

Quality Standards for the use of personal FM systems: promoting easier listening for deaf children



UK Children's FM Working Group

The group was formed in 2004, following Modernising Children's Hearing Aid Services (MCHAS) and the introduction of Digital Signal Processing (DSP) aids. Technical issues emerged about the use of these aids with FM systems and there was a need for ongoing support and advice around practical issues.

Aims and Objectives

- Mutual Sharing of information between manufacturers and users of FM systems
- To promote joint working and good practice between agencies
- To encourage developments in the field of FM technology

Members of the Group

The group comprises representatives of FM system manufacturers, MCHAS, national organisations, practitioners in education and cochlear implant services, technicians and Educational Audiologists.

Methods

The group has met 3-4 times per year and have completed work in two main areas

- Pilot Research
- Development of materials to support users and managers of FM across all phases of education

Results 1

Survey of policies on provision of FM systems (Jeremy Hine & Richard Vaughan 2004)

A short survey was sent out to all Heads of Education Services to establish whether there were policies within the UK about provision of FM systems. 28% of Heads of Services had a policy. The majority made a decision on an individual basis. Funding was cited as an issue.

A survey on the use of FM systems with implants (Wood & Flynn 2005) showed 70% of CI centres had a policy for when to fit FM and 33% children used FM systems.

Results 2

Development of a speech-in noise task and a questionnaire to enable evaluation of FM systems (Carina Newman and Mary Hostler 2007)

A simple objective speech-in-noise procedure was developed and trialled with 24 normally hearing students and 8 hearing impaired children aged 7-13. Average benefit of FM=52%



Questionnaires were developed and trialled with primary and secondary children. These provided useful information about their FM systems.

Results 3

Development of new materials and techniques

Development of testing leads by Ewing Foundation Technicians to connect a Nucleus ESprit 3G or Freedom to a coupler in a test box. These enable objective setting up of FM systems by CI centres and monitoring of FM and CI by local professionals



Development of a protocol for setting up, verifying and checking settings for Nucleus ESprit 3G and Nucleus Freedom speech processors objectively in a test box. Two training events have taken place for CI centre practitioners who will be involved in the initial setting up of the volume of the FM receiver. Further training events are planned for practitioners in the field to enable them to compare current frequency response curves with those produced at initial set up.



Development of Quality Standards for the use of personal FM systems: promoting easier listening for deaf children

The UK Children's FM Working Group, in association with the NDCS, has produced the first Quality Standards for the use of personal FM systems and guidance for best practice. This will support practitioners in all aspects of FM use from candidature to evaluation by providing realistic, attainable and auditable targets. The standards apply to all hearing instruments and to children and young people in all phases of education

The Quality Standards document is currently in print and the supporting Good Practice Guide will be available as a downloadable document on the NDCS website.

Quality Standards

Thirteen Quality Standards have been included on Candidacy, Fitting and setting up, Management and use, Evaluation, Linking with Soundfield FM and Funding.

Good Practice Guide

For each Quality Standard practical advice, tips and references are given to enable practitioners to meet the Quality Standards. Web links to all materials will be available.

Future work

- A wider and more detailed survey on further aspects of FM is planned
- Reporting of the results of the speech-in-noise test in signal-to-noise ratios
- Validation of redrafted questionnaire about FM use
- To support and give further training events to ensure all professionals are able to carry out the testing and evaluation procedures

Conclusion

FM working party members are committed to developing good working practice to enable all practitioners to advise others, and support users to gain the best advantage of use of FM.

References

- Hine J and Vaughan R (2004) Report on survey of LEA criteria for the provision of FM systems, UK Children's FM Working Group
Newman C and Hostler M (2007) poster presentation at BAA
Wood E and Flynn S (2005) FM Radio Aids and cochlear implants – Practical issues and extent of use in the UK. ICED Maastricht