

# Screening for hearing aid fittings – an approach for primary care

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## Introduction

The communication difficulties related to hearing loss can lead to 'depression, social withdrawal and problems with employment and access to information sources' [1]. Furthermore, unmanaged hearing loss is associated with dementia, a poorer quality of life, depression, anxiety and poorer diagnosis and management of long-term conditions [2].

Timely intervention is therefore critical, as in the United Kingdom, estimates suggest that approximately a sixth of the population, or in excess of 10 million people, have some form of hearing loss. Of these 10 million people, two million have hearing aids, but a further four million would benefit from hearing aids but do not have them [3].

In the National Health Service (NHS) in England all new adult hearing assessments originate from primary care (PC), either directly from the general practitioner (GP) or via an ENT consultant. The GP's approach to identifying a hearing loss and onward referral is therefore critical to the successful and timely management of the hearing impaired individual.

In the following article the author will identify and critique the current methods of hearing screening used in PC and suggest an approach for PC in the screening of people for hearing aid fittings.

In the context of the following article, screening is defined as a process in PC that identifies those who self-report hearing difficulties to their GPs and are identified with a hearing loss.

## Current approach

In the NHS in England the traditional way for GPs to screen adults (age 16 years+) who report hearing difficulties is to take a history of their problems, examine their ears and (possibly) perform a series of simple diagnostic tests. Dependent upon the results of

these investigations the patient will either be treated and discharged (e.g. ears dewaxed) or referred onwards. Integral to decision making is the GP's use and understanding of locally agreed criteria regarding referral routes, (direct to audiology, via ENT or via the emergency department in the case of sudden sensorineural losses) [4].

## Examination

Otoscopy is critical in the identification of contra-indications for proceeding with the management of the patient where pure tone audiometry, impression taking for earmoulds or getting access to the ear canal for hearing aid in-situ verification are important parts of the treatment pathway. Failure to deal with earwax in particular can lead to unnecessary delays in treatment and the issue of hearing aid(s).

## Functional assessment

Subjective tests to aid diagnosis of the type and severity of hearing loss can help in determining whether the patient is suitable for direct audiology access or if they require an ENT referral.

## Whispered voice test

The whispered voice test is a simple and, if performed to a protocol, accurate test of hearing that involves the examiner whispering a series of six letters and numbers from an arm's length's distance from behind the patient (to prevent lip reading) into each ear in turn, occluding the other non-test ear and then asking the patient to repeat what they heard. The patient is considered to have passed the test should they accurately repeat 50% of what they heard. Pirozzo et al. (2003) found that the test required standardisation to optimise its sensitivity [5] and recently, McShefferty et al. (2013) identified the whispered voice test as being a valid hearing assessment method 'provided the level of the [voice of the]

whisperer' is considered [6].

## Tuning fork tests

Tuning fork tests simply indicate whether the hearing loss is more likely to be conductive or sensorineural in nature (Rinne's test) and whether there is a unilateral impairment (Weber test) and serve to provide further guidance as to whether an ENT referral is required.

## Pure tone audiometry and tympanometry

Few GPs have access to pure tone audiometry (PTA) and tympanometry. Because of the uncertainty of the ambient noise levels and staff competence of PC performed PTAs, audiograms are often repeated in secondary care before hearing aid(s) are issued. However, if performed to British Society of Audiology 2013 guidelines [7], the quality of referrals could be improved.

## Current hearing aid management and developments in hearing aid technologies

The traditional way to manage adult patients who may need a hearing aid is to assess their hearing by PTA at one appointment and fit at another later appointment, once impressions for custom made earmould(s) have been taken and later manufactured.

Recent technological developments in digital hearing instruments now allow generic 'open fit' or 'slim tube' fitting systems for mild to moderate hearing losses which mean that some patients can be 'assessed-and-fitted' at the same appointment.

In a study of 540 people with hearing problems in 12 audiology services in England and Wales in 2007/8 it was found that 68% (n=369) were suitable for a single assess-and-fit appointment using open ear or comply tips [8].

This study concluded that it was



Figure 1: Hear Check screening device.

### A list of critical success factors in screening for hearing aids in primary care

- Keeping the patient's needs and preferences at the centre of any decision made for amplification.
- Education and knowledge of GPs of hearing loss and latest hearing aids.
- Adherence to locally agreed referral
- Functional testing carried out on a 'quiet' room using a consistent test methodology or ideally utilising a screening device.
- Assessment of cognitive ability, dexterity and vision is useful.
- Examining ears for occluding wax pre and post dewax interventions.
- Giving information on realistic expectations and limitations of hearing aids.

Figure 2: A list of critical success factors when screening for hearing loss in primary care.

difficult to predict who was suitable for an assess-and-fit appointment at the patient's first audiology appointment but that a simple triage in PC with a screening device may resolve this.

### A new approach

In the NHS in Leicestershire we developed a modified referral questionnaire for GPs and piloted the use of Siemens' Hear Check screening device (Figure 1) for adults presenting to PC with hearing difficulty.

The Hear Check 'cups' each ear in turn and presents three tones at 1 kHz at 55, 35 and 20 dB HL followed by a further three tones at 3 kHz at 75, 55 and 35 dB HL. The important thing to note about the Hear Check is that it is not for diagnostic purposes but that the number of tones heard provides a standardised assessment to guide appropriate referral, as an alternative to the whispered voice test.

The modified referral questionnaire recorded the results of the Hear Check and asked key questions that relate to ear examination (i.e. ear checked for wax), manual dexterity, vision and cognitive ability (to concentrate for 90 minutes) [9].

### Taking it further

The HearCheck has been shown to be simple and effective as a triage tool, but in order to address the issue of the unmet need in the population, there is an argument for using this device, possibly in conjunction with a short set of questions, on all 65-year-olds, possibly linked with other types of health screening [2].

### Conclusion

Current methods of assessing hearing difficulties in PC already go some way to screen for patients who are appropriate for hearing aid fitting or further

investigations in ENT. However, the whispered voice test is not standardised or specific enough to use for hearing aid fitting(s) and nor should audiological information be the sole indicator for suitability.

The GP can play a significant role in identifying those patients who may be suitable for the appropriate hearing aid fitting pathway. In addition, they have the opportunity to reduce the public's perceived stigma of hearing aids. NHS hearing aids for example, are provided free of charge and are smaller and more discrete than ever before. They do not restore hearing back to normal but rather they improve what residual hearing there is. In addition they do not remove all background noise and this is a natural part of the adaptation process that the patient should be made aware of. They do however process the sounds digitally leading to a clearer, more natural sound (for the majority of users).

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### Further reading

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Hearing screening for life <http://www.hearingscreening.org.uk/>



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### Declaration of Competing Interests

None declared.