

NIPE - Newborn and Infant Physical Examination - Full Clinical Guideline

NIPE SOP to be used in conjunction with this guideline

Reference No.: NEONATE/03:24/N4

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1. Introduction

The NHS NIPE screening programme aims to identify and refer all children born with congenital abnormalities of the eyes, heart, hips, and testes, where these are detectable, within 72 hours of birth; and further identify those abnormalities that may become detectable by 6-8 weeks of age, at the second infant physical examination, and thereby reduce morbidity and mortality.

2. Purpose and Outcomes

The UK National Screening Committee (UKNSC) policy for NIPE is that all eligible children ie all live babies from birth to 6 weeks of age will be offered the NIPE screen within 72 hours of age. It is not a fitness for discharge examination and babies may need review following the NIPE prior to discharge.

The purpose of the full examination of the newborn is to confirm normality at the time of the examination and to detect abnormalities in the newborn both immediately following the birth and

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in the postnatal period and to ensure appropriate referral pathways for risk factors and/or abnormalities are followed. The NIPE examination **MUST** be performed before 72 hours of age, unless the baby is too young and/or too ill for NIPE screening. If this is the case screening should be completed as and when the baby's condition allows.

This guideline will ensure a standardised, structured approach to examination of the newborn in order to optimise the identification of abnormalities in the newborn.

3. **Key Responsibilities and Duties**

This examination will only be performed by:

- Paediatricians
- Advanced Neonatal Nurse Practitioners (ANNP's)
- Midwives with an appropriate NIPE qualification
- GP Trainees

The clinician undertaking the examination will refer for further medical investigations, treatment or care if any abnormalities or risk factors are identified.

The following babies **must be referred to a Paediatrician/ANNP** for further examination/assessment/review prior to any discharge although the NIPE can be completed by a suitably trained NIPE practitioner.

- Abnormalities detected in the antenatal period e.g. dilated ureters
- Any congenital abnormality identified after birth
- Blood disorders e.g. raised maternal antibody titre
- Known substance misuse
- Active maternal infection, i.e. herpes, GBS in Urine, HIV
- Admission to a neonatal unit
- Jaundice in the first 24 hours
- If polyhydramnios was present, consideration should be given to passing a nasogastric tube. This should be passed by a qualified practitioner to exclude oesophageal atresia.

4. **Abbreviations**

ANNP	-	Advanced Neonatal Nurse Practitioner
FASP	-	Fetal Anomaly Scan Programme.
NIPE	-	Newborn & Infant Physical Examination

5. **Timing of the Examination**

The examination should be completed within **72 hours of age**, unless the baby is too young and/or too ill for NIPE screening. The newborn examination is less reliable as a screening assessment when done within the first 24 hours as before this, detection of heart murmur may be part of the normal adaptation to extra-uterine life.

Newborn screening may be delayed (>72 hours of age) where a clinical decision is made because the baby is 'too young' or 'too ill' for NIPE newborn screening:

'too young for NIPE screening' is defined as babies born <34+0 weeks gestation. Screening may be delayed until these babies reach 34+0 weeks corrected age (with screening ideally being undertaken within 72 hours of reaching this age)

'too ill for NIPE screening' - screening should be completed as and when the baby's condition allows

However, for mothers wishing to be transferred home within hours of giving birth, a baby may be examined around 6 hours of age provided temperature has been maintained and the baby has been appropriately observed for respiratory and feeding status. If this is not possible an outpatient appointment should be arranged and documented on S4N or arrangements made for

the NIPE to be completed in community . In exceptional circumstances, if the parents are not happy to bring the baby back for an appointment, the NIPE can be performed prior to discharge. Inform the parents that the examination is more unreliable if performed before 6 hours and document your discussion in the Maternity Notes.

Please refer to SOP for local information regarding the timing of NIPE.

