National Deaf Children's Society

Quality Standards for the use of personal radio aids

Promoting easier listening for deaf children

Created in collaboration with the UK Children's FM Working Group

FM UK
UK Children's FM Working Group

Our vision is a world without barriers for every deaf child.

Acknowledgements

We would like to thank the UK Children's FM Working Group for its valuable contribution to the creation of this resource.

The UK Children's FM Working Group

The UK Children's FM Working Group (**www.fmworkinggroup.org.uk**) is made up of a range of professionals including educational audiologists, representatives from the British Association of Teachers of the Deaf (BATOD), the Ewing Foundation, the National Deaf Children's Society, the National Health Service, an auditory implant centre, commercial organisations and higher education. The group promotes best practice in the provision, management and use of radio amplification and works to ensure the quality of signal is protected in a rapidly developing technological landscape.

This revision is dedicated to the memory of Elizabeth (Liz) Wood, a much missed member of the Working Group.

Photographs

Thank you to the staff and pupils at Auriol Hearing Impaired Specialist Provision and the Hearing Impaired Unit at The Mead Infant School, Surrey.

Thanks to Connevans, Comfort Audio, the Ewing Foundation, PC Werth and Phonak for their kind permission to use their photos in this resource.

Contents

We use the term 'deaf' to refer to all types of hearing loss from mild to profound. This includes deafness in one ear or temporary hearing loss such as glue ear.

We use the term 'parent' to refer to all parents and carers of children.

1. Foreword

In an age of rapidly developing technology there are more opportunities for deaf children than ever before. Hearing connects us – it's the basis for the development of spoken language, literacy and friendships. Werker reminds us of evidence that "infants typically acquire language through listening and start life ready to speak. Furthermore, by 17 months phonetic distinctions guide new word learning as infants use their phonetic categories for learning new words."[1]

Children live and learn in hostile acoustic environments which have traditionally been thought of as formal learning environments. Schools are challenging acoustically and the use of radio amplification in such settings should be considered as standard provision. There is a solid evidence base that the foundations for language are laid in the first years of life. Young children are exposed to language learning when travelling in a car or on public transport, on shopping trips, going to the park, sitting in a front-facing pushchair, at playgroups and at nursery. Radio amplification is ideal for such settings as these are all challenging acoustic environments. Very early use of radio amplification has been shown to offer significant benefits to deaf children.[2] All children have busy lives outside of school, where the opportunity to learn to ride a bike, join a local group, go horse riding or take up any other activity would be enhanced by sensitive use of radio amplification. Learning takes place in as many informal as formal settings. Deaf young people can be considered to be digital natives,[3] in that they expect connectivity with a range of other equipment. Restricting use of such equipment to school only is limiting a child's access to their social activities. Hearing aids and implants, whilst being increasingly sophisticated, are poor in multiple-speaker situations and at distance – radio amplification when well fitted, maintained and used can offer real opportunities for language enrichment.

1. Werker, J. The perceptual foundations of bilingual acquisition in infancy. 2012. *Annals of the New York Academy of Science*, 1251:50-61.

2. Mulla. I. *Pre-school use of Amplification Technology* [thesis]. 2011. **www.escholar.manchester.ac.uk/uk-ac-man-scw:138160** (accessed 24 January 2017).

3. Prensky, M. Digital Natives, Digital Immigrants. *On the Horizon*. 2001. 9 (5):1–6.

In an ideal world, every deaf child would receive a complete amplification package, including a radio aid at first hearing aid fitting, which would change as the child's needs and interests change. In Great Britain, the Equality Act 2010[4] means that schools and other education settings must provide auxiliary aids (such as radio aids) as reasonable adjustments. More recently, in England, changes to the special educational needs framework have introduced a new focus on early intervention and improving outcomes. Forthcoming changes to legislation in Northern Ireland and Wales also have similar aims.

This new edition of the quality standards for the provision, fitting, management and use of radio aids is an evidence-based resource that promotes best practice. It's invaluable for anyone who is responsible for ensuring that deaf children have access to the best opportunities to develop language. Education professionals (educational managers, Teachers of the Deaf, educational audiologists, mainstream teachers, teaching assistants), healthcare professionals (audiologists, speech and language therapists and auditory implant centre staff) and parents will all find this resource an important best practice guide.

Evidence of the benefits of radio aids is compelling and deaf children deserve the very best opportunities. All those concerned with the provision of services have a responsibility to ensure that radio aid systems are used appropriately to enhance the experience of all deaf children, both at home and in educational settings.

Wendy McCracken

Professor of Deaf Education
University of Manchester
February 2017

4. Equality and Human Rights Commission. Equality Act. 2010. **www.legislation.gov.uk/ukpga/2010/15/contents** (accessed 24 January 2017).

2. Introduction

Personal radio aids have the potential to greatly enhance deaf children's listening experiences by making speech more audible in situations where distance, background noise and reverberation make listening difficult.

The following quality standards set out a common approach to the timely and appropriate provision of radio aids.

This resource is split into two parts.

1. A set of quality standards relating to the use of radio aids – also known as personal FM systems.
2. The *Good Practice Guide for Radio Aids* contains practical information and strategies to achieve these quality standards and is available on the websites of the UK Children's FM Working Group, (**www.fmworkinggroup.org.uk**) and the Ewing Foundation (**www.ewing-foundation.org.uk**).

You should only implement recommendations from this resource after full consultation with parents.

Terminology

We use the term **'radio aid'** to mean 'radio aid' or 'FM radio aid systems'.

Sound enhancement systems are designed to benefit all children in a classroom and are therefore different from personal radio aids. The terms **soundfield system** or **soundfield radio system** are used to describe products that use radio or digital technology rather than an infra-red or other transmission system. This resource doesn't include comprehensive information about the use of soundfield systems and only discusses them in relation to their use with radio aids and the benefits of the different technologies.

