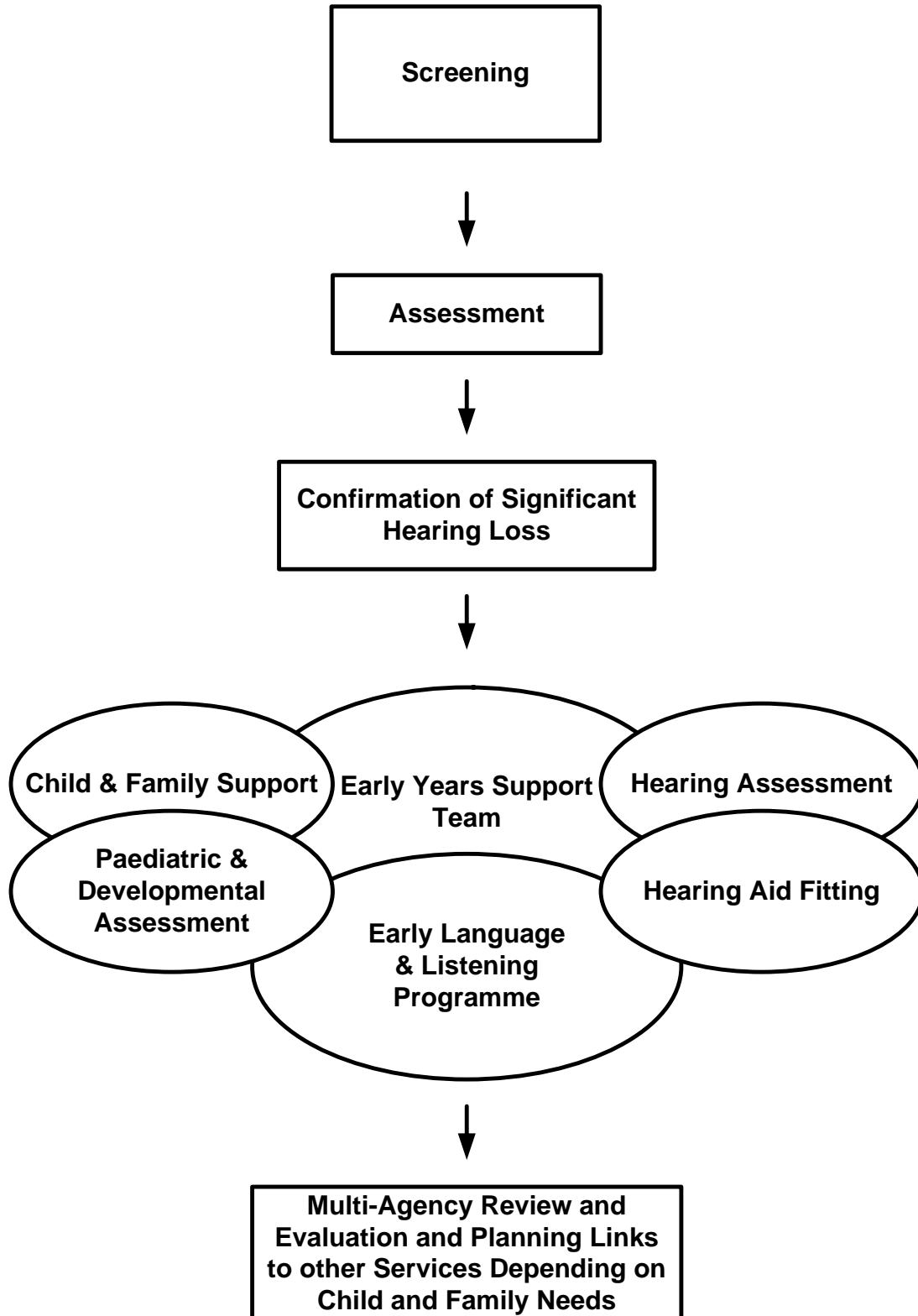


# **Clinical Pathways for Assessment and Habilitation of babies following Newborn Hearing Screening in Wales**

# Process Map



## Introduction

The aim of the 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 habilitation services are available for hearing impaired babies and their families up to two years of age.

