Postnatal /Recovery Ward Newborn Care

1. After the initial evaluation of the newborn infant's condition at birth, infant should be carefully observed during the subsequent stabilization-transition period (the first 2-24 hours after birth).
2. If the infant is healthy and stable, the care plan should encourage ongoing contact between mother and baby.
3. If immediate attention is not indicated, the infant's Postnatal/Theatre Recovery ward provider (Dr/Pediatric nurse/DART) should examine infant within 24 hours after birth and before discharge from the hospital. This may be accomplished with a physical examination, ideally in the mother's room. The results of the examination should be recorded in the newborn infant's medical record and discussed with the parents.
4. A Newborn Early Warning Sign (NEWS) monitoring chart should be started on every baby.
5. Midwifes should notify the Dr/Pediatric nurse/DART about changes in the infant's condition, infant's transition or risk status.

Postnatal/recovery ward midwife/nurse care:

1. After the initial evaluation of the newborn infant's condition at birth, infant should be carefully observed during the subsequent stabilization-transition period (the first 2-24 hours after birth).
2. Temperature, respiration, heart rate, skin color, peripheral circulation, tone, level of consciousness and activity should be monitored and recorded every 30 minutes to 1 hour during the first 2 hours, then every 4 hours for the first 24 hours or until discharge.

The physical examination should include:

• 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 males

• 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 maneuvers

• cry: assess sound

3. Criteria for admission to NICU/Babies Unit/Sick Unit as per hospital guidelines will be admitted directly without delay from delivery (see NEWS chart)
4. Criteria for midwifes to request evaluation by DART (by phone or in person):
   - Birth weight below 2kg or above 4kg
   - Babies born to HIV/TB mothers, Hep B positive and syphilis positive mothers
   - Any baby the midwife or obstetrician is concerned about, including:
     - Mothers with bad obstetric histories
     - Teenage mothers
     - Abnormal fetal scans
     - Maternal mortality
     - Born at home or born before arrival
   - Maternal illicit drug or alcohol use
   - Babies who required any help or resuscitation at birth
   - Infant born to diabetic mothers
   - Hypoglycemia
   - Babies born to mothers who are Rhesus negative, Blood group O and G6PD deficient
   - Babies with congenital abnormalities.
   - Risk of sepsis (PROM >/=18hours, maternal temperature (>/= 38), chorioamnionitis)
   - Babies below 36 weeks of gestational age or >/= 41weeks
   - Babies with meconium-stained liquor
   - Babies with SpO2 less than 92% after 10 minutes of life
   - Babies with an APGAR score less than 7 at 5 minutes

5. Vitals should be recorded in NEWS monitoring chart (follow instructions).
6. During health facility stay, clinicians should ensure that all newborns are routinely monitored for the development of jaundice and that serum bilirubin should be measured in those at risk. If there are any concerns of danger signs, notify Dr/pediatric nurse/DART.
7. If the infant is healthy and stable, the care plan should encourage ongoing contact between mother and baby.
8. Assessment of the newborn for danger signs
   - Temperature instability
   - Change in activity, including refusal of feedings

- Unusual skin color (pallor, jaundice, plethora, mottling)
- Abnormal cardiac or respiratory rate and rhythm
- Abdominal distention or bilious vomiting
- Excessive lethargy, sleepiness, or hypotonicity
- Jitteriness, irritability, or abnormal movements
- Delayed (more than 24 hours) or abnormal stools
- Delayed voiding (more than 12 hours)
- Weight change greater than expected

9. Universal screening for neonatal hyperbilirubinaemia:
   - Universal screening for neonatal hyperbilirubinaemia by transcutaneous bilirubinometer (TcB) is recommended at health facility before discharge.
   - The postnatal age for universal TcB screening at discharge should be guided by the timing of health facility discharge. The transcutaneous bilirubin screening at discharge should be followed up with serum bilirubin measurement, appropriate treatment, and follow-up as indicated by age-appropriate nomograms. (See bilirubin nomogram below).

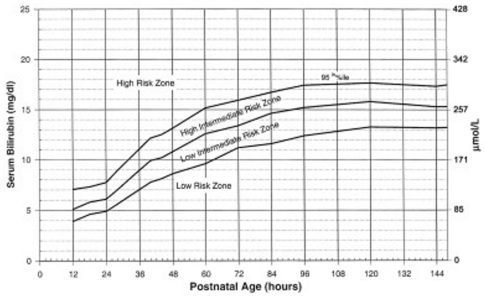

Figure Legend:

Nomogram for designation of risk in 2840 well newborns at 36 or more weeks' gestational age with birth weight of 2000 g or more or 35 or more weeks' gestational age and birth weight of 2500 g or more based on the hour-specific serum bilirubin values. The serum bilirubin level was obtained before discharge, and the zone in which the value fell predicted the likelihood of a subsequent bilirubin level exceeding the 95th percentile (high-risk zone) as shown in Appendix 1, Table 4. Used with permission from Bhutani et al. See Appendix 1 for additional information about this nomogram, which should not be used to represent the natural history of neonatal hyperbilirubinemia.

10. Universal screening for abnormalities of the eye:
    - An external examination of the eye and red reflex test should be done using standard equipment (e.g. a direct ophthalmoscope) by a trained health worker.

- Universal newborn screening for abnormalities of the eye should be done prior to discharge after a health-facility birth or at the first postnatal care contact in an outpatient setting after a home birth. Ideally, the screening should be done within the first six weeks after birth.

