Newborn examination: setting standards for consistency

After a baby is born an initial physical examination is carried out. Parents are then offered a more detailed physical examination to detect conditions that may need early treatment. There is variability in the way the newborn and infant physical examination operates around the country and little information collected on how well it operates. The recent launch of the *Newborn and Infant Physical Examination; Standards and Competencies* will bring consistency in timeliness to this check. It is important health professionals are cognisant of these standards.

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Key points

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1. The newborn and infant physical examination is one of a number of checks carried out as part of the Child Health Promotion Programme.
2. National standards for the newborn and infant physical examination will bring consistency in the timeliness of the examination.
3. As well as an overall physical examination, specific screening examinations are carried out on the baby's eyes, heart, hips and, in boys, testes.
4. The national standards will be linked to core competencies for training in carrying out the physical examination. Health professionals will be required to demonstrate these competencies to deliver the standards.

March saw the launch of national standards for the newborn infant examination by the UK National Screening Committee. This was part of a wider announcement on, and publication of, the Child Health Promotion Programme (CHPP)[1]. The document, *The Child Health Promotion Programme, Pregnancy and the first five years of life*, is an update of standard one (incorporating standard two) of the National Service Framework for Children, Young People and Maternity Services[2].

Child Health Promotion Programme

CHPP is aimed at primary care trusts, local authorities, practice-based commissioners and providers of services in pregnancy and the first five years of life. The focus is on the key role of CHPP in improving the health and wellbeing of children through prevention and early intervention, within the context of an integrated approach to supporting children and families.

Since the National Service Framework for Children, Young People and Maternity Services was published in 2004, the health landscape has changed. There was a need, therefore, to take these changes into account, including:

- expectations of parents in relation to health services
- knowledge concerning neurological development and which interventions work
- the understanding of health professionals in relation to children's policy and services.

The drive for change was also influenced by other health priorities such as the rise in childhood obesity, an increase in emotional and behavioural problems among children and young people, and the poor outcomes experienced by children in the most at-risk families.

Every family is offered, via CHPP, a programme of information and guidance to support parenting and healthy choices, immunisations, reviews, and screening tests – all services that children and families need to receive if they are to achieve their optimum health and well being.

It is widely recognised that there are examples across the country of good practice in terms of high-quality, evidence-based CHPP services. Many practitioners already work in the ways recommended in the CHPP update. There is, however, a vast range of people involved in delivering CHPP resulting in variability in both standards and provision. The CHPP, therefore, focuses on what good practice should look like (**FIGURE 1**).

National standards

The newborn and infant physical examination is not a new programme. However, the way it operates varies enormously around the country and there is little information collected on how well it operates. The launch of *Newborn and Infant Physical Examination; Standards and Competencies* (NIPE) sets national standards and is a necessary step in bringing consistency to the way this vital check is carried out[3]. It is important, therefore, that health professionals, as well

Moving the CHPP from	… to
Commissioning a minimum core programme	Commissioning a universal core programme, plus programmes and services to meet different levels of need and risk (progressive universalism)
Variation of provision according to local investment	Variation of provision according to need and risk
A focus on post-birth	An increased focus on pregnancy
A focus on children's services	Greater integration and information sharing with family services – including adult services
A focus mainly on mothers and children	Working routinely with both mothers and fathers (whether they are living together or not)
A programme that looks for problems, deficits and risks	One that looks for and builds on strengths and protective factors – as well as risks
A non-specific approach to emotional issues	The proactive promotion of attachment and the prevention of behavioural problems
A focus on surveillance and health promotion	A greater focus on parenting support, as well as on surveillance and health promotion
A focus on 'contacts'	Health reviews using consultation skills and tools to support behaviour change. Supplementing face-to-face contact with new media and other channels where appropriate
A schedule that is determined by physical developmental stages and screening tests	A schedule that is also determined by social and emotional developmental stages, parental receptiveness and parents' priorities
The assessment of current needs	The assessment of future risks as well as current needs
An emphasis on professionally identified needs	A greater focus on mothers' and fathers' goals and aspirations for their children
Delivered by health practitioners	Led by health visitors, drawing on a range of practitioners, and delivered through general practice and children's centres
The separation of maternity and child health services	Better integration and information sharing between maternity services and the CHPP team, school health teams and adolescent services, including child and adolescent mental health services
A lack of clarity about who is responsible for the quality and outcomes of the CHPP	Health visitors lead the delivery of the CHPP for a defined population across a range of services and locations. The CHPP is commissioned, monitored and evaluated locally, and overseen by the PCT or children's trust in partnership with general practice, including population outcomes
Minimal supervision of staff or focus on outcomes or quality improvement	Regular supervision, and monitoring of quality and outcomes of teams and individual practitioners
Delivered through the primary healthcare team	Delivered by the primary healthcare team and Sure Start children's centres

FIGURE 1 Developments in the Child Health Promotion Programme[1].

