FM technology – still one step ahead!



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For further information speak to our new FM product manager; Tony Murphy on 0800 9800747.

After early diagnosis - early implantation?

Sue Archbold

Now that we have early diagnosis of hearing loss in the UK and we know that those children implanted early do better - so we can just get on and do it can't we???

Well perhaps we can't - to quote David Luterman, "when emotions are high, cognition is low" and when one is feeling vulnerable may not be the best time to make a major, irrevocable decision such as implanting your infant. On the other hand, you can't wait too long either and parents clearly feel under pressure. One of the things we can do is to make sure that parents have up-to-date unbiased information as soon as possible.

As part of the Early Support Pilot Programme, The Ear Foundation developed an information video and DVD, signed, subtitled and translated into other languages, and a Frequently Asked Questions section on their website to ensure that parents, in the early stages of thinking about implantation, had clear and objective information on the process to help them decide whether they wished to explore the option further. The video and DVD were sent out to all educational services and it is still available from The Ear Foundation.



A further book, *Cochlear Implants for Deaf Babies and Young Children, Practical Issues*, was also produced as part of ESPP and gives practical advice for those parents of deaf infants who have decided to proceed with implantation for their child. It's a thoroughly realistic book, written by parents for parents, addressing the issues that parents face in the early stages.



Practical Issues has now been reprinted and a DVD of the STEPS - from hearing to talking - is being made for families. Further details are available at www.earfoundation.org.uk

The new technology can be quite daunting, following a major operation on your child:

"It was like having a new baby. At first I was terrified I would break something or do something wrong. After a little while I realised that the equipment was quite straightforward and strong. I relaxed a lot more once I realised that Robert had learnt enough to show me very quickly if something wasn't quite right."



Challenges

There is an increasing number of cochlear implanted pupils referred to CAP by Teachers of the Deaf as many of these profoundly deaf youngsters need some additional help with language development. In many ways they are no different from all the other deaf pupils referred to DCCAP however, one or two have presented us with challenges.

One DCCAP client was able to freeze the screen on the television just by touching it, because of the 3G processor in his Cochlear Implant! It is important that the screen on a laptop or PC is anti-static. Most modern screens come with this feature but it is possible to buy products to reduce the static electricity from companies that sell computers. Anti-static sprays and wipes are the most common solutions. If you are not sure it is best to seek advice from the supplier of the implant and computer equipment. This is especially true if the child has access to a touch-screen such as a Tablet PC or a Voice Output Communication Aid (VOCA).

What's so different about a computer? Why not just give them a paper and pencil?

Motivation

Just look at this picture! Here is pure enjoyment and motivation. Tom has severe learning difficulties and can achieve much more on a computer than he can otherwise. His CSW was surprised when a maths task that, on paper, would have demotivated Tom, had his full concentration and he was completely focussed for 1½ hours. The only reason he stopped was because it was home time! As Tom is also Dyspraxic, pencil and paper have been such hard work. In spite of hours of practice it is still difficult for him to produce legible handwriting. Hopefully he will soon be able to complete all his written work on a laptop. He is keen to use 'Communicate in Print' from Widgit.

Different ways of recording assignments

For some pupils producing a mind map can be as challenging as writing two sides of A4 is for others. Would you be happy if a student with a high non-verbal IQ but extremely poor literacy skills created a set of digital photographs or a short video film for a piece of work? This is something that we should be working towards - alternative presentations to demonstrate ability.



Paul Bonsor and Marian Nash

Recording skills

Children who are educated with British Sign Language as their first language may have problems writing in English. Simon was issued with a predictive software package called Co:Writer 4000 by Don Johnston which follows English grammar patterns to give him the clue as to what the next word might be. He is getting started with PowerPoint which can be used as an exciting educational tool to animate work, create booklets as well as for presentations. The visual learning program 'Inspiration' allows him to plan his thoughts, draft his assignment and produce a well organised essay at the end.

Building on strengths and interests

When a Year 6 pupil was observed in the classroom, he appeared to be totally disinterested in what was going on by making noises; playing with the equipment and copying inappropriate behaviour from another pupil. He likes cartoons and comics. He was shown a programme called 'Story Maker 2' by Spa Software. There are opportunities to choose a background and place characters to make up a story. Once shown what to do he did not need to be reminded. He quickly formulated three imaginative story pages and asked, "Can I do this every day?"



This pupil also has physical problems with writing. After Clicker4 grids were demonstrated he wrote about the food he liked. The grids can have single words or phrases supported (or not) by pictures, either prepared earlier or else whilst the pupil and teacher or classroom support person discuss the possible words and phrases. With pen and paper it would have taken him at least half an hour. He was amazed when it was pointed out that he had written three sentences in a couple of minutes.

Building up ideas using pictures and words in a mind mapping programme is a fun way to plan stories and think out ideas. The graphics in

'Kidspiration' reminded a pupil to add elements to a story map which is easily expanded. Although the picture shows on the mindmap, in the writing view the words appear. This helps the pupil who has the ideas but not the ability to record them easily.

ICT can motivate, inspire, raise standards and help deaf pupils to be successful, so raising self-esteem and confidence. It is not just the pupil who benefits, the teacher can see progress and has tangible evidence that looks attractive. Parents can proudly show well-presented work using modern technology that demonstrates progress where previously there was frustration.

Websites for software

Many suppliers of software have websites with an area where teachers can contribute templates and grids that they have prepared. There are often lesson plans and ideas available (though some may fit an American curriculum!). Visit these websites to download examples that can reduce your preparation time.

There are free courses on the Microsoftoffice site for Microsoft Office 2003 programs only. Courses are self-paced, interactive and focused on particular features or activity areas. Courses contain audio tracks, illustrations and practice sessions using the programs they teach. On-line courses are a quick, easy way to gain valuable expertise and become more productive and they are FREE!

Communicate in Print - www.widgit.com
 Co: Writer 4000 - www.donjohnston.co.uk
 PowerPoint - www.Microsoftoffice.com
 Inspiration/Kidspiration - www.inspiration.com
 Story Maker 2 - www.spasoft.co.uk
 Clicker 4 - www.cricksoft.com

Have you been to our website recently? If you haven't received the flier about the training events soon to be in a place near you, then look at Training on

www.dccap.org.uk
www.blueskiesproject.org.uk

Contact DCCAP

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 Marian-Nash@DCCAP.org.uk



Simon gets to grips with PowerPoint

BATOD Association Magazine

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A tactile audiogram for deafblind pupils

Marion Brushett, Wandsworth Hearing-Impaired Service

Linden Lodge is a unique school in Wandsworth, South-West London. It is an inclusive special school for children with a visual impairment and for children who have additional special educational needs.

The school promotes a multi-agency approach and peripatetic teachers for Hearing-Impaired pupils are part of the team. Pupils have varying types and degrees of hearing loss and twelve pupils have a permanent dual sensory impairment.

The idea for a tactile audiogram developed from the increasing need for deafblind children to have access to information. Observing children in their lessons, I saw other tactile resources used, eg raised maps in history, showing the routes of armies across Europe, and graphs in maths. This impressed me. I was already using a smiley face reward sheet for hearing aid battery checks and hearing aid care using 'Wikki Stix' and I saw the potential of 'swell paper'.

At Annual Reviews, in my role as the peripatetic ToD, I explain to families and other professionals the 'shape' of the pupils' audiograms; what can and cannot be heard. In mainstream schools, children discuss their audiograms so they become familiar with audiological terms. How could children at Linden Lodge School become equally independent? We look at the model of the ear but the audiogram presents a problem.

