

# **Clinical Pathways for Assessment and Habilitation of babies following Newborn Hearing Screening in Wales**

Version 2

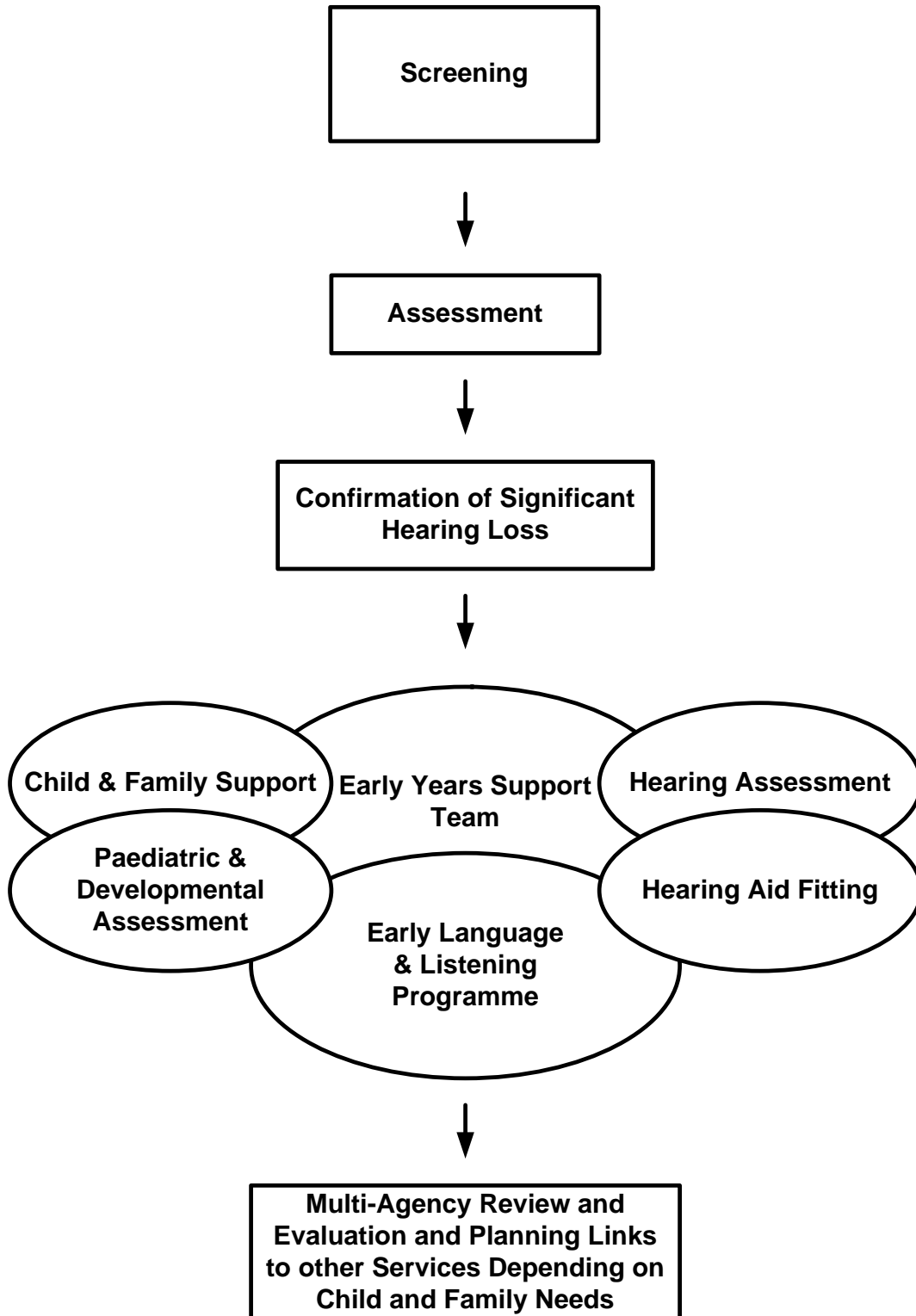
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# Process Map



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## Introduction

The aim of implementing a newborn hearing screening programme in Wales is to identify babies with significant hearing impairment of sufficient severity to cause or potentially cause a disability without the introduction of habilitation in infancy.

Significant hearing impairment is defined as a bilateral hearing loss of a level greater than 40dBHL in the better ear taken as an average over frequencies of 500, 1000, 2000 and 4000 Hz.

(1)

The screening programme ends at the completion of the assessment process for each baby or at three months of age whichever is the sooner although audiological confirmation or certainty may not be complete at this stage.

The screening programme has a role in ensuring that adequate habilitation services are available for hearing impaired young babies and their families up to two years of age.

Minimum Standards for Habilitation of babies in Wales have been produced taking into account best practice guidelines, available resources, feasibility of improvements and realistic resource requirements. (2) However it was acknowledged that a detailed clinical care pathway needed to be developed for the assessment and habilitation of babies referred from the new hearing screening programme.

