

# ROUTINE EXAMINATION OF NEWBORN BABIES

## **BACKGROUND**

The NHS Newborn and Infant Physical Examination (NIPE) Screening Programme aims to:

- Identify and refer all children born with congenital abnormalities of the heart, hips, eyes or testes, where these are detectable, within 72 hours of birth.
- Identify, investigate and refer if applicable all children with any other abnormality not stated above.

### **Objectives and expected Health outcomes**

In order to reduce mortality and morbidity every baby should be offered a first (new-born) examination **within 72 hours of birth**. Newborn infant physical examinations will be carried out by any competent and trained health professional.

- See: <https://www.gov.uk/government/publications/newborn-and-infant-physical-examination-programme-handbook/newborn-and-infant-physical-examination-screening-programme-handbook>
- See: <https://www.gov.uk/topic/population-screening-programmes/newborn-infant-physical-examination>

### **Eligible population**

The eligible population for new born and infant physical examinations is derived from the completion of the birth registration process, for the NHS number. This will ensure that the automatic transfer of demographic information into NIPE SMART is complete and allow accurate and timely identification of the eligible screening population.

These include:

- The total number of babies born in Worcestershire Acute Hospitals NHS Trust (WAHT) and are undergoing care at the time the new-born examination is required.
- All home births in the Worcestershire geographical area.
- All babies transferred into neonatal unit at WAHT who require a NIPE if condition and wellbeing allows.
- Any neonate transferred to another hospital should have their NIPE SMaRT entry transferred to the accepting unit if their NIPE has not been performed prior to transfer.
- For Hospitals without the NIPE SMaRT failsafe solution, this must be done either directly by the transferring clinician, screening coordinators or in the transferred documentation that the examination has not been performed.

### **Exclusions**

All live babies are eligible for the screening, but it is acknowledged that screening may be delayed if a baby is preterm or they are too unwell to have the examination performed. Screening should be completed as and when the condition allows. These babies should be identified and accounted for on NIPE SMART.

### **Delivery of the screening programme**

Newborn physical examinations will be performed by a trained NIPE practitioner daily.

Newborn physical examinations can be performed during the first few hours of life if this will expedite discharge and be more convenient for the family. **There is no need to wait for 6 hours and NIPes can be performed on Delivery suite. However, these babies should have clearly passed a pulse oximetry screen prior to discharge home.**

## **EQUIPMENT**

- **Computer with Maternity Badger and NIPE Smart available**
- **Stethoscope**
- **Ophthalmoscope**
- **Measuring tape**

### **AIMS**

- Screening for babies with risk factors for; developmental dysplasia of the hip, congenital cataracts, cardiac malformations
- Assessment of the heart
- General physical examination to identify congenital malformations (NB examination has limitations and cannot identify all abnormalities that may be present in the newborn period)
- Provides reassurance to parents and opportunity for discussion
- Identify common neonatal problems and initiate management
- Continue with screening, begun antenatally, to identify need for specific interventions (e.g. immunisation)

### **PRE-PROCEDURE**

- Before undertaking clinical examination, familiarise yourself with maternal history and pregnancy records, including:
  - maternal medical, obstetric and social history
  - paternal medical history, if available
  - family health, history of congenital diseases
  - identify drugs mother may have taken during pregnancy and in labour
  - health of siblings
  - identify pregnancy complications, blood tests, ultrasound scans, admissions to hospital
  - identify maternal blood group, presence of antibodies, serology results for sexually transmitted diseases
  - duration of labour, type of delivery, duration of rupture of membranes, condition of liquor
  - Apgar scores and whether resuscitation required
  - birth weight, gestational age, head circumference