6. **Home Births**

The NIPE examination **MUST** be completed **within 72 hours of birth**. A NIPE trained community midwife may be able to complete the NIPE in the home or at a community OP clinic. If possible this should be performed once the baby is 24hrs old to minimise the detection of benign early heart murmurs. If this is not possible, community midwives should arrange for the NIPE to be completed at UHDB. A GP may be able to perform NIPE if the parents do not wish to attend hospital. GP`s do not currently have access to S4N, so parents should be contacted to ensure that the NIPE has been completed by the GP in a timely manner. Please document this on S4N

7. **Consent and Documentation**

Prior to the NIPE, consent should be obtained from the parents. Parents should have received the National Screening Committee leaflet 'Screening tests for you and your baby' in the antenatal period. If the woman has not read the information booklet she must be given a copy to read before the examination.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/722185/Screening_tests_for_you_and_your_baby_easy_guide_NIPE_section.pdf

The aims of any physical examination should be fully explained and the results shared with the parents and recorded in the postnatal care plan and the personal child health record. Parental consent should be obtained to carry out the NIPE screening examination. Parents can choose to opt out of the NIPE examination or components of it but the reason why should be clearly documented and a clear explanation of the importance of test and potential consequences of omission explained and documented.

Parents should be advised that the examination is purely a screening examination and cannot always predict or exclude severe congenital abnormalities (particularly cardiac abnormalities).

The outcome of the examination should be communicated to parents once the examination has been performed.

Parents should be advised that if they have any concerns about their baby they should seek medical assistance.

The examination and any discussions must be documented in the neonatal records plus any medical investigations or referrals. After completion of NIPE, copies of the examination will be printed, 1 copy is placed inside the RED child development book (PCHR) and given to the mother and 1 copy in the appropriate baby medical notes.

If parents decline the NIPE examination, this must be documented on the S4N computer system. Their decline must also be documented on the Neonatal Discharge Summary and review recommended by the GP, Community Midwife and Health Visitor.

If parents decline a referral following identification of an abnormality i.e. hips, this must be documented as above to ensure the GP, Community midwife and Health Visitor are informed.

A second full physical examination is offered to parents when their baby is 6-8 weeks as some conditions can develop later. Parents should be advised to liaise with their GP surgery and health visitor regarding arrangements for this examination and advised that it is important to attend.

The examination should take account of the general appearance and involve a thorough and systematic "top to toe" assessment. Any bruising/marks/swelling **MUST** be clearly documented in the neonatal records and a body map must be completed. If severe consider obtaining medical photographs.

8. The Examination

8.1 Screening for Developmental Dysplasia of the Hips (DDH) Risk Factors please refer to local UHDB Guideline.

The same timescales for and referral for ultrasound scan and orthopaedic review (if required) will apply to babies with either:

suspected dislocated or dislocatable hip(s) at clinical examination
and / or presence of one or more national hip risk factors

Both of the above criteria are classed as **Screen positive results**

National Hip Risk Factors: Certain risk factors will require a hip USS when the baby is 4-6 weeks old: (Babies born before 34 weeks gestation, should have hip USS between 38 and 40 weeks corrected age)

- If there is a first degree family history of hip problems in early life. This is if anyone in the baby's close family i.e. mother, father, or sibling, who has had a hip problem as a baby or young child, needing treatment with a splint, harness or surgery.
- Any Breech presentation at or after 36 weeks gestation irrespective of presentation at delivery, or, breech presentation at delivery if this is prior to 36 weeks.
- Breech presentation at birth between 28 weeks gestation and term
- In the case of multiple pregnancies if any of the babies fall into either of these categories, all babies in this pregnancy should have an ultrasound (NHS NIPE 2010). Multiple pregnancy on its own is not a risk factor.

Parent(s) must be informed of findings and the plan for referral and findings recorded in the neonatal records. Please provide parents with the leaflet title "Baby Hip Ultrasound Scan".

