Tinnitus: 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 the assessment, investigation and management of tinnitus in primary, community and secondary care. It offers advice to healthcare professionals on supporting people presenting with tinnitus and on when to refer for specialist assessment and management.

For adults with tinnitus and hearing loss, this guideline should be read together with the NICE guideline on hearing loss in adults.

Who is it for?

- Healthcare professionals
- Social care practitioners
- Commissioners of health and social care services
- People with tinnitus, their family members and carers, and the public
Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in making decisions about 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.

The recommendations in this guideline apply to all people (adults, children and young people) with tinnitus unless otherwise stated.

Tinnitus and hearing loss can co-exist. For adults with tinnitus and hearing loss this guideline should be read together with the NICE guideline on hearing loss in adults.

1.1 Support and information for people with tinnitus

Tinnitus support

1.1.1 At all stages of care:

- Discuss with the person with tinnitus, and their family members or carers if appropriate, their experience of tinnitus, including its impact and any concerns.

- Based on any identified needs, agree a management plan with the person, taking into account their preferences. The plan should include information about tinnitus and opportunities for discussion about different management options.

- Discuss with the person the results of any recent assessments and their impact on the management plan.

- With consent from the person or their parent or carer, as appropriate, share the management plan with relevant health, education and social care professionals.

1.1.2 For people with longstanding tinnitus who have delayed accessing care, aim to find out the reason for the delay and why they are accessing care now. This could involve, for example, asking questions about lifestyle factors or changes in health.
For a short explanation of why the committee made the recommendations on support for people with tinnitus and how they might affect practice, see rationale and impact. Full details of the evidence and the committee’s discussion are in evidence review A: tinnitus support.

Information

1.1.3 Reassure the person with tinnitus, at first point of contact with a healthcare professional, that:

- tinnitus is a common condition
- it may resolve by itself
- although it is commonly associated with hearing loss, it is not commonly associated with other underlying physical problems
- there are a variety of management strategies that help many people live well with tinnitus.

1.1.4 Give information about tinnitus at all stages of care. The content should be tailored to the individual needs of the person, and their family members or carers if appropriate, and include information about:

- what tinnitus is, what might have caused it, what might happen in the future
- what can make tinnitus worse (for example, stress or exposure to loud noise)
- safe listening practices (for example, noise protection)
- the impact of tinnitus (for example, it can affect sleep, see recommendation 1.3.5)
- investigations (see section 1.4)
- self-help and coping strategies (for example, self-help books and relaxation strategies)
- management options (see section 1.5)
- local and national support groups
- other sources of information.
When providing information:

- ensure it is available in appropriate formats such as verbal consultation, written information, leaflets and online in line with the NICE guideline on patient experience
- take into account accessibility requirements for children, and people with hearing loss, cognitive impairment or visual impairment.

For a short explanation of why the committee made the recommendations on information for people with tinnitus and how they might affect practice, see rationale and impact. Full details of the evidence and the committee's discussion are in evidence review B: patient information.

1.2 Referring people with tinnitus

1.2.1 Refer immediately to a crisis mental health management team for assessment people who have tinnitus associated with a high risk of suicide. If needed, provide a safe place while waiting for the assessment.

1.2.2 Refer immediately, in line with the NICE guideline on suspected neurological conditions, people with tinnitus associated with:

- sudden onset of significant neurological symptoms or signs (for example, facial weakness), or
- acute uncontrolled vestibular symptoms (for example, vertigo), or
- suspected stroke (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.

1.2.3 Refer people to be seen within 24 hours, in line with the NICE guideline on hearing loss in adults, if they have tinnitus and have hearing loss that has developed suddenly (over a period of 3 days or less) in the past 30 days.

1.2.4 Recognise that assessment and management of the person's tinnitus may still need to continue following an immediate referral.

1.2.5 Refer people to be seen within 2 weeks for assessment and management if they
have tinnitus associated with either of the following:

- Distress affecting mental wellbeing (for example, distress that prevents them carrying out their usual daily activities) even after receiving tinnitus support at first point of contact with a healthcare professional (see recommendation 1.1.1). Refer in line with local pathways.

- Hearing loss that developed suddenly more than 30 days ago or rapidly worsening hearing loss (over a period of 4 to 90 days). Refer in line with the NICE guideline on hearing loss in adults.

1.2.6 Refer people for tinnitus assessment and management in line with local pathways if they have any of the following:

- tinnitus that bothers them despite having received tinnitus support at first point of contact with a healthcare professional (see recommendation 1.1.1)

- persistent objective tinnitus

- tinnitus associated with unilateral or asymmetric hearing loss.

1.2.7 Consider referring people for tinnitus assessment and management in line with local pathways if they have any of the following, in line with the NICE guideline on hearing loss in adults:

- persistent pulsatile tinnitus

- persistent unilateral tinnitus.

For a short explanation of why the committee made the recommendations on referring people with tinnitus and how they might affect practice, see rationale and impact.

Full details of the evidence and the committee’s discussion are in evidence reviews C-D: symptoms and features for urgent and non-urgent referral.

1.3 Assessing the impact of tinnitus using questionnaires

1.3.1 Consider using the Tinnitus Functional Index for adults to assess how tinnitus affects them.
1.3.2 If questionnaires cannot be used (for example, because of language issues or cognitive impairment) consider using other measures such as visual analogue scales.

1.3.3 Consider using an age- or ability-appropriate measure (such as a visual analogue scale) for children and young people to assess how tinnitus affects them.

For a short explanation of why the committee made the recommendations on assessing tinnitus using questionnaires and how they might affect practice, see rationale and impact. Full details of the evidence and the committee's discussion are in evidence review E: questionnaires to assess tinnitus.

Assessing how tinnitus affects quality of life

1.3.4 Discuss with the person with tinnitus, and their family members or carers if appropriate, how the condition affects their quality of life (home, social, leisure, work and school).

