Guidelines for Hearing Aid Selection and Fitting for Adults

This document serves to function as a guideline for hearing care professionals who select and dispense hearing aids to adult patients. Its purpose is to attempt to regulate professional behaviour, and govern the way in which hearing care professionals practice. These standards ensure that all clients’ rights are protected and that a high standard of practice is maintained.

1. Who may fit a hearing aid?

The process of evaluation and fitting of a hearing aid/s must be carried out by a registered and, therefore, licensed hearing care professional i.e. audiologist or acoustician who functions within the roles and guidelines stipulated by the appropriate licensing authority. Hearing care professionals must be cognizant of the limitations of their practice and must make appropriate referrals for activities which are outside of their scope of practice or expertise.

2. Candidates for hearing aids: Assessment and Goal Setting:

The practitioner, together with other members of the team who may be relevant to the process (patient/client, significant other, other professional team members such as otolaryngologists, psychologists, speech-language therapists etc.) play important roles at each step of the process of fitting a hearing aid/s. The following steps are important:

- A hearing aid may only be recommended, selected and fitted on the basis of a thorough and detailed assessment of auditory function. It is the responsibility of the hearing care professional to measure the extent of the impairment (details and guidelines covered in the document pertaining to diagnosis) which is sufficient to determine the magnitude, type and configuration of the hearing loss. Adequate measures must include both simple and complex signals, such as Speech Reception Threshold and speech discrimination testing, as these measures assist the practitioner in the prediction of hearing aid benefit and may also suggest the site of lesion.

- If the client originally attended the appointment for a routine hearing assessment and consideration for hearing aid amplification but the assessment revealed the need for further, more complex assessment, such referrals to audiologists need to be made to obtain a more complete diagnosis.

- All patients/clients with any identifiable medical and/or surgical condition which may impinge on the hearing aid fitting must be referred to a medical doctor. A hearing aid will only be recommended, selected and fitted after medical clearance by a medical doctor. A patient/client may be considered a candidate for a hearing aid on the basis of a hearing loss that either cannot be remedied by medical or surgical intervention, or where the patient elects, after being sufficiently informed, not to pursue treatment of a medical or surgical nature. Similarly, in cases where medical intervention is deemed necessary together with the hearing aid, these cases need to be
appropriately monitored and managed by the medical personnel and the hearing care professional.

- In addition, the motivation of the patient, significant other and any other relevant team member is pertinent when considering the candidacy of the patient/client for a hearing aid fitting. An assessment of the patient/client's activity limitations and participation restrictions must be done through self-report of communication need and performance; assessment of environmental and personal contextual factors; and consideration of how all the levels of assessment impact quality of life.

- This assessment, when coupled with the diagnostic information about the hearing loss and the quality of life issues which it represents in the patient's life, should lead to clear and realistic individualized goals for treatment which are negotiated with the patient/client.

- Hearing aid/s may be recommended and provided as an adjunct to tinnitus management, when used in the presence of hearing loss after consultation with a medical doctor. Alternatively, devices specific to tinnitus management may be used and continually monitored.

3. Selection of Hearing Aids for Adults:
Hearing instruments must be selected based on due consideration of the following factors:

- The instrument's specifications must be determined to be an adequate match to the patient's/client's clinical diagnosis:
  o The aim of hearing aid selection should, as much as is possible, default to newer hearing aid technology i.e. digital signal processing, so as to prevent outdated fittings in an era of sophisticated hearing aid technology.
  o The amplifier must be sufficient to address the gain requirements of the audiogram (including considerations for conductive and mixed hearing losses).
  o Where possible, the specifications should also be considered in terms of their capacity to match the complexity of the configuration of the hearing loss - including slope and regularity of the audiogram.
  o The Maximum Power Output (MPO) of the hearing aid should not exceed the Uncomfortable Loudness Levels (UCL).
  o Where possible, consideration of the underlying clinical condition of the hearing loss (aetiology) and thus the likelihood of progression of magnitude or configuration of hearing loss should be taken into account when selecting a device so as to account for any changes.

- The lifestyle and communication demands of the patient should be considered:
  o Selection of the level of technology (processing platform and features) of a device should be orientated around the complexity and variability of the patient's/client's communication environments and communication demand. The higher the demand and the greater the complexity, the higher the level of preferred technology.
• The **style** of the hearing aid and **coupling** with the ear should be considered in terms of:
  o The best acoustic choice.
  o The best choice based on the patient’s other modalities e.g. visual acuity and dexterity.
  o The patient’s cosmetic requirements.

• The patient's/client's other **physical and intellectual capacities** should be included in the selection process. Examples of these include considering that the patient/client have sufficient manual dexterity, vision and understanding of the maintenance of a hearing aid, to manage the process when the audiologist is not present. If there are areas of concern, it must be ascertained whether the patient/client has other caregivers or support structures to enable hearing aid maintenance and management.

• **The financial capacity** of the patient/client should be considered and the hearing aid which provides the best value for money should be selected without creating the impression that a greater financial outlay will necessarily result in greater auditory benefit.

