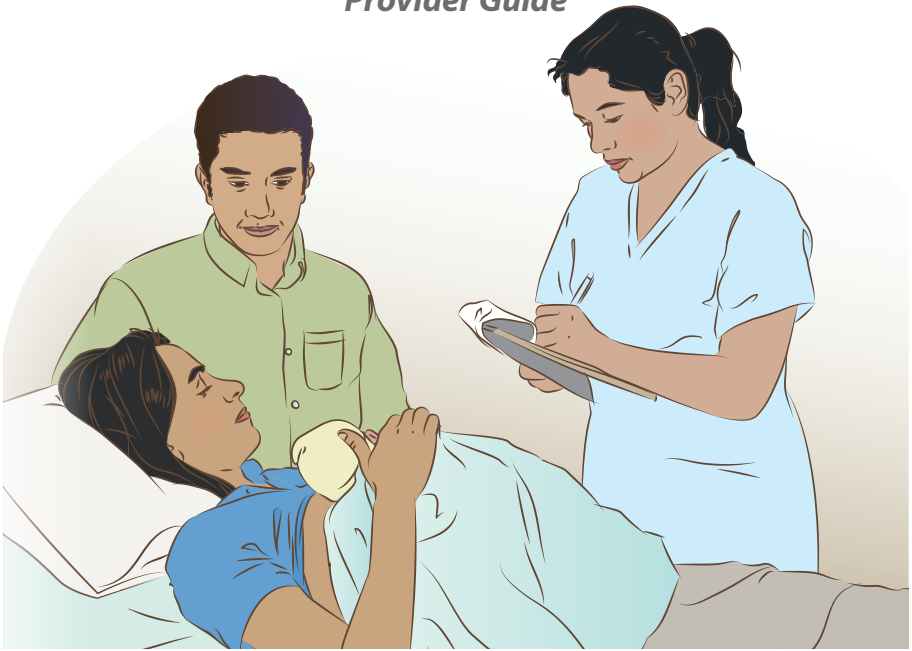
Essential Newborn Care 2

Assessment and Continuing Care

Provider Guide



World Health Organization

WHO/UHL/MCA/NBH/2024.10

Contents

Assessment and preventing disease

You make the difference 4
Identify risk factors 6
Measure temperature 8
Weigh the baby 10
Examine the baby 12
Provide eye care 14
Provide cord care 16
Give vitamin K 18
Classify the baby 20
Group practice: Essential care from 60 – 90 minutes 22

Routine care

Maintain normal temperature 24
Support breastfeeding 26
Advise about breastfeeding problems 28
Reassess for discharge 30
Immunize 32
Advise about home care 34
Group practice: Routine care 36

Intermediate care

Maintain skin-to-skin 38
Support breastfeeding 40
Treat risk of infection 42
Reassess 44
Provide continuous skin-to-skin 46
Improve therxqal care 48
Express breast milk 50
Provide appropriate volume of breast milk 52
Feed with cup or tube 54
Transition to exclusive breastfeeding 56
Group practice: Intermediate care 58
Reassess 60
Prepare for discharge 62
Immunize. Advise about home care and community support 64
Group practice: Transition to home after intermediate care 66

Advanced care

Assess for Danger Signs 68
Give antibiotics 70
Provide advanced care 72
Recognize severe jaundice 74
Stabilize for referral as needed 76
Group practice: Advanced care 78

More resources

Take steps to improve care 80

Additional resources

Sample newborn record 82
Sample newborn referral note 83
Mother´s observations form 84
Newborn assessment form 85
Hand washing and hand cleaning 86
Acknowledgements 87

For additional resources, see hmbs.org

With your skills

You make the difference

Essential Newborn Care can save the lives of babies with simple actions. Keeping well babies healthy, recognizing risk and preventing problems, and identifying and responding to Danger Signs will improve the outcome of newborns.

How to make a difference

- Keep babies warm
- Feed breast milk early and exclusively
- Identify risk, classify and reassess, recognize Danger Signs
- Teach families to provide care at home
- Prevent infection
- Treat mother and baby with respect
- Keep records that help give the best care

Essential Newborn Care - Assessment and Continuing Care (part 2) builds on **Immediate Care at Birth and Helping Babies Breathe (part 1).** Both parts are based on World Health Organization Recommendations on Newborn Health and Pregnancy, Childbirth, Postpartum and Newborn Care. Recommendations of the local Ministry of Health may vary slightly and should be used to guide care.

Practise key skills

Practise in pairs within a small group of 6 participants.

- Identify the time scale, color coding, and main action and evaluation steps on the Action Plan.

Discuss

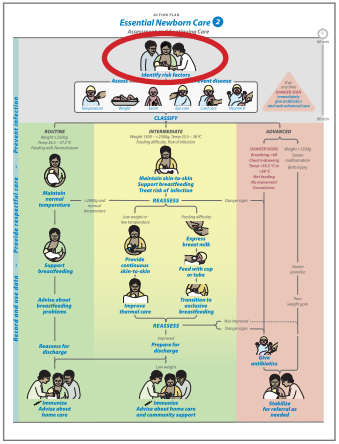
1. What experience have you had with a baby who died soon after birth?
2. Who provides care for mothers and babies immediately after birth? Until discharge from the birth facility?

To improve care in your facility

- *Are national guidelines for essential newborn care used in your facility?*

What to monitor

- *Have all newborn providers in the facility been trained in essential newborn care?*



As soon as possible

Identify risk factors

"Identify risk factors"

Review the pregnancy, labour, birth, and first hour for risk factors that affect care of the newborn:

Pregnancy - infection, diabetes, or other chronic medical condition in the mother

Labour - maternal fever >38 ˚C, OR foul-smelling amniotic fluid or pus, OR rupture of membranes >18 hours before delivery (risk factors for infection)

Birth - need for help to breathe, trauma

First hour - very small or large size of baby, serious malformation, rapid or difficult breathing, low temperature, inability to latch and feed effectively, other Danger Signs (page 69)

Record the risk factors to use together with assessment findings to determine the plan of care.

Practise

Practise in a small group

- Identify the maternal and newborn records containing information on risk factors for the newborn
  - Prenatal care
  - Labour and delivery record
  - Newborn record
- Describe risk factors which require advanced care immediately
  - Probable infection - risk factors for infection and baby looks unwell
  - Danger Signs
  - Serious malformation or birth trauma
- Describe risk factors which may require more than routine care
  - Maternal infection or diabetes
  - Possible infection - risk factors for infection and baby looks well
  - Very small or large size
  - Need for help to breathe or rapid/ difficult breathing that is improving
  - Feeding difficulty

Discuss

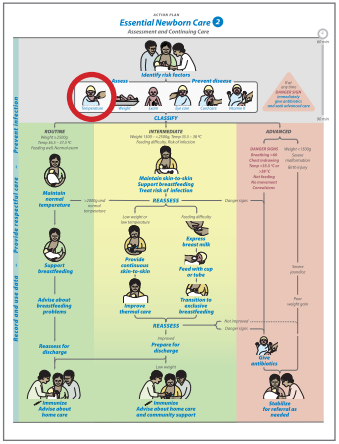
1. What are the most common risk factors that affect newborns in your facility?
2. How can providers caring for mother and baby communicate risk factors in a timely way? How can you act on risk factors promptly in your setting?

To improve care in your facility

- *How does the identification of risk factors help providers work more efficiently?*

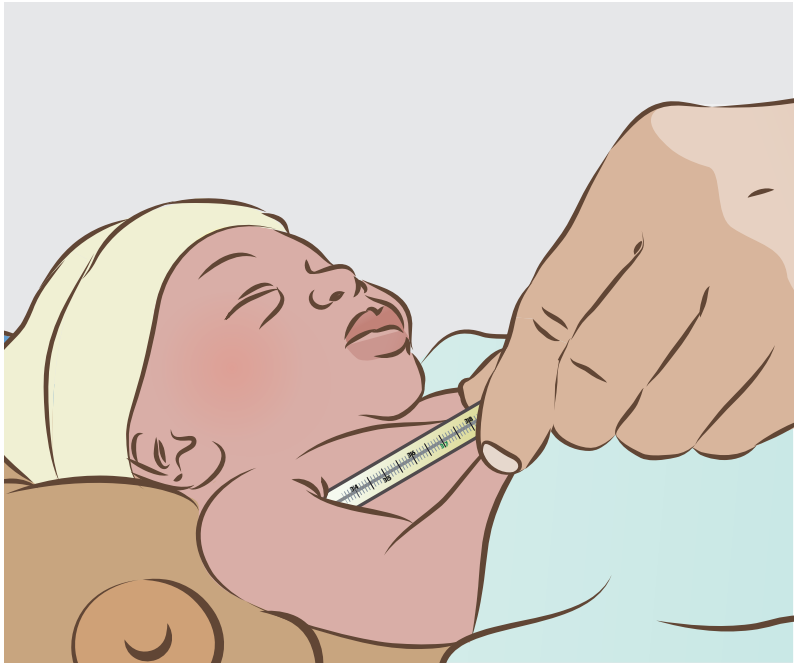
What to monitor

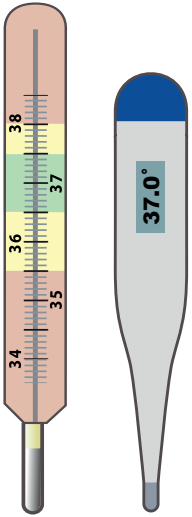
- *Does every baby have risk factors identified and noted in the newborn record?*



At 60 – 90 minutes after birth

Measure temperature





"Assess temperature"

Keeping body temperature normal helps a baby stay healthy. Low or high temperature can lead to death.

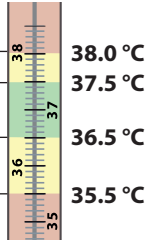
- 36.5 – 37.5 ˚C is a normal temperature.
- 35.5 – 36.4 ˚C and 37.6 – 38 ˚C require improved thermal care.
- A temperature below 35.5 ˚C is a Danger Sign.
- A temperature above 38 ˚C not due to excess warming is a Danger Sign.

Using a thermometer to measure temperature is more accurate than feeling the skin to estimate if a baby is too hot or too cold.

Measure temperature within 90 minutes after birth

- Clean the thermometer and your hands (page 86).
- Position the baby on the side or back while still in skin-to-skin contact.
- Put the tip of the thermometer high in the armpit.
- Hold the arm against the side for the recommended time before reading.

Danger sign	**Improve thermal care, treat and refer**
High	**Improve thermal care**
Normal range	**Maintain normal temperature**
Low	**Improve thermal care**
Danger sign	**Improve thermal care, treat and refer**



Practise

Practise in pairs

- Measure temperature on the simulator with all thermometer types available in the facility
- Read high and low temperatures on an actual or a simulated thermometer
- Classify the temperature as normal, abnormal and requiring improvement of thermal care, or showing a Danger Sign

Discuss

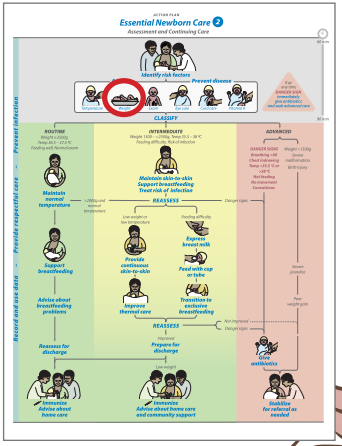
1. What types of thermometers are used locally? Do they register temperatures below 35.5 ˚C?
2. How are thermometers cleaned and where are they stored at your facility?

To improve care in your facility

- *How are thermometers replaced when they no longer work?*
- *Are all staff who care for babies soon after birth able to measure a temperature?*

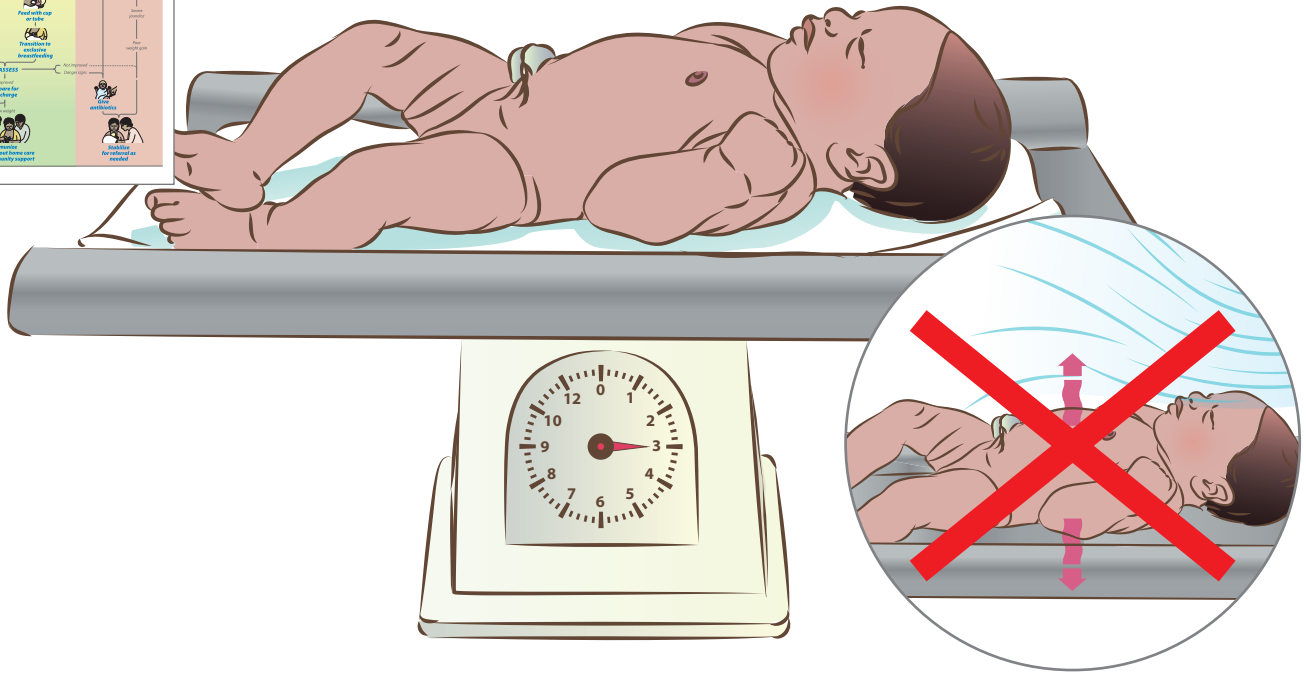
What to monitor

- *Do all babies at your facility have a temperature measured within 90 minutes after birth?*



At 60 – 90 minutes after birth

Weigh the baby



"Assess weight"

Weighing helps identify babies who may need special care. For example, babies

- <2500 grams require care to prevent low body temperature and may benefit from prolonged skin-to-skin care
- <2000 grams should receive prolonged skin-to-skin (kangaroo mother care)
- <1500 grams should receive advanced care and prolonged skin-to-skin (kangaroo mother care)

Weigh the baby

- Take the scales to the baby
- Clean the scale
- Put a clean cloth or towel on the scale
- Balance the scale to zero
- Wash hands
- Quickly place the baby on the scale naked (no diaper, clothing or blanket)
- Resume skin-to-skin care or ask the mother to dress the baby promptly after weighing
- Record the birth weight in the baby's record

Practise

Practise in pairs how to

- Balance the scale to zero
- Weigh a baby (simulator or doll)
- Record the weight

Discuss

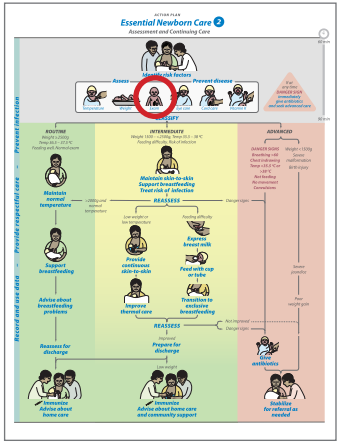
1. What is your facility's routine for keeping a baby warm during weighing?
2. What weight ranges does your health authority specify for prolonged skin-to-skin care (kangaroo mother care) or referral to advanced care?