### **NEWBORN PHYSICAL EXAMINATION PROCESS**

- NIPE SMART should be used to identify those babies requiring a physical examination within the 72 hour timeframe and those who are being discharged home. ( Appendix 1)  
This will ensure that all babies have their examination in a timely manner and that delays at discharge are kept to a minimum.
- Any maternal antenatal or family history of importance should be recorded on the neonatal record by midwifery staff but please clarify details with the mother.
- An antenatal paediatric alert with a postnatal management plan may have been initiated. This will be available and flagged on maternity badger.
- A verbal consent for the Physical examination should be obtained and documented into the NIPE SMaRT screening page. Written information about the NIPE screen is provided to parents using the NHS Screening programmes booklet “Screening tests for you and your baby.” This booklet is given by the community midwives at the beginning of the pregnancy as part of the booking process and on the postnatal on admission.
- Pulse oxygen saturation levels should be checked by midwifery staff prior to the newborn examination check
- A check of whether the baby has passed meconium and urine and documentation of failure to do so for follow up by midwifery staff.
- Observation of the baby’s general condition including colour, breathing, behaviour, activity and posture.
- Ascertainment of whether parents or carers have anxieties and an opportunity to observe mother-infant interaction.
- Enquiring about method of infant feeding, and if mother or staff have any concerns about feeding to date. If necessary breastfeeding should be observed, and mother assisted with this, provided the healthcare professional is competent to do so.
- Consideration of any specific known risks in the baby’s home, eg parent with epilepsy, and alerting appropriate professionals to parents who may have problems in caring for their baby

- Ensuring that parents know how to assess their baby's general condition and to contact a midwife, health visitor, doctor or emergency services if required.

## **EXAMINATION**

### **Skin examination**

- Hydration
- Rashes: including erythema toxicum, milia, miliaria, staphylococcal skin infection, *Candida*
- Pigmented lesions: naevi, Mongolian blue spots, birth marks, café au lait spots
- Bruises: traumatic lesions, petechiae
- Cutis aplasia
- Tufts of hair **other than** on head
- Vascular lesions: haemangioma, port wine stain, simple naevus
- Colour: pink/cyanosis/jaundice/pallor/plethora
- Acrocyanosis
- Cutis marmorata

### **Facial examination**

- General facial appearance to identify common syndromes

### **Eyes**

- Shape
- Slant
- Size
- Position
- Strabismus
- Nystagmus
- Red reflex
- Presence of colobomata
- Discharges

### **Nose**

- Nasal flaring
- Patency

### **Ears**

- Shape
- Position
- Tags or pits

### **Mouth**

- Size
- Cleft lip
- Symmetry of movement
- Swellings, Epstein's pearls, ranula, tongue-tie (for parental reassurance)
- Teeth
- Cleft palate, hard/soft palate, [by both inspection (using tongue depressor) and palpation]
- Sucking

### **Skull**

- Palpate:
  - skull for sutures and shape/cranio-synostosis
  - swellings on scalp, especially crossing suture lines, cephalhaematoma
  - signs of trauma associated with birth (e.g. chignon from vacuum extraction)

## Examination of the newborn 2022–24

- subgaleal haemorrhage [see **Subgaleal haemorrhage (SGH)** guideline]
- sutures for ridging or undue separation

### **Neck**

- Swellings
- Movement
- Webbing
- Traumatic lesions from forceps delivery

### **Clavicles**

- For fracture

### **Arms and legs**

- Position and symmetry of movement
- Swelling and bruising

### **Hands and feet**

- Extra digits (polydactyly)
- Syndactyly, clinodactyly, camptodactyly
- Palmar creases
- Skin tags
- Position and configuration of feet looking for fixed/positional talipes
- Overlapping toes

### **Hips**

- Developmental dysplasia using Ortolani's and Barlow's manoeuvres [see **Developmental dysplasia of the hip (DDH)** guideline]

### **Spine**

- Curvatures
- Dimples
- Sacrococcygeal pits
- Hairy tuft on skin overlying spine

### **Systems**

- Examine (inspection, palpation, auscultation) each system

### ***Respiratory***

- Respiratory rate
- grunting
- nasal flaring
- Chest shape, asymmetry of rib cage, swellings
- nipple position, swelling/discharge/extra nipples
- Chest movement
- presence/absence of recession
- Auscultate for breath sounds

### ***Cardiovascular***

- Skin colour/cyanosis
- Palpate:
  - precordium for thrills
  - peripheral and femoral pulses for rate and volume
  - central perfusion