• Selection should be a **process of education** on the part of the client, where the audiologist invests time in informing the patient of the potential benefits and risks/drawbacks of the choices available. The counseling should be appropriate to the capacity of the patients/clients to understand their condition, and the potential technological assistance.

• Hearing instruments should be selected from a reputable manufacturer with sufficient guarantees and follow-up service delivery.

• The hearing care professional should not select a hearing aid on the basis of discounts, prizes or other tangible rewards from a manufacturer. This selection method is considered to be a perverse incentive.

4. **The Fitting of Hearing Aids for Adults**
A hearing aid fitting should be preceded by sufficient counseling with regards to the expectations of the fitting procedure, and the expectations of the prognosis.

The fitting should follow basic audiological principles to enhance hearing, such as:
• Strategies for maximizing speech in noise (binaural fitting over monaural when possible and indicated).
• Localization (binaural fitting over monaural when possible and indicated).
• Avoidance of auditory deprivation (counseling provided which suggests fitting hearing aids sooner rather than later).
• Avoidance of further hearing damage (hearing protection for potentially destructive environments, and counseling about when and where to make use of fitted hearing aids, as well as appropriate gain settings to avoid over-amplification).
5. The Process of Fitting a Hearing aid:
- The fitting should take place in a quiet room or sound treated room.
- The fitting should be adequately supported by the correct hardware and software to manage communication between the PC and the device.
- The hearing care professional should have sufficient training on the hardware and software to correctly set the device, and thus be technically and clinically proficient.
- A prescription approach incorporating a validated prescription (such as NAL, DSL v.5) should guide the hearing aid selection and fitting.
- The hearing care professional must ensure that the physical fit of the product is comfortable.
- The electro-acoustic characteristics of the hearing aids should be verified using real ear measurements such as insertion gain to measure how the hearing aid best matches the target gain.
- The hearing aid fitting should be validated using:
  - The subjective verbal or written report of the patient
  - Functional gain measures in a soundproof booth/sound treated room
  - A scale/questionnaire appropriately designed for such assessment.
- The hearing care professional should not allow the patient/client to leave his/her rooms with a hearing instrument which is physically or acoustically uncomfortable, allowing for a reasonable amount of accommodation to wearing a hearing aid.
- The patient/client must be informed of follow-up services from the hearing care professional which should be incorporated in the fitting protocol in order to ensure correct fine-tuning of the device. These services should include visits to retube Behind The Ear (BTE) hearing aids.
- Sufficient training must be provided for the further management of the device. Thus, the patient should know how to:
  - Insert and remove the earmould.
  - Insert and remove the hearing aid.
  - Manipulate the hearing aids (battery insertion and removal, use of remote controls where applicable, adjusting the volume controls, selecting the appropriate programme switches),
  - Care for the hearing aids (dry aid container, cleaning, filter replacement, does and don’ts).
  - Troubleshoot the hearing aid/s when a problem exists.
- The audiologist must provide the patient with an avenue to access assistance for troubleshooting in the future.
- All hearing aid fittings must include counseling and rehabilitation to be performed by the hearing care professional. The success of treatment depends on provision of effective instruction and orientation to device use, counseling, and, for some patients, more intensive, on-going group and/or individual audiologic services.
- See guidelines on aural rehabilitation.

6. Guidelines on structuring the session
1) Introduction and welcome.
   i) Ask if the patient/client if has any questions since the last visit.
   ii) Review the hearing loss with the patient/client.
iii) Discuss expectations of hearing aid e.g. will notice overall benefit, sometimes more than others.
iv) Ask if the patient/client has any questions about what has been discussed so far.

2) Earmould (when fitting a BTE)
i) Show the earmould.
ii) Conduct an otoscopic examination.
iii) Fit the earmould and check for comfort.
iv) Trim the tubing.
v) Attach the earmould to the hearing aid.

3) Hearing aid.
i) Show the hearing aid.
ii) Connect the hearing aid to the programming hardware.
iii) Open hearing aid software, if using a computer.
iv) Detect the hearing aid.
v) Adjust for the patient's/client's age, mould type, venting size, tubing etc.
vi) Select adaptation level to experienced.
vii) Set hearing aid to ‘mute’.

4) REMs.
i) Show the REM probe tube.
ii) Explain that it is used to measure hearing aid response in the ear to set the hearing aid for that particular person.
iii) Select the REM mode in the software.
iv) Seat patient/client about 0.5m from speaker and at 45°.
v) Request that patient/client refrains from speaking during the REMs.
vi) Select the target e.g. NAL-NL1 for adults.
vii) Select the output level to 65dBHL.
viii) Attach the REM probe tube to the earpiece.
ix) Calibrate the tube.
x) Hang the REM earpiece over the patient's/client's ear.
xi) Insert the REM probe tube into the ear (about 2.5cm into ear canal).
xii) Run the REUR at 65dBHL and expect to see a peak at around 2700Hz.
xiii) Insert the earmould into ear while the hearing aid is in ‘muted’ mode.
xiv) Run the REOR and expect to see opposite curve to REUR.
xv) Explain that you are now going to switch on hearing aid.
xvi) ‘Unmute’ hearing aid.
xvii) Run the REIR and check how well it meets Target curve.
xviii) Adjust hearing aid accordingly on the hearing aid software by increasing or decreasing the frequency response as needed.
xix) Re-run REIR and check how well it now matches the Target curve.
xx) Save the REMs and exit the REM screen.

