Essential Newborn Care 2

Assessment and Continuing Care

Flipchart

World Health Organization

With your skills

You make the difference

Explain and demonstrate

Start with a story.
Have each participant place one hand on the simulator or mannequin.
Say to the participants,"*Imagine that a baby is separated from his mother soon after birth. He is placed on a cot. An hour later he feels cold to touch and cannot be awakened to feed. There is no one who knows how to help. The baby dies."*

Pause to allow the participants to reflect with their eyes closed. *"Now imagine you place another baby skin-to-skin with the mother, and help her begin breastfeeding. Over the next day, you provide essential care for the baby, monitor for signs of illness, and teach the family how they can continue care at home. The baby survives and thrives".*

Essential Newborn Care 2 picks up from the end of Essential Newborn Care 1 - after 60 minutes of skin-to-skin care or after helping a baby breathe.

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

How to use the materials

- Show the Action Plan, Facilitator Flipchart, Provider Guide, Parent Guide, neonatal simulator and equipment to provide continuing care.

Practise

Ask participants to organize themselves in groups of six and identify pairs of participants for cooperative learning.

- Describe 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?

Educational advice

Begin with a story to illustrate how essential newborn care can save lives. Invite participants to share their experiences. Relate these experiences to what will be discussed in the workshop.
Organize participants into pairs within small groups. This cooperative learning will help build teamwork and communication skills that carry over into practice after the workshop. Point out the ***Action Steps*** and evaluation arrows. Each action step corresponds to a skill organized into three steps to support learning:

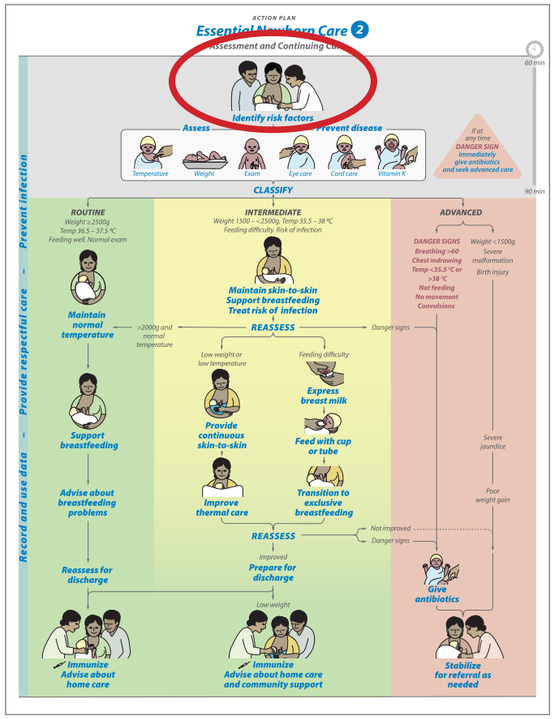
1. Explain and demonstrate
2. Practise
3. Discuss

Participants in this course should have completed training in Essential Newborn Care 1: Immediate Care and Helping Babies Breathe at Birth (first 60 minutes). Facilitators EXPLAIN the key points for understanding and DEMONSTRATE skills correctly. Participants PRACTISE clinical skills and communication in pairs as mothers and providers. All DISCUSS the questions to identify barriers and solutions for incorporating knowledge and skills into practice. The discussion can also highlight important local practices.

Background

Following immediate care at birth, essential newborn care continues with steps to keep babies warm, feed breast milk, prevent infection and recognize Danger Signs. The health provider assesses each baby and develops a plan of care. Showing and teaching the family how to provide care can help babies thrive after they leave the facility.
This program is based on the latest WHO guidelines and recommendations. The recommendations of local health authorities or ministries may vary slightly from the recommendations in this program. The facilitator should highlight these variations for the participants.
While focusing on essential care of the newborn in the facility, the provider has important opportunities to practise behaviors that are important in all aspects of care:

- Preventing infection
- Providing respectful care
- Recording and using data to improve care



As soon as possible

Identify risk factors

Explain and demonstrate

"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 34)

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

Identify risk factors

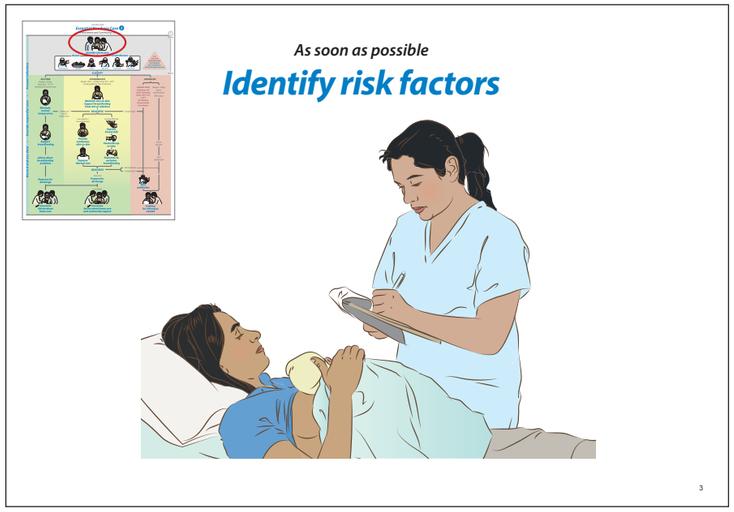
Practise

Ask participants to 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?



Educational advice

Review the maternal and newborn records to identify where information can be found. For the most common risk factors, ask participants to show where information is recorded. Encourage participants to communicate with the mother and with other health care providers to answer questions about risk factors.

Discuss with participants what infections, serious malformations or signs of birth trauma require advanced care immediately. For example, a baby with difficulty breathing born to a mother with fever >38 °C OR foul-smelling amniotic fluid or pus OR rupture of membranes >18 hours before delivery needs advanced care for antibiotics. A baby with myelomeningocoele, abdominal wall defect, or subgaleal hemorrhage often needs immediate referral. Help participants understand the local situation to decide what can be cared for in the facility and what requires referral for advanced care immediately.

WHO Managing Complications in Pregnancy and Childbirth

Background

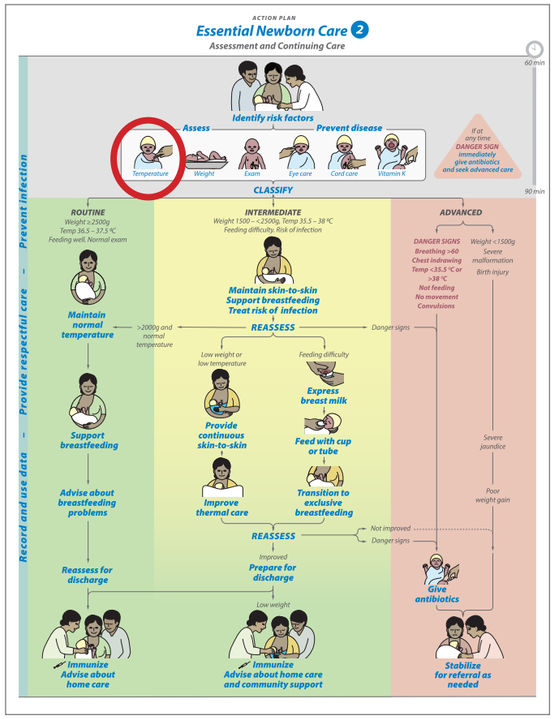
Reviewing records from antenatal care, labour, and birth along with findings from the baby's first hour after birth helps to determine the plan of care. Details of care for specific conditions can be found in Managing Complications in Pregnancy and Childbirth from WHO.

Certain **pregnancy** conditions can put a baby at risk. Infection in the mother (for example HIV, TB, syphilis, malaria) may mean that the baby also requires treatment. Other infections may cause malformations (Zika, rubella). Chronic medical conditions such as diabetes can affect not only the baby's birth weight but also blood sugar levels.

Risk factors for infection during **labour** identify babies who need close monitoring and in some cases, antibiotics to prevent disease.

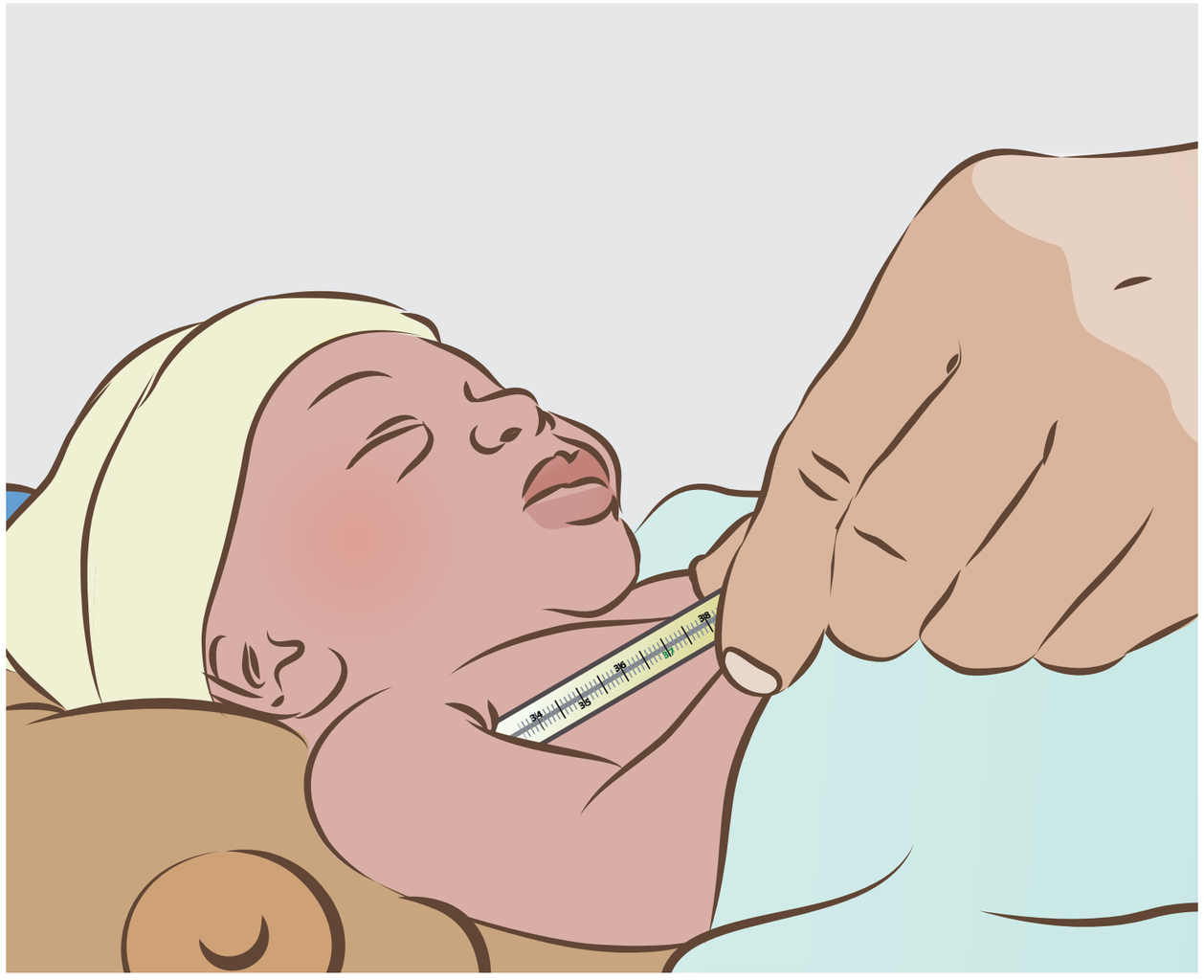
Birth trauma or need for help to breathe direct the provider to look for abnormal findings on the physical exam and to monitor the baby carefully during the stay in the facility.

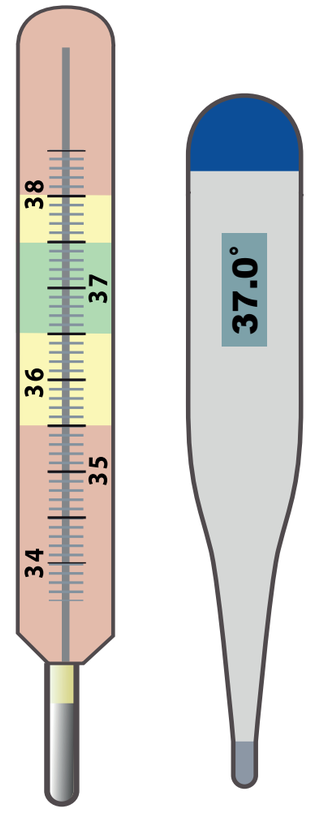
Observations in the **first hour**, such as serious malformations or birth trauma, small or large size, unstable vital signs or feeding difficulty indicate the need for intermediate or advanced care.



At 60 – 90 minutes after birth

Measure temperature





Explain and demonstrate

"Assess temperature"

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

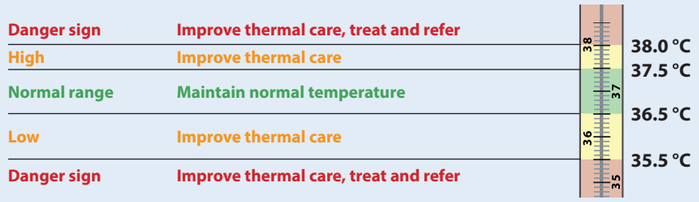
- 36.5 – 37.5 °C is a normal temperature.
- 35.5 – 36.4 °C and 37.6 – 38 °C require improved thermal care.
- A temperature below 35.5 °C is a Danger Sign.
- A temperature above 38 °C not due to excess warming is a Danger Sign.

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 (see Provider Guide 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

Measure temperature



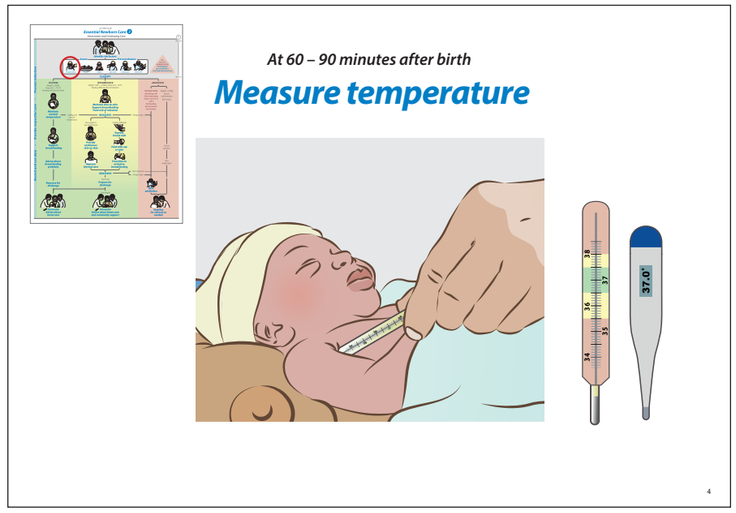
Practise

Ask the participants to 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 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?