A Working Group of the Project Team was established (3) and the clinical care pathway produced.

## Clinical Pathways

A clinical pathway

- allows a multi disciplinary team to co-ordinate care by setting out all the activities involved in the care of the patient with a defined condition. A pathway leads each patient towards a set of desired outcomes and ensure that specific interventions are delivered at the appropriate time, in the right way and by the right professional. (4) A clinical pathway therefore

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provides a multi disciplinary template for a plan of care but takes into account the need for clinical and professional judgement in caring for individual babies. It must also be flexible to allow for variations reflecting individual baby's and family's needs.

- provides the opportunity to provide consistent management with the baby and family at the centre of the care cycle. Information on the clinical care pathway for each family and baby can encourage involvement.
- offers increased opportunities for collaboration between professionals and agencies and can promote a greater awareness of the role of each professional within a team.
- Can be used to support clinical effectiveness, clinical audit and risk management.

The development of a clinical care pathway for babies referred for assessment following newborn hearing screening using evidence based practice and best practice guidelines should help to ensure delivery of 'Family Friendly Hearing Services'. (5)

## **Pathways of care for assessment and habilitation following newborn hearing screening.**

Pathways are provided for:

- babies referred for initial assessment;
- babies referred for advanced assessment;
- babies with significant permanent bilateral hearing loss > 40 dBnHL;
- babies with permanent unilateral hearing loss;
- babies with permanent conductive hearing loss;
- babies with temporary conductive hearing loss.

Each pathway lists:

- steps;
- actions to be taken;
- who should take the action;
- time allowed for the action;
- accommodation requirements;
- outcome measures;
- Guidelines and Standards.

Professionals involved in the care pathway:

- audiologist/audiological scientist;
- paediatrician/professional lead;
- teacher of the deaf;
- speech and language therapist;
- social worker;
- clerical support and administration.

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These professionals are members of the Early Years Support Team. Other individuals and agencies e.g. voluntary organisations, portage, need to be aware of the pathway.

**Use of the clinical care pathways**

These pathways provide a framework for use by local teams.

The pathways need to be discussed at Local Implementation Groups prior to implementation of newborn hearing screening to ensure provision of appropriate habilitation for babies referred from newborn hearing screening.

Each local team can use the pathways to support clinical audit, clinical effectiveness and risk management.

A mechanism needs to be agreed on reviewing and updating the clinical care pathways following implementation of newborn hearing screening in Wales depending on emerging evidence based practice, achieved outcomes and family and parental feedback.

**References:**

- 1 Newborn Hearing Screening Wales Quality Manual (Version 1, 01.10.04) Objectives and Standards 2004
- 2 Newborn Hearing Screening Wales Minimum Standards for Habilitation 2002
- 3 Newborn Hearing Screening Wales Implementation Project Working Groups 2002
- 4 Welsh Assembly Government Clinical Pathways September 2002  
[http://www.wales.gov.uk/subiihealth/content/keypubs/clinical/contents\\_e.htm](http://www.wales.gov.uk/subiihealth/content/keypubs/clinical/contents_e.htm)
- 5 Baguely D, Davies A, Bamford J. 2000. Principles of family friendly hearing services for children, BSA News 29 35-39.

## Guidelines and Standards

Baguely D, Davis A, Bamford J. Principles of family friendly hearing services for children, BSA News 29 35-39. 2000

British Association of Audiological Physicians . British Association of Community Doctors in Audiology. Guidelines for Good Practice. Investigation of new cases of severe and profound hearing loss in children. 2002

Competencies for investigating the cause of hearing impairment in babies identified through the Newborn Hearing Screening Programme. BACDA Newsletter April 2005

Department for Education and Skills. Department of Health. Together from the Start- practical guidance on working with disabled children (birth to 2) and their families.2002  
[www.dfes.gov.uk/consultations](http://www.dfes.gov.uk/consultations)

Distraction Diagnostic Test Protocol. [www.nhsp.info](http://www.nhsp.info)

Down's Syndrome Medical Interest Group. Surveillance Guidelines – Hearing Impairment Version 6 September 2000 [www.dsmig.org.uk](http://www.dsmig.org.uk)

Medical Management of Infants with Significant Congenital Hearing Loss Identified through the National Newborn Hearing Screening Programme Best Practice Guidelines – 2004.  
[www.nhsp.info](http://www.nhsp.info)

Modernising children's hearing aid service (MCHAS)  
<http://www.mchas.man.ac.uk/service/service.htm>

Guideline No 1. Ear Impressions and Earmoulds for Children  
 Guideline No 2. (A) Notes on Testing DSP Aids 'in the Field' (B) Guidelines for Testing DSP Hearing Aids 'in the Field'  
 Guideline No 3. Hearing Aids for Children: Fitting, Verification and Evaluation Guidelines  
 Guideline No 6. Audiology Service Links between Health and Education Services for Children's Hearing Management