To improve care in your facility

- *Are scales suitable for babies available?*
- *Can scales be moved to mother and baby?*
- *Who will repair the scales if they break?*

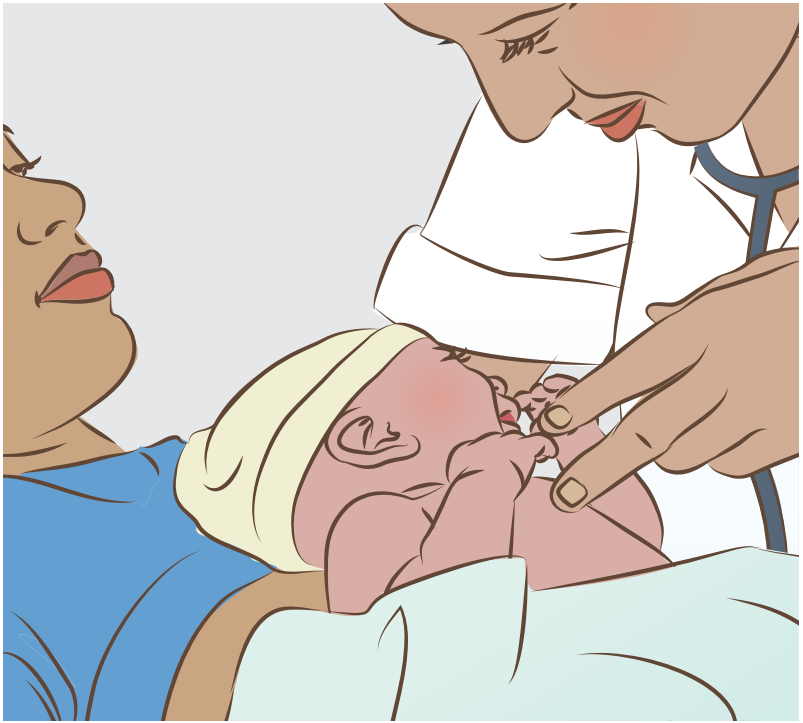
What to monitor

- *Are all babies weighed and the weight recorded?*



At 60 – 90 minutes after birth

Examine the baby



"Assess exam"

Perform a complete examination while in skin-to-skin contact between 60 – 90 minutes after birth. During the exam, evaluate a baby by looking, listening and feeling.

- Observe activity, position and tone of arms and legs at rest and awake
- Count the number of breaths during one minute.
- Observe the skin color.
- Inspect the following body areas for abnormalities: head, face, mouth and palate, chest, abdomen, umbilical cord, genitalia, anus, limbs and skin.

Every examiner should

- wash hands before and after touching the baby
- explain the exam to the mother
- advise the mother to continue to observe the baby and report concerns to a provider immediately
- record observations and findings of exam

A well baby should

- move arms and legs equally when active and rest with limbs flexed
- breathe easily at 40–60 breaths/minute
- have pink skin
- have no bleeding or drainage from the umbilical cord and no major abnormalities

Practise

Practise in pairs

- Describe and document the physical exam
  - activity, position and tone of arms and legs
  - breathing
  - color
  - cord appearance
  - other features of a general exam
- Communicate the features of the physical exam to the mother and record the exam findings

Discuss

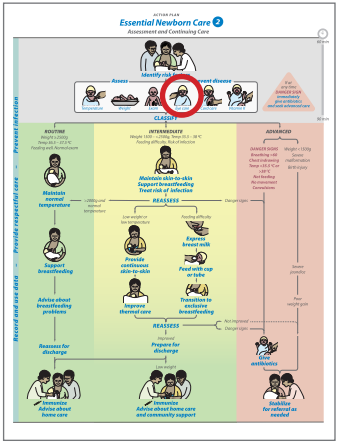
1. When are babies usually examined and how do you record the findings of the exam?
2. Are parents informed of exam findings?

To improve care in your facility

- *Who examines babies in your facility?*
- *Are there forms on which to record the results of examinations?*

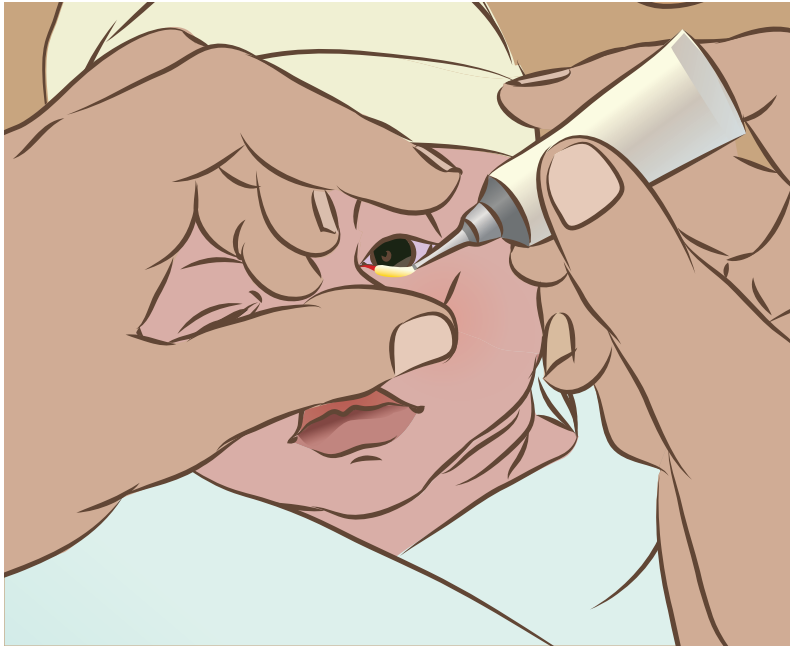
What to monitor

- *Are all babies in your facility examined by 90 minutes of age and the results recorded?*



At 60 – 90 minutes after birth

Provide eye care



"Prevent disease - Eye care"

Early eye care can prevent serious infections and blindness.

Provide eye care

- Wash hands
- Pull down the lower lid of the eye
- Place a portion (usually about 1 cm long if using ointment) of the locally approved medication inside the length of the lower lid, beginning from the side closest to the nose and extending to the opposite side of the lid
- Repeat for the other eye

Eye treatment can be delayed until the baby has breastfed, but provide eye care within the first 90 minutes after birth. Only medication to prevent eye infection should be placed in the eye. Medication not meant for use in the eye can cause serious damage.

Practise

Practice in pairs

- Apply medication to the eye of a doll or a simulator
- Communicate to the family why medication is used in the eyes

Discuss

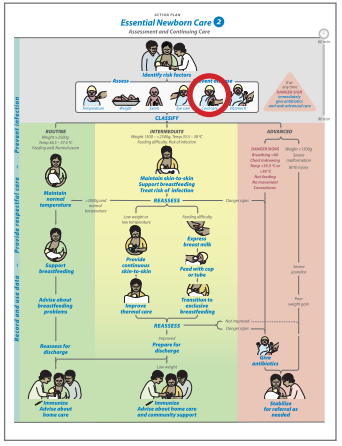
1. What medication for eye care is recommended by your health authority?
   Do all babies receive this treatment?
2. Do some parents not want eye care or put something else in the eyes?

To improve care in your facility

- *Is medicine for eye care available in your facility for every baby?*
- *How soon after birth is eye care provided?*

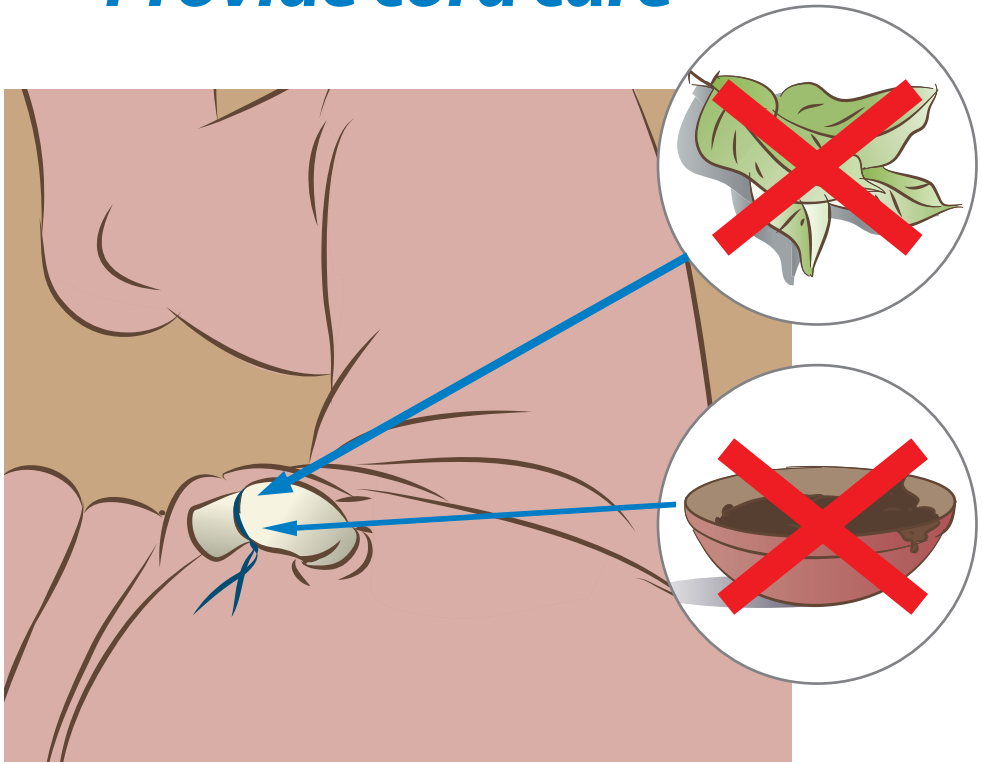
What to monitor

- *Does every baby born in your facility receive eye care?*



At 60 – 90 minutes after birth

Provide cord care



"Prevent disease - cord care"

Proper care of the umbilical cord helps prevent serious infections.

Cleansing the baby after birth

- Remove blood or meconium by wiping soon after birth.
- Delay the first bath for at least 24 hours after birth. If the baby is premature, has a low birth weight, has a low body temperature or is ill, bathing should be delayed even longer.

Provide cord care

- Keep the cord exposed and dry.
- Apply nothing to the cord unless a medication (for example, chlorhexidine) is recommended by the health authority.
- If the stump is soiled, wash it with clean water and dry with a clean cloth.
- If bleeding, put an extra tie tightly around the cord.

Practise

Practise in pairs giving guidance to the mother about cord care.

- Keep the cord dry
- Clean the cord if soiled
- Stop bleeding

OR

Practise cord care as recommended by local health authorities. Describe this treatment in the space in the next column.

Discuss

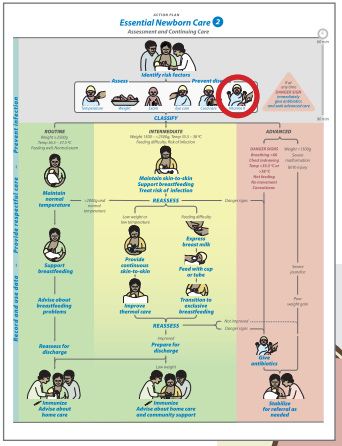
1. What cord care practices are recommended by your health authority?
2. What traditions exist around cord care?

To improve care in your facility

- *Do mothers understand proper cord care at home?*
- *Will advice to put other substances on the cord be given by someone after the baby goes home?*

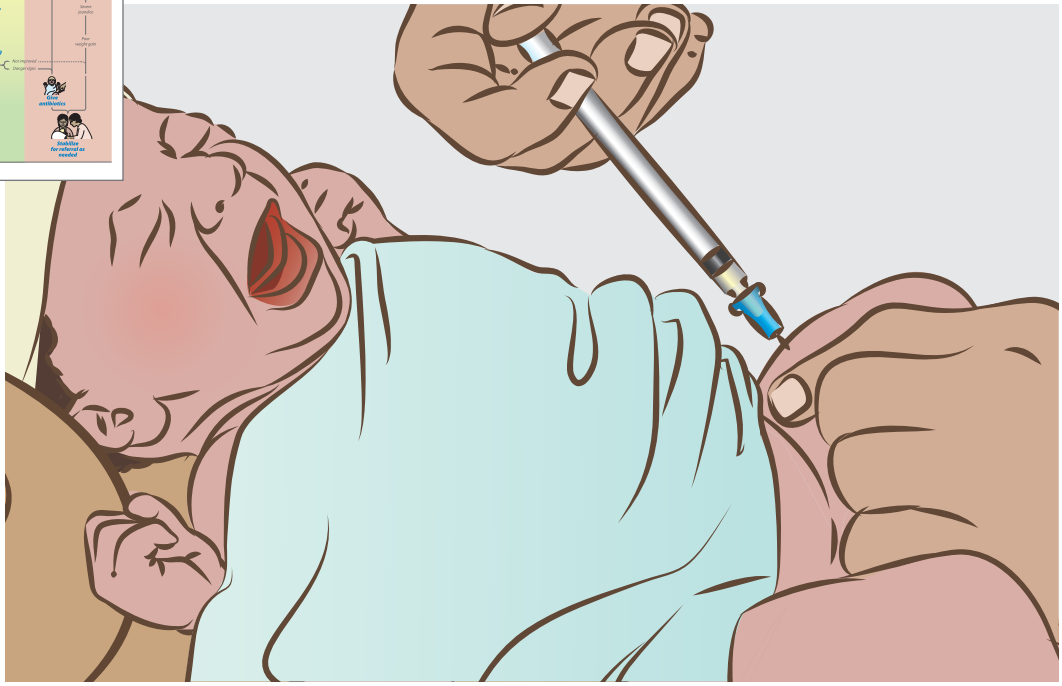
What to monitor

- *Does every baby receives appropriate cord care?*



At 60 – 90 minutes after birth

Give vitamin K



"Prevent disease - vitamin K"

Vitamin K protects babies from serious bleeding. Every baby should receive vitamin K.

Give vitamin K by intramuscular (IM) injection

- Wash hands
- Use gloves if available
- Draw up 1 mg Vitamin K into a 1 mL syringe (use a 25 or 27 gauge needle).
- Identify the site for injection (front, outside of mid-thigh)
- Swab skin with isopropyl alcohol; allow to dry
- Insert needle into muscle and inject medication quickly
- Dispose of syringe and needle properly

Encourage mothers to breastfeed or hold their baby during the injection for comfort.

Use a new syringe and needle for each baby.

Practise

Practise in pairs

- Explain to the mother the need for vitamin K and how it will be given
- Draw up correct dose
- Identify the correct injection site on the simulator
- Clean the site of injection
- Demonstrate the technique for safe disposal of syringes and needles

Discuss

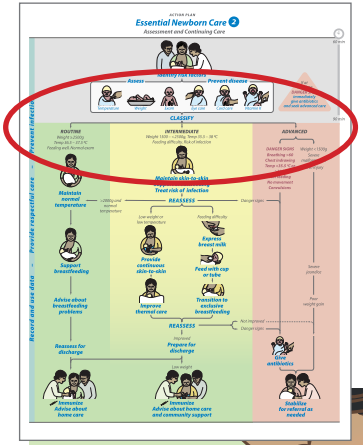
1. Do all babies receive vitamin K?
2. Are sterile single-use needles and syringes available where you work? What is the method for their disposal?

To improve care in your facility

- *Is vitamin K available for every baby?*
- *Is there more than one concentration of vitamin K?*

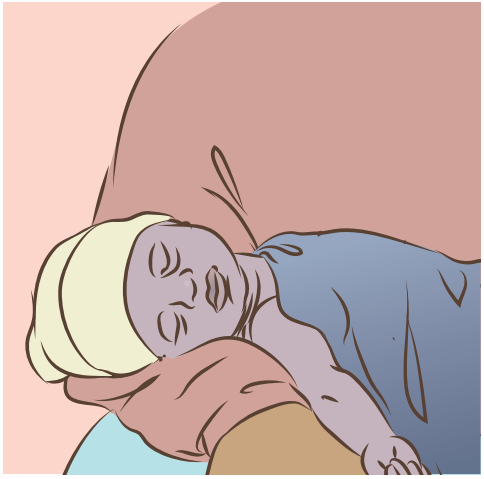
What to monitor

- *Do all babies born in your facility receive vitamin K?*



By 90 minutes after birth

Classify the baby



ROUTINE ***INTERMEDIATE*** ***ADVANCED***

"Classify"

Classify babies by 90 minutes based on their temperature, weight, exam, feeding, and risk factors to define further care.

Classify as ROUTINE care if

- temperature 36.5 – 37.5 ˚C
- weight ≥2500 grams
- feeding well and normal exam, no risk factors for infection

Classify as INTERMEDIATE care if

- temperature 35.5 – 36.4 ˚C or 37.6 – 38 ˚C
- weight 1500 – <2500 grams
- feeding difficulty, fast breathing or chest indrawing that is improving OR risk factors for infection and baby looks well

Classify as ADVANCED care if

- a Danger Sign is present (page 69)
- birth weight <1500 grams
- severe malformation, birth injury, or jaundice on exam
- risk factors for infection and baby looks unwell

Some babies need early reassessment

- If temperature 35.5 – 36.4 ˚C - recheck after 1 hour of improved thermal care
- If fast breathing or chest indrawing that is improving - recheck hourly, reclassify by 4 hours of age
- If feeding difficulty - attempt feeding again in 1–2 hours and reclassify by 4 hours of age

All babies should be classified and have a plan for care by 4 hours of age.

