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Six-week Baby Check

The 'six-week check' is part of the NHS Newborn and Infant Physical Examination (NIPE) programme[1]. Along wth the newborn examination, it is an essential part of the 'Healthy Child Programme', the Department of Health guideline for promotion of child health[2, 3]. An examination of the infant should take place between 6-8 weeks and should include:

- A physical examination.
- A review of development.
- An opportunity to give health promotion advice.
- An opportunity for the parent to express concerns.

Physical examination

The main purpose of this is to detect:

- Congenital heart disease.
- Developmental dysplasia of the hip (DDH).
- Congenital cataract.
- Undescended testes.

The core examination is set out in National Institute for Health and Care Excellence (NICE) guidance 'Postnatal care up to 8 weeks after birth'[4].

It should comprise:

- A weight check.
- Measurement of head circumference (and opportunity to palpate sutures and fontanelles, and assess head shape).
- A general assessment of appearance: colour, behaviour, breathing, activity, and skin (colour - eg, jaundice, rashes, birthmarks).
- Assessment of tone, movements and posture.
- Assessment of head: fontanelles, face, nose, palate, symmetry.
- Assessment of the eyes for the presence of the red reflex and visual fixing.
- Assessment of the heart: position, murmurs, rate, femoral pulses.
- Assessment of the lungs: added sounds and rate.
- Assessment of the abdomen: shape, organomegaly, herniae.
- Assessment of the genitalia: normality, testicular descent.
- Examination of the hips (by Barlow and Ortolani tests, and by looking for symmetrical skin creases in the thighs).
- Assessment of the spine.

Heart disease

Congenital heart disease (CHD) is the most commonly notified malformation. In 2015 there were 706 notifications of CHD in England[5]. Early detection and treatment often improve long-term outcome. The six-week check could be the first time a murmur is heard; a ventricular septal defect (VSD) may have no signs in the first 24 hours when the baby check was done. Also some heart defects may not cause symptoms until irreversible pulmonary hypertension develops.

- Look for cyanosis, ventricular heave, respiratory distress, and tachypnoea; a respiratory rate persistently over 55 is suspicious.
- Feel for apex beat and assess whether displaced.
- Listen for murmurs. Innocent murmurs are common and are typified by low intensity, localised to a small area of praecordium and in the absence of other symptoms or signs. All murmurs should be referred to a specialist for assessment.

NB: a normal cardiac examination does not completely rule out CHD. It may still manifest in later childhood.

Developmental dysplasia of the hip (DDH)

DDH affects 1-3% of newborns. The general approach is to:

- Check for leg-length discrepancy.
- Check for asymmetry of leg creases.
- Perform Barlow and Ortolani tests.

Refer promptly for ultrasound scan if any abnormality is detected. Treatment commenced within 6-8 weeks is often successful, but a missed diagnosis can be devastating.

Risk factors for DDH include:

- Family history.
- Breech presentation.
- Oligohydramnios.
- Large for gestational age.
- Congenital calcaneovalgus foot deformity.
- Multiple pregnancy.
- Prematurity.

An ultrasound scan of the hips is performed a few days after birth for neonates who have risk factors. However, it is unlikely to become a universal screening test.

Barlow's test - identifies hips which are *dislocatable*:

- Examine one hip at a time with the baby lying supine.
- For the left hip, support the pelvis with your left hand.
- With your right hand, flex and adduct the left hip. (Keep your fingertips on the greater trochanter laterally and your thumb on the medial proximal thigh.)
- Gently push the hip posteriorly in the line of the shaft of the femur.
- A positive test causes the femoral head to slip out of the acetabulum which you can feel.
- Do the 'mirror image' for the right hip.

Ortolani's test - identifies hips which are *dislocated* and is used to confirm diagnosis:

- Examine one hip at a time with the baby lying supine.
- Hold the hip as in Barlow's test.
- Gently abduct the hip fully until it lies flat on the bed.
- If the hip is dislocated you can feel, and sometimes hear, a 'clunk' as the femoral head goes back into the acetabulum during abduction.

Eye examination

The Royal College of Ophthalmologists (RCOphth) guidelines suggest that[6]:

- The external eyes should be examined; this may suggest conditions (eg, glaucoma) which may be indicated by one eye being larger than the other.
- The presence of a red reflex in each eye should be established; hold an ophthalmoscope about 30 cm from the infant's eyes. Dark spots in the red reflex can be due to cataracts, corneal abnormalities, or opacities in the vitreous.
- The parents should be asked if there is a family history of visual disorders, particularly retinoblastoma or congenital cataract.
- Parents should be asked soon after birth (and at each subsequent contact) whether they have any anxieties about the baby's vision.

If there are any doubts as a result of this, an urgent referral should be made to hospital ophthalmic services. In particular, treat an abnormal red reflex as a medical emergency (same-day referral), as vision rapidly deteriorates week on week past six weeks and permanent severe sight impairment in the affected eye may be averted with prompt treatment.

Testes

Check that both testes are well down in the scrotum. Refer if there is doubt.

European Association of Urology guidelines advise[7]:

- Retractile testicles are usually monitored rather than treated.
- Bilateral absence of testicles in the scrotal sac, particularly with other abnormalities, requires urgent investigation.
- Surgical treatment of undescended testes should take place by one year to reduce risk of infertility and testicular tumours in the future.

Tone

- When held in ventral suspension, the baby should be able to hold their head in line with the rest of their body.
- When pulled to sit from supine, there will be some head lag, but there should be some ability to raise the head.

Review of development

- Review feeding and weight gain.
- Check growth chart.
- Review vision and hearing; the majority of neonates are screened for hearing before they leave the maternity unit[8]. If not, this is arranged early by the midwife or health visitor. Ask parents if their child can see and hear. Most parents will have noticed that their baby will 'still' to sudden noise and will follow a face with their eyes.
- Socially, most babies will be spontaneously smiling by six weeks. Also, they will have a range of sounds - coos, glugs, cries - which indicate mood.

Ask the parents whether they have any other concerns.

Health promotion

This is also an opportunity to discuss:

- Immunisations.
- Breastfeeding and other advice on feeding and weaning. If ankyloglossia (tongue tie) is causing problems with feeding, it has usually been dealt with by the six-week stage. If not, refer for division of tongue tie, which has been approved by NICE [9].
- Reducing the risk of sudden infant death syndrome. The following reduce the risk [10]:
    - Not smoking.
    - Putting the baby to sleep on their back.
    - Avoiding falling asleep in the same bed as the baby, or on the sofa together.
    - Avoiding overheating.
    - Avoiding bulky or loose items of bedding, such as pillows and duvets.
    - Breastfeeding.

- Dangers of passive smoking.
- Car safety and other injury prevention strategies.
- Dental health; sugar-free medicines, avoiding sugary drinks or sugar on dummies [11].

Give written advice where appropriate. Also consider maternal health and whether there is evidence of postnatal depression [12]. Consider the involvement of the father and use the opportunity to involve him in the care of the child [2].

Further reading & references

- Well baby protocol; Public Health England

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5. National congenital anomaly and rare disease registration service. Congenital anomaly statistics 2015; Public Health England, 2017
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8. NHS Newborn hearing screening programme; Public Health England
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10. Sudden Infant Death Syndrome - A guide for professionals; The Lullaby Trust
11. Oral health promotion: general dental practice; NICE Guidance (December 2015)
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