

# Hearing loss in adults: assessment and management

NICE guideline

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## Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

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## Overview

This guideline covers some aspects of assessing and managing hearing loss in primary, community and secondary care. It aims to improve the quality of life for adults with hearing loss by advising healthcare staff on assessing hearing difficulties, managing earwax and referring people for audiological or specialist assessment and management.

The guideline covers adults aged over 18, including adults whose age of onset of hearing loss was under 18 but who present for the first time in adulthood.

### *Who is it for?*

- Health and social care professionals
- Commissioners of health and social care services
- People with hearing loss, their families and carers

## Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in [your care](#).

[Making decisions using NICE guidelines](#) explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

### 1.1 *Assessment and referral*

#### Hearing difficulties or suspected hearing difficulties

1.1.1 For adults who present for the first time with hearing difficulties, or in whom you suspect hearing difficulties:

- exclude impacted wax and acute infections such as otitis externa, then
- arrange an audiological assessment (for more information on audiological assessment see [recommendation 1.5.1](#)) and
- refer for additional diagnostic assessment if needed (see recommendations 1.1.2 to 1.1.7 on sudden or rapid onset of hearing loss and hearing loss with specific additional symptoms or signs).

#### Sudden or rapid onset of hearing loss

1.1.2 Refer adults with sudden onset or rapid worsening of hearing loss in one or both ears, which is not explained by external or middle ear causes, as follows.

- If the hearing loss developed suddenly (over a period of 3 days or less) within the past 30 days, refer immediately (to be seen within 24 hours) to an ear, nose and throat service or an emergency department.
- If the hearing loss developed suddenly more than 30 days ago, refer urgently (to be seen within 2 weeks) to an ear, nose and throat or audiovestibular medicine service.
- If the hearing loss worsened rapidly (over a period of 4 to 90 days), refer urgently (to be seen within 2 weeks) to an ear, nose and throat or audiovestibular medicine service.

## Hearing loss with specific additional symptoms or signs

- 1.1.3 Refer immediately (to be seen within 24 hours) adults with acquired unilateral hearing loss and altered sensation or facial droop on the same side to an ear, nose and throat service or, if stroke is suspected, follow a local stroke referral pathway. For information about diagnosis and initial management of stroke, see the NICE guideline on [stroke and transient ischaemic attack in over 16s](#).
- 1.1.4 Refer immediately (to be seen within 24 hours) adults with hearing loss who are immunocompromised and have otalgia (ear ache) with otorrhoea (discharge from the ear) that has not responded to treatment within 72 hours to an ear, nose and throat service.
- 1.1.5 Consider making an urgent referral (to be seen within 2 weeks) to an ear, nose and throat service for adults of Chinese or south-east Asian family origin who have hearing loss and a middle ear effusion not associated with an upper respiratory tract infection. For information about recognition and referral for suspected cancer, see the NICE guideline on [suspected cancer](#).
- 1.1.6 Consider referring adults with hearing loss that is not explained by acute external or middle ear causes to an ear, nose and throat, audiology or specialist audiology service for diagnostic investigation, using a local pathway, if they present with any of the following:
- unilateral or asymmetric hearing loss as a primary concern
  - hearing loss that fluctuates and is not associated with an upper respiratory tract infection
  - hyperacusis (intolerance to everyday sounds that causes significant distress and affects a person's day-to-day activities)
  - persistent tinnitus that is unilateral, pulsatile, has significantly changed in nature or is causing distress
  - vertigo that has not fully resolved or is recurrent
  - hearing loss that is not age related.

- 1.1.7 Consider referring adults with hearing loss to an ear, nose and throat service if, after initial treatment of any earwax (see [recommendations 1.2.1 to 1.2.5](#) on removing earwax) or acute infection, they have any of:
- partial or complete obstruction of the external auditory canal that prevents full examination of the eardrum or taking an aural impression
  - pain affecting either ear (including in and around the ear) that has lasted for 1 week or more and has not responded to first-line treatment
  - a history of discharge (other than wax) from either ear that has not resolved, has not responded to prescribed treatment, or recurs
  - abnormal appearance of the outer ear or the eardrum, such as:
    - inflammation
    - polyp formation
    - perforated eardrum
    - abnormal bony or skin growths
    - swelling of the outer ear
    - blood in the ear canal
  - a middle ear effusion in the absence of, or that persists after, an acute upper respiratory tract infection.