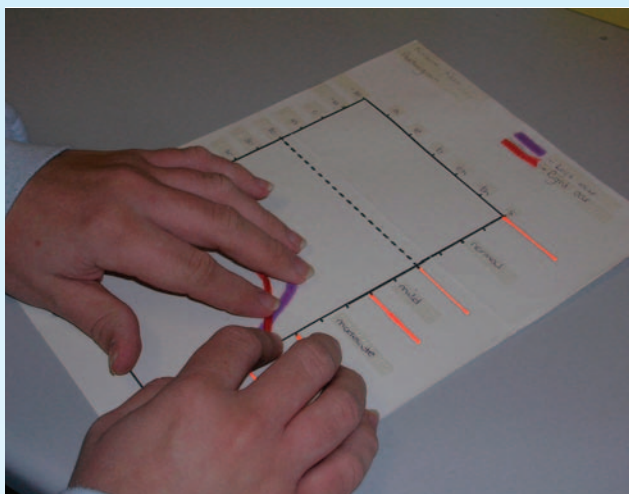
The Learning Resource Department at Linden Lodge prepares resources to support teaching and

learning and I discussed the idea of developing a tactile audiogram with Jane Overton, Teaching Assistant. Jane has a special interest in deafblind children, (she has the CACDP Deafblind Communicator Guide, Makaton, Braille and Moon qualifications and BSL Stage 2). Jane wanted to make the audiograms in Braille or Moon as simple as possible, yet containing all the auditory information. We discussed each child's needs and level of understanding and Jane familiarised herself with each child's audiogram.

The process used to produce a tactile audiogram takes several stages:

- ◆ On A4 paper, the audiogram outline frame is drawn and photocopied onto 'Swell' paper. (Paper that raises the outline/shape under heat.)
- ◆ This paper is put through a heat fusing machine which raises the outline to make the image tactile.
- ◆ Jane writes in print for the sighted people working with the children and puts Braille or Moon over this for the children to read.
- ◆ Along the top horizontal axis are the approximate phonic sounds: 'a, e, b, ch, th,s' which replace the usual frequencies.
- ◆ Down the left side are the decibels, 0 to 120 (-10 and -20 are complications at this stage). Decibels are described as levels of loudness.
- ◆ A dotted line across at 20dB marks the normal threshold of hearing.

- ◆ Down the right side are the descriptors of hearing levels: normal, mild, moderate, severe, profound.
- ◆ The amount and type of information given varies with each child's needs.
- ◆ A key indicates the left and right ear thresholds, using different textures: felt for the left, raffia for the right.
- ◆ The materials are plotted according to the individual child's hearing levels.



Using his audiogram, Nathan, who is 16 years old and describes himself, "I have a visual and hearing disability," he says, "It shows how good or bad my hearing is. There is a key for the different textures. The left is soft, like carpet. The right is plastic bag type. At the top, there are letters like the different sounds they send through the headphones at hospital. Down the left side, I've got numbers like grades of how low the hearing is. There are names of the sections, 0 to 20 is normal hearing and the more down it goes, the worse it is."

"My hearing is in the 'moderate' section, 50 to 70 and some in the 'severe' section, 70 to 90. One hundred and twenty dB is called 'profound' and people with this hearing loss may use sign language." Once he leaves Linden Lodge School, Nathan can use the audiogram to explain to other people at college, work experience, or family and friends, about his level of hearing.

It may be that another teacher has already prepared a similar audiogram. I would like to share my experience because I have found the tactile audiogram has fulfilled its purpose, which is for able deafblind children to have greater understanding of their hearing loss. If you have children who may benefit from access to audiological information, talk to teachers in your local Visual Impairment service for help with the special techniques in the production of the audiogram. My thanks to Linden Lodge School staff and children.

New BSL on-line Glossaries of Signs

Ever wanted to know how to sign 'atomic mass' or 'escape velocity' in BSL? Well now you can - thanks to the launch of two new on-line glossaries aimed at assisting d/Deaf science, engineering and construction students and their interpreters.

In 2002 the University of Wolverhampton was awarded funding from the Higher Education Funding Council to complete the glossary projects collectively entitled 'SignsOnline'. The project has taken two years to complete and aimed to produce two new BSL websites, for science and engineering and construction as well as updating the artsigns website which has been available since October 2002.

Creating the new websites involved interviewing many Deaf scientists, engineers, construction and art professionals to find out the signs they use in their professional life and during their studies. The interviews took place all over the UK. Additionally, hours of footage of BSL on the television were analysed to find commonly used existing signs.

After analysing and comparing the signs used in different regions a panel of 'critical friends' was asked to evaluate the signs to determine if they were culturally and contextually appropriate. This panel was made up of Frances Elton, John Hay, Mark Heaton, Tessa Padden and Helen Phillips.

The glossary is presented by Niki Stratton and Tessa Padden acted as the BSL monitor during the filming of the signs.

The websites use high quality videos, optimised for the web and the websites are fast and easy to use. They can be seen at www.sciencesigns.ac.uk and www.engineeringsigns.ac.uk They are completely free of charge and can be accessed by anyone with an internet connected computer. Altogether the sites contain nearly 2,500 BSL sign videos.



Geneva

14-16 October 2005

Deaf children from ethnic minorities

Each BATOD region has £100 to be used to support a regional delegate (or more) to the congress

FM Advantage in the Real Classroom

A recent study conducted in the UK by Mark Flynn, Traci Schmidtke and Melanie Harvey(2004)

Hearing impairment, not to mention difficult listening environments, of any type and degree can sabotage a child's learning of language and their ability to acquire knowledge. In a classroom, there is typically a poor signal noise ratio as a result of noise (up to 70 dBA), distance from the speaker, and poor acoustics leading to reverberation. An FM system coupled with adequate amplification is the only means to overcome these problems for hearing impaired children thus allowing them full access to language.

Oticon has recently conducted a study evaluating FM advantage in the real classroom environment, using the new Lexis digital FM system coupled with different hearing aids fitted to children with a variety of hearing losses. The goal was to establish whether the use

of a personal FM system provided improved speech perception in the classroom compared to using a hearing aid only.

The Neale Analysis of Reading Comprehension was administered using live voice in the pupil's classroom, with and without the FM system. Three questionnaires for teachers, pupils, and parents were also administered in order to gain their input.



The results of this FM study showed a significant improvement in the student's speech perception when fitted with the FM system in the "Real" classroom. A perceived improvement in various listening environments both at home and at school was also demonstrated. Most importantly, the FM system also had a positive influence on behaviour and confidence.



For a copy of the full Oticon FM Study please contact Oticon UK on 01883 331720

This and that...

The National Maritime Museum, together with Morgan Stanley, is offering an interactive study day for deaf students to explore the compelling story of a man who overcame the odds and led his men to stunning naval victories, including the Battle of Trafalgar. Through Nelson, students will examine management styles, leading in a crisis and team building skills, among others. The programme will be supported by the major exhibition Nelson & Napoleon, which commemorates the bicentenary of Nelson's death. Each study day will also offer students the opportunity to discuss with a representative from Morgan Stanley the challenges and skills involved in modern business leadership. A practical and beautifully designed classroom resource will accompany the course.

Date: Thursday 29 September 2005 **Free of charge**
To book: tel 020 8312 6608 fax 020 8312 6522
bookings@nmm.ac.uk Tania Dain, Education Officer,
National Maritime Museum, 0208 312 8551
www.nmm.ac.uk/learning

Live Science: The Cocktail Party Effect

Until early April 2005 the Science Museum is recruiting 3,000 visitors for research into a phenomenon known as 'The Cocktail Party Effect'. As part of the Museum's Live Science initiative, visitors have a unique chance to help scientists investigate aspects of selective hearing - such as the way that a listener can tune in to only one of several competing conversations when in a noisy environment such as a cocktail party.

Admission free

Margaret Glasgow MBE! We know that she is a bit 'embarrassed' by the award but certainly Margaret deserves some public acclaim for all the time and effort that she has dedicated to deaf children. The citation for Margaret's MBE is on the BATOD website and BATOD offers sincere congratulations. Whilst Margaret was on the NEC she was responsible for many of the A&ICT articles appearing in the Magazine, especially the much acclaimed 'Audiology refreshers' which are soon (honestly!) to be available on CD and also the booklet about testing children with complex needs.

Deaf Connections, the West of Scotland Charity for Deaf and hard of hearing people, has launched a new revolutionary electronic translation service.

Text Connect can be used as either an electronic translation service or as an electronic note taking service. Using laptops and specially developed

software, it is a communication device to enable Deaf people to access information at meetings, conferences and lecture environments etc. The electronic translation service allows Deaf people to become actively involved at an interactive event to ask or answer questions, take part in debates or general discussions and receive a live account of proceedings, via an operator, onto a computer screen in front of them.