Educational advice

Emphasize that assessment of the baby skin-to-skin helps the baby stay warm and helps the provider work efficiently. Prepare locally available solutions (for example, dilute bleach solution) for cleaning a thermometer or discuss these with the participants. Practise with all types of thermometers used locally. Emphasize the proper position of the thermometer in the armpit. Practise reading the thermometer by simulating different temperatures. If thermometers are not available, make a set of drawings to practise reading the temperature. Ask participants to classify babies and state the actions they would take on the basis of the following temperatures:

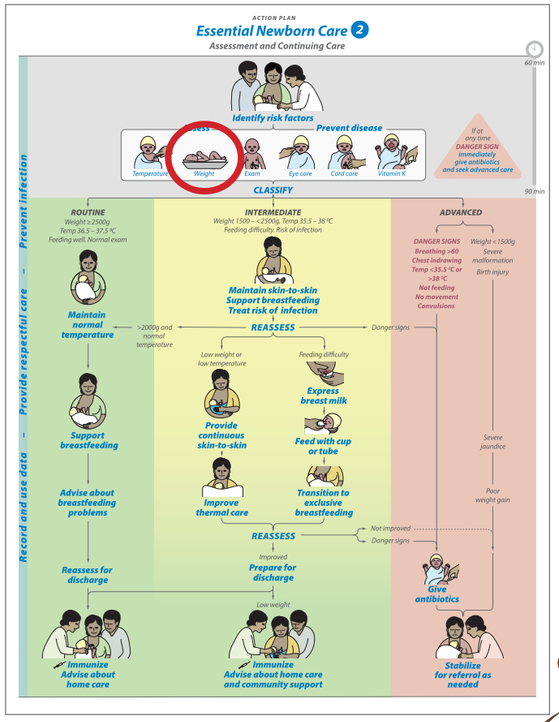
36.8 °C - normal, maintain temperature
36.2 °C - low, improve thermal care
38.2 °C - high, improve thermal care, recognize Danger Sign
35.0 °C - low, improve thermal care, recognize Danger Sign

Background

Keeping a baby's body temperature normal improves outcomes and can prevent the death of some babies. Low body temperature is common in the first hours after birth, especially among premature and low-weight infants. It is better to prevent low temperature than try to warm a baby who is cold. Babies can also become too warm, either with a fever (infection) or from over-warming.

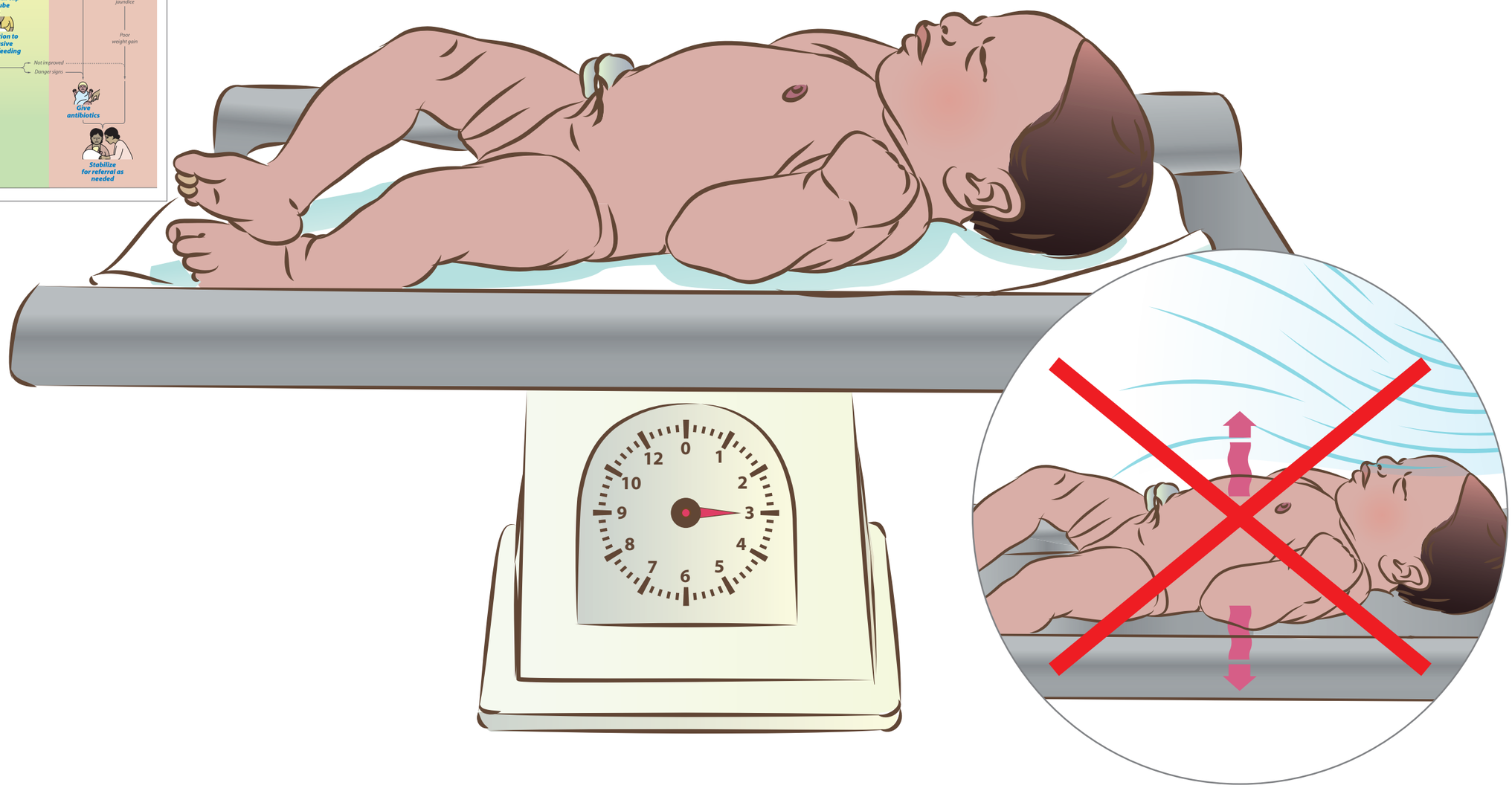
Feeling the skin of the face, abdomen, or foot can estimate the temperature. Measuring the temperature is more exact. Measuring axillary temperature is safer than measuring rectal temperature.

Two common types of thermometers are 1) mercury or gallium and 2) digital. Digital thermometers can be read very quickly. Hold a mercury thermometer in the armpit for 5 minutes before reading. A thermometer used with babies must measure temperatures below 35.5 °C.



At 60 – 90 minutes after birth

Weigh the baby



Explain and demonstrate

"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 care (kangaroo mother care)
- <1500 grams should receive advanced care and prolonged skin-to-skin care (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

Weigh the baby

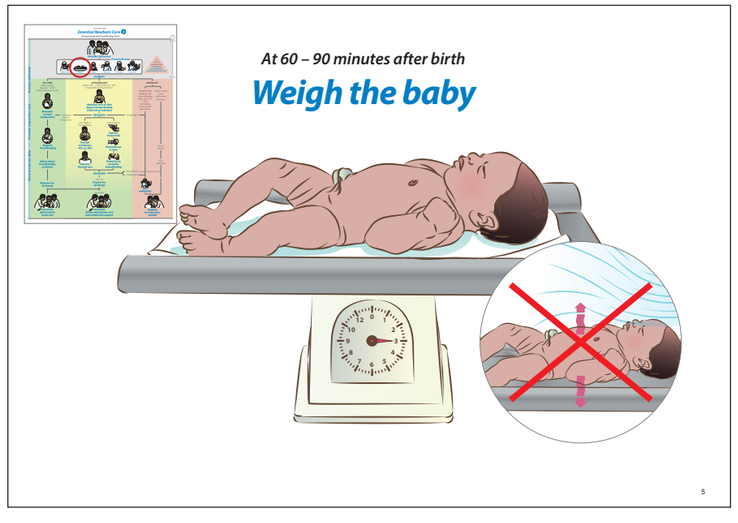
Practise

Ask participants to practise 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?



Educational advice

Have participants practise how to obtain an accurate weight of a simulator or doll that must be unwrapped and undressed. Emphasize ways to avoid heat loss. Have participants document the weight.

Review the weight ranges in national guidelines for prolonged skin-to-skin care (kangaroo mother care) and referral to advanced care. Obtain any facility policies and procedures regarding care of low-weight babies.

Background

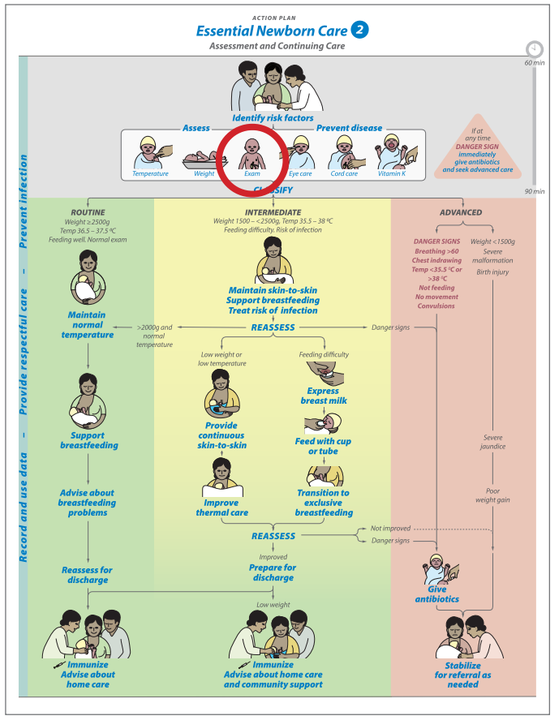
Birth weight helps identify babies at higher risk of complications and death. Birth weight provides a baseline for monitoring growth and may also be necessary for calculating drug doses.

Babies should be weighed between 60–90 minutes after birth. However, weighing should be delayed if an infant is cold unless needed for calculating antibiotic doses. Move equipment to the baby rather than moving the baby to the equipment. Use scales designed for weighing babies. Zero the scales before each use to test that they function properly. Clean the scales with dilute bleach solution or other safe cleaning product before each use to prevent infection.

Keep a small baby warm during weighing by folding a warm blanket on the scale and covering the baby with part of the blanket.

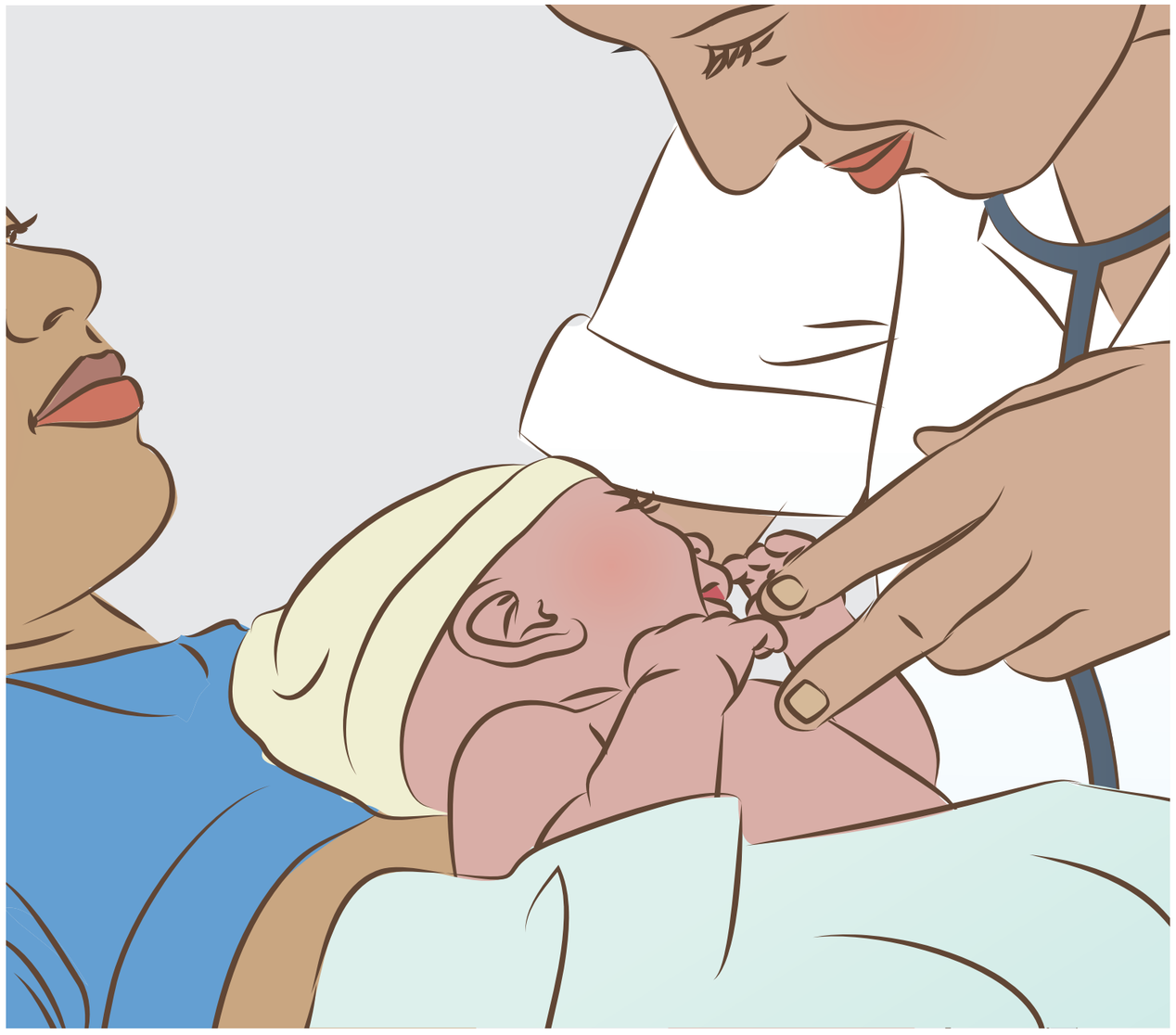
Babies with birth weights under 2500 grams are considered low birth weight. Many babies under 2000 grams will require prolonged skin-to-skin care (see page 19 and 23). National guidelines differ regarding which babies should receive advanced care.

Always document birth weights. Use established regional or national forms and guidelines for documenting birth weight, for example on an antenatal card, baby's medical history, and/or the immunization record.



At 60 – 90 minutes after birth

Examine the baby



Explain and demonstrate

"Assess exam"

Perform a complete examination while in skin-to-skin contact between 60 – 90 minutes after birth.

- Observe the 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.

