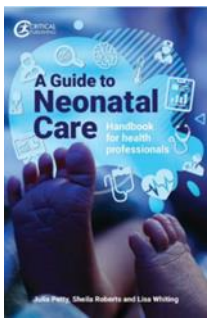
Chapter 4 Assessment and screening of the healthy neonate



A Guide to Neonatal Care - Handbook for Health Professionals
Petty J, Whiting L and Roberts S (2024) Critical Publishing

Supplementary information

Recommended screening for babies (taken from NICE, 2021; Public Health England, 2021)

- A complete examination of the baby within 72 hours of the birth and at 6 to 8 weeks after the birth (see the Public Health England newborn and infant physical examination [NIPE] screening programme). This should include checking the baby's:
    - appearance, including colour, breathing, behaviour, activity and posture.
    - head (including fontanelles), face, nose, mouth (including palate), ears, neck and general symmetry of head and facial features.
    - eyes: opacities, red reflex and colour of sclera.
    - neck and clavicles, limbs, hands, feet and digits; assess proportions and symmetry.
    - heart: position, heart rate, rhythm and sounds, murmurs and femoral pulse volume
    - lungs: respiratory effort, rate and lung sounds
    - abdomen: assess shape and palpate to identify any organomegaly; check condition of umbilical cord.
    - genitalia and anus: completeness and patency and undescended testes in boys
    - spine: inspect and palpate bony structures and check integrity of the skin.
    - skin: colour and texture as well as any birthmarks or rashes

    - central nervous system: tone, behaviour, movements and posture; check newborn reflexes only if concerned.
    - hips: symmetry of the limbs, Barlow and Ortolani's manoeuvres
    - cry: assess sound.
- At six to eight weeks, assess the baby's social smiling and visual fixing and following.
- Weight and head circumference of babies in the first week and around 8 weeks is monitored and at other times only if there are concerns. The results should be plotted growth charts.
- For information on screening for jaundice, see the NICE guideline on jaundice in newborn babies under 28 days.
- If there are concerns about the baby's growth, see the NICE guideline on faltering growth.
- Carry out newborn blood spot screening in line with the NHS newborn blood spot screening programme.
- Carry out newborn hearing screening in line with the NHS newborn hearing screening programme.

Glossary

Apgar: An assessment score ranging from zero to 10 indicating a newborn's physical condition immediately following birth.

Automated auditory brainstem response (AABR) test: One of two hearing screening tests. A stimulus is presented using earphones or a probe; the electrophysiological response from the brainstem is detected by electrodes placed on the scalp.

Barlow manoeuvre: A test to identify a dis-locatable hip in an infant.

Congenital: Relating to a condition that develops before and is present at birth. For example, a congenital anomaly can also be termed 'birth defect'.

Congenital hypothyroidism: A condition of thyroid hormone deficiency which can arise as a problem with thyroid gland development or can be of a genetic origin.

Cystic fibrosis (CF): A disorder which affects the exocrine glands and the body's ability to move salt and water in and out of cells causing the lungs and pancreas to secrete abnormally thick mucus that can block the airway and prevent proper function.

Down Syndrome: Also known as Trisomy 21, is a genetic chromosomal disorder affecting children's ability to learn.

Dysmorphic: A medical term referring to a difference of body structure that may be suggestive of a congenital disorder, genetic syndrome, or birth defect.

Edwards' Syndrome: Also known as Trisomy 18, is a chromosomal condition associated with abnormalities in many parts of the body.
Fontanelles: Gaps or soft spots on an infant's head where the bony plates that make up the skull have not yet fused together.

Glutaric aciduria type 1 (GA1): The neonate inherits faulty copies of the glutaryl-CoA dehydrogenase (GCDH) gene needed to make the GCDH enzyme.

Hepatitis B: An infection of the liver caused by a virus.

Homocystinuria (HCU): The neonate inherits faulty copies of the cystathionine β-synthase (CBS) gene, one from each parent needed to make the CBS enzyme.

Human immunodeficiency virus (HIV): A virus that destroys helper 'T' cells of the immune system causing the marked reduction in their numbers and significant immune compromise.

Isovaleric acidaemia (IVA); The neonate inherits faulty copies of the isovaleric-CoA dehydrogenase (IVD) gene needed to make the IVD enzyme.

Jaundice: The yellowing of the skin, mucous membranes, and the whites of the eyes that occurs when the body does not process bilirubin as it should resulting in hyperbilirubinaemia.

Maple syrup urine disease: A rare genetic disorder characterized by deficiency of an enzyme that is required to metabolise a certain group of amino acids, resulting in neurological dysfunction.

Meconium: Foetal stool. The thick, sticky and dark green substance forming the first faeces of a newborn baby.

Medium chain acyl coenzyme A dehydrogenase deficiency (MCADD): A disorder that results from the lack of an enzyme required to metabolise fat into energy.

Mongolian blue spot: A congenital birthmark most commonly present in the lumbosacral area. They range from bluish-green to black in colour. They are most commonly seen on babies of African or Asian ethnic background.

Organomegaly: enlargement of organs.

Ortolani's manoeuvre: A movement to relocate an infant's dislocated hip.

Otoacoustic emissions (OAE) test: One of two hearing screening tests where a probe is placed in the ear canal and generates wide-band clicks. It measures inner ear integrity.

Patau Syndrome: Also known as Trisomy 13, is a chromosomal condition associated with severe intellectual disability and physical abnormalities.

Phenylketonuria: An autosomal recessive genetic disorder detected by high levels of blood phenylalanine. If not detected / treated, metabolites accumulate and cause severe cognitive impairment and developmental delay.

Sickle cell: A haemoglobinopathy that affects the normal oxygen carrying capacity of red blood cells due to abnormal, sickle cell shaped haemoglobin.

Skin turgor: The elasticity of the skin.

Specific gravity of urine: A measure of the concentration of solutes in the urine.

Syphilis: A sexually transmitted bacterial infection.

Thalassaemia: A group of inherited conditions that affects the haemoglobin. Affected people may produce either no or too little haemoglobin.

Transcutaneous bilirubin: A measurement of bilirubin concentration in the subcutaneous tissue under the skin taken by a non-invasive skin probe/monitor.

EXTRA READING – Read more about ….

- **Newborn and infant physical examination (NIPE) screening**
- **Newborn blood spot screening**
- **Newborn hearing screening overview**
- **How to perform a newborn physical assessment** – BMJ article