For a short explanation of why the committee made the recommendation on assessing how tinnitus affects quality of life and how it might affect practice, see rationale and impact. Full details of the evidence and the committee's discussion are in evidence review G: assessing quality of life.

Assessing how tinnitus affects sleep

1.3.5 Ask people with tinnitus if they have problems sleeping because of tinnitus. If they do, consider screening with a questionnaire (such as the Insomnia Severity Index). Discuss the results with them and how this might inform their management plan.

For a short explanation of why the committee made the recommendation on assessing sleep and how it might affect practice, see rationale and impact. Full details of the evidence and the committee's discussion are in evidence review F: assessing psychological impact.
Assessing the psychological impact of tinnitus

Adults

1.3.6 Be alert at all stages of care to the impact of tinnitus on mental health and wellbeing in adults. If there are concerns, follow the recommendations in the NICE guideline on common mental health problems.

1.3.7 Consider using the tinnitus questionnaire (TQ) or mini-TQ alongside the Tinnitus Functional Index in adults with tinnitus if further assessment of the psychological effects of tinnitus is needed.

1.3.8 If there are concerns about depression or anxiety in adults, a healthcare professional competent in mental health assessment should:

- carry out an assessment using a questionnaire (for example, those in the recommendations on assessment in the NICE guideline on common mental health problems), or an ability-appropriate measure
- consider assessment using the Clinical Outcomes in Routine Evaluation – Outcome Measure
- agree an action plan, if needed, in line with the recommendations on assessment in the NICE guideline on common mental health problems.

Children and young people

1.3.9 Be alert at all stages of care to the behavioural and psychological wellbeing of all children and young people presenting with tinnitus. Talk to them, and their family members or carers if appropriate, about how they feel.

1.3.10 If there are concerns about depression in children and young people, follow the recommendations in the NICE guideline on depression in children and young people.

For a short explanation of why the committee made the recommendations on assessing the psychological impact of tinnitus and how they might affect practice, see rationale and impact. Full details of the evidence and the committee's discussion are in evidence review F: assessing psychological impact.
1.4 Investigations

Audiological assessment

1.4.1 Offer an audiological assessment to people with tinnitus. For recommendations on assessing and managing hearing loss in adults, see the NICE guideline on hearing loss in adults.

1.4.2 Consider tympanometry when middle-ear or Eustachian tube dysfunction, or other causes of conductive hearing loss contributing to tinnitus, are suspected.

1.4.3 Do not offer acoustic reflex testing or uncomfortable loudness levels/loudness discomfort levels testing as part of an investigation of tinnitus.

1.4.4 Do not offer otoacoustic emissions tests as part of an investigation of tinnitus unless the tinnitus is accompanied by other symptoms and signs.

For a short explanation of why the committee made the recommendations on audiological assessment and how they might affect practice, see rationale and impact. Full details of the evidence and the committee's discussion are in evidence review H: audiological assessment.

Psychoacoustic tests

1.4.5 Do not offer psychoacoustic tests, for example pitch and loudness matching, to assess tinnitus.

For a short explanation of why the committee made the recommendation on psychoacoustic tests and how it might affect practice, see rationale and impact. Full details of the evidence and the committee's discussion are in evidence review I: psychoacoustic measures.

Imaging

Non-pulsatile tinnitus

1.4.6 Offer MRI of internal auditory meati (IAM) to people with non-pulsatile tinnitus who have associated neurological, otological or head and neck signs and
symptoms. If they are unable to have MRI (IAM), offer contrast-enhanced CT (IAM).

1.4.7 Consider MRI (IAM) for people with unilateral or asymmetrical non-pulsatile tinnitus who have no associated neurological, audiological, otological or head and neck signs and symptoms. If they are unable to have MRI (IAM), consider contrast-enhanced CT (IAM).

1.4.8 Do not offer imaging to people with symmetrical non-pulsatile tinnitus with no associated neurological, audiological, otological or head and neck signs and symptoms.

To find out why the committee made the recommendations on non-pulsatile tinnitus and how they might affect practice, see rationale and impact.
Full details of the evidence and the committee's discussion are in evidence review J: imaging to investigate the cause of non-pulsatile tinnitus.

**Pulsatile tinnitus**

1.4.9 Offer imaging to people with pulsatile tinnitus.

- For people with synchronous pulsatile tinnitus, consider:
  - magnetic resonance angiogram or MRI of head, neck, temporal bone and IAM if clinical examination and audiological assessment are normal, or contrast-enhanced CT of head, neck, temporal bone and IAM if they cannot have magnetic resonance angiogram or MRI
  - contrast-enhanced CT of temporal bone if an osseous or middle-ear abnormality is suspected (for example, glomus tumour), followed by MRI if further investigation of soft tissue is required.

- For people with non-synchronous pulsatile tinnitus (for example, caused by palatal myoclonus) consider MRI of the head, or if they cannot have MRI, contrast-enhanced CT of the head.
1.5 Management of tinnitus

Amplification devices

1.5.1 Offer amplification devices to people with tinnitus who have a hearing loss that affects their ability to communicate. For adults, follow the recommendations on hearing aids in the NICE guideline on hearing loss in adults.

1.5.2 Consider amplification devices for people with tinnitus who have a hearing loss but do not have difficulties communicating.

1.5.3 Do not offer amplification devices to people with tinnitus but no hearing loss.

Sound therapy

The committee were unable to make recommendations for practice in this area. They made a recommendation for research.

Psychological therapies for people with tinnitus-related distress

1.5.4 Consider a stepped approach to treat tinnitus-related distress in adults whose tinnitus is still causing an impact on their emotional and social wellbeing, and
day-to-day activities, despite having received tinnitus support. If a person does not benefit from the first psychological intervention they try or declines an intervention, offer an intervention from the next step in the following order:

- digital tinnitus-related cognitive behavioural therapy (CBT) provided by psychologists
- group-based tinnitus-related psychological interventions including mindfulness-based cognitive therapy (delivered by appropriately trained and supervised practitioners), acceptance and commitment therapy or CBT (delivered by psychologists)
- individual tinnitus-related CBT (delivered by psychologists).