5) Hearing aid programming.
i) Check the battery indicator tone audibility.
ii) Check additional features (e.g. telecoil, different programmes).
iii) Save and programme the hearing aid settings before exiting the hearing aid programme.

6) Subjective check of hearing aid.
i) Ask the client how the hearing aid sounds, avoiding leading questions e.g. “Do you like the way it sounds?” “Is it nice?” etc. Rather use, “How does that sound?”
ii) Counsel accordingly.

7) Hearing aid orientation.
   i) Work systematically.
   ii) Show hearing aid.

a) Battery.
   i) Compartment opening and closing.
   ii) Battery insertion.
   iii) Battery life (dependent on the strength of hearing aid).
   iv) New battery acquisition.
   v) Low battery warning.

b) Programme switch
   i) How the patient/client can adjust the programme switch if more than one
     programme has been installed.

c) Volume control (if available).
   i) Show the patient/client how to manipulate the toggle or dial to increase or
decrease the volume.

d) Insertion of earmould and hearing aid.
   i) The patient/client is shown how the earmould fits into the ear and has a few
     attempts at doing so.
   ii) The patient/client needs to be reinforced appropriately.
   iii) Slip the hearing aid over the ear (if it's a BTE).

e) Switches.
   i) The patient/client is to try the different settings on the hearing aid and volume
     wheel (if available).

f) Removal of earmould.
   i) Demonstrate removal of the earmould.
   ii) The patient/client is to then remove the earmould and be reinforced appropriately.

g) Auditory feedback.
   i) Use auditory feedback as a platform to discuss maintenance, care and cleaning
     of the hearing aid.
   ii) Feedback will occur if:
        (1) Poorly fitting mould (may need a new earmould).
        (2) The earmould is incorrectly inserted (reinsert correctly).
        (3) Wax is occluding the ear canal (GP referral).
        (4) Wax is occluding the earmould (clean the earmould).
        (5) The volume may be inappropriately high.
        (6) The hearing aid is covered e.g. by a scarf or hat.
        (7) An internal fault in the hearing aid (to be checked by audiologist).

h) Record keeping.
   i) Record hearing aid serial number and update client's particulars.

8) Follow up.
   i) Arrange follow up appointment to discuss improvements noticed with hearing aid.
   ii) Encourage regular use.
   iii) Encourage use in varied environments.
7. Details on Assessing the Outcome of the Fitting

- The practitioner should ask and document the satisfaction of the patient/client based on a self-report at the end of the fitting process.
- Where and when possible, additional outcomes measures should be obtained which should include a technical verification of the match that the hearing aid/s provide with the
- Target gain (insertion gain measures); functional gain measures for pure tones and speech discrimination; the use of formal satisfaction scales and questionnaires; and other measures of benefit.
- Outcome measures must be documented as part of the patient's/client's record.
- The hearing care professional should encourage the patient to be assessed at least annually for changes to his/her hearing loss or instrument function in order to maintain the goals set for the individual.

8. The hearing aid dispenser MAY NOT:

- indicate to patients, either in writing or verbally, that they are “more experienced”, “better than”, “more professional”, “better trained” or “cheaper than” other hearing care professionals.
- offer discounts on hearing aids in an attempt to draw business away from another practitioner.
- Include diagnostic hearing assessment fees in the price of a hearing aid fitting, nor may the testing be performed free if a hearing aid is purchased. This practice is considered touting which is considered unethical and subject to disciplinary measures.
- The hearing care professional should engage in regular training and should keep abreast of the latest developments in hearing aid technology whilst ensuring that the products supplied are in line with universal developments and that the price of the aid/s is market related.

8. Contract:

A contract (verbal and/or written) may be drawn up between the hearing care professional and the patient to which both parties should agree. The contract should include information such as:

- The number of fitting and fine tuning sessions offered with a hearing aid fitting and the costs involved should consultations be charged.
- The length of the trial period, if such an option is available.
- The procedure of returning a hearing aid:
  - It is recommended that the patient be informed as to the fact that some manufacturers charge a fee if a hearing aid is returned.
  - If the hearing care professional chooses to charge for professional time in the event of a return, the patient should be informed prior to the commencement of the trial.
- The contract should inform the patient as to when and how payment is expected.
Conclusion

Hearing care professionals encounter a variety of clients with diverse audiological needs. The rehabilitation programme for each client needs to be tailored to their particular needs and situation. Nonetheless, there are basic principles and procedures which the hearing care professional should implement to ensure that the patient/client has the best opportunity to benefit from the hearing aid.

In light of the flux within the field of hearing assessment and rehabilitation, it is envisaged that these guidelines may change over time to reflex that flux and progression and hearing care professionals are therefore encouraged to keep abreast of new developments to ensure that the best possible service is offered to patients/clients.