### **Adults with suspected or diagnosed dementia, mild cognitive impairment or a learning disability**

- 1.1.8 Consider referring adults with diagnosed or suspected dementia or mild cognitive impairment to an audiology service for a hearing assessment because hearing loss may be a comorbid condition.
- 1.1.9 Consider referring adults with diagnosed dementia or mild cognitive impairment to an audiology service for a hearing assessment every 2 years if they have not previously been diagnosed with hearing loss.

- 1.1.10 Consider referring people with a diagnosed learning disability to an audiology service for a hearing assessment when they transfer from child to adult services, and then every 2 years.

## 1.2 *Removing earwax*

- 1.2.1 Offer to remove earwax for adults in primary care or community ear care services if the earwax is contributing to hearing loss or other symptoms, or needs to be removed in order to examine the ear or take an impression of the ear canal.
- 1.2.2 Do not offer adults manual syringing to remove earwax.
- 1.2.3 Consider ear irrigation using an electronic irrigator, microsuction or another method of earwax removal (such as manual removal using a probe) for adults in primary or community ear care services if:
- the practitioner (such as a community nurse or audiologist):
    - has training and expertise in using the method to remove earwax
    - is aware of any contraindications to the method
  - the correct equipment is available.
- 1.2.4 When carrying out ear irrigation in adults:
- use pre-treatment wax softeners, either immediately before ear irrigation or for up to 5 days beforehand
  - if irrigation is unsuccessful:
    - repeat use of wax softeners or
    - instil water into the ear canal 15 minutes before repeating ear irrigation
  - if irrigation is unsuccessful after the second attempt, refer the person to a specialist ear care service or an ear, nose and throat service for removal of earwax.

- 1.2.5 Advise adults not to remove earwax or clean their ears by inserting small objects, such as cotton buds, into the ear canal. Explain that this could damage the ear canal and eardrum, and push the wax further down into the ear.

### 1.3 *Investigation using MRI*

- 1.3.1 Offer MRI of the internal auditory meati to adults with hearing loss and localising symptoms or signs (such as facial nerve weakness) that might indicate a vestibular schwannoma or CPA (cerebellopontine angle) lesion, irrespective of pure tone thresholds.
- 1.3.2 Consider MRI of the internal auditory meati for adults with sensorineural hearing loss and no localising signs if there is an asymmetry on pure tone audiometry of 15 dB or more at any 2 adjacent test frequencies, using test frequencies of 0.5, 1, 2, 4 and 8 kHz.

### 1.4 *Treating idiopathic sudden sensorineural hearing loss*

- 1.4.1 Consider a steroid to treat idiopathic sudden sensorineural hearing loss in adults.

### 1.5 *Assessment and management in audiology services*

- 1.5.1 Include and record the following as part of the audiological assessment for adults:
- a full history including relevant symptoms, comorbidities, cognitive ability, physical mobility and dexterity
  - the person's hearing and communication needs at home, at work or in education, and in social situations
  - any psychosocial difficulties related to hearing
  - the person's expectations and motivations with respect to their hearing loss and the listening and communication strategies available to them
  - any restrictions on activity, assessed using a self-report instrument such as the Glasgow Hearing Aid Benefit Profile or the Client-Orientated Scale of Improvement

- otoscopy
- pure tone audiometry
- tympanometry if indicated.

1.5.2 After the audiological assessment:

- discuss with the person:
  - the pure tone audiogram and the impact their hearing loss might have on communication
  - hearing deficits (such as listening in noisy environments) that are not obvious from the audiogram
  - options for managing their hearing needs, such as acoustic or bone conduction hearing aids, assistive listening devices and communication strategies, and the potential benefits and limitations of each option
  - options for managing single-sided deafness if needed
  - referral for implantable devices such as cochlear implants, bone-anchored hearing aids, middle-ear implants or auditory brain stem implants, if these might be suitable (see NICE's technology appraisal guidance on [cochlear implants for children and adults with severe to profound deafness](#) and interventional procedures guidance on [auditory brain stem implants](#))
  - referral for medical or surgical treatments, if these might be suitable
- agree and record a personalised care plan, taking into account the person's preferences, including goals, and give the person a copy.

1.5.3 Give the person and, if they wish, their family or carers, information about:

- the causes of hearing loss, how hearing loss affects the ability to communicate and hear, and how it can be managed
- organisations and support groups for people with hearing loss.