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National Deaf Children’s Society. Quality Standards in Paediatric Audiology. Guidelines for the Early Identification and Audiological Management of Children with Hearing Loss. Volume IV. October 2000

National Deaf Children's Society. Quality Standards in the Early Years 2002

National Deaf Children's Society/SENSE. Vision care for deaf children and young people Guidelines for professionals working with all deaf children 2004

Newborn Hearing Screening Wales. Quality Manual Assessment Protocol 2004

Newborn Hearing Screening Wales. Quality Manual Operational Procedures 2004

Newborn Hearing Screening Wales. Minimum Standards for Habilitation 2002

Royal College of Surgeons. Steering Group on Cleft Lip and Palate 1996

The Royal National Institute for Deaf People. Effective early intervention for deaf children and their families. 2001

Scope. Right from the Start. Looking at diagnosis and disclosure-parents describe how they found out about their child's disability 1999

Tympanometry in neonates and infants under 4 months. A recommended test protocol. [www.nhsp.info](http://www.nhsp.info)

Visual Reinforcement Audiometry Testing of Infants. [www.nhsp.info](http://www.nhsp.info)

Welsh Cleft lip and Palate Service. Managed Clinical Network 2000

Working in the home to support communication development; the role of the speech and language therapist. Sasha Bemrose. [www.deafnessatbirth.org.uk/](http://www.deafnessatbirth.org.uk/)

**Other references and resources:**

Disclosure of deafness. Peter Watkin. [www.deafnessatbirth.org.uk/](http://www.deafnessatbirth.org.uk/)

Positive practices in Social Services for Deaf Children 2001

Scope. Right from the Start. Looking at diagnosis and disclosure-parents describe how they found out about their child's disability.1999

Early Support Pilot Programme [www.espp.org.uk/](http://www.espp.org.uk/)

NHSP England [www.nhsp.info](http://www.nhsp.info)

**Voluntary Organisations**

- British Deaf Association [www.bda.org.uk/](http://www.bda.org.uk/)
- National Children’s Bureau [www.ncb.org.uk/cpc/](http://www.ncb.org.uk/cpc/)
- National Deaf Children’s Society [www.ndcs.org.uk/](http://www.ndcs.org.uk/)
- Royal National Institute for Deaf People [www.rnid.org.uk/](http://www.rnid.org.uk/)

**Leaflets**

Contact a Family Fact Sheet: Fathers. [www.cafamily.org](http://www.cafamily.org)

Contact Family Fact Sheet: A Genetic Condition in the Family. [www.cafamily.org](http://www.cafamily.org)

Newborn Hearing Screening Wales. Your Baby’s Visit to the Audiology Clinic. 2003

Newborn Hearing Screening Wales. Your Baby has a Hearing Loss. 2004

National Deaf Children's Society. Unilateral hearing loss

National Deaf Children's Society. Glue ear

National Deaf Children's Society. Family information pack

Hearing Aids: A Guide – NDCS 2000

Tips on how to get your Child to wear their hearing aids NDCS 2002

**Pathway for initial assessment of referrals from screen (1)**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
<b>Initial assessment</b>	<ul style="list-style-type: none"> <li>• Ensure translator/health advocate availability</li> </ul>	Audiology administration		Prior to clinic	Parental participation in assessment process	Family Friendly Hearing Services (Baguley et al, 2000)  “Your Baby’s visit to the Audiology Clinic” 2003  NBHSW Minimum Standards for Habilitation 2003  NDCS Quality Standards Volume IV. Oct. 2000  NBHSW Quality Manual Assessment protocol 2004
	<ul style="list-style-type: none"> <li>• Check received information and understand assessment</li> </ul>	Audiologist/Audiological Scientist	Assessment Clinic  Quiet room in child/baby friendly environment	Within 4 weeks of screen result for well babies and within 8 weeks of screen result NICU babies	Informed understanding and consent to assessment	
	<ul style="list-style-type: none"> <li>• Explanation of assessment</li> <li>• Consent - verbal</li> </ul>					
	<ul style="list-style-type: none"> <li>• ABR-AC click</li> </ul>				Establish both ears $\leq 35\text{dBnHL}$ or one ear $\leq 35\text{dBnHL}$ and second ear $\leq 45\text{dBnHL}$	