Child or **children** refers to any baby, child or young person, aged from 0–25 years.

Teaching assistant (TA) is used to describe a range of support staff working with deaf children. Titles used in local settings may vary.

QS is an abbreviation for quality standards.

Who is this resource for?

This resource is for those who commission services for deaf children and for practitioners who work with them.

Its purpose is to:

1. provide realistic and attainable quality standards that health and education services should audit against
2. describe good practice for the selection, fitting, management and evaluation of radio systems for children.

Knowledge, practice and technology are evolving all the time. It's vital that you keep up to date with developments and consult the UK Children's FM Working Group website **www.fmworkinggroup.org.uk** as the *Good Practice Guide for Radio Aids* will be updated regularly and will reflect changes in technology.

Context

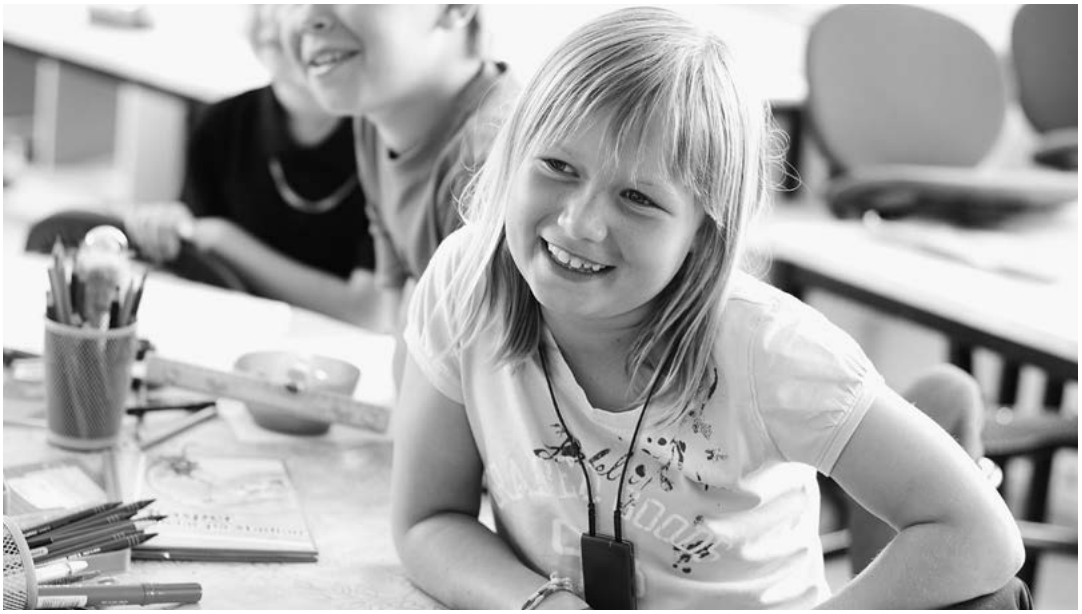
Under the Equality Act 2010,[5] local authorities and education settings in Great Britain have a duty to make reasonable adjustments to ensure deaf children are not disadvantaged. This includes a specific duty to provide 'auxiliary aids' where they're needed. Radio aids are regularly cited as an example of an auxiliary aid.

You must also consider the legislative frameworks for children with special educational needs or additional learning needs in England, Wales, Northern Ireland and Scotland. These all highlight the importance of early intervention and multi-agency working. For example, in England, the Children and Families Act 2014[6] introduces a new duty on education and health services to work together to jointly commission services and meet the needs of children with special educational needs and disabilities.

Historically, educational audiologists or Teachers of the Deaf have fitted and managed radio aids. They work collaboratively with children, families and others including mainstream teachers, TAs, and technicians. Fitting radio aids effectively also requires the involvement of paediatric audiologists and staff in auditory implant teams. For a radio aid to be effective, the individual hearing aid or implant needs to be appropriately programmed and fitted with the radio aid receiver. However, it's now becoming more common for aids or implants to have integrated radio aid receivers. Professionals across agencies must work together to ensure that this equipment is fitted, used and maintained well.

5. Equality and Human Rights Commission. Equality Act. 2010. **www.legislation.gov.uk/ukpga/2010/15/contents** (accessed 24 January 2017).

6. Department for Education (DfE). Children and Families Act. 2014. **www.legislation.gov.uk/ukpga/2014/6/contents/enacted** (accessed 24 January 2017).



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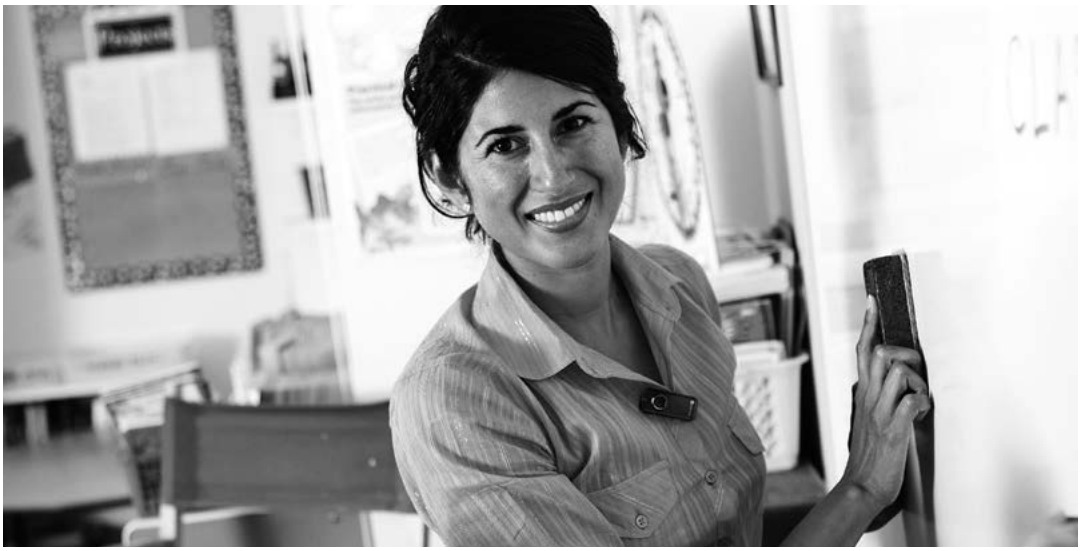
Equipment and training

