Good Practice Guidance for Adult Hearing Aid Fittings and Services – Background to the Document and Consultation

The International Society of Audiology (ISA) is developing a generic template of principles and practises for adult hearing aid fittings and services. Via the International Collegium of Rehabilitative Audiology (ICRA), ISA has commissioned Stuart Gatehouse and William Noble to convert a document generated under the auspices of United Kingdom National Health Service into one which is not constrained by any particular mode and funding of health care delivery system.

The ISA has agreed a two stage consultation process. The first of these allows all parties to make more general comments about the form and content of such a document, whilst the second will concentrate on the detailed content and coverage. Although the document is developed under auspices of ISA, input is not limited to ISA members or affiliated organisations. The final document though will be submitted to, considered by and eventually ratified by the ISA council.

The first stage consultation will take place up to 1st March 2005, and a first draft of the document is provided on this website as part of the process to receive input regarding the general content and coverage. The document is available as a Word for Windows file and the mechanism for feedback is via Stuart Gatehouse. His contact details are: MRC Institute of Hearing Research, Scottish Section, Queen Elizabeth Building, Glasgow Royal Infirmary, 16 Alexandra Parade, Glasgow, G31 2ER, Telephone No. +44 141 211 4695, Fax No. 44 141 552 8411, e-mail stuart@ihr.gla.ac.uk. Input in any form is welcome, though electronic rather than fax or regular mail is of course preferable.

As indicated in the preliminary paragraphs of the document, the content concentrates in the first instance on services for patients and clients accessing systems for the first time rather than maintenance or re-assessment of people already undergoing management. The document is intended to provide a generic template which can be endorsed internationally and tailored to suit the constraints of individual services.

The document attempts to establish good practice from a published evidence base and international consensus regarding good practice, making the assumption that good practice should not be constrained in the first instance by the availability of resources.

It is hoped that a wide range of parties and perspectives can feed into the two-stage consultation process, with the second phase running from 1st April 2005 till 1 June 2005. The documents to be submitted to the International Society of Audiology and considered by the ISA Executive Board in July 2005.

Any difficulties in downloading the document either at this website or elsewhere (the documents are to be lodged at www.ISA-audiology.org, www.icra.nu, www.ihr.gla.ac.uk and www.une.edu.au/psychology/staff/noble.htm.) should be addressed to Stuart Gatehouse using the above contact details.

SEE DOCUMENT ON FOLLOWING PAGES

GOOD PRACTICE GUIDANCE FOR ADULT HEARING AID FITTINGS AND SERVICES

Prepared for the International Society of Audiology, November 2004, by the Good Practice Working Group of the International Collegium of Rehabilitative Audiology

1. Background

1.1. This document contains a set of statements and recommendations for good practice in hearing aid fittings and services. It attempts to distil the results of current evidence and consensus practice into a series of statements which can be used to frame service provision. It addresses technical aspects of hearing aid fittings and rehabilitative support, but does not address in any detail the resource requirements (e.g. accommodation, staff and hardware) for service delivery.

1.2. The guidance is framed in the context of adults with mild, moderate and severe hearing impairment who are accessing a service for the first time. Profound impairments may require separate processes. In addition the guidance does not cover specialist services such as cochlear implants or bone anchored hearing aids. For existing hearing aid fittings procedures will differ, though probably will contain a sub-set of the recommendations.

1.3. The document is written as though the whole process is delivered by a single integrated service. Where different professionals or agencies are responsible for different elements, local documents should acknowledge the local structure and hand-over between agencies. Systems should be in place to ensure that all elements are included, and that information flow and cross-referral occurs in a seamless manner.

1.4. The guidance concentrates on good practice. Where local circumstances place constraints (e.g. in cash-limited State or insurance schemes or individual income in the private market), the guidance should be amended accordingly. Similarly, where in a private-pay environment individual financial resources limit access, there should be explicit local variations on the guidance.

1.5. The document makes the assumption that management of hearing impairments, disabilities and handicaps (activity limitation and participation restriction in ICIDH-2) is a comprehensive process involving rehabilitative support, provision of personal amplification and assistive listening device options. It is not a simple technical matter of hearing aid provision alone.

1.6. The guidance concentrates on the signal processing and fitting features associated with hearing aid management. It makes no assumptions regarding the mode of technological implementation (e.g. analogue or digital).

2. Infrastructure

2.1. All facilities, test rooms and equipment for the assessment, fitting and evaluation of hearing and hearing aids should conform to the appropriate international and national standards and recommendations.

2.2. All materials and methods used in assessment and management should conform to the appropriate recommended procedures.

2.3. All procedures should be undertaken by staff with appropriate professional qualifications and training All staff should have an agreed structure and process for Continued Professional Development.

2.4. All equipment used for testing and evaluation should be calibrated to the appropriate national and international standards on at least an annual basis.

2.5. Service providers should have in place appropriate referral routes and information flow between the various agencies and professions responsible for service delivery.