Practise

Practise classifying a baby who

- has a normal exam, temperature of 36.2 ˚C and weight <2500 grams
- has blue hands and feet but pink lips, a temperature of 36.5 ˚C, and weight 2600 grams
- is breathing 80 times/minute with severe chest indrawing at 60 minutes, temperature of 36.9 ˚C, and weight 2700 grams

Discuss

1. Who is responsible for classifying babies to define further care?
2. Why are some babies not classified in a timely way?

To improve care in your facility

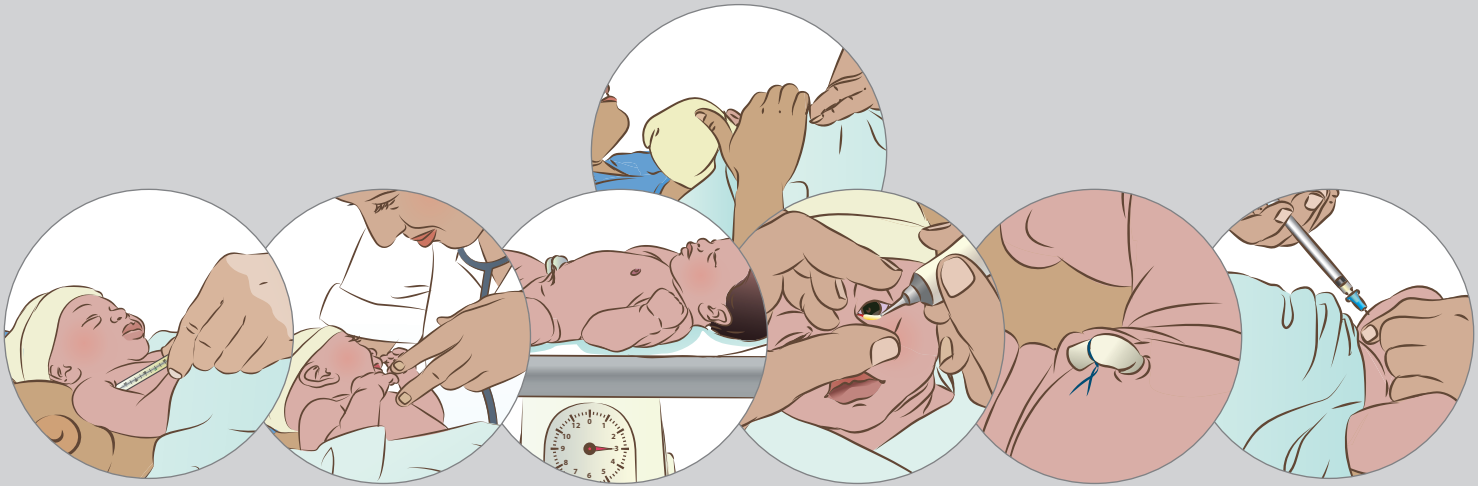
- *Is there an area in your facility where babies can stay with their mothers for at least 4 hours after delivery and be observed closely?*
- *Is there a provider available at all times who can assess and classify babies?*

What to monitor

- *Are all babies classified by 90 minutes after birth?*

GROUP PRACTICE - CASE 1

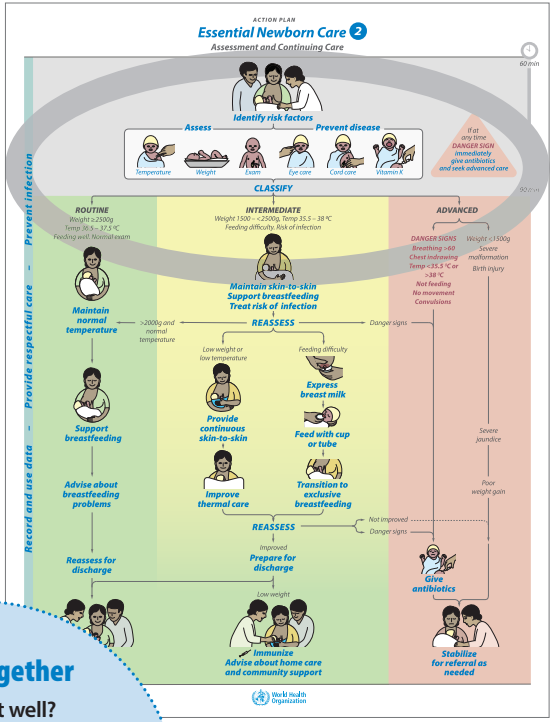
Essential care from 60 – 90 minutes



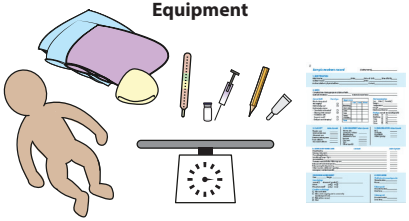
As the mother (or helper), read out loud to the provider:

"A term baby cried at birth and breastfed in the first hour. Mother had an uncomplicated pregnancy, labour and vaginal delivery. Show how you will assess and classify the baby and communicate with the mother (assessment findings: normal)."

Provider Demonstrate action steps and communicate	**Mother (or helper)** If action is not done, use the prompts to provide hint
☐ ***Identify risk factors***	*"Is my baby sick?"*
☐ ***Assess*** - *Temperature* - *Weight* - *Exam*	*"Is my baby cold?"* *"How much does my baby weigh?"* *"Tell me what you are doing."*
☐ ***Prevent disease*** - *Eye care* - *Cord care* - *Vitamin K*	*"What are you doing? Why?"*
☐ ***Classify as Routine care***	*"What happens with my baby now?*
☐ ***Document the findings of assessment, treatments, and classification.***	*"Is my baby OK?"*



Equipment



Discuss together

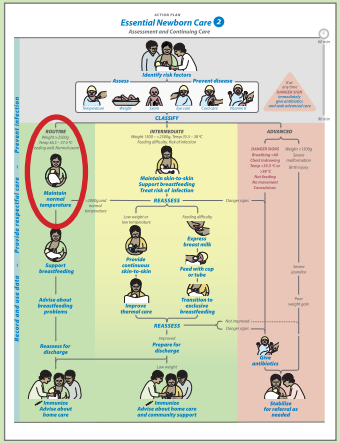
What went well?

Did you follow the Action Plan?

If not, why, and what will you change?

How did you
- provide respectful care and communicate?
- prevent infection?
- record and use data?

Online
Simulation Practice Cards



After skin-to-skin care with a well, normal weight baby

Maintain normal temperature

"Maintain normal temperature"

Even well babies need care to avoid becoming too cold or too hot.

Prevent heat loss

- Continue initial skin-to-skin care for at least one hour after birth whenever possible
- Delay bathing for 24 hours after birth.
- Avoid drafts and contact with wet or cold surfaces
- Replace wet clothing or wraps

Maintain normal temperature when skin-to-skin care is no longer being used

- Clothe and wrap in a clean, dry blanket and cover the head
- Wrap securely but not tightly
- Use 1–2 more layers than for an adult

Prevent over-heating

- Do not place a baby close to heat sources or in direct sunlight
- Do not over-wrap a baby in blankets

Assess temperature every four hours during routine care by touching the foot or forehead

- If the skin feels too cool or too hot, measure a temperature

Practise

Practise in pairs

- Select or describe appropriate clothing and head covering for the region
- Wrap the simulator to prevent heat loss

Discuss

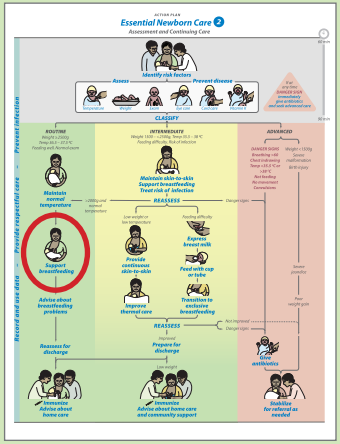
1. What clothing and wraps are used to keep babies warm in the health facility and at home?
2. Where and how do you bathe a baby?

To improve care in your facility

- *Are there simple changes at your facility that can help babies maintain normal temperatures?*
- *How could you ensure that the environment at your facility best supports the thermal needs of babies?*

What to monitor

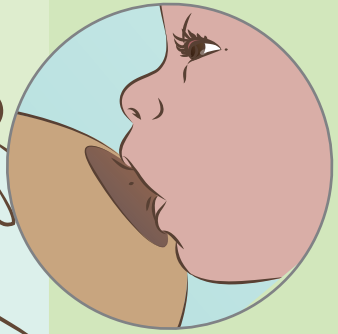
- *How often do babies become cold during their stay in the facility?*



During the first day after birth

Support breastfeeding

Good attachment



Poor attachment

"Support breastfeeding"

Support of breastfeeding after birth will improve the chances of success.

- Keep mother and baby together unless it is absolutely necessary to separate them.
- Encourage breastfeeding whenever the baby shows signs of readiness (page 57).

Help mother to be comfortable semi-reclined with baby

- held close to mother
- supported along whole body
- head and body in line
- facing the breast, nose opposite nipple

More positions for feeding:

Advise mother about:

- Signs of good attachment
  - more areola seen above lips than below
  - mouth wide open
  - lower lip turned outward
  - chin touching breast
- Signs of poor attachment
  - only nipple in mouth
  - pain
- Alternating the breast on which the baby feeds first

Provide advice about signs that a baby is adquately fed

- Swallowing sounds heard during feeding
- Softening of the breast with feeding
- Feeding every 2–4 hours (8–12 times per day)
- Baby sleeps well between feedings

Practise

Practise in pairs

- Help position mother and baby (simulator)
- Discuss with mother the features of good and poor attachment
- Discuss with mother the signs that a baby is adequately fed

Discuss

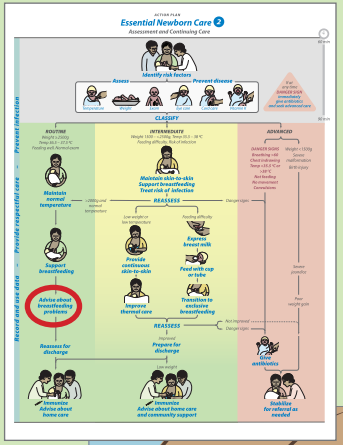
1. What policies in your facility encourage exclusive breastfeeding? Are there any local practices that interfere?
2. Who helps new mothers with breastfeeding?

To improve care in your facility

- *Is there a person knowledgeable about breastfeeding to advise all mothers?*
- *Who would support a breastfeeding mother who leaves the birth facility soon after delivery?*

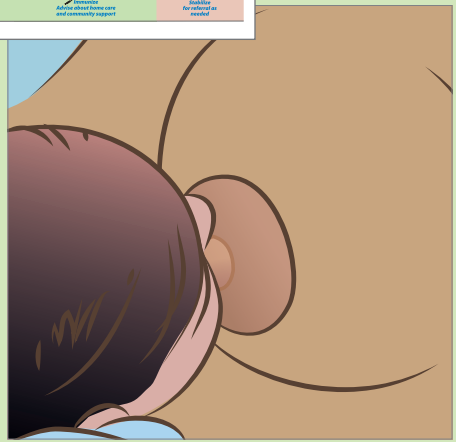
What to monitor

- *Do all mothers receive support to breastfeed successfully?*

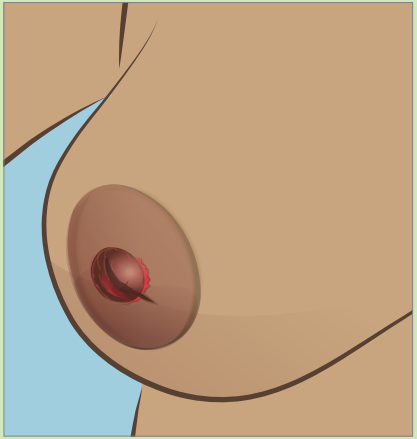


Before discharge

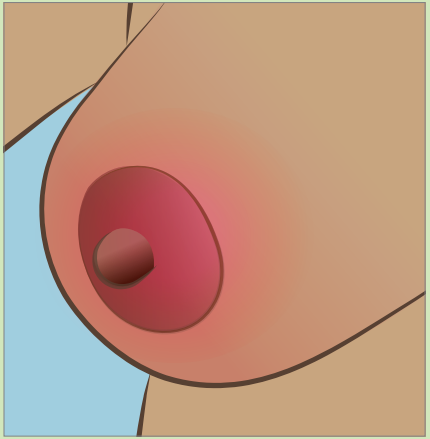
Advise about breastfeeding problems



Engorgement



Cracked nipples



Mastitis

"Advise about breastfeeding problems"

Advise mothers how to prevent, recognize, and manage common problems.

Flat or inverted nipples
- Stimulate nipple before feeding
- Shape breast by supporting underneath the base with the fingers and pressing above with the thumb

The baby attaches to the breast, not the nipple. Reassure mother to build her confidence.

Breast engorgement
- Swelling and shininess of both breasts
- No tenderness or redness

Feed often, express milk, ensure good attachment.

Sore or cracked nipples
- Nipple tenderness and pain during feeding
- Pinched appearance after feeding, cracks or fissures

Ensure good attachment and break suction before detachment, avoid irritation from clothing, apply drops of milk.

Mastitis
- Painful, red and firm area, usually in one breast only
- Ill feeling often with fever

Feed frequently, express milk or change feeding position to ensure emptying, seek medical attention.

Advise mothers about how to:
Improve flow of milk
- Apply warm compresses
- Massage the back and neck
- Massage the breasts and nipples

Improve supply of milk
- Increase maternal fluid intake
- Increase frequency of feeds
- Hand express milk

Practise

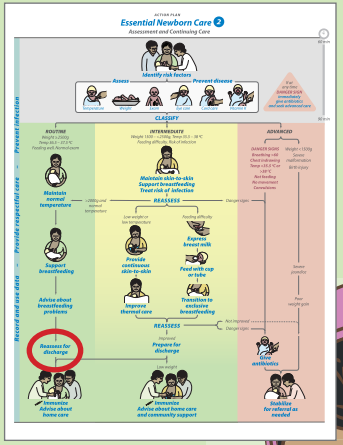
Practise in pairs observing a breastfeeding and advising mothers about:
- Inverted nipples
- Breast engorgement
- Cracked nipples
- Mastitis
- Low milk supply

Discuss

1. How are the common breast problems managed in your community?
2. How do mothers increase their breast milk supply?

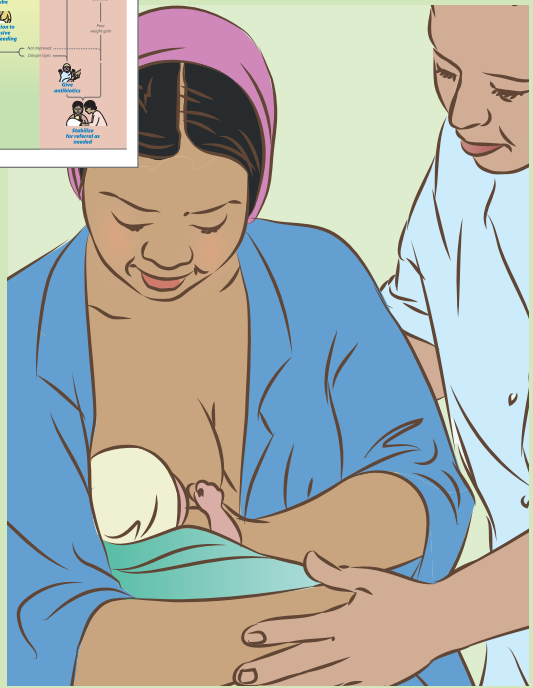
To improve care in your facility
- *Do providers listen and communicate about breastfeeding in a way that supports and respects mothers?*
- *Who can a mother contact about breastfeeding problems after discharge from the birth facility?*

What to monitor
- *Do all mothers receive advice about recognizing and managing breastfeeding problems?*



During the stay in the health facility

Reassess for discharge



"Reassess for discharge"

All babies must be reassessed before discharge. Discharge can occur when baby and mother show their readiness on assessment.

When possible, discharge from the birth facility should not occur for at least 24 hours.