## 1.6 *Hearing aids and assistive listening devices*

### Hearing aids

#### *Offering hearing aids to adults*

- 1.6.1 Offer hearing aids to adults whose hearing loss affects their ability to communicate and hear, including awareness of warning sounds and the environment, and appreciation of music.
- 1.6.2 Offer 2 hearing aids to adults with aidable hearing loss in both ears. Explain that wearing 2 hearing aids can help to make speech easier to understand when there is background noise, make it easier to tell where sounds are coming from, and improve sound quality.
- 1.6.3 Consider using motivational interviewing or engagement strategies and goal setting when discussing hearing aids with adults for the first time, to encourage acceptance and use of hearing aids.
- 1.6.4 Show the hearing aids when they are first offered and discuss their suitability with the person.

#### *Prescribing and fitting hearing aids for adults*

- 1.6.5 When prescribing and fitting hearing aids, explain the features on the hearing aid that can help the person to hear in background noise, such as directional microphone and noise reduction settings.
- 1.6.6 Advise adults with hearing aids about choosing microphone and noise reduction settings that will meet their needs in different environments, and ensure that they know how to use them.
- 1.6.7 Give adults with hearing aids information about getting used to hearing aids, cleaning and caring for their hearing aids, and troubleshooting.

## Assistive listening devices

- 1.6.8 Give adults with hearing loss information about assistive listening devices such as personal loops, personal communicators, TV amplifiers, telephone devices, smoke alarms, doorbell sensors, and technologies such as streamers and apps.
- 1.6.9 Tell adults with hearing loss about organisations that can demonstrate and provide advice on how to obtain assistive listening devices, such as social services, the fire service, or the government through programmes such as Access to Work or Disabled Student Allowance.

## 1.7 *Follow-up in audiology services*

- 1.7.1 Offer adults with hearing aids a face-to-face follow-up audiology appointment 6 to 12 weeks after the hearing aids are fitted, with the option to attend this appointment by telephone or electronic communication if the person prefers.
- 1.7.2 At the follow-up audiology appointment for adults with hearing aids:
- ask the person if they have any concerns or questions
  - address any difficulties with inserting, removing or maintaining their hearing aids
  - provide information on communication, social care or rehabilitation support services if needed
  - tell the person how to contact audiology services in the future for aftercare, including repairs and adjustments to accommodate changes in their hearing
  - ensure that the person's hearing aids and other devices meet their needs by checking:
    - the comfort, sound quality and volume of hearing aids, including microphone and noise reduction settings, and fine-tuning them if needed
    - hearing aid cleaning, battery life and use with a telephone
    - use of assistive listening devices
    - hours the hearing aid has been used, if shown by automatic data logging

- review the goals identified in the personalised care plan and agree how to address any that have not been met (for information on the personalised care plan, see [recommendation 1.5.2](#))
- update the personalised care plan and provide them with a copy.

1.7.3 For adults with hearing loss in both ears who chose a single hearing aid, consider a second hearing aid at the follow-up appointment.

1.7.4 For adults with hearing loss who have chosen a management strategy other than hearing aids, such as assistive listening devices or communication strategies, offer a follow-up appointment when the effectiveness of the device or strategy can be evaluated.

1.7.5 Tell adults with hearing loss who have chosen not to have a hearing aid or other device how to contact audiology services in the future.

1.7.6 Consider having a system in place for recalling people with hearing devices for regular reassessment of their hearing needs and devices.

## 1.8 *Information and support*

1.8.1 Follow the principles on tailoring healthcare services for each person and enabling people to actively participate in their care in the NICE guideline on [patient experience in adult NHS services](#) by, for example:

- taking into account the person's ability to access services and their personal preferences when offering appointments
- taking measures, such as reducing background noise, to ensure that the clinical and care environment is conducive to communication for people with hearing loss, particularly in group settings such as waiting rooms, clinics and care homes
- establishing the most effective way of communicating with each person, including the use of hearing loop systems and other assistive listening devices
- ensuring that staff are trained and have demonstrated competence in communication skills for people with hearing loss

- encouraging people with hearing loss to give feedback about the health and social care services they receive, and responding to their feedback.

## Putting this guideline into practice

NICE has produced [tools and resources](#) to help you put this guideline into practice.