Those coordinating the provision of radio aids should:

- have access to the necessary test equipment
- have up-to-date knowledge and skills so that they are able to follow the procedures described in this resource
- follow published guidelines where appropriate
- understand the legislative requirements relating to services and provision.



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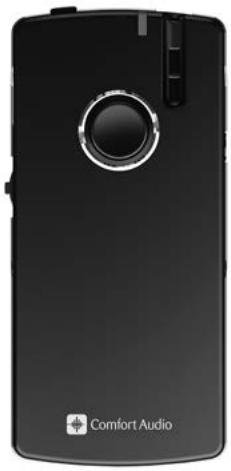
Inter-agency working

- It's essential that education and health professionals set up communication channels for sharing information about a child's hearing care.[7]
- The information you give to families must be unbiased, comprehensive, clear, accessible and accurate. Parents must receive all information in their preferred language and in accessible formats, and they should also be able to ask questions.



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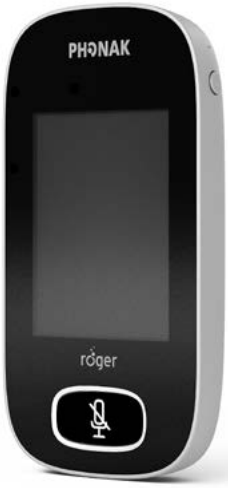

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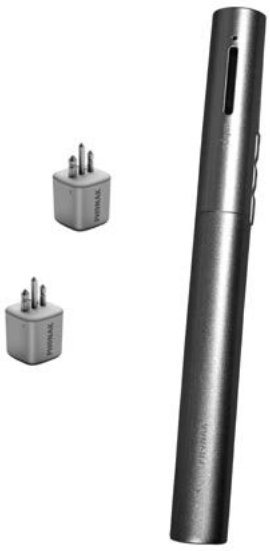


© Connevans (Phonak product)

7. *Modernising Children's Hearing Aid Services: Guidelines for Professional Links between Audiology and Education Services within a Children's Hearing Aid Service*. 2005. **www.research.bmh.manchester.ac.uk/mchas/aboutus/guidelines** (accessed 20 January 2017).

3. Candidacy for receiving a personal radio aid

Personal radio aids are used by deaf people of all ages and in a range of settings – including pre-school and school-age children, students in education or training and working adults. This resource encourages you to consider how a radio aid may help with listening and learning.

The listening environment in most pre-schools, schools and homes is less than ideal and deaf children are likely to spend 40–50% of their listening time in noisy environments.[8] For this reason, young children as well as school-age children can benefit from using personal radio aids.[9]

The following 12 quality standards set out a common approach to ensure best outcomes.

8. Jones, C., and Launer, S. Pediatric Fittings in 2010: The Sound Foundations Cuper Project. *A Sound Foundation Through Early Amplification*. 2010. Chapter 12: 187–192.

9. Madell, J., Flexer, C. *Pediatric Audiology: Diagnosis, technology and management*. 2014. (2nd edition). Thieme. New York.

QS1

Every deaf child should be considered as a potential candidate for provision with a personal radio aid as part of their amplification package, at first hearing aid fitting. (See also QS10 on page 19.)

This position requires that providers ask why a deaf child **should not** be considered as a potential candidate for a personal radio system, rather than which child **should**. It also highlights the need for a close working relationship between health and education teams.

Some children who have normal hearing thresholds, and who don't use hearing technology (for example, those with auditory processing difficulties), may also benefit from a personal radio aid.

You should consider the following essential factors when determining suitable candidacy for a radio aid.

- Recent research[10] suggests that even very young children and reluctant hearing aid users can get significant benefits from using radio aids.
- Children should be encouraged to understand the effect of distance on sound, and of localisation as part of their listening development whilst using radio aids.
- Appropriate support and training are needed to ensure those in the child's environment can support the best use of radio aid technology.

Contexts for candidacy and other factors for consideration can be found in the *Good Practice Guide for Radio Aids*.

QS2

There is an identified budget and clear accountability for funding personal radio aids where the candidacy criteria are met.

Education and health services should work together to jointly commission and provide hearing technology for deaf children and to promote technological innovations such as hearing aids and implants with integral radio aid receivers.

Government guidance universally emphasises the importance of early intervention. A full amplification package, including a radio aid, should therefore be put in place for each deaf child at their first hearing aid fitting. This package should be reviewed regularly and it should develop and change as the child develops and their listening needs change.

The current split of provision between health and education service providers is unhelpful and fails to ensure that all deaf children have access to radio aids. In England, there is a duty on education and health to jointly commission services for children with special educational needs and disabilities.[11]

10. Mulla, I., McCracken, W. *Frequency Modulation for Pre-Schoolers with Hearing Loss*. Seminars in hearing. 2014. 35(3); 206–216.

11. Department for Education (DfE). Children and Families Act. 2014. **www.legislation.gov.uk/ukpga/2014/6/contents/enacted** (accessed 24 January 2017).