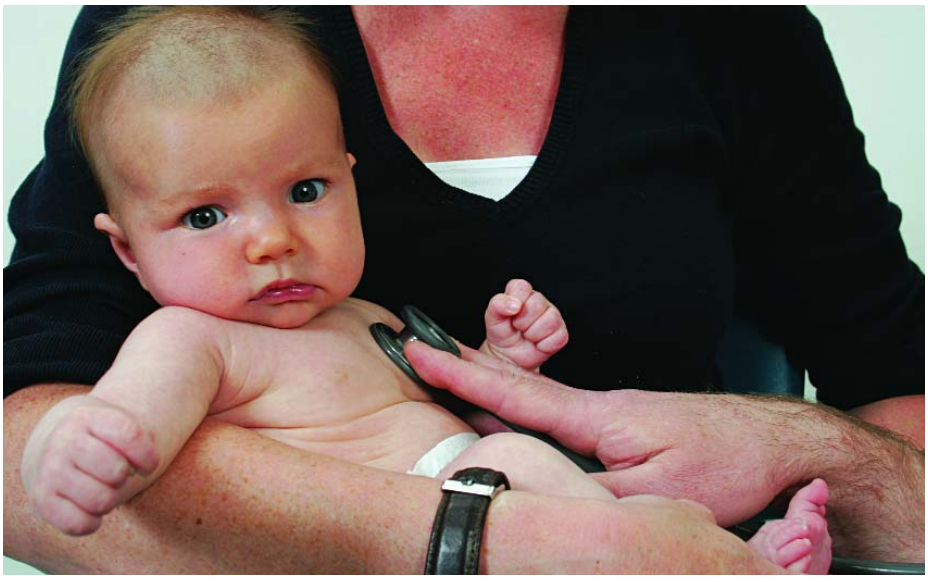

FIGURE 3 Listening to the heart.

as providers and commissioners of services, are aware of the standards and their role in the drive for quality and consistency in terms of the delivery of the physical examination and follow-up, and in tackling inequalities. Standards for the routine examination at 6-8 weeks are under development and the National Screening Committee is continuing to liaise with health professionals, and their representative bodies, to pursue this work.

The physical examination

The CHPP[1] sets the context for the examinations as do the NICE guidelines. The NIPE document[3] focuses on pathways (**FIGURE 2**), standards and competencies for the screening components of the examination, but also includes, in less detail, the remainder of the examination.

After a baby is born an initial physical examination is carried out. Parents are then offered a more detailed physical examination carried out, ideally, within the first 24 hours of birth[4], and certainly within 72 hours, to detect conditions that may need early treatment. There is no single time that is optimal for detecting all abnormalities[5]. The ages recommended are based on best practice and current evidence.

As well as an overall physical examination, the health professional will also carry out a number of specific screening examinations:

- heart – carried out by observing the baby and an examination of the cardiovascular system. Around 1 in 200 babies may have a heart problem that requires treatment (**FIGURE 3**).
- hips – if babies are born with hip joints not properly formed then, left untreated, this could cause long term problems requiring surgical intervention. Further investigation may involve an ultrasound scan of the hips (**FIGURE 4**).
- eyes – using an ophthalmoscope to check the appearance of the baby's eyes. This check helps to identify cataracts.
- and, for boys, their testes – baby boys are checked to see that their testes are in the right place. It can take a number of months for them to descend into the scrotum (**FIGURE 5**). If this does not happen then an operation, at one to two years, will be advised.