Assess breastfeeding

- Baby feeds every 2–4 hours and feeds at least 8 times per day
- Baby suckles effectively
- Baby settles with each feeding
- Mother has little breast or nipple pain

Perform a complete examination of the baby and review records for

- stable vital signs (temperature 36.5–37.5 ˚C and breathing <60 breaths/minute)
- minimal jaundice
- no signs of local infection (skin, cord, eyes)
- passage of urine and stool

Confirm health of the mother and her readiness for discharge.

Practise

Practise in pairs

- Assess breastfeeding
- Perform an examination of baby and review records
- Confirm the health of mother
- Identify a baby who cannot be discharged

Discuss

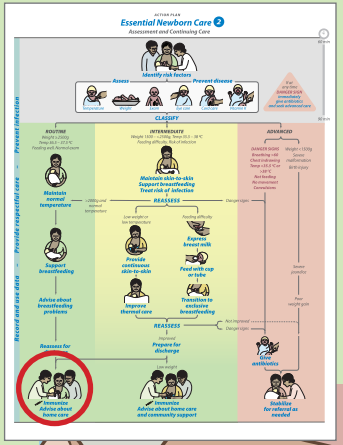
1. How long do mothers and babies usually stay in the birth facility?
2. Are there written criteria for discharge of babies from your facility? Are these criteria strictly followed?

To improve care in your facility

- *Who is responsible for re-examining babies prior to discharge?*
- *Where is information from this exam recorded?*
- *Can mothers and babies stay in the birth facility if there are problems?*

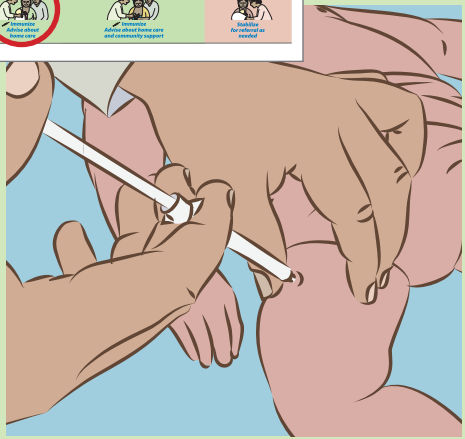
What to monitor

- *Does every baby have a physical exam and assessment of breastfeeding before discharge?*

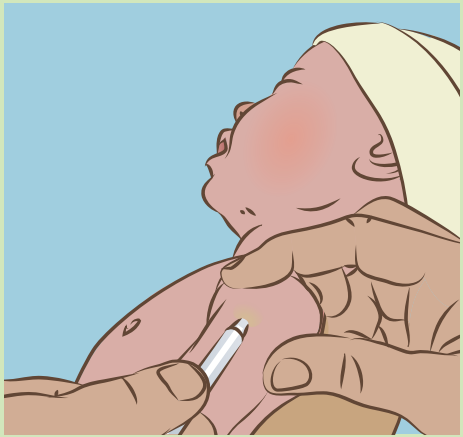


Before discharge

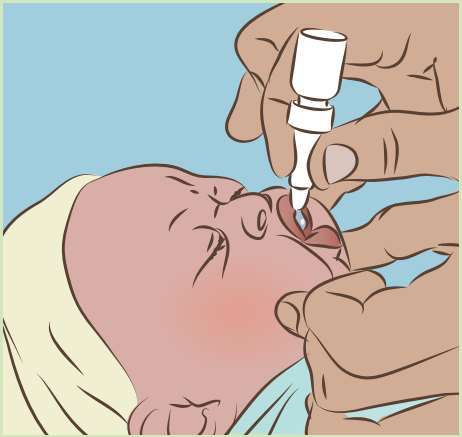
Immunize



Hepatitis



BCG



Oral polio

"Immunize"

Review the dose and how to give each immunization recommended by the health authority.

Give the recommended immunizations, which might include:

- Hepatitis B – 0.5 mL intramuscular (IM)
- BCG (tuberculosis vaccine) – 0.05 mL intradermal in the arm
- Oral polio – 2 drops on the tongue

Use a new syringe and needle for each immunization.

Additional doses of hepatitis B and polio vaccines will be required later. Immunizations against other diseases will also be needed. If mother is HIV positive, BCG is often delayed until the baby is known to be HIV negative. Follow recommendations of your health authority.

Practise

Practise in pairs

- Explain to the mother the need for immunizations and how they will be given
- Draw up oral, IM, and intradermal medications (use air or water for simulation)
- Identify the correct site for administration on the simulator
- Wash hands and clean the site before injection
- Record immunizations in the baby's record
- Demonstrate the technique for safe disposal of syringes and needles

Discuss

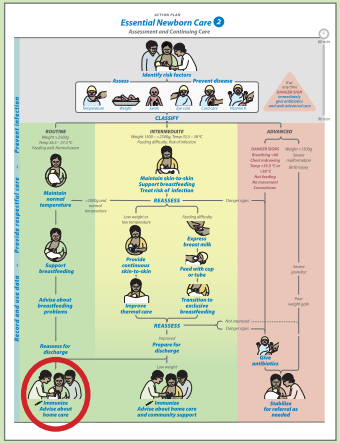
1. What immunizations are recommended in your community?
2. Where is immunization recorded for each baby?

To improve care in your facility

- *Are vaccines and supplies for administration always available?*
- *What is the method for needle disposal?*

What to monitor

- *Do all infants receive the recommended immunizations in the facility?*



When discharge is appropriate

Advise about home care

"Advise about home care"

Parents will continue essential newborn care at home. They need to

- understand how to keep a baby healthy
- be able to recognize problems
- know to seek immediate care for Danger Signs and other serious medical problems
- support their baby's development

Discuss with the family the following key messages (see Parent Guide):

- Breastfeed exclusively
- Manage common breast problems
- Wash hands before touching the baby
- Put nothing on the cord
- Seek immediate care for Danger Signs or severe jaundice
- Complete all postnatal checks and immunizations

Identify the place and time for follow-up care

- Record follow-up appointment on a document given to the parents

Advise on birth registration.

Before taking the baby home, parents should be able to demonstrate basic care of the baby.

Practise

Practise in pairs

- Discuss key messages for home care with parents
- Assess the family's knowledge of essential care
- Identify the place and time for follow-up care

Discuss

1. How do you know that parents understand advice about home care?
2. What resources for care and advice are available for families?

To improve care in your facility

- *Who is responsible for preparing parents for the care of their baby at home?*
- *Is there a guide or other resource to remind parents about home care?*
- *Where do parents seek care for their baby if they observe a Danger Sign?*

What to monitor

- *Do all parents receive guidance for home care?*

GROUP PRACTICE - CASE 2

Routine care

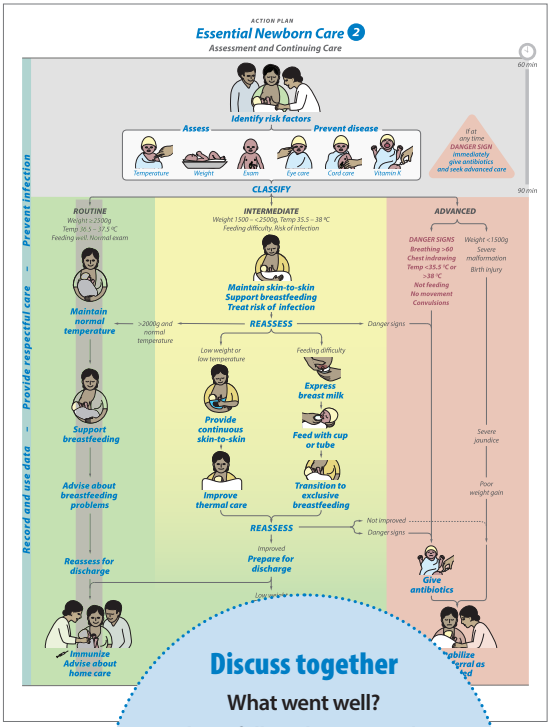
As the mother (or helper), read out loud to the provider:

"At 2 hours of age a baby with a birth weight of 2900 grams is transferred to the postnatal ward. The baby fed well at birth, had a temperature of 36.7 ˚C while skin-to-skin. Show how you will provide routine care and communicate with the mother."

Provider Demonstrate action steps and communicate	**Mother (or helper)** If action is not done, use the prompts to provide hint
☐ ***Maintain normal temperature***	*"My baby is getting cold."*
☐ ***Support breastfeeding***	*"My baby is opening her mouth."*
☐ ***Advise about breastfeeding problems***	*"My baby will not attach to the breast."*

"The baby is now 24 hours old and mother is ready to go home. Show what you will do and communicate."

☐ ***Reassess for discharge*** - *Temperature* - *Exam* - *Adequacy of feeding*	*"Is my baby ready to go home?"*
☐ ***Immunize*** - *According to local guidelines*	*"Does my baby need immunizations now?"*
☐ ***Advise about home care*** - *Use Parent Guide*	*"I am not sure what to do at home."*
☐ ***Complete the newborn record***	



Discuss together

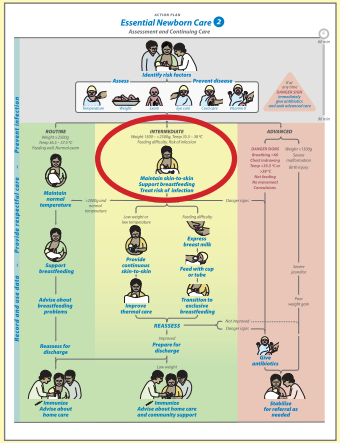
What went well?

Did you follow the Action Plan?

If not, why, and what will you change?

How did you
- provide respectful care and communicate?
- prevent infection?
- record and use data?

Online Simulation Practice Cards



If low weight, low temperature and/or feeding difficulty

Maintain skin-to-skin

"Maintain skin-to-skin"

Babies with low weight or temperature need special attention to thermal care. Help mothers extend skin-to-skin care for small babies in the first 24 hours after birth.

- At birth, dry the baby thoroughly, position skin-to-skin, and cover head and body
- Keep mother and baby together for care and examination
- Secure the baby in skin-to-skin contact
  - Provide a dry diaper and head covering
  - Place the baby upright on the chest between the breasts
  - Position the baby with arms and legs flexed, head turned
  - Secure snugly with a cloth or binder pulled up to the ear to support the head
  - Close mother's garment over the binder

Check temperature by feeling the forehead or the foot while feeding (at least every 3–4 hours). Measure temperature with a thermometer and record

- Whenever the baby feels cold or hot
- At least twice in the first 24 hours
  - Within 90 minutes after birth
  - When in a stable thermal environment
- Once per shift while in the facility

Wrap the baby and follow routines to prevent heat loss when no longer using skin-to-skin care.

- Cover the head and put on socks
- Dress the baby in an extra layer of clothes
- Wrap the baby snugly
- Change wet diapers promptly and remove wet clothes or blankets
- Do not bathe a small baby; clean by wiping with a wet cloth as needed after 24 hours

Practise

Practise in pairs assisting mother to position the baby skin-to-skin

- Provide a dry diaper and head covering
- Place the baby upright on the chest
- Position arms and legs flexed and head turned
- Secure with a cloth that suppports the head
- Cover with a garment or blanket

Discuss

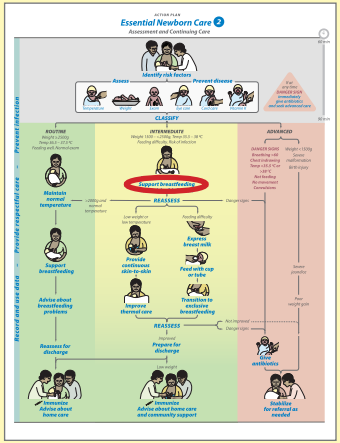
1. How often and why do small babies become cold in your facility?
2. How do you meet the needs of small babies, their mothers, and families in your facility?

To improve care in your facility

- *When and why do small babies become cold in your facility?*
- *What can be done to improve the thermal environment for small babies where you work?*
- *Does your facility encourage prolonged skin-to-skin care of all small babies in the first 24 hours?*

What to monitor

- *Do all babies have a temperature measured and recorded at least once a shift?*
- *How often do babies <2500 grams receive skin-to-skin care for the first 24 hours?*



If feeding difficulty

Support breastfeeding

"Support breastfeeding"

Breast milk is the best food for all babies. Support the baby attempting breastfeeding by

- nipple stimulation prior to feeding
- added attention to positioning and supporting whole body
- manual expression of breast milk onto the nipple prior to attachment
- awakening baby when changing to opposite breast

Evaluate the baby's effectiveness at breastfeeding

- Wakes and shows feeding readiness cues
- Latches, sucks steadily with pauses, and swallows audibly
- Feeds without choking, turning blue or pale
- Mother reports breast softening and no pain

If a baby cannot breastfeed effectively, support mother's breast milk production and use an alternative feeding method as needed.

- Teach mother to express breast milk every 3 hours (page 51)
- Ensure mother has adequate nutrition, increased fluid intake and care for medical problems
- Encourage time at breast during skin-to-skin care and reassess readiness to breastfeed daily

Practise

Practise in pairs the following scenario:
An 1800 gram baby did not latch or suck during the first hour after birth. He is now 4 hours old and latches but falls asleep within a few minutes.

- Evaluate the baby's effectiveness at breastfeeding
- Describe to mother how you will support her milk production

Discuss

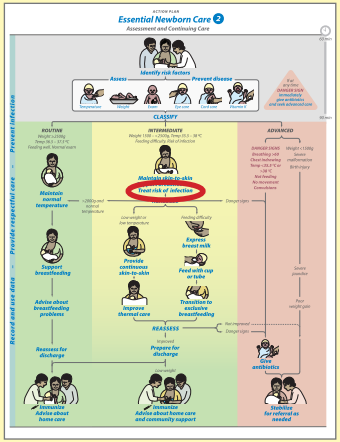
1. If the baby does not feed in the first hour, does someone help mother express breast milk?
2. What help do mothers need in your facility when there are problems breastfeeding a baby?

To improve care in your facility

- *Who helps mothers and babies with breastfeeding in your facility?*
- *What methods help small babies breastfeed effectively?*

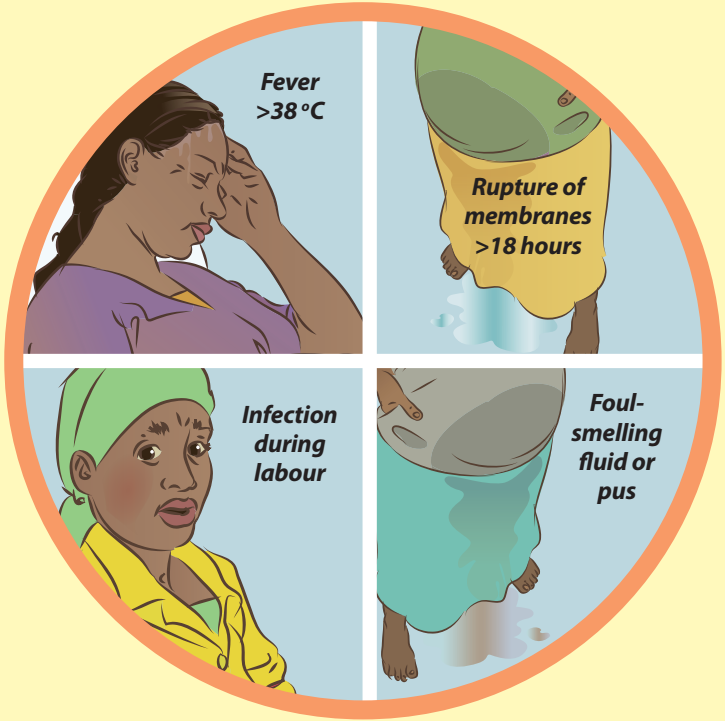
What to monitor

- *How often do mothers receive counseling on breastfeeding?*
- *Do all mothers of small babies breastfeed or provide some breast milk?*



Using risk factors identified

Treat risk of infection



Maternal risk factors

"Treat risk of infection"

Treat possible infection after assessment of risk factors

Risk of infection	Assessment findings	Treatment
Possible infection in baby	Risk factor(s): Maternal fever >38 ˚C before or during labour, OR amniotic fluid foul-smelling or pus, OR rupture of membranes >18 hours before delivery. No Danger Signs.	Obtain blood cultures if possible. Give antibiotics for 48 hours. Monitor and reassess baby.
Previously diagnosed infection in mother	Mother RPR positive	Give baby single dose benzathine penicillin; treat mother and partner.
	Mother HIV positive	Give antiretrovirals to baby.
	Mother started TB treatment <2 mos before delivery.	Give baby isoniazid prophylaxis for 6 mos; give BCG when treatment completed.

If a baby has one or more risk factors for infection and looks unwell on exam or has a Danger Sign, the baby will need advanced care.