4. Fitting and setting up of personal radio aids

The UK Children's FM Working Group recommends using the FM Advantage protocol (part of the *Good Practice Guide for Radio Aids*) as the starting point for setting up hearing aids and implants with radio aids. This can be found on the UK Children's FM Working Group website.

There should be consultation between health and education professionals to ensure compatibility between the radio system and hearing aids or implants, and how appropriate they are in meeting the child's needs. Practicalities that must be addressed before the system is set up include:

- choosing hearing aids and implants that are radio aid compatible
- sharing details of the hearing aid or implant: for example, compression strategy and features activated
- adapting the hearing aid or implant's battery compartment where necessary
- appropriate activation of the direct audio input (DAI) feature within the hearing aid or implant software so that the radio aids can be used. The UK Children's FM Working Group recommends the FM+M programme as the default start-up programme for younger children.

© Ewing Foundation

QS3

The personal radio aid must be set up with the child's individual hearing aids or implants to ensure that the radio signal provides the desired advantage.

- All individual components of the equipment must be checked before setting up the system.
- For hearing aids, follow the FM Advantage protocol and procedures in the *Good Practice Guide for Radio Aids*.
- For cochlear implants follow the cochlear implant/radio aid guidelines procedures in the *Good Practice Guide for Radio Aids*.
- Make a note of the required radio receiver settings and keep a copy of the results for a baseline reference. Send copies to other relevant professionals.

QS4

The child's listening response must be checked with the complete system in place.

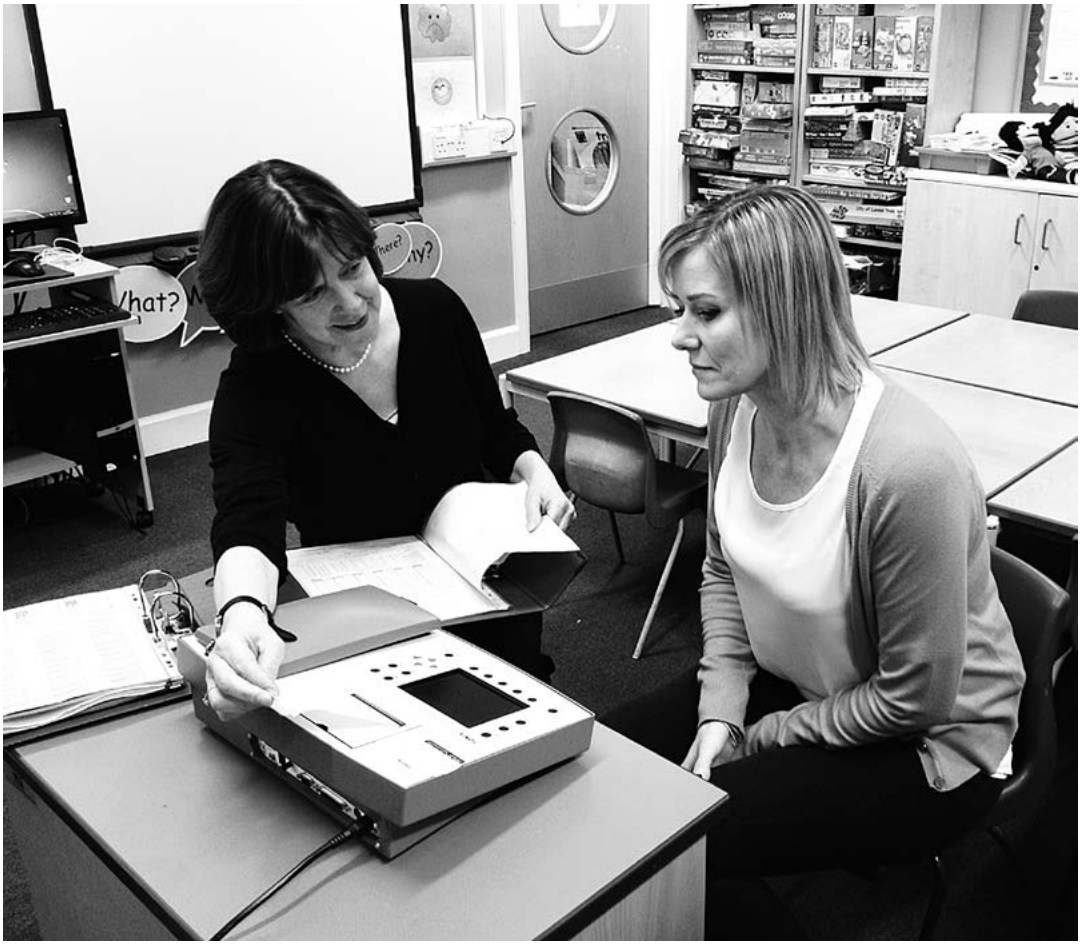
- Check that speech is audible through the radio aid, both at close range and at a distance greater than 4m.
- Use close observation and an appropriate listening task to suit the developmental stage of the child.
- Choose an appropriate task to establish the sound quality experienced by children unable to report this easily themselves.

The Cochlear Implant team at the Royal National Throat, Nose and Ear Hospital in London and Phonak UK have developed a free downloadable resource for professionals, including Teachers of the Deaf, when considering radio aid provision with 4–7 year olds (it has also been used successfully with older and younger children). The resource helps children to develop the skills and language needed to judge and describe sound quality. Visit **www.uclh.nhs.uk/OURSERVICES/SERVICEA-Z/ENTS/CIM/Pages/FMTrainingTool.aspx.**

QS5

Training and written information about the personal radio aid system, its settings and its appropriate use must be agreed and shared with the child, parents, teachers and all those involved in supporting the child.