In addition, the 6-8 week examination incorporates assessment of some aspects of social and gross motor development. Both these comprehensive physical examin-

ations take place in the context of assessments which include an opportunity to:

- review any problems arising or suspected from antenatal screening, family history or labour
- discuss matters such as baby care, feeding, vitamin K, hepatitis B and BCG vaccines, and reducing the risk of SIDS and any other matters relevant to the infant
- identify parents who may have major problems (eg recognising and managing depression, domestic violence, substance abuse, learning difficulties or mental health problems)
- explain problems such as jaundice that might not be noticeable in the early days of life but could be significant a few days or weeks later
- convey information about local networks and services, data-handling confidentiality and access to the members of a primary healthcare team
- inform families how they can request and negotiate additional help, advice, and support as needed[4].

The process of the examination, assessment and offering of health promotional advice should be standardised and evidence-based, where possible. Any deviation from the agreed process should be recorded with the reasons documented.

When their baby is examined it should be explained to the parents that some physical conditions do not become evident until the baby is older and that this is why, for example, the newborn examination is followed by another comprehensive examination at 6-8 weeks after birth usually carried out by the GP, a paediatrician or health visitor. The outcomes of both examinations should be recorded in the baby's personal child health record. Parents should be advised to report any concerns they have about their baby's wellbeing to a healthcare professional at any time.

Screening, of course, is not a fool-proof process. It can reduce the risk of developing a condition or its complications but it cannot offer a guarantee of protection. In any screening programme, there is an irreducible minimum of false positive results (wrongly reported as having the condition) and false negative results (wrongly reported as not having the condition). The NSC is increasingly presenting screening as risk reduction to emphasise this point[6].

Although screening is performed universally on all babies the standards set out in the document apply to *well babies only*. This is because some babies may be ill at the time the examination is due and so some components may have to be deferred. If so, it is very important that the examination takes place when they are well enough and that it is not forgotten.