**Pathway for initial assessment of referrals from screen (2)**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Attended assessment but no definite result	• Discuss results with parents	Audiologist/Audiological Scientist	Assessment clinic. Quiet room in child/baby friendly environment	At time of assessment	Informed parents Advanced assessment or TIDT	NBHSW Quality Manual Assessment protocol 2004
	• Verbal information to parents on follow up					
	• Complete assessment result sheet					
	• Written report for Professional lead and Divisional Coordinator					
Attended assessment but result in one ear only	<ul style="list-style-type: none"> <li>• Discuss results with parents.</li> <li>• Verbal information to parents on follow up. Provide “Hints for Parents Checklist”</li> <li>• Complete assessment result sheet.</li> <li>• Written report for Professional lead and Divisional Coordinator</li> </ul>				Informed parents One ear <35dBnHL Advanced assessment Or TIDT	NBHSW Minimum Standards for Habilitation 2003  NDCS Quality Standards. Volume IV. Oct. 2000  NBHSW Quality Manual Operational Procedures 2004
Declined further assessment/DNA further assessment	<ul style="list-style-type: none"> <li>• DNA/Declined letter for assessment GP (ccHV)</li> <li>• DNA letter for assessment parent</li> </ul>				Appoint for TIDT	
	• Complete assessment result sheet					
	• Inform Professional Lead and Divisional Coordinator					

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**Pathway for Advanced Assessment**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Advanced assessment	<ul style="list-style-type: none"> <li>• Ensure translator/health advocate availability</li> <li>• Explanation of further test procedures</li> <li>• Assessment as per protocol</li> </ul>	Audiology administration	Advanced assessment clinic.	Prior to clinic appointment	Parental participation in assessment process	NBHSW Quality Manual Assessment Protocol 2004  NDCS Quality Standards Volume (IV) October 2000
		Audiological Scientist in consultation with Professional Lead	Quiet room in baby/child friendly environment.	7-10 days following initial assessment OR Immediately after initial assessment	Additional information on hearing status obtained.	
Suspected significant hearing loss	<ul style="list-style-type: none"> <li>• Refer to appropriate Care Pathway</li> </ul>				Early confirmation of hearing loss and appropriate management initiated.	

**Pathway: Confirmation of permanent bilateral hearing loss >40dBnHL**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Confirmation of hearing loss	• Ensure translator/ health advocate availability	Audiology administration	Appropriate quiet room	Prior to clinic appointment	Parental participation in consultation	NDCS Quality Standards. Volume IV. Oct. 2000  Disclosure of deafness. Peter Watkin. <a href="http://www.deafnessatbirth.org.uk/">www.deafnessatbirth.org.uk/</a>  “Your Baby has a Hearing Loss” 2004
	• Verbal explanation of results	Audiological Scientist and Professional Lead		Immediately following assessment	Parental access to clear, unbiased information  Support network established	
	Written information on hearing loss					
	• Contact numbers provided					
	• Information on voluntary organisations					
	• Complete assessment result sheet			Within 7 days		
	• Written report for Professional Lead and Divisional Coordinator			Within 24 hours as appropriate		
	• Early years support teacher informed			Within 24 hours as appropriate		
	• Health visitor informed			Within 7 days		
• Letter to GP/other professionals						

**Guidance notes for clinical pathways for babies with confirmed hearing loss.**

The pathway for babies with confirmed hearing loss will depend on:

- Audiological evaluation and certainty
- Family needs e.g. parental choice, social factors.
- Baby needs e.g. other significant medical conditions

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**Pathway for initial follow up**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Initial follow up	<ul style="list-style-type: none"> <li>• Ensure translator/ health advocate available</li> </ul>	Audiology administration		Prior to clinic appointment	Parental participation in consultation	NDCS Quality Standards. Volume IV. Oct. 2000
	<ul style="list-style-type: none"> <li>• Meet with family members</li> <li>• Verbal and written information re team members and roles</li> <li>• Identify key worker</li> <li>• Development of individual Care Plan</li> </ul>	Audiologist/Audiological Scientist/Professional Lead and Early Years Support Teacher	Joint clinic accommodation	Within 4 weeks of confirmation At time of appointment	Parental understanding of results/implications of diagnosis care plan Parental understanding of team structure and function Establish care “team”	NDCS. Quality Standards in the Early Years 2002 The RNID people. Effective early intervention for deaf children and their families. 2001
	<ul style="list-style-type: none"> <li>• Impressions for ear moulds with family agreement for amplification if not previously completed</li> </ul>	Audiologist/Audiological Scientist			Provision of appropriate amplification	
	<ul style="list-style-type: none"> <li>• Appoint for hearing aid fitting</li> </ul>	Audiology administration		Within 2 weeks of impressions		