Electronic note-taking is a more advanced system than the previous handwritten note-taking service. Text Connect customers will receive all notes/minutes via floppy disk, CD or email after the event.

Update on Palantype: Deaf and hard of hearing people who rely on Palantype, a machine to provide a real-time verbatim transcript of meetings, have in recent months, had their communications support threatened with the announcement that production of Palantype equipment could be halted.

In January 2005 Possum Controls Limited confirmed that it will be closing its Palantype division. However, RNID, the largest charity representing the nine million deaf and hard of hearing people in the UK, has announced that it will ensure Palantypists are still able to purchase new machines.

Mark Downs, Director of Technology and Enterprise at RNID says: *"RNID is delighted that following discussions with us, Possum Controls have put arrangements in place to ensure the future of Palantype. Possum Controls' decision to cease further production of Palantype equipment is disappointing but is understandable given the increasingly limited demand for new equipment. It will be a concern for the many deaf and hard of hearing people, who rely on this technology to facilitate a more inclusive life and Palantype professionals, who provide this invaluable service."*

Possum Controls have donated the technical drawings for the Palantype equipment to RNID to ensure future production and maintenance of the equipment remains possible.

Fast-track residential BSL course at Welsh Country Manor

People interested in learning sign language now have the option of fast-tracking themselves to Level One standard in a week. A new one-week, intensive Level One course in BSL will be held in the scenic surroundings of Pembrokeshire this July. The course will be run by Sense-Ability, a Wales-based business owned by two deaf people, Martin McLean and Anna Lickley. The course will be held at Clynfyw, a large manor house on a working farm near Cardigan. The cost of the course includes full-board accommodation for one week, from 15-22 July 2005. When booking the course, people will be

given the option of enrolling for the sign language exam, to be held on the final day. For further details about the course look up the Sense-Ability website at www.sense-ability.co.uk or phone 0151 651 1053 (voice) or 01239 851 984 (textphone).

CODPUK.ORG.UK

A new organisation was launched on 29 January. Children of Deaf Parents UK has been established to provide networking opportunities for children of deaf parents and support to deaf parents. At the launch party the CODPUK.ORG.UK logo, designed by students at Kensington and Chelsea College, was launched by Teresa May MP, Shadow Secretary of State for the Family. For further details visit the website at www.codpuk.org.uk or contact info@codpuk.org.uk

After reading the November Magazine focussing on **creativity**, Ros Way, Headteacher at Elmfield School for Deaf Children, Bristol wrote in to share the news that the school received the Artsmark Award. This award is presented by Arts Council England to schools offering opportunities across the range of arts.

These include creating work in art, music, BSL poetry as well as taking part in dance and drama performances at the school and in the local community. The pupils are taught by highly skilled and experienced specialist and enthusiastic non-specialist secondary and primary staff. Activities enjoyed by pupils include workshops with the Travelling Light Theatre Company and Bristol HND dance students, theatre visits to BSL- interpreted performances as well as links with local deaf and hearing artists. Last year the school again took part in a gala dance performance at Bristol Hippodrome as part of Stages 2004 regional schools event. The school was one of twenty-five chosen from around one hundred mainstream and special schools.

The award follows the school's success last year in achieving the Basic Skills Quality Mark, the first school for deaf children to do so. The award by the basic skills agency, recognises the school's raising awareness of numeracy, literacy and communication skills.

Be part of a ground-breaking British Sign

Language survey Most ToDs know that British Sign Language (BSL) has regional dialects. The signs used across the UK, from Aberdeen to the Channel Islands, are very different. BSL users will have the opportunity to take part in an interactive survey about the signs they use.

Over the coming months researchers at Bristol University's Centre for Deaf Studies are collecting data, using signs from as many UK cities as

possible to compile the first-ever comprehensive survey of BSL variation covering the whole of the British Isles. The survey is part of a wider BBC project, Voices, which is looking at the impact of language on society as a whole.

Regular BSL users can help the Bristol researchers increase what is known about BSL variation by telling them which signs they use or know. Signs have already been collected from eight UK cities. Taking part in the survey will enable the researchers to identify where these signs are used. There is also an opportunity to send or email a video clip of signs used or known, which aren't part of the survey. The results will be available in July 2005.

To take part in the survey go to www.bbc.co.uk/voices and click on 'take part now'.

Mentioned in dispatches!

The Royal School for the Deaf and Communication Disorders Manchester is one of only two special schools to be mentioned among the 23 schools in Greater Manchester identified by the Inspector as being shining examples of education in his annual report which highlighted more than 390 schools and colleges which were drawn from those inspected during the academic year 2003/2004.

The Inspector, David Bell, named the outstanding schools and said that they 'stand out as having done particularly well on virtually all fronts or as having achieved highly against the odds'. He congratulated the headteacher, staff and governors and pupils or students of all the successful schools and colleges named, on their success and hard work in delivering such a high standards of education.

www.BATOD.org.uk

In between all the various demands of BATOD and the BATOD Magazine Paul Simpson and Ann Underwood met together at the end of January to review the BATOD website. Discussion following some queries led the changes in the folder and file organisation on the site and it should now be easier to find some items.

Articles have been regrouped for easy reference and in the coming months it is hoped to provide folders of articles from the Magazine and other sources to ensure that everyone can access information. The exciting development of an 'on-line' magazine is beginning to take shape starting with the focus of January's Magazine 'Models of Deaf Education'. Changes and additions are made to the site continually and these are flagged up if your computer has 'cookies' enabled. This makes it easy to find the items quickly.

Go and have a look!



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Educational achievement, measurement and perspective

Paul Moran, Gwen Morris, Caz Conaghan, Sandy Rees

In July 2004, along with their peers, three students with profound hearing losses completed the secondary phase of their education. The three students in question attended a mainstream secondary school, with an inclusive unit. Over five years these students made extraordinary progress. Children, regardless of the mode of communication or educational setting, do not all start from the same baseline, for a variety of complex reasons. Despite these reasons and despite the baseline from which they start, it is our job to support these children and their families in the achievement of their educational potential. Having only few word utterances in Year 7, by the time they left they were all routinely holding conversations with staff and peers alike. They all successfully completed a two-week work experience placement, with one of them going on to win a part-time job in the placement that they attended. They became confident, independent members of the school and social community. They went on to Further Education placements of their choice: an IT BTEC; a vocational challenge course; and BTEC Design Course. Academically, they gained results ranging from an A* to an entry-level certificate in English. And all of this with language levels on standardised tests of less than nine years old. They had become happy, confident young adults; and we and their families wanted to celebrate this achievement. Such a story has probably been played out throughout the UK within the education system.

Unfortunately, however, this is not how the education system sees it, represented by Form Four. Because these were the only children within the LEA who fell into the category of leaving school with a profound or severe hearing loss and because none of these students achieved five A-C GCSE results, the LEA's record this year for this attainment target is zero. To compound this point Ofsted is looming for the LEA. From this perspective, the zero attainment for this particular target looks ominous. But the perspective from which Ofsted operates draws a picture which may be grimmer still.

The Hearing Impairment Team that the LEA operates, if judged by GCSE A-C outcomes, is hardly likely to appear good value for money, especially if analysed alongside statistical neighbours who had either a good GCSE year from the population of children that falls into this category, or the statementing process is different allowing a

superficially similar but actually rather distinct group of children to be compared. This is something that Form Four does not account for. There are, in fact, a number of points that the Form Four perspective fails to see; and we would now like to draw your attention to them.

