UNIT 1  ESSENTIAL CARE OF NEW BORN AT BIRTH

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1.0 INTRODUCTION

Health of the newborn baby depends upon the overall health of the mother and appropriate antenatal care and regular follow up. Institutional delivery plays a vital role in preventing and minimising the complications related to delivery process and reducing neonatal mortality and morbidity. You can play a key role in conducting safe delivery, providing essential new born care at birth and preventing neonatal deaths and complications related to labour. Good liaising with the ANM and ASHA workers of your area and follow up visits to antenatal cases will ensure 100% institutional deliveries in your area.

In this unit you will learn and review care of the newborn, routine care of normal new born at birth and after delivery, transport of new born baby, common accidents and mishaps in labour room and Do’s and Don’ts. Before studying this unit you may refer Block 2 Unit 5, Postnatal care of this Course.

1.1 OBJECTIVES

After completing this unit, you should be able to:

- Explain the essential care of the newborn baby at birth;
- Discuss the steps of routine care of newborn after the birth;
• Identify the danger sign of new born baby
• Describe common accidents and mishaps in labour room.

1.2 CARE OF NEWBORN BABY

The care at birth has a major influence on the survival, future health, and well being of a newborn infant. You have already learnt about newborn care in Block 5, Unit 2 and 5 of this course. Let us review as given below.

1.2.1 Immediate Care of a Normal Newborn at the Time of Birth

As soon as baby is born you need to perform following activities:

• **Call out the time of birth and sex of the baby** and show the baby to the mother. Ensure that details are recorded.

• **Deliver the baby on the mother’s abdomen** in a prone position with face to one side.

• **If the baby is not crying or not breathing**, resuscitate the new born. The procedure of resuscitation is given in BNSL-043 Block 6, Unit 1.

• **If the baby is crying**, delay cord clamping for 1–3 mins before cutting.

• **Dry baby with a pre-warmed towel while over mother’s breast.** Immediately dry the baby but if secretions are present suction first and then dry (this will prevent aspiration as drying itself is stimulation for a baby to breath). Remember to suction mouth first and then nose to prevent aspiration Blood or meconium on the baby’s skin should be wiped away; however, the white greasy substance covering the baby’s body (vernix) should not be wiped off. Because this vernix helps to protect the baby’s skin and gets reabsorbed within few hours.

• **Wipe both the eyes with sterile swab.** Clean the eyes using sterile gauze/cotton. Use separate gauze for each eye. Wipe from the medial side (inner canthus) to the lateral side (outer canthus).

• **Encourage breastfeeding.** Breastfeeding should be initiated within half an hour of birth in all babies.

• **Check cord for any oozing of blood.**

• **Place an identity wrist band on the baby**, this helps in easy identification of the baby and avoiding any confusion. The label should be placed on the wrist or ankle.

• **Cover the baby’s head with a cap and cover the mother and baby with a warm cloth/ sheet.** Both the mother and the baby should be covered with a warm cloth, especially if the delivery room is cold (temperature less than 25°C). Since head is the major contributor to the surface area of the body, a newborn baby’s head should be covered with a cap to prevent loss of heat.

• **Give the baby an injection of vitamin K.**

• **Weigh the baby and record the weight.**

• **Check for any congenital malformations.**
1.2.2 Routine Care at Birth

Following steps are important for providing routine care to newborn at birth.

**Ensuring Warmth: Maintain ‘Warm Chain’**

A baby’s skin temperature falls within seconds of being born. If the temperature continues to fall, the baby will become ill and may even die. This is why a baby MUST be dried immediately after birth and delivered onto a warm towel or piece of cloth, and loosely wrapped before being placed naked between the mother’s breasts or over abdomen.

Keeping the baby between the mother’s breasts ensures that the baby’s temperature is kept at the correct level for as long as the skin contact continues. This first skin-to-skin contact should last uninterrupted for at least **one hour after birth or until after the first breastfeeding**. The mother and baby should be covered with a warm and dry cloth, especially if the room temperature is lower than 25°C. You should maintain warm chain, it means that the temperature maintenance should be a continuous process starting from the time of delivery and continued till the baby is discharged from the hospital. The components of warm chain are summarised below. (Fig. 1.1)

**WARM CHAIN**

**At delivery**
- Ensure the delivery room is warm (25°C), with no draughts of air
- Dry the baby immediately; remove the wet cloth
- Cover the baby with clean dry cloth
- Keep the baby in skin to skin contact with mother on chest or abdomen
- Postpone bathing even for a week