- As part of the fitting process a suitably qualified professional with day-to-day responsibility for the system, or another specialist agency, should teach key participants how to use the system and carry out basic troubleshooting.
- Review the above training when any change of hearing instrument or setting is made, if part of or all of the personal radio aid system is repaired or replaced, or new staff are involved.
- Information should include detailed practical instructions and it should be available in appropriate formats, including written instructions or videos.



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5. Management and use of personal radio aids

This section addresses important practical aspects of the daily management and use of personal radio systems, to allow users of all ages to get the most benefit in a range of different situations.

Those who provide children with personal radio aids have a duty of care to ensure that, as far as possible, this equipment is used appropriately and works effectively at all times.

Ongoing training for all those involved is an important part of good management and use, as is routine testing and monitoring of the equipment. The successful management and use of the system depends on shared ownership and partnership between the child, parents, professionals and across agencies. There should be a designated person with day-to-day responsibility for this.

The benefit of personal radio systems for deaf children is highly dependent on an understanding of how to use the system correctly. Its success is also dependent on sensitivity and positive attitudes of all those involved.[12]

© Ewing Foundation

12. McCracken, W., Roberts. A., Wilding, T. *Oticon Foundation Study of FM in Real World Settings* [report]. 2012. University of Manchester. **www.batodfoundation.org.uk/docs/OticonFoundationreport.pdf** (accessed 24 January 2017).

QS6

A programme for developing best use and management of personal radio aids should be agreed, recorded and reviewed at least annually.

A pupil putting his personal transmitter on charge. **© Ewing Foundation**

- Offer ongoing training programmes for all those involved in the use of radio aids to match changes in the child's needs, equipment, personnel and when and where the radio aid is being used.
- Set targets for developing skills in the use and management of the equipment.
- Record the child's understanding of the equipment and how independent they are in using it.
- Services should ensure that families are able to use radio systems outside the classroom, in homes and at out-of-school activities.

© Phonak

QS7

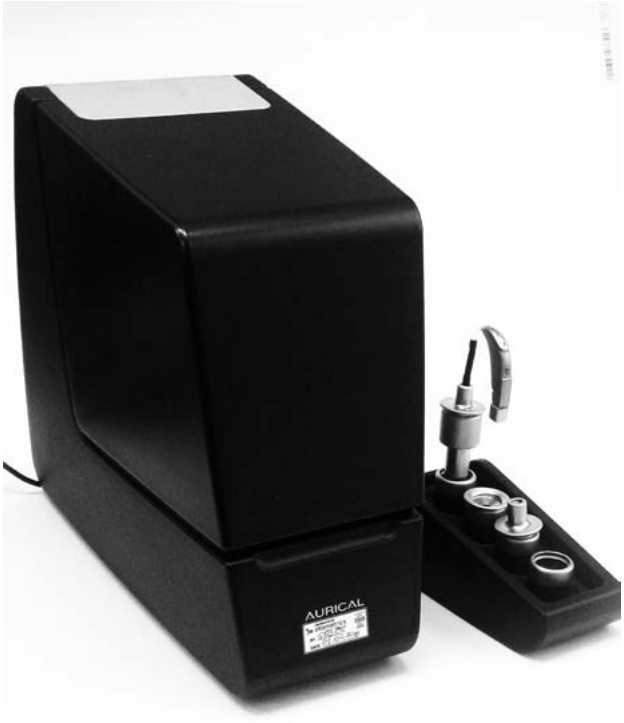
Subjective checks of personal radio aids must take place regularly.

- Perform listening checks of the radio aid system **daily**, with and without the hearing instrument, using appropriate devices such as a stetoclip for hearing aids, monitor earphones for cochlear implants, listeners for bone conduction hearing implants, or a dedicated headphone set for the radio system.

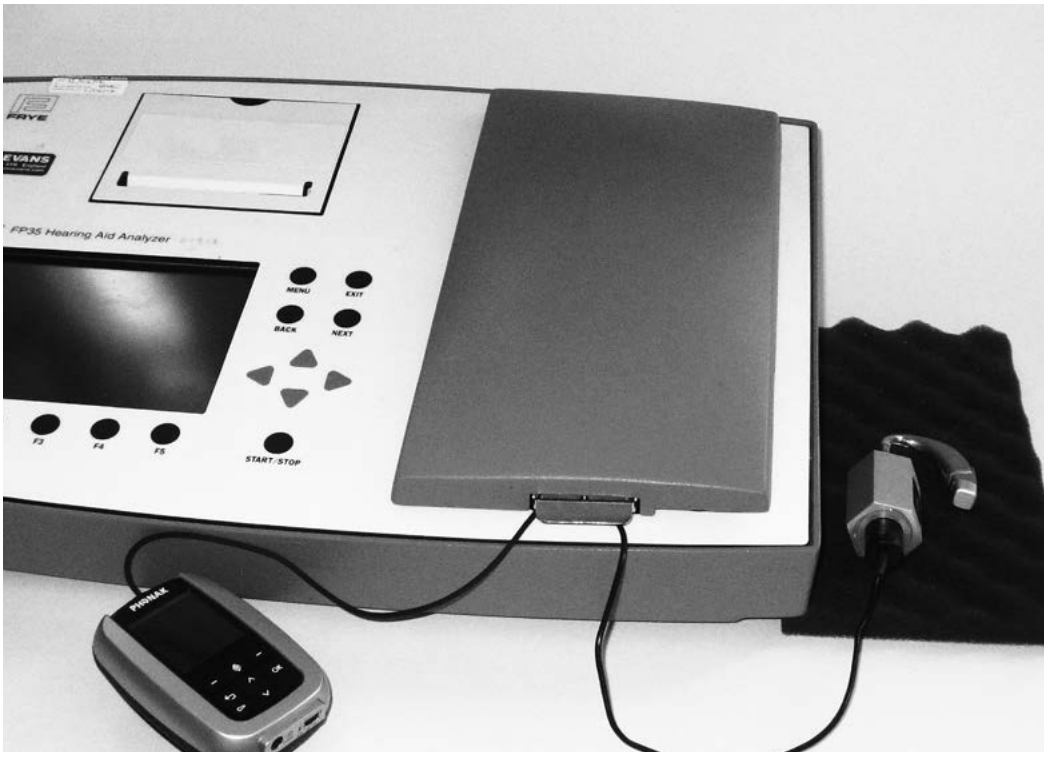
QS8

Electroacoustic checks must be performed regularly and whenever a part of the system is changed.

