



Guidance on Identifying Non-Routine Cases of Hearing Loss in Adults

Produced by: Service Quality Committee of the British
Academy of Audiology

Key Authors: Laura Turton
Rosemary Monk
Michelle Booth

Date of publication: April 2015

Review date: April 2017

Acknowledgements:

The Service Quality Committee would like to thank the many BAA members who commented on earlier drafts of this document sent out for consultation. We are grateful for your time and opinions.

Authors Note:

The authors wish to acknowledge the limitations of this document: The audiological terms included in the document are routinely used in audiology clinics throughout the UK. However, there is little research evidence to support some of the terms used and guidance provided. We have therefore relied on recommended procedures, working group recommendations and clinical consensus (as far as this is possible to achieve) as a basis for our guidance. In view of this we anticipate reviewing this document on a regular basis to ensure it reflects the most up to date evidence available.

We strongly encourage researchers to investigate these areas of clinical practice further to provide an evidence base to support future recommendations. We likewise encourage clinicians to actively agree common working definitions of the terms used in this document, to enable standardisation of clinical pathways for adults with non-routine hearing loss across the UK.

Introduction:

Routine, direct referral adult care pathways in the UK specifically fund hearing aid fitting, but provide no financial support for supplementary or additional forms of rehabilitation, such as communication skills training, additional rehabilitation time or assistive listening devices. Many hearing impaired adults may choose, or would benefit from, additional or alternative intervention, and some are likely to require a significant amount of time and resources for additional assessment and/or rehabilitation. For the purposes of this document these cases are deemed to be non-routine (or complex) cases for hearing loss management.

This document is intended to enable clinicians to direct hearing impaired adults along the most appropriate treatment pathway and to enable effective discussions between commissioners and Audiology professionals by identifying cases of hearing loss in adults that are likely to be unsuitable for the routine adult care pathway.

The potential definitions for a non-routine case are outlined below. Presentation of these issues may arise at any point in the care pathway, whether at receipt of referral by Audiology, initial assessment, hearing aid fitting (if appropriate) or follow up.

It should be noted that this document does **not** advise clinicians on the management of non-routine cases, and clinicians are referred to current evidence-based practice and to the British Society of Audiology's Practice Guidance documents, particularly the "Practice Guidance on Common principles of rehabilitation for adults with hearing- and/or balance-related problems in routine audiology services"^[1].

BAA - Service Quality Committee

This document divides complex cases into 3 types:

1. those defined by hearing loss complexity
2. those defined by co-existing or confounding conditions or other factors
3. those defined by poor outcomes following a **high quality** intervention, which will typically become evident during the routine pathway process. For the purpose of this document poor outcomes is defined as:

Failing to meet the appropriate clinical outcomes following rehabilitation.

This may include poor performance on clinical outcome measures (the clinical decision will depend on the outcome measure used), patient reports of continuing hearing difficulty and patient reports of poor satisfaction with hearing following intervention. It is acknowledged that the outcomes deemed “appropriate” will vary according to the nature of the hearing loss and the person’s individual circumstances. It is also acknowledged that poor clinical outcomes may follow poor quality intervention, and therefore robust processes should be in place to ensure that audiology services are of sufficient quality (it is beyond the scope of this document to provide guidance on quality standards).

1. Hearing Loss Complexity

Condition	Notes
Long term fluctuating hearing loss	Not associated with head colds or other respiratory tract infection. For example due to Meniere's disease, autoimmune factors, or repeat ear infections.
Precipitous, steeply sloping or "Ski-slope" high frequency hearing loss	≥50+dB difference across consecutive octaves at 0.5 to 4kHz. ^[2]
Severe-profound hearing loss	Average hearing levels >70dBHL across the frequencies 250, 500, 1000, 2000, & 4000 Hz. ^[3]
Mixed hearing loss	Where ac thresholds ≥60dBHL and air-bone gap is ≥30dBHL ^[2]
Asymmetrical hearing loss	As indicated by a difference in left and right bone conduction thresholds of 20dB or greater at two or more of the following frequencies: 500, 1000, 2000, 4000 Hz.
Moderate to profound Unilateral hearing loss (including Single Sided Deafness)	Where hearing thresholds are ≥45 dBHL in the worse ear, and ≤20dBHL in the better ear.
Sudden or rapid hearing loss	Either: a greater than 30 dB deterioration in sensorineural hearing loss occurring in at least three adjacent audiometric frequencies over 72 hours or less ^[4] Or: Rapid onset of hearing loss or rapid deterioration in hearing. Rapid is within 90 days or less ^[5] .
Evidence of abnormally severe recruitment	Significantly reduced tolerance to loud sounds reported in the history, or where a significantly reduced dynamic range ≤30dB is demonstrated by plotting Uncomfortable Loudness Levels on the pure tone audiogram.
Hyperacusis	Oversensitivity to everyday sounds at moderate/everyday intensity levels ^{[6] [7]} in the absence of hearing loss. <i>Note: Whilst this condition is not directly associated with hearing loss it is often considered a hearing disorder and is therefore likely to be referred to an Audiology clinic.</i>
Troublesome tinnitus	Considered by the sufferer to be moderately or severely distressing, and which may be associated with sleep

	disturbance or with symptoms of anxiety or depression. ^[5]
Acoustic neuroma	Diagnosed by ENT doctor, Audiological Physician or Neurology doctor.
Hearing loss syndromes	Diagnosed by ENT doctor, Audiological Physician, or other appropriate medical professional. E.g. Usher's syndrome.
Auditory Processing Disorders	Characterised by poor perception of both speech and non-speech sounds ^[8] .
Auditory Neuropathy Spectrum Disorder (ANSD)	Diagnosed using pure tone audiometry, otoacoustic emission and auditory brainstem response testing. May be identified as part of a neurological disorder (e.g. Freidreichs ataxia or Charcot-Marie Tooth syndrome ^[9]) at referral.
"Dead Regions"	Diagnosed by a TEN test or equivalent
Non-Organic Hearing loss or Non-organic overlay to a hearing loss	Diagnosed by an ENT doctor, Audiological Physician, or an appropriately qualified Audiologist or Clinical Scientist.

