

1. Introduction

This guideline details newborn hearing screening programme (NHSP) patient management pathways, from receipt of referrals into the Electrodiagnostics Service (EDS), through to onward referral (where appropriate) and discharge from EDS.

2. Scope

This guideline applies to any NHSP patient referral received by EDS. This guideline is for Clinicians and Health Professionals within UHL who are considering a referral to the Audiology section of the Electrodiagnostics Service (EDS), relating to the NHSP.

3. Recommendations, Standards and Procedural Statements

Patients referred to EDS from the Newborn Hearing Screening Programme (NHSP) shall follow the pathway shown in Figure 1.

Babies who are referred from the Newborn Hearing Screen are referred for immediate audiological assessment at the Electrodiagnostic Service (EDS) at LRI. Appointments are made on the EDS patient management system (Tiara), by hearing screeners, in consultation with parents at the point of screen referral.

Where a hearing loss is identified, two or more appointments may be required at EDS. EDS will notify the Teachers of the Deaf (ToD) and UHL's Head of Paediatric audiology at the end of (or immediately after) each appointment so that the relevant Education team may contact and support the family as required in the interim.

Decision to discharge following a 'was not brought' (WNB) appointment outcome, and reason for discharge from EDS, should be clearly documented on the patient management system (Tiara).

Details of all appointments and results are entered into the national IT system for the NHSP, SMaRT4Hearing (S4H).

Parents shall be copied into clinic letters which should include the test results and a short explanation/interpretation of those results. A note shall also be included to advise parents to discuss any queries with the relevant professional.

Letters and reports, S4H tasks and information to be given to the patient's parent/carer are detailed in Table 1.

Attendance at EDS

The following steps are in place to maximise attendance at EDS, reduce the number of WNB appointments, and support the early identification of children with a permanent childhood hearing impairment (PCHI):-

- Parents/carers of all NHSP referred babies are rung by an audiologist from EDS 1-2 working days prior to their appointment to remind them of the appointment date and time and answer any queries. Details from contact are added to Tiara.
- Where there is no answer to the reminder call, and prior permission has been recorded to receiving text messages, a reminder text message is sent
- When a patient fails to attend, towards the end of the appointment slot, a check is made on HISS to ensure there is nothing untoward (e.g. patient deceased). Contact Community Midwife and/ or Health visitor, depending on the age of the baby, to confirm contact details of parent/carer and Identify any social issues. The audiologist rings the parent/carer to negotiate a new appointment. Details should be added to Tiara.
- If a patient WNB twice, and a clinical decision has been made not to offer any further appointments in EDS, the service writes to the GP and HV to explain that 2 appointments have been missed and that another opportunity will be offered for hearing assessment at 8 months. A third appointment is not offered routinely but can be made available on request.
- For patients with a screening outcome of “bilateral refer” or “screening contraindicated” the HV is contacted each time a new appointment has been agreed with the parent. Their help is enlisted to encourage attendance. These patients are offered a third appointment following WNB twice
- Where a child WNB to appointments, or a family cancels and declines any further appointments, consideration should be given to any potential safeguarding concerns

Onward Referrals

Following assessment in EDS, audiologists may make an onward referral to the following teams:

- Hearing Impairment Teams (Teachers of the Deaf (ToD)):
 - City Education: tel. 0116 2254800 or
 - County Education: tel. 01530 513600.
- Paediatric audiology Medical Investigations Clinic:
Babies with confirmed moderate, severe or profound PCHI and/or confirmed or possible structural abnormality in one or both ears are referred to the Medical Investigations Clinic by the EDS audiologist. If the child is already under the care of a hospital paediatrician, the name of the paediatrician should be included in the referral.
- Community Paediatric Audiology (CPA):
 - Leicestershire Partnership Trust (LPT), Bridge Park Plaza, Bridge Park Rd, Thurmaston, Leicester
- Hearing Services Department (HSD):
 - UHL Paediatric Audiology, Hearing Services Department, LRI

Figure 1 Patient pathway for patients referred from the Newborn Hearing Screening Programme