**Pathway for Audiological Care (1)**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Hearing aid fitting	<ul style="list-style-type: none"> <li>• Ensure translator/ health advocate availability</li> </ul>	Audiology administration		Prior to clinic appointment		Family Friendly Hearing Services (Baguley et al, 2000)
	<ul style="list-style-type: none"> <li>• Ensure parental understanding of procedure</li> </ul>	Audiologist/Audiological Scientist	Audiology clinic		Provision of appropriate amplification	NDCS Quality Standards. Volume IV. Oct. 2000
	<ul style="list-style-type: none"> <li>• Fit appropriate hearing aids binaurally</li> </ul>			Within 2 weeks of impressions taken	Optimal amplification	MCHAS(W) Guideline No 1. Ear Impressions and Earmoulds for Children
	<ul style="list-style-type: none"> <li>• Undertake real ear measurements</li> <li>• Provide verbal and written information on hearing aid management</li> <li>• Provide hearing aid care and maintenance pack (inc battery supply)</li> </ul>			At time of fitting		
	<ul style="list-style-type: none"> <li>• Ensure parental understanding of access to Audiology Department</li> </ul>				Early habilitation and support	Guideline No 2. Notes in Testing DSP Aids ‘in the Field’ (B) Guidelines for Testing DSP Hearing Aids ‘In the Field’
	<ul style="list-style-type: none"> <li>• Inform early years support team/ professional/medical lead</li> </ul>			Within 2 days		
	<ul style="list-style-type: none"> <li>• Arrange hearing aid review</li> </ul>			Within 1 month		
	<ul style="list-style-type: none"> <li>• Arrange follow up in multi-disciplinary Paediatric Hearing Aid Clinic/Multi-agency Planning meeting</li> </ul>			Within 3 months or as requested by family		Guidelines No 3. Hearing Aids for Children: Fitting, Verification and Evaluation Guidelines

**Pathway for Audiological Care (2)**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Review of fitting and ongoing care	• Ensure translator/health advocate availability	Audiology administration		Prior to every appointment	Parental participation in review	NDCS Quality Standards. Volume IV. Oct. 2000  Room specification: ISO 8253-2:1989 (E)  MCHAS(W) Guideline No 1. Guideline No 2. Guidelines No 3. Guidelines No 6.
	• Liaison with family key worker	Audiologist/Audiological Scientist	Audiology clinic	At appointment or by telephone prior to appointment	Coordinated care/team working	
	• Seek parental view of amplification			At appointment	Parental involvement	
	• New moulds				Maintenance of optimal amplification	
	• Check aids in test box as appropriate					
	• Undertake real ear measurements and sound field verification					
	• Provide verbal and written information to parents on fitting					
	• Replace hearing aids if not functioning/lost/destroyed			As necessary		
	• Provide batteries			Within 2 days		
• Inform Early Years Support Team						

**Pathway for Audiological Care (3)**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Ongoing audiological assessment	<ul style="list-style-type: none"> <li>• Ensure translator/health advocate availability</li> </ul>	Audiology administration		Prior to every appointment	Parental participation in review	
	<ul style="list-style-type: none"> <li>• Liason with family key worker</li> </ul>	Audiologist/Audiologist Scientist	Audiology clinic	At appointment or by telephone prior to appointment	Coordinated care/team working	NDCS Quality Standards. Volume IV. Oct. 2000  Distraction Diagnostic Test Protocol <a href="http://www.nhsp.info">www.nhsp.info</a>  Visual Reinforcement Audiometry Testing of Infants <a href="http://www.nhsp.info">www.nhsp.info</a>  Guidelines No 6. Audiology Service Links between Health and Education Services for Children’s Hearing Aid Management
	<ul style="list-style-type: none"> <li>• Seek parental view of hearing responses</li> </ul>			At appointment	Parental involvement	
	<ul style="list-style-type: none"> <li>• Unaided behavioural test of hearing</li> </ul>			Begin at 6 months developmental age	Verification of objective measures of hearing Establish minimum response levels Obtain ear specific and frequency specific response levels Determine amplification requirements	
	<ul style="list-style-type: none"> <li>• Middle ear impedance measures</li> </ul>					
	<ul style="list-style-type: none"> <li>• Provide verbal and written information to parents on hearing levels</li> </ul>			Within 7 days		
	<ul style="list-style-type: none"> <li>• Inform Early Years Support Team</li> </ul>			Within 3 months		
	<ul style="list-style-type: none"> <li>• Arrange appropriate review</li> </ul>					

**Pathway for Medical Care (1)**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Medical assessment	<ul style="list-style-type: none"> <li>• Ensure translator/health advocate availability</li> </ul>	Audiology/Child Health Administration		Prior to appointment		NDCS Quality Standards Volume IV. Oct. 2000
	<ul style="list-style-type: none"> <li>• Liaison with or assessment planned with neonatologist /paediatrician (baby already identified as having significant medical condition)</li> </ul>	Professional Lead	Consulting room suitable for examining baby	Within 4-6 weeks of Confirmation of hearing loss OR as dictated by other medical conditions or parental/social factors	Parents informed and understand purpose of investigations.  Identifications of medical conditions to: <ul style="list-style-type: none"> <li>• inform ongoing medical and audiological management</li> <li>• inform family</li> <li>• inform habilitation</li> </ul> Improved epidemiological data	BACDA/BAPP Guidelines for Good Practice. Investigation of new cases of severe and profound hearing loss in children. 2002  Medical Management of Infants with Significant Congenital Hearing Loss identified through the National Newborn Hearing Screening Protocol <u>Best Practice Guidelines</u> <a href="http://www.nhsp.info">www.nhsp.info</a>  Competencies for investigating the cause of hearing impairment in babies identified through the NBHSP. BACDA Newsletter April 2005  NBHSW Your Baby has Hearing Loss 2004
	<ul style="list-style-type: none"> <li>• Provide opportunity to discuss assessment results</li> </ul>					
	<ul style="list-style-type: none"> <li>• Explanation to parents of purpose of appointment</li> </ul>					
	<ul style="list-style-type: none"> <li>• Provision of verbal information to parents on aetiological investigations</li> </ul>					

