Recommended Procedure

Ear examination

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General Foreword

This document presents Practice Guidance by the British Society of Audiology (BSA). This Practice Guidance represents, to the best knowledge of the BSA, the evidence-base and consensus on good practice, given the stated methodology and scope of the document and at the time of publication.

Although care has been taken in preparing this information, the BSA does not and cannot guarantee the interpretation and application of it. The BSA cannot be held responsible for any errors or omissions, and the BSA accepts no liability whatsoever for any loss or damage howsoever arising. This document supersedes any previous recommended procedure by the BSA and stands until superseded or withdrawn by the BSA.

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Shared Decision-Making

It is implied throughout this document that the service user should be involved in shared decision-making when undertaking audiological intervention, receiving subsequent information and understanding how it will impact on the personalisation of care. Individual preferences should be taken into account and the role of the clinician is to enable a person to make a meaningful and informed choice. Audiological interventions bring a variety of information for both the clinician and the patient which can be used for counselling and decision-making regarding technology and anticipated outcomes.

Contents

1. Introduction

1.1 Background and scope

The purpose of this document is to describe guiding principles for safe and effective ear examination (also known as otoscopy) carried out in any audiological context with both children and adults. The specific motivation and optimal approach for examining an ear varies between examinations and it is not the purpose of this document to provide guidance on specific circumstances or on interpretation. It is essential that the 'examiner' (i.e. the person conducting the examination) or the person supervising the examination uses her/his professional judgment when deciding on the particular approach to be used with each 'subject' (i.e. the person who is being examined) given the specific circumstances, while applying the principles described here.

The term 'shall' is used in this document to refer to essential practice, and 'should' is used to refer to desirable practice.

1.2 Development of the recommended procedure

This document was produced by the BSA Professional Guidance Group (formerly the Professional Practice Committee) and is a revision of earlier versions previously published.

Unless stated otherwise, the principles described here represent the consensus of expert opinion and received wisdom as interpreted by the BSA Professional Guidance Group in consultation with its stakeholders.

The document was developed in accordance with the BSA Procedure for Processing Documents.

2. General considerations

The examiner shall be competent, or supervised by someone who is competent, in ear examination for the purpose in hand. Competence should be evidenced by sufficient and relevant training, experience and assessment (e.g. see BSA Minimum Training Guidelines for Ear Examination).

The examiner shall adopt best practice relating to hygiene and infection control, with particular consideration of hand hygiene (WHO, 2009) prior to and after examination, the covering of breaks in the skin, the avoidance of direct contact with bodily fluids and the disposal of specula. The same speculum shall not be used for different subjects. The same speculum shall not be used for each ear of a subject where there is a risk of transferring an infection between the ears[1]. A selection of specula of different sizes should be available and the use of disposable specula is preferred.

[1] As judged by the examiner. For example on the basis of examination of the first ear, the subject's symptoms or medical history or advice provided by another (e.g. medical) professional. If the examiner is in doubt, she/he shall seek advice or use a separate speculum for each ear.

The examiner shall identify and adopt an effective communication strategy with the subject and/or the person responsible for the subject. This shall take into account the subject's age, hearing and other communication difficulties, as well as the visibility of the examiners face during the examination. The examiner shall record relevant information supplied by the subject or person responsible for the subject, observations during the examination, any action taken (e.g. medical attention or aural care) and any advice obtained (e.g. related to medical attention) or given (e.g. related to the management of ear wax). The procedures for record-keeping shall take into account issues related to confidentiality, data protection and the recording of information for future reference.

3. Subject preparation

Before examination the subject, and/or person responsible for the subject, should be asked if she/he currently has any ear-related symptoms including discomfort, pain or discharge, is currently being treated for any ear-related problems or has previously had surgery involving the ears. Any symptoms or other relevant issues should be explored through questioning as appropriate.

The examiner shall explain and where necessary demonstrate the procedure to the subject and/or person responsible for the subject. The subject shall be instructed to report immediately any discomfort or pain experienced during the examination. Informed consent shall then be obtained (e.g. verbally) from the subject or person responsible for the subject.

The subject should be seated comfortably and should remain motionless during examination. Young children may need to be held by an appropriate adult which should be the person responsible for the child. For example, the child could be seated sideways on the adults lap with the child's hands secured by one hand and the child's head held against the chest with the other hand. In older children and adults, an instruction to remain still will usually suffice. Any objects that may interfere with the examination (e.g. a hearing aid) should be removed.

