Routine newborn assessment

Clinical Guideline Presentation v.3.0

45 minutes

Towards your CPD Hours

References:

Queensland Clinical Guideline: Routine newborn assessment is the primary reference for this package.

Recommended citation:

Queensland Clinical Guidelines. Routine newborn assessment clinical guideline education presentation E14.4-1-V3-R21

Disclaimer:

This presentation is an implementation tool and should be used in conjunction with the published guideline. This information does not supersede or replace the guideline. Consult the guideline for further information and references.

Feedback and contact details:

M: GPO Box 48 Brisbane QLD 4001 | **E:** guidelines@health.qld.gov.au | **URL:** www.health.qld.gov.au/qcg

Funding:

Queensland Clinical Guidelines is supported by the Queensland Health, Healthcare Improvement Unit.

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Learning outcomes

- At the end of this presentation the participant will be able to:
  - Describe timing and preparation for newborn assessment
  - Outline the assessment process
  - List discharge planning considerations
  - Locate relevant parent information

Clinician responsibilities

- Be appropriately trained in assessment skills
- Practise and maintain skills
- Recognise variances from normality
- Seek guidance and refer as required
- Document findings and discuss findings with parents

Initial brief examination after birth

- Within the first few minutes of life
- Perform after resuscitation
- Confirm gender
- Identify obvious anomalies

Flexible timing to maintain 'skin to skin' contact with mother

Full and detailed assessment

- Within 48 hours after birth
- Prior to discharge
- Stage as clinically indicated if premature or unwell
- Performance of pulse oximetry **is optional** as determined by local service

Pulse Oximetry

- A non-invasive technology to detect hypoxemia, a clinical sign of critical congenital heart disease (CCHD)
- Can also identify non-cardiac problems (e.g. sepsis and respiratory problems)
- Incorporation into the routine newborn assessment is becoming more common nationally and internationally, although not yet widespread in Queensland

Pulse oximetry results

Result	SpO_2	
Negative Screen	≥ 95%	• Normal • Discharge is appropriate
Repeat Screen	90 - 94%	• Repeat screening • Consider investigations
Positive Screen	< 90%	• Medical review • Investigate • Discharge not appropriate

Preparation – Review history

- Review maternal history (medical, social, family)
- Events of current pregnancy
- Labour and birth details
- Gestational age
- Newborn observations since birth
- Newborn feeding since birth

Preparation

- Explain purpose, procedure, limitations
- Seek consent from and involve parents
- Adequate warmth and light
- Correctly identify newborn
- Standard infection control precautions

Equipment

- Overhead warmer if required
- Stethoscope
- Ophthalmoscope
- Pencil torch / tongue depressor
- Tape measure, scales and growth charts
- Documentation
  - Infant Personal Health Record
  - Hospital medical record

Physical examination

- Use a systematic approach
  - Head to Toe
  - Front to Back
- Undress newborn down to nappy
- If uncertain about findings or need for follow-up – seek expert advice

☑ Urgent follow-up

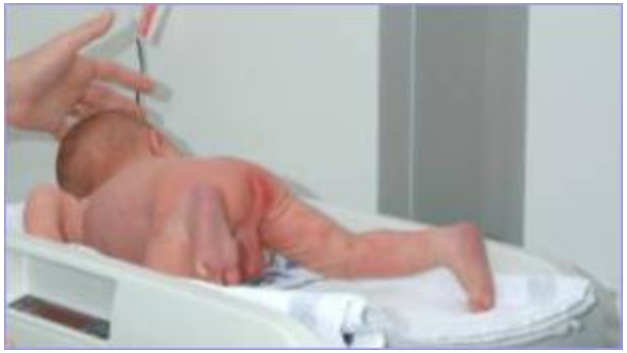
- Immediate and/or life threatening health concern
- Same day (as soon as possible)
  - Emergency Dept, GP, neonatologist
- Document all actions and arrangements
- Advise parents/family and explain importance of immediate review

General appearance

- Skin colour, warmth, perfusion
- State of alertness and responsiveness
- Activity and range of spontaneous movement
- Posture
- Muscle tone

Growth and feeding

- Document on the appropriate centile charts:
  - Weight
  - Length
  - Head circumference



Skin

- Skin colour
- Trauma
- Congenital or subcutaneous
- Oedema

Urgent follow-up

☑ *Jaundice at less than 24 hours of age*

☑ *Central cyanosis*

Head

- Shape and symmetry
- Scalp
- Anterior and posterior fontanelle
- Sutures
- Scalp lacerations/lesions

Urgent follow-up

☑ *Enlarged bulging or sunken fontanelles*

☑ *Subgaleal haemorrhage*

Face

- Size and symmetry of structure, features
  - Eyes – red light reflex, yellow sclera
  - Nose – nares and septum
  - Mouth – lips, palate, tongue, gums
  - Ears – position, patency of external auditory canal
  - Jaw size

Urgent follow-up

☑ *Block nares especially bilateral*

Neck, Shoulders, Arms

- Structure and symmetry
- Range of movement
- Masses
- Length
- Proportions
- Number of digits

Chest and respiratory

- Chest:
  - Size, shape, symmetry,
  - Breast tissue, number and position of nipples
- Respiratory:
  - Chest movement and effort with respiration
  - Respiratory rate, breath sounds

Urgent follow-up

☑ *Signs of respiratory distress*

☑ *Apnoeic episodes*

Cardio-respiratory

- Pulses – brachial and femoral
- Skin colour/perfusion
- Heart rate, rhythm, sounds
- Pulse oximetry – performance optional

Urgent follow-up

☑ *Weak or absent pulses*

☑ *Positive pulse oximetry*

Abdomen

- Shape and symmetry
- Palpate for enlargement of liver, spleen, kidneys, bladder
- Bowel sounds
- Tenderness
- Umbilicus - number of arteries