Practise

Identify the risk of infection, the treatment for each baby and if baby can be treated in your facility:

- **Case 1:** A preterm baby is grunting and breathing rapidly. Mother had a fever of 39 ˚C during labour and foul-smelling amniotic fluid after 72 hours rupture of membranes.
- **Case 2:** A term baby has a normal exam. Mother had rupture of membranes for 28 hours.
- **Case 3:** A term baby appears well, but mother has a positive RPR.
- **Case 4:** A term baby weighs 2100 grams and appears well on exam. Mother is HIV positive.

Discuss

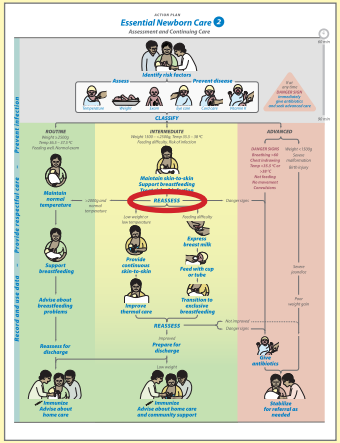
1. Why is it important to assess the risk of infection in a baby?
2. Is treatment with antibiotics provided in your facility? What babies need referral to another facility for advanced care of infection?

To improve care in your facility

- *Are records of antenatal care and care during labour available for all women who give birth in your facility?*

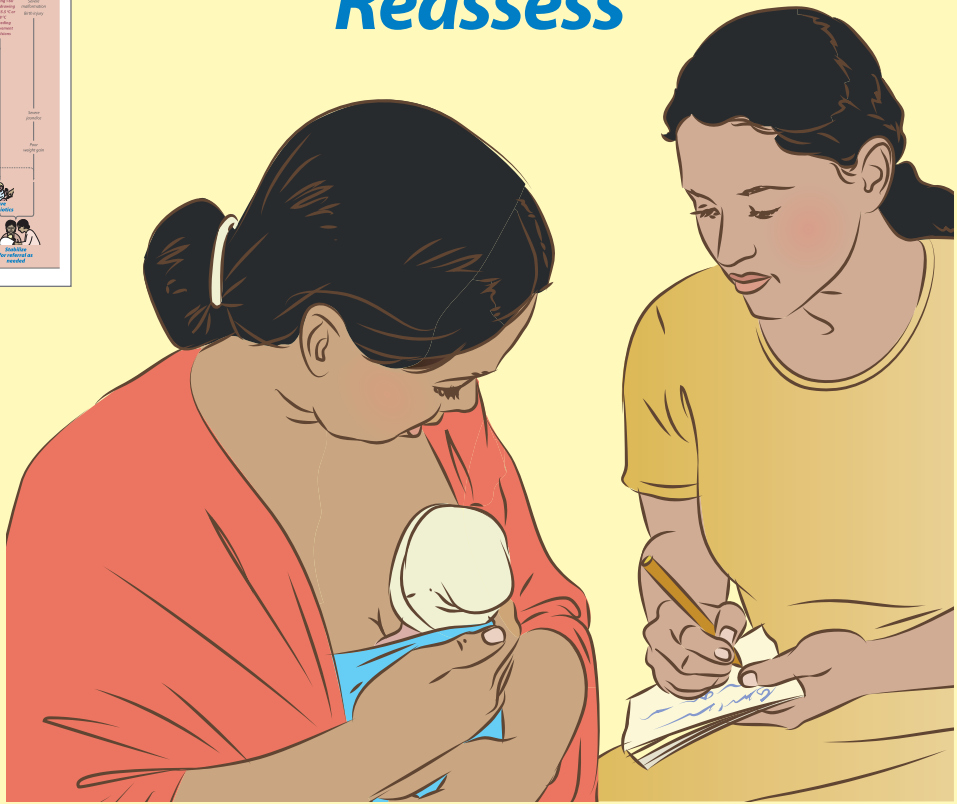
What to monitor

- *Do all babies with risk factors for infection receive antibiotic treatment?*



When a baby needs intermediate care

Reassess



"Reassess"

Routine assessment of babies determines further care and detects conditions that require change in care or referral.

The condition of babies can change quickly. Prompt recognition and response to problems can be life-saving.

Assess a baby at least once per shift

- Discuss mother's observations (activity, breathing, color, temperature)
- Perform a limited physical exam
- Review
  - temperature
  - weight
  - intake (frequency, volume, tolerance)
  - output (wet diapers, stools)

A baby who is adequately fed

- appears satisfied after breastfeeding
- passes urine and stool with increasing frequency each day
- has stools that change from dark to yellow

Decide if the baby is well or unwell	Act
Well: Desired progress	Continue care Assure adequate intake
Uncertain: Change from previous Not clearly normal	Change support Assess more frequently
Unwell: Problem or Danger Sign	Seek advanced care

Practise

Practise in groups of 3 to play the role of the mother, a provider and a colleague who is assuming care of the baby.

A 1day-old baby shows normal activity, breathing and color, temperature 36.7 ˚C and weight 1680 grams, a loss of 50 grams from birth. Mother is breastfeeding every 4 hours but says the baby is very sleepy. There has been only one wet diaper in the last 8 hours and no stool.

- Assess the baby, decide on the significance of the findings, and decide whether to continue or change care.
- Communicate your assessment and plan to your colleague and the mother.

Discuss

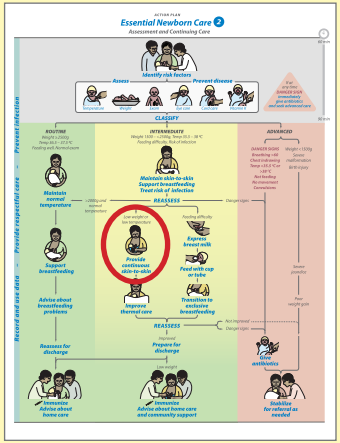
1. How do you document your assessment of a baby?
2. How do you communicate a baby's condition to your colleagues on the next shift?

To improve care in your facility

- *Who is responsible for regular assessment of small babies in your facility?*
- *If a mother has concerns about her baby, who responds to her?*

What to monitor

- *Do all babies have a complete assessment recorded every shift?*
- *Do providers always communicate their assessments to their colleagues?*



If weight or temperature is low

Provide continuous skin-to-skin

"Provide continuous skin-to-skin"

Babies who cannot maintain normal temperature with wrapping and attention to other aspects of thermal care (dry clothing, warm room) may need continuous (day and night) skin-to-skin care.

Continuous (>20 hours per day) skin-to-skin care can be provided

- to well small babies <2000 grams
- to babies fed by cup or nasogastric tube
- by the mother or a family member
- during most adult activities including sleep

When mother must interrupt skin-to-skin care

- Encourage a family member to place the baby skin-to-skin OR
- Wrap the baby snugly

Support and counsel the mother to

- develop confidence in positioning and caring for her baby skin-to-skin
- assess her baby
- engage in self-care
- receive help from family members

Assess a baby during continuous skin-to-skin care and teach the mother to observe and report concerns about

- **A** ctivity – normal vs low or convulsions
- **B** reathing - comfortable vs fast, chest indrawing or pauses >20 seconds (apnea)
- **C** olor – pink vs blue, pale, or yellow
- **T** emperature – normal versus hot or cold

Practise

Practise in pairs

- Assist mother in positioning her baby skin-to-skin
- Teach mother to observe
  - **A** ctivity
  - **B** reathing
  - **C** olor
  - **T** emperature
- Show mother how to record feedings and wet or dirty diapers on a simple form (page 84)
- Ask mother if she has questions about the baby's care

Discuss

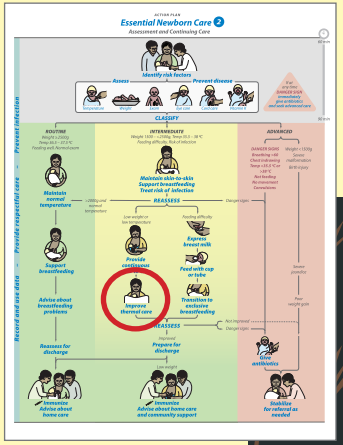
1. Are small babies provided continuous skin-to-skin care in your facility?
2. What can you do to help mothers provide continuous skin-to-skin care in your facility?

To improve care in your facility

- *Is there a place for mothers to provide continuous skin-to skin for many days or weeks?*
- *Who teaches mothers how to monitor their babies during continuous skin-to-skin care?*

What to monitor

- *Do all babies <2000 grams receive continuous skin-to-skin care?*
- *How often does continuous skin-to-skin care alone maintain normal temperature for babies <2000 grams?*



If baby's temperature is low

Improve thermal care

"Improve thermal care "

If a baby's temperature is low with skin-to-skin contact, improve the thermal environment for skin-to-skin care.

Improve continuous skin-to-skin care by

- removing wet clothes and changing diaper
- adding hat, socks and mittens for the baby
- covering mother and baby with extra blankets
- minimizing interruptions in skin-to-skin contact
- improving the thermal environment of the room
  - raising the temperature
  - reducing movement of air
  - removing or covering cold surfaces

Recheck temperature in 1 hour.

If skin-to-skin care is not possible or the baby cannot maintain normal temperature, consider an alternative method of warming.

- Radiant warmers, incubators, heated cots or heat-producing wraps should only be used when skin-to-skin care is ineffective or not possible.
- Misuse and malfunction of warming devices can result in dangerously low or high temperature.
- Warming devices increase risk of infection when used to care for more than one baby or not properly cleaned and stored.

Only trained providers should use alternative warming devices.
Overheating a baby can cause death, de-hydration, apnea and brain injury.

Practise

Practise in pairs
A baby has a low temperature despite skin-to-skin care.

- Identify the possible causes of low temperature with skin-to-skin care.
- Describe the steps to improve thermal care.

Discuss

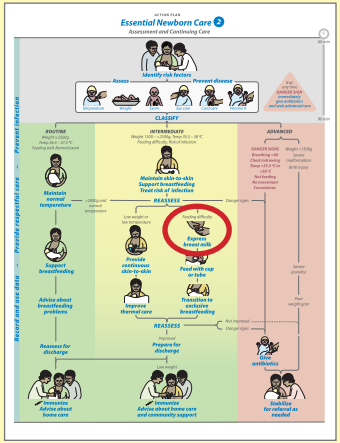
1. Where can mothers provide skin-to-skin care in your facility?
2. What do you do in your facility if a baby's temperature is low?

To improve care in your facility

- *If skin-to-skin care cannot be provided, how do you keep a small baby warm in your facility?*
- *How are warming devices cleaned and maintained and checked for safety?*
- *Are manuals available?*
- *How often and where is a baby's temperature recorded during care in an incubator or warmer?*

What to monitor

- *How often is skin-to-skin care not possible for babies <2500 grams?*
- *How often is a functioning incubator not available for each baby who needs one?*



When a baby cannot feed directly from the breast, or the breasts are engorged

Express breast milk

"Express breast milk"

All mothers should know how to express breast milk

- for a baby who cannot breastfeed
- to relieve breast engorgement or blocked ducts

Teach a mother to express breast milk

- Arrange a comfortable area where mother can relax
- Wash hands with soap and water
- Massage the whole breast gently
- Hold a clean container to catch the milk
- Place the thumb above and first finger below and behind the nipple (approximately 4 cm or over the ducts)
- Press the breast back towards the chest wall
- Compress the breast between the thumb and fingers
- Repeat the pressing and compressing in all parts of the breast
- Express both breasts, alternating between the sides
- Express until both breasts are empty or until goal is achieved

Express milk at the times when a baby would normally feed (every 2-4 hours and at least 8 times during day and night).

- Assess the volume of expressed milk
- Even small volumes may be adequate in the first few days

Use expressed milk

- Store in a clean, covered container
- Keep at room temperature (up to 25 ˚C) for up to four hours
- Store in a refrigerator (2–4 ˚C) up to 48 hours or in a freezer compartment up to 2 weeks

Practise

Practise in pairs

- Follow the sequence of steps to express breast milk on a model
- Give guidance to the mother while assisting her

Discuss

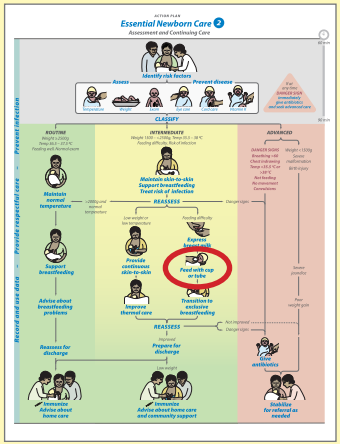
1. What problems do mothers have with expressing and storing breast milk? How can you help?
2. Are breast pumps available instead of manual expression?

To improve care in your facility

- *Where do mothers store expressed milk in your facility?*
- *What do you feed a small baby when mother's milk volume is not adequate?*

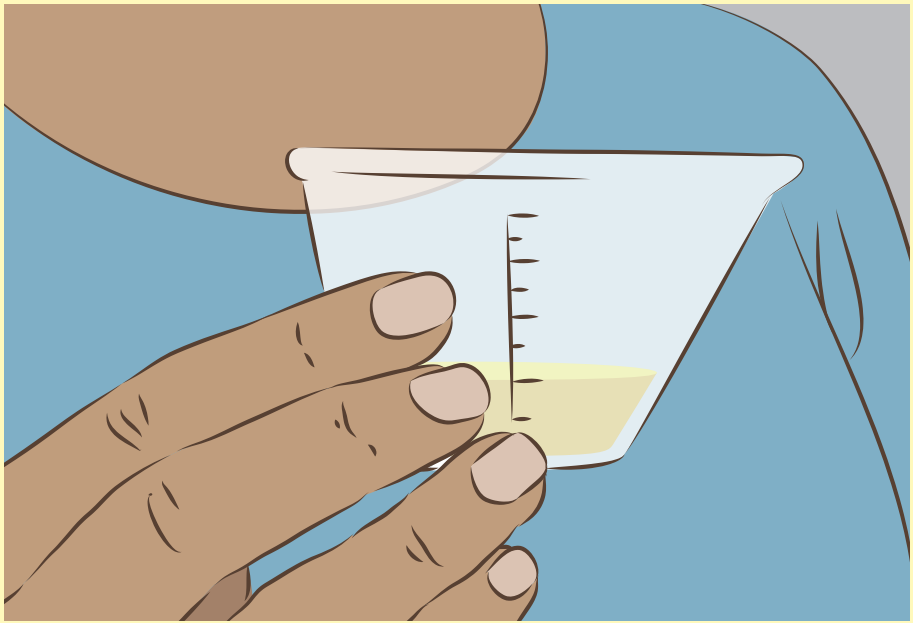
What to monitor

- *Do all babies receive only breast milk? If not, what else do they receive?*
- *Is breast milk always discarded after 4 hours at room temperature or 48 hours refrigerated?*



When the baby cannot feed directly from the breast

Provide appropriate volume of breast milk



"Feed with cup or tube"

Feeding volume is determined by the age and weight of a baby.

- Begin cup or nasogastric feeding at low volumes
- Increase gradually and adjust volumes for amounts taken by mouth
- Evaluate tolerance with every feeding

Evaluate feeding adequacy

Babies receiving an adequate volume of milk

- may lose up to 10% of weight in first 10 days
- gain 12 grams/kg daily after early weight loss
- show steady weight gain on a growth chart

Volume of each feeding given every 3 hours

Weight (kg)	Day 0	1	2	3	4	5	6	7
1.5-1.9	15 mL	17 mL	19 mL	21 mL	23 mL	25 mL	27 mL	27+mL
2.0-2.4	20 mL	22 mL	25 mL	27 mL	30 mL	32 mL	35 mL	35+mL
2.5+	25 mL	28 mL	30 mL	35 mL	35 mL	40+mL	45+mL	50+mL

Milk volumes are for babies receiving only breastmilk.

Once at full volume, add 2 mL per feed for every 100 grams gained above birth weight. Small babies may require 160–180 mL/kg daily to gain weight adequately. Birth weight should be used for deciding feeding volumes until the baby gains above it.

Feeding intolerance that requires advanced care includes

- repeated vomiting (especially if bile-stained)
- distended abdomen or tenderness
- bloody stools

Practise

Practise in pairs to:

- Determine the amount of milk for one feeding:
  a. 1.6 kg birthweight baby on day 2
  b. Same baby on day 4 (current weight 1.48 kg)
  c. Same baby on day10 (current weight 1.7 kg)
- Determine if daily weight change is acceptable for a baby born at 2 kg:
  d. On day 1– 4: 2000, 1980, 1970, 1960 g
  e. On day 8 –11: 2000, 2070, 2070, 2090 g
  f. On day 14 –17: 2180, 2200, 2220, 2230 g

Discuss as a group.