The most obvious point is that the sample from which a judgement about attainment can be drawn is statistically too small to make any such judgement meaningful, even if comparisons are made with statistical neighbour LEAs. If an LEA has only one child within the profound or severe hearing loss category who nevertheless leaves school with five GCSEs in the A-C range, their attainment for this particular target reaches 100%. The reason for the vacuousness of judgements based on this limited statistical evidence is that other factors can skew outcomes beyond a level that could be factored out from a statistically salient sample. Secondly, the LEA that we work for only attaches statements to children, regardless of the level of hearing loss, if they have additional or complex problems beyond a sensory impairment. By definition, this means that the children that form the category that Form Four is interested in will be the children who face the greatest challenges to educational achievement. Whilst we feel that this policy is correct, it does mean that other children within the LEA who may have a profound or severe hearing loss but who are not Statemented because they are performing educationally on a par with their mainstream peers, will not be seen from the Form Four perspective. This brings us to the third point that the perspective taken by Ofsted and others fails to recognise: as far as we can tell, no standard criteria exist that can account for such key factors as educational attainment and curriculum access in relation to language level. It isn't simply that the effects of such factors as significantly reduced levels of language on curriculum access and educational attainment have not been considered, we are unaware of any work that has attempted to discover if this factor can be standardised within and across subject areas. Nevertheless, the point is indisputable that a child with a reduced language level will find it much more difficult to perform in public examinations and access the curriculum as effectively as children who have language levels commensurate with their chronological age. Other factors, too, such as aided thresholds, speech discrimination skills, age of diagnosis, whether or

not English is the second language of the home, levels of language that children are exposed to outside school, will inevitably have an impact upon educational attainment and currently are disregarded from the Ofsted perspective.

But what attention is given to more general and more specific levels of attainment, also not considered by Ofsted? For example, factors such as confidence, independence, levels of social, conversational, peer and pragmatic linguistic inclusion, levels of independent learning (given level of language acquired) and language progress (not measurable according to Attainment Targets because progress has been so incremental but nevertheless real and, for a specific child, thoroughly significant). What of progress in these areas? What if these areas are for specific children the most important areas of their educational experience? They are not, as far as we can tell, viewable from the Ofsted perspective; entire geographies of potential achievement, unrecorded, un-regarded, not considered.

We come, finally, to the point about cost. Perhaps it would be possible to obtain very similar GCSE results for the category of profoundly and severely deaf children with fewer resources, possibly significantly fewer resources. But such a perspective, as we have delineated above, is unable to perceive anything about the quality of educational experience for such children: a quality that depends upon high levels of audiological skills; teachers who are committed to encouraging communicative confidence; staff whose goals are not determined by the narrow perspective of Ofsted criteria for success. This alternative perspective is, however, expensive. There must be a way of measuring achievement from this alternative perspective. At least, we think it is worth investigating, if only to prove that our celebration of the achievement of the three students who left this year was justified.

Editor's note

Jenny Baxter has represented BATOD and deaf pupils for many years in the Examinations arena. She too has been putting forward similar ideas for many years and she fully endorses this cogently argued article. BATOD NEC Educational Issues committee will be following through and pointing out to the DfES that this article speaks on behalf of hundreds of deaf school-leavers and their ToDs. Many students demonstrate the progress cited in the article and to a significant extent the mainstream school's ethos and teaching contributes to the success.

BATOD Archive

Fiona Mackenzie

The BATOD Archive should be more accurately described as an archive of BATOD and the bodies that preceded it. The archive is kept in the library (archives) at the University of Birmingham.

BATOD has developed through a series of amalgamations between individual colleges, unfortunately not all of which are represented in our archive.

The material is arranged chronologically and divided into four main categories, one for each stage of development.

The first section consists of material relating to the College of Teachers of the Deaf and Dumb (CTDD) and covers the period from its establishment in 1885 to 1918, when it merged with National Association of Teachers of the Deaf (NATD), to form the National College of Teachers of the Deaf (NCTD).

The second section contains the records of the Joint Examination Board (JEB). This was established in 1907 through co-operation between CTDD, the Society for Training Teachers of the Deaf and the Association for Oral Instruction of the Deaf and Dumb, in order to oversee a single diploma offered by all the colleges. The archive does not contain information about these other organisations. It appears that the JEB was absorbed into the NCTD on its establishment in 1918.

The third section is the National College of Teachers of the Deaf (NCTD) and covers the period 1918-1979. The NCTD was established through a merger between the CTDD and the NATD but there is no material on NATD. This section contains extensive documentation on the working of the NCTD. However the formation in 1959 of a breakaway organisation, the Society of Teachers of the Deaf (STD) is not represented.

The final section contains material relating to BATOD as the organisation that exists today. BATOD was formed in 1979 by the re-unification of the NCTD and the STD.

Each section of the archive consists of correspondence and financial matters. The fourth section also contains some journals and magazines.

I am continually collecting material for archiving, so if you or your local committee have any interesting items relating to BATOD, which are more than five years old, please contact me. I would be particularly pleased to receive any materials relating to the bodies mentioned above about which we have no documentation at all. (archive@BATOD.org.uk)

RNID report entitled: 'At the heart of inclusion: the role of specialist support for deaf pupils'

Paul Simpson

BATOD warmly welcomes the publication by the RNID of its report entitled "At the heart of inclusion: the role of specialist support for deaf pupils".

The report will be of great interest to all BATOD members - particularly to those working in specialist support services.

The report was drawn up as a result of visits to ten LEAs. Interviews were carried out with the head of the support service and/or head of any hearing impairment team (where applicable), a number of peripatetic teachers individually and Teachers of the Deaf working in resource base provision (where applicable).

In total, 37 individuals were interviewed - 22 from an LEA advisory or support service and 15 from a resource base setting.

The LEAs were selected to represent a geographical spread across England - both rural and urban areas, large LEAs and small unitary authorities.

The RNID produced five key messages

- 1 There is a postcode lottery of provision, especially in London. In London, the ratios of Teachers of the Deaf to the school population ranged from 1:9,500 to 1:38,000.
- 2 Forty four per cent of resource bases did not have fully qualified staff. Twenty-five per cent had staff with no qualifications and not in training. Problems were raised in the recruitment and retention of Teachers of the Deaf and there were concerns around the availability of the mandatory qualification.
- 3 Professionals expressed concerns around funding issues, in particular, the potential threat to delegated services. Fifty per cent of resource bases had been delegated and 30% of heads of resource bases did not know their budgets. Forty per cent of services had their budgets cut or restricted.
- 4 The lack of expertise of Ofsted inspectors to be able to evaluate provision for deaf pupils was a concern.
- 5 Multi-agency working - the willingness and effectiveness of Teachers of the Deaf to work with other agencies was evident but problems were being created by the lack of joint working with social services.
Fifty per cent of LEAs reported problems when liaising with social services.

There are five key recommendations.

- 1 National criteria on access and entitlement to LEA hearing impairment support.
- 2 Training bursaries for Teachers of the Deaf.
- 3 Improved data collection on the achievements of deaf pupils in mainstream settings.
- 4 Ofsted inspector training: specific training on the teaching and learning needs of deaf pupils in schools and colleges.
- 5 LEAs should collect statistics on deaf children's attainment in national curriculum tests and public examinations.

One disappointing aspect of the report is that it talks of delegation but really only refers to the delegation of resource bases (which is widespread) rather than support services (which is not) and the prospect of which raises very real concerns.

However, the overall message very much underlines the points we make in our discussions with the DfES and other bodies and gives us much needed support. This is particularly important because RNID is independent from Teachers of the Deaf and cannot therefore be accused of vested interest.

Finally, we particularly welcome the proposal within the report for thirty bursaries for teachers under 30 for three years as a very important contribution to the problem of recruitment Teachers of the Deaf and the funding of their training.