8.2 Screening for Congenital Cardiac Abnormalities

All babies should have a clinical examination of the heart as part of the newborn examination. All suspected abnormal heart sounds auscultated at the newborn examination or concerns about cyanosis are to be referred to a member of the neonatal team. Babies with screen positive results who are born in hospital should have an assessment within 24 hours of the examination, or sooner if clinically required. If the baby is less than 24 hours old and clinically well, NEWTT observations should be commenced until auscultation of the heart is repeated when baby is over 24 hours old. The baby should not be discharged home without a diagnosis and management plan. If the murmur is still present then the baby will require a senior clinical review (SpR or Consultant) as well as Pulse Oximetry to measure pre & post-ductal Oxygen saturations. A referral to a cardiac specialist should be made only by a senior member of the neonatal team.

Please refer to the Congenital Heart Disease (CHD) Screening - Paediatric Full Clinical Guideline Reference no: NIC SS 12/JULY 23/V002 for information about family history requiring follow-up. These babies may require senior clinical review (SpR or Consultant) as well as Pulse Oximetry to measure pre & post ductal Oxygen saturations prior to discharge. The paediatrician will arrange further follow-up if needed.

All ante-natal USS should be reviewed to ensure FASP screening has been completed in the appropriate time-frame. If there is documentation that the FASP was incomplete/poor images, these babies should have Pulse Oximetry to measure pre & post-ductal Oxygen saturations and a Paediatric examination/review as part of screening BUT no routine Echo unless screening abnormal.

The Parent(s) must be informed of findings and plan for referral, which must be recorded in the neonatal records.

8.3 Screening for Congenital Eye Disorders including congenital cataracts

All babies should have a clinical examination of both eyes as part of the newborn examination. All suspected abnormal eye examinations are to be referred to a senior member of the neonatal team within 24 hours of the examination. If confirmed the baby must be seen by Consultant ophthalmologist/Paediatric ophthalmology service -within 2 weeks of the examination. Referral to an Ophthalmologists should only be made by a Neonatal Registrar/Consultant.

Parent(s) must be informed of findings and plan for referral, which must be recorded in the neonatal records.

8.4 Screening for Undescended Testes

All newborn males should have a clinical examination to determine that their testes are present and are able to descend into the scrotum.

If a baby is classed as screen positive, then they should be referred for either urgent review (refer to a consultant paediatrician/associate specialist member of the neonatal team within 24 hours of the examination as the baby may require genetic testing and further investigation) or non-urgent (GP to review 6-8 weeks) and this pathway should be clearly documented on both S4N to be included in the PCHR and on the discharge letter.

Screen Positive requiring urgent review

Bilateral impalpable testes

Unilateral impalpable testis with or without hypospadias

Unilateral palpable testis but not located in the scrotum, with hypospadias.

Disorders of sexual development (previously known as ambiguous genitalia, and sometimes referred to as disorders of sexual differentiation)

Screen positive requiring non-urgent review

Bilateral palpable testes but not located in the scrotum, without hypospadias.

Unilateral palpable testis but not located in the scrotum, without hypospadias

All suspected abnormalities (e.g. hydrocele) with the testes are to be referred to a member of the neonatal team. Referral to a surgeon should only be made by a neonatal consultant or senior registrar.

Parent(s) must be informed of findings and plan for referral, which must be recorded in the neonatal records.

8.5 Other abnormalities picked up on NIPE

Any other abnormalities should be discussed with the neonatal team. This includes AN diagnosis of renal tract abnormalities (please ensure this is marked as a risk factor on S4N), hypospadias, polydactyly etc. Appropriate referrals should be made for these babies and this should be recorded in the NIPE comments with care-plans documented in the baby notes and hand-held records. Please ensure that the referral required tick-box under "Rest of the Physical Examination has been ticked.

8.6 Referral when an Abnormality Is Suspected and Communication with the Parent(s)

If the clinician undertaking the examination suspects an abnormality, they must refer the baby to a member of the neonatal team. Some conditions will require senior review (Neonatal Registrar/Middle grade level ANNP/ NICU Service Consultant of the week) for a second opinion. The timing of the senior review will be dependent on the condition of the baby, but must be done as soon as possible and always prior to the baby's transfer home. The neonatologist will carry out a further assessment/examination to determine whether referral to another professional or department is necessary or appropriate. The follow up is the responsibility of, and will be arranged by, the neonatal team.