Urgent follow-up

☑ *Organomegaly*

☑ *Gastroschisis/exomphalos*

☑ *Bilious vomiting*

Genitalia

- Male genitalia
  - Penis, testes, scrotum - confirm testes bilateral, observe for scrotal discolouration
  - Other masses such as hydrocele
- Female genitalia
  - Clitoris, Labia, Hymen
  - Discuss pseudomenses

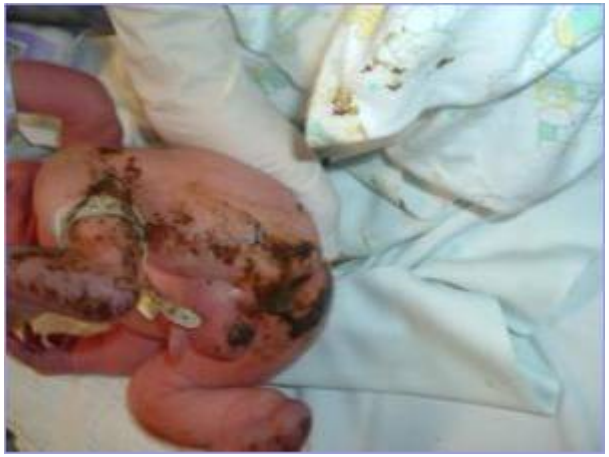
Urgent follow-up

☑ *Ambiguous genitalia*

☑ *Testicular torsion*

Urine and Stool

- Has the newborn passed meconium?
- Has the newborn passed urine?
- Anal position
- Anal patency



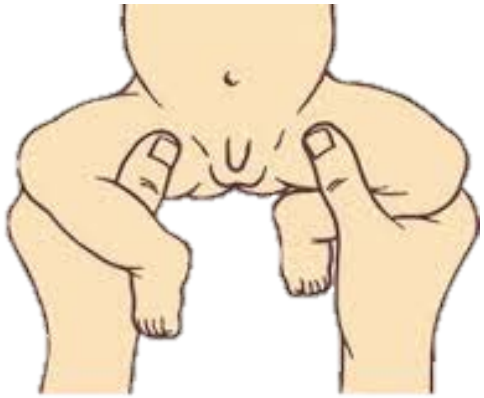
Urgent follow-up

☑ *No meconium passed with 24 hours*

☑ *No urine passed within 24 hours*

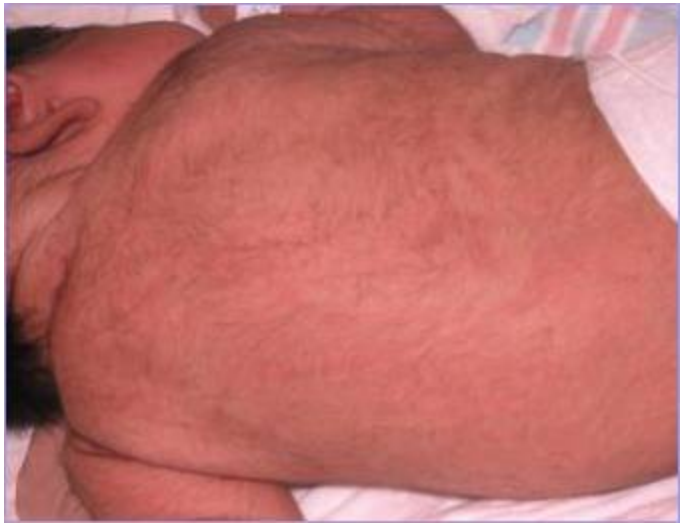
Hips, legs and feet

- Use Ortolani and Barlow's manoeuvres
- A firm surface to examine hips is necessary
- Assess legs and feet for
  - Length
  - Proportions
  - Symmetry
- Structure and number of digits



Back

- Spinal column
- Scapulae and buttocks for symmetry
- Skin



Source: Stanford School of Medicine [accessed 2013 August 5 http://newborns.stanford.edu/PhotoGallery/]

Neurological

- Observe throughout assessment:
  - Behaviour, posture, cry
  - Muscle tone
  - Movements
- Examine reflexes
  - Moro, Suck, Grasp

Source: Stanford School of Medicine [accessed 2013 August 5 http://newborns.stanford.edu/PhotoGallery/]

Urgent follow-up

☑ *Seizures*

☑ *Altered state of consciousness*

Isolated abnormalities of no concern

- Folded-over ears
- Hyperextensibility of thumbs
- Syndactyly of second and third toes
- Single palmar crease
- Polydactyly, especially if familial
- Single umbilical artery
- Hydrocele
- Fifth finger clinodactyly
- Simple sacral dimple
- Single café-au-lait spot
- Single ash leaf macule
- Third fontanelle
- Capillary haemangioma apart from those described in table above
- Accessory nipples

Discharge planning

- Discharge criteria:
  - Suck feeding
  - Observations – temperature, respiratory rate
  - Urine and stool passage
  - Newborn assessment completed
  - Vitamin K status
- Explain importance of:
  - Hearing screen
  - Neonatal Screen Test

Health promotion

- Discuss
  - Support agencies (e.g. GP, 13Health, Child Health, Midwife, LC)
  - Normal newborn care
  - Warning signs of illness
  - Sudden Unexpected Deaths in Infancy (SUDI)
  - Immunisation schedule
  - Anticipatory guidance (e.g. circumcision)
  - Injury prevention

Referral and follow-up

- Advise parents of importance of follow-up assessments at 5-7 days and 6 weeks
- Arrange referral as indicated
- Document arrangements and inform family
- Provide discharge information to GP
- Document in infant health record and medical record