4. Examination

It is usually preferable to examine first the ear *least* likely to have an observable abnormality followed by the other ear. It might be necessary to abort the procedure at any stage if undue discomfort, pain, bleeding or related signs and symptoms occur during the examination; it might also be necessary to seek immediate medical attention.

4.1 Examination of the pinna and adjacent features

When examining an ear it is usually preferable to begin with the skin around, behind and adjacent to the pinna. The pinna should be examined thoroughly including the top and rear and the entrance to the ear canal. The aim is to detect signs of previous ear surgery, inflammation, lesion and other abnormalities. It is not usually necessary to use magnification at this stage, although an additional light source might be helpful.

4.2 Examination of the ear canal and tympanic membrane

The ear canal and tympanic membrane should then be examined. This may not be possible in all cases, for example due to the absence of an ear canal, due to the presence of bandaging or when doing so might cause pain or undue discomfort. Particular care should be taken if the subject has recently undergone ear surgery, might not remain still during examination or is anxious about undergoing the procedure.

The ear canal and tympanic membrane should be examined using a device that provides appropriate magnification and illumination which has been produced for the purpose of ear examination, meets relevant safety standards, and is referred to as an 'otoscope'. An otoscope that has a separate viewing screen instead of a built-in viewfinder, such as a computer monitor, will be referred to as a 'video otoscope'. Video otoscopes are often preferred as they allow images to be recorded. Before use the examiner shall ensure the otoscope is operational and that any relevant safety checks have been conducted. Whatever style of otoscope is used it is essential that the examiner can see clearly with it, using corrective spectacles if necessary.

The examiner shall adopt a stable position and unless unavoidable or inappropriate should be seated when examining the ear. The examiner shall take all necessary precautions to minimise the risk of harming the subject, or her/himself, which is more likely to occur if the examiner is not seated during otoscopy. It is particularly unsafe if the examiner is standing and bent over the subject.

To start, the examiner shall select an appropriately sized speculum, based on the initial examination of the entrance to the ear canal (Section 4.1). The examiner should use a speculum which has the largest diameter at its tip which will fit comfortably into the subject's ear canal entrance. This speculum shall then be securely and hygienically attached to the otoscope. The otoscope shall be held by the examiner in such a way as to enable secure bracing against the subject's head in order to avoid injuring the ear if the subject makes a sudden movement. Figures 1, 2 and 3 illustrate examples of safe and unsafe practice.

The pinna should be manipulated in such a way as to attempt to align the cartilaginous portion of the ear canal with the bony portion without causing undue discomfort (Figures 1, 2 and 3).
The most effective manipulation of the pinna varies between subjects, particularly between adults (where manipulation is typically upwards and backwards) and young children (where manipulation is typically backwards and sometimes also downwards). Most practitioners prefer to hold the otoscope in the right hand when examining the right ear, using the left hand to manipulate the pinna, and vice versa. Any discomfort or pain produced by doing so should be recorded.

The examiner shall then carefully guide the tip of the speculum (attached to the otoscope) into the ear canal while observing the ear (not necessarily through the viewfinder of the otoscope). The examination of the ear canal and tympanic membrane shall be conducted carefully and safely, taking

into account the size, shape, orientation and condition of the ear canal and the presence of wax or foreign bodies.

The examiner shall also take into account that the bony portion of the ear canal is especially sensitive and its surrounding skin vulnerable to trauma. Particular care is necessary with the manipulation of the otoscope if the examiner is using a video otoscope as the examiner might be looking at the screen and away from the subject.

This examination should also be carried out in a thorough and systematic manner given the purpose in hand. A general examination should seek to detect the presence of earwax, foreign bodies, abnormalities of the ear canal (such as discharge/debris, inflammation, swelling, bleeding) and abnormalities of the tympanic membrane or middle ear (including swelling, inflammation, perforation, retraction, discolouration, the absence of visible malleus or other middle-ear landmarks and the presence of fluid).

The entire ear canal and tympanic membrane might not be visible at once, it is therefore often necessary to observe different portions of the ear canal and tympanic membrane at different stages, such as by gently manipulating (e.g. angling) the otoscope, by the examiner changing her/his head position or by the examiner asking the subject to lean her/his head towards the opposite ear.