Examine the baby

Count a baby's breaths

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

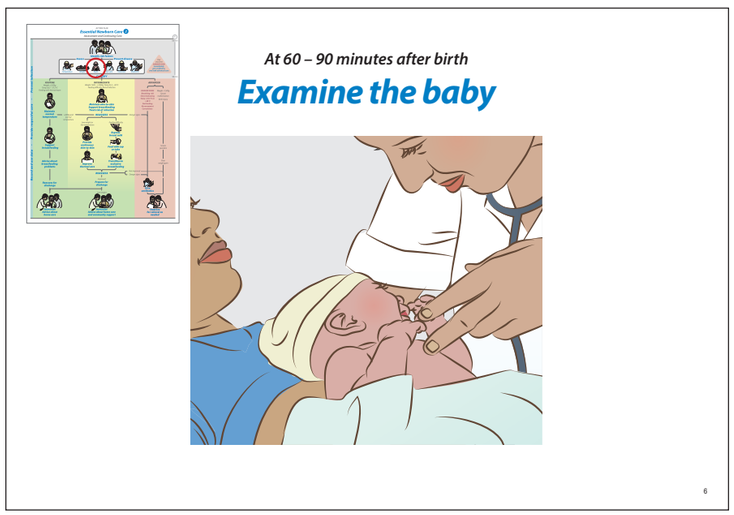
Practise

Ask participants to 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?



Educational advice

Have participants practise in pairs how to examine a newborn systematically and describe the findings to the mother. Emphasize ways to avoid heat loss. Uncover only the area being examined. Have each participant tell the group how to document one part of the exam. Arrange for providers to observe a complete examination by a skilled provider in the facility after the course.

Newborn record (Provider Guide page 82)

Background

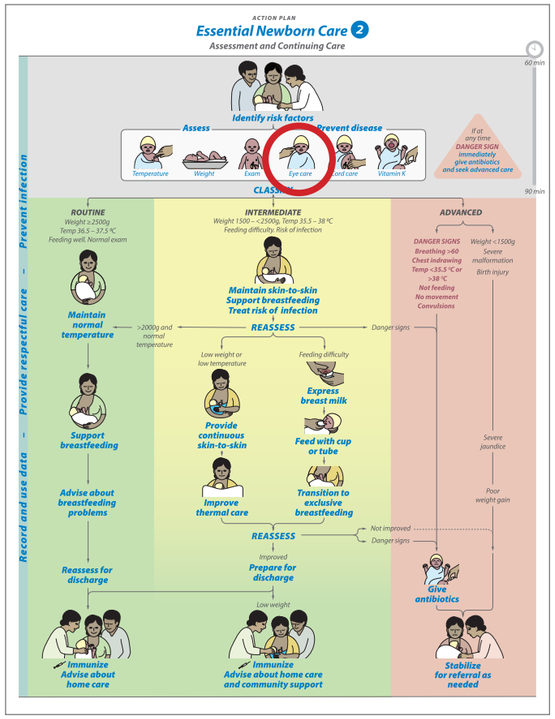
A complete exam should be performed between 60–90 minutes after birth, or whenever a baby appears unwell. During the exam, providers should evaluate a baby by looking, listening and feeling. This exam should focus on the following features:

Activity, position, tone: When active, well babies have spontaneous movements of arms and legs that are equal on both sides. Limbs are flexed at rest. The tone should be neither floppy nor rigid. A baby who is premature may have slightly decreased tone.

Breathing: A baby should breathe effortlessly between 40–60 times a minute. Count a baby's breaths for a full minute.

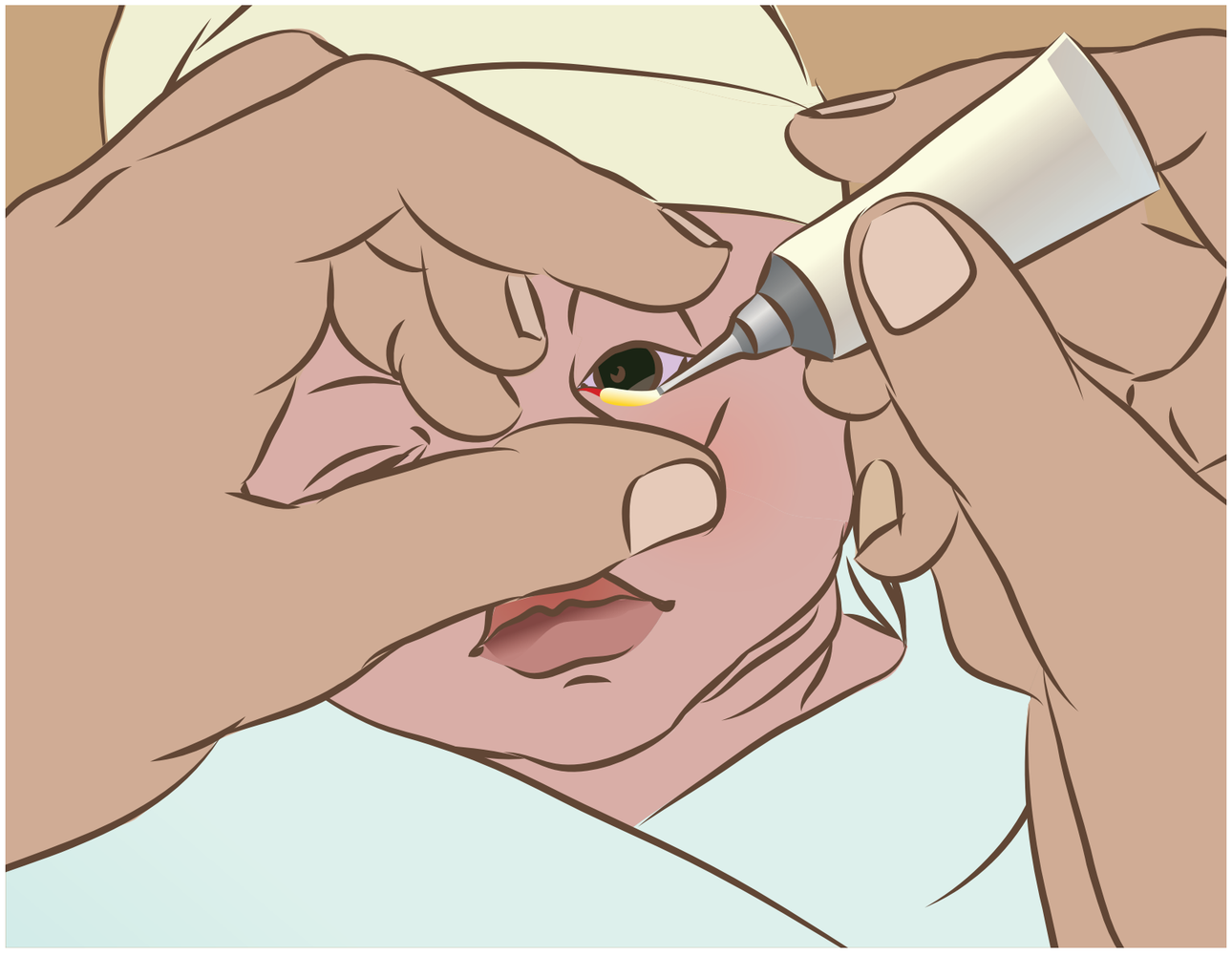
Color: The normal skin color of a newborn is pink, but hands and feet may still look pale or blue soon after delivery. The pink color may be difficult to detect in dark-skinned babies. The inside of the mouth should be pink in all babies. Babies who are pale or have yellow skin (jaundice) on the first exam after birth may have serious health problems (see page 34 and 37).

Abnormalities: The baby's entire body should be inspected for cleft lip or palate, open tissue on the head, abdomen, back, perineum or genital areas, club foot or other abnormal appearance. Look for bruises or swelling on the head, extremities or buttocks and observe for asymmetrical position or movement that may reflect birth trauma. Document the results of the exam, even if all findings are normal.



At 60 – 90 minutes after birth

Provide eye care



Explain and demonstrate

"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

Practise

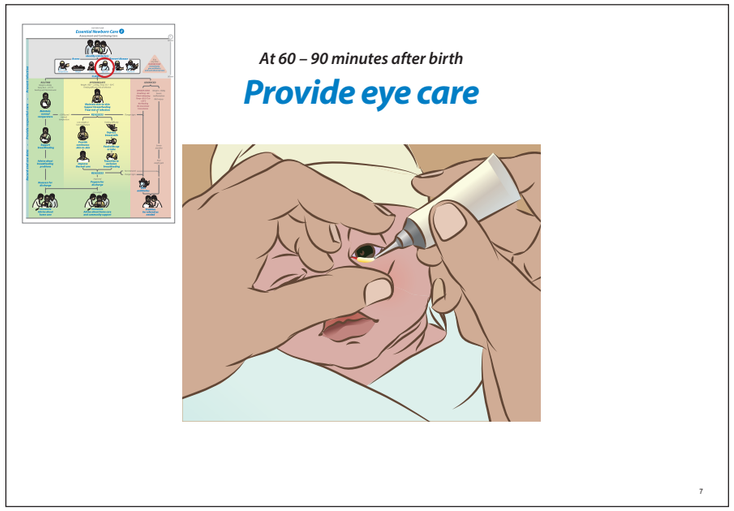
Ask participants to practise in pairs

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

Provide eye care

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?



Educational advice

Emphasize how to avoid injury to the eye when demonstrating eye care. Administer the medicine inside the eyelid without touching the eye. Ideally, medications should be single use and the same tube not reused on other babies. If medications are reused, a clean technique for application must be emphasized.

Use a simulator or doll or make a model of an eye from local materials that allows the lower eyelid to be pulled down. A doll whose eyes do not open may be used by applying ointment or drops along the lower lid and saying that the eyelid should be pulled down.

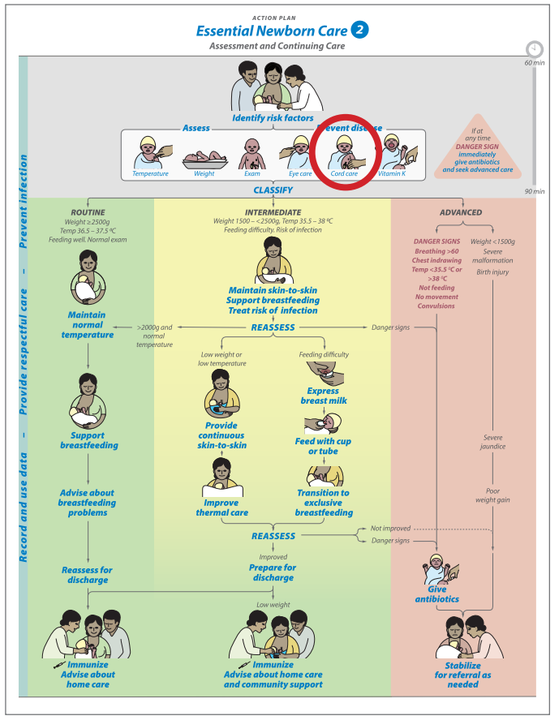
Participants should practise using an ointment or drops that are similar to the medication used in their facility. Eye drops can be given in a manner similar to ointment.

WHO Recommendations on Newborn Health 2017, p. 18

Background

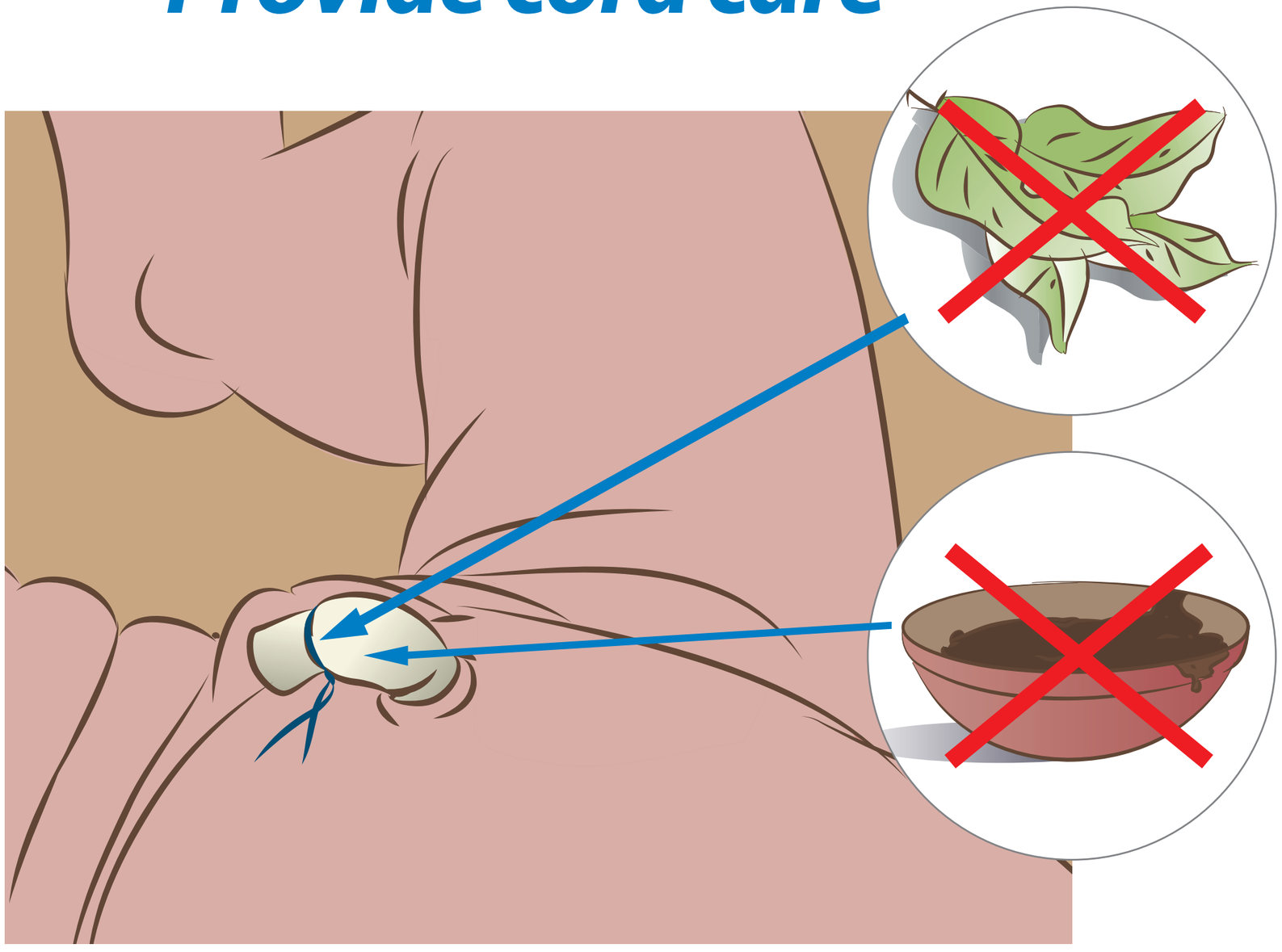
Infections can pass from mother to baby during birth. Infections of the eye with bacteria such as gonococci and chlamydia can lead to blindness. Treatment of the eyes with medication soon after birth may prevent these infections. Delay eye care until breastfeeding has been initiated in the first hour after birth. Many providers delay eye care until they perform the first exam, but eye care should be done between 60–90 minutes after birth. Provide eye care while a baby remains skin-to-skin.

WHO suggests one of the following medications: tetracycline hydrochloride 1% ointment, erythromycin 0.5% ointment, povidone iodine 2.5% solution (water-based), silver nitrate 1% solution, or chloramphenicol 1% ointment. Your health authority may recommend one of these or an alternative approach. Silver nitrate is used less frequently because it often causes swelling of the eyelids and drainage. Customs of placing other substances into the eyes should be discouraged as they may cause eye irritation or infection.