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
	<ul style="list-style-type: none"> <li>• History</li> </ul>	Professional Lead				NBHSW Proforma Care Pathway – Medical Assessment (2004)
	<ul style="list-style-type: none"> <li>• Examination ears, eyes, skin, thyroid, limbs and general development</li> </ul>					

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**Pathway for Medical Care (2)**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Medical assessment	Arrange vision assessment	Professional Lead to arrange with Consultant Ophthalmologist	Identified hospital with Ophthalmology service	As soon as possible or as dictated by other medical/family/social factors	Identification of visual impairment Identification of specific medical condition Planned follow up for monitoring of vision	SENSE/NDCS Vision care for deaf children and young people Guidelines for professionals working with all deaf children 2004
	<ul style="list-style-type: none"> <li>• Congenital infection serology/urine investigations</li> </ul>	Professional Lead to arrange in consultation with Consultant Virology/ Microbiology and review of existing information on maternal status (with permission)	Paediatric Clinical/assessment unit	< 3 months	Identification of conditions relevant to aetiology of hearing impairment	Medical Management of Infants with Significant Congenital Hearing Loss identified through the National Newborn Hearing Screening Protocol <u>Best Practice Guidelines</u> www.nhsp.info
	<ul style="list-style-type: none"> <li>• ECG (severe/profound only)</li> </ul>	Professional Lead to arrange in consultation with Cardiology	Paediatric clinic/cardiology	3-6 months	Identify Jervell Lange Nielson Syndrome	Competencies for investigating the cause of hearing impairment in babies identified through the NHSP. BACDA Newsletter April 2005
	<ul style="list-style-type: none"> <li>• Urine dipstick and analysis</li> </ul>	Professional Lead to arrange in consultation with pathology	Paediatric clinic	3-6 months	Identify Alport Syndrome	
	<ul style="list-style-type: none"> <li>• Parents and siblings hearing tests</li> </ul>	Professional Lead to arrange with audiology	Audiology department		Identify genetic/family hearing loss	
	Additional investigations: <ul style="list-style-type: none"> <li>• Renal Ultra sound</li> <li>• Thyroid function/scan</li> <li>• Neuro imaging</li> </ul>	Professional Lead  Professional Lead with endocrinology Professional Lead with Radiology	Radiology	As appropriate		NBHSW Your Baby has Hearing Loss 2004  NBHSW Proforma Care Pathway – Medical Assessment 2004

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**Pathway for Medical Care (3)**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Medical assessment	<ul style="list-style-type: none"> <li>Written and verbal explanation of results</li> </ul>	Professional Lead	Paediatric clinic	As soon as available	Parents informed	Medical Management of Infants with Significant Congenital Hearing Loss identified through the National Newborn Hearing Screening Protocol <u>Best Practice Guidelines</u> <a href="http://www.nhsp.info">www.nhsp.info</a>  Competencies for investigating the cause of hearing impairment in babies identified through the NHSP. BACDA Newsletter April 2005  NBHSW Your Baby has Hearing Loss 2004  NBHSW Proforma Care Pathway – Medical Assessment 2004
	<ul style="list-style-type: none"> <li>Discussion with parents with regard to referral to genetics team</li> </ul>				Planning for service provision/public health	
	<ul style="list-style-type: none"> <li>Notification to CARIS/ Disability register -discuss with parents</li> </ul>					
	<ul style="list-style-type: none"> <li>Contribute to Team planning relevant medical conditions with family permission</li> </ul>		Early Years Support Team meeting with parents			
	<ul style="list-style-type: none"> <li>Arranged follow up</li> </ul>			As dictated by clinical findings	Medical review to identify emerging conditions	
	<ul style="list-style-type: none"> <li>Information to PHCT</li> </ul>			Within 7 days		

