NICE National Institute for Health and Care Excellence

NICE Pathways

Hearing loss overview

NICE Pathways bring together everything NICE says on a topic in an interactive flowchart. NICE Pathways are interactive and designed to be used online.

They are updated regularly as new NICE guidance is published. To view the latest version of this NICE Pathway see:

http://pathways.nice.org.uk/pathways/hearing-loss
NICE Pathway last updated: 06 March 2019

This document contains a single flowchart and uses numbering to link the boxes to the associated recommendations.

1 Person with suspected hearing loss

No additional information

2 Child

No additional information

3 See what NICE says on surgical management of otitis media with effusion in children

See Surgical management of otitis media with effusion in children

4 Implantable devices

Cochlear implants

The following recommendations are from NICE technology appraisal guidance on cochlear implants for children and adults with severe to profound deafness.

This technology appraisal examined the currently available devices for cochlear implantation. No evidence was available to the committee to allow recommendations to be made for devices manufactured by Neurelec.

Unilateral cochlear implantation is recommended as an option for people with severe to profound deafness who do not receive adequate benefit from acoustic hearing aids (see the definitions of severe to profound deafness and adequate benefit from acoustic hearing aids below).

If different cochlear implant systems are considered to be equally appropriate, the least costly should be used. Assessment of cost should take into account acquisition costs, long-term reliability and the support package offered.

Simultaneous bilateral cochlear implantation is recommended as an option for the following groups of people with severe to profound deafness who do not receive adequate benefit from acoustic hearing aids (see the definitions of severe to profound deafness and adequate benefit

from acoustic hearing aids below):

- children
- adults who are blind or who have other disabilities that increase their reliance on auditory stimuli as a primary sensory mechanism for spatial awareness.

Acquisition of cochlear implant systems for bilateral implantation should be at the lowest cost and include currently available discounts on list prices equivalent to 40% or more for the second implant.

Sequential bilateral cochlear implantation is not recommended as an option for people with severe to profound deafness.

People who had a unilateral implant before publication of this guidance, and who fall into one of the child or adult categories described above, should have the option of an additional contralateral implant only if this is considered to provide sufficient benefit by the responsible clinician after an informed discussion with the individual person and their carers.

For the purposes of this guidance, severe to profound deafness is defined as hearing only sounds that are louder than 80 dB HL (pure-tone audiometric threshold equal to or greater than 80 dB HL) at 2 or more frequencies (500 Hz, 1,000 Hz, 2,000 Hz, 3,000 Hz and 4,000 Hz) bilaterally without acoustic hearing aids. Adequate benefit from acoustic hearing aids is defined for this guidance as:

- for adults, a phoneme score of 50% or greater on the Arthur Boothroyd word test presented at 70 dBA
- for children, speech, language and listening skills appropriate to age, developmental stage and cognitive ability.

Cochlear implantation should be considered for children and adults only after an assessment by a multidisciplinary team. As part of the assessment children and adults should also have had a valid trial of an acoustic hearing aid for at least 3 months (unless contraindicated or inappropriate).

When considering the assessment of adequacy of acoustic hearing aids, the multidisciplinary team should be mindful of the need to ensure equality of access. Tests should take into account a person's disabilities (such as physical and cognitive impairments), or linguistic or other communication difficulties, and may need to be adapted. If it is not possible to administer tests in a language in which a person is sufficiently fluent for the tests to be appropriate, other methods of assessment should be considered.

NICE has written information for the public on cochlear implants.

Auditory brain stem implants

NICE has published interventional procedures guidance on auditory brain stem implants with **normal arrangements** for clinical governance, consent and audit.

5 Adult

No additional information

6 Tailoring healthcare services for each person

Follow the principles on tailoring healthcare services for each person and enabling people to actively participate in their care in NICE's recommendations 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.

7 Assessment and referral

NICE has published a medtech innovation briefing on TYM smartphone otoscope for imaging and videoing the external ear canal and eardrum.

Hearing difficulties or suspected hearing difficulties

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 see assessment in audiology services [See page 9]) **and**
- refer for additional diagnostic assessment if needed (see the recommendations below on sudden or rapid onset of hearing loss and hearing loss with specific additional symptoms or signs).

Sudden or rapid onset of hearing loss

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

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 what NICE says on stroke.

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.

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, see what NICE says on suspected cancer recognition and referral.

Consider referring adults with hearing loss that is not explained by acute external or middle ear causes to an ear, nose and throat, audiovestibular medicine 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.

Consider referring adults with hearing loss to an ear, nose and throat service if, after initial treatment of any 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.

See what NICE says on tinnitus in ear, nose and throat conditions.

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

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.

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.

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.

Also see what NICE says on dementia, care and support of people growing older with learning disabilities, learning disabilities and behaviour that challenges, and mental health problems in people with learning disabilities.

8 Removing earwax

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.

Do not offer adults manual syringing to remove earwax.

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.

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.

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.

NICE has published a clinical knowledge summary on earwax. This practical resource is for primary care professionals (it is not formal NICE guidance).

9 Investigation using MRI

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 lesion, irrespective of pure tone thresholds.

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.

10 Assessment in audiology services

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.

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 implantable devices in management in audiology services and secondary care [See page 10])
- 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.

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.

NICE has written information for the public on hearing loss.

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.

11 Management in audiology services and secondary care

Hearing aids

Offering hearing aids

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.

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.

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.

Show the hearing aids when they are first offered and discuss their suitability with the person.

Prescribing and fitting hearing aids

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.

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.

Give adults with hearing aids information about getting used to hearing aids, cleaning and caring for their hearing aids, and troubleshooting.

Assistive listening devices

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.

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.

Treating idiopathic sudden sensorineural hearing loss

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

Implantable devices

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When considering the assessment of adequacy of acoustic hearing aids, the multidisciplinary team should be mindful of the need to ensure equality of access. Tests should take into account

a person's disabilities (such as physical and cognitive impairments), or linguistic or other communication difficulties, and may need to be adapted. If it is not possible to administer tests in a language in which a person is sufficiently fluent for the tests to be appropriate, other methods of assessment should be considered.

NICE has written information for the public on cochlear implants.

Auditory brain stem implants

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12 Follow-up in audiology services

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.

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 assessment in audiology services [See page 9])
- update the personalised care plan and provide them with a copy.

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

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.

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.

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

Glossary

BKB

Bamford–Kowal–Bench

CPA

cerebellopontine angle

Sources

Hearing loss in adults: assessment and management (2018) NICE guideline NG98

Cochlear implants for children and adults with severe to profound deafness (2019) NICE technology appraisal guidance 566

Your responsibility

Guidelines

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.

Technology appraisals

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, health professionals are expected to take these recommendations fully into account, alongside the individual needs, preferences and values of their patients. The application of the recommendations in this interactive flowchart is at the discretion of health professionals and their individual patients and do not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Commissioners and/or providers have a responsibility to provide the funding required to enable the recommendations to be applied when individual health professionals and their patients wish to use it, in accordance with the NHS Constitution. They should do so 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.

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.

Medical technologies guidance, diagnostics guidance and interventional procedures guidance

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take these recommendations fully into account. However, the interactive flowchart does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Commissioners and/or providers have a responsibility to implement the recommendations, in

their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this interactive flowchart should be interpreted in a way that would be inconsistent with compliance 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.