For a short explanation of why the committee made the recommendation on psychological therapies for people with tinnitus-related distress and how it might affect practice, see rationale and impact.

Full details of the evidence and the committee's discussion are in evidence review L: psychological therapies.

Betahistine

1.5.5  Do not offer betahistine to treat tinnitus.

For a short explanation of why the committee made the recommendation on betahistine and how it might affect practice, see rationale and impact.

Full details of the evidence and the committee's discussion are in evidence review N: betahistine.

Combining therapies

The committee were unable to make recommendations for practice in this area. They made a recommendation for research.

For a short explanation of why the committee were unable to make recommendations on combining therapies see rationale.

Full details of the evidence and the committee's discussion are in evidence review P: combinations of management strategies.
Neuromodulation

The committee were unable to make recommendations for practice in this area. They made a recommendation for research.

For a short explanation of why the committee were unable to make recommendations on neuromodulation see rationale. Full details of the evidence and the committee's discussion are in evidence review O: neuromodulation.

Terms used in this guideline

This section defines terms that have been used in a particular way for this guideline.

Digital tinnitus-related cognitive behavioural therapy

Digital CBT is a form of CBT delivered using digital technology, such as a computer, tablet or phone. Common components of digital tinnitus-related CBT are similar to those used in face-to-face CBT (for example, positive imagery and learning to identify and challenge unhelpful thoughts). People using digital CBT are more likely to have less direct contact with healthcare professionals during the intervention compared with face-to-face interventions.

Objective tinnitus

Tinnitus that occurs as a result of noise generated in the ear that can be detected by the examiner. It is less common than subjective tinnitus.

Refer immediately

To be seen by the specialist service within a few hours, or even more quickly if necessary.

Tinnitus-related distress

Tinnitus that is having an impact on emotional and social wellbeing and day-to-day activities.

Tinnitus support

A term used to describe a session that includes a 2-way process of information-giving and discussion to help the healthcare professional understand the difficulties and goals of the person.
with tinnitus. This discussion occurs between the person with tinnitus, and their family members or carers if appropriate, and the healthcare professional. A management plan is also jointly developed and the person is supported to continue with the plan or modify it as necessary. This process is sometimes known as tinnitus counselling.
Recommendations for research

The guideline committee has made the following recommendations for research.

Key recommendations for research

1 Cognitive behavioural therapy for adults with tinnitus delivered by appropriately trained healthcare professionals other than psychologists

What is the clinical and cost effectiveness of cognitive behavioural therapy (CBT) for adults with tinnitus delivered by appropriately trained healthcare professionals other than psychologists (for example, audiologists)?

For a short explanation of why the committee made the research recommendation on CBT for adults delivered by appropriately trained healthcare professionals see rationale and impact.

Full details of the research recommendation are in evidence review L: psychological therapies.

2 Combination management strategy: sound therapy and tinnitus support

What is the clinical and cost effectiveness of a combination management strategy consisting of sound therapy and tinnitus support?

For a short explanation of why the committee made the research recommendation on combination management strategy see rationale.

Full details of the research recommendation are in evidence review P: combinations of management strategies.

3 Methods for assessing tinnitus in general practice

What is the optimal method for assessing tinnitus in general practice (including consultation questions, physical examinations and questionnaires)?

For a short explanation of why the committee made the research recommendation on assessing
Tinnitus in general practice see rationale and impact.

Full details of the research recommendation are in evidence review E: questionnaires to assess tinnitus.

4 Neuromodulation

What is the clinical, cost effectiveness and safety of neuromodulation interventions for treating tinnitus in adults?

For a short explanation of why the committee made the research recommendation on neuromodulation interventions see rationale.

Full details of the research recommendation are in evidence review O: neuromodulation.

5 Psychological therapies for children and young people

What is the clinical and cost effectiveness of psychological therapies for children and young people who have tinnitus-related distress?

For a short explanation of why the committee made the research recommendation on psychological therapies for children and young people see rationale and impact.

Full details of the research recommendation are in evidence review L: psychological therapies.

Other recommendations for research

Tinnitus questionnaires for children and young people

What is the most clinically and cost-effective tinnitus questionnaire to assess tinnitus in children and young people?

Full details of the research recommendation are in evidence review E: questionnaires to assess tinnitus.

Tinnitus questionnaires for people with a learning disability or cognitive impairment

What is the most clinically and cost-effective tinnitus questionnaire to assess tinnitus in people
with a learning disability or cognitive impairment?

Full details of the research recommendation are in evidence review E: questionnaires to assess tinnitus.

**Tinnitus questionnaires for people who are d/Deaf or who have a severe-to-profound hearing loss**

What is the most clinically and cost-effective tinnitus questionnaire to assess tinnitus in people who are d/Deaf or who have a severe-to-profound hearing loss?

Full details of the research recommendation are in evidence review E: questionnaires to assess tinnitus.

**Relaxation strategies for children, young people and adults**

Are relaxation strategies clinically and cost effective for the management of tinnitus for children, young people and adults?

Full details of the research recommendation are in evidence review A: tinnitus support.

**Amplification devices for people who are d/Deaf or who have a severe-to-profound hearing loss**

What is the clinical and cost effectiveness of amplification devices for people who are d/Deaf or who have a severe-to-profound hearing loss?

Full details of the research recommendation are in evidence review M: sound therapy and amplification devices.

**Psychological therapies for people who are d/Deaf or who have a severe-to-profound hearing loss**

What is the clinical and cost effectiveness of psychological therapies for people who are d/Deaf or who have a severe-to-profound hearing loss and tinnitus-related distress?

Full details of the research recommendation are in evidence review L: psychological therapies.
Amplification devices for people with tinnitus who have hearing loss but no perceived hearing difficulties

What is the clinical and cost effectiveness of fitting amplification devices(s) in people with tinnitus who have hearing loss but no perceived hearing difficulties?