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**Pathway for Multi-Agency Involvement**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Initial appointment	<ul style="list-style-type: none"> <li>• Ensure interpreter/ health advocate present</li> </ul>	Audiology Administration		Prior to appointment		NDCS Quality Standards in the Early Years.2002
	<ul style="list-style-type: none"> <li>• Meet with family members</li> </ul>	Audiologist/Audiological Scientist Professional Lead Early Years Support Teacher	Joint clinic accommodation	Within 4 weeks of confirmation of hearing loss	Ensure parental understanding of results and implications of diagnosis. Introduction to team members	RNID Effective early intervention for deaf children and their families.2001
Multi agency planning meeting	<ul style="list-style-type: none"> <li>• Ensure interpreter/ health advocate present</li> </ul>	Audiology/Paediatric Administration				Department of Health. Together from the Start.2002
	<ul style="list-style-type: none"> <li>• Review progress and Core team assessment</li> </ul>	Audiologist/Audiological Scientist general practitioner health visitor early years support teacher speech and language therapist social worker other agencies	Family friendly environment	At agreed time between 6 weeks – 3 months	Care Plan produced  Partnership with parents	Working in the home to support communication development; the role of the speech and language therapist. Sasha Bemrose. <a href="http://www.deafnessatbirth.org.uk/">www.deafnessatbirth.org.uk/</a>
	<ul style="list-style-type: none"> <li>• Review team roles</li> </ul>					
	<ul style="list-style-type: none"> <li>• Introduce extended team</li> </ul>					
	<ul style="list-style-type: none"> <li>• Allocate key worker</li> </ul>					
	<ul style="list-style-type: none"> <li>• Develop agreed Care Plan</li> </ul>					
	<ul style="list-style-type: none"> <li>• Arrange review</li> </ul>					
<ul style="list-style-type: none"> <li>• Distribute Care Plan</li> </ul>	Audiology/Paediatric Administration					

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Review of multi-agency planning	• Ensure interpreter/ health advocate present	Audiology/Paediatric Administration		Prior to appointment		NDCS Quality Standards in the Early Years.2002  RNID Effective early intervention for deaf children and their families.2001  Department of Health. Together from the Start.2002  Working in the home to support communication development; the role of the speech and language therapist. Sasha Bemrose. <a href="http://www.deafnessatbirth.org.uk/">www.deafnessatbirth.org.uk/</a>
	• Review progress and Core team assessments	Audiologist/ scientist general practitioner health visitor early years support teacher speech and language therapist social worker other agencies	Family friendly environment	3 – 6 months	Partnership with parents Care plan identification of support	
	• Review team roles					
	• Introduce extended team					
	• Identify areas of strength / weakness					
	• Review key worker					
	• Develop agreed Care Plan	Audiology/Paediatric Administration				
	• Arrange review					
• Distribute Care Plan						

**Pathway for babies with better ear <35dBnHL and worse ear > 45dBnHL on initial assessment**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Confirmation of unilateral hearing loss	• Ensure translator/ health advocate available	Audiology administration		Prior to appointment	Parental participation in consultation	NBHSW Quality Manual Assessment Protocol 2004  NDCS “Unilateral Deafness” fact sheet  NBHSW Your Baby has a Hearing Loss 2004  Distraction Diagnostic Test Protocol www.nhsp.info
	• Verbal explanation of results	Audiologist/Audiological Scientist and Professional Lead	Assessment clinic Quiet room in child/baby friendly environment	At time of assessment	Parental access to clear, unbiased information Parental understanding and implications of diagnosis Identify specific medical conditions	
	• Written information regarding unilateral hearing loss					
	• Contact numbers provided					
• Letter to GP,HV/ early years support teacher/ other professionals			Within 7 days			
Follow up audiological assessment	• Ensure translator/ health advocate available	Audiology administration			Parental participation in consultation	Visual Reinforcement Audiometry Testing of Infants www.nhsp.info  NDCS Quality Standards Volume IV. Oct. 2000
	• Seek parental view of hearing responses	Audiological Scientist / Audiologist/Paediatric Audiology Service	Audiology clinic	Within 6 months of initial assessment	Continued monitoring of better ear	
	• Behavioural test of hearing-distracton test or VRA (soundfield or insert earphones)				Establish worse ear minimum response levels across speech frequency range	
	• Middle ear impedance measures					
	• Information for parents on hearing levels					
	• Arrange review			6 monthly unless otherwise indicated.		
	• Consider medical review/multi agency planning	Professional Lead		As appropriate	Coordinated care	

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### **Guidance notes on pathway for babies with confirmed bilateral conductive hearing loss not associated with ear abnormalities other conditions**

This pathway is for babies who, following assessment are found to have a bilateral conductive hearing loss the likely cause of which is middle ear effusions. These babies require monitoring of hearing response levels and middle ear function..

### **Guidance notes on pathway for babies with confirmed bilateral conductive hearing loss associated with ear abnormalities or other conditions**

This pathway is for babies who, following assessment are found to have a bilateral or unilateral conductive hearing loss in association with ear abnormalities. These babies may have other medical conditions or syndromes. The audiological care and ongoing care of these babies will require liaison with a wide range of professionals e.g. Cleft Palate Team members, Consultant Otolaryngologist, Paediatrician.