Additionally, if the abnormality detected is **one of the 11 auditable conditions & was NOT detected in the antenatal period** it will require reporting using an NCARDS form (**National Congenital Anomaly and Rare Disease Registration Service**). When an abnormality has been confirmed by a senior member of the neonatal team it is this individual's responsibility to report the anomaly and email the completed form to:

Save a copy of NCARDRS form in the NCARDRS folder on the shared drive Neonatologists / Paediatricians / ANNPs to inform the Screening Team (dhft.antenatalandnewbornscreeningrdh@nhs.net for Derby and bhft.antenatalscreening@nhs.net at Burton), and Fetal Medicine Specialist Midwife (FMMC) when this form is completed.

Condition	Predicted detection rate %
Anencephaly	98%
Open spina bifida	90%
Cleft lip	75%
Diaphragmatic hernia	60%
Gastroschisis	98%
Exomphalos	80%
Serious cardiac abnormalities	50%
Bilateral renal agenesis	84%
Lethal skeletal dysplasia	60%
Edward's syndrome (trisomy 18)	95%
Patau's syndrome (trisomy 13)	95%

NHS FASP has prepared a series of information leaflets for nine conditions for both parents and healthcare professionals. NHS FASP has worked with the Cleft Lip and Palate Association (CLAPA) and the British Heart Foundation (BHF) to produce information for the two remaining sets of conditions.

Parent(s) must be informed of the findings of the examination by the clinician conducting the examination, including any deviations from normal, requests for a more senior opinion and details of any referrals including, where possible, dates, times and places. If that is not possible, the parent(s) must have a contact number to enable them to access further information.

The parent(s) should be advised that the examination is a screening procedure and cannot always predict or exclude severe congenital abnormalities (particularly cardiac anomalies). They must be advised that if they have any concerns at any time regarding their baby they must seek medical assistance.

If a syndrome is suspected and/or baby is referred for Karyotyping, follow advice above, equally, if a structural abnormality is diagnosed which was not diagnosed in the antenatal period the Neonatologists / Paediatricians / ANNPs should inform the Antenatal Screening Coordinator (ANSC), Neonatal Screening Coordinator, Fetal Medicine Specialist Midwife (FMMC) via the generic email address dhft.antenatalandnewbornscreeningRDH@nhs.net (Derby site) or bhft.antenatalscreening@nhs.net (Burton site) PLUS inform the named Obstetric Consultant whom the woman was booked under antenatally. If the woman was Midwife Led Care (MWLC) please inform the Fetal Medicine Lead Consultant at UHDB.

8.7 Resources required for NIPE - Newborn and Infant Physical Examination

Time: A practitioner undertaking examination of the newborn for transfer to the community will need dedicated time for this. It is estimated that each examination of the newborn will take about 30 minutes. This includes teaching/supporting the parent/s and record keeping.

Equipment:

- Safe area with heat source available to carry out examination.
- Maternal and neonatal records
- Paediatric/neonatal stethoscope
- Ophthalmoscope
- Electronic digital thermometer

9. **Training and Competence**

The training requirement for these staff is included in the maternity services Training Needs Analysis. All staff are directed to the PHE NIPE e-learning programme and should complete the training package at <http://portal.e-lfh.ork.uk/>

Junior doctors must have had supervised training before doing the newborn check, they should be encouraged to complete the NHS e-learning package <http://portal.e-lfh.ork.uk/>

ANNP's should have completed as part of their training, the newborn examination.

Midwives undertaking examination of the newborn must be a registered midwife, who has received the recognised training and successfully completed the course.

Staff should provide ongoing evidence of maintaining those skills.

All Neonatologists and Paediatricians will be trained on Trust/Unit induction and be made aware of this guideline, they should be encouraged to complete the NHS e-learning package.