Minimum Standards for Habilitation of babies in Wales were produced at the time of introduction of the screening programme taking into account best practice guidelines, available resources, feasibility of improvements and realistic resource requirements (2). Clinical audit has been completed using standards in the Care Pathway (3, 4). Evaluation of implementation of key stages in the care pathway at Health Board sites has been a core component of Quality Assurance of Newborn Hearing Screening Wales (5).

Quality Assurance of habilitation has identified the need for robust mechanisms of recording key events in the Care Pathway to facilitate clinical care and ongoing evaluation of services (5).

The Care Pathway has therefore been reviewed and documentation developed for professionals to record key stages ( Appendix 1).

## 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 ensures that specific interventions are delivered at the appropriate time, in the right way and by the right professional (6). The newborn hearing screening clinical pathway therefore 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 implementation and use of a clinical care pathway for babies referred for assessment following newborn hearing screening should help to ensure delivery of 'Family Friendly Hearing Services' (7).

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

Pathways are provided for:

- babies referred for assessment;
- babies with significant permanent bilateral hearing loss > 40 dB HL;
- 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/clinical scientist( Audiology)
- paediatrician/professional lead;
- teacher of the deaf;
- speech and language therapist;
- social worker;
- clerical support and administration.

These professionals are members of the Early Years Support Team. Not all early years support teams have the benefit of specialist speech and language therapy or social worker. Other individuals and organisations who support children and families need to be aware of the pathway.

## Use of the clinical care pathways

These pathways provide a framework for use by local teams.

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

## References:

1. Newborn Hearing Screening Wales Quality Manual ( Version 3,) Objectives and Standards 2008  
[http://www.wales.nhs.uk/sitesplus/documents/980/1\\_quality\\_system.pdf](http://www.wales.nhs.uk/sitesplus/documents/980/1_quality_system.pdf)
2. Newborn Hearing Screening Wales Minimum Standards for Habilitation .( Internal Report 2002)
3. Newborn Hearing Screening Wales. Audit of audiology, medical and multidisciplinary clinical pathways for babies identified with permanent hearing loss following newborn screening (Internal Report 2010)
4. Newborn Hearing Screening Wales. An audit of aetiological investigation performed for babies identified with bilateral permanent hearing loss following newborn screening and assessment (Internal Report 2008)
5. Newborn Hearing Screening Wales Quality Assurance Report 2011.  
<http://www.wales.nhs.uk/sitesplus/documents/980/Microsoft%20Word%20-%20NBHSW%20QA%20report%20finalc%20version.pdf>
6. Assembly Government Clinical Pathways (September 2002)  
[http://www.wales.gov.uk/subihealth/content/keypubs/clinical/contents\\_e.htm](http://www.wales.gov.uk/subihealth/content/keypubs/clinical/contents_e.htm)
7. Baguley D, Davies A, Bamford J. 2000. Principles of family friendly hearing services for children, BSA News 29 35-39

## Guidelines and Standards

Assessment and Management of Auditory Neuropathy /Auditory Dys-synchrony: A Recommended Protocol Version 1.1 May 2008

<http://hearing.screening.nhs.uk/audiologyprotocols>

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

British Association of Audiovestibular 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

<http://www.baap.org.uk/docs/Severe%20to%20Profound%20Permanent%20Hearing%20Loss%20in%20Children%20Aetiological%20Investigation%20BAAP%20BAPA%20Guideline%202008.pdf>

British Association of Audiovestibular Physicians. Medical Evaluation of children with permanent unilateral hearing loss. 2009

<http://www.baap.org.uk/docs/Unilateral%20Permanent%20Hearing%20Loss%20in%20Children%20Medical%20Investigation%20BAAP%20BAPA%20Guideline%202009.pdf>

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

Counselling for Audiologists. The Ear Foundation 2008

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.