Full details of the research recommendation are in evidence review M: sound therapy and amplification devices.
Rationale and impact

These sections briefly explain why the committee made the recommendations and how they might affect practice. They link to details of the evidence and a full description of the committee's discussion.

Support for people with tinnitus

Recommendations 1.1.1 and 1.1.2

Why the committee made the recommendations

'Tinnitus support' was defined by the committee as a 2-way process of information giving and discussion to help the healthcare professional understand the difficulties and goals of the person with tinnitus. The evidence showed that similar interventions such as 'education counselling' gave some benefit in improving outcomes for people with tinnitus. Although the evidence was limited, the committee agreed that providing support to people with tinnitus and their family members or carers is essential, and ensures that the person's needs and preferences are taken into account. The committee recognised that the needs and concerns of children and young people with tinnitus can be different to those of their parents or carers, but these should be addressed, and appropriate support offered, for both groups.

The committee agreed that there should be a discussion between the healthcare professional and person with tinnitus about the results of recent assessments and their impact on their management plan. This will give the person the opportunity to ask questions and actively participate in the development of the plan. Sharing the management plan with the relevant health, education and social care professionals will help to further support the person with tinnitus.

It is important that healthcare professionals understand why people with longstanding tinnitus are accessing care at that point of contact, as this can inform the person's management plan. Asking the person prompting questions about lifestyle factors (for example, stress or change in mental wellbeing) or changes in health (for example, hearing loss) can help with this. The committee noted that tinnitus and its impact can change over time. Where tinnitus is troublesome, it can be helpful to review the factors affecting tinnitus and its impact, as the management plan may need to be revised. The committee acknowledged that in current practice the term 'tinnitus counselling' is used to describe a management strategy that may include elements of 'tinnitus support'.
The committee decided to not use the term 'tinnitus counselling' to describe this management strategy as there is inconsistency in how the term is used in current practice. For some healthcare professionals it can be a brief clinician-led talk with the intent to reassure that there is no significant pathology. Alternatively, it can be a longer interactive session focusing on the worries and concerns of the person with tinnitus. The committee's intention is for a standardised and improved level of care to be available to people with tinnitus, across the country, from the first point of contact with the healthcare system.

The committee also looked at evidence on relaxation strategies, although the amount of evidence was limited. They noted that the use of relaxation strategies for managing tinnitus is widespread but the strategies are insufficiently researched. Consequently, they made a research recommendation to assess relaxation strategies for the management of tinnitus.

How the recommendations might affect practice

There is variation in how support for people with tinnitus is defined, what it should include, and how and when it is delivered. Implementing these recommendations should reduce this variation.

Return to recommendations

Information for people with tinnitus

Recommendations 1.1.3 to 1.1.5

Why the committee made the recommendations

There was limited evidence on what information should be provided to people with tinnitus, their family members and carers. However, the committee noted that patient information is an essential element of patient care in the NHS and should be provided at first point of contact with a healthcare professional.

The information should be tailored to individual needs to ensure that it is suitable and effective in informing the person's management plan. Where people with tinnitus encounter clinicians that tell them that nothing can be done and they have to live with it, this may worsen a person's perception of tinnitus and may impact on their mental wellbeing. A clinician's lack of awareness of the impact of tinnitus may also create barriers for onward referral. Therefore, the committee agreed it is important for clinicians to reassure people that tinnitus is common, and although it is commonly associated with hearing loss, it is not usually associated with an underlying physical health problem. In addition, many people find management strategies to help them live well with tinnitus.
Appropriate information provided in a timely manner to people first presenting with tinnitus will reduce distress and the likelihood of symptoms becoming debilitating. The information should take into account accessibility requirements – for example, be at the appropriate cognitive and linguistic level for children, and be in a suitable format for people who use British Sign Language or who have a visual or cognitive impairment.

How the recommendations might affect practice

There is variation in the level of information provided to people with tinnitus, and in the content and format of the information. Implementing the recommendations should reduce this variation.

Referring people with tinnitus

Recommendations 1.2.1 to 1.2.7

Why the committee made the recommendations

No evidence was identified on which symptoms and features should warrant investigation or management. In the absence of evidence, the committee agreed that after clinical history and physical examinations, there are various symptoms and features associated with tinnitus that should prompt an immediate referral (to be seen within a few hours or even more quickly if necessary), referral to be seen within 24 hours, referral to be seen within 2 weeks, or non-urgent referral.

The categorisation of these symptoms and features is dependent on the potential consequence of not referring. For example, people who present to general practice with tinnitus and symptoms and features that include a high risk of suicide (for example, suicidal thoughts with an intended plan) should be referred to a crisis mental health management team immediately for assessment to preserve life. People presenting with tinnitus associated with a sudden onset of neurological symptoms should be seen within a few hours or more quickly if necessary after referral, as not referring can be life-threatening and increase morbidity.

The committee noted that it is important to recognise that assessment and management for tinnitus may still need to continue following immediate onward referral for other co-morbidities (for example, suspected stroke).

Immediate referrals should be made to ensure that underlying neurological causes can be
diagnosed, and any treatment received, quickly. The treatment is then more likely to be successful. Two-week referrals should be made for people with tinnitus who have distress that is limiting daily activities, such as not being able to leave their house or not being able to go to work. The committee noted that this is a small subpopulation of people with tinnitus.

The committee agreed that the impact of tinnitus on a person's wellbeing and mental health is a critical component of any assessment of symptoms and features in all settings – for example, primary, community and secondary care. Providing tinnitus support for people after symptoms and features have been assessed can help reduce the impact of tinnitus on their mental health and any distress that limits their daily activities. If mental health concerns persist after this, referrals should be made.

The committee decided to not recommend specific referral locations because of variation in current practice and in tinnitus pathways in the UK. Common referral locations include audiology and ear, nose and throat services.