At 60 – 90 minutes after birth

Provide cord care



Explain and demonstrate

"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
- 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 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

Provide cord care

Practise

Ask participants to practise in pairs giving guidance to the mother about cord care

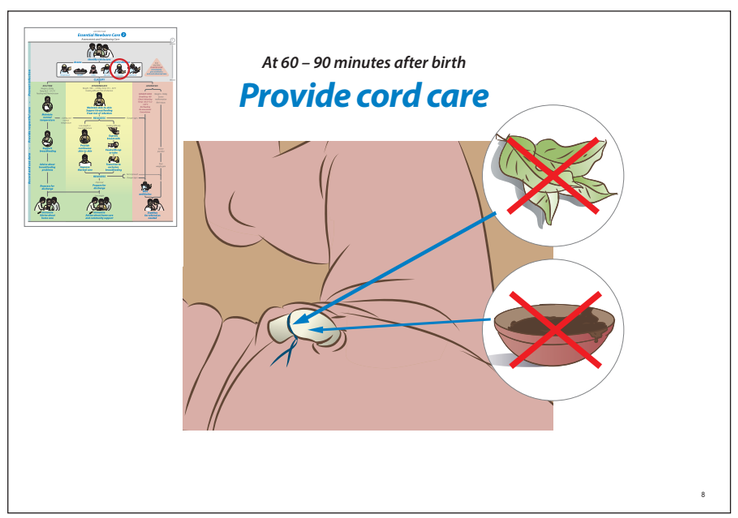
- Keep the cord dry
- Clean the cord if soiled
- Stop bleeding

OR

Ask participants to practise cord care as recommended by local health authorities.

Discuss

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



Educational advice

Emphasize how to leave the cord exposed in the demonstration. Have participants practise in pairs as the mother and the provider. The provider should give guidance to the mother about cord care and bathing.

Review national guidelines for use of chlorhexidine. Help participants consider whether cultural practices for cleansing the baby and cord care are helpful, harmful, or neutral.

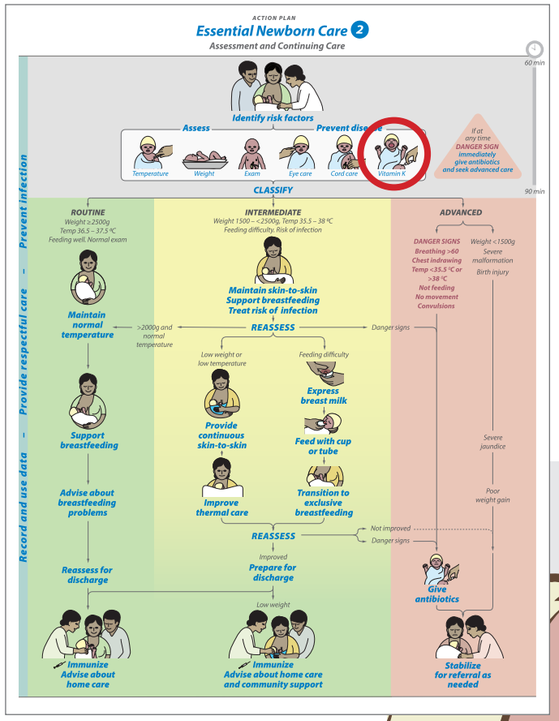
WHO Recommendations on Newborn Health 2017, page 5.

Background

Proper hygiene may help prevent infections in babies. Hygiene includes frequent hand washing, bathing the baby periodically, and proper care of the cord.

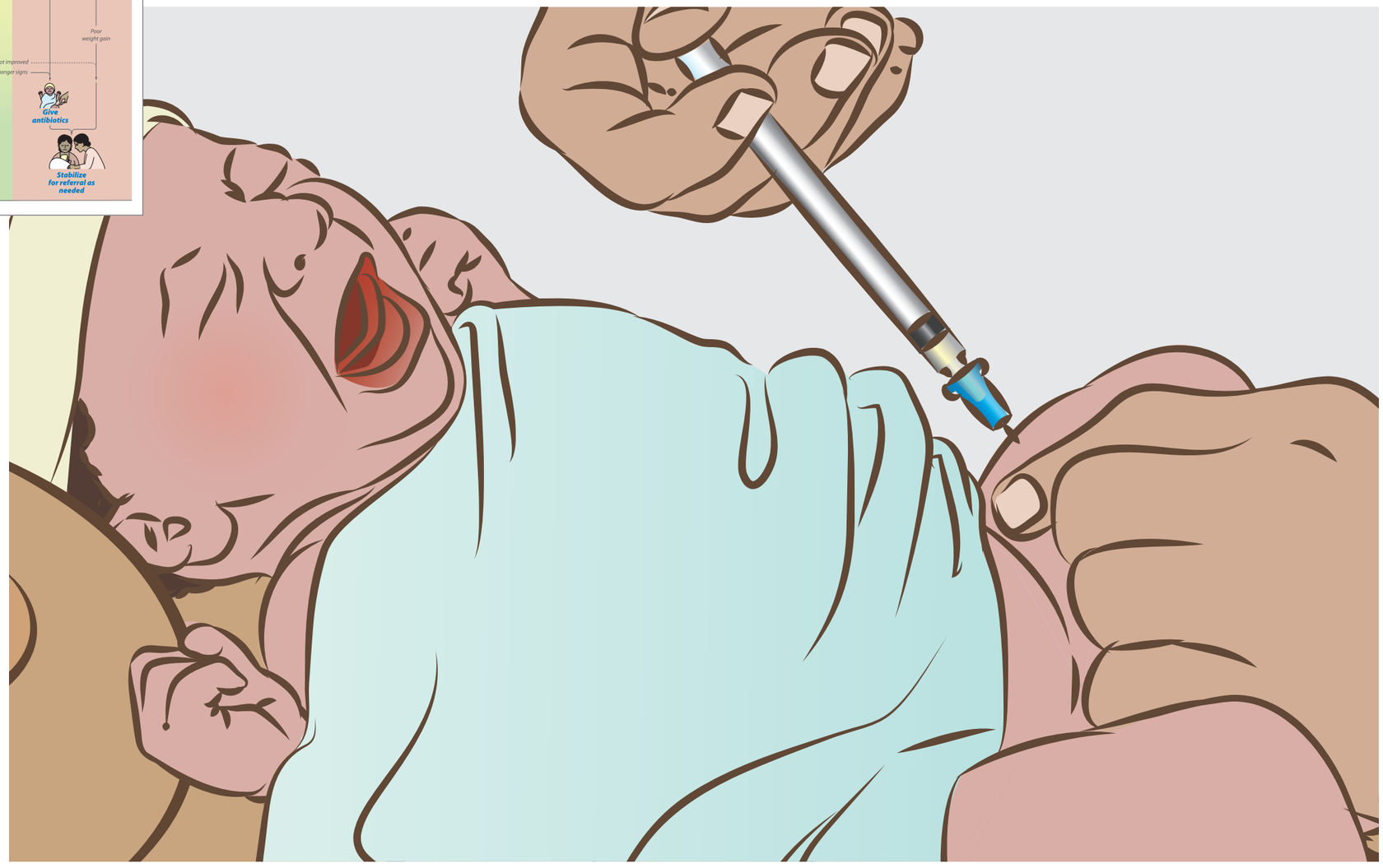
Cleansing the baby after birth: Soon after birth, remove blood or meconium by wiping. Vernix should not be removed. Do not bathe the baby until at least 24 hours after birth. If this is not possible because of cultural reasons, delay bathing for at least 6 hours. Babies of mothers with HIV should be bathed after normal breathing and temperature have been established. Until the cord detaches, the umbilicus should not be submerged under water.

Cord care: Proper care of the cord may prevent infection. The cord should be kept exposed and dry. DO NOT apply anything to the cord, including herbs, animal dung or other substances, except for medications recommended for cord care. Do not place a bandage, diaper or a tight covering over the cord. Following a home birth in areas where neonatal mortality is high, cord care with 7.1% chlorhexidine digluconate (4% chlorhexidine) solution or gel saves lives. If the health authority recommends this or another treatment, discuss, demonstrate and practise the technique for application. **Caution: application of chlorhexidine to the eye has resulted in blindness.**



At 60 – 90 minutes after birth

Give vitamin K



Explain and demonstrate

"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 23 to 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.

Give vitamin K

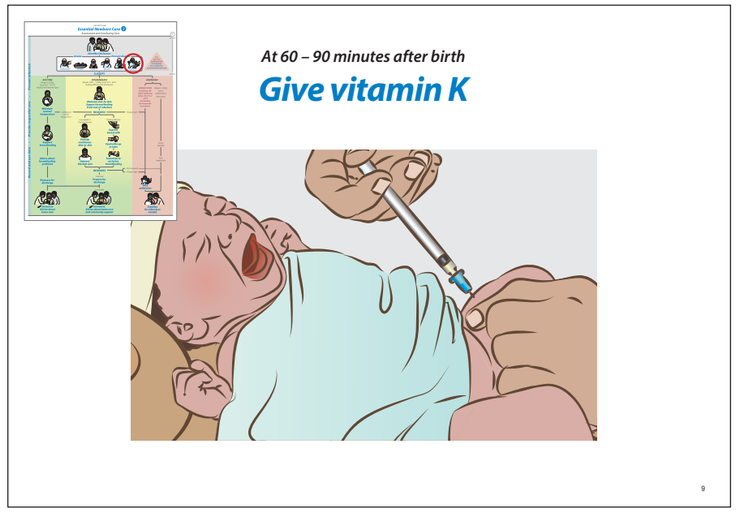
Practise

Ask participants to 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?



Educational advice

For safety during the workshop, demonstrate and practise using a syringe without a needle. Needles can injure participants and damage the simulator. If participants require training in administering injections, discuss how to obtain this training.

Have participants work in pairs with one playing the role of the mother and the other acting as the provider. Emphasize that giving vitamin K while the baby is skin-to-skin helps reduce pain. Have participants demonstrate the steps in performing an IM injection and explaining to the mother what they are doing.

Some preparations of vitamin K may require dilution with sterile water. If these preparations are used locally, have participants practise dilution.

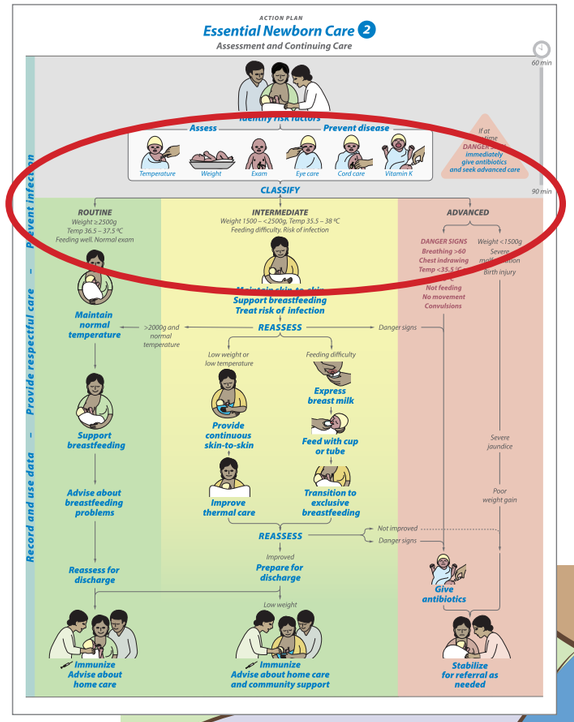
WHO Recommendations on Newborn Health 2017, p. 4

Background

Vitamin K deficiency causes serious bleeding in about 1 out of 100 babies who are not given Vitamin K. This may result in death or brain damage. Every newborn should be given vitamin K. Babies who are preterm, had birth trauma, need surgery, or were exposed to maternal medication that interferes with vitamin K are at high risk of bleeding and must receive vitamin K. Because this treatment is painful, it should not be given during the first hour after birth, a time when the mother and baby should not be disturbed. It is best to give vitamin K after the first complete exam.

Check the volume of the vitamin K dose carefully as more than one concentration may be available. Oral vitamin K is not recommended because repeated doses are required for adequate treatment.

Providers are not routinely required to wear gloves during injections (hands must be washed). However, the skin should be prepared with alcohol and sterile technique should be used. Needles should not be re-used and should be placed in a solid container with a lid after use to avoid needle injury and infection.

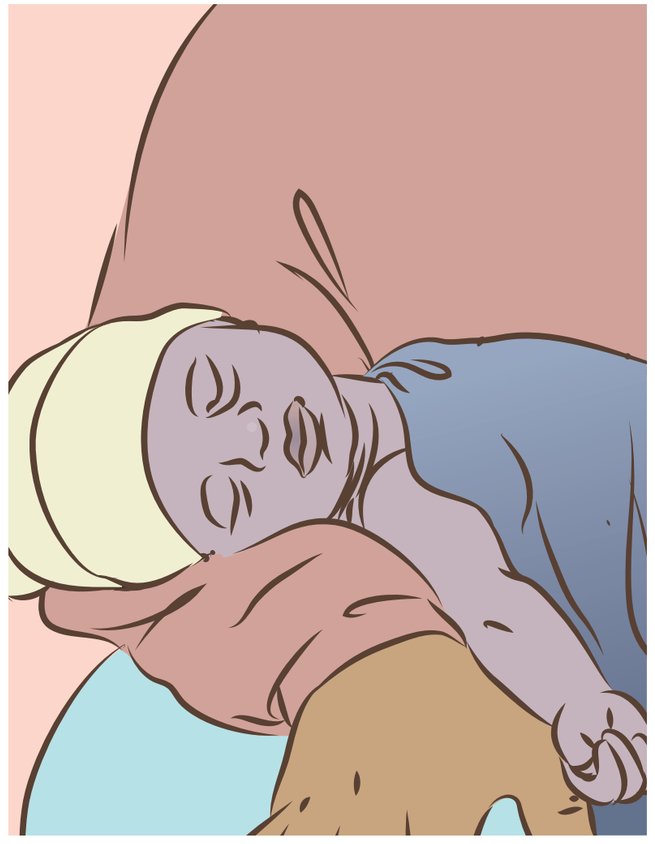


By 90 minutes after birth

Classify the baby

ROUTINE

INTERMEDIATE



ADVANCED

Explain and demonstrate

"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 34b)
- 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.