One issue was highlighted that might need specific thought when implementing [recommendations 1.7.1](#) and [1.7.2](#) on the follow-up appointment in audiology services for people who have had hearing aids fitted. People who attend this appointment by telephone or electronic communication, rather than in person, might need to be offered an additional face-to-face appointment if their hearing aids need to be adjusted or they are having problems using them.

Putting recommendations into practice can take time. How long may vary from guideline to guideline, and depends on how much change in practice or services is needed. Implementing change is most effective when aligned with local priorities.

Changes recommended for clinical practice that can be done quickly – like changes in prescribing practice – should be shared quickly. This is because healthcare professionals should use guidelines to guide their work – as is required by professional regulating bodies such as the General Medical and Nursing and Midwifery Councils.

Changes should be implemented as soon as possible, unless there is a good reason for not doing so (for example, if it would be better value for money if a package of recommendations were all implemented at once).

Different organisations may need different approaches to implementation, depending on their size and function. Sometimes individual practitioners may be able to respond to recommendations to improve their practice more quickly than large organisations.

Here are some pointers to help organisations put NICE guidelines into practice:

- 1. Raise awareness** through routine communication channels, such as email or newsletters, regular meetings, internal staff briefings and other communications with all relevant partner organisations. Identify things staff can include in their own practice straight away.
- 2. Identify a lead** with an interest in the topic to champion the guideline and motivate others to support its use and make service changes, and to find out any significant issues locally.
- 3. Carry out a baseline assessment** against the recommendations to find out whether there are gaps in current service provision.

4. **Think about what data you need to measure improvement** and plan how you will collect it. You may want to work with other health and social care organisations and specialist groups to compare current practice with the recommendations. This may also help identify local issues that will slow or prevent implementation.

5. **Develop an action plan**, with the steps needed to put the guideline into practice, and make sure it is ready as soon as possible. Big, complex changes may take longer to implement, but some may be quick and easy to do. An action plan will help in both cases.

6. For **very big changes** include milestones and a business case, which will set out additional costs, savings and possible areas for disinvestment. A small project group could develop the action plan. The group might include the guideline champion, a senior organisational sponsor, staff involved in the associated services, finance and information professionals.

7. **Implement the action plan** with oversight from the lead and the project group. Big projects may also need project management support.

8. **Review and monitor** how well the guideline is being implemented through the project group. Share progress with those involved in making improvements, as well as relevant boards and local partners.

NICE provides a comprehensive programme of support and resources to maximise uptake and use of evidence and guidance. See our [into practice](#) pages for more information.

Also see Leng G, Moore V, Abraham S, editors (2014) [Achieving high quality care – practical experience from NICE](#). Chichester: Wiley.

## Context

Hearing loss is a major public health issue affecting about 9 million people in England. Because age-related hearing loss is the most common type of hearing loss, it is estimated that by 2035 there will be around 13 million people with hearing loss in England – a fifth of the population. The psychological, financial and health burden of hearing loss can be reduced by prompt and accurate referral, robust assessment and correct management.

The care offered to people with hearing difficulties varies from place to place, and many people face delays in having their hearing loss identified and managed. Most hearing difficulties are age related and need assessment and management by the local audiology team. Earwax may complicate the clinical picture and cause hearing difficulties, and can be treated in primary or community care. Other causes of hearing difficulties need prompt, or even urgent, investigation and treatment by specialist services.

This guideline aims to improve the quality of life for adults with hearing loss by providing advice for healthcare staff on who to refer for audiological assessment, how to manage earwax in primary and community care and when to refer people for specialist assessment and management. The guideline also offers advice on assessment and follow-up in audiology services, and information and support for people with hearing loss. In addition, the guideline considers best practice in the management of idiopathic sudden sensorineural hearing loss and MRI as an investigation for hearing loss.

It is important that the person with hearing loss has the opportunity to participate in making decisions about management, in partnership with their healthcare professionals, and this is reflected in the guideline.

## *More information*

To find out what NICE has said on topics related to this guideline, see our web page on [ear and hearing conditions](#).

## Recommendations for research

The guideline committee has made the following recommendations for research. The committee's full set of research recommendations is detailed in the [full guideline](#).

### *1 Idiopathic sudden sensorineural hearing loss*

What is the most effective route of administration of steroids as a first-line treatment for idiopathic sudden sensorineural hearing loss?

#### Why this is important

Idiopathic sudden sensorineural hearing loss (SSNHL) is usually unilateral, can range from mild to total and can be temporary or permanent. SSNHL has a significant impact on people's lives, causing considerable concern and disability, particularly if there is already a hearing deficit in the other ear.