The full report is available on the RNID website at: www.rnid.org.uk/pdfs/support_us/heart_of_inclusion.pdf

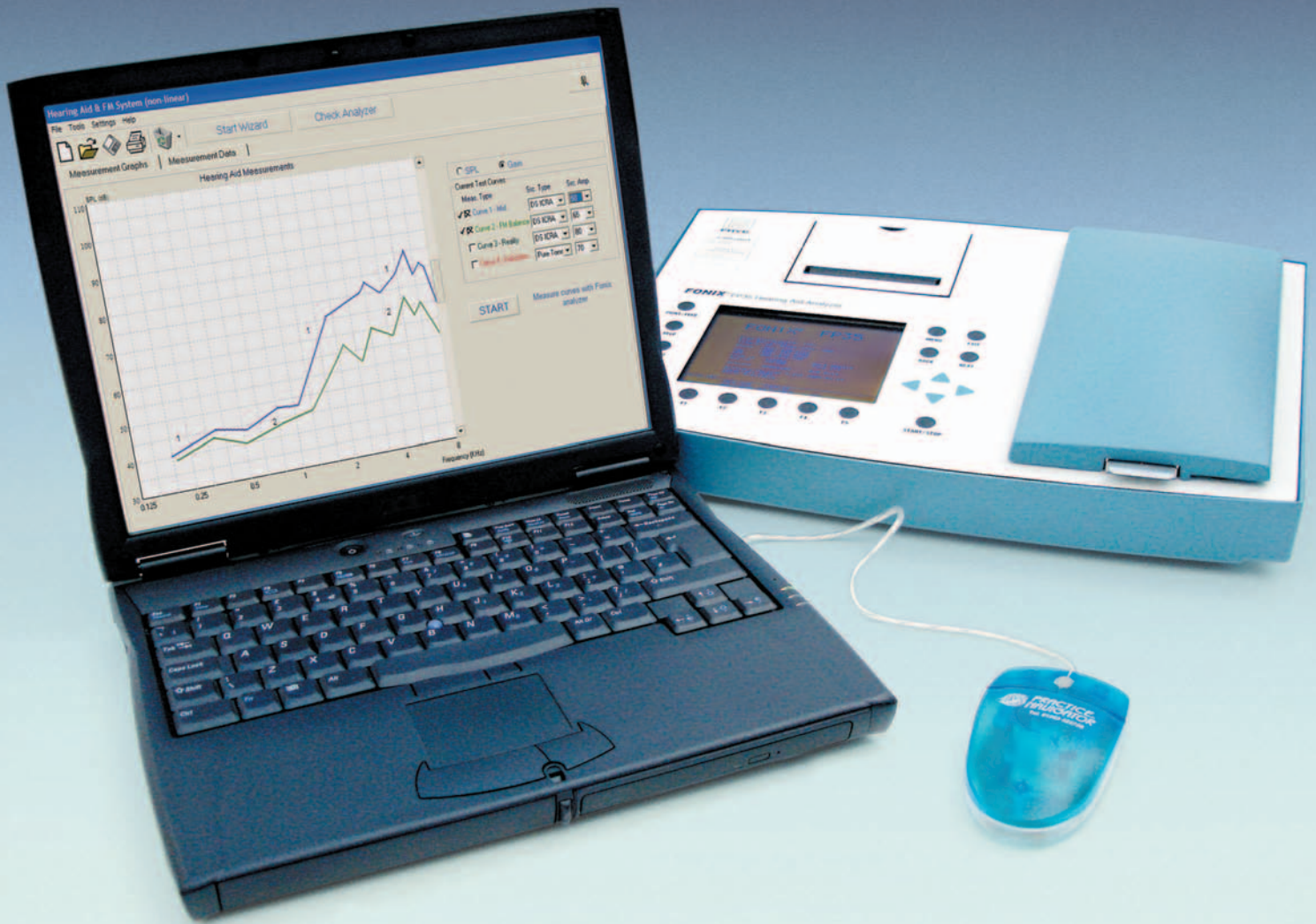
EARS

Donna Carkeet

Paediatric Audiologist and EARS board member

Do you know about EARS inc? This charity group works in developing countries to train and equip local people to fit hearing aids. Local people are trained in the repair of hearing aids - it is no good having hearing aids provided and no service for repairs or ear moulds. EARS establishes the services as soon as possible. We have run projects and helped clinics in countries such as Cambodia, Vietnam, Ethiopia, India, Papua New Guinea, Dominican Republic, Indonesia and Vanuatu.

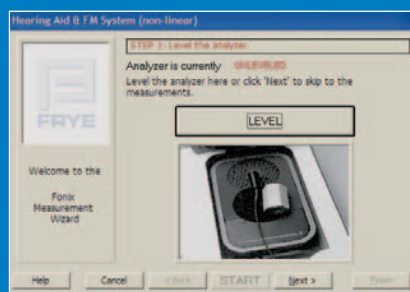
We are now looking to create an audiological training school in the Dominican Republic. This will be a big challenge and we will need the support of many groups and organisations. If you have any questions please feel free to ask.
Donna.Carkeet@royalfree.nhs.uk



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SIEMENS

Sharing information - Dyslexia

Patricia Mullan (Teacher of the Deaf)

Over recent months I have become very aware of what a useful asset the BATOD magazine is for teachers, always providing up to date information, ideas and resources and now there is an opportunity for me to make a small contribution of my own. In a recent edition of the magazine my eyes fell upon a bulletin giving details of a study day to be held on deafness and dyslexia. I felt so pleased that a group of people have started to address the notion that if a percentage of the hearing population suffer from dyslexia then it must follow that a percentage of the deaf population might be similarly affected, a double wammy!

As I have been a Teacher of the Deaf for the past sixteen years and the parent of five dyslexic children I feel that I have a foot in both camps. I also feel that the experiences that I have had over these past years and what I have learned from them might be of some interest to other teachers and parents struggling with these two demons.

Having gone through various remediation programmes with my own children to help them cope with the effects of dyslexia, all of which involved a lot of hard work and heartache, I have at last stumbled upon the nearest thing to a cure as I can imagine.

A programme of movements linked to the human reflex system, has been devised by a researcher at Queen's University in Belfast. Martin McPhillips has pointed to a link between retained reflexes in children and problems with reading, writing and in some cases with co-ordination and balance.

'The Primarymovement Programme' was introduced to the public in a BBC documentary 'A Second

Chance' and subsequently teachers have been trained all over Ireland, the UK and abroad. Movement programmes are not a new phenomenon by any means but the difference with this programme appears to lie in the way in which it is tied to the fundamental, neurological systems which influence the secondary language systems of reading and writing.

Any attempt to look at the causes, incidence and remediation of dyslexia in both deaf and hearing children must surely include this programme.

Theory aside the proof of the pudding as they say is in the eating or as in this case it is for me the fact that my child has gone from being a non-reader to a regular library user, a daily reading for pleasure teenager with a reading quotient which during the course of the programme leapt from well below average to above average. I have used the programme to great effect with my group of deaf children again experiencing very significant improvements in reading and writing. The parents of these deaf children have also remarked on the changes in their children, in particular their ability to complete home work and concentrate on tasks.

As I stated at the outset my main aim in writing to the magazine is to make teachers and parents aware of the existence of the programme. It has made my life and my children's lives so much easier. School has changed from being a dread, something which was inflicted on the whole family to a rewarding positive experience, a challenge which is no longer beyond my children's grasp.

www.primarymovement.org

Melanie Dix (nee Marks) *1.02.65 - 29.12.04*

My dear friend Melanie Dix died on 29th December 2004 after her brave battle against cancer. BATOD members will know her from Birmingham where we trained in 1991 and her teaching practice at Longwill school for the Deaf in Birmingham. Melanie worked as a Teacher of the Deaf for twelve years as a peripatetic in Gloucestershire, mainly primary. She was dedicated to deaf children, she made everyone she came in contact with feel special - adults and children alike - she cared about everyone.

Melanie had exceptional qualities as a Teacher of the Deaf and as a colleague. I had the utmost respect for her and learnt a lot. We had great fun together with everyone back in 1991 on the BPhil course with Brian Fraser, Steve Powers and Paul Simpson. I think everyone who remembers Melanie will agree she was very lovable, kind, funny, hard-working and special.

I remained a good friend of hers when we left college and got to know her family and children well. She leaves behind her husband Mark and her children Lauren and Sam. We must celebrate her life but she will be greatly missed by all.

Karen Smith

Q.

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Educational Maintenance Allowance

Elizabeth Mackinder

The educational maintenance allowance (EMA) begins after compulsory education and payments are usually for two years. Exceptionally, a third year of payments may be made upon application. Students who continue in further education and who live in a household with an annual income of £30K or less, are paid up to £30 a week. Money is paid directly into their bank accounts in return for regular attendance on their courses.