Classify the Baby

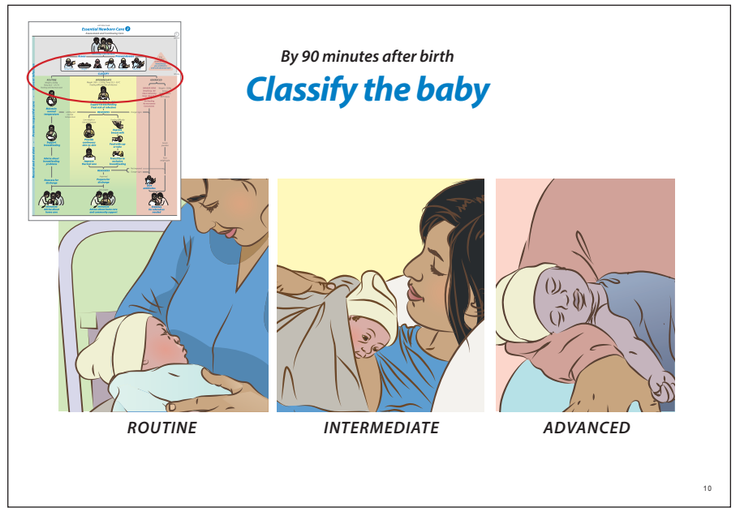
Practise

Ask participants to practise classifying a baby who

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

Discuss

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



Educational advice

Emphasize the 5 points which help classify a baby for further care. Present cases that participants can classify using the cases above as examples. This practice may done in small group discussion rather than in pairs.

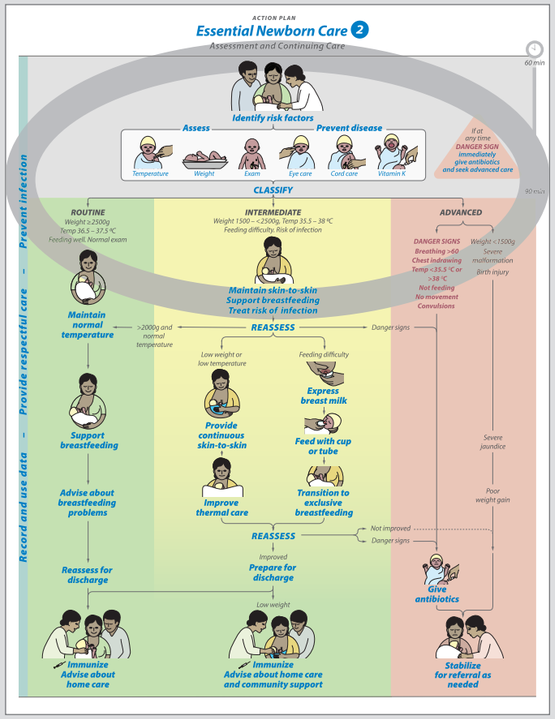
Background

Classifying babies defines a plan for their care. Babies should be classified by 90 minutes.

Some babies are difficult to classify by 90 minutes of age. Some babies will not attach to the breast during the first 90 minutes. If a baby is breathing normally, has a normal exam and temperature, but does not feed during the first 90 minutes, classification should be INTERMEDIATE. The baby should be reassessed by 4 hours of age and mother should receive help to express milk. Babies who do not feed after several attempts should be classified as having a Danger Sign.

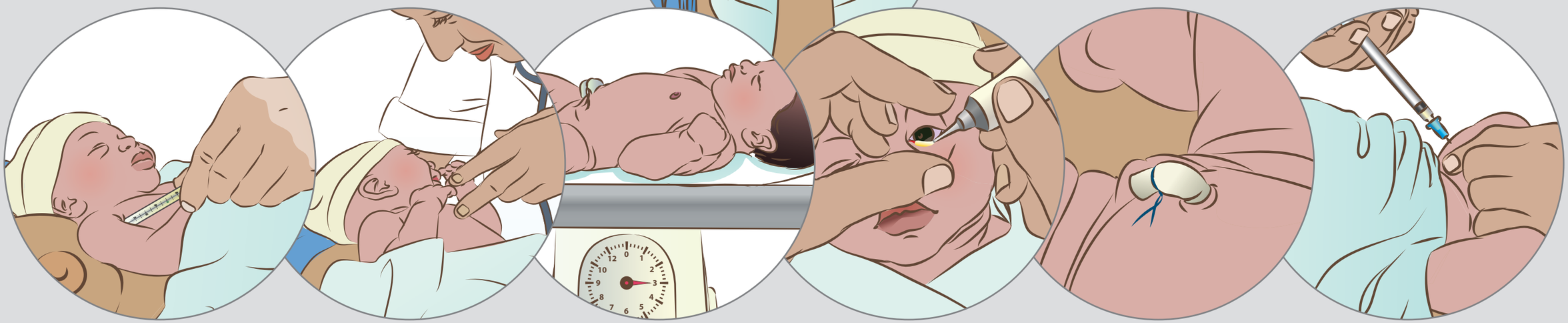
Some babies breathe fast and have chest indrawing soon after birth, but these signs gradually improve over the next few hours. Often, these babies breathe fast because they are clearing fluid from their lungs. They may recover without specific treatment. Such babies should be classified as receiving INTERMEDIATE care skin-to-skin with frequent monitoring and reassessment by 4 hours of age. Babies who do not continuously improve should receive ADVANCED care.

If a baby has risk factors for infection and looks unwell (low temperature, fast breathing, chest indrawing, or feeding difficulty), the baby should be classified as receiving ADVANCED care.



GROUP PRACTICE - CASE 1

Essential care from 60 – 90 minutes



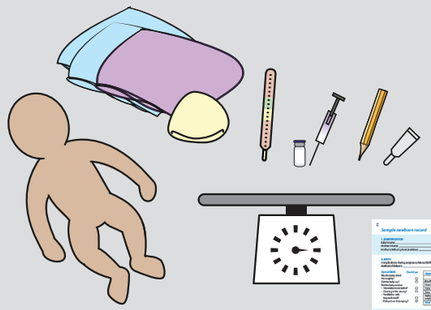
GROUP PRACTICE - CASE 1

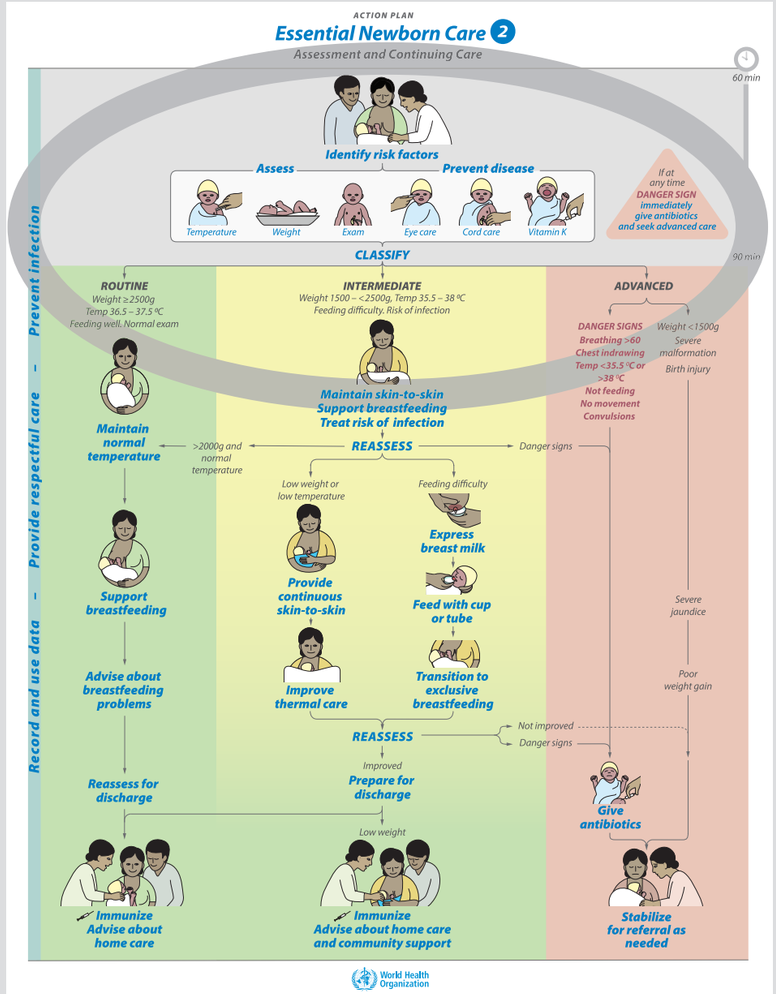
Essential care from 60 – 90 minutes

(Provider Guide page 23)

1. **Demonstrate and describe the assessment and care of a baby by 90 minutes after birth (or on admission to the facility).**
2. **Ask participants to practise in groups of two or three in the roles of**
   - **Provider**: demonstrates action steps and communicates with the mother (and the helper)
   - **Mother:** engages with the simulator, asks questions, give prompts as needed
   - **Helper** (optional): gives prompts as needed
3. **Read the case in the Provider Guide page 23 together with participants and start the exercise.**
4. **Ask participants to switch roles and repeat the exercise.**
5. **Discuss the case with participants**
   - Providers review the action steps and reflect on their performance
   - Mothers and helpers give comments to improve performance and show steps that were missed
   - Facilitator shares feedback with the whole group

EQUIPMENT





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?"*

Discuss together

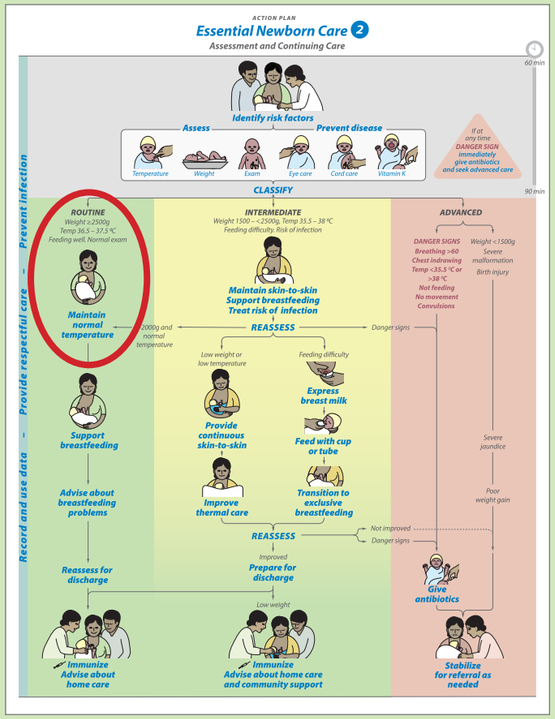
What went well?

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

Explain and demonstrate

"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

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

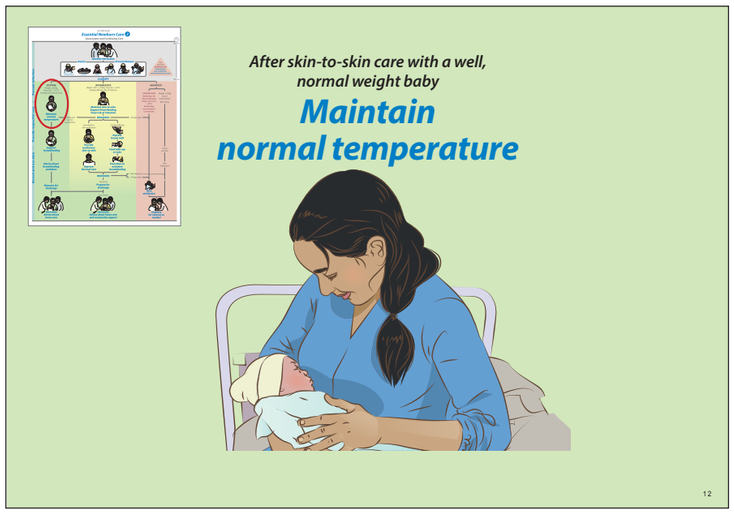
Practise

Ask participants to 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?



Educational advice

Prepare clothing and wraps that are used locally for participants to practise. Emphasize how a wet cloth, a cold surface on or near the skin, and a draft can cause a baby to lose heat by exposing the participants' bare skin to each one. Have participants demonstrate correct clothing, head covering, and wrapping for babies in the region.

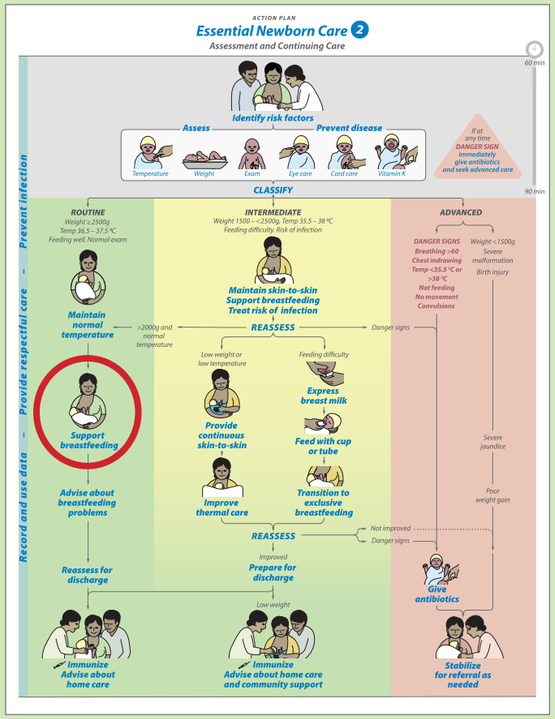
Background

A baby begins to lose heat even before the body temperature falls. Preventing heat loss begins with skin-to-skin care for at least one hour after birth. If illness in the mother prevents skin-to-skin care with her, another adult may be able to provide skin-to-skin care.

Avoid heat loss by keeping the environment warm. Avoid drafts and contact with wet or cold surfaces. Do not bathe a baby prior to 24 hours after birth, or longer if the baby is low birth weight or small. (Exception: babies of HIV mothers should be bathed as soon as temperature is stable.)

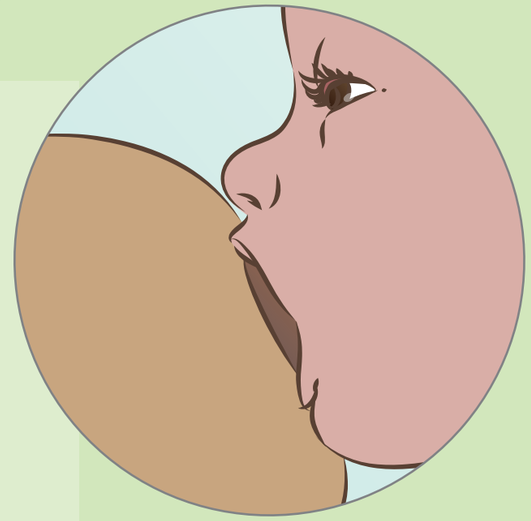
After skin-to-skin care, wrap the baby or dress the baby in a diaper and shirt. Cover the head. The amount of clothing should be appropriate for the temperature around the baby. This usually means 1-2 layers of clothes more than required for adults to be comfortable.

Babies may become too hot if placed in direct sunlight , close to heaters or stoves, or over-wrapped in blankets. Babies may also become too hot in medical devices with heaters (for example radiant warmers). The baby's temperature should be monitored closely when these devices are used. Improving thermal care includes taking steps to lower a temperature between 37.6 and 38 °C .