Discuss

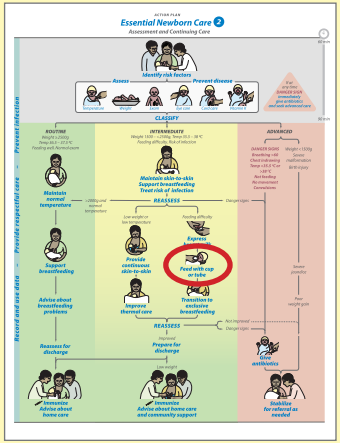
1. In your facility, who decides the volume of milk to be fed by cup or nasogastric tube?
2. How is adequate growth determined? Are growth charts used?

To improve care in your facility

- *How is the volume of milk to be fed determined?*
- *How is adequate growth determined? Are growth charts available and used?*
- *Who monitors a baby's feeding tolerance? If a mother has concerns, who evaluates the baby?*

What to monitor

- *How often do babies lose more than 10% of birth weight?*
- *Do all babies gain weight adequately beyond the period of initial weight loss?*
- *How often does serious feeding intolerance occur?*



When the baby cannot feed directly from the breast

Feed with cup or tube

"Feed with cup or tube"

Cup feeding should be used for babies who are able to swallow but not able to feed adequately directly from the breast. This method may also be used when a mother is too ill to breast feed.

When using a cup to feed breast milk

- Feed according to baby's cues every 2–4 hours, at least 8 feedings per day while the baby is awake and alert.
- Determine the amount to be fed (based on weight and the day after birth)
- Place a measured amount of milk in the cup (or spoon or paladai)
- Position the baby semi-upright
- Rest the cup lightly on the baby's lower lip touching the outer, upper lip
- Tip the cup so milk reaches the baby's lips
- Allow the baby to take the milk at his or her own pace. To avoid choking, do not pour milk into the mouth
- Allow the baby to take small amounts frequently
- Continue a feeding for up to 30 minutes
- The baby is finished when the mouth closes, and the baby no longer appears interested

Nasogastric tube feeding is another more advanced alternative for babies who cannot swallow or feed adequately by mouth.

Practise

Practise in pairs

- Select and clean appropriate containers for breast milk
- Determine and measure the correct amount of milk for a feeding
- Practise the technique for cup, spoon or paladai using a simulator
- Communicate the key points of alternative feeding to the mother

Discuss

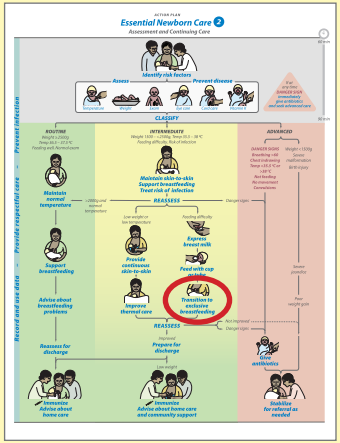
1. What devices are used to feed babies when breastfeeding is not possible?
2. Who feeds the baby when breastfeeding is not possible?

To improve care in your facility

- *Who decides that a baby needs cup feeding?*
- *What device is used to help babies feed by mouth?*
- *Who feeds the baby when breastfeeding is not possible?*
- *Do mothers learn to feed their babies with cup or tube?*

What to monitor

- *How often do babies receive cup or tube feeding in your facility?*
- *Do all babies receive at least 8 feeds per day?*



After feeding with alternative methods

Transition to exclusive breastfeeding

"Transition to exclusive breastfeeding"

Babies using alternative feeding methods should gradually transition to breastfeeding. All stable babies should be given a chance to latch at breast every day.

Assess the signs of readiness for breastfeeding each day.

- Awakening or stirring before feeds
- Rooting, opening mouth, licking at feeding time
- Crying or demanding at feeding time

Choking or blue color with breastfeeding suggests a baby is not yet ready.

When transitioning to breastfeeding:

- Limit time at breast if the baby tires
- Provide supplemental feeding based on estimated intake at breast
- Withhold supplement if the baby sucks actively during a breastfeeding of adequate duration
- Gradually increase breastfeeding and decrease supplementation
- Remove nasogastric tube when taking the majority of feeds by breast or cup
- Confirm that weight gain continues with breastfeeding alone

Practise

Practise in pairs to discuss feeding of the following babies:

- 7-day-old baby who awakens, licks and breastfeeds for a total of 2–3 minutes
- 10-day-old baby who awakens, licks and breastfeeds for a total of 10 minutes
- 8-day-old baby who licks but chokes and turns blue with attempt to breastfeed

Discuss

1. Who assesses if a baby is ready to transition to breast feeds?
2. How frequently is a baby's readiness to breastfeed assessed?

To improve care in your facility

- *Who decides on the volume of milk to be fed by nasogastric tube when cup or breastfeeding occurs first?*
- *Who assesses that a baby is ready to have the nasogastric tube removed?*

What to monitor

- *Are all babies assessed for breastfeeding readiness at least once a day?*

GROUP PRACTICE - CASE 3

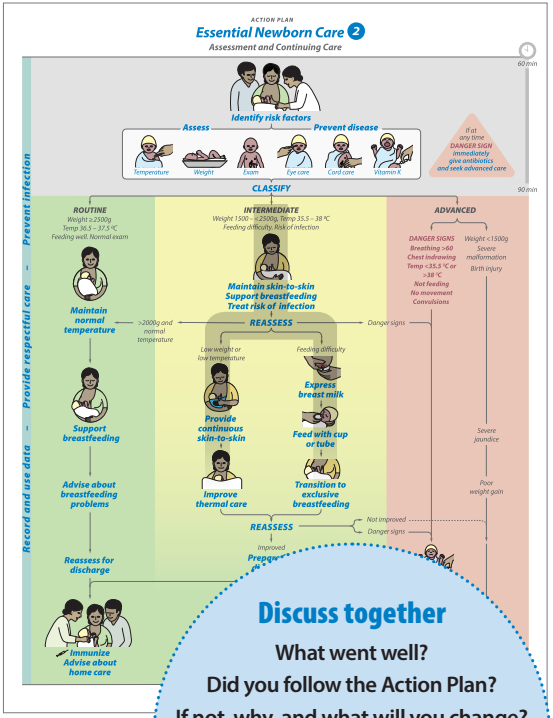
Intermediate care

As the mother (or helper), read out loud to the provider:
"At 90 minutes of age, a baby with a birth weight of 1900 grams has a temperature of 36.9 ˚C . The baby can swallow but cannot attach to the breast. Show how you will provide intermediate care and communicate."

Provider Demonstrate action steps and communicate	**Mother (or helper)** If action is not done, use the prompts to provide hint
☐ *Classify INTERMEDIATE CARE* *Weight 1500 – <2500g, Temp 35.5–38 ˚C* *Feeding difficulty. Risk of infection*	
☐ ***Maintain skin-to-skin***	*"Is my baby cold?"*
☐ ***Support breastfeeding***	*"My baby will not attach to the breast."*
☐ ***Treat risk of infection***	*"Does my baby need any special treatment?"*
☐ ***Reassess***	
☐ ***Express breast milk***	*"How can my baby get milk?"*
☐ ***Feed with cup***	

During the night, the baby feels cold to touch. The temperature is 35.7 ˚C . Show how you will provide care and communicate."

☐ *Recognize low temperature*	*"My baby feels cold."*
☐ ***Improve thermal care*** - *Cover baby´s head* - *Make sure baby is skin-to-skin* - *Cover mother and baby with extra blanket* - *Make sure room is warm* - *Prolong skin-to-skin care*	*"How can I keep my baby warm?"*
☐ ***Reassess temperature***	



Discuss together

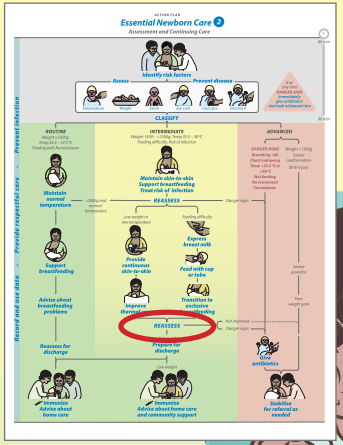
What went well?

Did you follow the Action Plan?

If not, why, and what will you change?

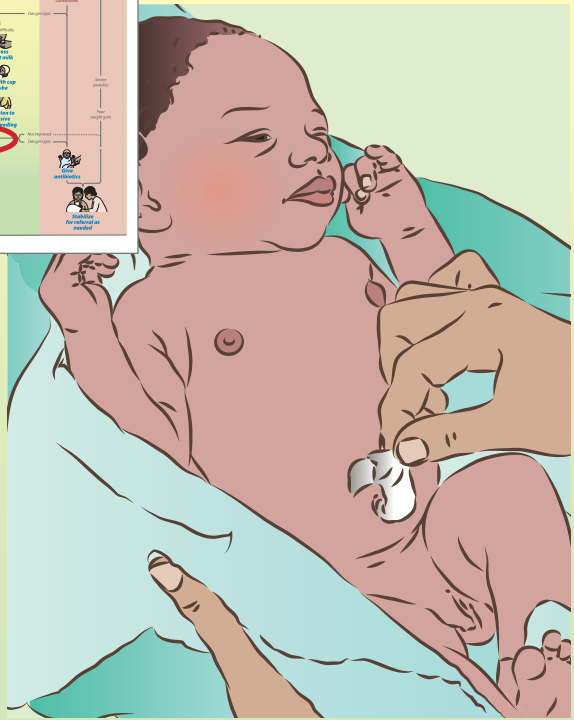
How did you
- provide respectful care and communicate?
- prevent infection?
- record and use data?

Online Simulation Practice Cards



After intermediate care

Reassess



"Reassess"

Reassessment during a prolonged stay in the health facility follows the same steps as earlier, but may focus on different conditions.
Assess a baby at least once a shift.

- **Discuss mother's observations and concerns:**
  change in activity, pauses in breathing, color, temperature, feeding
- **Perform a limited physical exam:**
  jaundice or signs of local infection such as pustules, redness around the umbilicus, eye discharge
- **Review information collected:**
  temperature variability, rate of weight gain, change in intake (frequency, volume, tolerance, route) or output (wet diapers, stools, vomiting)

Change in a baby's assessment can signal improvement or illness. Some problems may require special treatment or referral to advanced care.

Decide if the baby is well or unwell	Act
Well: Desired progress	Continue care Assure adequate intake
Uncertain: Change from previous Not clearly normal	Change support Assess more frequently
Unwell: Problem or Danger Sign	Seek advanced care

Practise

Practise in groups of 3 to play the role of the mother, a provider, and a colleague who is assuming care of these babies.

- Decide on significance of the findings and communicate the assessment and plan to your colleague and the mother.
- A 3 week old baby born at 1680 grams who now weighs 1890 grams.
- A 2 week old baby born at 32 weeks who now seems less active and had one temperature of 36.3 ˚C.
- A 1 week old baby born at 34 weeks whose umbilicus is red.

Discuss

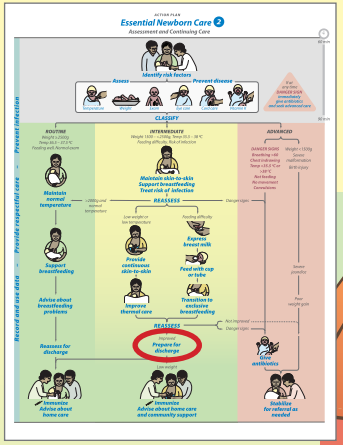
1. What problems occur commonly among babies who have prolonged stays in the facility?
2. When you are uncertain about the significance of findings, who or what can you consult?

To improve care in your facility

- *Are local infections or serious infections frequent among babies who remain in the health facility?*
- *What changes could reduce infections?*

What to monitor

- *Do all babies have a daily assessment and plan documented while in the facility?*
- *How often do babies develop local infections or serious infections while in the facility?*



If the baby has improved after intermediate care

Prepare for discharge

"Prepare for discharge"

Planning for successful discharge occurs throughout care in the facility. Small babies who are sent home too soon are at risk of becoming sick and failing to grow.

A baby who has received intermediate care is ready for discharge when

- breathing is normal (no indrawing; rate <40-60 breaths per minute, no apnea)
- temperature is stable (36.5–37.5 ˚C) in a normal environment
- mother and baby have demonstrated successful breastfeeding or alternative method of feeding
- weight gain is adequate over 3 consecutive days
- immunizations have been given (page 33)
- mother and family can show and describe how they will care for the baby at home
- postnatal care is arranged for mother and baby
  - twice a week until 2000 grams and
  - once a week until 2500 grams

When caring for the baby at home

- Prevent infection with handwashing and clean surroundings
- Keep the baby warm
- Breastfeed every 2–4 hours
- Assess the baby for changes or Danger Signs and seek care if necessary
- Return to the clinic for weighing and immunizations

A family that is providing skin-to-skin care or alternative feeding at home will need special support from community health workers.

Practise

Practise in pairs

Counsel the mother for home care using the Parent Guide or local materials.

Discuss

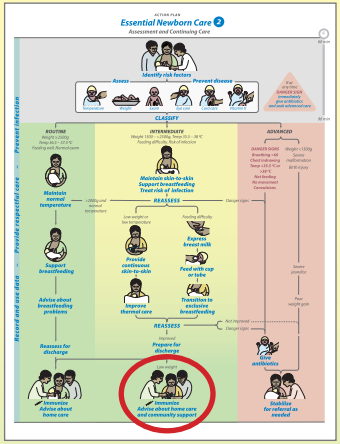
1. Who decides when a baby is ready for discharge?
2. How do you know that parents understand advice about home care?

To improve care in your facility

- *What are the criteria for discharge after intermediate care in your facility?*
- *When do small babies receive immunizations in your facility?*

What to monitor

- *Do all babies discharged from intermediate care meet the criteria for discharge?*



If a baby has required intermediate care

Immunize
Advise about home care and community support

"Immunize and advise about home care and community support"

A baby who has required intermediate or advanced care needs an individual plan for care in the community.

Give immunizations prior to discharge (page 33).

Provide the family with

- date, time, place for follow-up
- contact information for emergencies
- advise for care at home (feeding, warmth, hygiene, safe sleep)
- information for birth registration

Link the family with health care providers, special support services, social work, and developmental follow-up.

Communicate with health care providers in the community

- Written or electronic summary of facility care
- Notification of discharge, planned follow-up, special issues

Specify the content of postnatal visits

- Growth (plot weight, length, head circumference on growth chart)
- Immunizations
- Physical exam
- Review of Danger Signs
- Developmental screening and advice on nurturing care

Practise

Practise in pairs

- Arrange follow-up for a baby who is 1900 grams and breastfeeding but still receiving skin-to-skin care.
- Communicate with the follow-up care provider.
- List the content of the follow-up visit.

Discuss

1. How do you know communicate with the provider who will follow a baby in your community?
2. What information and records are given to parents?

To improve care in your facility

- *Who decides when a baby is ready for discharge?*
- *Do families receive a discharge note to communicate with the provider of follow-up care?*
- *Are babies ever sent home too soon? Why?*

What to monitor

- *Do all babies have a follow-up appointment made before discharge?*
- *How often do babies need to be readmitted to your health facility within a month of discharge?*

GROUP PRACTICE - CASE 4

Transition to home after intermediate care

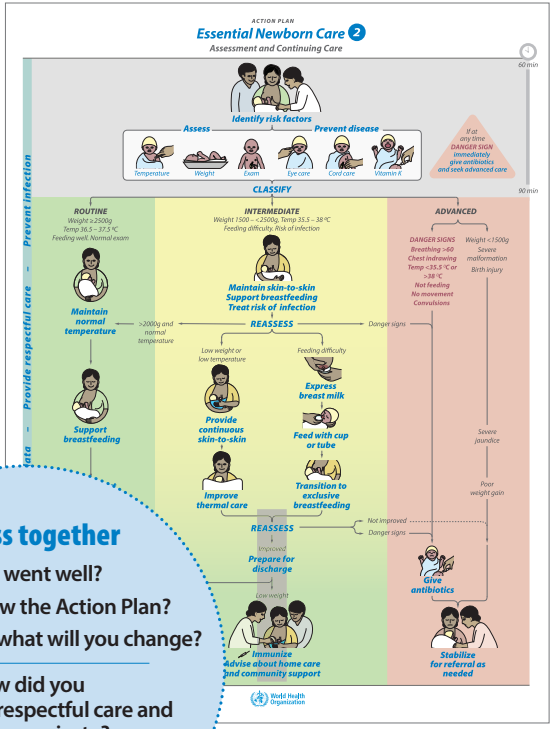
As the mother (or helper), read out loud to the provider:

"A baby born at 1600 grams is now 3 weeks old.
He received nasogastric feeds and required continuous skin-to-skin care.
He now weighs 1850 grams and is breastfeeding well.
Show how you will assess the baby and mother to determine if baby is ready for discharge and advise about home care."