- Complete regular (test box) checks in order to compare the frequency response curves with baseline settings provided at the time of set-up.
- A good practice minimum is every half term – this may need to be more often for young children and will depend on the user.



Test box in use for radio aid verification. **© Ewing Foundation**



Test box in use for radio aid verification. **© Ewing Foundation**

QS9

Clear identification of roles and responsibilities regarding the management and use of equipment should be in place.

- An accessible written policy should be in place detailing roles, responsibilities and procedures. Currently the responsible lead will be a Teacher of the Deaf.
- Provision should be made within service policy to cover replacement, loan and upgrades of systems.
- Detailed records of equipment, settings and frequency response curves should be kept for each child.
- Put clear routines and procedures for the maintenance of equipment in place.

Take steps to ensure that children have access to this equipment in all aspects of their lives – at school, at home and during out-of-school and social activities. Potential loss, damage or insurance issues should not be a barrier to children using the equipment in these ways.

6. Evaluation of personal radio aids for individual children

Evaluation is an important aspect of the fitting and ongoing use of a personal radio aid. A standardised systematic approach to evaluation enables you to identify and compare the benefit for each child.

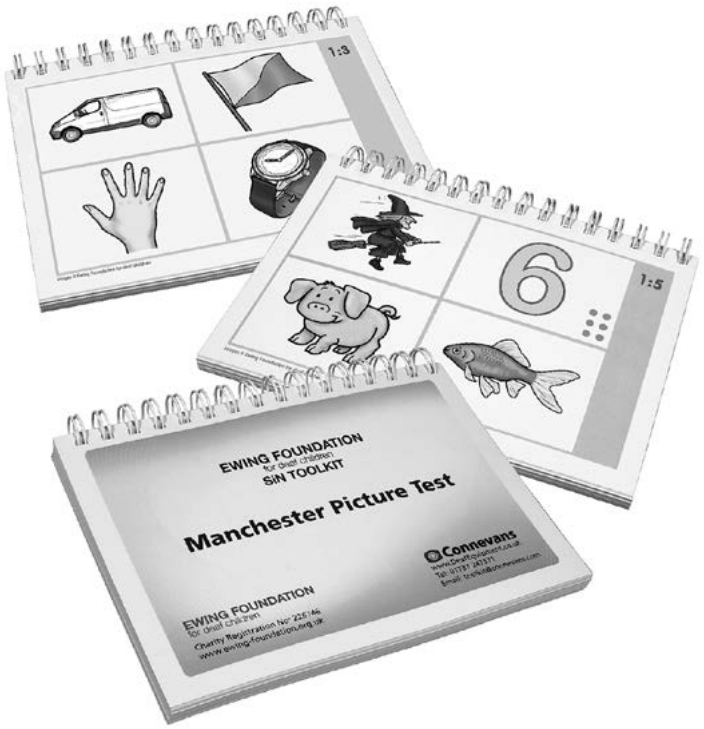
Speech testing in quiet and babble noise is a commonly used procedure. Each speech test has its own standardised format and scoring rationale; sufficient data needs to be collected to ensure significant results within its known confidence bands.

Good liaison between health and education personnel and within Children's Services is an essential part of the evaluation process.

QS10

Subjective and objective evaluation of a personal radio aid system to determine its benefit must be carried out.

- Both subjective and objective measures are important for a comprehensive assessment.
- Subjective tests should be carried out daily.
- Objective tests should be carried out every half term or whenever a problem with equipment arises.
- Observation and questionnaires are important – seek the views of those working with the child, including parents, when the system is used at home.
- The child should understand the purpose of the radio aid and you should seek their views where possible.
- The professional with day-to-day responsibility for the system should collate and share the findings with the child, parents and all relevant professionals including paediatric audiologists.
- The results where appropriate should inform an individual management plan.
- See the *Good Practice Guide for Radio Aids* for a suggested procedure for speech-in-noise evaluation and the equipment needed.



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QS11

There must be close liaison between health and education teams, including the exchange of written information relating to the use of the child's personal radio aid system.[13]

- Liaison relates to all stages from candidacy through to evaluation.
- The need to change the amplification package as the child matures will impact both health and education teams. Close liaison will ensure the child's radio system continues to be optimal.
- Joint training sessions provide an opportunity to share this information. They will also encourage closer liaison and a better understanding of the different roles of staff within a comprehensive hearing aid fitting service.[14]

13. *Modernising Children's Hearing Aid Services: Guidelines for Professional Links between Audiology and Education Services within a Children's Hearing Aid Service*. 2005. **www.research.bmh.manchester.ac.uk/mchas/aboutus/guidelines** (accessed 20 January 2017).

14. *Modernising Children's Hearing Aid Services: Guidelines for Professional Links between Audiology and Education Services within a Children's Hearing Aid Service*. 2005. **www.research.bmh.manchester.ac.uk/mchas/aboutus/guidelines** (accessed 20 January 2017).