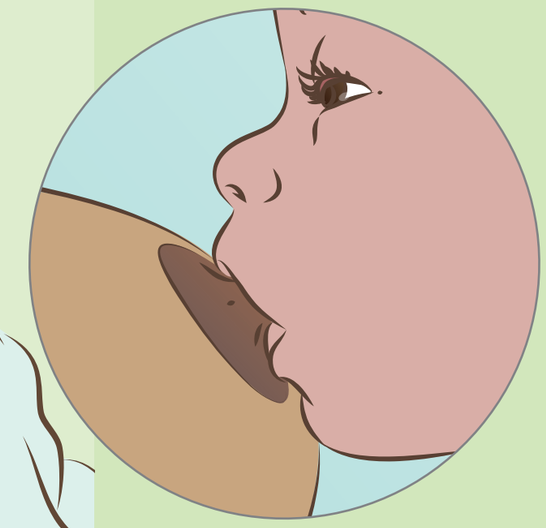


During the first day after birth

Support breastfeeding



Good attachment



Poor attachment

Explain and demonstrate

"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 28).

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

Breastfeeding attachment

Breastfeeding positions

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 feeds

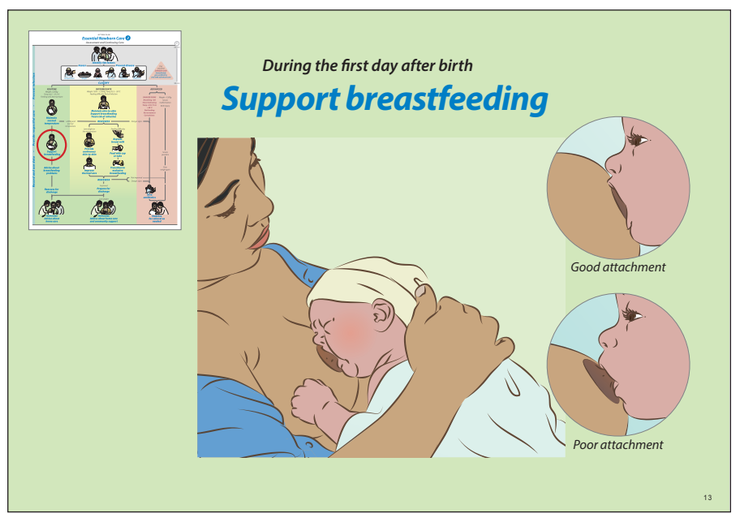
Practise

Ask participants to 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?



Educational advice

Have participants practise correct positions for breastfeeding using a simulator or doll. One participant should take the role of the mother and a second should act as the provider. Advise and assist the mother according to her preference. Ask her permission to guide her hand or touch her breast. Emphasize respectful communication which does not criticize or make mother feel inadequate.

Demonstrate incorrect and correct attachment on a breast model, by referring to the illustrations or by using a volunteer mother. Arrange for providers to observe with a skilled provider in the facility after the course.

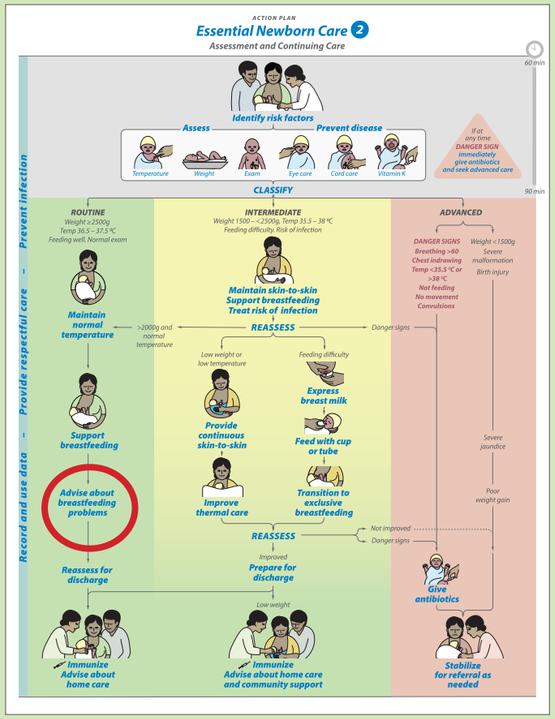
Background

Breastfeeding often is not easy, especially for the first-time mother. Advice and support from a health care provider during prenatal care and while in the facility will increase a mother's chance of successful and exclusive breastfeeding.

Good positioning enables reflexes that support breastfeeding. Ensure the baby can lift the head and the nose and mouth are visible at all times. Give extra help to a mother after Caesarean section. Side-lying may be a more comfortable position. Make sure the mother is responsive.

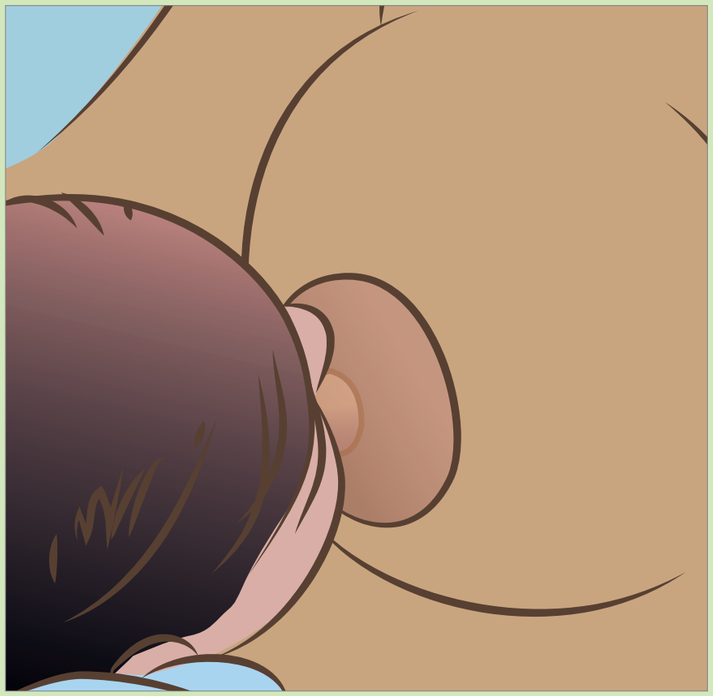
Poor attachment may cause the baby to take in air and have abdominal distention and pain. Mothers may experience severe nipple pain with poor attachment. Poor attachment can lead to engorgement, cracked nipples and mastitis. These problems may be prevented by supporting good positioning and attachment early.

The side on which the baby feeds first should be alternated. This helps promote emptying and milk production in both breasts.

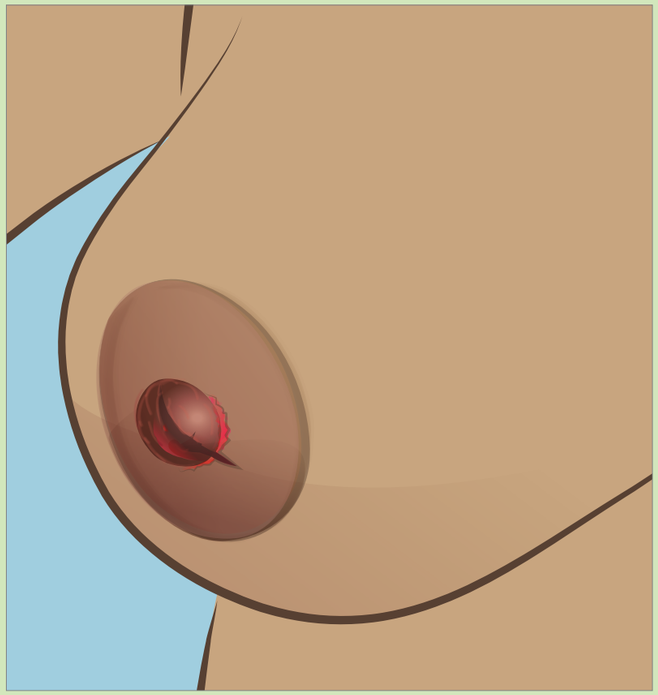


Before discharge

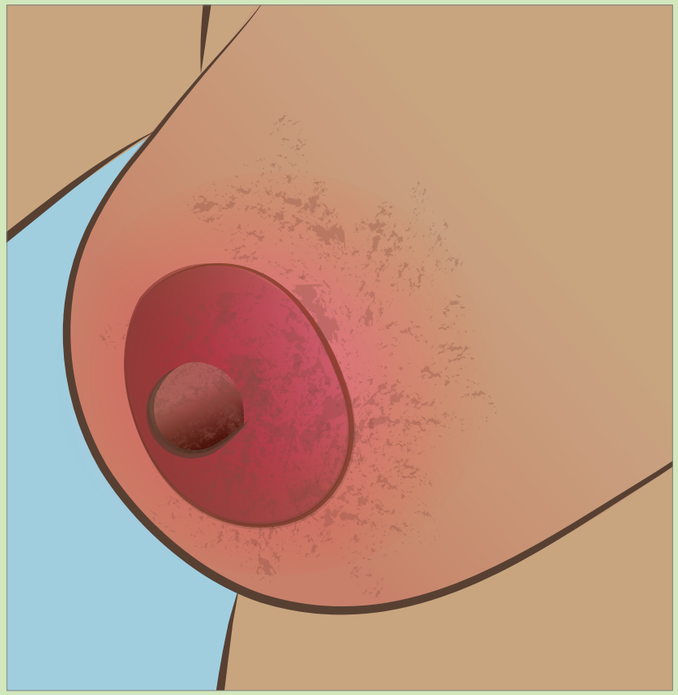
Advise about breastfeeding problems



Engorgement



Cracked nipples



Mastitis

Explain and demonstrate

"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 under 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. Flat or inverted nipples

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

Feed often, express milk, ensure good attachment. Breast engorgement

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.
Sore or cracked nipples

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. Mastitis

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

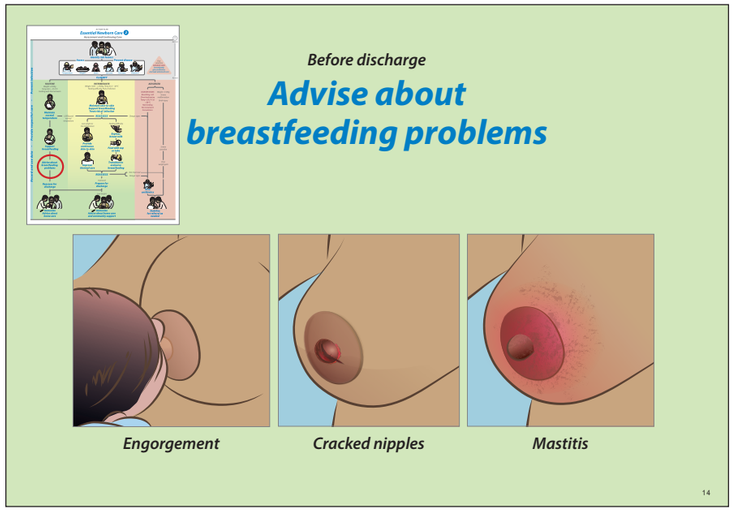
Improve supply of milk

Practise

Ask participants to 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?



Educational advice

Have participants practise advising a mother about the management of breast problems. Discuss the importance of observing a breastfeeding prior to discharge from the facility. Explore how mothers can have access to adequate liquids and food in the facility to support breast milk production. Be aware of local support systems for breastfeeding and emphasize the use of resources such as "expert mothers" or community health volunteers.

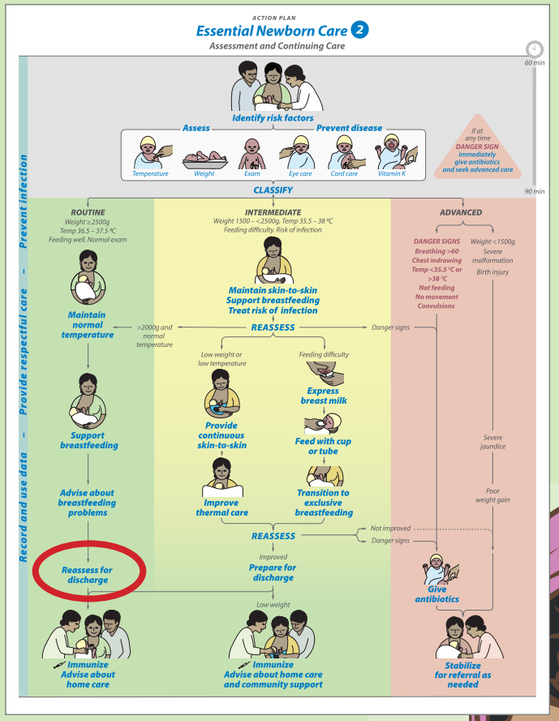
Background

Breast problems are common during the first week or two following delivery, and may prevent successful breastfeeding. Because the problems usually occur after discharge from the birth facility, providers should advise mothers about prevention, recognition and treatment. Breastfeeding problems, if not managed well, can result in use of breast milk substitutes, which may lead to diarrhea and malnutrition.

Preparation for breastfeeding and education of mothers can begin during antenatal care. Observation of a breastfeeding in the facility gives an opportunity to prevent problems. Follow-up of breastfeeding is a critical part of postnatal care in the community.

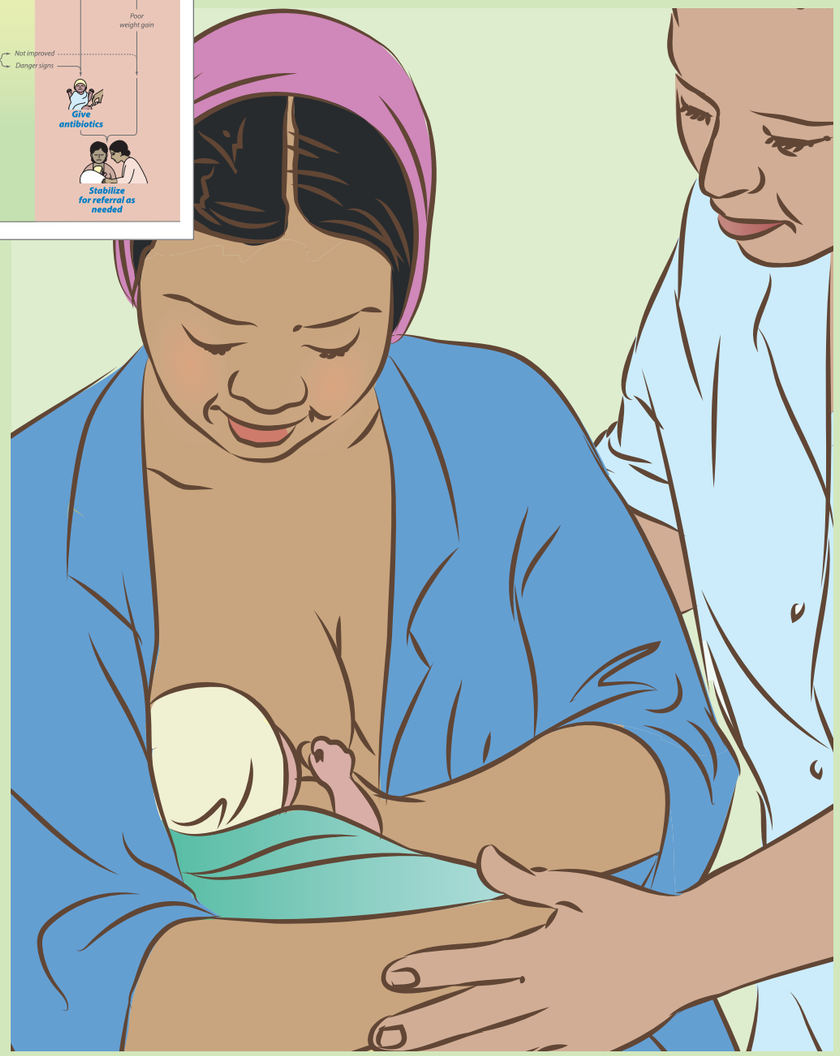
Consider the possibility of infection when evaluating engorgement, nipple pain, or mastitis. With **breast engorgement**, both breasts are swollen, shiny and patchy red, but the mother will not have fever. **Sore or cracked nipples** may result from a skin infection. Advise mothers to wash their breasts at least once a day and avoid soaps, medicated lotions, and ointments. Treat cracked nipples by applying the last drops of breast milk to the skin.