**After delivery**
- Keep the baby clothed and wrapped with the head covered
- Avoid bathing especially in cool weather or for small babies
- Keep the baby close to the mother
- Use kangaroo care for stable LBW babies and for re-warming stable bigger babies
- Show the mother how to avoid hypothermia, how to recognise it, and how to re-warm a cold baby. The mother should aim to ensure that the baby’s feet are warm to touch
Maintaining Normal Breathing

You should ensure to assess breathing of baby at the time of drying. If the baby is crying vigorously or breathing adequately (chest is rising smoothly at a rate of 40 to 60 times per minute), then no intervention is needed. However, if the baby is not breathing or is gasping, then baby may need initial steps of resuscitation, positive pressure ventilation etc. These steps are explained in Practical Course BNSL-043, Block 6, Unit 1.

Initiating Breastfeeding

The breastfeeding is initiated within half an hour to one hour after birth. During the initial skin-to-skin contact position after birth, the baby should be kept between the mother’s breasts. This would ensure early initiation of breastfeeding. Initially, the baby normally rests and would be asleep. This rest period may vary from a few minutes to 30 or 40 minutes (remember each baby is different and this period might vary) before the baby shows signs of wanting to breastfeed. After this period, the baby will usually open his/her mouth and start to move the head from side to side; he may also begin to dribble. These signs indicate that the baby is ready to breastfeed. Baby may also try reaching the breast by making directed movements - called ‘Breast Crawl’! The mother should be helped in feeding the baby once the baby shows these signs. You should keep both the mother and the baby in a comfortable position. The baby will be put next to the mother’s breasts with his mouth opposite to the nipple and areola. The baby should attach to the breast by itself when it is ready. When the baby is breastfeeding, attachment and positioning should be checked and help the mother to breastfeed her baby accurately and adequately. If in the initial first feeding session baby does not latch, don’t give any liquid other than breast milk (or colostrum) even if baby doesn’t feed. Most of the babies are ready to take feed with in 30 minutes to one hour. The procedure of counselling and support for breastfeeding are explained in Unit 3, Block 2, (BNSL-041) and (BNSL-043), Block 6, Unit 4.

Prevention of Infections: Maintain ‘Clean Chain’

Babies are secure when they are in mothers’ womb. However after birth, they have to be protected from the adverse environment of the surroundings. Cleanliness at delivery reduces the risk of infection for the mother and baby, especially neonatal sepsis and tetanus. Cleanliness requires mothers, families, and health professionals to avoid harmful traditional practices, and prepare necessary materials. Hand washing is the single most important step to be emphasised to both family members and health care workers.

Similar to warm chain, ‘Clean chain’ has to be followed both at the time of delivery and then till the time of discharge to protect the infant from infections. The components of clean chain are summarised below in Fig. 1.2.
Cord and Eye Care

We will begin with cord care

Cord care

The umbilical cord can be clamped-cut and tied (according to local custom) while the baby is on the mother’s abdomen or on a warm, clean and dry surface. The steps of clamping, cutting the cord and its care after cutting are given below:

Care of the umbilical cord

- Put the baby on mother’s abdomen or chest or on a warm, clean and dry surface close to the mother.
- Change gloves; if not possible, wash gloved hands.
- Put ties (using a sterile tie) tightly around cord at 2 cm and 5 cm from the abdomen.
- Cut between the ties with a sterile instrument (e.g. Blade).
- Remove blood or meconium by wiping with clean cloth.
- Observe for oozing blood. If blood oozes, place a second tie between the skin and first tie.
- Do not apply any Substance to the Stump.
- Leave stump exposed and nothing should be applied or placed on it.
- If stump is soiled, wash it with clean water and dry with a clean cloth.

Eye Care

Eye care is given to protect a baby’s eyes from infection. In areas where sexually transmitted diseases are common, eye care is needed soon after delivery because infections such as gonorrhoea can be passed to the baby during the birthing process which can result in blindness. Both eyes should be gently wiped with separate sterile swabs soaked in warm sterile water from medial to lateral side.
Eye drops (whenever indicated) or ointment should be given. This can be done after the baby has been dried or when he is being held by his mother. After instilling the eye drops, care should be taken so that the drug is not washed away.

**Weigh the Baby**

Weighing helps identify babies at a higher risk of death.