EMA has been introduced to ease the financial pressures experienced by young people staying on in further education and reduce the drop-out rate among 16-year-olds. The weekly EMA payment is intended to help cover the day-to-day costs students have to meet when staying on at school or college, such as travel expenses, books and course equipment.

Young people enrolling on short courses from January 2005 may also benefit from the allowance. Students who take vocational courses such as NVQs, as well as those studying A levels at school or college, can apply for the allowance at any time throughout the academic year.

Young people who were born between 1 September 1987 and 31 August 1988 are eligible for payments if they engage in at least twelve hours a week of guided learning on further education courses in school sixth forms, sixth-form colleges and FE colleges.

Once enrolled, the student must attend all course sessions and sign an EMA contract with their school or college. The contract sets out what is expected in terms of attendance, coursework and progress.

Students interested in applying for the scheme can log on to the website at www.ema.dfes.gov.uk EMA helpline on 080 810 16219.

Minicom helplines

0800 056 2811 for colleges and schools

0808 101 6219 for parents and students

Ear Foundation website



Have you had a look at The Ear Foundation's website recently? It has had a complete makeover, which has brought many advantages to those of us who visit it:

- ♦ To help the partially-sighted, level Double-A conformance to web content accessibility guidelines has been achieved. You can click on to Large Text if you wish.
- ♦ The Home Page now has three topics highlighted, which may interest visitors to the site - and by clicking on the picture, you can read more about the topic.
- ♦ There is a Search button on all the pages, which searches the whole site - whether (for example) it's in the Frequently Asked Questions section or in Courses.
- ♦ More questions are being added to the Frequently Asked Questions page, as they are received from parents and professionals. In view of the numbers of FAQs, they are now categorised into different sections - but try using the search facility if you know exactly what you want to know.
- ♦ Go to 'Contact Us' and it has maps, address and telephone numbers. There is also an easy to use Enquiry Form so that you can contact any of The Ear Foundation team.
- ♦ If you click on Courses, you can select the ones appropriate for (say) Teachers of the Deaf. It is then possible to book courses on-line - and pay for them if you wish!
- ♦ The Ear Foundation is collaborating with other organisations (like BATOD) and they are being added to the website as Associates.
- ♦ There are now many reciprocal links with other websites - so if you need to have a look at a website but don't know the address, have a look at the Useful Links page.

If you have any comments about this website, please feel free to send an email to brian@earfoundation.org.uk

MSc in Human Communication

This programme provides in depth teaching on current theoretical and service issues related to speech and language therapy and deaf studies. It is delivered by leading researchers and clinical practitioners. The flexible modular structure allows students to tailor their own curriculum and pace of study. Current modules include: acquired cognitive communication impairments; acquired language impairments; clinical management; deaf studies; developmental language impairments; dysphagia; evidence based practice; habilitative audiology; identity inclusion and living with disability; language learning and development; research design and statistics; sign linguistics; speech acoustics and speech perception; speech and language therapy with deaf people.

This programme is ideal for practitioners seeking to progress their careers within the Knowledge and Skills Framework (Agenda for Change).

Programme fee for 2005-06: £4,300 (home/EU students); £2,150 (home/EU part-time students); £10,000 (overseas students); £5,000 (overseas part-time students)

For application forms contact: Admissions Office,
School of Allied Health Sciences, City University,
London EC1V 0HB. Or call them on 020 7040 4194.
Email: sahsadmissions@city.ac.uk
For information on the programme content contact:
Jane Marshall, 020 7040 4668. Email:
J.Marshall@city.ac.uk
Closing date: 17th June 2005.


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Details to:

Mrs Ann Underwood, Magazine Editor
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☎/fax 01964 544243
email: advertising@BATOD.org.uk

A&ICT(C)	Audiology and ICT Committee (BATOD NEC)	NCTD	National College of Teachers of the Deaf
ADPS	Achievements of Deaf Pupils in Scotland	NDCS	National Deaf Children's Society
AGC	Automatic Gain Control	NEAP	Nottingham Early Assessment Package
AGM	Annual General Meeting	NEC	National Executive Council (of BATOD)
AIDS	Acquired Immune Deficiency Syndrome	NVQ	National Vocational Qualification
ATT	Automated Toy Test	NY	New York
BATOD	British Association of Teachers of the Deaf	org	organisation
BBC	British Broadcasting Corporation	P&PC	Publications and Publicity Committee (BATOD NEC)
BCCIP	Birmingham Children's CI Programme	PC	Cued Speech in France/Spain
BCIG	British Cochlear Implant Group	PC	Personal Computer
Becta	British Educational Communication technology Agency	PD(C)	Professional Development (Committee)
BETT	British Educational Technology for Teachers	pdf	portable document format (for Acrobat Reader)
BSL	British Sign Language	PE	Physical Education
BTEC	Business and Technician Education Council	PhD	Doctor of Philosophy
CACDP	Council for the Advancement of Communication with Deaf People	pwk	per week
CAP	Communication Aids Project	QTOD	Qualified Teacher of the Deaf
CAP	Categories of Auditory Performance	RCIC	Regional Cochlear Implant Centre
CD ROM	Compact Disk Read Only Memory (also CD)	RNID	Royal National Institute for Deaf people
CD	Compact Disk	RSD	Royal School for the Deaf
CHU/CESDA	Paediatric Unit of cochlea implants - Toulouse	RSDCD	Royal Schools for the Deaf and Communication Disorders
CI	Cochlear Implant	SEN	Special Educational Needs
CICS	Cochlear Implanted Children's Support	SLT	Speech and Language Therapist (also S<)
CIP	Cochlear Implant Programme	SMS	Short Message Service
CODPUK	Children of Deaf Parents UK	SNAP	Story Narrative Assessment Procedure
CSW	Communication Support Worker	SOEICIC	South of England Cochlear Implant Centre
CTDD	College of Teachers of the Deaf and Dumb	STD	Society of Teachers of the Deaf
CUP	Cambridge University Press	TES	Times Education Supplement
dB	decibel	THRASS	Teaching Handwriting Reading And Spelling Skills
dBa	decibel A scale (soundfield measurement)	tif	Tagged Image File (file name extension)
DCCAP	Deaf Children's Communication Aids Provision	ToD	Teacher of the Deaf
DfES	Department for Education and Skills	TS	(Mary Hare) Training Services
dpi	dots per inch	UCL	University of Central London
eg	for example	UK	United Kingdom
EI(C)	Education Issues Committee (BATOD NEC)	USA	United States of America
EMA	Education Maintenance Allowance	USB	Universal Serial Bus
EMAP	East Midlands Associated Press	v/f	voice/fax
ENT	Ear, Nose and Throat	VOCA	Voice Output Communication Aid
eps	encapsulated post scrip	VSO	Voluntary Service Overseas
FAQs	Frequently Asked Questions	www	world wide web
FE	Further Education		
FEAPDA	European Federation of Teachers of the Deaf.		
FFSB	Federation Francophone des Sourds de Belgique		
fm	frequency modulation		
GCSE	General Certificate of Secondary Education		
gif	Graphic Interchange Format (file name extension)		
GOSH	Great Ormond Street Hospital		
HI	Hearing-Impaired		
HIV	Human Immunodeficiency Virus		
HND	Higher National Diploma		
htm	hyper text markup language (html)		
http	hyper text transfer protocol		
ICED	International Congress on the Education of the Deaf		
ICT	Information Communications Technology		
ICTOD	Implant Centre Teacher of the Deaf		
IHR	Institute of Hearing Research		
ILiP	Listening Progress Profile		
ILP	Individual Learning Programme		
Inc	Incorporated		
IQ	Intelligence Quotient		
ISBN	International Standard Book Numbering		
ISSN	International Standard Serial Number		
JCQ	The Joint Council for Qualifications		
JEB	Joint Examination Board		
jpg	Graphics file type/extension (Joint Photographic Experts Group)		
KID	Keratitis-Ichthyosis-Deafness syndrome		
kg	kilogram		
LEA	Local Education Authority		
LiP	Listening Progress Profile		
LPC	Cued Speech in France/Spain		
LSA	Learning Support Assistant		
M&FC	Membership and Finance Committee		
MAIS	Meaningful Auditory Integration Scale		
MBE	Member of the British Empire		
MOC	Modelo Oral Complementada (Spain)		
MP	Member of Parliament		
MRC	Medical Research Council		
MRI	Magnetic Resonance Imaging		
NAACE	National Association of Advisers for Computers in Education		
NATD	National Association of Teachers of the Deaf		
NATED	National Association for Tertiary Education with Deaf people		

If you have found an acronym in the Magazine that isn't explained in this list.... then use www.acronymfinder.com to help you work it out!