Provider Demonstrate action steps and communicate	**Mother (or helper)** If action is not done, use the prompts to provide hint
☐ ***Reassess***	
☐ *Recognize readiness for discharge*	
- *Baby is breathing normally (no chest indrawing, respiratory rate < 60/min, no apnea)*	*"How is my baby?"*
- *Temperature is stable (36.5 – 37.5 ˚C) wrapped in two blankets*	*"Is his temperature OK?"*
- *Weight gain is adequate over the last week*	*"Is my baby growing?"*
- *Mother has established successful breastfeeding*	*"How do I know he is getting enough milk?"*
- *Mother has demonstrated confidence in caring for the baby*	

Baby is ready for discharge. Advise about home care.

☐ ***Prepare for discharge***	
☐ ***Immunize***	
☐ ***Advise about home care***	*"What do I do at home?"*
- *Encourage handwashing and keeping surroundings clean*	
- *Discuss how to keep a baby warm*	
- *Encourage exclusive breastfeeding*	
- *Review how to assess the baby for changes, recognize and respond to Danger Signs*	
- *Schedule and document appropriate follow-up (postnatal) visits*	
☐ ***Advise about community support***	
- *Communicate with care providers in the community*	



Discuss together

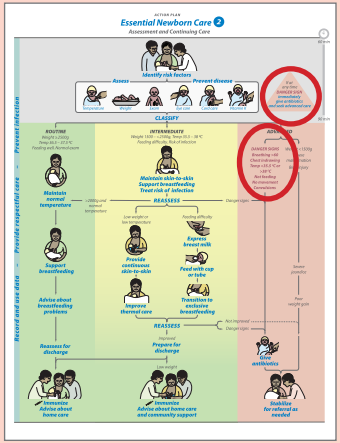
What went well?

Did you follow the Action Plan?

If not, why, and what will you change?

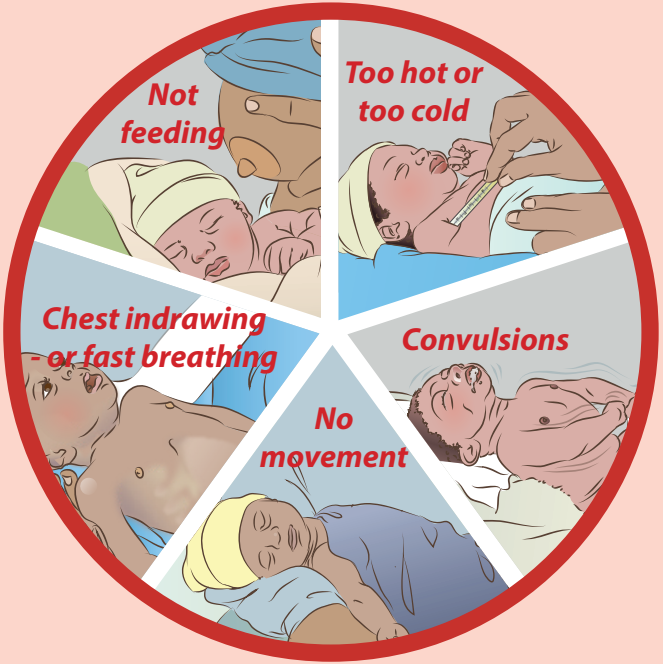
How did you
- provide respectful care and communicate?
- prevent infection?
- record and use data?

Online Simulation Practice Cards



Within the first 90 minutes, periodically during the first day, and at any time if you suspect a problem

Assess for Danger Signs



"Assess for Danger Signs"

A baby with a Danger Sign is at risk of death. If detected early, the life of the baby can often be saved.

Danger Signs are

- **Not feeding:** no suck, and/or swallow, or no interest in feeding
- **Temperature too low or high:** temperature <35.5 ˚C or >38 ˚C
- **Convulsions:** rhythmic movements of the limbs that do not stop with holding
- **No movement:** no spontaneous movement or no movement when stimulated
- **Chest indrawing or fast breathing:** breathing more than 60 breaths per minute OR spaces between, above or below the ribs indent with each breath

A baby with a Danger Sign needs urgent antibiotic treatment and advanced care.

Practise

Practise in pairs

- Describe the key points of the five Danger Signs.
- Count a baby's breathing rate using a simulator

Discuss

1. How can you get advice or consultation on care of a baby with Danger Signs?

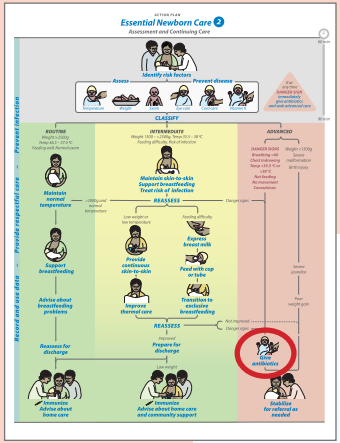
- What are different words used by mothers and others in the community for describing Danger Signs?

To improve care in your facility

- *Who is responsible for evaluating babies with Danger Signs in your facility?*

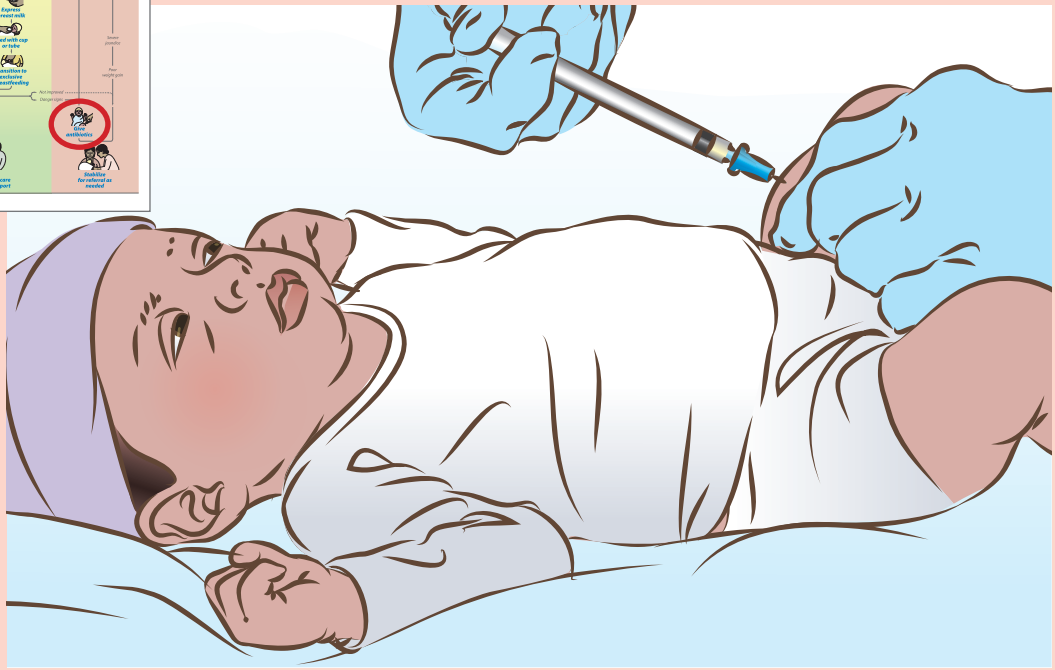
What to monitor

- *How often do babies develop Danger Signs in your facility?*



If risk of infection and baby appears unwell or has a Danger Sign

Give antibiotics



"Give antibiotics"

A baby who has a risk of infection and appears unwell or has a Danger Sign will receive antibiotics. You can prevent some deaths if you detect infections early and treat with antibiotics immediately.

Give antibiotics

- Explain to the baby's parents the need for antibiotic treatment
- Determine appropriate dosage
- Obtain a blood culture before giving antibiotics if possible
- Give first dose of recommended antibiotics as soon as possible
- Use a new needle and syringe for each antibiotic and dispose of needles safely
- Record antibiotic administration in the baby's record
- Plan who will give the next doses of antibiotics and when

Any baby who receives antibiotics needs close monitoring and may need referral.

Weight	**Ampicillin IM** **Dose:** 50 mg per kg every 12 hours Add 2.5 mL sterile water to 500 mg vial - 200 mg/mL	**Gentamicin IM** **Dose:** 5 mg per kg every 24 hours if term; 4 mg per kg every 24 hours if preterm 20 mg per 2 mL vial - 10 mg/mL
1.0 - 1.4 kg	0.35 mL	0.5 mL
1.5 - 1.9 kg	0.5 mL	0.7 mL
2.0 - 2.4 kg	0.6 mL	0.9 mL
2.5 - 2.9 kg	0.75 mL	1.35 mL
3.0 - 3.4 kg	0.85 mL	1.6 mL
3.5 - 3.9 kg	1 mL	1.86 mL
4.0 - 4.4 kg	1.1 mL	2.1 mL

The table above is an example and only applies for the antibiotic concentrations shown. See Flipchart.

Practise

Practise in pairs

- Explain to a baby's parents why the baby needs antibiotics and referral
- Choose appropriate antibiotics and determining the dosage for babies with varying weights
- Withdraw the correct volume of medication into a syringe
- Prepare the skin of the simulator and indicate where the antibiotic should be given
- Document administration in a medication record or the newborn record

Discuss

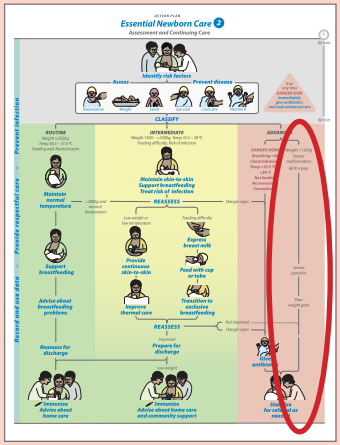
1. Who can give antibiotics where you work?
2. What antibiotics are commonly given to babies? Why are these antibiotics chosen?

To improve care in your facility

- *Is it possible to obtain blood cultures before giving antibiotics?*

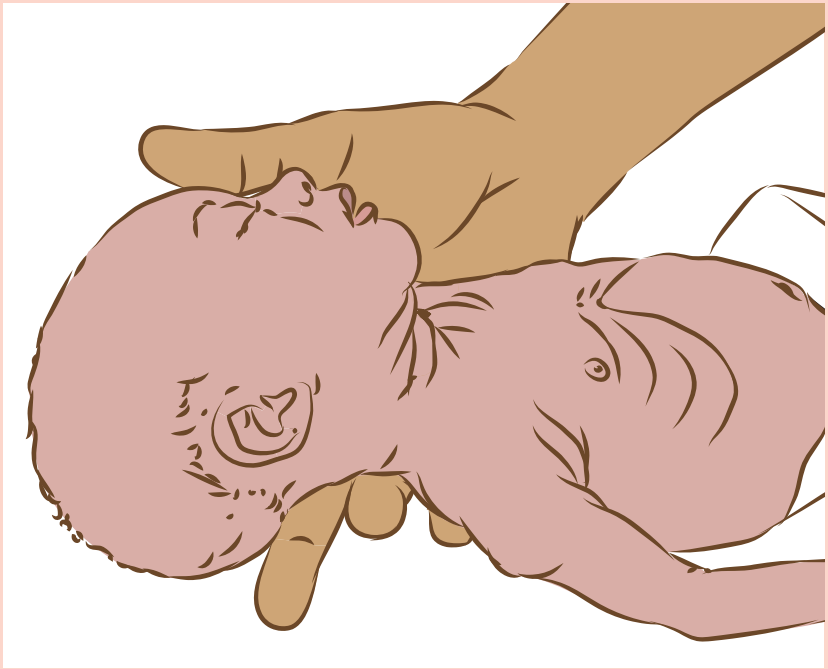
What to monitor

- *Are the correct antibiotics always available for babies?*
- *Are antibiotics always given within one hour after recognition of a Danger Sign?*



When a baby has very low birth weight, severe malformation, birth injury, poor weight gain

Provide advanced care



"Advanced care – very low birth weight, severe malformations, birth injury, poor weight gain"

Babies with certain conditions may need advanced care.

Even when they do not have Danger Signs or high risk of an infection, babies with

- very low birth weight
- serious malformation
- birth injury
- poor weight gain

benefit from specialized care not available at every facility.

The health authority may specify a weight limit below which babies need referral for advanced care.

Only certain referral centers will have the capability to care for babies with a severe malformation or birth injury.

Babies who have poor weight gain, even with cup or nasogastric feedings, may need intravenous nutrition.

Practise

Practise in small groups with a facilitator to answer the following questions for each baby described:

- Can this baby be cared for in your facility?
- What facility can adequately care for this baby?
- What special care will likely be needed?

Baby A: 1700 grams
Baby B: 900 grams
Baby C: Myelomeningocoele (lumbar)
Baby D: Subgaleal hemorrhage
Baby E: Very low birth weight baby with repeated feeding intolerance

Discuss

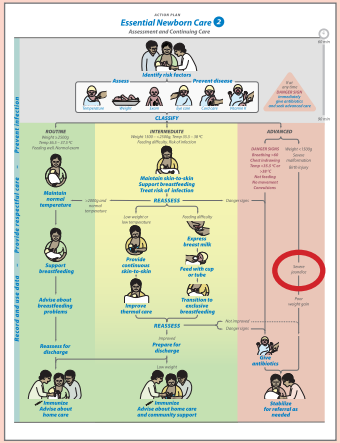
1. What do the guidelines of the health authority specify about referral of babies for advanced care?
   Are there situations when referral is not possible or desired by the family?
2. Are pregnant women with complications involving the unborn baby referred for advanced care before delivery?

To improve care in your facility

- *What facilities in your region provide care for very preterm babies or babies with problems needing surgery?*

What to monitor

- *How often are babies referred to another facility for advanced care?*



On the first day or later

Recognize severe jaundice

"Severe jaundice"

Jaundice can be a serious problem which may cause brain damage or death. Early recognition and treatment can improve outcomes.

Assess every baby for jaundice by pressing one finger on the baby's forehead and observing if the skin is yellow when pressure is released.

Severe jaundice is present when

- the face is jaundiced (yellow) earlier than 24 hours after birth, or
- the palms or soles are jaundiced at any time

Measure the severity of jaundice using an available method and begin treatment or refer according to facility guidelines.

Encourage breastfeeding or cup feed a baby with severe jaundice, and seek advanced care.

Practise

Practise in pairs

- Assess a baby for severe jaundice on the first day of life
- Assess the baby again for severe jaundice on day four
- Explain to parents how and why to check for severe jaundice at home

Discuss

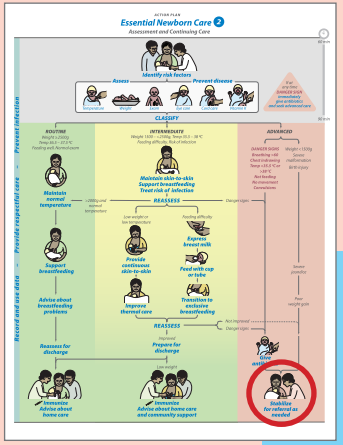
1. What makes it difficult to detect jaundice?
2. How does your facility measure the severity of jaundice?
   Does your facility provide treatment?
   When are babies referred to advanced care?

To improve care in your facility

- Can bilirubin levels be measured in your facility?

What to monitor

- Are all babies at your facility evaluated for severe jaundice?



When a baby needs advanced care

Stabilize for referral as needed

"Stabilize for referral as needed"

A baby who has a Danger Sign or needs extra support for another condition is at risk of severe harm or death. These babies need advanced care.

Examples of conditions that need advanced care:

- Weight <1500 g
- Apnea
- Risk factor for infection and baby appears unwell
- Jaundice
- Feeding intolerance
- Poor weight gain

Advanced care means special monitoring and treatment. If advanced care is not available at your facility, then urgently transfer the baby to a facility that can provide advanced care.

Seek advanced care

- Explain to the baby's parents the need for advanced care and referral.
- Obtain consultations for stabilization and organize safe transfer of the baby together with the mother.
- Confirm that infant can be cared for at the receiving facility.
- Send a referral note with the baby.

Stabilize by:

- Supporting breathing as needed (monitor saturation with oxygen use)
- Continuing skin-to-skin care (or safe alternative)
- Providing fluids and nutrition (nasogastric feeds or intravenous fluids if unable to feed)
- Giving antibiotics if indicated
- Placing nasogastric tube for distended abdomen

Continue necessary support during transport.