The categories of urgency and the timings for hearing loss associated with tinnitus are aligned with those in the NICE guideline on hearing loss in adults. The recommendations for referrals for persistent pulsatile tinnitus and persistent unilateral tinnitus were made in line with the NICE guideline on hearing loss in adults. However the committee noted that these types of tinnitus can be associated with vascular or neurological abnormalities. Onward referral for further investigations to detect these abnormalities may prevent the development of significant pathologies such as vestibular schwannoma.

The committee noted that children should be seen in a paediatric environment by healthcare professionals used to managing the needs of children and working in the children's support services (health, education and social care). In the absence of relevant specific guidelines for children, they also agreed that it was appropriate for the referral recommendations from the NICE guidelines on hearing loss in adults and stroke and transient ischaemic attack in over 16s to apply to children and young people as well as adults. The committee believed that the same clinical manifestations will be considered for referrals, regardless of age.

How the recommendations might affect practice

These recommendations do not aim to change the number of referrals made but rather encourage more timely referrals. Services may need to change their protocols to accommodate 2-week referrals. These timely referrals will improve patient safety and the appropriate implementation of treatment or management strategies. Timely and appropriate intervention will reduce distress and
repeated requests or referrals for tinnitus support.

Return to recommendations

Assessing the impact of tinnitus using questionnaires

Recommendations 1.3.1 to 1.3.3

Why the committee made the recommendations

No evidence was identified on the clinical effectiveness of questionnaires used to assess the impact of tinnitus on a person. Questionnaires are not a substitute for a detailed clinical history. However, the committee noted the importance of using questionnaires and age-appropriate measures for assessment, which can help to inform management.

Questionnaires can provide a structured format for identifying and subjectively rating difficulties that a person with tinnitus may have. Areas that need intervention can be identified and changes that occurred as a result of the intervention can be measured. This information can be used on an individual level, and on a service level, to help ensure that appropriate resources are available.

A range of questionnaires are currently used to assess the impact of tinnitus in services across England. However, the questionnaires are typically designed to look at specific groups of people with tinnitus or specific problems associated with tinnitus. Therefore, their components may not reflect the range of needs of everyone with tinnitus. Most of the questionnaires are not designed to take account of change after intervention.

In the absence of evidence, the committee agreed that the most appropriate questionnaire that should be considered is the Tinnitus Functional Index. This provides the broadest assessment of the impact of tinnitus and incorporates a variety of components. It was also specifically designed to measure change.

The committee noted that questionnaires are not commonly used in general practice and there is also variation in how tinnitus is assessed in primary care. They thought it important that research is conducted to examine the optimal method for assessing tinnitus in general practice settings, as general practice is a gatekeeper for the further management of tinnitus (see research recommendation 3).

The committee agreed that it is crucial for healthcare professionals to discuss the results of
assessments with the person. When answers to component questions are discussed with them, rather than solely focusing on overall scores, it can help people to fully engage with the management of their condition. In addition, using assessment methods such as questionnaires before and after an intervention can further inform management plans.

The committee agreed that if questionnaires cannot be used, visual analogue scales can be used to assess the impact of tinnitus. The committee noted that there are 2 types of questions in visual analogue scales that can be useful: how much does your tinnitus bother you and how much does the tinnitus interfere with what you do?

**How the recommendations might affect practice**

A variety of methods are used in the UK to assess the impact of tinnitus, particularly with the use of different tinnitus questionnaires. Implementing the use of a common core questionnaire to assess tinnitus will lead to the standardisation of care across the UK and encourage best practice. It will also improve individual care if the components of the questionnaire are used meaningfully as part of the discussion about tinnitus and to signpost towards appropriate support.

As the questionnaires are expected to be completed outside the consultation room, there are little or no anticipated cost implications. Some resource time would be needed to discuss the results of the questionnaires with the person. But the committee noted that even in the absence of a questionnaire, a comprehensive assessment would require a clinician to ask about the topics covered in the questionnaire.

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**Assessing how tinnitus affects quality of life**

**Recommendation 1.3.4**

**Why the committee made the recommendation**

No evidence was identified that evaluated the clinical effectiveness of questionnaires and interviews to assess quality of life in people with tinnitus. Questionnaires such as the Tinnitus Functional Index, which provide an overall assessment of tinnitus, include questions on assessing the impact of tinnitus on quality of life (for example, enjoyment of social activities and relationships with family and friends). The committee took this into account, together with the fact that quality-of-life questionnaires are not commonly used in current practice. They agreed that it was not necessary to recommend an additional questionnaire.
In clinical practice it is often when quality of life is affected that people with tinnitus seek help. The committee agreed, that as part of tinnitus support and clinical history taking, a discussion with the person is more useful than a questionnaire for understanding their experiences with tinnitus and its impact on their quality of life in different settings (such as home, social, leisure, work and school). These discussions could then inform their management plan.

How the recommendation might affect practice

Implementing the recommendation will standardise clinical practice and encourage best practice. Additionally, it will help to increase the recognition of tinnitus-related difficulties and improve subsequent tinnitus management. There are no anticipated cost implications for implementing this recommendation.

Assessing sleep and the psychological impact of tinnitus

Recommendations 1.3.5 to 1.3.10

Why the committee made the recommendations

Insomnia is common in people with tinnitus, and this can have a psychological impact. The committee agreed that healthcare professionals should ask people with tinnitus if they have problems sleeping. In the absence of evidence evaluating questionnaires to assess the impact of tinnitus on sleep the committee recommended that an assessment using a questionnaire such as the Insomnia Severity Index could be useful when developing a management plan. The committee acknowledged that the Insomnia Severity Index is not commonly used in current practice but it is an appropriate measure and is freely available and easy to use. The questionnaire can also be used as a screening tool which can lead to a referral.

No evidence was identified that evaluated the clinical or cost effectiveness of questionnaires to assess the psychological impact of tinnitus. Tinnitus can cause depression or anxiety and can be exacerbated by depression or anxiety, leading to distress. This depression or anxiety sometimes needs to be treated before the person can begin to cope with tinnitus, to lessen the distress. Therefore, it is important to ask everyone if they feel anxious or depressed, in addition to asking about tinnitus.