<https://portal.e-lfh.org.uk/Login>

<https://www.gov.uk/guidance/newborn-and-infant-physical-examination-screening-education-and-training>

The neonatologists and NIPE Lead Midwife will facilitate provision of appropriate education and training to ensure that practitioners have the knowledge and skills to undertake examination of the newborn.

Maintaining skills -The midwife/ANNP/paediatrician have responsibility to maintain their skills in the examination of the newborn, and to improve professional knowledge and competence. As contained in "The code" (NMC 2018) Practitioners must have the knowledge and skills for safe and effective practice when working without direct supervision, must keep knowledge and skills up to date throughout their working life and must take part in appropriate learning and practice activities that maintain and develop competence and performance. It is paramount to communicate with colleagues and the neonatal team to ensure that no omission on his/her part may be detrimental to the safety of the baby and to acknowledge own limitations and refer accordingly (NMC 2018).

Compliance will be monitored via the ESR system. Each individual must evidence this at their yearly appraisal. NIPE midwives should also attend a NIPE update AT LEAST ONCE A YEAR to ensure they are up to date with any changes to practice and guidelines.

Review – This policy will be reviewed in 3 years' time. Earlier review may be required in response to exceptional circumstances, organisational change or relevant changes in legislation or guidance.

10. **Monitoring Compliance and Effectiveness**

The **NIPE - Newborn and Infant Physical Examination** guideline will be audited continuously using NIPE S4N and will be presented annually to ensure compliance. A Health Equity Audit should be undertaken as part of both the commissioning and review of this screening programme including equality characteristics, socio-economic factors and local vulnerable populations

11. **References**

Newborn and Infant Physical examination Screening Programme Standards 2016/2017 PHE

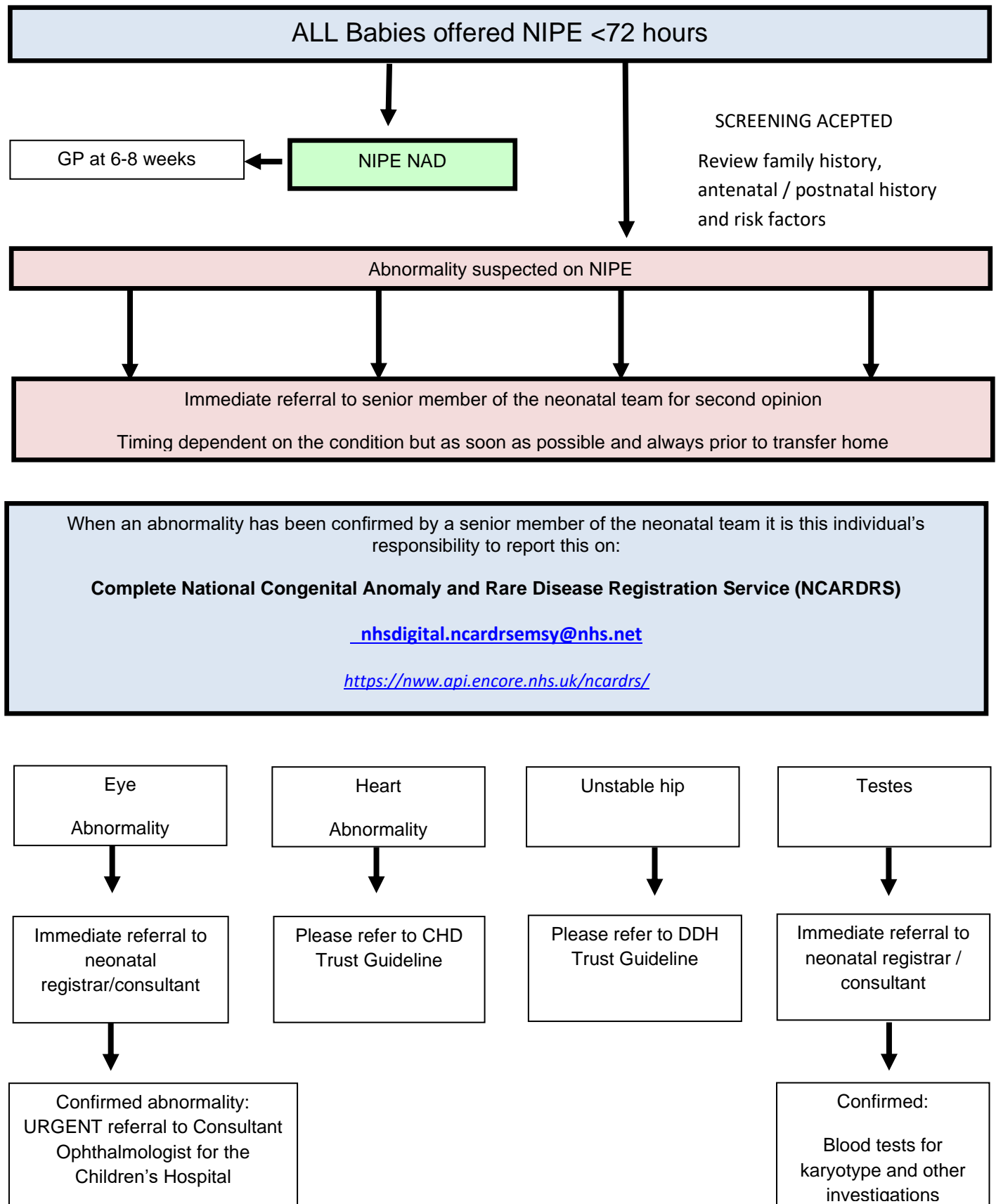
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Wolke D et al. (2002), Routine examination of the newborn and maternal satisfaction, a randomised controlled trial. Arch Dis Child F155 – 160