<http://hearing.screening.nhs.uk/getdata.php?id=10759>

Down's Syndrome Medical Interest Group. Surveillance Guidelines – Hearing Impairment. 2007

[www.dsmig.org.uk](http://www.dsmig.org.uk)

Facilities: Welsh Health Estates Health Building Note 12, Outpatient Department, Supplement 3, ENT and audiology clinics, hearing aid centres( 1994)

Guidelines for aetiological Investigation of infants with congenital hearing loss identified through newborn hearing screening. NHSP Clinical Group . January 2009

<http://hearing.screening.nhs.uk/getdata.php?id=16481>

Guidelines for the Identification and Management of Infants and Young Children with Auditory Neuropathy Spectrum disorder. Guidelines Development Conference at NHS 2008, Como, Italy.

Guidelines for the fitting of Hearing Aids to Young Infants. December 2009

<http://hearing.screening.nhs.uk/getdata.php?id=19254>

Modernising Children's Hearing Aid Service (MCHAS)

<http://www.psych-sci.manchester.ac.uk/mchas/guidelines/>

Guideline No 1. Ear Impressions and Earmoulds for Children

<http://www.psych-sci.manchester.ac.uk/mchas/guidelines/earmouldguidelines.doc>

Guideline No 2. (A) Notes on Testing DSP Aids 'in the Field' (B) Guidelines for Testing DSP Hearing Aids 'in the Field'

<http://www.psych-sci.manchester.ac.uk/mchas/guidelines/digitalsignalprocessinghearingaids.doc>

Guideline No 3. Hearing Aids for Children: Fitting, Verification and Evaluation Guidelines

<http://www.psych-sci.manchester.ac.uk/mchas/guidelines/fittingguidelines.doc>

Guideline No 6. Audiology Service Links between Health and Education Services for Childrens Hearing Management

<http://www.psych-sci.manchester.ac.uk/mchas/guidelines/audiologyandeducation.doc>

National Deaf Children's Society. Quality Standards in Bone Anchored Hearing Aids for Children and Young People: Guidelines for Professionals Working with Deaf Children and Young People. May 2010.

[http://www.ndcs.org.uk/applications/site\\_search/search.rm?term=bone+anchored+hearing+aids&searchreferer\\_id=2&submit.x=9&submit.y=7](http://www.ndcs.org.uk/applications/site_search/search.rm?term=bone+anchored+hearing+aids&searchreferer_id=2&submit.x=9&submit.y=7)

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. Guidance on working with deaf children under 2 years old and their families. 2002

National Deaf Children's Society/SENSE. Vision care for deaf children and young people Guidelines for professionals . 2009

Newborn Hearing Screening and Assessment. Guidance for Auditory Brainstem Response testing in Babies. Version 1.1 April 2010. Stevens , Lightfoot : Co editors

<http://www.wales.nhs.uk/sitesplus/980/opendoc/178960>

Newborn Hearing Screening Wales. Quality Manual Operational Procedures 2008

<http://www.wales.nhs.uk/sitesplus/980/page/55734>



NBHSW Process for Peer Review. Version 9. August 2011

Quality Standards in Paediatric Audiology.( Wales.) Welsh Assembly Government 2010

<http://wales.gov.uk/docs/dhss/publications/100421qulaitystandardspaediatricaudiologyen.pdf>

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

Surgical management of otitis media with effusion in children. Clinical Guidelines. National Institute of Clinical Excellence. February 2008.

<http://www.nice.org.uk/nicemedia/live/11928/48420/48420.pdf>

Visual Reinforcement Audiometry Testing of Infants.