- 2500 grams may require special care to prevent low body temperature
- 2000 grams should receive prolonged skin-to-skin
- 1500 grams will need referral

**Examine the Baby**

A complete examination should be performed within 60 minutes after birth. The details of examination are given in Unit 2 of this block.

- Count the number of breaths during one minute.
- Observe the movement of the limbs when awake, their position when not moving and their tone.
- Observe the skin colour.
- Inspect the following body areas for abnormalities: head, face, mouth and palate, chest, abdomen, genitalia, anus, limbs and skin.

**A well baby should have following characteristics**

- Normal temperature, warm to touch, pink with Weight > 2.5 kg
- Breathe easily at 40–60 breathes/minute
- Move arms and legs equally when active and rest with limbs flexed

Explain to mother the examination findings to allay her concern. Document in Case record and ask her to inform you in case any other concerns develop subsequently.

**Give Vitamin K**

Vitamin K will protect babies from serious bleeding.

Give vitamin K by intramuscular (IM) injection 1.0 mg for every newborn (0.5 mg for <1000 gms). Encourage mothers to breastfeed their baby during the injection for comfort.

**Monitoring the Baby**

During the first hour after delivery, the baby and the mother should be monitored every 15 minutes. Both of them should remain in the delivery room for the first hour to facilitate monitoring.

The three most important parameters that you need to monitor are as follows

a) **Breathing**

b) **Temperature** or warmth and
c) **Colour**
You should monitor these three parameters every 15 minutes in the first hour after birth of the baby.

**Check Your Progress 1**

i) List the steps of warm chain at delivery and after delivery.

ii) Write the dose of vitamin K in new born.

iii) Write the components of clean chain (six clean) at delivery and after delivery.

1.3 **ROUTINE CARE OF BABY AFTER DELIVERY**

A postnatal room should be kept warm with “no draughts of air” from open doors or windows. A temperature of atleast 25°C is required to keep a baby warm. Often, a radiant heater, blower or other devices for providing warmth are necessary to maintain the appropriate room temperature especially in winter months. A mother and her baby should be kept together from birth (in bed or very near to each other). This helps the mother to get to know her baby and form an early close loving relationship (bonding); she can also respond quickly when her baby wants to feed, which helps establish breastfeeding.

1.3.1 **Postnatal Environment**

- Ensure that the room is warm with air currents (at least 25°C)
- Keep mother and baby close together in same room and same bed
- Provide bed nets to sleep

1.3.2 **Breastfeeding**

- Support exclusive breastfeeding on demand day and night at least 8 times.
- Ask the mother to get help if there is a breastfeeding difficulty.
- Assess breastfeeding in every baby before planning for discharge.
- If the mother reports a breastfeeding difficulty, assess breastfeeding and help her with attachment and positioning.
- DO NOT discharge the baby if breastfeeding is not established.
1.3.3 Warmth

You have to provide warmth to the newborn baby at the time of birth to prevent hypothermia due to heat loss. The newborn losses heat by four ways i.e. evaporation, conduction, radiation and convection. (Fig. 1.3)

![Fig. 1.3: Ways of heat loss in newborn.](image)

At the time of birth you should prevent heat loss by drying, wrapping, skin to skin contact and breastfeeding as shown in Fig. 1.4 a, b, c.

![Fig. 1.4 (a-c): Preventing Heat loss at birth](image)

The essential steps in preventing heat loss and maintaining the normal temperature in a newborn baby are given in Table 1.1.

### Table 1.1: Preventing heat loss in New Born.

<table>
<thead>
<tr>
<th>Evaporation:</th>
<th>It involves the loss of heat when a liquid is converted to a vapour i.e. when amniotic fluid evaporates from the skin, the heat is lost through moisture.</th>
</tr>
</thead>
</table>
| How to prevent: | - Keep infant dry  
- Remove wet nappies  
- Minimise exposure during baths |

![Fig. 1.5: Drying at birth](image)
Conduction: It involves the loss of body heat to cooler objects which come in direct contact with baby’s skin i.e. when the baby is placed naked on a cooler surface, such as table, weighing scales, cold bed/sheets.

How to prevent:
- Put the baby on pre warmed sheet
- Cover weighing scales
- with warm towel or blanket

Convection: It involves the flow of heat from body surface to cooler surrounding air or to air circulating over body surface. When the baby is exposed to cool surrounding air or to a draught from open doors and windows or a fan. Heat is lost by moving air currents e.g., infant who is adequately warmed but placed under the fan, near open window especially in winter months. Opening of doors and windows replaces warm air around infant with cold air.