On completing the examination the otoscope shall be removed from the ear canal and the speculum disposed of appropriately.

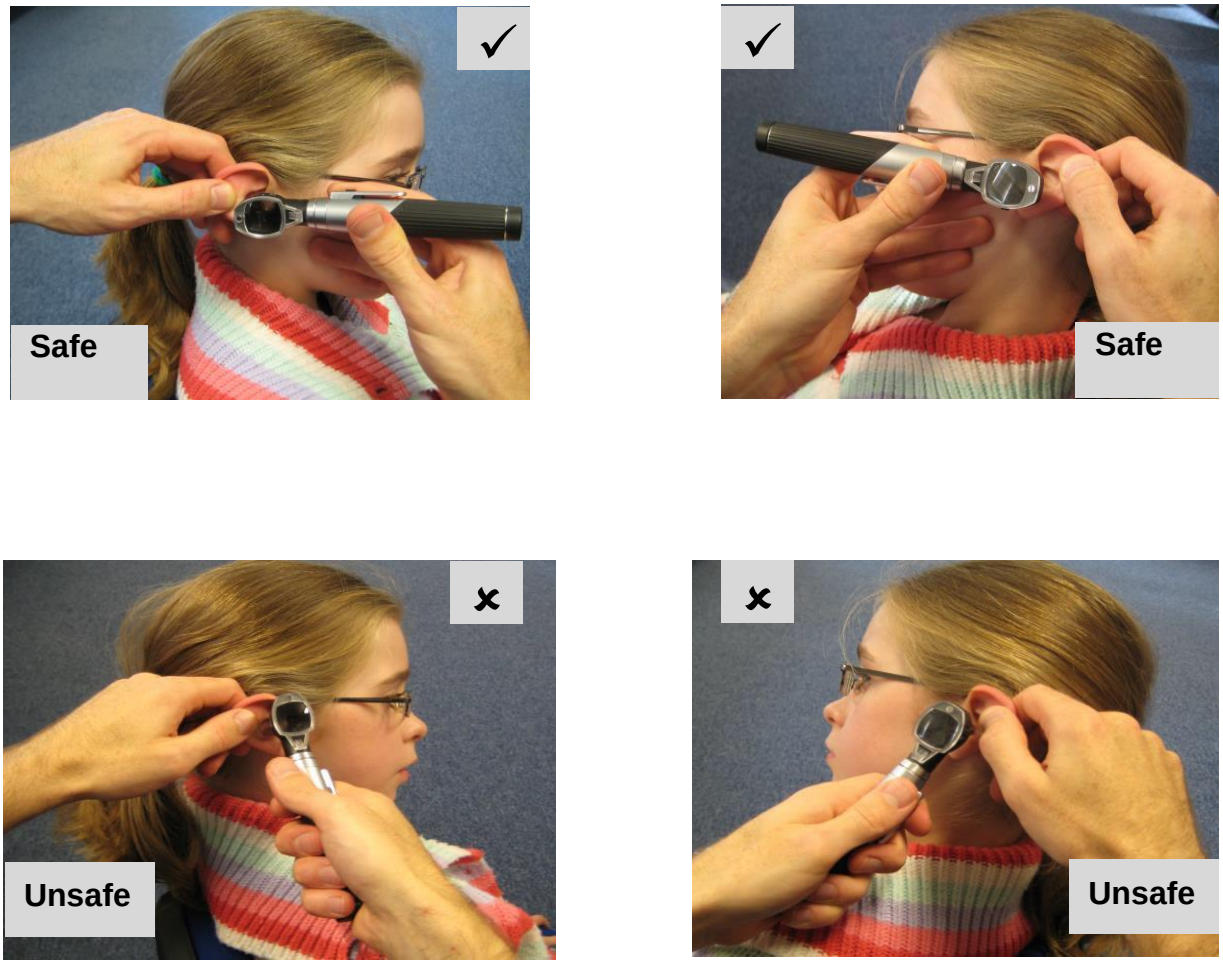

Figure 1
The pictures in the top row illustrate safe practice, with the otoscope braced securely against the subject's head by the examiner's hand; it also illustrates appropriate manipulation of the subject's pinna. The pictures in the bottom row illustrate unsafe practice with no bracing.