3. Assessment

3.1. Necessary assessment of auditory impairment will take place prior to any decision that appropriate management includes the provision of personal amplification. This decision will require at least pure-tone air and bone conduction thresholds, though further assessment of impaired auditory function may be appropriate prior to any decisions concerning the details of hearing aid management and rehabilitation.

3.2. The decision-making process regarding appropriate hearing aid management (as opposed, for example, to surgical or medical management) will be dependent upon local service and professional arrangements, but should be explicitly stated in local protocols and policies.

4. Integration and Goal setting

4.1. As an initial first stage of any intervention, a comprehensive assessment of needs should be conducted to formulate an Individual Management Plan. A formal self-report instrument with recognised properties such as the Client-Orientated Scale of Improvement (COSI) or the Glasgow Hearing Aid Benefit Profile (GHABP) should be used. The above are illustrative only and the choice of instrument is for each individual service provider, though it should be an explicit element of policy and employed throughout. The same instrument may be re-administered to assess outcome at subsequent follow-up.

4.2. The Individual Management Plan should address all issues including hearing aid fitting, rehabilitative support, and environmental modification (e.g. assistive listening devices). There will be hearing-impaired patients for whom a hearing aid is not an appropriate element of the Individual Management Plan.

4.3. The Individual Management Plan should contain input from family members and significant others as appropriate. This involvement is particularly important in devising management plans for patients who do not appear to acknowledge hearing difficulties.

4.4. All aspects of the Individual Management Plan should be informed by both the needs and goals of the hearing-impaired person, and the informed advice of the professional responsible for configuring and delivering the intervention.

5. Fitting

5.1. The minimum technical characteristics of an individual hearing aid fitting should consist of a linear hearing aid with low-distortion output compression limiting. Profound losses might require different policies. Note that this minimum standard does not imply a norm or default, but a true service baseline. Each fitting of the minimum standard should conform to a recognised rationale (e.g. NAL-RP) with established validity and performance in the scientific and clinical literature. The choice of rationale is for each individual service provider, though it should be an explicit element of policy and applied throughout.

5.2. Current research evidence suggests that at least 75% of patients will gain clinically relevant additional benefit from hearing aid fittings with features over and above the minimum standard. Examples of such features include amplitude compression, directional microphones and feedback suppression. These additional features should be available to all patients as required. The fitting of devices above the minimum standard should conform to a recognised generic (eg NAL-NL1 or $DSL_{[i-o]}$) or product-specific rationale and be documented as part of the clinical record.

5.3. Where a fitting rationale contains an acoustical target, each hearing aid fitting should be verified by real ear measurement using an input stimulus appropriate for the hearing aid under test prior to any fine-tuning. Tolerances to the prescription rationale of ± 5dB at frequencies of 250 Hz, 500 Hz, 1000 Hz and 2000 Hz and of ± 8dB at 3000 and 4000 Hz should be achieved in all cases. In addition the slope in each octave should be within ± 5dB/octave of the target. Where it is not desirable or possible to achieve a prescriptive target (e.g. because of feedback issues) or where the measurement is not technically feasible, the clinical record should contain an explicit statement to this effect. Note that some losses can only be fitted to the appropriate target using the flexibility that accompanies digital implementation. Note also that some fitting rationales do not contain an acoustical target : in such cases this step is not required.

5.4. The maximum power output of each hearing aid fitting should be adjusted according to a recognised prescription rationale (e.g. based on prediction from hearing thresholds as in NAL-SSPL and/or loudness judgements for appropriate stimuli). This choice should be an explicit element of local policy.

5.5. At the fitting session, the hearing aid frequency response and maximum power output (and other characteristics where appropriate) should be adjusted to achieve patient acceptability according to an explicitly laid-down local protocol. Fine-tuning for optimal (as opposed to an acceptable) fit is more appropriate at a subsequent follow-up visit following appropriate listening experience.

5.6. The service should offer to patients the choice of post-aural (behind-the-ear, BTE) and in-the-ear (ITE/ITC) fittings where these are compatible with the patient's needs and capabilities. The process leading to a decision of BTE or ITE/ITC should be an explicit element of the clinical record. A small number of patients will be best served by body-worn devices.

5.7. The default for all hearing aid provision should be to offer bilateral fittings. Unilateral fittings should only be offered where a) one ear is not sufficiently impaired to merit amplification, b) one ear is so impaired that amplification would not be beneficial, or c) a specific audiological or other rationale. There will be a material proportion of patients for whom bilateral provision is not appropriate for audiological and other (e.g. manipulative ability, otological or age-related) reasons. Where unilateral provision is offered, this and the reasoning should be an explicit element of the clinical record.

5.8. Where the patient declines a bilateral fitting, bilateral provision should be re-offered at a later stage of the rehabilitative process once the patient has experienced the benefits of unilateral amplification. Because of the perceptions raised by current policy of only offering bilateral fittings to severely and profoundly hearing impaired patients, a material proportion of users will decline bilateral fittings ("I'm not that deaf doctor"), but will accept and benefit from bilateral fittings following unilateral experience.