In the absence of evidence, the committee agreed that the commonly used tinnitus questionnaire (TQ) and mini-TQ are appropriate questionnaires to use to further assess the psychological impact
of tinnitus. The committee agreed that healthcare professionals should be alert to symptoms and signs of depression and anxiety, asking prompting questions as recommended in the NICE guideline on common mental health problems. Although the guideline is not specific to people with tinnitus, the committee agreed that healthcare professionals should refer to this guideline in the absence of any evidence for questionnaires that can be used to assess the psychological impact of tinnitus. The questionnaires recommended in the NICE guideline on common mental health problems are mainly used in mental health settings, but they can also be used in other services such as audiology. The committee agreed that although no evidence was identified that assessed the use of Clinical Outcomes in Routine Evaluation - Outcome Measure, it is particularly useful for assessing the psychological impact of tinnitus, where indications of depression and anxiety may be more subtle.

Depression in children and young people should be assessed and managed in line with the NICE guideline on depression in children and young people.

How the recommendations might affect practice

The recommendations will standardise clinical practice in the UK and enhance patient safety. They will also increase the number of people with tinnitus who have assessments of their psychological wellbeing. Consequently, more people with depression and anxiety will have their condition managed appropriately. There are no anticipated cost implications for implementing these recommendations because these questionnaires are expected to be completed before the person enters the consultation room and interacts with the relevant clinician.

Audiological assessment

Recommendations 1.4.1 to 1.4.4

Why the committee made the recommendations

No clinical evidence was identified on audiological assessments for people with tinnitus. Tinnitus may co-exist with hearing loss, and some people with tinnitus may not be aware that they also have hearing loss. The hearing loss may have been gradual and some people may even attribute their hearing difficulties to their tinnitus. Therefore, the committee strongly believed that everyone referred to audiological, ear, nose and throat or audiovestibular medicine services should receive audiological assessments as a minimum to establish any hearing problems and to inform a management plan. Audiological assessments may need to be modified according to the person's age, level of development and cognitive ability.
Effective management of a hearing loss can reduce the audibility and impact of the tinnitus. The committee agreed that when middle-ear or Eustachian tube dysfunction or other causes of a conductive hearing loss are suspected, tympanometry should be considered. Tympanometry is a helpful supporting test in the assessment of hearing loss to help identify the nature of that hearing loss.

The committee agreed that, from their experiences, acoustic reflex testing and uncomfortable loudness levels/loudness discomfort levels (ULL/LDL) tests can be unnecessary, unpleasant and potentially harmful. They may exacerbate a person's tinnitus and increase distress. The results of these tests would not affect a person's management plan as the main focus of tinnitus management is to lessen the distress associated with tinnitus. The committee recognised that ULL tests can be useful for other purposes (for example, fitting hearing aids), but noted that they should be used with caution.

In addition, from the committee's experiences, it was agreed that although otoacoustic emissions tests are not unpleasant or harmful, the results are unlikely to affect a person's management plan. They should only be offered if tinnitus is accompanied by other symptoms and signs (for example, mild hearing loss or hearing being monitored for people on ototoxic medication).

How the recommendations might affect practice

The committee thought that there would be little impact on practice as most healthcare professionals routinely use hearing assessments to establish hearing thresholds in people with tinnitus. Therefore, there would be no additional resource impact as a result of the recommendation on audiology assessment. Many also currently use tympanometry when needed, so this will not change current practice for most.

Some centres may be using acoustic reflexes, ULL/LDL tests and otoacoustic emissions routinely, and therefore stopping these may be a change to their practice and could result in modest cost savings.

Psychoacoustic tests

Recommendation 1.4.5
Why the committee made the recommendation

No clinical evidence was identified on psychoacoustic tests, for example pitch and loudness matching, for people with tinnitus. The committee thought that undertaking psychoacoustic testing in addition to hearing assessments may increase distress for some and encourage people to focus on their tinnitus more. Continued focus on tinnitus can prevent a person from habituating to it. Many management strategies involve taking away the focus from tinnitus, and so psychoacoustic testing may counteract their effectiveness.

Psychoacoustic testing is mainly used as a tool in research rather than in clinical practice as the outcome of the test has no influence on the routine management of tinnitus. In addition, this testing was thought to carry an additional cost in terms of staff time, with little or no additional benefit, and even the potential for some harm. Therefore the committee agreed that it should not be used.

How the recommendation might affect practice

The recommendation reflects current best practice where psychoacoustic measures are not commonly used. However, as some departments may be using this test, implementing the recommendation will mean that some staff time, otherwise spent on the tests, will be freed up.

These tests are not commonly used for children and therefore there will be no change in current practice for paediatric services.

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Imaging to investigate the cause of non-pulsatile tinnitus

Recommendations 1.4.6 to 1.4.8

Why the committee made the recommendations

No evidence was identified on imaging to investigate the cause of non-pulsatile tinnitus. However, the committee agreed that scanning people with non-pulsatile tinnitus that is accompanied by neurological or head and neck signs and symptoms (for example, facial weakness, vertigo and asymmetric hearing loss) is best clinical practice. It is also important for detecting significant and potentially life-threatening central pathology, such as vestibular schwannoma compressing adjacent structures or brain tumours. Additionally, imaging people with non-pulsatile tinnitus can detect vascular arteriovenous malformations, which can also be life-threatening.
Imaging should also be considered where there is unilateral or asymmetrical non-pulsatile tinnitus without accompanying signs and symptoms, as it is more likely to be associated with an underlying significant pathology compared with symmetrical tinnitus. The committee agreed that no imaging should be conducted for bilateral non-pulsatile tinnitus in the absence of any associated signs and symptoms because the incidence of underlying pathology is very low.