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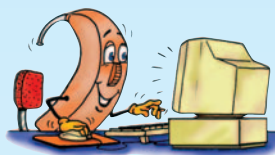
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Welcome to this edition of the ICT Newpage. If you would like to contribute anything to this page, please contact Sharon Pointeer, the ICT Newpage Editor
ICTNewpage@BATOD.org.uk

BETT 2005

This year's trip to the BETT exhibition proved to be more of a personal high spot than in previous years and a little nerve wracking, as I was presented with Knightsfield School's Naacemmark Award. Originally the acronym Naace stood for National Association of Advisers for Computers in Education, an organisation which was established in 1984. However Naace now welcomes anyone who is interested in advancing education through the appropriate use of information and communications technology.

The Naacemmark has been developed in association with Becta and is a quality mark award which recognises a school's success in developing and implementing a strategic approach to ICT. It provides a framework for using ICT to enhance teaching and learning and provides opportunities for the school community to develop ICT capability. The scheme was launched for mainstream schools in 2003, with special needs criteria following in 2004. There are now 270 schools across 84 LEAs that have achieved the Naacemmark, of these just over a quarter are secondary schools and about 5% are special schools. Knightsfield's assessment for the Naacemmark took place in November, against the secondary school criteria, as these proved to be more appropriate than those for special schools. It was very exciting to be presented with the award at BETT, especially when Steve Bacon, general secretary of Naace, confirmed that this was the first award for a school for deaf children.

The Naace website gives details of how schools can gain the award and their assessment framework is an excellent tool which schools can use as a template for their ICT development plans. There are various aspects, including using ICT to facilitate inclusion, outreach and partnership activities and links with parents. www.naace.org.uk

Another in the BETT awards was the 'Learning Assistance - Secondary and Post 16/Lifelong Learning' category. Roy Schumann is Learning Support Assistant, responsible for Resource Development at West Cheshire College, Cheshire.



Since joining the College Roy has expressed an active interest in using ICT to increase the accessibility to resources and promote deaf awareness.

Roy sees his role as taking the hard work out of making education accessible for pupils, families and friends in the deaf community and supports pupils from 16-80+ years at the college. Roy recently developed a package from scratch using PowerPoint to create a very simple but effective way to teach sign language through visual explanations, using digital images and video clips to describe and play out each sign.

This bespoke package is being used as a teaching tool within the college to allow students at the college to learn sign language but it is also helping teachers within the college to learn and be more open and approachable for deaf people.

The exhibition was again huge this year and there simply was not time to look at everything.

Although not really looking for new computers, I got quite excited about Apple's new Mac Mini which is only about the size of a pack of serviettes! As a keen user of iMovie and digital video, the idea of being able to buy Macs at under £350 seriously appealed, especially as the computer can use existing peripherals such as monitors and USB keyboards and mice. Personally I would like an iPhoto so I can carry around all my digital photographs and bore the relatives with the latest holiday snaps, not by printing them out as I currently do but by simply plugging the gadget into their TV. www.apple.co.uk

Kudlian have released a number of excellent looking tools and plug-ins to use with iMovie. Essential Tools for iLife provides a number of resources including a chroma key facility has to be a 'must have' item for all iMovie users. The idea of being able to place a photo, graphic image or movie behind a subject that has been filmed in front of a chroma key backdrop not only gives the possibility

of exciting locations for pupils acting but could probably allow sign language interpretation to be added to a digital video. Other iMovie/iDVD plug-ins are provided by Charting and Graphing, Weather Reporting and Geography and Times Gone By. They have also produced On-Camera which gives your Mac teleprompting and titling ability. The brochure says that movies can be published with a subtitle track which can be turned on and off. Kudlian have also produced I Can Animate, a flexible animation package, which is available for PC and Mac. It allows a variety of techniques to be employed including use of digital images, drawing or painting. There is also Slide Show, a new presentation package which allows pupils very easily to display pictures, create presentations and stories. Suitable for PC or Mac, the finished work can be exported as a QuickTime movie for sharing or putting on a web page. www.kudlian.net

For those of you who do not use Apple Macs but want easy to use digital video editing Logotron have come up with Revelation Sight and Sound. The package has been developed specifically for children, although the facilities it provides would keep many adult 'Steven Spielberg wannabes' more than happy. It uses chunky, easy to understand icons and comes with an extensive activity guide containing structured, differentiated activities designed to develop understanding of digital video. At £55 for a single user pack, this has to be a very cost effective way into digital video. Typical of all Logotron's software you can be confident that it has been extensively tested prior to release and it will do exactly what it says in the brochure. Logotron were also demonstrating a number of other new packages at BETT, including Thinking with Pictures - a mind mapping tool, Junior Simulation Insight - a computer modelling tool and Visual Fractions which is suitable for using on a classroom whiteboard. www.logo.com

Teaching sensing and control with control boxes and a variety of sensors is great but few schools have sufficient kit for all the pupils to be hands-on for all activities. I was excited therefore to find the Logiblocs stand where for a modest price it was possible to purchase a kit containing plug together modules to make a number of simple sensing/control circuits and a remote control buggy. The sets come with a teacher's guide and instruction cards for pupils and cover aspects of both the ICT and the Design and Technology programmes of study. As an added bonus £50 of the cost can be offset against e-learning credits and there is also a software package which simulates the blocks on a computer. www.logiblocs.com

Similar kit, although possibly aimed more at Science and Electronics, comes from Cambridge BrainBox. Their kits contain easy to use colour coded components which are assembled on a base board using press-studs. The kits vary from a simple Primary kit which has instructions for 100 experiments costing £14.99 through to the Secondary Explorer kit with instructions for over 1200 experiments costing £49.99. At these prices the kits would also make excellent presents, as they come with step by step instructions. www.cambridgebrainbox.com

There were lots of stands selling books, worksheets, posters and other non-ICT resources. Companies like Prime-Ed, Hopscotch and Keynote have lots of photocopiable resources, at different levels for different ages and abilities. New out from Prime-Ed were their Internet Challenges, which are aimed at 8-12 year olds but could easily be used with older pupils. These consist of single page worksheets posing questions designed to give pupils a purpose to use the Internet and fine-tune their research skills. Some of the worksheets to encourage pupils critically to question and evaluate the information they find on the Internet, which has to be a good thing. A number of companies are now selling their resources on CD-ROM for people to print out themselves, which often means they can be bought with e-learning credits. Daydream Education sell posters for all subject areas, the posters are also available as A5 size booklets which are great for revision and some of the posters are now available in an enhanced form for use on interactive whiteboards. www.prim-ed.com
www.hopscotchbooks.com
www.e-worksheets.com
www.daydreameducation.co.uk

For those wanting portable word processing devices there were a number on offer, including the familiar AlphaSmart 3000, Neo and Dana which range from a fairly straightforward word processor through to something which is more or less a portable notebook computer. The CalcuScribe Duo is similar but has the added advantage of a built-in Maths processor which easily allows the writing of mathematical expressions as part of the work. Also on view was the QuickPAD which comes complete with a pre-installed typing tutor. With prices starting at £140 they are worth considering for pupils with written language difficulties. These devices are available from a variety of sources such as Inclusive Technology and Keytools, both of whom specialise in equipment for special educational needs. www.inclusive.co.uk www.keytools.com



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For those retired members who no longer wish to receive the Journal there is a concession to pay a reduced subscription. This concession also applies to associate members who are employed as Teaching Assistants or in similar roles who do not wish to receive the Journal.