How to prevent:
- Do not expose the infant to increased air flow e.g., under fan, near windows, ventilator, near door which is frequently being opened.
- Keep the infant adequately clothed including hands and feet.
- Transport the infant in a well protected cane basket/crib.
- Restrict the entry of people in the room where infant is kept.
- Do not keep infant’s cot very close to the walls and window.

Radiation: It involves loss of Infant’s body heat to cooler object that are not directly in contact with him i.e. when the baby cot is placed near cool objects, walls, tables, cabinets, ventilating units without actually being in contact with them.

How to prevent: Fig 1.7
- Keep baby cot away from cold, outside walls, almirah
- Maintain room temperature at 25°C
- Cover the baby if stable

1.3.4 Cord Care
Keep the cord healthy by providing daily care.
- Wash hands before and after cord care.
- Put NOTHING on the stump.
- Fold nappy (diaper) below the level of the stump.
- Keep cord stump loosely covered with clean clothes.
If stump is soiled, wash it with clean water and soap. Dry it thoroughly with clean cloth.

- Look for signs of infection (daily)
  - Pus discharge from the cord stump
  - Redness around the cord especially if there is swelling
  - High temperature (more than 37.5°C) or other signs of infection
- Explain to the mother that she should seek care if the umbilicus is red or draining pus or blood.

1.3.5 Maintain Hygiene

Provide day to day care to ensure hygiene.

- Wash the face, neck, and underarms of the baby daily.
- Bathing the baby can be postponed till a week. In case of small babies, bathe only after the baby reaches a weight of 2000 g.
- If bath is given ensure following:
  - Room is warm and there is no draught while changing clothes, washing and bathing
  - Use warm water for bathing
  - Thoroughly dry the baby, dress and cover after bath
  - Take extra precautions if the baby is small
  - Wash the buttocks when soiled and dry thoroughly.
  - Use cloth diaper on baby’s bottom to collect stool. Wash hands after disposing stool.
  - Do not apply ‘Kajal’ on eyes.

1.3.6 Identify Danger Signs

It is important that you as a health worker are able to recognise the signs and symptoms which indicate that the baby is not well (‘DANGER SIGNS’) and help the mother and care giver to recognise danger signs. Early recognition of the danger signs will help in identifying those babies who need urgent care and treatment.

- Not feeding well
- No movement
- Fast breathing (more than 60 breaths per minute)
- Moderate or severe chest in-drawing
- Jaundice on day 1 or palms or sole stained yellow any age
- Abnormal movements
- Fever (temperature >37.5°C)
- Temperature <35.5°C or not rising after re-warming
1.4 TRANSPORT OF NEWBORN BABY

If there is any danger sign as discussed in foregoing section baby will require to be shifted to NICU in District hospital for prolonged ventilator support under aseptic environment. Call for well equipped advanced cardiac ambulance or the available source of transport. Ensure that baby is stabilised and I V lines are fixed well. Mother may also accompany the baby during transport.

ENSURE THAT TRAINED COLLEAGUE ACCOMPANIES THE BABY IN THE AMBULANCE.

Transportation process is initiated well in time, the moment you know that baby is not doing well. Last minute efforts should be avoided to save time. Ideally the cardiac ambulance is always ready at the standby in many places.

1.5 COMMON ACCIDENTS AND MISHAPS IN LABOUR ROOM

Less confidence, loss of self control in emergency, overconfidence and lethargy attitude leads to many mishaps and accidents in labour room. These are listed below.

Baby is dropped or slipped while receiving immediately after birth. This happens due to poor grip and utter carelessness.

Aspiration of amniotic fluid if suction is not done adequately. This happens when one is in a ‘hurry’ or less experienced.

The bleeding cord which is noticed sometimes quite late when bradycardia sets in. This happens due to loose tie or the whartons jelly has squeezed off (inexperienced hands).

1.6 DOS AND DON’TS

You should be able to follow the do’s and don’ts as given below:

**DO’S**

There are certain steps which should never be missed.

- High risk cases should be identified well before the labour starts.
• You should be ready to receive apneic baby in the apparently normal antenatal case.

• Wipe the oral cavity of the baby as soon as the head is delivered.

• Keep the baby dry always.

• Tie the cord at two places and tight enough.