Practise

Practise in pairs

- Explain to a baby's parents why referral is needed
- Communicate a plan for transfer with the facility that will provide advanced care
- Prepare a referral note

Discuss

1. What is your emergency plan for advanced care?
2. Do you always provide a referral note? Do you call the receiving facility before transfer?

To improve care in your facility

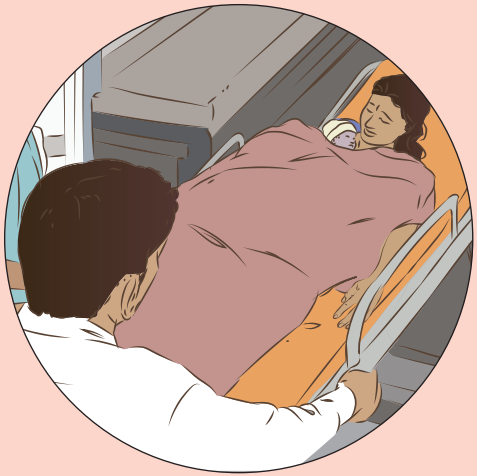
- *Who makes the decision to refer a baby for advanced care?*
- *Who accompanies a mother and baby being transported?*

What to monitor

- *Does every baby who is referred have a referral note sent at the same time?*
- *Are mothers and babies always transferred together?*

GROUP PRACTICE - CASE 5

Advanced care



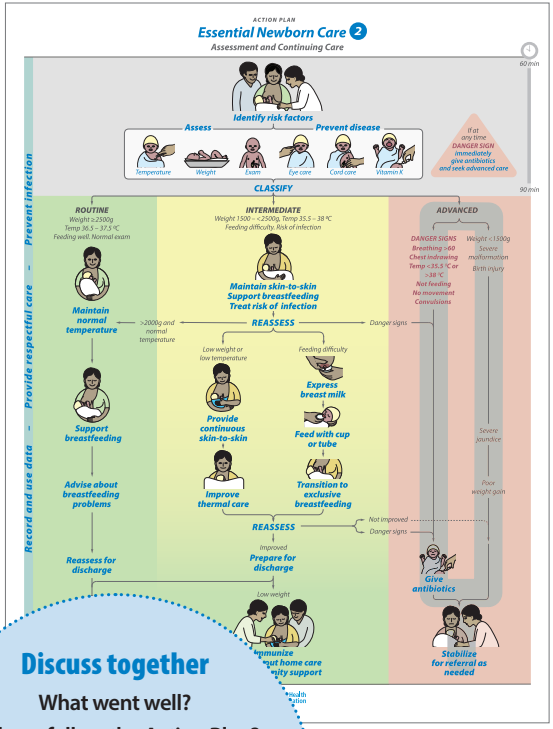
As the mother (or helper), read out loud to the provider:

"A baby born at 1900 grams has fast breathing in the first hours after birth. The baby develops chest indrawing and at 4 hours is breathing 100 breaths/minute, grunting, and has not latched or breast fed."

Provider Demonstrate action steps and communicate	**Mother (or helper)** If action is not done, use the prompts to provide hint
☐ *Recognize Danger Signs (fast breathing, chest indrawing, grunting, difficulty feeding)*	*"What is wrong with my baby?"*
☐ ***Gives antibiotics*** - *Correct type, dosage and route*	*"What can you do to help my baby?"*
☐ ***Stabilize for referral as needed***	
☐ ***Complete the newborn record and referral note***	

A baby born at 35 weeks gestation breathes well at birth and latches at breast in the first hour. The baby remains with mother skin-to-skin. At 18 hours of age, the baby is jaundiced to her palms and soles.

☐ *Recognize severe jaundice*	*"What is wrong with my baby?"*
☐ ***Stabilize for referral as needed***	*"What can you do to help my baby?"*
☐ ***Complete the newborn record and referral note***	



Discuss together

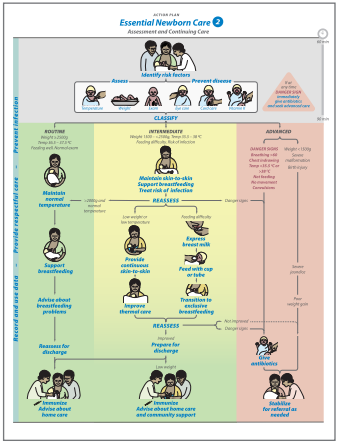
What went well?

Did you follow the Action Plan?

If not, why, and what will you change?

How did you
- provide respectful care and communicate?
- prevent infection?
- record and use data?

Online Simulation Practice Cards



At the end of the workshop

Take steps to improve care

Improving care saves lives.
Use your understanding of problems to help babies survive and prevent disabilities. Systematic improvement of care requires a team approach to identify problems, implement solutions, measure the effects of changes, and sustain the process of change.

Use the Action Plan to

- identify the key steps that help a baby survive
- continue practice of skills (Simulation Practice Cards)

After the course, commit to making a difference by:

- Creating a system for ongoing practice and review of cases
- Identifying areas that need improvement
- Making changes that will improve care

In your own facility, take part in the process to improve care.

- Mobilize institutional support.
- Form an improvement team.
- Decide what to improve.
- Implement change to improve care.
- Measure the effect of change on quality of care.
- Continue the process of improvement.

Practise

Practise in a large or small groups to discuss how to improve care.

1. What are you going to do differently?
2. What will you no longer do?
3. How are you going to make these changes happen?

Discusss

1. What is the value of information that you and other providers record about patients?
2. What roles can teams and individuals play in making change?

To improve care in your facility

- *Does your facility have a quality improvement team for newborn care?*

What to monitor

- *Is the outcome of every baby born in the facility recorded?*

Sample newborn record

(Facility Name)_____

1. IDENTIFICATION

Baby's name _____ ID No._____ Date of birth _____ Time of birth_____
Mother's Name _____ ID No. _____
Mother's/Father's physical address _____ Contact_____

2. BIRTH

Complications during pregnancy/labour/birth _____
Method of delivery _____ Maternal anaesthesia _____

Care at birth *Check if yes*

Was the baby dried thoroughly? ☐
Did the baby cry? ☐
Did the baby receive
- Stimulation to breathe? ☐
- Clearing of the airway? ☐
- Ventilation with bag and mask? ☐
- Delayed cord clamping? ☐

Apgar score

	1 min	5 min	10 min
Breathing			
Heart rate			
Color			
Tone			
Reflex irritability			
Total			

First examination

Sex: Male ☐ Female ☐
Weight _____
Temperature _____
Length _____
Head circumference _____

Findings: normal abnormal (specify)

Activity	☐	☐ _____
Breathing	☐	☐ _____
Color	☐	☐ _____
Cord	☐	☐ _____
Other	☐	☐ _____

3. CLASSIFY *Initials of provider*

Routine care _____
Intermediate care _____
Advanced care _____
Death in delivery area _____
Fresh stillbirth _____
Macerated stillbirth _____

4. MANAGEMENT *Initials of provider*

Skin-to-skin contact for 1st hour _____
Breastfeeding initiation 1st hour _____
Eye care _____
Cord care _____
Vit K _____
Other (specify) _____

5. IMMUNIZATION *Initials of provider*

BCG _____
Oral polio _____
Hepatitis B _____
Other (specify) _____

6. ADVICE ON HOME CARE

Comments *Initials of provider*

Breast feeding _____ _____
Keeping baby warm _____ _____
Preventing infection _____ _____
Identifying Danger Signs _____ _____
Immunization _____ _____
Postnatal visits and other follow-up care _____ _____
Baby growth and development _____ _____
Baby spacing/family planning _____ _____
Other concerns addressed (specify) _____ _____
Emergency contact (specify) _____ _____

DISCHARGE ASSESSMENT

Date _____ Weight _____

Exam findings:

normal ☐ abnormal (specify) ☐ _____
Urine? yes ☐ no ☐
Meconium stool? yes ☐ no ☐

Condition at discharge:

☐ Alive and stable
☐ Alive, needs ongoing care in community
(Specify type of care)_____
☐ Referral (see reverse)
☐ Died

8. DISCHARGE

Notification of community provider
Name/location _____
Phone _____

Follow-up visit
Provider/location _____
Date/time _____

Follow-up visit
Provider/location _____
Date /time _____

Sample newborn referral note

CLINICAL CONDITION

Danger Signs

	No	Yes	Specify
Fast breathing/chest indrawing	☐	☐	_____
Temperature <35.5 or >38 ^{0}C	☐	☐	_____
Not feeding	☐	☐	_____
No movement	☐	☐	_____
Convulsions	☐	☐	_____

Reason for referral: _____

Actions taken (specify):

Alternative feeding _____

Thermal support _____

Antibiotics _____

Oxygen _____

Other _____

Labouratory/diagnostic studies:

_____

_____

Additional treatments given:

_____

_____

Support during transfer:

_____

_____

REFERRAL INFORMATION

Receiving facility _____

Provider accepting referral _____ Phone _____

Provider making referral _____ Phone _____

Date _____ Time _____

MOTHER'S OBSERVATIONS FORM

Date	Feeds	Urine	Stools	Notes (Activity, breathing, color, temperature, problems)

Notes: *For each date, mother should place a tick mark every time the baby feeds, urinates, and stools.*
Report concerns and problems, including Danger Signs and feeding intolerance, immediately to a health care worker.

Newborn assessment form

Name _____

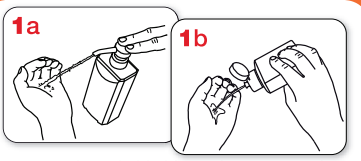
Health facility number _____

Date of birth: _____

Birth weight: _____ Gestation _____

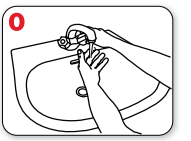
	Day *Time*	Day *Time*	Day *Time*	Day *Time*	Day *Time*	Day *Time*	Day *Time*
1. Mother's observations							
a) Activity							
b) Breathing							
c) Color							
d) Temperature							
2. Examination findings							
3. Intake / Feeds							
a) Number							
b) Method							
c) Volume							
d) Tolerance							
4. Output							
a) Wet diapers (number)							
b) Stool (number)							
5. Weight							
Weight							
Weight change in past 24h							
6. Temperature (°C)							
7. Assessment	☐ Well ☐ Uncertain ☐ Unwell	☐ Well ☐ Uncertain ☐ Unwell	☐ Well ☐ Uncertain ☐ Unwell	☐ Well ☐ Uncertain ☐ Unwell	☐ Well ☐ Uncertain ☐ Unwell	☐ Well ☐ Uncertain ☐ Unwell	☐ Well ☐ Uncertain ☐ Unwell
8. Plan							
Feeding: volume (increase?)							
method							
Other (medications, treatments):							
Provider initials:							

How to handrub?
WITH ALCOHOL-BASED FORMULATION

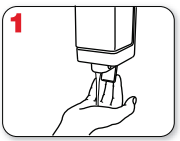


Apply a palmful of the product in a cupped hand and cover all surfaces.

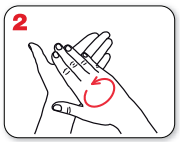
How to handwash?
WITH SOAP AND WATER



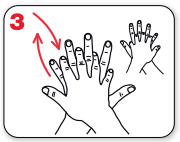
Wet hands with water



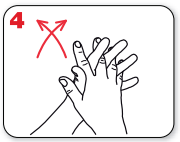
apply enough soap to cover all hand surfaces.



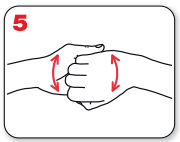
Rub hands palm to palm



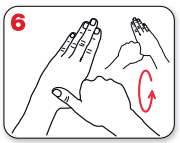
right palm over left dorsum with interlaced fingers and vice versa



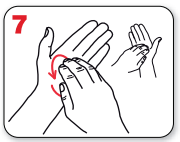
palm to palm with fingers interlaced



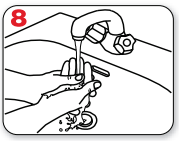
backs of fingers to opposing palms with fingers interlocked



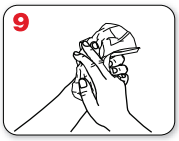
rotational rubbing of left thumb clasped in right palm and vice versa



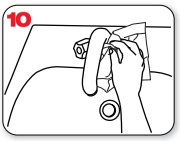
rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa



rinse hands with water

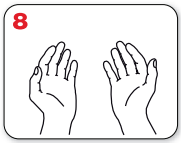


dry thoroughly with a single use towel



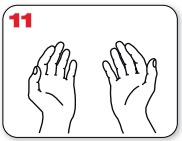
use towel to turn off faucet

20-30 sec



…once dry, your hands are safe.

40-60 sec



…and your hands are safe.

WORLD ALLIANCE FOR PATIENT SAFETY

WHO acknowledges the Hôpitaux Universitaires de Genève (HUG), in particular the members of the Infection Control Programme, for their active participation in developing this material.

World Health Organization

October 2006, version 1.

Design: mondotagifix network

Acknowledgements

The World Health Organization acknowledges the contributions of many individuals and organizations to developing ENC 1 and 2 as part of the WHO Essential Newborn Care Course, second edition.

We thank the American Academy of Pediatrics (AAP) for contributing the educational methodology of Helping Babies Breathe and its patient-centered Action Plan.
Special thanks go to Susan Niermeyer and Nalini Singhal, technical advisors from the AAP, who coordinated, developed and drafted the update of ENC 1 and 2 along with members of the Helping Babies Survive Planning Group, Sara Berkelhamer, Carl Bose, Rob Clark, Danielle Ehret, Victoria Flanagan, Beena Kamath-Rayne, William Keenan, George Little, Doug McMillan, Hasan Merali, Janna Patterson, Jeff Perlman, Renate Savich, Michael Visick and Julie Wood.

Special thanks go to Laerdal Global Health for review, illustrations, learning design and art direction: Bjørn Mike Boge, Anne Jorunn Svalastog Johnsen, Karoline Myklebust Linde, Ida Brevinge Neuman and Patricia Titulaer.

We acknowledge and thank Global Health Media Project for videos.

A special thanks to Assumpta Muriithi from WHO Regional Office for Africa, Janna Patterson from AAP, Marzia Lazzerini from WHO Collaborating Centre for Maternal and Child Health (Istituto per l'Infanzia IRCCS Burlo Garofolo), Molly Moss from the WHO Collaborating Centre for Family and Child Health (Colorado School of Public Health) and Muhimbili National Hospital staff for their coordination and contributions in the field testing in the Republic of Tanzania in 2019.

We thank members of the ENC Technical Advisory Group who updated the first edition Essential Newborn Care Course and the Helping Babies Survive courses as the WHO Essential Newborn Care Course, second edition: Jenny Bua, George Davis, Queen Dube, Anne Jorunn Svalastog Johnsen, Beena Kamath-Rayne, Marzia Lazzerini, Ornella Lincetto, Karoline Myklebust Linde, Susan Niermeyer, Nalini Singhal, He Tang, Helenlouise Taylor, Anna af Ugglas and Fabio Uxa.

ACTION PLAN

Essential Newborn Care 2

Assessment and Continuing Care

60 min

90 min

Record and use data - Provide respectful care - Prevent infection

Identify risk factors

Assess — **Prevent disease**


Temperature


Weight


Exam


Eye care


Cord care


Vitamin K

If at any time **DANGER SIGN** *immediately give antibiotics and seek advanced care*

CLASSIFY

ROUTINE

Weight ≥2500g
Temp 36.5 – 37.5 ºC
Feeding well. Normal exam

Maintain normal temperature

Support breastfeeding

Advise about breastfeeding problems

Reassess for discharge

Immunize
Advise about home care

INTERMEDIATE

Weight 1500 – <2500g, Temp 35.5 – 38 ºC
Feeding difficulty. Risk of infection

Maintain skin-to-skin
Support breastfeeding
Treat risk of infection

REASSESS

>2000g and normal temperature

Low weight or low temperature

Provide continuous skin-to-skin

Improve thermal care

Feeding difficulty

Express breast milk

Feed with cup or tube

Transition to exclusive breastfeeding

REASSESS

Not improved
Danger signs

Improved

Prepare for discharge

Low weight

Immunize
Advise about home care and community support

ADVANCED

DANGER SIGNS
Breathing >60
Chest indrawing
Temp <35.5 ºC or >38 ºC
Not feeding
No movement
Convulsions

Danger signs

Weight <1500g
Severe malformation
Birth injury

Severe jaundice

Poor weight gain

Give antibiotics

Stabilize for referral as needed

World Health Organization

WHO/UHL/MCA/NBH/2024.10