INTRODUCTION

This Operational Directive is intended to guide hospitals in the provision of Newborn Hearing Screening Services.

BACKGROUND

Permanent congenital hearing loss (PCHL) occurs in one to two infants per 1,000 births. Prevalence of PCHL is significantly higher than prevalence of other conditions for which newborn screening currently occurs (e.g., phenylketonuria 1 per 10,000; hypothyroidism 3 per 10,000; cystic fibrosis 4 per 10,000).

Newborn hearing screening leads to earlier identification and intervention, and ultimately leads to better language development. In the absence of newborn hearing screening, three out of four children with PCHL remain undiagnosed by 12 months and their capacity for normal language and cognitive development is greatly diminished.

Newborn Hearing Screening (NBHS) Services have operated in selected metropolitan hospitals since 2000. From 2010, following a staged roll-out of services, all WA birthing hospitals will be required to screen all newborns for PCHL.

1. ELIGIBILITY

1.1. All infants born in WA public maternity hospitals will be eligible for NBHS in their birth hospital. Infants who transfer into a screening hospital after birth, regardless of location of birth, will be eligible for NBHS.

2. SCREENING

2.1. Attachment A depicts the newborn hearing screening clinical care pathway.

2.2. Infants should begin and, where possible, complete their screen prior to discharge from their birth hospital.

2.3. Healthy infants can be screened from 6 hours after birth. Infants admitted to Special Care Nursery (SCN) or Neonatal Intensive Care Unit (NICU) for more than 48 hours should be screened after 34 weeks gestation and as close to discharge as possible.

2.4. If screening is incomplete at time of discharge, an outpatient appointment must be offered. Appointments should be arranged to enable completion of the screen within 4 weeks of birth and by 44 weeks corrected gestational age for SCN/NICU infants.

2.5. If screening is not complete prior to transfer to another hospital, the screen should be completed either prior to discharge from the receiving hospital or an outpatient appointment must be offered.
2.6. In the event of a missed appointment, all reasonable efforts should be made to reschedule. At least two further appointments should be offered. If these are also missed without reasonable explanation, the screen should be recorded as 'incomplete – appointments missed' and the infant discharged from the screening pathway.

2.7. Infants who produce a pass result in both ears on initial or follow-up screen will be discharged from the screening pathway.

2.8. Infants who produce a refer result in one or both ears on the initial screen must be referred for a follow-up screen.

2.9. Infants who produce a refer result on the follow-up screen must be referred to a paediatric audiologist for diagnostic assessment within 3 working days. To facilitate timely referral, a completed hearing screening record must be faxed to the Newborn Hearing Screening Information Management Unit within 24 hours of screen completion.

2.10. Infants who produce a pass result on initial or follow-up screen but who have one or more identifiable risk factors for hearing loss will have those risk factors recorded on their screening record to facilitate tracking and surveillance through the Newborn Hearing Screening Information Management Unit.

3. PATIENT TRACKING AND COMPLETION OF SCREENING

3.1. Responsibility rests with the birthing hospital to:

3.1.1. track those infants who have been discharged prior to screening and coordinate outpatient screening

3.1.2. track those infants who have been transferred prior to screening and liaise with the receiving hospital to facilitate access to screening

3.1.3. coordinate the provision of follow-up screens for infants who produce an abnormal result on the initial screen

3.1.4. facilitate timely referral for diagnostic audiology by ensuring that screening records of all infants who produce an abnormal result on follow-up screen are faxed to the Newborn Hearing Screening Information Management Unit within 24 hours of screen completion.

4. SCREENING PERSONNEL

4.1. All personnel who undertake newborn hearing screening are required to satisfactorily complete the prescribed training.

5. EQUIPMENT

5.1. All newborn hearing screens are to be undertaken using approved Automated Auditory Brainstem Response (AABR) devices.

5.2. Equipment must be used, maintained and calibrated in accordance with manufacturer’s recommendations and other relevant guidelines.

6. PATIENT RECORDS

6.1. A newborn hearing screening record must be generated for every live-born infant, including those infants for whom consent to hearing screening is refused.
6.2. Patient records must be complete and accurate, with particular attention to documentation of risk factors for hearing loss.

6.3. For those infants who produce a unilateral or bilateral refer result on the follow-up screen, a completed copy of the hearing screening record must be faxed to the Newborn Hearing Screening Information Management Unit within 24 hours of screen completion.