<http://hearing.screening.nhs.uk/getdata.php?id=10763>

Welsh Cleft lip and Palate Service. Managed Clinical Network 2000

## Other references and resources:

Early Support Programme

<http://www.earlysupportwales.org.uk/>

Positive practices in Social Services for Deaf Children 2001

British Association of Audiovestibular Physicians and British Association of Paediatricians in Audiology . Aetiological Investigation into bilateral mild and moderate permanent hearing loss in children. 2009

<http://www.baap.org.uk/docs/Mild%20to%20Moderate%20Permanent%20Hearing%20Loss%20in%20children%20Aetiological%20Investigation%20BAAP%20BAPA%20Guideline%202009.pdf>

Investigation of the child with permanent hearing impairment Breege Mac Ardle, Maria Bitner-Glindzicz *Arch Dis Child Educ Pract Ed* 2010;**95**:14-23

National Institute for Health and Clinical Excellence. Cochlear Implants for children and adults with severe to profound deafness. February 2011

[http://www.nice.org.uk/\\_gs/link/?id=F97464A1-19B9-E0B5-D4ECBA8C576746FD](http://www.nice.org.uk/_gs/link/?id=F97464A1-19B9-E0B5-D4ECBA8C576746FD)

Quality Standards for Paediatric Audiology: Cochlear Implants for children and young people. Guidelines for professionals working with deaf children and young people. British Cochlear Implant Group and National Deaf Childrens Society. March 2010

[http://www.ndcs.org.uk/search\\_clicks.rm?id=6252&destinationtype=1&instanceid=281802](http://www.ndcs.org.uk/search_clicks.rm?id=6252&destinationtype=1&instanceid=281802)

### 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. 2009

Newborn Hearing Screening Wales. Your Baby has a Hearing Loss. 2009

Newborn Hearing Screening Wales. Auditory Neuropathy Spectrum Disorder. 2009

Newborn Hearing Screening Wales. Your baby has glue ear. 2010

Newborn Hearing Screening Wales. Your baby has a hearing loss in one ear. 2010

National Deaf Children's Society. Unilateral hearing loss

National Deaf Children's Society. Glue ear

National Deaf Children's Society. Family information pack

National Deaf Children Society. Genetic counselling

National Deaf Childrens Society. Microtia

National Deaf Childrens Society. Why does my child have a hearing loss?

National Deaf Childrens Society. Downs Syndrome and Hearing loss.

Hearing Aids: A Guide – NDCS 2000

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

## Pathway for assessment of referrals from the screening programme

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/STANDARDS
Assessment	<ul style="list-style-type: none"> <li>Ensure translator/health advocate availability</li> <li>Contact with parents</li> </ul>	Audiology administration		Prior to clinic	Parental participation in assessment process informed understanding and consent to assessment  Minimum number of babies lost to follow up	Family friendly Hearing Services (Baguley et al, 2000)  NDCS Quality Standards Volume IV. Oct. 2000  Counselling for Audiologists. The Ear Foundation 2008
	<ul style="list-style-type: none"> <li>Check parents/carer received information and understand assessment</li> <li>Explanation of assessment</li> <li>Consent – verbal</li> <li>History taking</li> <li>Complete peer reviewed hearing assessment</li> </ul> <ul style="list-style-type: none"> <li>Provide information on outcome of assessment to parents. ( see pathway for confirmation)</li> <li>Inform Professional Lead and NBHSW programme(DC)+/- PHCT and other involved professionals</li> </ul>	Audiologist/Clinical Scientist  + Professional Lead for Advanced Assessment	Assessment Clinic  Appropriate sound treated or sound proofed room in child/baby friendly environment	Initial assessment within 4 weeks of screen result for well babies and within 8 weeks of screen result for NICU babies Advanced assessment within timescale agreed with parents and ensuring timely (<3months) completion of assessment  At time of assessment –  Within 1 working day  Written report within 10 days	Parental participation in assessment process Informed understanding and consent to assessment  Ear specific thresholds established determining outcome of assessment 1. consideration for hearing aids 2. audiological follow up 3. targeted behavioural hearing test 4. no further follow up  TBT for babies who DNA assessment  Parents informed of hearing assessment result and follow up ( see pathway for confirmation) NBHSW programme and PHCT informed of assessment result and follow up .	Guidelines for the early audiological assessment and management of babies referred from the newborn hearing screening programme Version 5 (Welsh) March 2011  Guidelines for the assessment and management of ANSD in young infants. Version 2.1 October 2012  NBHSW Process for Peer Review Version 9 August 2011  NBHSW Quality Manual 2008

