Routine newborn assessment

Clinical Guideline Presentation v.3.0

45 minutes
Towards your CPD Hours
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

<table>
<thead>
<tr>
<th>Result</th>
<th>SpO₂</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Screen</td>
<td>≥ 95%</td>
<td>• Normal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Discharge is appropriate</td>
</tr>
<tr>
<td>Repeat Screen</td>
<td>90 - 94%</td>
<td>• Repeat screening</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Consider investigations</td>
</tr>
<tr>
<td>Positive Screen</td>
<td>&lt; 90%</td>
<td>• Medical review</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Investigate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Discharge not appropriate</td>
</tr>
</tbody>
</table>
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

Urgent follow-up

☑ Seizures
☑ Altered state of consciousness

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