6.4. For all other infants, a completed copy of the hearing screening record must be forwarded to the Newborn Hearing Screening Information Management Unit within 5 working days of discharge from the screening pathway. The following events represent discharge from the screening pathway:

6.4.1. refusal to consent to screening
6.4.2. bilateral pass on initial screen
6.4.3. bilateral pass on follow-up screen
6.4.4. failure to complete screen after repeated attempts.

7. SERVICE STANDARDS

7.1. To the extent that they are relevant and appropriate, the Standards applicable to delivery of Newborn Hearing Screening Services in Western Australia will be consistent with National Newborn Hearing Screening Standards currently being developed under the auspices of the Australian Population Health Development Principal Committee.

7.2. Services will be delivered in accordance with Clinical Practice Guidelines.

8. PERFORMANCE INDICATORS

8.1. Attachment B sets out the target indicators that apply to newborn hearing screening services, both at a service-wide level and at a hospital level.

9. FURTHER INFORMATION

For further information, contact the NBHS Program Coordinator on 9340 8366.

Dr Peter Flett
DIRECTOR GENERAL
DEPARTMENT OF HEALTH WA

This information is available in alternative formats upon a request from a person with a disability.
ATTACHMENT A       NEWBORN HEARING SCREENING PATHWAY

Information provided to family

Record established

Consent obtained

YES

BILATERAL PASS

Bilateral AABR screen

NO

INCOMPLETE OR INVALID

Re-test

Discharge from NBHS pathway; Copy of record to CAHS

UNILATERAL OR BILATERAL FAIL

Refer for follow-up screen

Discharge from NBHS pathway; Copy of record to CAHS

LOSS TO F/UP

BILATERAL PASS

Follow-up bilateral AABR screen

Discharge from NBHS pathway; Record faxed to CAHS within 24 hours

Referral to audiology

Discharge from NBHS pathway; Copy of record to CAHS
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<tr>
<th><strong>Service-wide</strong></th>
<th><strong>Target</strong></th>
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<tr>
<td><strong>Area</strong></td>
<td><strong>Target</strong></td>
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<tr>
<td>Access to services</td>
<td>99% of families of infants born in or transferred into a public maternity hospital in Western Australia are offered newborn hearing screening</td>
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<tr>
<td>Capture rate</td>
<td>95% of eligible infants are screened by 4 weeks post term</td>
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<td>97% of eligible infants complete the screening pathway (including diagnostic assessment) by 6 months post term</td>
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<td>Appropriate referral</td>
<td>No more than 2% of screened infants are referred for diagnostic audiology assessment</td>
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<td>Timely referral, diagnosis and intervention</td>
<td>100% of infants who require diagnostic assessment are referred to a paediatric audiologist within 3 working days of screen completion</td>
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<td>100% of infants referred for diagnostic assessment for bilateral or unilateral fail are offered an appointment within 4 weeks of screen completion</td>
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<td>100% of infants with PCHL have a confirmed diagnosis by 3 months of age</td>
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<td>100% of infants with confirmed PCHL begin treatment by 6 months of age</td>
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<td>Surveillance</td>
<td>100% of infants with identifiable risk factors for hearing loss who produce a bilateral pass on screen are referred for audiology assessment at 8 months</td>
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<td>Effective documentation</td>
<td>100% of eligible infants have a completed hearing screening record</td>
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<tr>
<th><strong>Screening hospital (applicable within 6 months of implementation of screening)</strong></th>
<th><strong>Target</strong></th>
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<tr>
<td><strong>Area</strong></td>
<td><strong>Target</strong></td>
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<tr>
<td>Capture rate</td>
<td>95% of infants delivered in or transferred into the screening hospital are screened prior to discharge or by 4 weeks of age</td>
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<td>Technical competence</td>
<td>90% of infants produce a bilateral pass on initial screen</td>
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<td>80% of infants produce a bilateral pass on follow-up screen</td>
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<td>Coordinated follow-up</td>
<td>100% of families of infants who do not pass the initial screen are offered either a follow-up screen or, where appropriate, direct referral to an audiologist</td>
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<td>90% of infants requiring follow-up receive it</td>
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<tr>
<td>Timely record management</td>
<td>100% of infants who require referral for diagnostic assessment have their records faxed to NBHS Information Management Unit within 24 hours of screen</td>
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<td>Effective documentation</td>
<td>100% of infants requiring follow-up have documented evidence that an attempt has been made to follow-up</td>
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<td>100% of cases in which parents refuse further screening or referral are appropriately documented</td>
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<td></td>
<td>100% of cases where the infant is considered unfit for further screening are appropriately documented</td>
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