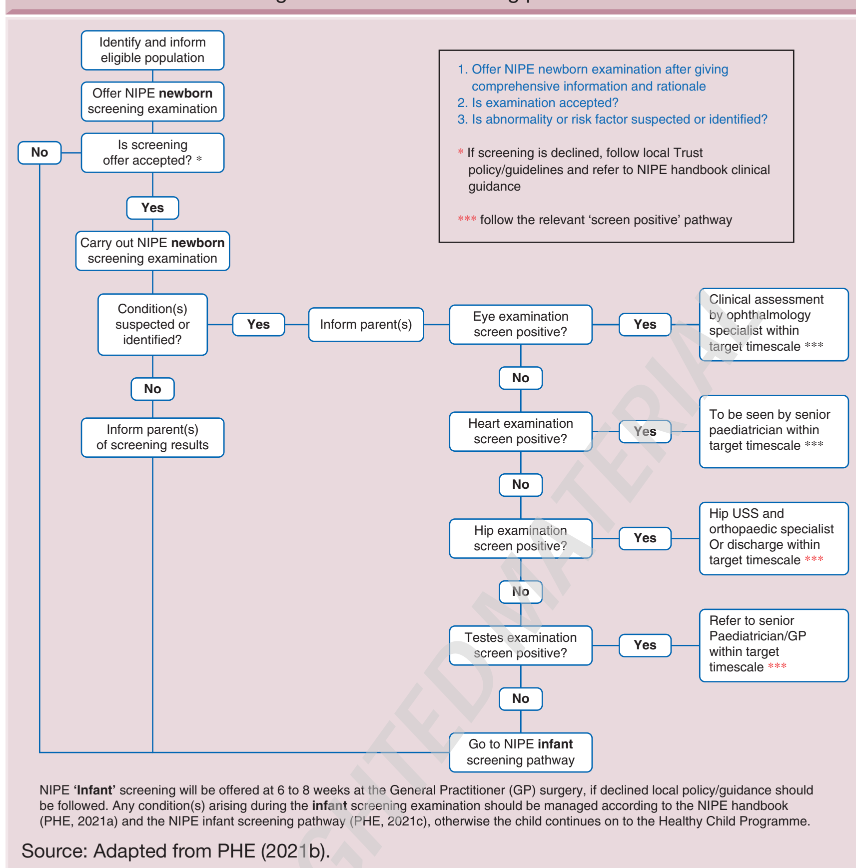
1 Public health screening and the neonate

Box 1.1 Public Health England Newborn screening process.



Source: Adapted from PHE (2021b).

The UK National Screening Committee (NSC) advises ministers and the National Health Service (NHS) in the four UK countries in relation to all aspects of screening. It supports implementation, updating and standards across a range of screening programmes in an ethical and evidence-based manner. The NSC reviews the patient experience of the screening process and their journey to referral (PHE, 2022).

The newborn and infant physical examination (NIPE) is one of the programmes within its remit. This term clearly denotes that screening for newborn health (Box 1.1) relates to the **newborn** examination (carried out by 72 hours of life) and the **infant** examination (usually conducted within the general practice [GP] surgery from 6 to 8 weeks of life). The term NIPE is also used on NSC-related documentation, including guidance and referral pathways. However, it is worth noting that where the national Midwifery Ongoing Record of Achievement (MORA) is used for student midwife training, it is referred to as the systematic examination of the newborn (see Chapter 4 for further clarification). Also, the term NIPE is not consistently used in Scotland but is used in some other countries internationally, although it should be remembered that the content and expectation of the examination may not be the same as those guided by the NIPE handbook (PHE, 2021a). Therefore, when employing international midwives it is important to ascertain what they were taught and the content and standard of the course they have undertaken in comparison to UK standards prior to active practice.

The NSC draws evidence from world-class research and by promoting advocacy and collaborative partnerships, all of which assist in the delivery of specialist public health services. It also has close liaison with the Screening Quality Assurance Service, which audits the achievement of national standards and verifies that screening programmes remain safe and effective. Furthermore, NHS Trusts and NIPE practitioners can inform their knowledge and support best practice by accessing the *Newborn and infant physical examination (NIPE) screening programme handbook* (PHE, 2021a) and the *Newborn and infant physical examination (NIPE) newborn screening pathway* (PHE, 2021b). *Both* of these texts are updated and amended to reflect the available evidence and therefore it is important that practitioners refer to the latest edition. It is also important that the guidance document, *Newborn and infant physical examination screening pathway requirements specification* (Office for Health Improvement and Disparities, 2021), is referred to in the same manner.

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Screening not diagnosis

Population screening provides access to a process of identifying healthy people who may be at increased risk of a disease or condition. In the event that an individual may be highlighted as being at a higher risk of developing the disease or condition, they can then receive further information, investigations and/or treatment. The provision of screening aims to reduce the risks or complications associated with a disease or condition.

Screening is *not* a diagnostic process. Without further investigation, a screening process cannot usually provide confirmation that an individual has a specific disease or condition. However, newborn blood spot screening is an exception as screening is offered for all babies, thus there will be some babies in whom a specific condition is confirmed and where treatment and management of the condition will be offered.