- Auscultate for heart sounds, murmur(s), rate, rhythm
- [Pulse oximetry check](#) – see [Pulse oximetry \(universal\) screening guideline](#)

### **Gastrointestinal tract**

**Ask mother how well baby is feeding, whether baby has vomited and, if so, colour of vomit**  
**Bilious vomiting may have a surgical cause and needs prompt stabilisation and referral**

- Abdominal shape
- Presence of distension
- Cord stump for discharge or inflammation/umbilical hernia
- Presence and position of anus and patency
- Stools passed
- Palpate abdomen for tenderness, masses and palpable liver
- Auscultation is not routinely undertaken unless there are abdominal concerns

### **Genito-urinary system**

**Ask mother if baby has passed urine, and how frequently**

- Inspect appearance of genitalia: ambiguous?

#### **Male genito-urinary system**

- Penis size (should be >1 cm)
- Position of urethral meatus. Look for hypospadias
- Inguinal hernia
- Chordee
- Urinary stream
- Scrotum for colour
- Palpate scrotum for presence of 2 testes and absence of hydrocele

#### **Female genito-urinary system**

- Presence of vaginal discharge (reassure parents about pseudomenstruation)
- Skin tags
- Inguinal hernia
- Proximity of genitalia to anal sphincter
- Routine palpation of kidneys is not always necessary as antenatal scans will have assessed presence

### **Neurological system**

- Before beginning examination, observe baby's posture
- Assess:
  - muscle tone, grasp, responses to stimulation
  - behaviour
  - ability to suck
  - limb movements
  - cry
  - head size in relation to body weight
  - spine, presence of sacral pits, midline spinal skin lesions/tufts of hair
- If neurological concerns, initiate Moro and stepping reflexes
- Responses to passive movements:
  - pull-to-sit
  - ventral suspension
- Palpate anterior fontanelle size (<3 cm × 3 cm) and tone

## **OUTCOME**

### **Documentation**

- Complete neonatal examination record in NIPE Smart failsafe system and the accompanying documents printed. The copies include:
  1. A copy for the parents
  2. A copy for the child health record (red book)
  3. A copy for the General practitioner
  4. A copy for the Hospital records
- Record any discussion or advice given to parents on maternity Badger

The Red Book is supplied by the Midwives on delivery suite, the community midwife following a home birth or NNU nursing staff

### **Normal examination**

- If no concerns raised, reassure parents of apparent normality and advise to seek advice if concerns arise at home
- GP will re-examine baby aged 6–8 weeks

### **Abnormal examination/ positive screening outcome**

- In first instance, seek advice from neonatal registrar/consultant
- Refer to postnatal ward guidelines for ongoing management – see '[Common Problems in well term Neonates on Postnatal Ward - Local Guideline](#)'

## **HOME BIRTHS**

Babies born at home will require a physical examination. This will be performed by a trained midwife in the patient's own home. The community midwife should then input the physical examination as soon as possible onto the NIPE failsafe system.

### **Appendix 1 Service Operational Policy for NIPE failsafe**

HOW TO GENERATE A NIPE WORKLIST.

- LOGIN
- SELECT FACILITY-RWP WORCESTERSHIRE
- CLICK - PATIENTS ON THE LEFT OF THE SCREEN (PAGE 1)
- CLICK - NOT STARTED ON NEWBORN SCREENING (PAGE 2)
- CLICK - SUBMIT SEARCH CRITERIA (PAGE 2)
- CLICK – BIRTH DATE (DROP DOWN BOX) SELECT ACENDING.

THIS GIVES YOU A LIST OF ALL THE BABIES WHO ARE EITHER

**RED** – MISSED THE TIMEFRAME OF NIPE (72 HOURS) AND NEED A NIPE IMMEDIATELY (NICU BABIES EXCEMPT)

**AMBER** – CLOSE TO THE 72 HOUR CUT OFF AGAIN NIPE NEEDS DOING ASAP.

**WHITE** – OK BUT COULD HAVE THEIR NIPE PERFORMED EARLY.

**N** – DENOTES THAT THE BABY IS IN NICU THEREFORE EXEMPT.

**C-** DENOTES A NOTE THAT HAS BEEN ADDED