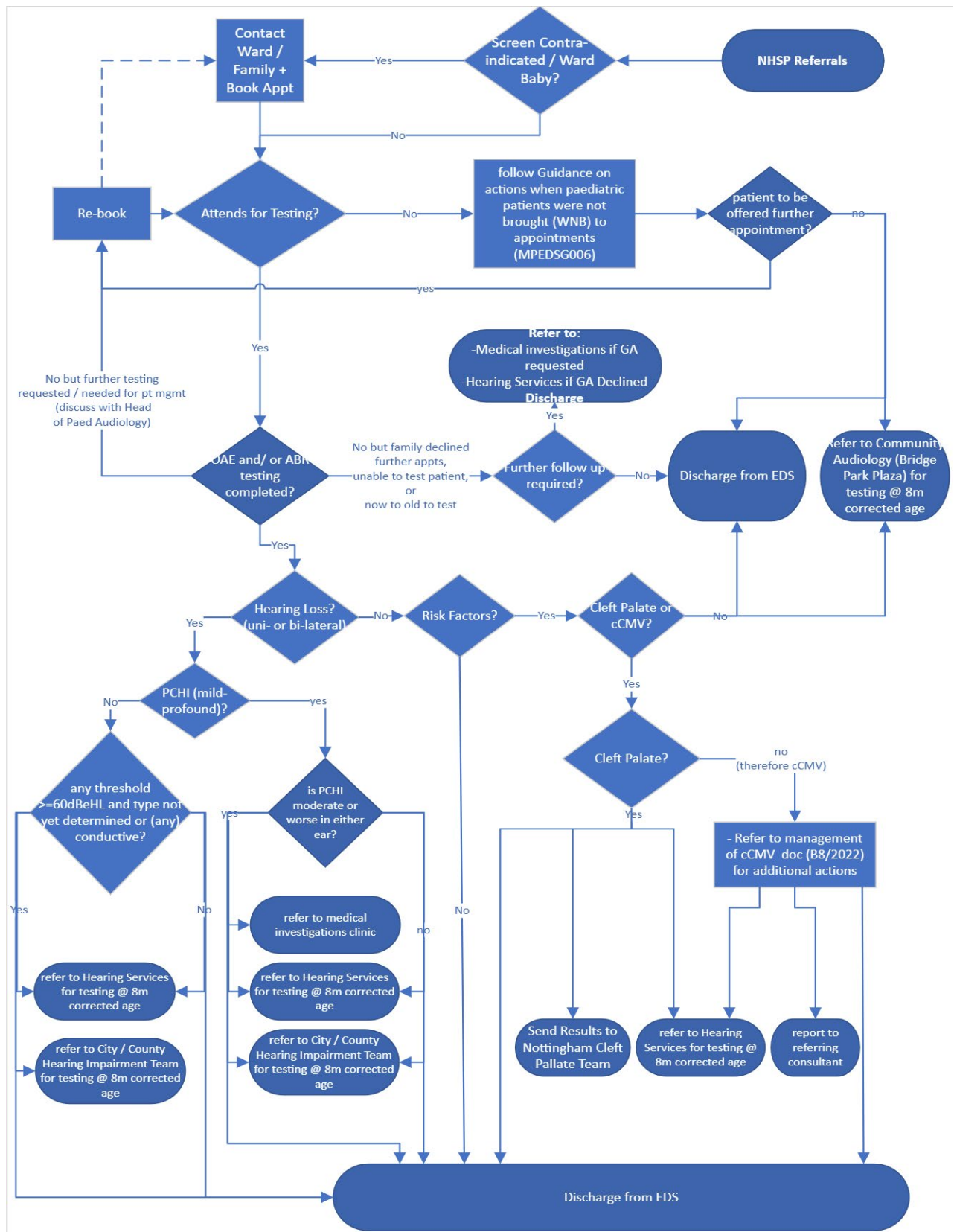


Table 1 Letters and reports, S4H actions, and information to be shared with patient's parent/carer following assessment in EDS

Outcome of EDS assessment	Letters and reports	S4H tasks	Information to be shared with patient's parent / carer
Hearing satisfactory ¹ both ears and no risk factors	Letter to GP cc HV, parent/carer	Enter appointment details and test results. Patient status will automatically go to inactive-no confirmed hearing loss	Copy clinic letter Discuss checklist and give copy / refer to copy in PCHR ("red book")
Hearing satisfactory ¹ both ears and risk factors present Note: risk factors as per latest .Gov Surveillance guidelines	<u>Cleft Palate or cCMV</u> Letter to HSD cc GP, HV, parent/carer Copy screening proforma to HSD OR <u>No Cleft Palate or cCMV</u> Letter to CPA cc GP, HV, parent/carer Copy screening proforma to CPA	Enter appointment details and test results. Enter a referral to HSD or CPA Remove EDS as an audiology facility Activate targeted follow up	Copy clinic letter Discuss checklist and give copy / refer to copy in PCHR ("red book")

¹ Defined as meeting the minimum ABR discharge criteria in the current BSA guidance (30 dBeHL at 4 K). Terminology used is "satisfactory" rather than "normal hearing" as discharge criterion is not equivalent to 20 dBeHL.

Outcome of EDS assessment	Letters and reports	S4H tasks	Information to be shared with patient's parent / carer
PCHI ² (mild-profound) in one or both ears	Letter to HSD cc GP, HV, ToD, parent/carers Referral letter to Medical Investigation lead Copy ABR waveforms to HSD	Enter appointment details and test results, date of confirmation of PCHI enter date of referral to ToD and add ToD as a contact. Enter a referral to HSD and ToD. Remove EDS as an audiology facility Leave patient status as "active-follow up (immediate)"	Copy clinic letter Introductory leaflet for SHIC NDCS booklets- "Understanding your child's hearing tests" and "My Baby has a Hearing Loss"
Hearing loss with any threshold ≥ 60 dB HL in one or both ears and type not yet determined or (any) conductive	Letter to HSD, cc GP, HV, ToD, parent Referral letter to Medical Investigation lead Copy ABR waveforms to HSD	Enter appointment details and test results, date of confirmation of PCHI, date of referral to ToD. Enter a referral to HSD and ToD Remove EDS as an audiology facility Leave patient status as "active-follow up (immediate)"	Copy clinic letter Introductory leaflet for SHIC NDCS booklet- "Understanding your child's hearing tests"??
Satisfactory hearing in one ear and hearing loss (all thresholds ≤ 55) – temp conductive or uncertain in the other ear	Letter to HSD, cc GP, HV, parent/carers Copy ABR waveforms to HSD	Enter appointment details & test results Enter a referral to HSD Remove EDS as an audiology facility Activate targeted follow up	Copy clinic letter NDCS leaflet on glue ear
Bilateral hearing loss-temporary conductive or uncertain (all thresholds ≤ 55)	Letter to HSD, cc GP, HV, parent/carers (and ToD if applicable)	Enter appointment details & test results Enter a referral to HSD (and ToD if needed)	Copy clinic letter NDCS leaflet on glue ear