7. Use of personal radio aids with soundfield systems

Soundfield is an increasingly popular system designed to improve listening conditions for all children in the classroom. It does this by providing a consistent level of sound from the primary source, usually the teacher, throughout the classroom at an approximate advantage of 10dB above the minimal background noise. It cannot provide the higher signal-to-noise ratio that is required for deaf children and should not therefore be seen as an equivalent replacement for a personal radio aid system.[15] Most deaf children who wear hearing aids or implants continue to need the superior signal-to-noise ratio provided by personal radio aid systems.[16]

A soundfield system does not alleviate the difficult listening conditions created by high reverberation levels or excessive background noise. These issues should be addressed before introducing soundfield systems by taking the corrective action set out in guidelines such as *Acoustic Design of Schools: Performance standards* (2014) which applies in England. This resource explains expectations of acoustic provisions and the steps that local authorities and schools in England need to take to ensure compliance with the School Premises Regulations (2012). This guidance replaces sections 2–7 of *Building Bulletin 93: Acoustic Design of Schools in England*. Visit **www.gov.uk/government/publications/acoustics-lighting-and-ventilation-in-schools/acoustics-lighting-and-ventilation-in-schools.**[17]

More detailed guidance is available from the Association of Noise Consultants' (ANC) and the Institute of Acoustics' (IOA): *Acoustics of Schools: A design guide*.[18] It provides some of the more technical information that was previously in Building Bulletin 93. Visit **www.ioa.org.uk/news/design-guide-schools-acoustics-published** and Canning (2010).[19]

15. Ross, M. and Levitt, H. Developments in Research and Technology; Hearing Assistive Technologies; Classroom Soundfield Systems. 2002. *Volta Voices* magazine. 9: 7–8.

16. Crandell, Smaldino, Flexer. 2004. BATOD magazine. January 2001.

17. Department for Education (DfE). *Acoustic Design of Schools: Performance Standards*. 2014. **www.gov.uk/government/publications/bb93-acoustic-design-of-schools-performance-standards** (accessed 24 January 2017).

18. Association of Noise Consultants (ANC) and the Institute of Acoustics (IOA). *Acoustics of Schools: A design guide*. 2015.

19. Canning, D. The Essex Study. 2010. **www.batod.org.uk/content/resources/audiology/soundfield/essex-study.pdf** (accessed 24 January 2017).

In Wales, building regulations are devolved to Wales and the unrevised *Building Bulletin 93* continues to be in use. Schools built and refurbished under the 21st Century Schools Programme must undergo a pre-completion test to demonstrate compliance with acoustic standards in *Building Bulletin 93*. If the building fails to meet the acoustic standard, remedial action must be taken, with further testing to ensure compliance.

In Scotland, the School Premises (General Requirements and Standards (Scotland) Regulations 1967 give statutory requirements for school environmental conditions. In addition, the Scottish Government's guidance, *School Design: Optimising the Internal Environment – Building our future, Scotland's school estate* (2007) is intended to assist local authorities in the development of design brief documents for a range of environmental conditions in schools, including acoustics. Both *Building Bulletin 93* and *Building Bulletin 101* are referred to in this document as "the starting point for design guidance". While there are no specific regulatory requirements, there are areas of effective practice where *Building Bulletin 93* has been fully implemented in new school builds.

In Northern Ireland, an amended version of *Building Bulletin 93* was introduced in 2007. New build schools in Northern Ireland are required to be tested acoustically to ensure that the requirements in *Building Bulletin 93* have been met. Where the requirements are not met, schools are required to pursue remedial measures. The Department of Education will not fund these measures so it is imperative the acoustics of school builds are correct at the beginning.

Guidance is also available from the National Deaf Children's Society at **www.ndcs.org.uk/acoustics**.

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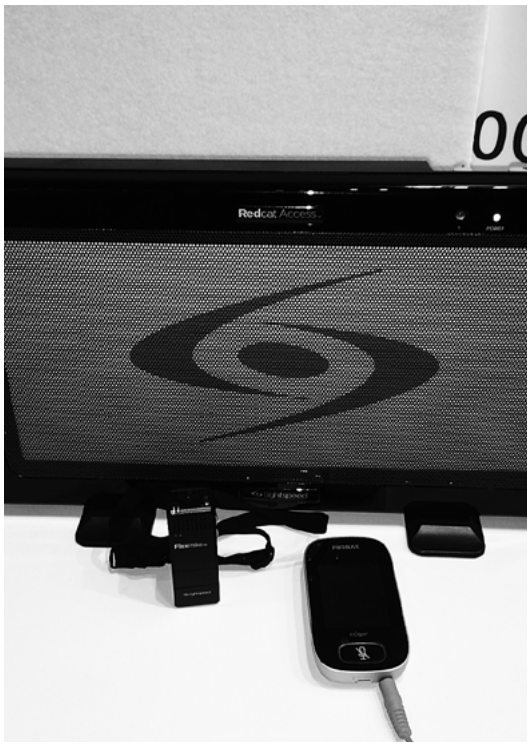
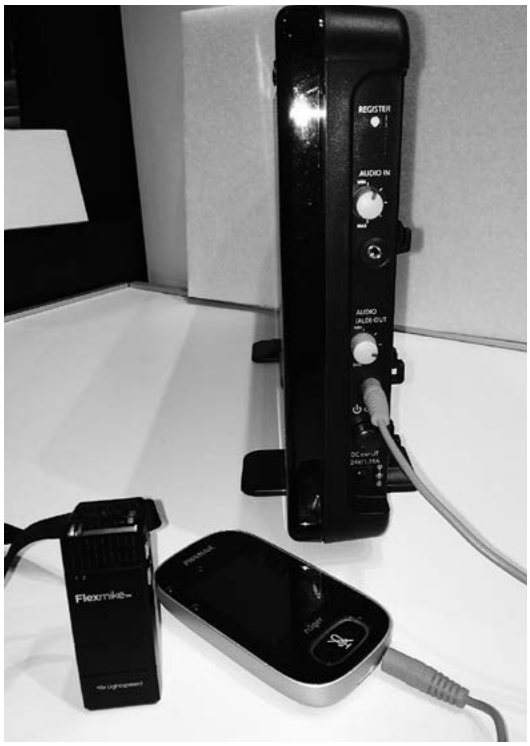
QS12

Where soundfield systems are used in conjunction with personal radio aids , equipment must be selected and set up to ensure that the performance of the personal radio aid system is not compromised.

