DROPPED BABY

Based on BAPM document: The Prevention, Assessment and Management of In-Hospital Newborn Falls and Drops published March 2020 (https://www.bapm.org/resources/161-the-prevention-assessment-and-management-of-in-hospital-newborn-falls-and-drops#:~:text=of%20Perinatal%20Medicine)

RISK FACTORS

- Co-bedding/co-sleeping whilst breastfeeding
- Impaired awareness of mother e.g. fatigue, sedation, mobile phone use, dim lighting
- Immobility of mother e.g. epidural
- Primiparous mother
- Underlying maternal condition e.g. epilepsy, diabetes, disability, raised BMI
- Social issues e.g. young mother, single mother, language barrier
- Time of day

ASSESSMENT – IMMEDIATE ACTIONS

- Place baby on warm, well-lit surface – ideally resuscitaire
- Assess:
  - airway, breathing, circulation
  - level of consciousness, and pupil size and reaction to light
  - local traumatic injuries
  - full neurological examination and enhanced observations

Immediate assessment and actions

Assessment	Action
Any of following: • Unresponsive • Abnormal movement/posturing/seizure • Floppy/not moving • Only opens 1 eye with/without new bruising/swelling • Asymmetrical pupils • New external injury	• Call neonatal crash team • Assess and stabilisation as per NLS algorithm • Admit to NNU for investigation and assessment

All of following:
• Alert and moving normally
• Sleepy, but wakes on handling
• Poor feeding/not interested
• Irritable but consolable
• Eyes equally open
• Pupils equal and reactive
	• Paediatric team to review within 15 min
	• Can remain on PN ward/transitional care unit
	• Start enhanced observations*
	  • continue for 12 hr
	  • if observations change, for immediate paediatric review

*Enhanced observations = newborn early warning track and trigger (NEWTT2) or neonatal early warning score (NEWS) if NEWTT2 not yet implemented + modified paediatric Glasgow coma scale (GCS)

ASSESSMENT – BY PAEDIATRIC TIER 2 STAFF

History

- Details of fall
  - time
  - detailed description of events
  - estimated height of fall (significant injury can occur after fall from a low height)
  - witnesses
- Most falls are accidental but be alert to possibility of non-accidental injury. Note:
  - consistency of history
  - consistency between injury and proposed mechanism of injury
  - other injuries
  - wider social situation (including safeguarding risks)

- Mode of delivery and any injuries attributed to birth
- Administration of vitamin K – if not given or given orally, give IM (for dose see **Vitamin K** guideline)

Examination

- Full medical and neurological examination checking for signs of injury
- Use body map to document any bruises, redness, swelling or skin marks
- Perform neurological examination, and enhanced observations [NEWTT2 (or NEWS if NEWTT2 not yet implemented) + modified GCS]
- Check https://hubble-live-assets.s3.amazonaws.com/bapm/attachment/file/244/Baby_Falls_-_FINAL_VERSION_19-03-20.pdf
  - anterior fontanelle and sutures
  - pupil size, symmetry and response to light
  - tone and power
  - primitive reflexes
- Measure occipital frontal circumference and plot
- Review the need for analgesia (see **Pain assessment and management** guideline)

MONITOR

- NEWTT2 (or NEWS if NEWTT2 not yet implemented) and modified GCS for ≥12 hr
  - half hourly for 2 hr
  - hourly for 4 hr
  - 2-hrly for 6 hr
- NEWS:
  - heart rate
  - respiratory rate
  - SpO_2
  - temperature
- Modified GCS
  - eye opening
  - pupil reaction and size
  - best vocal response or grimace to stimulus
  - best motor response to stimulus
  - limb movement and tone
- If all observations normal and no indications for CT head scan: discontinue after 12 hr
- If any observations abnormal: request immediate tier 2 staff review
  - baby may require return to half hourly observations or NNU admission and investigations

INVESTIGATIONS

Babies on postnatal ward/transitional care unit with stable enhanced observations

- No further investigations needed

Babies admitted to NNU for clinical concerns

- FBC, U&E, group and save, clotting, blood gas, blood glucose
- If intracranial bleeds/fracture suspected, urgent CT head scan (see below)

Urgent CT head scan

- If indicated to be performed and reported within 1 hr of injury after stabilisation
- Do not delay CT by performing cranial ultrasound scan, as this has poor sensitivity for detecting extra-axial fluid collections
- If any of the following risk factors perform CT scan:
  - seizure
  - focal neurological deficit including:
    - asymmetrical pupils
    - ptosis
    - unilateral weakness

  - posturing
- loss of consciousness or unresponsive episodes
- modified GCS <14 on first assessment
- any soft tissue injury (bruise, swelling, laceration) not present before fall
- suspicion of non-accidental injury
- suspected open/depressed skull fracture
- any sign of basal skull fracture
  - haemotympanum
  - 'panda' eyes
  - cerebrospinal fluid leakage from ear or nose
  - Battle's sign (bruising over mastoid process)

- If ≥2 of the following risk factors, urgent review, and consideration of need for CT
- ≥3 episodes of forceful/projectile vomiting in 1 hr
- abnormal drowsiness or irritability lasting >5 min
- fall from height ≥90 cm
- If concerns of spinal injury, MRI head and spine after discussion with paediatric neurosurgical team

DOCUMENTATION/COMMUNICATION

- Complete incident form
- Consider possibility of non-accidental injury and document outcome of this
- Ensure communication with mother includes provision of emotional support and information regarding immediate management plan
- Inform consultant

SUBSEQUENT MANAGEMENT FOR BABY REQUIRING CT SCAN

- If CT abnormal discuss with neurosurgical centre
  If CT normal/not indicated continue to monitor baby as described above for ≥12 hr
- If enhanced observations become abnormal admit to NNU and investigate as detailed above
- Baby with normal CT scan and no other clinical concerns may be monitored on postnatal ward or transitional care (if staff are competent to perform enhanced observations)

DISCHARGE

- If observations normal for 12 hr and no significant extracranial injuries/concerns about safeguarding, then tier 2 staff/consultant may discharge baby
- Ensure community midwife/health visitor aware of discharge and that the fall, assessment and investigations documented in discharge summary
- If CT scan abnormal, follow-up as advised by neurosurgical team