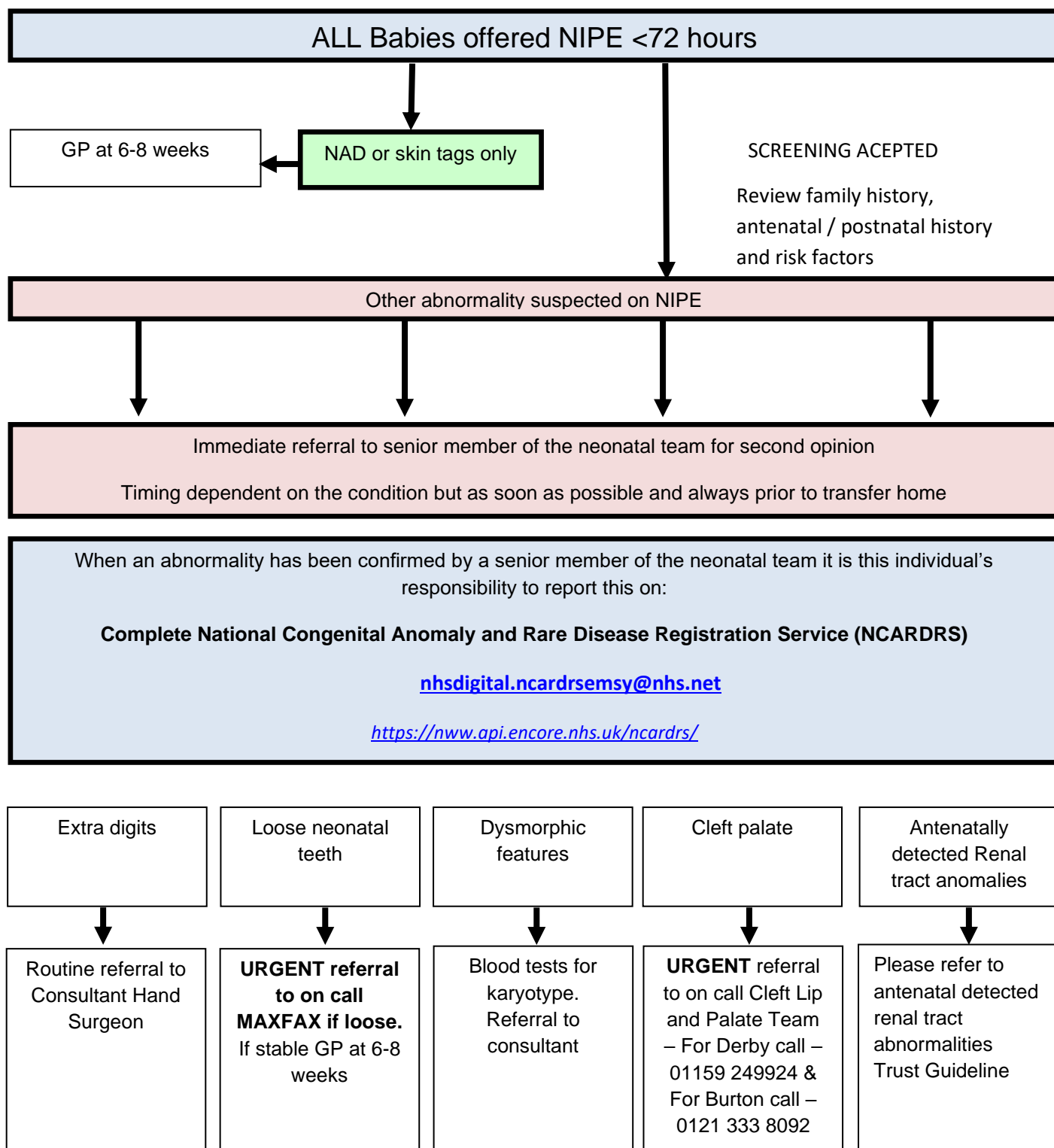
Royal College of Anaesthetists, Royal College of Midwives, Royal College of Obstetricians and Gynaecologists, Royal College of Paediatrics and Child Health. (2007). *Safer Childbirth: Minimum Standards for the Organisation and Delivery of Care in Labour*. London: RCOG Press