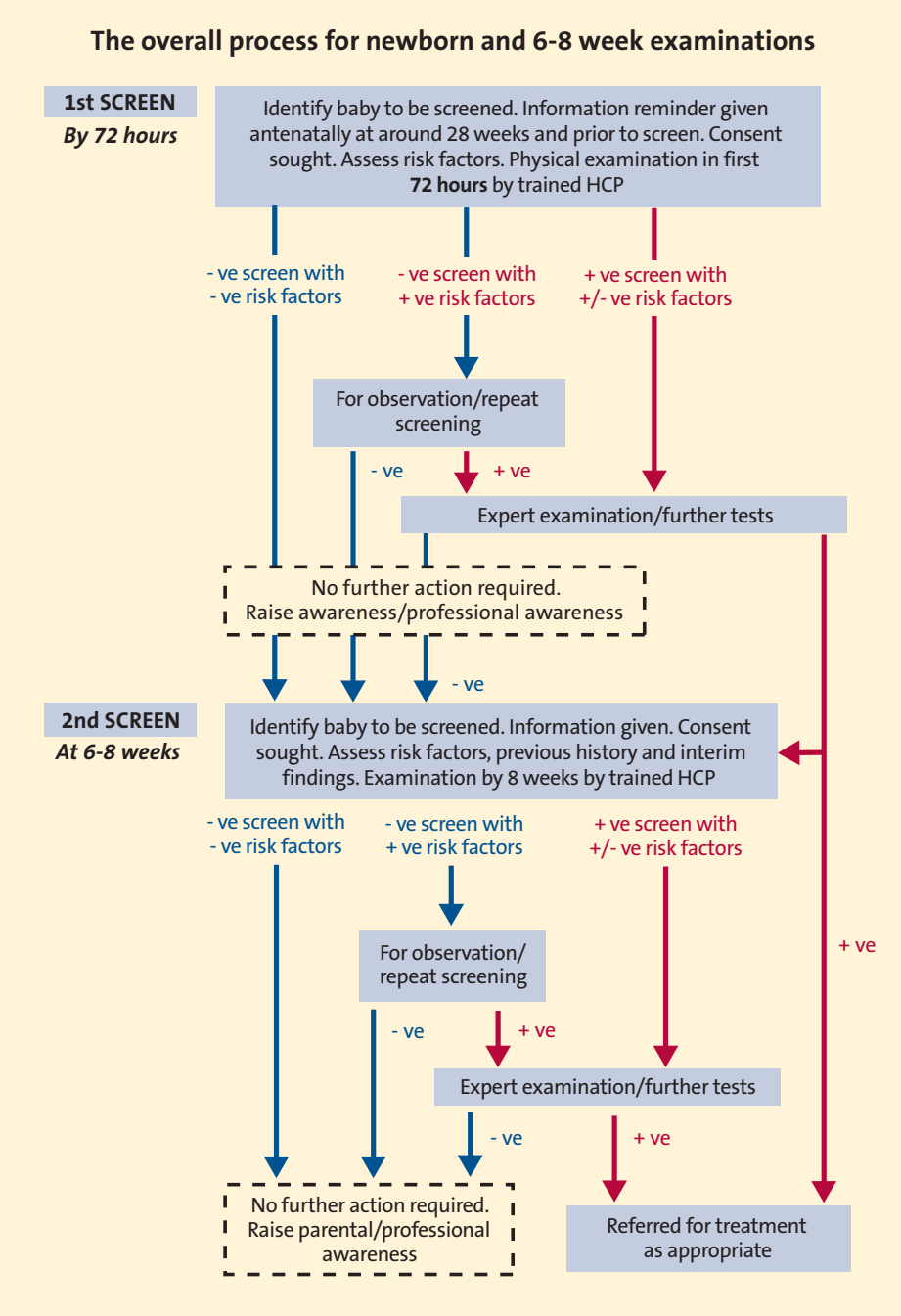

FIGURE 2 The generic pathway. The flow chart sets out the general framework for the examinations. Details, such as risk factors and action to be taken on identification of a potential anomaly, will vary depending on the condition being sought[3].

Who should carry out the examinations?

> "The professional qualification of the person(s) delivering the various aspects of this programme is less important than the quality of their initial and continuing training, audit and self-monitoring"[4].

The need to standardise clinical practice, and improve quality, has led to several strands of work by the UK National Screening Committee around standards, competencies, training resources, information for parents and professionals, and information systems.

There are few studies comparing the results of neonatal care, including the newborn physical examination, when performed by different groups of healthcare professionals. One study suggested that advanced neonatal nurse

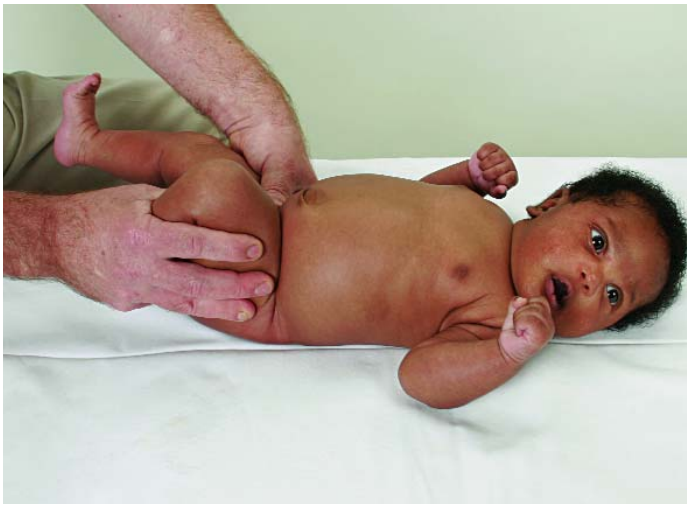

FIGURE 4 Assessing the hips.

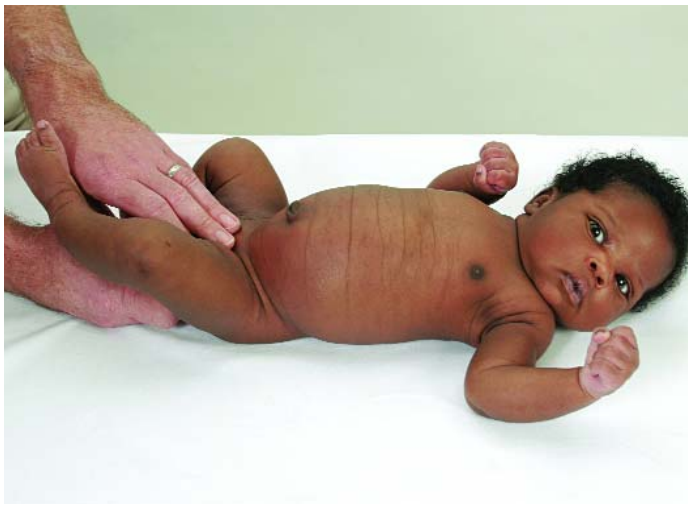

FIGURE 5 Checking to see if the testes have descended.

practitioners performed the newborn physical examination as well as paediatric SHOs with increased levels of maternal satisfaction[7]. Another reported greater levels of satisfaction from mothers when the midwife performed the examination, compared to the SHO[8].