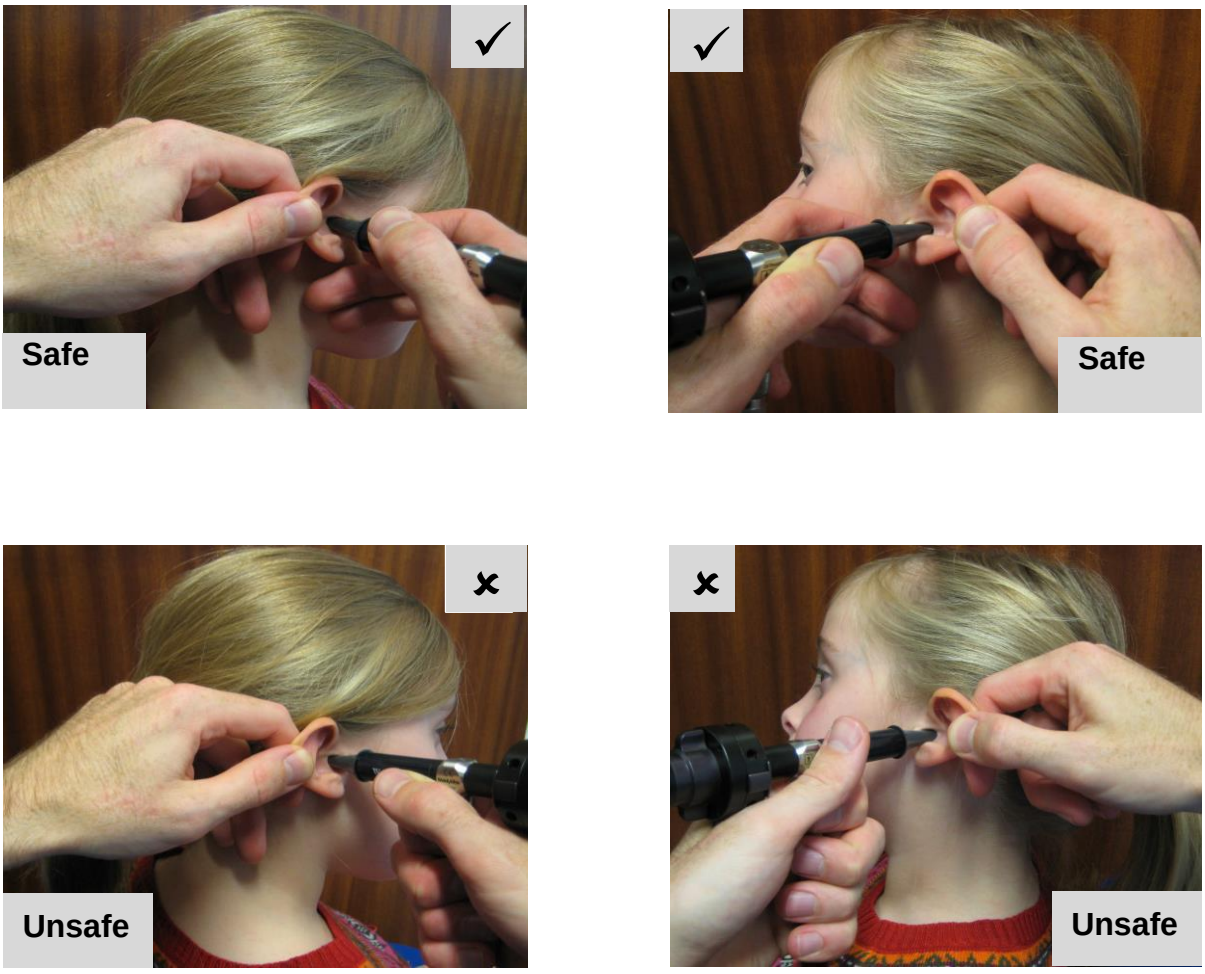

Figure 2
An example with a video otoscope. Arrangement as with Figure 1.