**Pathway: Confirmation of permanent bilateral hearing loss >40dB HL or Auditory Neuropathy Spectrum Disorder**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/STANDARDS
<b>Confirmation of sensorineural hearing loss or auditory neuropathy spectrum disorder</b>	<ul style="list-style-type: none"> <li>• Ensure translator/ health advocate availability</li> </ul>	Audiology administration		Prior to appointment	Parental participation in assessment process informed understanding and consent to assessment	Family friendly Hearing Services (Baguley et al, 2000)  NDCS Quality Standards. Volume IV. October 2000
	<ul style="list-style-type: none"> <li>• Verbal explanation of results</li> <li>• Written information on hearing loss</li> <li>• Information on voluntary organisations and contact numbers</li> <li>• Information on Early years support team and contact numbers</li> <li>• Arrange appointment for hearing aid moulds or take impressions in consultation with parents (sensorineural hearing loss)</li> <li>• Arrange appointment for hearing aid fitting if required</li> <li>• Arrange audiological follow up for ANSD.</li> <li>• Arrange for medical review/assessment</li> <li>• Early years support teacher informed</li> <li>• Professional lead informed ( if not present)</li> <li>• Written report for Professional Lead and Divisional Coordinator</li> <li>• Letter to GP/other professionals</li> </ul>	Audiologist/Clinical Scientist	Appropriate quiet room	Immediately following assessment and repeated as required by family  As soon as possible  Within 4 weeks of decision to offer hearing aids  Within 9 months or at developmentally appropriate time. Within 5 days if Professional Lead not present at assessment. Within 24 hours  Within 24 hours  Within 10 days  Within 10 days	Parental access to clear information on hearing loss or ANSD.  Support network established  Timescales for moulds and hearing aid fitting or follow up behavioural test agreed with parents  Medical follow up arranged	Disclosure of deafness. Peter Watkin.  <a href="http://www.deafnessatbirth.org.uk">www.deafnessatbirth.org.uk</a>  Counselling for Audiologists. The Ear Foundation 2008  Guidelines for the early audiological assessment and management of babies referred from the newborn hearing screening programme Version 5 (Welsh) March 2011  Guidelines for the assessment and management of ANSD in young infants. Version 2.1 October 2012  Quality Standards in Paediatric Audiology (Wales) 2010.  NBHSW Quality Manual 2008

**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





**Pathway for Audiological Care of babies with permanent bilateral >40 dBHL : Decision to aid and ANSD.(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	Family Friendly Hearing Services (Baguley et al, 2000)
	<ul style="list-style-type: none"> <li>• Liaison with family key worker</li> <li>• Seek parental view of hearing responses</li> <li>• Unaided behavioural test of hearing</li> <li>• Middle ear impedance measures</li> <li>• Provide verbal information to parents on hearing levels</li> <li>• Develop Individual Management Plan to be shared with parents and Early Years Team</li> <li>• Arrange review</li> </ul>	Audiologist/Clinical Scientist	Sound proofed room with VRA facilities	<p>At appointment or by telephone prior to appointment</p> <p>At appointment</p> <p>Begin at 6 months developmental age</p> <p>At appointment</p> <p>Within 10 days</p> <p>As required to determine ear and frequency specific hearing levels as soon as possible</p>	<p>Coordinated care/team working</p> <p>Parental involvement</p> <p>Verification of objective measures of hearing</p> <p>Establish minimum response levels</p> <p>Obtain ear specific and frequency specific response levels</p> <p>Determine amplification requirements include suitability for cochlear implant.</p> <p>Inform care plan and ongoing habilitation including medical/surgical management of OME if required</p>	<p>NDCS Quality Standards. Volume IV. Oct. 2000</p> <p>Distraction Diagnostic Test Protocol.</p> <p>Visual Reinforcement Audiometry Testing of Infants. A Recommended Test Protocol.</p> <p>MCHAS (Wales) Guidelines No 6. Audiology Service Links between Health and Education Services for Children’s Hearing Aid Management</p> <p>Quality standards in Paediatric Audiology : (Wales ). 2010</p> <p>Guidelines for the assessment and management of ANSD in young infants. Version 2.1 October 2012</p>