In relation to NIPE, there are four main screening elements that are assessed: eyes, heart, hips and testes. This is not because examining the baby for other conditions is not important, but rather because these four elements can be systematically measured and therefore standards relating to good practice and time scales can be set accordingly. However, this does not mean that the opportunity to assess the baby's overall condition (e.g. skin, abdomen, reflexes etc.) is unimportant and the same care and attention should be exercised in relation to the overall examination and the findings recorded. The Personal Child Health Record reflects this requirement, as space is allocated to enable this process and provide a record for parents, community midwives, health visitors and the family GP.

Programme requirements

NHS Trusts are required to have processes in place whereby all eligible babies are offered the NIPE within 72 hours of birth. A second 'infant' physical examination is offered again at 6 to 8 weeks of age by the family's GP (PHE, 2021c). However, it is the responsibility of the provider in whose area the baby was born to identify all eligible babies (including those who move into the area) in order to offer the 72-hour NIPE and identify whether it has been completed, or whether responsibility for it has been transferred to another acute care provider. The responsibility for following up on referrals after the 6-week examination rests with the GP, who should check the care pathway for progression in relation to referrals or results of action taken.

The main aim of the NIPE programme is to detect congenital abnormalities of the eyes, heart, hips and testes, where these are detectable within the first 72 hours after birth. The examination at 6 to 8 weeks provides a second opportunity to detect these abnormalities and it also occurs at the time when the neonatal period ends. The ending of the neonatal period is in alignment with the completion of most of the physiological changes that occur after birth. Most babies will have completed the transition from fetal to neonatal life and therefore conditions arising after this time will not necessarily be congenital in origin, plus some conditions may not present with any signs or symptoms at the time of the earlier examination for the practitioner to act on. However, if an abnormality is undetected or masked by another condition or illness, then it may still be first recognised due to parental concern or because the baby exhibits signs and symptoms of its presence. It is a salient point to note that parental concerns should be taken seriously – they know their child and changes in behaviour or ability will often be clear to them.

Parental information

All parents should be given information relating to the NIPE in terms of what it is, why it is offered, when it is performed and by whom. During the antenatal period and before the NIPE is conducted, a leaflet should be provided and discussion should take place so that questions can be answered and to give the parents time to think about any family history of which the practitioner may not yet be aware. Parents also need to be know who has access to the information documented in relation to the examination, to enable them to make their decision about whether to consent to the examination or not in an informed manner. There is **no reason**, in relation to NIPE, that parents should not be given the necessary information together with time for questions and to discuss their thoughts with others prior to consenting for the examination to take place. Asking for permission (consent) is part of professional practice, demonstrates respect for individual wishes and beliefs and alludes to the requirements of the law of the country in which the examination is taking place. Consent should be noted within all documentation and on the SMaRT4NIPE (S4N) system (if available in the area). S4N provides an information and audit trail that also highlights actions that may be required in relation to findings recorded, as well as babies born who have not been recorded as having their NIPE completed by the signposted time periods.

During the examination, the ability of their baby should be mentioned and any concerns that the parents may have should be addressed. The findings of the examination should be discussed with the parents prior to the practitioner completing a comprehensive record (see Chapter 3 on documentation). They should also be made aware of who they can contact if they have concerns about their baby's health and that the second screening examination will be when the baby is 6 to 8 weeks of age, when any further questions should be asked. For example, the baby may have had unilateral undescended testis at the 72-hour examination and the parents will need to know if this has now resolved, or they may have a concern that has arisen since the newborn examination that needs to be addressed.

Key considerations

NIPE guidance (PHE, 2021a) recommends that the 72-hour examination should be undertaken on all babies prior to their discharge home. This maximises the likelihood that the examination will be completed in a timely manner. It is also advantageous for the parents, as some will not want to return to the hospital after having gone home. There will also be some who will choose not to return and not to take part in screening now that they are no longer in the environment where it is most usually offered.

If an examination must be performed early in neonatal life when auscultating heart murmurs is more likely, it is preferential to do so rather than the examination not be conducted. As with a baby at any point in the first 72 hours and beyond this time parameter, there is always the possibility of hearing a heart murmur and therefore the information given in relation to signs of ill health is no less or more important for one baby during this time than any other. Thus, there is no reason that the examination cannot be performed soon after birth if the parents wish to go home.

If a baby has been admitted to a neonatal intensive care unit (NICU) or special care baby unit (SCBU), then all practitioners who come into contact with the baby should ensure that the neonate does not miss out on the examination and that the rationale for any delay is comprehensively documented. If a baby has been discharged home from the NICU/SCBU, then the practitioners in the community such as the midwife, health visitor or GP need to investigate whether the NIPE has been comprehensively completed, as sometimes it can be missed.

As with any programme, the completion of all its components is paramount and the S4N system will assist in highlighting errors or omissions. However, the process of completion will still only be as good as the attention to detail of the professionals involved.