Babies with the conditions and syndromes listed below may follow this pathway:

Down's Syndrome;

Cleft Lip and Palate;

Microtia;

Goldenhar Syndrome;

Moebius Syndrome

Robin Syndrome;

Treacher Collins Syndrome;

Symphalangism;

Osteogenesis Imperfecta;

Klippel Feil Syndrome.

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**Pathway for babies with confirmed conductive hearing loss not associated with ear abnormalities or other conditions**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Confirmation of bilateral conductive hearing loss	<ul style="list-style-type: none"> <li>• Ensure translator/ health advocate available</li> </ul>	Audiology administration		Prior to appointment	Parental participation in consultation	NBHSW Quality Manual Assessment Protocol 2004
	<ul style="list-style-type: none"> <li>• Verbal explanation of results</li> </ul>	Audiological Scientist/Audiologist/ Professional Lead	Assessment clinic Quiet room in child/baby friendly environment	At time of assessment	Parental access to clear, unbiased information Parental understanding and implications of assessment results Identify medical conditions	NDCS Glue Ear leaflet  NBHSW Your baby has a hearing loss 2004
	<ul style="list-style-type: none"> <li>• Contact numbers provided</li> </ul>			Within 7 days		
	<ul style="list-style-type: none"> <li>• Letter to GP, HV/other professionals</li> </ul>					
Follow up audiological assessment	<ul style="list-style-type: none"> <li>• Ensure translator/ health advocate available</li> </ul>	Audiology administration		Prior to appointment	Parental participation in consultation	Distraction Diagnostic Test Protocol www.nhsp.info  Visual Reinforcement Audiometry Testing of Infants www.nhsp.info  NDCS Quality Standards Volume IV. Oct. 2000
	<ul style="list-style-type: none"> <li>• Seek parental view of hearing responses</li> </ul>	Audiological Scientist / Audiologist/Paediatric Audiology Service	Audiology clinic	Within 6 months of initial assessment	Continued monitoring of minimum response levels and middle ear status	
	<ul style="list-style-type: none"> <li>• Behavioural test of hearing-distraction test -VRA (soundfield or insert earphones)</li> </ul>					
	<ul style="list-style-type: none"> <li>• Middle ear impedance measures</li> </ul>					
	<ul style="list-style-type: none"> <li>• Information for parents on hearing levels</li> </ul>					
<ul style="list-style-type: none"> <li>• Arrange review as appropriate</li> </ul>			3 – 6 months unless otherwise indicated			

### Pathway for babies with confirmed unilateral or bilateral conductive hearing loss associated with ear abnormalities or other conditions

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
Confirmation of unilateral or bilateral conductive hearing loss	<ul style="list-style-type: none"> <li>Ensure translator/ health advocate available</li> </ul>	Audiology administration		Prior to appointment	Parental access to clear, unbiased information	NBHSW Quality Manual Assessment Protocol 2004
	<ul style="list-style-type: none"> <li>Verbal explanation of results</li> </ul>	Audiological Scientist/Audiologist and Professional Lead	Assessment clinic Quiet room in child/baby friendly environment	At time of assessment	Parental understanding and implications of assessment results	NBHSW Your baby has a hearing loss 2004
	<ul style="list-style-type: none"> <li>Liaise with other professionals involved in care</li> </ul>				Coordinated care	
	<ul style="list-style-type: none"> <li>Letter to GP, HV/other professionals</li> </ul>			Within 7 days		
Follow up audiological assessment	<ul style="list-style-type: none"> <li>Ensure translator/ health advocate available</li> </ul>	Audiology administration		Prior to appointment	Parental participation in consultation	
	<ul style="list-style-type: none"> <li>Seek parental view of hearing responses</li> </ul>	Audiological Scientist / Audiologist/ Paediatric Audiology Service	Audiology clinic	Within 3 months of initial assessment	Continued monitoring of minimum response levels and middle ear status	Distraction Diagnostic Test Protocol <a href="http://www.nhsp.info">www.nhsp.info</a>  Visual Reinforcement Audiometry Testing of Infants <a href="http://www.nhsp.info">www.nhsp.info</a>  DSMIG Surveillance for Guidelines – Hearing Impairment Version 6 2000 <a href="http://www.dsmig.org.uk/">www.dsmig.org.uk/</a>
	<ul style="list-style-type: none"> <li>Behavioural test of hearing-distraction test - VRA (soundfield or insert earphones)</li> </ul>					
	<ul style="list-style-type: none"> <li>Middle ear impedance measures</li> </ul>					
	<ul style="list-style-type: none"> <li>Information for parents on hearing levels</li> </ul>					
<ul style="list-style-type: none"> <li>Consider amplification</li> </ul>			Provision of appropriate amplification			

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STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
	<ul style="list-style-type: none"> <li>• Arrange review as appropriate</li> <li>• Multi agency planning in conjunction with Lead Medical/Surgical Professional</li> </ul>			3 – 6 monthly		Welsh Cleft Lip and Palate Service Guidelines 2000
				As appropriate	Coordinated care	