The NMC Code Professional standards of practice and behaviour for nurses and midwives 2018

NIPE flowchart 1: Eves. heart. hips and testes



NIPE flowchart 2: skin, extremities, mouth and other features



Guidance for Completing NIPE in the Community Setting**Timing of the NIPE examination**

The examination must be completed **within 72 hours** of birth. It is recommended that a NIPE completed in community be completed once the baby is 24 hours old as before this, detection of heart murmur may be part of the normal adaptation to extra-uterine life and therefore referral for review may be premature.

Home Births

Community midwives, who are NIPE trained should perform the NIPE examination in the patient's home or in a UHDB OP community clinic whenever possible.

Documentation

Any bruising/marks/swelling **MUST** be clearly documented in the Maternity EPR system, "Red" PCHR and on a neonatal body map.

The outcome of the examination should be communicated to parents once the examination has been performed. Parents should be advised that if they have any concerns about their baby they should seek medical assistance. The NIPE examination and any discussions must be documented in the Maternity EPR system and the "Red" PCHR. The NIPE examination must also be documented on S4N with the time and date the examination was performed. Community midwives should have access to this system from their base, but if it is not possible to access the system, then outcomes must be communicated to the NIPE lead as soon as possible for addition to S4N.

Equipment required:

- Stethoscope,
- Ophthalmoscope,
- Tongue depressor,
- Firm surface/changing mat,
- A warm well lit room.

If there is concern about the general health of a baby in the community, the midwife must refer the baby to the UHDB Children's Emergency Department for review.

There are few scenarios which would require pre & post ductal SATS for a baby with the NIPE completed at home. If a murmur was identified then the baby would require review in the unit and SATS would be completed during this review. If a baby required SATS due to family history or incomplete FASP then the rationale for this should be discussed with the family and they should be offered an opportunity to attend the unit to complete this. If the family wish to attend then please contact ward 314 or birth centre to make arrangements. If the family wish to decline then this should be documented in the baby notes and on S4N

NIPE OP COMMUNITY REFERRAL PATHWAY FOR BABIES WITH SUSPECTED ABNORMALITIES.