5.9. Hearing aid provision should include appropriate information about hearing, listening skills, hearing aid technology and earmoulds. There should exist local protocols for the assessment of and instruction in manipulation skills with regard to hearing aids and earmoulds both at the hearing aid fitting session and at follow-up.

5.10. Following the fine-tuning and other adjustments the acoustical properties of each hearing aid fitting used by patients in everyday listening should be documented using real ear measures, irrespective of whether the rationale used for fitting contains an acoustical target. The stimuli used for real ear measures should be appropriate for the signal processing in the hearing aid. This information is required for subsequent interpretation of listener's comments about subsequent experience with the fitting at the follow-up visits.

5.11. All patients should have access to a facility to remediate listening problems by additional consultations prior to a formal follow-up visit.

6. Follow-up

6.1. The management of hearing-impaired patients will include sessions covering assessment, fitting and at least one follow-up session. The timing, time-allocation and content of each session should be explicit elements of local policy and should be sufficient for the application of each element of good practice. Aspects of these elements may depend on the hearing aid features available in any fitting and requirements for rehabilitative support.

6.2. All patients should have a review visit between three and six weeks after hearing aid fitting. At this review visit, a measure of outcome in the self-report disability and handicap domains should be administered to assess benefit and guide ongoing management. This process may be deferred to a subsequent review visit if immediate remedial action is required to ensure acceptability of the fitting. This assessment will be directly linked to the needs assessment outlined above and often may employ the same measurement instrument. Alternatively an additional measure aimed solely at outcome assessment such as the Abbreviated Profile of Hearing Aid Benefit (APHAB) or the International Outcomes Inventory for Hearing Aids (IOI-HA) may be used. The data from the needs assessment and the outcome measure allow intra-departmental assessment of the effectiveness and cost effectiveness of local protocols and services as a whole and for patient sub-groups.

6.3. Fine-tuning at follow-up after real-world aided listening experience is an essential second stage of any provision strategy and should include formal assessment of a range of listening circumstances relevant to the individual patient. This will include ratings (either absolute or paired-comparisons) of intelligibility and listening comfort for everyday signals (often speech) at a variety of levels in quiet and in noise. There should be an explicit local policy for fine-tuning. Following any fine-tuning or the activation of additional processing or fitting features a real ear measure should be used to document the acoustical properties of each hearing aid fitting.

6.4. On the basis of either the initial Individual Management Plan, or the assessment of benefit and residual disability at follow-up (eg shortcomings in initial provision), hearing aid fittings with the appropriate features (e.g. single or multi-channel amplitude compression, directional microphone, feedback management, multi-programme etc.) should be available to all patients. Hearing aid provision should match technological features to listeners' disabilities and lifestyle.

6.5. The methods and criteria for the matching of hearing aid technology, earmould characteristics, rehabilitative support and environmental modification (eg assistive listening devices) to the Individual Management Plan should be laid down in a local protocol. The detailed decisions should be an explicit component of the clinical record.

6.6. Further fine-tuning of fittings and changes in provision should take place at subsequent follow-up visits as required. Each of the follow-up visits should detail the actions taken and the success or otherwise of those actions by repeat administration of the outcome measure of choice.

6.7. Rehabilitative counselling and support services should be available to meet the needs of each Individual Management Plan, and to ensure optimum benefit from hearing aid fittings. All hearing impaired patients should be counselled with regard to hearing tactics and listening skills. The necessary staff skills and resources should be available in each service setting.

6.8. Services for environmental modification (e.g. assistive listening devices) should be available as needed for all listeners even when these services are administered by other agencies. Each audiology service provider should establish effective liaison with relevant external agencies to meet the needs of each Individual Management Plan. Integration of these responsibilities and funding streams into a comprehensive care system should be achieved whenever possible.

7. Ongoing Support

7.1. Patients should only exit the cycle of follow-up visits when all available steps have been taken to satisfy the needs assessment or when they decline further support. All patients should be reviewed at least every three years as part of a process of continuing care. There should be an “open access” system in place for review before the due date if required by hearing aid users.

7.2. Ongoing support for hearing aid users should be provided via repair clinics for routine service and “open access” clinics for emergency care.

7.3. Each service should implement an information management system which allows ready access to process, activity and outcome data to facilitate audit and clinical governance as an ongoing monitoring of clinical effectiveness and cost-effectiveness of policy and protocols.

7.4. This guidance refers repeatedly to local policies and protocols to implement good practice. Each service provider should prepare and publish a set of overall documentation, whose clinical effectiveness and cost effectiveness should be reviewed on an annual basis. Service providers may find it helpful to form consortia for the development of policies and protocols. There should be an annual audit of process (e.g. waiting times for appointments) and outcome (using the outcome measure of choice laid down in local policy).