2. Co-existing or Confounding Conditions

Neurological disorder	Diagnosed by Neurology. For example a stroke or head injuries.
Dual sensory loss	Where visual impairment accompanies hearing loss and impacts upon the person's communication ability (e.g. limiting their access to TV subtitles or lipreading) or their ability to operate hearing aids or other assistive devices
Physical impairments which restrict dexterity for hearing aids or other communication devices	Poor manual dexterity, impaired sense of touch, or inability to reach ears, where this is deemed likely to impair the hearing aid wearers ability to insert, control or otherwise operate hearing aids.
Learning disabilities	Diagnosed by an appropriate healthcare professional, where the nature or severity of the condition may affect the hearing rehabilitation process. ^[10]
Dementia or memory problems	Diagnosed by an appropriate healthcare professional, where the nature or severity of the condition may affect the hearing rehabilitation
Psychological / Psychiatric Disorders / Psychosocial issues	Where the patient has a diagnosis from an appropriate healthcare professional, and where compliance difficulties or severe problems in family circumstance may affect the hearing rehabilitation process.

3. Poor Outcomes following high quality intervention

Poor outcome measured at the end of the pathway	Failing to meet appropriate clinical expectations for treatment as indicated on page 1 of this document.
Frequently attended for follow-up or fine tuning	Someone who has attended for ≥ 3 visits for alterations to the hearing aid settings ^[2] or reinstruction within 12 months.
Poor discrimination of speech	Clinical decision is dependent upon the speech test used: the appropriate guidance should be followed.

Conclusion

This document has identified complex types of hearing loss to help practitioners referring people with hearing loss to identify the appropriate referral route. This should ensure that patients receive accurate diagnosis and specialist support from professionals who are best able to provide appropriate management of their condition(s). It is essential that clear pathways and tariffs are established to ensure that patients received cost-effective and timely treatment.

Bibliography

- [1] British Society of Audiology, "Practice Guidance: Common Principles of Rehabilitation for Adults with Hearing- and/or Balance- Related Problems in Routine Audiology Services," 30 August 2012. [Online]. Available: <http://www.thebsa.org.uk/resources/>. [Accessed 24 July 2014].
- [2] NHS Improvement, "Shaping the future: Strengthening the evidence to transform Audiology services," 2011. [Online]. Available: http://webarchive.nationalarchives.gov.uk/20130221101407/http://improvement.nhs.uk/audiology/documents/Shaping_the_Future.pdf?fileticket=zRsjLXTeCw=&tabid=56. [Accessed 13 11 2014].
- [3] British Society of Audiology, "Recommended Procedure: Pure-tone air-conduction and bone-conduction threshold audiometry with and without masking," 24th September 2011. [Online]. Available: <http://www.thebsa.org.uk/resources/>. [Accessed 28 July 2014].
- [4] G. B. Hughes, M. A. Freedman, T. J. Haberkamp and M. E. Guay, "Sudden sensorineural hearing loss.," *Otolaryngologic Clinics of North America*, vol. 29, pp. 393-405, 1996.
- [5] British Academy of Audiology, "Guidelines for Referral to Audiology of Adults with Hearing Difficulty," 2009. [Online]. Available: <http://www.baaudiology.org/about/publications/>. [Accessed 24 July 2014].

BAA - Service Quality Committee

- [6] D. M. Baguley, "Hyperacusis," *Journal of the Royal Society of Medicine*, vol. 96, pp. 582-585, 2003.
- [7] D. M. Baguley and D. McFerran, "British Tinnitus Association," August 2010. [Online]. Available: <http://www.tinnitus.org.uk/hyperacusis>. [Accessed 24 July 2014].
- [8] British Society of Audiology, "Practice Guidance: An Overview of Current Management of Auditory Processing Disorder (APD)," 1st August 2011. [Online]. Available: <http://www.thebsa.org.uk/resources/>. [Accessed 24 July 2013].
- [9] G. Rance, M. Ryan, P. Carew, L. Corben, E. Yiu, J. Tan and M. Delatycki, "Binaural Speech Processing In Individuals With Auditory Neuropathy," *Neuroscience*, vol. 226, pp. 227-235, 2012.
- [10] L. McShea, C. Corkish, S. McAnelly "Audiology services: access, assessment, and aftercare," *Learning Disability Practice*, vol. 17, no. 2, pp. 20 - 25, 2014.
- [11] British Society of Hearing Aid Audiologists, "Guidance on Professional Practice for Hearing Aid Audiologists," 08 2012. [Online]. Available: <http://www.bshaa.com/public/report.aspx?memberqueryid=FE17FAF7-B437-4DC1-B762-FD4C904904A6&atc=aaa&nodeid=6E26407D-9707-432E-BA7D-E59BFF058871>. [Accessed 24 07 2014].