Mastitis may occur when blocked ducts limit drainage of milk or may result from infection. If a mother has a temperature of >38 °C, feels ill or does not improve in 2 days, she should seek medical care promptly. Further treatment may include antibiotics. Generally, mothers can continue to breastfeed while taking antibiotics.



During the stay in the health facility

Reassess for discharge



Explain and demonstrate

"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

Reassess for discharge

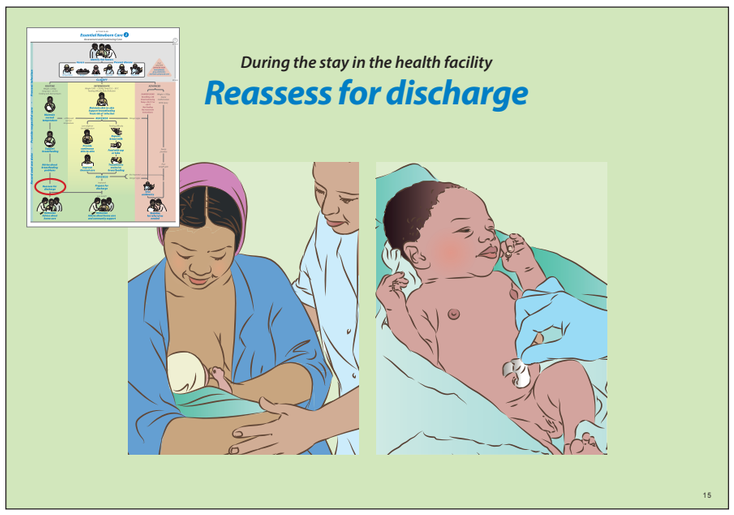
Practise

Ask participants to 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?



Educational advice

Have participants work in pairs with one playing the role of the provider and the other acting as the mother. Emphasize how the provider can learn important information about the success of breastfeeding from the mother. Encourage providers to communicate the findings of the baby's exam to mothers. Ask providers to give reasons why a baby should not be discharged.

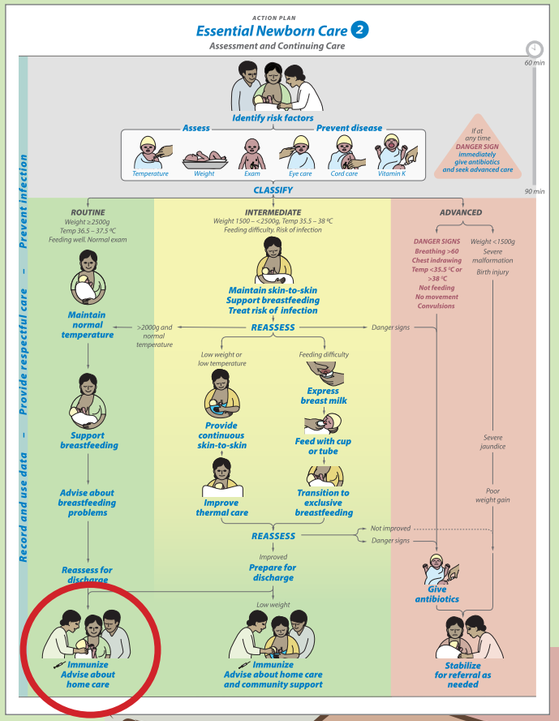
Review the facility's policy on screening and treatment of jaundice. Discuss with participants when jaundice is considered severe enough to test, treat, or refer. Practices may differ by facility depending on distances and availability of testing, treatment, and follow-up in the community.

Background

When possible, discharge from the birth facility should not occur until 24 hours after birth. Length of stay in the facility is based not only on time, but also on meeting criteria for discharge. Assessment of both mother and baby establishes readiness for discharge.

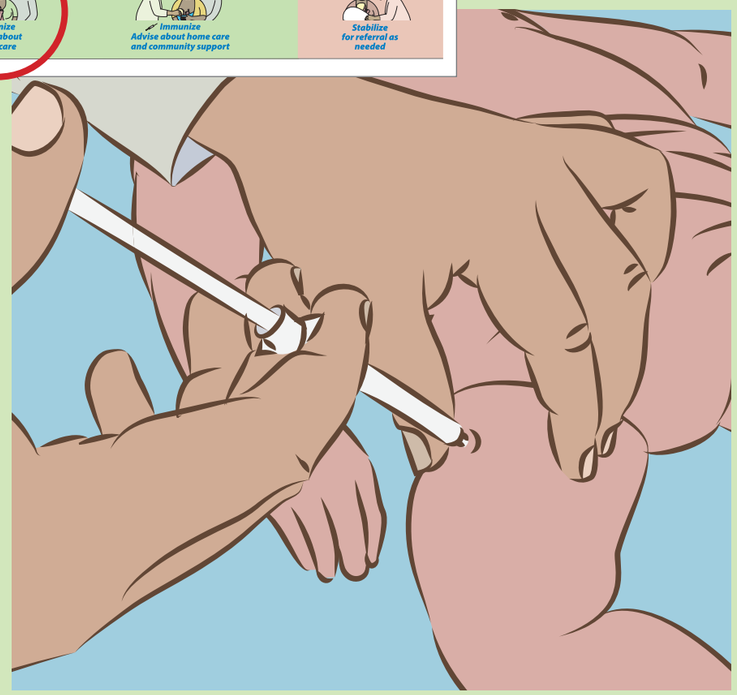
A second complete exam of the baby emphasizes different issues than the first exam. The baby's temperature should be stable under conditions that will be present at home. Findings that may suggest developing problems include jaundice, redness or drainage from the base of the cord, skin pustules/redness, eye drainage. During the exam, abnormal signs should be explained to the mother.

A baby who is not ready for discharge does not necessarily need advanced care or referral. Sometimes, all that is needed is extended observation and support of feeding or temperature. If a baby has not passed stool by discharge at 24 hours, confirm the anus is normal and arrange follow-up in the community.

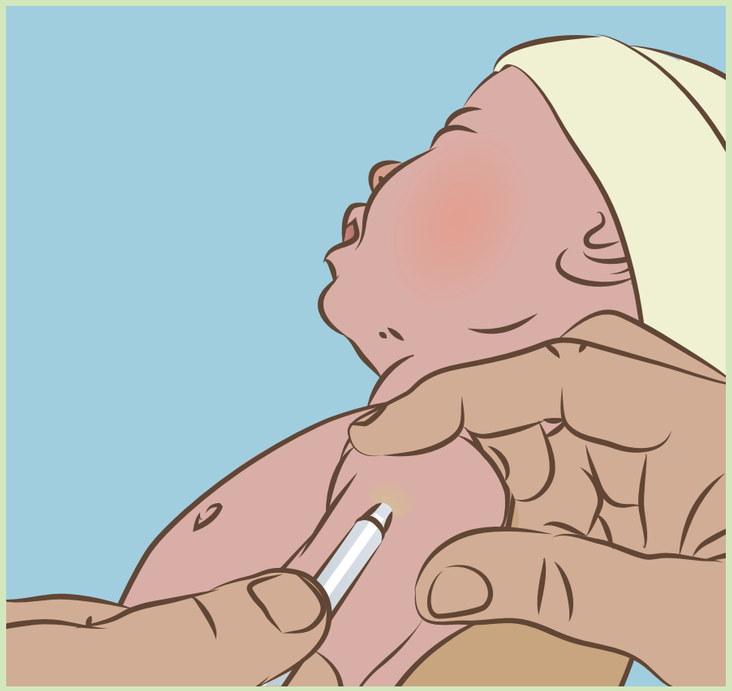


Before discharge

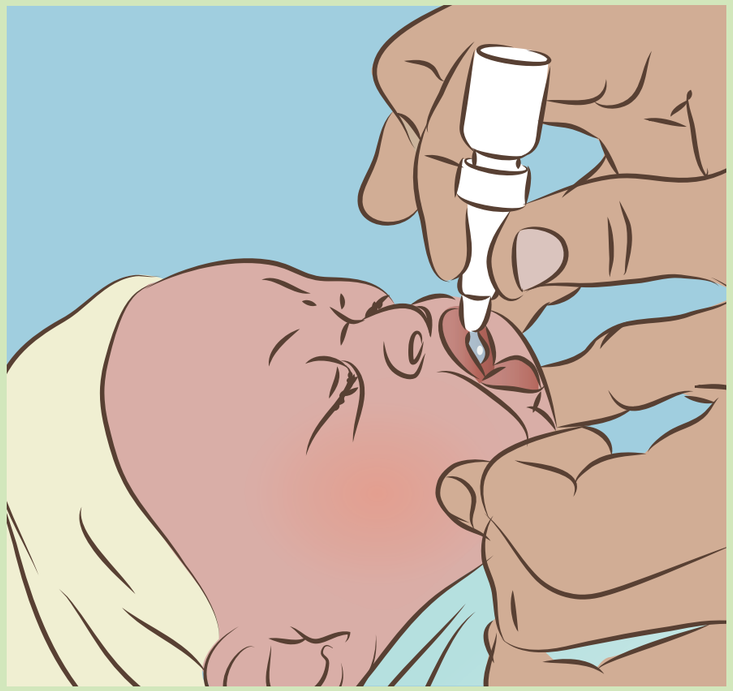
Immunize



Hepatitis



BCG



Oral polio

Explain and demonstrate

"Immunize"

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

Demonstrate how to 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.

Immunize: Intradermal injection

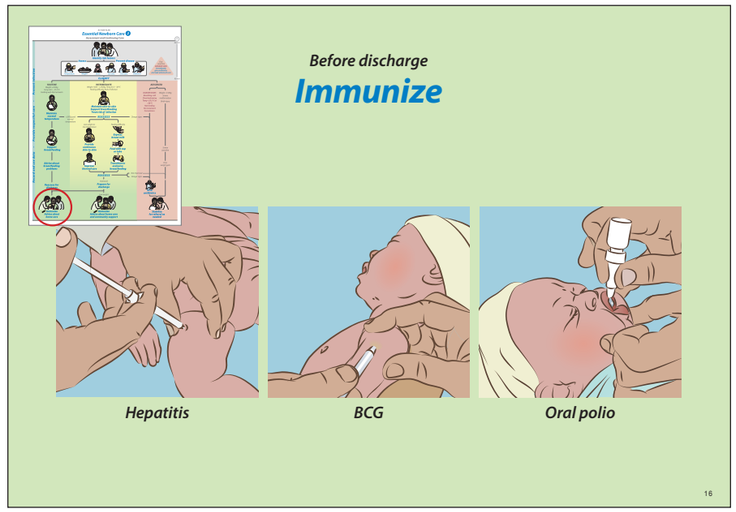
Practise

Ask participants to 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?



Educational advice

Have participants work in pairs with one playing the role of the mother and the other acting as the provider. Have participants demonstrate all the steps in performing IM and intradermal injections as well as oral administration while they explain to the mother what they are doing. The mother can comfort her baby by breastfeeding or providing skin-to-skin contact.

Review the health authority policy for vaccine cold chain and storage.

Background

Specific immunizations differ from one region to another. The timing and location of their administration may also differ. Follow the recommendations of your health authority. Common immunizations include the following:

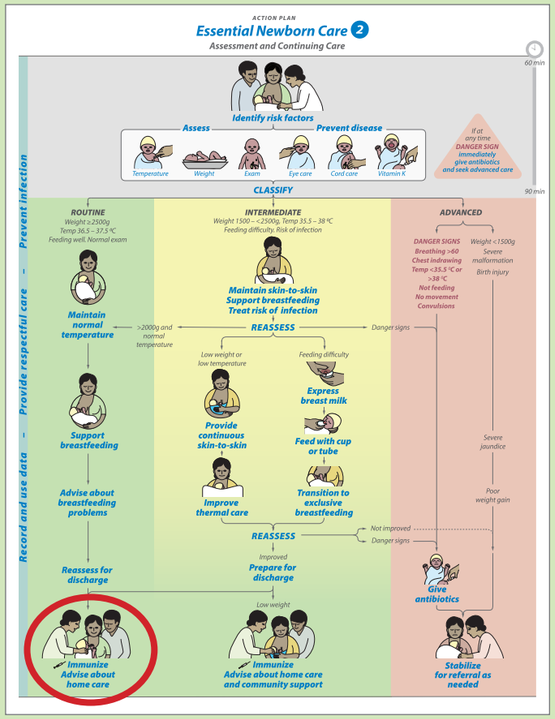
Hepatitis B vaccine is given IM usually within 24 hours after birth.

BCG is given intradermally in the shoulder (often in the left arm). If mother is HIV positive, BCG is often deferred until the baby is known to be HIV negative.

Polio vaccine is given orally, and is often given at the same time as hepatitis B vaccine and BCG.

Remind mothers that additional doses of hepatitis B and polio vaccine will be required later. Immunizations against other diseases will also be needed later in infancy.

Providers are not routinely required to wear gloves during the administration of vaccines (hands must be washed). Sterility during administration is essential. Needles, with or without attached syringes, should be placed in a solid container with a lid to avoid needle injury and infection.



When discharge is appropriate

Advise about home care

Explain and demonstrate

"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 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 newborn summary given to the parents

Advise on birth registration.

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

Advise about home care

Practise

Ask participants to 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?

Educational advice

Have participants practise as the mother and the provider. The provider discusses key messages for home care and confirms the family's understanding.

Use the newborn record, Parent Guide, and any other forms given to the parents on discharge from the facility. Identify the way that providers in the facility can communicate concerns to providers of postnatal care in the community.

Background

The key messages about home care include:

Exclusive breastfeeding for at least 6 months provides the best nutrition for babies, and helps protect against infection. Healthy babies feed every 2–4 hours or 8–12 times per day and sleep well between feeds. From around day six after birth, well-fed babies urinate 6–8 times per day.

Recognition and management of common breastfeeding problems, including engorgement, cracked nipples, and mastitis can help improve rates of exclusive breastfeeding. Advise mothers that nipple pain should not be felt and is usually a sign of poor attachment. If mothers develop a fever, or in general feel unwell, they should seek health care.