First-line treatment options for idiopathic SSNHL can include oral steroids, intra-tympanic steroid injections or a combination of both. There is a paucity of evidence assessing the effectiveness of these different treatment options. There is heterogeneity in doses and types of steroids and this makes the findings unreliable. Therefore, it is difficult to establish the most clinically and cost-effective route of administration of steroids as first-line treatment for idiopathic SSNHL. This has a direct impact on the care provided to people with SSNHL and on our ability to develop robust guidelines and policy.

### *2 Earwax*

What is the clinical and cost effectiveness of microsuction compared with irrigation to remove earwax?

#### Why this is important

A build-up of earwax in the ear canal can cause hearing loss and discomfort, contributes to infections, and can exacerbate stress, social isolation and depression. Moreover, earwax can prevent adequate clinical examination of the ear, delaying investigations and management; GPs cannot check for infection and audiologists cannot test hearing and fit hearing aids if the ear canal is blocked with wax. Excessive earwax is common, especially in older adults and those who use hearing aids and earbud-type earphones. In the UK, it is estimated that 2.3 million people each year have problems with earwax sufficient to need intervention.

Earwax is usually treated initially with ear drops. However, if this is unsuccessful, the wax can be removed using irrigation (flushing the wax out using water) or microsuction (using a vacuum to suck the wax out under a microscope). There are few studies comparing these different techniques in terms of effectiveness, efficiency and adverse events.

### *3 Use of hearing aids and incidence of dementia*

In adults with hearing loss, does the use of hearing aids reduce the incidence of dementia?

#### **Why this is important**

In the ageing UK population, the incidence of dementia is increasing. Dementia has considerable long-term costs for people with dementia, their families and the NHS, and there is no effective treatment to prevent its progression.

Hearing loss is associated with an increased incidence of dementia. It is estimated that among people with mild to moderate hearing loss, the incidence of dementia is double that of people with normal hearing, and that the ratio increases to 5 times that of people with normal hearing in those with severe hearing loss. The cause of this association is unknown; there may be common factors causing both dementia and hearing loss, such as lifestyle, genetic susceptibility, environmental factors or age-related factors such as cardiovascular disease. Hearing loss may cause dementia either directly (for example, neuroplastic changes caused by hearing deprivation or increased listening demands) or indirectly via social isolation and depression (which are known to be associated with cognitive decline and dementia). Conversely, it is possible that cognitive decline has an impact on sensory function (for example, affecting attention and listening skills). Currently, there is no good evidence to show that hearing loss causes dementia or that hearing aids delay the onset or reduce the incidence of dementia. Hearing aids do, however, have the potential to improve functioning and quality of life, and this could delay the progress of dementia or improve its management.

### *4 Hearing loss prevalence in people who under-present for hearing loss*

What is the prevalence of hearing loss among populations who under-present for possible hearing loss?

#### **Why this is important**

The research question aims to identify the prevalence of hearing loss among populations who may be unaware of their own hearing loss or lack motivation and capability to seek help for this.

A full population prevalence study matched to audiology service usage will help identify populations who under-present for possible hearing loss. The research will also identify factors that can act as red flags to prompt health and social care professionals to proactively consider the possibility of hearing loss.

The evidence review for the NICE guideline on adult hearing loss highlighted significant health benefits for people whose hearing loss is identified and addressed at an early stage, yet people often delay seeking treatment for up to 10 years. There are certain groups who are particularly disadvantaged because their health issues lead to a lack of awareness of their deteriorating or suboptimal hearing, or a failure to report their difficulties. These include people with learning disabilities, dementia and mild cognitive impairment.

Given the importance of early detection, this research is urgently needed to identify populations who are under-represented and any factors that would lead health and social care professionals to consider the possibility of hearing loss.

## *5 Monitoring and follow-up for adults with hearing loss*

What is the clinical and cost effectiveness of monitoring and follow-up for adults with hearing loss post-intervention compared with usual care?

### **Why this is important**

The evidence review for the NICE guideline on hearing loss found a lack of evidence to establish the benefits of monitoring and follow-up, how they should be delivered and across what time periods. Robust evidence is needed to establish the clinical and cost effectiveness of monitoring and follow-up, and to understand how and when they might best be used in clinical practice. This will inform future guidelines and policy.

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## Accreditation