It is recommended that these examinations should, therefore, be performed by a suitably trained and competent healthcare professional who has appropriate levels of ongoing clinical experience. In addition, regardless of the healthcare professional's qualifications, background and experience, the standard, quality and content of the examination should be consistent throughout the UK. Development of nationally agreed standards for education and audit for all healthcare professionals undertaking this role will underpin practice.

The courses available to support teaching of the physical examination vary across the country. Moving forward, course leaders will need to raise awareness amongst course attendees of the expectations in relation to meeting the standards.

Core competencies

The national standards will be linked to core competencies for training in carrying out the physical examination. Health professionals will be required to demonstrate these competencies to deliver the standards. The competencies ensure that the health professional:

- determines the relationship between antenatal and intrapartum events that may impact on the newborn's health status, and subsequent events that may impact on the 6-8 week infant
- ensures the environment is conducive to effective and safe examination
- facilitates effective informed decision-making
- utilises a holistic, systematic approach, to comprehensively examine the neonate/infant
- effectively and sensitively records and communicates findings to parents and relevant professionals
- maintains and further develops professional competence in examination of the newborn/6-8 week infant.

Delivering the programme

The Newborn and Six to Eight Week Infant Physical Examination Subgroup, which helped define the national standards, has also set out the roles and responsibilities of the commissioners and providers for successful delivery of the programme.

Commissioners should ensure that:

- there is a nominated lead in PCTs
- there is an agreed service level agreement/contract with an appropriate provider that covers performance monitoring and governance arrangements
- there is a service specification covering all aspects of the physical examination of newborn and 6-8 week infants
- standards, outcomes and monitoring within the above should comply with those determined by the UK National Screening Committee covering:
  - staff training requirements
  - fail safe mechanisms to ensure that babies who leave hospital before the neonatal examination is performed, or who are born at home, are examined, in a timely fashion by an appropriately qualified practitioner
  - appropriate diagnostics, referral and follow-up
  - availability of appropriate resources (clear quality indicators for process and outcomes for screening are established, including those set nationally), which are regularly evaluated and reported
  - contract monitoring arrangements are in place

Providers should ensure that:

- a nominated lead has been identified for each PCT and acute trust
- there are sufficient appropriately qualified staff to undertake the physical examination of newborn and 6-8 week infants in all healthcare settings, including at home
- the scope of practice and competencies are commensurate with professional, legal and ethical codes/guidance for practice
- clear written guidelines are provided to support the screening process and referral pathway
- appropriate education and supervised practice are available for the designated healthcare professionals in line with current national recommendations and guidance for the NHS (e.g. National Screening Committee, NICE)
- the process is standardised and evidence-based
- data are collected analysed and reported to monitor quality and inform service provision and improvement.

The future

A training programme is being planned to support health professionals in achieving the competencies to meet the standards.

Information about training will be highlighted via the website, when available. For more detail about the standards and to download the full copy of the report access: http://nipe.screening.nhs.uk/.

In addition, as part of the work on national standards and competencies The Newborn and Six to Eight Week Infant Physical Examination digital toolbox was produced. It is a web-based searchable database of the resources available in relation to the physical examination. The toolbox contains listings of relevant journal articles, books, and reports, CD-Roms/videos, websites and simulators. It was designed to make existing resources readily available to learners, educators and practitioners. The toolbox can be accessed at: http://nipe.screening.nhs.uk/toolbox/.

Data collection is, on the whole, inadequate for a national screening programme. Work is on-going to define a minimum data set, including outcomes, not just referral rates, and how this should be collected.

It is intended that scrutinising regular routine data, self assessment and peer reviews will be included in the quality assurance (QA) of the programme. The QA will probably start in 2009 and the peer review element will be an important part of these reviews. A peer review timetable will be agreed in early 2009, following a feasibility exercise to be carried out in a number of PCTs, and a pilot in 2009.

Inevitably, implementation of the standards will be influenced by local organisational structures, geography and current practice and so will vary. The focus should be not on *how* standards are achieved but the assurance that they *are* being achieved. The success of this will be underpinned by three key elements. The health professional performing the examination should be:

1. Appropriately trained
2. Meet the core competencies
3. Remain regularly updated.

Acknowledgement

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