MRI is more clinically effective at showing soft tissue structures and pathology than contrast-enhanced CT. In addition, CT scanning is associated with more harm than MRI because of risks from the radiation dose and the potential for adverse reaction to the contrast media. Therefore, the committee recommended MRI as the first choice. The committee noted that MRI is loud and some people may find that this noise affects their tinnitus. Radiology departments provide earplugs to help with this.

**How the recommendations might affect practice**

The committee thought that, in current practice, some people with non-pulsatile unilateral tinnitus were being over tested (particularly for isolated bilateral non-pulsatile tinnitus), without proper assessment of neurological signs and symptoms beforehand. These recommendations will help to standardise clinical practice and encourage good clinical practice. They will also reassure clinicians and people with tinnitus that a scan may not always be necessary. There is the potential for some cost savings as the volume of unnecessary imaging is reduced.

**Imaging to investigate the cause of pulsatile tinnitus**

**Recommendation 1.4.9**

**Why the committee made the recommendation**

No evidence was identified on imaging to investigate the cause of pulsatile tinnitus, so the committee used their knowledge and expertise to make a recommendation.

Scans are recommended on the basis of clinical manifestations and the ability of the scanning method to accurately detect pathology. Pulsatile tinnitus can have several different causes, some of which are serious. Possible causes include irregular blood vessels, high blood pressure, raised intracranial pressure, anaemia, atherosclerosis, paragangliomas, osseous pathology and glomus tumours. The underlying cause of the pulsatile tinnitus can be targeted for treatment, depending on the results of the scans.
MRI is more clinically effective at showing soft tissue structures and pathology than contrast-enhanced CT whereas CT is more effective at detecting osseous changes. CT scanning is associated with risks from the radiation dose and the potential for adverse reaction to the contrast media. Therefore, the committee recommended MRI as the first choice. The committee noted that MRI is loud and some people may find that this noise affects their tinnitus. Radiology departments provide earplugs to help with this.

How the recommendation might affect practice

When investigating synchronous pulsatile tinnitus, it is current practice to carry out imaging of the ears, head and neck, but there is no consensus about whether an MRI or magnetic resonance angiogram or a CT scan with contrast is best. This recommendation aims to standardise and improve current practice.

When investigating non-synchronous pulsatile tinnitus, it is current practice to perform an MRI where other conditions, such as palatal myoclonus, are suspected to be the cause of tinnitus.

By directing clinicians to the most appropriate scanning method, there is a potential for some cost savings by reducing the unnecessary use of more expensive imaging techniques.

Amplification devices

Recommendations 1.5.1 to 1.5.3

Why the committee made the recommendations

There was limited evidence on using amplification devices for managing tinnitus. The committee noted that many people present with tinnitus without realising that they have a hearing loss. The committee agreed that adults with tinnitus and a hearing loss that affects their ability to communicate and hear should be offered an amplification device in line with the NICE guideline on hearing loss in adults. They agreed that in similar circumstances children and young people should also be offered an amplification device.

There was no evidence to support the use of amplification devices for people with tinnitus and a hearing loss that does not cause difficulties communicating. However, given that enhancing auditory input may improve the person's perception of tinnitus, the committee recommended that amplification devices be considered.
The committee recommended that people without a hearing loss should not be offered amplification devices as amplified sound may induce a hearing loss.

**How the recommendations might affect practice**

Offering amplification devices to people with tinnitus and hearing loss that affects their ability to communicate is in line with current practice and many organisations will not need to change practice.

There is variation in practice on the use of amplification devices for people with tinnitus and hearing loss that does not cause difficulties in communicating, and some change in practice may be needed. Organisations may need to adapt their protocols to match the recommendations. Rarely people are offered hearing aids for tinnitus when they do not have a hearing loss. Amplification devices should not be offered in these situations and a small cost saving may be made.

**Sound therapy**

**Why the committee were unable to make recommendations**

There are many types of sound therapy used by people with tinnitus. There is, however, limited evidence available that assesses the clinical and cost effectiveness of these interventions in isolation. With the different types of sound therapy and insufficient evidence for any particular type, the committee were unable to make recommendations for practice.

The committee noted that although it is important to know the clinical effectiveness of sound therapies in isolation, it is important that tinnitus support is provided in combination with these interventions. They made a research recommendation on sound therapy in combination with tinnitus support.

**Psychological therapies for people with tinnitus-related distress**

**Recommendation 1.5.4**
Why the committee made the recommendation

The evidence suggests that cognitive behavioural therapy (CBT), mindfulness-based CBT and acceptance and commitment therapy (ACT) are effective interventions for managing tinnitus-related distress. CBT can be delivered in different formats such as digital (for example, internet based), group and individual face-to-face sessions.

The cost effectiveness of specific therapies is uncertain. However, economic analyses suggested that it would be less costly to use digital or group therapy first line, and individual therapy for people who are still distressed after their first-line psychological intervention.

Mindfulness-based cognitive therapy should be delivered by appropriately trained and supervised practitioners. The committee agreed that all psychological therapies should be supervised by psychologists.

The committee noted that with face-to-face psychological interventions (such as group CBT), people may sometimes not attend sessions. People may be more likely to complete the full intervention with digital CBT than with face-to-face sessions, as they would be able to participate according to their lifestyle, rather than having to travel to a session at a designated time. Digital CBT for tinnitus is currently only available in research, with evidence suggesting that it is clinically effective. While digital CBT is unavailable or when it is not suitable, group CBT should be used as the first-line psychological therapy. In current practice, the selection of group CBT or individual CBT is made on a case-by-case basis and mainly dependent on the availability of CBT services and individual preferences. The committee noted that some people may be hesitant about group CBT at first but may find it a more meaningful and positive experience.

CBT and ACT should be delivered by psychologists because this is considered important for achieving good patient outcomes. Taking into account the clinical and economic evidence, together with a lack of direct evidence of cost effectiveness, the committee agreed that a stepped approach for adults with tinnitus-related distress could be considered.