• Look for the number and placement of umbilical vein (one, at the top position and bigger in diameter) and umbilical artery (two in number, placed lower to vein one on either side or smaller in diameter) in the umbilical cord. This is the clue for possible internal congenital anomaly.

• Place the identification tag as soon as breathing is established.

• Do the neonatal assessment follow the order of breathing, Heart Rate and colour.

• Initiate breastfeeding as soon as possible.

• Ensure asepsis through out the resuscitation.

**DON’TS**

There are certain things which should never be done by you.

• Don’t leave the door and windows of the labour room open.

• Do not do nasal suction before oral suction.

• Do not apply any thing on the cord stump.

• Do not ambu bag the baby if suspecting diaphragmatic hernia.

• Do not give tactile stimulation more than twice.

• Do not waste single second in the assessment and resuscitation.

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<th>Check Your Progress 3</th>
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<tbody>
<tr>
<td>i) List the few common accident and mishaps in labour room.</td>
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**1.7 LET US SUM UP**

In this unit you have learnt about the immediate care of newborn baby at the time of birth and routine care after birth in a normal baby which includes keeping the airway patent, preventing heat loss, providing warmth to the baby, breastfeeding and care of cord, skin and eyes. You have also learnt about common mishaps in labour room. Transport of newborn and do’s and don’ts has also been discussed at the end. You should always remember to monitor three important parameters i.e. breathing, temperature and colour.

**1.8 MODEL ANSWERS**

Check Your Progress 1

i) **At Delivery**

• Ensure the delivery room is warm (25° C), with no draughts of air...
• Dry the baby immediately and remove the wet cloth
• Cover the baby with clean dry cloth
• Keep the baby in skin to skin contact with mother on chest or abdomen
• Postpone bathing/sponging for at least 6 hours or next day

After Delivery
• Keep the baby clothed and wrapped with the head covered
• Avoid bathing especially in cool weather or for small babies
• Keep the baby close to the mother
• Use kangaroo care for stable LBW babies and for re-warming stable bigger babies
• Show the mother how to avoid hypothermia, how to recognise it, and how to re-warm a cold baby. The mother should aim to ensure that the baby’s feet are warm to touch.

ii) Vitamin K injection 1.0 mg (IM) for every newborn and (0.5 mg for <1000 gms).

iii) Clean Chain at Delivery
• Clean attendant’s hands (washed with soap)
• Clean delivery surface
• Clean cord- cutting instrument (i.e. razor, blade)
• Clean string to tie cord
• Clean cloth to cover the baby
• Clean cloth to cover the mother

After Delivery
• All caregivers should wash hands before handling the baby
• Feed only breast milk
• Keep the cord clean and dry; do not apply anything
• Use a clean absorbent cloth as a diaper/napkin
• Wash your hands after changing diaper/napkin. Keep the baby clothed and wrapped with the head covered

Check Your Progress 2

i) A postnatal room should be kept warm with “no draughts of air” from open doors or windows. A temperature of atleast 25°C is required to keep a baby warm. Often, a radiant heater, blower or other devices for providing warmth are necessary to maintain the appropriate room temperature especially in winter months. A mother and her baby should be kept together from birth (in bed or very near to each other). This helps the mother to get to know her baby and form an early close loving relationship (bonding); she can also respond quickly when her baby wants to feed, which helps establish breastfeeding.
Newborn and Child Health Care

ii)  • Not feeding well
      • No movement
      • Fast breathing (more than 60 breaths per minute)
      • Moderate or severe chest in-drawing
      • Jaundice on day 1 or palms or sole stained yellow any age
      • Abnormal movements
      • Fever (temperature >37.5°C)
      • Temperature <35.5°C or not rising after re-warming

Check Your Progress 3

i)  Less confidence, loss of self control in emergency, overconfidence lethargy attitude leads to many mishaps and accidents in labour room. For example to count few-

    Baby is dropped or slipped while receiving immediately after birth, This happens due to poor grip and utter carelessness.
    Suctioning is not done adequately and baby aspirates amniotic fluid. This happens when one is in ‘hurry’ or less experienced.
    The cord is bleeding which is noticed sometimes quite late when bradycardia sets in. This happens due to loose tie or the whartons jelly has squeezed off (again inexperienced hand).

1.9 REFERENCES

1) Essential newborn care course ,WHO HQ’s 2009.
2) Postnatal Care of the mother & newborn, WHO HQ’s recommendations 2013.