Retired members who reach the age of 80 are entitled to free membership of the Association. Members who reach this milestone are invited to contact the Membership Secretary.

Full and associate members who are entitled to a reduced subscription should notify the Membership Secretary of their circumstances by 30 June for the following year's membership, to enable the necessary paperwork to be completed.

Anyone with a change in circumstances (eg changing to retired status) should inform the Membership Secretary as soon as they are able. Cheque payers will be sent a reminder about payment in June. Direct Debits will be altered automatically for payments in August and beyond.

Members are reminded that membership of the Association is only open to individuals. There is no category for Service or School membership. We are aware that some members have their subscription paid for them and that some have their mailing to their work address. Only the named individual is the member and no other person at that address can claim any benefits of membership. Any enquiries should be made to:

*email: membership@BATOD.org.uk
BATOD Membership Secretary
112 Deas Avenue
Dingwall
Ross-shire IV5 9RJ*

All members are reminded that the Membership Secretary MUST be notified of any change of address to ensure that labels are changed and Magazines and Journals reach the new address.

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Meetings and training to know about

Calendar

Items noted on this Calendar may have been advertised within the Magazine or the information reported by telephone. BATOD is not necessarily the organising body. Please contact the Organising body (column 2) for details of conferences, NOT the Editor of this Magazine.

Date	Organisation	Meeting Topic	Venue
<i>March 2005</i>			
1	Ear Foundation	Introductory programming for the Advanced Bionics Cochlear Implant System	Ear Foundation, Nottingham
1	DCCAP	ICT training courses for Teachers of the Deaf: 2005	Exeter
2	Early Support	Early Support Monitoring Protocol Training	Bury St Edmunds
2	DCCAP	ICT training courses for Teachers of the Deaf: 2005	Bristol
2	Seabrook Audiology	BSA Certificate in Otoscopy & Impression Taking	Gloucester
2	Ear Foundation	Trouble-shooting cochlear implants	Ear Foundation, Nottingham
3	DCCAP	ICT training courses for Teachers of the Deaf: 2005	Birmingham
3	Deafworks	Programme for Deaf Professionals. Want a new job?	Clerkenwell, London
4	Ear Foundation	Implantation in under-one deaf infants	University of Nottingham
5	Mildmay Infant & Junior School	Essex working together day (free entry)	Chelmsford, Essex
8	DCCAP	Communication Books and how to make them	Bristol
10	Early Support	Early Support Monitoring Protocol Training	Dorset
10	UKCoD	Health Promotion for Deaf Communities Conference	London
11	DCCAP	DCCAP Assessor Training Day	Reading
11	Ear Foundation	Fitting young children with hearing aids	Ear Foundation, Nottingham
11	Deafworks	Deaf Awareness	Clerkenwell, London
12	BATOD	Conference Reasonable Adjustments and AGM	Hinckley, Leics
13	BATOD NEC	Association Business	Birmingham
14	Ear Foundation	Supporting children with CIs at 2dry level; LSAs; course 3	Ear Foundation, Nottingham
15	DCCAP	DCCAP Assessor Training Day	Manchester
15	Early Support	Early Support Monitoring Protocol Training	Morden
15	BATOD CPD	Deafness & Dyslexia: identification, assessment, practicalities	Newbury
16	Ear Foundation	PALS; CI children and families from multi-lingual backgrounds	Ear Foundation, Nottingham
15 - 16	THRASS	The use of THRASS in the education of the Deaf	Gillitts, Durban,
17	Deafworks	Programme for Deaf Professionals Boost your interview skills	Clerkenwell, London
17	Mary Hare TS & Burwood Centre	Musicality and deaf children. Practical music and dance activities for pre-school and primary aged deaf children	Newbury
18	Early Support	Early Support Monitoring Protocol Training	Coalville, Leicestershire
11 - 18	Deafworks	Getting ready for Level 2 assessment (3 day course)	Clerkenwell, London
17 - 19	EMAP & TES	Education Show	NEC Birmingham
22	DCCAP	ICT training courses for Teachers of the Deaf: 2005	Cambridge
23	DCCAP	ICT training courses for Teachers of the Deaf: 2005	London
24	DCCAP	ICT training courses for Teachers of the Deaf: 2005	Southampton
21 - 25	Cued Speech Association UK	Cued Speech Easter Course, Foundation Level. .	Exeter, Devon.
<i>April</i>			
2	Deafworks	How should hearing people teach Deaf Awareness?	Clerkenwell, London
4	Deafworks	Level Two	Clerkenwell, London
5	Deafworks	Level One (every Tuesday for 15 weeks)	Clerkenwell, London
6	Healthy Deaf Minds	Topic to be announced	Euston
6 - 7	Independent Living, Scotland	Independent Living Scotland 2005 (free admission)	Glasgow
9	Deafworks	Training the Trainers in Deaf Awareness (1 of 4)	Clerkenwell, London
11	Ear Foundation	Deaf professionals and cochlear implantation	Ear Foundation, Nottingham
11	SOEIC	Cochlear Implant workshop	Southampton University
14	Deafworks	How to be a Time Management Expert	Clerkenwell, London
15	THRASS	Teaching Handwriting Reading And Spelling Skills	Suffolk
14 - 16	Ear Foundation	Advanced Seminar for CI Professionals	University of Nottingham
16 - 17	Deafworks	Between BSL One and Two (2 day course)	Clerkenwell, London
18	Seabrook Audiology	CPD course on the Hearing Aid Council Code of Practice	Gloucester
19	Mary Hare TS & Burwood Centre	Prematurity and Deafness	Newbury
19	NDCS	Radio Aids Workshop	London
20 - 21	Ear Foundation	Tait Video analysis	Ear Foundation, Nottingham
25	DCCAP	ICT training courses for Teachers of the Deaf: 2005	Manchester
26	Ear Foundation	Making multi-agency work happen with young deaf children	Ear Foundation, Nottingham
26	DCCAP	ICT training courses for Teachers of the Deaf: 2005	Newcastle
27	DCCAP	ICT training courses for Teachers of the Deaf: 2005	Lancaster
21 - 28	Deafworks	A Two Day Introduction to BSL	Clerkenwell, London
28	Ear Foundation	SNAP Dragons (two days 28/04/05 and 16/06/05)	Ear Foundation, Nottingham
28 - 29	Mary Hare TS & Burwood Centre	Using the Reynell developmental Language Scales Version III	Newbury
<i>May</i>			
5	THRASS	Teaching Handwriting Reading And Spelling Skills	Oldham LEA
5 - 6	Deafworks	Getting ready for Level 2 assessment (2 day course)	Clerkenwell, London
5 - 6	Deafworks	Getting ready for Level 2 assessment (2 day course)	Clerkenwell, London
6	DCCAP	DCCAP Assessor Training Day	Reading
7	BATOD Scotland	Audiology Update (half day meeting)	Donaldson's College, Edinburgh
10	DCCAP	DCCAP Assessor Training Day	Manchester
10	Seabrook Audiology	CPD course on Masking in Audiometry	Gloucester
10	Ear Foundation	Working with teenagers with CIs	Ear Foundation, Nottingham
11	Ear Foundation	Teachers working with parents	Ear Foundation, Nottingham
11	Seabrook Audiology	BSA Certificate in Otoscopy & Impression Taking	Gloucester
12	Mary Hare TS & Ewing Foundation	Supporting thinking & learning skills: the primary aged deaf child	Newbury
12	Deafworks	Polish up your work presentations	Clerkenwell, London
13	Mary Hare TS & Ewing Foundation	Supporting thinking and learning skills at Key Stages 3 & 4	Newbury
14	Deafworks	Being a Good BSL Tutor	Clerkenwell, London
<p>If you know about, or are organising, an event that you think other Teachers of the Deaf may be interested in please email the details that can be added to the calendar to magazine@BATOD.org.uk (date, organiser, title, venue). Remember to decode the acronym so we know who is the organiser!</p> <p>There are already entries on the website Calendar for 2006. The Calendar on the BATOD website is edited as soon as we know about meetings. Additional information about courses and registrations forms may also be linked to the calendar entries.</p>			

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