**Pathway for Medical Care (1)**

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
<b>Medical support and assessment</b>	<ul style="list-style-type: none"> <li>• Ensure translator/health advocate availability for</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 neonatologist /paediatrician (baby already identified as having significant medical condition)</li> <li>• Ensure early support is in place with parents understanding the role of the key worker</li> <li>• Ensure initial MASP developed and circulated to all professionals including parents</li> <li>• Provide opportunity to discuss assessment results, proposed management plan and aetiology investigations as dictated by needs of parents</li> <li>• Provision of verbal and written information on aetiological investigations</li> </ul>	Professional Lead	Suitable consulting room or home visit	Following confirmation of hearing loss/ANSD Referral within 24 hours  Within 3 months  Within 5 days of confirmation of hearing loss  Within 4-6 weeks of Confirmation of hearing loss OR as dictated by other medical conditions or parental/social factors  Urine for CMV as soon as	Parents informed and understand purpose of examination and investigations.  Identifications of medical conditions to:  Inform ongoing medical and audiological management including suitability for cochlear implant	Quality standards in Paediatric Audiology : (Wales ). 2010  BACDA/BAPP Guidelines for Good Practice. Investigation of new cases of severe and profound hearing loss in children. 2002 Guidelines for aetiological investigation of infants with congenital hearing loss identified through newborn hearing screening. January 2009 Competencies for investigating the cause of hearing impairment in babies identified through the NBHSP. BACDA Newsletter April 2005  NBHSW Proforma Care Pathway – Medical Assessment (2004)  Identification and Management of Infants and Young Children with Auditory Neuropathy Spectrum Disorder. 2008

				possible. Other investigations as agreed with parents.	Inform family Inform habilitation Improved epidemiological data	Guidelines for the assessment and management of ANSD in young infants. Version 2.1 October 2012
	<ul style="list-style-type: none"> <li>• Arrange appointment for baby examination as determined by clinical need</li> <li>• Complete recommended medical examination and investigations agreed with parents</li> <li>• Results of investigations discussed with parents and written summary provided</li> <li>• Contribute to team planning relevant medical factors as agreed with parents</li> <li>• Information to PHCT and Paediatric team(s) as appropriate</li> <li>• Ensure Multi- Agency planning meeting scheduled</li> </ul>			<p>Within 10 days</p> <p>Within 10 days</p> <p>Within 9 months</p>		