11. Universal screening for hearing impairment (UNHS).

- Universal newborn hearing screening (UNHS) with otoacoustic emissions (OAE) or automated auditory brainstem response (AABR) is recommended for early identification of permanent bilateral hearing loss (PBHL). UNHS should be accompanied by diagnostic and management services for children identified with hearing loss.
- PBHL is defined as bilateral permanent conductive or sensorineural hearing loss of 35 dB or greater in the better ear.
- If UNHS indicates possible PBHL, a follow-up definitive test must be done as soon as possible after screening. This involves testing by an audiologist with a more detailed diagnostic auditory brainstem response in a highly-controlled environment.
- The principles for screening programs must be implemented throughout UNHS introduction and scale-up.
- Parents and caregivers of all children should be informed about age-appropriate hearing and language development and communication skills regardless of the screening results

Discharge Instructions

Discharge is a process and should begin on admission to the postnatal/theatre recovery ward. Reference should be made to the contents of the maternal and child record book (Page 33-35), handout and videos. Clinicians should be involved and play an active role in the discharge process. Health staff should use simple language with no jargons.

1. Every Mother and baby should have an appointment before discharge. The recommended schedule for every mother and newborn includes a total of four postnatal visits on:
   - First day (24 hours)
   - Day 3 (48–72 hours)
   - Between days 7–14
   - Six weeks
2. The family should be encouraged to seek health care immediately if they identify any of the **Danger Signs** between postnatal care visits:
   - Stopped feeding well
   - History of tremors or convulsions
   - Fast breathing (above 60 breaths per minute)
   - Severe chest in-drawing
   - No spontaneous movement
   - Fever (temperature above 37.5 °C)
   - Low body temperature (temperature below 35.5 °C)
   - Offensive cord or if the cord smells
   - Any jaundice in first 24 hours of life, or yellow palms and soles at any age

3. Give parents information about:
   - Warmth:
     - Keep baby warm at all times
     - KMC for preterm and small for gestational age newborns
   - Hygiene and Infection Prevention:
     - Wash hands before and after handling baby
     - Clean and sterilize feeding tools e.g. cup and spoon, breast pump
     - Ensure personal hygiene of mother and baby
     - Keep the environment and linens clean
     - The first bath of a term, healthy newborn should be delayed for at least 24 hours after birth

- Cord care:
    - Keep the umbilical cord clean and dry by applying 4% chlorhexidine (7.1% chlorhexidine digluconate aqueous solution or gel) to the umbilical cord stump in the first week of life
    - Do not use other concoctions on the cord
- Feeding:
    - Feed baby every 2 to 3 hours
    - Feed slowly, burp baby gently on the back after feeding
    - Observe baby for signs of chocking
    - Exclusive breastfeeding from birth until 6 months of age
    - Mothers should be counselled and provided with support for exclusive breastfeeding.
- Safety:
    - Keep home environment safe (small children, pets, side rails)
    - Proper collection and storage of breastmilk
    - Put the baby to sleep in the supine position (facing up) during the first year is recommended to prevent sudden infant death syndrome (SIDS) and sudden unexpected death in infancy (SUDI)
- Follow up:
    - Document date, time and place for review (write down in the Maternal and Child Health Record Book)
    - Advise where to go in the event of an emergency
    - Refer teenage mothers to an Adolescent and Child Health clinic for family planning

4. Immunize the baby in line with Public Health Immunization schedule. WHO newborn immunization guidance and considerations (as of November 2021):
    - <u>Hepatitis B vaccine</u>:
      All infants should receive the first dose of the hepatitis B vaccine as soon as possible after birth, ideally within 24 hours. If administration within 24 hours is not feasible, all infants should receive the birth dose during the first contact with health facilities, up to the time of the first primary dose series. If administration within 24 hours is not feasible, the birth dose can still be effective in preventing perinatal transmission if given within seven days, particularly within three days – although it will be somewhat less effective than if given within 24 hours, effectiveness declining with each passing day. Even after seven days, a late birth dose can be effective in preventing horizontal transmission and therefore

remains beneficial. The birth dose should be followed by two or three additional doses to complete the primary series.

- Polio vaccine

  In polio-endemic countries and countries at high risk for importation and subsequent spread, WHO recommends a bivalent oral polio vaccination (bOPV) birth dose followed by a primary series of three bOPV doses and at least two inactivated poliovirus (IPV) dose.

- Bacille Calmette–Guérin (BCG) vaccine

  A single dose of BCG vaccine should be given to neonates at birth, or as soon as possible thereafter, for prevention of TB and leprosy. If it cannot be given at birth, it should be given at the earliest opportunity thereafter and should not be delayed. If the birth dose was missed, catch-up vaccination of unvaccinated older infants and children is recommended since evidence shows it is beneficial. Catch-up vaccination should be done at the earliest convenient encounter with the health system to minimize known or unknown exposure to TB- or leprosy-infected contact.

These recommendations have been adapted, modified and integrated from:

- *“WHO recommendations on postnatal care of the mother and newborn”, WHO 2014.
- “WHO recommendations on maternal and newborn care for a positive postnatal experience”, WHO 2022
- Postnatal care NICE guideline Published: 20 April 2021
- MEBCI 2.0 NICU STAKEHOLDERS WORKSHOP January 2022