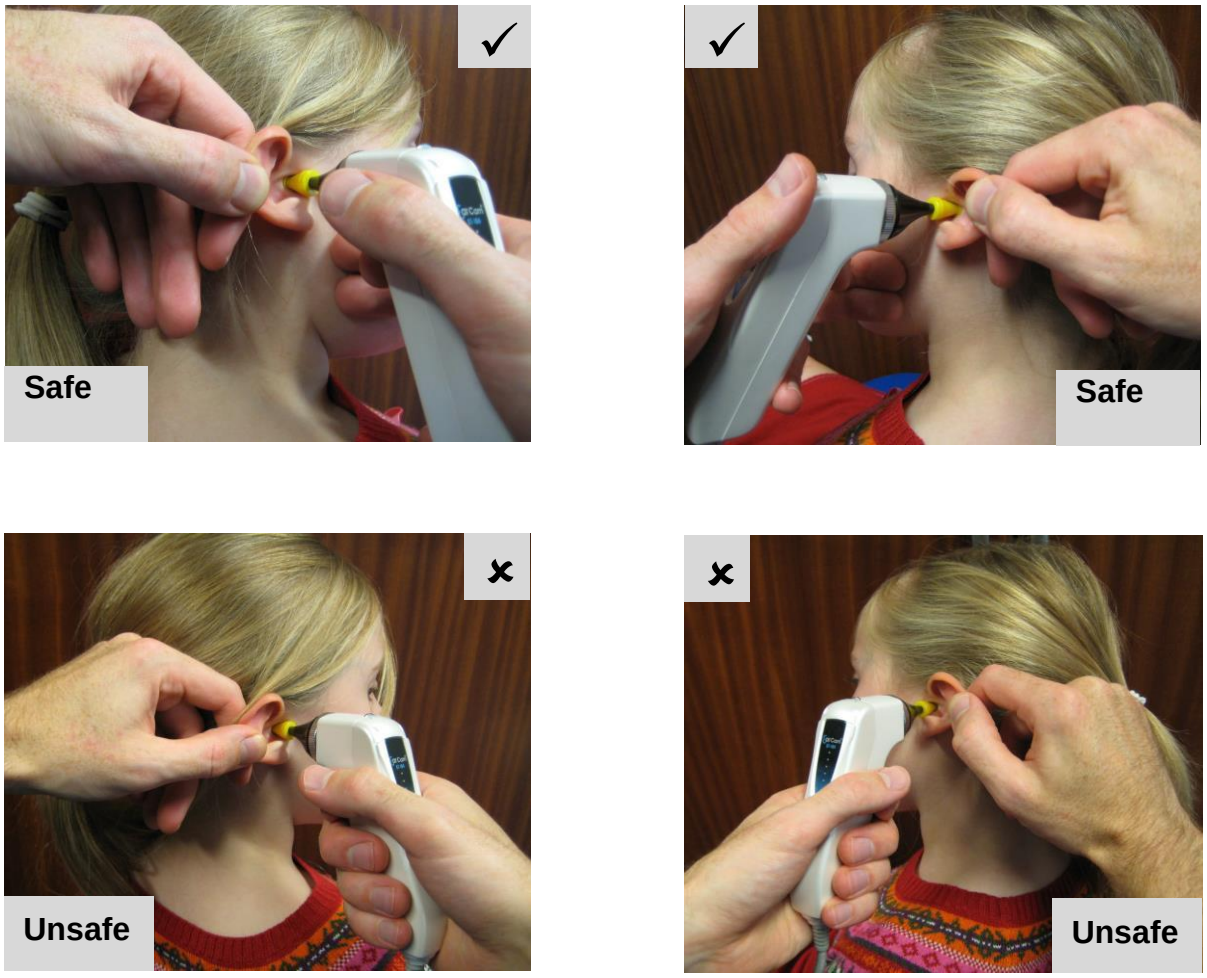

Figure 3
A second example with a video otoscope. Arrangement as with Figures 1 and 2.

4.3 Recording, reporting and managing the findings

The examiner should record her/his observations immediately after carrying out the procedure. Depending on the circumstances, it might also be appropriate for the examiner to make a judgment as to the status of an ear, such as the presence of an abnormality or disease. It might also be necessary for the examiner to take further action, such as a referral for medical attention, in consultation with, and with the consent of, the subject.

If a printed or electronic copy of images is obtained during examination, these should be stored together with the identification details of both the subject and examiner as well as the date and time of the examination.

5. References

(Documents referenced below without dates are the versions shown as current on the website)

BSA Procedure for Processing Documents. British Society of Audiology. www.thebsa.org.uk

BSA Minimum Training Guidelines: Ear Examination. British Society of Audiology. www.thebsa.org.uk

BSA Minimum Training Guidelines: Otoscopy and Impression Taking. British Society of Audiology. www.thebsa.org.uk

WHO. Hand Hygiene: Why, How and When? (2009). World Health Organisation