## Pathway for Multi-Agency Involvement

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
<b>Multi agency planning meeting</b>	<ul style="list-style-type: none"> <li>• Ensure interpreter/ health advocate present</li> </ul>	Audiology Administration		Prior to appointment	Parental participation in support	NDCS Quality Standards in the Early Years.2002
	<ul style="list-style-type: none"> <li>• Meet with family members</li> <li>• Seek parental views and needs</li> <li>• Summarise/review Audiology support</li> <li>• Summarise/review Education early support</li> <li>• Summarise/review other support provided</li> <li>• Review role of key worker</li> <li>• Develop agreed Family Support Plan /Multi Agency Support Plan</li> <li>• Arrange review</li> <li>• Distribute Care Plan</li> </ul>	<p>Audiologist/Clinical Scientist Professional Lead Early Years Support Teacher and other team members. (Health Visitor, Speech and Language Therapist, Social Worker &amp; other agencies)</p> <p>Designated Coordinator (Professional Lead) Audiology/Paediatric Administration</p>	Family friendly environment	<p>At time agreed with parents and within 9 months of confirmation of hearing loss/ANSD</p> <p>Within 10 days</p>	<p>Shared information and understanding of roles of team member</p> <p>Written shared management plan between parents and early years support team.</p> <p>Agreed follow up arrangements for Multi agency meeting.</p>	<p>RNID Effective early intervention for deaf children and their families.2001</p> <p>Department of Health. Together from the Start.2002</p> <p>Quality Standards in Paediatric Audiology (Wales) 2010</p>

## Pathway for babies with better ear &lt;30dB HL and worse ear &gt; 40dB HL-unilateral permanent hearing loss and ANSD

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
<b>Confirmation of unilateral hearing loss</b>	<ul style="list-style-type: none"> <li>Ensure translator/health advocate available</li> </ul>	Audiology administration		Prior to appointment	Parental participation in consultation	Guidance for Auditory Brainstem Response testing in Babies. Version 1. 1 April 2010
	<ul style="list-style-type: none"> <li>Verbal explanation of results</li> <li>Written information regarding unilateral loss</li> <li>Contact numbers provided</li> <li>Arrange audiological follow up</li> <li>Letter to GP, HV and Professional Lead and parents</li> <li>Consider medical review</li> </ul>	Audiologist/Clinical Scientist  Professional Lead	Assessment clinic  Appropriate sound treated / Sound proofed room	At time of assessment  Within 10 days	Parental access to clear, unbiased information Parental understanding and implications of diagnosis Identify specific conditions	Guidelines for the assessment and management of ANSD in young infants. Version 2.1 October 2012
<b>Follow up Audiological assessment</b>	<ul style="list-style-type: none"> <li>Ensure translator/health advocate available</li> </ul>	Audiology administration Clinical		Prior to appointment	Parental participation in consultation	Visual Reinforcement Audiometry Testing of Infants. A Recommended Test Protocol
	<ul style="list-style-type: none"> <li>Seek parental view of hearing responses</li> <li>Behavioural test of hearing</li> <li>Middle ear impedance measures</li> <li>Provide parents with information on hearing responses and Individual Management Plan</li> <li>Arrange review</li> <li>Consider medical review/multi agency planning</li> <li>Information to PHCT and Professional Lead/other professionals as required. (Individual Management Plan)</li> </ul>	Scientist/Audiologist/Paediatric Audiology Service  Clinical Scientist/Professional Lead	Sound proofed room with VRA	Within 9 months of initial assessment  6 monthly unless otherwise indicated. As appropriate  Within 10 days	Continued monitoring of better ear  Ear specific hearing responses obtained  OME management  Coordinated care	NDCS Quality Standards Volume IV. Oct 2000  Quality Standards in Paediatric Audiology (Wales) 2010  BAAP. Medical Evaluation of children with permanent unilateral hearing loss. 2009

**Guidance notes on pathway for babies with confirmed bilateral conductive hearing loss not associated with ear abnormalities and/or 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.