The committee noted that no evidence was identified that evaluated psychological therapies in children and young people. Access to psychological therapies for children and young people with tinnitus is currently limited. The committee agreed that further research is needed, and made a research recommendation on psychological therapies for children and young people.

How the recommendation might affect practice

In some regions of the UK there is limited access to psychological therapies for people with tinnitus,
with few healthcare professionals trained in delivering them. The committee noted that implementing the recommended psychological therapies will lead to a significant change in practice in regions where access is limited. However, to help providers in widening access to psychological therapies for people with tinnitus, the committee recommended that digital CBT be considered as a first-line intervention. This intervention would allow people with tinnitus to receive their treatment faster and help to reduce waiting lists. It is expected that some providers, working alongside clinicians (including psychologists) with experience in working with people with tinnitus, will take the initiative to adapt existing digital CBT tools available for other conditions.

The recommendation could result in cost savings for services that are currently offering individual-based psychological therapies as a first-line psychological treatment for tinnitus. This is because of the committee's view that these expensive interventions should only be used when other methods (digital CBT and group-based interventions) have been exhausted. Therefore, although some providers may incur additional expenditure as a result of implementing these recommendations, other providers might achieve cost savings. Furthermore, the committee recommended a number of different group-based psychological strategies as there is no clear evidence that 1 psychological intervention is more clinically effective than another. Providers can therefore adopt those interventions that are easiest to implement based on their existing staff and skills, and this would further minimise the resource impact.

As there is limited access to psychology services, the committee recommended that research is needed to assess the effectiveness of CBT delivered to people with tinnitus by appropriately trained and supervised healthcare practitioners other than psychologists (for example, audiologists; see research recommendation 1). This research could further help to widen access to psychological services as more clinicians would be available to provide the interventions listed in this recommendation.

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Betahistine

Recommendation 1.5.5

Why the committee made the recommendation

The committee noted that some people are occasionally prescribed betahistine to treat tinnitus, but it is not licensed for the treatment of tinnitus alone. Betahistine is licensed for treatment of Ménière's disease, of which tinnitus may be a symptom.
The evidence suggests that betahistine does not improve tinnitus symptoms and there is evidence of adverse effects. The committee agreed that betahistine should not be offered to treat tinnitus.

**How the recommendation might affect practice**

As betahistine is occasionally prescribed to treat tinnitus, implementing this recommendation could lead to cost savings.

**Combining therapies**

**Why the committee were unable to make recommendations**

The evidence for combination strategies was limited, but indicated to the committee that tinnitus support alongside other management strategies was important. No recommendations on particular combinations of tinnitus management strategies were made. However, the recommendations on tinnitus support and management in this guideline specify that everyone should receive tinnitus support along with whatever strategy (for example, amplification devices and psychological therapies) has been chosen in their management plan.

The committee noted that there is limited evidence available for the use of sound therapy with tinnitus support. They made a research recommendation on the combination of sound therapy with tinnitus support.

The committee recognised that tinnitus retraining therapy (TRT) is a specific combination management strategy. They agreed that the original protocol for TRT does not allow people to be actively engaged in the development of their management plan. TRT is used in modified forms in current practice, generally in different formats to those described in the literature. In the evidence base identified in the associated evidence review, there is variation in how TRT is delivered, which makes it difficult to determine the most clinically effective form of TRT. The committee agreed that this evidence base does not reflect the TRT interventions that are typically delivered in current practice, and that a recommendation for TRT could not be made. Modified TRT, using the principles of tinnitus support, can be evaluated under the research recommendation made in the combination management strategies review.
Neuromodulation

Why the committee were unable to make recommendations

There is great variation in neuromodulation approaches reported for tinnitus. Insufficient robust evidence meant that the committee were unable to make any practice recommendations on the use of neuromodulation therapies. They made a recommendation for research on the use of neuromodulation therapies, and noted that evidence of the safety of these techniques for use in children and young people was needed before conducting extensive research of efficacy.

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Context

Tinnitus is the perception of sounds in the ears or head that do not come from an outside source. It is a common condition, with similar prevalence rates in children, young people, and adults.

The NHS Joint Strategic Needs Assessment Guidance (2019) reports that '10% of the population will have tinnitus at some point and it will be moderately annoying in 2.8% of the population; severely annoying in 1.6%; and disrupting a person's ability to live a normal life in 0.5%'. It has also been estimated that 3% of adults might require a clinical intervention for tinnitus. The expectation is that a similar number of children will need clinical intervention for tinnitus.

Tinnitus can be associated with difficulty in concentrating and listening, and for some people it can be extremely distressing and have a significant impact on their mental wellbeing, family, work, and social life. It is a heterogeneous condition that affects people differently both in its severity and its impact. Therefore, management of tinnitus is usually tailored according to the person's symptoms. Although there is no single effective treatment for tinnitus, there are a variety of approaches that may help people manage their tinnitus or the impact of their tinnitus.

Additionally, tinnitus is often associated with hearing loss. For example, 75% of people with hearing loss might experience tinnitus, while only 20% to 30% of people who report tinnitus have normal hearing.

Currently services across the UK vary in how accessible they are and the level of support offered for people with tinnitus. There is a lack of standardisation in assessment, referral, and management approaches. This includes assessment of conditions underlying the tinnitus that need prompt, or even urgent, investigation and treatment by specialist services.

This guideline aims to improve care for people with tinnitus by providing advice to healthcare professionals on the assessment, investigation, and management of tinnitus. It also offers advice on supporting people who are distressed by tinnitus and on when to refer for further assessment of their tinnitus and management.
Finding more information and committee details

You can see everything NICE says on this topic in the NICE Pathway on tinnitus.

To find NICE guidance on related topics, including guidance in development, see our topic page for ear, nose and throat conditions.

For full details of the evidence and the guideline committee's discussions, see the evidence reviews. You can also find information about how the guideline was developed, including details of the committee.

NICE has produced tools and resources to help you put this guideline into practice. For general help and advice on putting NICE guidelines into practice, see resources to help you put guidance into practice.

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