There can be a number of advantages for a deaf child when a personal radio system is combined with a soundfield system. However, such systems must be regularly and sensitively evaluated to ensure optimum use and benefit. This should include asking the deaf child's opinion. See the *Good Practice Guide for Radio Aids* for more information.



A Redcat soundfield system
© PC Werth



A personal radio aid transmitter connected to the soundfield system
© PC Werth

8. Conclusion

Many people, from pre-school children to adults, effectively use personal radio aids to improve their listening experience in hostile acoustic environments. These systems must be appropriately fitted, used and managed consistently. This can best be achieved through consultation with users and close liaison between health and education services. Joint training sessions provide an opportunity to update skills, share information and explore how collaborative links can work at their most coherent and productive.

Our hope is that these quality standards will encourage further development and support good practice. Our ultimate goal is for every deaf child to have the best possible access to communication, learning and social interaction.

Further detail about each quality standard can be found in the complementary *Good Practice Guide for Radio Aids* which can be found on the websites of the UK Children's FM Working Group (**www.fmworkinggroup.org.uk**) and the Ewing Foundation (**www.ewing-foundation.org.uk**).

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9. References

American Academy of Audiology (2008) *Clinical Practice Guidelines: Remote Microphone Hearing Assistance Technologies for Children and Youth (Birth to 21 Years)*. **www.audiology-web.s3.amazonaws.com/migrated/HAT_Guidelines_Supplement_A.pdf_53996ef7758497.54419000.pdf**

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You will need to register for a free account at **www.natsip.org.uk** and be logged in to the NatSIP website before you can access the above document.

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10. Further information

National Deaf Children's Society information resources

These are available to download from our website **www.ndcs.org.uk** or can be ordered as hard copies from our Freephone Helpline.

Radio aid equipment is available for loan to deaf children and young people, their families and professionals supporting them from the National Deaf Children's Society Technology Test Drive service. For more information, go to **www.ndcs.org.uk/technology.**

Creating Good Listening Conditions for Learning in Education
www.ndcs.org.uk/acoustics

How Radio Aids Can Help: A guide for families

How Technology Can Help: A guide to products and technologies for deaf children and young people

The Equality Act and Your Deaf Child's Education in England, Scotland and Wales

Fitting guides and other useful information

- **www.advancedbionics.com**
- **www.bioacoustics.co.uk**
- **www.cochlear.com**
- **www.comfortaudio.com**
- **www.connevans.co.uk**
- **www.earfoundation.org.uk**
- **www.medel.com/uk**
- **www.oticon.co.uk**
- **www.pcwerth.co.uk**
- **www.phonak.com**
- **www.ais.southampton.ac.uk**

Ewing Foundation resources

www.ewing-foundation.org.uk

Classroom Babble CD (2007) **www.ewing-foundation.org.uk/resources-2/audio/**

Key Government publications

Please note that the following is not an exhaustive list of relevant government guidance and publications from across the UK.

Equality Act (2010) **www.legislation.gov.uk/ukpga/2010/15/contents**

Children and Families Act (2014) **www.legislation.gov.uk/ukpga/2014/6/contents/enacted**

Department for Education (2015) S*pecial educational needs and disability code of practice: 0 to 25 years (England)* **www.gov.uk/government/publications/send-code-of-practice-0-to-25**

Department for Education (2014) *Acoustic Design of Schools: Performance standards* **www.gov.uk/government/publications/bb93-acoustic-design-of-schools-performance-standards**

Institute of Acoustics and Association of Noise Consultants. *Acoustics of schools: A design guide* (2015) **www.ioa.org.uk/news/design-guide-schools-acoustics-published**

Children Act (2004) **www.legislation.gov.uk/ukpga/2004/31/contents**

Education (Additional Support for Learning) (Scotland) Act 2004 Scottish Government **www.legislation.gov.uk/asp/2004/4/contents**

Children and Young People Act (Scotland) Act 2014, which legislated for the Getting It Right For Every Child approach to delivering children's services. **www.gov.scot/Topics/People/Young-People/gettingitright/what-is-girfec**

Supporting Children's Learning Code of Practice (Revised Edition) 2010, Scottish Government **www.gov.scot/Publications/2011/04/04090720/21**

Education (Disability Strategies and Pupils' Educational Records) (Scotland) Act 2002 **www.gov.scot/Publications/2002/09/15494/11272**

SEN Code of Practice – Wales (2004) Welsh Assembly Government **www.gov.wales/topics/educationandskills/schoolshome/pupilsupport/special-educational-needs-code-of-practice-for-wales/?skip=1&lang=en**

Our Children and Young People – Our Pledge (2006) Office of the First Minister and Deputy First Minister for Northern Ireland **www.health-ni.gov.uk/publications/our-children-and-young-people-our-pledge-ten-year-strategy-children-and-young-people**

Code of Practice on the Identification and Assessment of SEN (1998) Department of Education, Northern Ireland **www.education-ni.gov.uk/publications/code-practice-identification-and-assessment-special-educational-needs**

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This publication can be requested in large print or as a text file.

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