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

STEPS	ACTIONS	BY WHOM	WHERE	TIME	OUTCOMES	GUIDELINES/ STANDARDS
<b>Confirmation of bilateral conductive hearing loss</b>	<ul style="list-style-type: none"> <li>• Ensure translator/ health advocate available</li> </ul>	Audiology administration	Assessment clinic Sound proofed room	Prior to appointment	Parental participation in consultation	Guidance for Auditory Brainstem Response testing in Babies. Version 1.1 April 2010  Distraction Diagnostic Test Protocol  Visual Reinforcement Audiometry Testing of Infants. A Recommended Test Protocol
	<ul style="list-style-type: none"> <li>• Verbal explanation of results</li> <li>• Provide written information</li> <li>• Contact numbers provided</li> <li>• Arrange follow up behavioural hearing test</li> <li>• Letter to GP, HV/other professionals/parents</li> </ul>	Clinical Scientist/Audiologist	Assessment clinic Appropriate Sound treated or sound proofed room	At time of assessment  Within 9 months or at developmentally appropriate time  Within 10 days	Parental access to clear, unbiased information  Parental understanding of assessment results  Follow up plan	
<b>Follow up audiological assessment</b>	<ul style="list-style-type: none"> <li>• Ensure translator/ health advocate available</li> </ul>	Audiology administration		Prior to appointment	Parental participation in consultation	NDCS Quality Standards Volume IV. Oct. 2000  Quality Standards in Paediatric Audiology (Wales) 2010  NICE Guidelines on Glue Ear 2009.
	<ul style="list-style-type: none"> <li>• Seek parental view of hearing responses</li> <li>• Behavioural test of hearing-</li> <li>• Middle ear impedance measures</li> <li>• Information for parents on hearing level (Individual Management Plan)</li> <li>• IMP circulated to Primary Care team and other professionals as required</li> <li>• Arrange hearing review</li> <li>• Consider amplification or surgical opinion as indicated.</li> </ul>	Clinical Scientist/Audiologist/Paediatric Audiology Service	Appropriate sound proofed room	Within 9 months of initial assessment or at developmentally appropriate time  Within 10 days  Within 10 days  3 – 6 months unless otherwise indicated	Minimum response levels ( ear specific) and middle ear status established    Management of glue ear.	

**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.

## 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	Guidance for Auditory Brainstem Response testing in Babies. Version 1. 1 April 2010
	<ul style="list-style-type: none"> <li>Verbal explanation of results</li> <li>Provide written information</li> <li>Liaise with and provide written information for other professionals involved in care</li> <li>Consider amplification ( see Pathways for fitting and multiagency planning)</li> <li>Arrange follow up Audiological assessment</li> <li>Letter to GP, HV/other professionals and parents</li> <li>Consider medical review</li> </ul>	Clinical Scientist/Audiologist and Professional Lead	Assessment clinic Appropriate sound treated or Sound proofed room in baby friendly environment	At time of assessment           Within 9 months or developmentally appropriate time  Within 10 days	Parental understanding and implications of assessment results  Coordinated care  Early amplification	Welsh Cleft Lip and Palate Service Guidelines 2000  DSMIG Surveillance for Guidelines – Hearing Impairment. Version 6. 2000 <a href="http://www.dsmig.org.uk/">www.dsmig.org.uk/</a>  Distraction Diagnostic Test Protocol <a href="http://www.nhsp.info">www.nhsp.info</a>
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	Visual Reinforcement Audiometry Testing of Infants <a href="http://www.nhsp.info">www.nhsp.info</a>
	<ul style="list-style-type: none"> <li>Seek parental view of hearing responses</li> <li>Behavioural test of hearing</li> <li>Middle ear impedance measures</li> <li>Information for parents on hearing levels</li> <li>Arrange follow up behavioural tests</li> <li>Information to Professional Lead/ PHCT/parents – Individual Management Plan</li> </ul>	Audiological Scientist / Audiologist/ Paediatric Audiology Service	Audiology clinic VRA facilities in sound proofed room	Within 9 months of initial assessment or sooner if offered amplification  3-6 months  Within 10 days	minimum response levels( ear specific) and middle ear status established  Provision of amplification if appropriate  Management OME	Quality Standards in Paediatric Audiology (Wales) 2010  NDCS Quality Standards: Bone anchored hearing aids for children and young people: Guidelines for professionals working with children and young people. May 2010  NICE Guidelines on Glue Ear 2009.