If an abnormality is suspected for either Eye, Testes or Heart then please follow the flow-chart below. If an abnormality is suspected for the hips then arrange hip scan as per instructions below.

- **Midwife to liaise with the postnatal ward/birth centre and arrange for parents to attend unit with baby ASAP where the neonatal registrar should review the baby.**
- **Contact the neonatal registrar (instructions below)**
- **See page 6 for reportable abnormalities.**

Eye Examination

Eye abnormality or unable to observe “**red reflex**”.

Testes Examination

Heart Examination

Heart murmur present in a baby over 24 hours old and/or unable to palpate both femoral pulses/ unequal pulsations

In addition if there is a concern regarding extra digits, dysmorphic features, skin tags, loose neonatal teeth or any other concern with the NIPE examination, the NIPE midwife **MUST USE HOSPITAL MAIN SWITCHBOARD TO BLEEP** either the on call the neonatal SHO bleep **6510** or registrar bleep **6520** for advice for **RDH** and bleep **QHB** SHO bleep **515** or Registrar bleep **649**

Hip Examination

Positive Ortolani/Barlow hip examination in one or both hips.

- Complete a hip referral form for the baby to be seen at 4 – 6 weeks age.
- Contact the NIPE midwife on duty or screening team, to arrange hip referral if any delay in arranging from community setting.
- Advise family they will be contacted with appointment via telephone.

National Risk Factors

- Request a hip USS using Lorenzo/ V6 for the baby to be seen at 4 weeks
- Contact the NIPE midwife on duty or NIPE lead/deputy, to request hip USS if any delay in arranging from community setting.
- See SOP for guidance on requesting USS.

Documentation Control

Reference Number: UHDB/NEONATE/03:24/N4	Version: UHDB V2.1		Status: Final	
	Royal Derby prior to merged document:			
Version / Amendment	Version	Date	Author	Reason
	1	November 2009	Dr J McIntyre Neonatologist M. Crofts ANNP	New Guideline (Supersedes GI10)
	2	August 2013	Dr Ruggins Consultant Paediatrician Rachel McLean Specialist midwife	Update
	3	March 2017	Dr Ruggins Consultant Paediatrician Rachel McLean – Specialist Midwife	Review & title change from: 'Examination of the Newborn by Healthcare Professionals'
	4	July 2017	Dr Ruggins Consultant Paediatrician Rachel McLean – Specialist Midwife	Amendments following QA visit
	Burton Trust prior to merged document:			
WC/NP/69N	10	March 2018	Paediatric Department	
Version control for UHDB merged document:				
	1	April 2021	Dr Ruggins Consultant Paediatrician, Dr D Muogbo, Consultant Paediatrician, Rachel McLean – Specialist Midwife	Review / merge
	2	March 2024	Rachel McLean – Specialist Midwife	Changes due to National guidance regarding undescended testes.
	2.1	June 2024	Lauren Wilkinson - Risk Support Midwife	To remove reference to MHHR due to the implementation of BadgerNet
Intended Recipients: All clinical staff involved in undertaking examination of the newborn				
Training and Dissemination: Cascaded through senior midwives/neonatal nurses/doctors; Published on KOHA; NHS net circulation list.				
To be read in conjunction with:				
Consultation with:	Dr Ruggins Consultant Paediatrician, Dr Muogbo, Consultant Paediatrician			
Business Unit sign off:	05/03/2024: Maternity Guidelines Group: Miss A Joshi – Chair 11/03/2024: Maternity Governance Group/CD - Mr R Deveraj			
Notification Overview sent to TIER 3 Divisional Performance & Quality 19/03/2024 V2.1: Ratified on the 14th June 2024 by exceptional ratification meeting for all levels of ratification				
Implementation date:	03/04/2024 V2.1: 18/06/2024			
Review Date:	March 2027			

Suitable for printing to guide individual patient management but not for storage. Review Due: March 2027

Key Contact:	Joanna Harrison-Engwell
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