² PCHI includes permanent mixed hearing loss, sensorineural hearing loss and ANSD

Outcome of EDS assessment	Letters and reports	S4H tasks	Information to be shared with patient's parent / carer
	Copy ABR waveforms to HSD	Remove EDS as an audiology facility Activate targeted follow up [Add date of referral to ToD if applicable]	[Introductory leaflet for SHIC if applicable]
Unable to test	Letter to ENT re ABR under GA cc GP, HV OR Letter to HSD cc GP, HV, Parent/carers, NHSP TL . <u>Note: these cases to be notified to NHSP TL</u> Copy screening proforma to HSD Copy ABR waveforms to HSD	Enter appointment details, note re (lack of) results and next step. Enter appointment for ABR under GA? OR enter a referral to HSD Paediatric audiology clinic at LRI remove EDS as an audiology facility Leave patient status as active-follow up (immediate)	info on ABR under GA? Covered in Report letter? OR Copy clinic letter Discuss hearing checklist and give copy / refer to copy in PCHR ("red book")
Did not attend 2 appointments Note: family and/or HV to be contacted by EDS after <u>first</u> failure to attend to identify potentially sensitive issues and discuss new appointment date	Letter to CPA cc GP, HV Copy screening proforma to CPA Letter to family	enter appointment details and attendance outcomes enter a referral to CPA remove EDS as an audiology facility set patient status to active-targeted follow up	Letter to family with info re hearing checklists in "red book"

4. Education and Training

No further training is required to implement this guideline

5. Monitoring and Audit Criteria

Key Performance Indicator	Method of Assessment	Frequency	Lead
Compliance with pathway defined in this guideline	Clinical audit of at least one patient	annual	EDS Lead Audiologist

6. Legal Liability Guideline Statement

See section 6.4 of the UHL Policy for Policies for details of the Trust Legal Liability statement for Guidance documents

7. Supporting Documents and Key References

1. EDS Referral Checklist (local document)
2. EDS Guidance on actions when paediatric patients were not brought (WNB) to appointments
3. BRITISH SOCIETY OF AUDIOLOGY (2021), Guidelines for the Early Audiological Assessment and Management of Babies Referred from the Newborn Hearing Screening Programme [Online]. Available at: [web link](#) [Accessed 26/01/24]
4. Public Health England Guidance: Guidelines for surveillance and audiological referral for infants and children following newborn hearing screen. Updated 19 July 2019.
5. Diagnosis and Management of Congenital Cytomegalovirus (cCMV) B8/2022
6. UHL Elective Care Access Policy B3/2004

8. Key Words

Electrodiagnostics, Medical Physics, EDS, ABR, OAE, hearing test, paediatric, audiology, NHSP, hearing screen, PCHI

9. Glossary

- ABR Auditory Brainstem Response
- ANSD Auditory Neuropathy Spectrum Disorder
- BSA British Society of Audiology
- cCMV Congenital Cytomegalovirus
- CPA Community Paediatric Audiology
- EDS Electrodiagnostics Service
- ENT Ear, Nose and Throat
- GA General Anaesthetic
- GP General Practitioner
- HSD Hearing Services Department
- HV Health Visitor
- LPT Leicestershire Partnership Trust
- LRI Leicester Royal Infirmary

- NDCS National Deaf Children's Society
- NHSP Newborn Hearing Screening Programme
- OAE Otoacoustic Emissions
- PCHI Permanent Childhood Hearing Impairment
- PCHR Personal Child Health Record ("red book")
- S4H SMaRT4Hearing
- SHIC Specialist Hearing Impairment Clinic
- ToD Teachers of the Deaf
- WNB was not brought

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This table is used to track the development and approval and dissemination of the document and any changes made on revised / reviewed versions

DEVELOPMENT AND APPROVAL RECORD FOR THIS DOCUMENT			
Author / Lead Officer:	Joanne Cowe		Job Title: Head of Clinical Measurement
Reviewed by:	PGC		
Approved by:	PGC		Date Approved: 19 April 2024
REVIEW RECORD			
Date	Issue Number	Reviewed By	Description Of Changes (If Any)
DISTRIBUTION RECORD:			
Date	Name	Dept	Received