Washing hands before touching the baby and putting nothing on the cord help prevent infection.

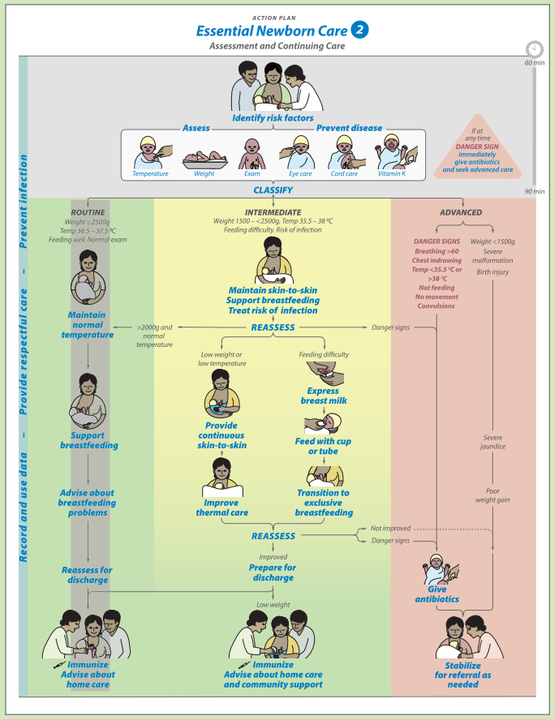
Recognition of Danger Signs, **or severe jaundice, and seeking appropriate care** help babies receive advanced care, which can be lifesaving.

Completion of all scheduled immunizations protects the baby from dangerous illnesses. Remind parents of the recommended immunization schedule.

Parents should demonstrate their knowledge of the key messages. Ask parents to repeat key messages. Address any gaps in their knowledge.

Advise parents about other healthy practices that are recommended in your setting, such as prevention of malaria, well-child visits, and family planning. Talking, reading, and singing to babies improve their brain development.

Advise parents about the time and place of the first follow-up appointment. Record these details in the newborn summary or similar document. If a baby is discharged at <24 hours after birth, follow-up will be needed in the next 24–28 hours.



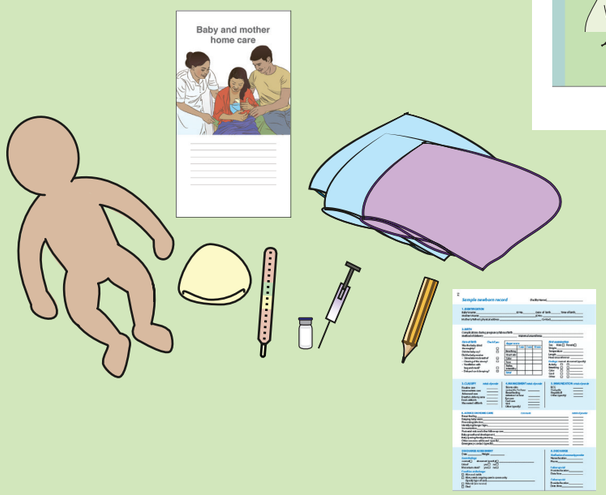
GROUP PRACTICE - CASE 2

Routine care

GROUP PRACTICE - CASE 2

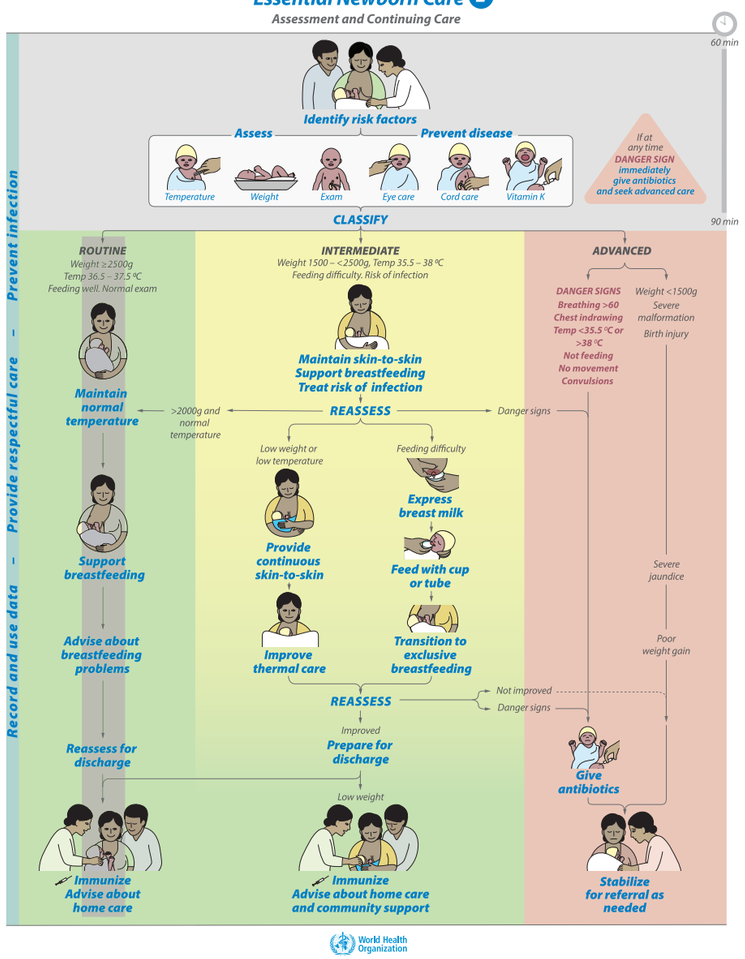
1. **Demonstrate and describe routine care.**
2. **Ask participants to practise in groups of two or three in the roles of**
   - **Provider**:
     demonstrates action steps and communicates with the mother (and the helper)
   - **Mother:**
     engages with the simulator, asks questions, give prompts as needed
   - **Helper** (optional):
     gives prompts as needed
3. **Read the case in the Provider Guide page 37 together with participants and start the exercise.**
4. **Ask participants to switch roles and repeat the exercise.**
5. **Discuss the case with participants**
   - Providers review the action steps and reflect on their performance
   - Mothers and helpers give comments to improve performance and show steps that were missed
   - Facilitator shares feedback with the whole group

EQUIPMENT



Routine care

(Provider Guide page 37)



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

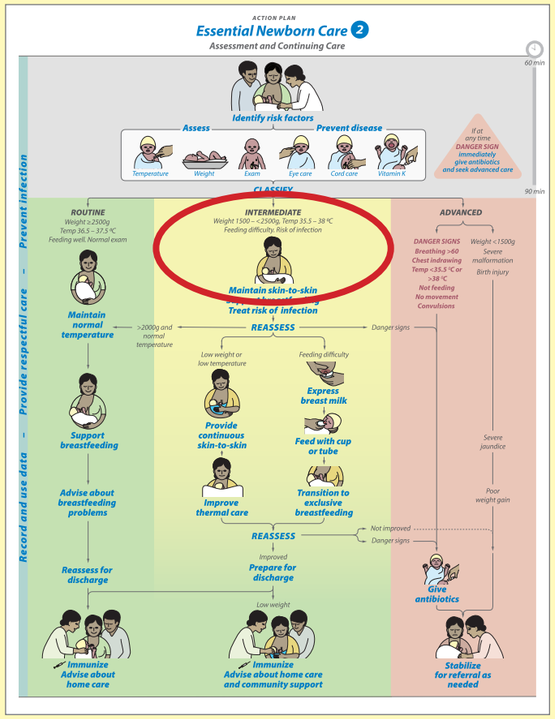
What went well?

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

Explain and demonstrate

"Maintain skin-to-skin"

Babies with low weight or temperature need special attention to thermal care. Help mothers extend skin-to-skin care 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 fore-head 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

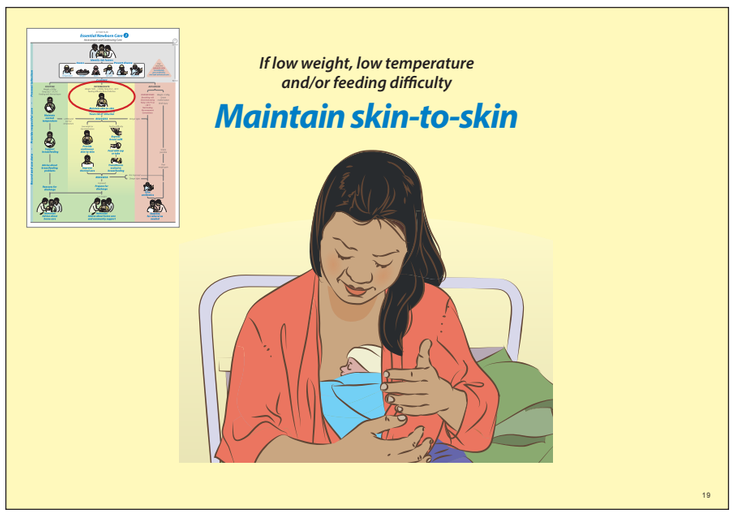
Practise

Ask participants to 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?



Educational advice

Have participants work in pairs with one playing the role of the mother and the other acting as the provider. Use a cloth or binder available locally to practise positioning a baby securely for skin-to-skin care.

Discuss with participants how mothers are supported to provide skin-to-skin care in their facility. This includes not only the physical space but also access to toilet and shower facilities, water and food, and a space for expressing and storing milk. Arrange for providers to observe a skilled provider helping a mother establish skin-to-skin care (kangaroo mother care) in the facility after the course.

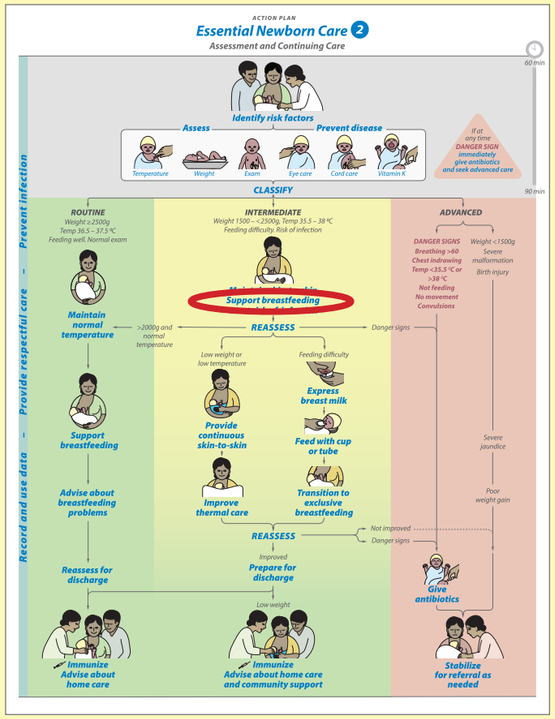
Background

Small babies, especially those with birth weights <2000 grams, can have low body temperature even when they have no other medical problems because their ability to maintain normal temperature is limited.

Some babies from 2000–2500 grams may have difficulty maintaining their body temperature with clothing and wraps alone. They can often maintain normal temperature when provided with skin-to-skin care during the first 24 hours.

Skin-to-skin care also promotes frequent breastfeeding and bonding between the mother and baby. During continuous skin-to-skin care, the mother can stand, walk and move about freely. Other family members can also provide continuous skin-to-skin care.

Small babies can become cold during a bath. A baby does not need to be immersed in water, but can be cleaned by uncovering and washing one part of the body at a time. This will prevent babies from getting cold.



If feeding difficulty

Support breastfeeding

Explain and demonstrate

"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 25b).
- 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.

Support breastfeeding

Practise

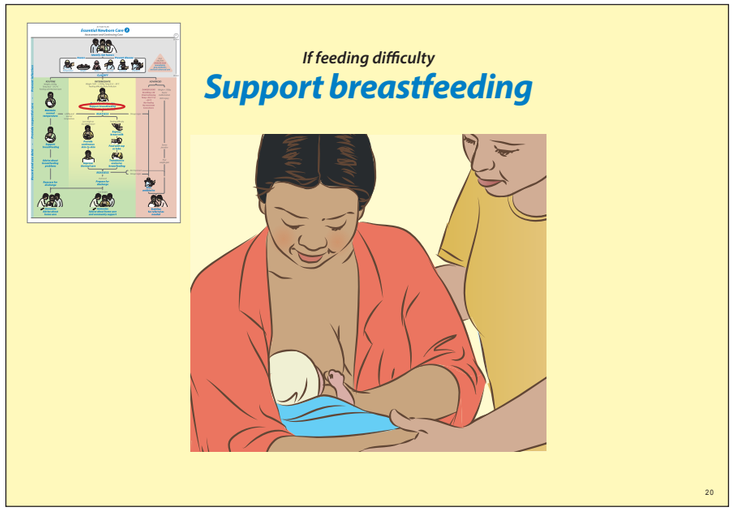
Ask participants to practise in pairs the following scenario:

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?



Educational advice

Emphasize respectful and supportive communication with the mother. If possible, providers should watch a mother breastfeed and discuss observations.

Background

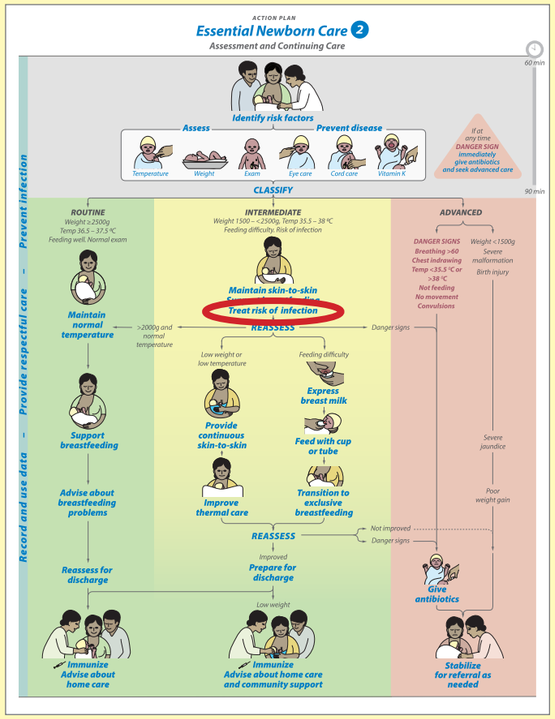
Breast milk is easy to digest and contains antibodies that protect against infection. Colostrum, produced during the first days after birth, contains large amounts of antibodies and should be fed to the baby even if volumes are small.

Some babies will not have the skills needed to effectively breastfeed at birth. If a baby did not feed well in the hour after birth or is small, assess for ability to attach, suck, and swallow. Signs of good attachment include mouth wide open, lower lip turned downward, chin touching breast, and most of the dark part of the breast in the mouth. Poor attachment occurs when only the nipple is in the mouth or the baby is pulling on the nipple. Swallowing may not be audible for the first 3-4 days. Even with good technique, many babies will need a combination of breast, cup, or nasogastric tube feeds.

Evaluation of effectiveness and adequacy of early breastfeeding requires following the baby's daily weight, wet diapers and stools. Inadequate early breastfeeding puts babies at risk of low blood sugar as they have limited energy stores.

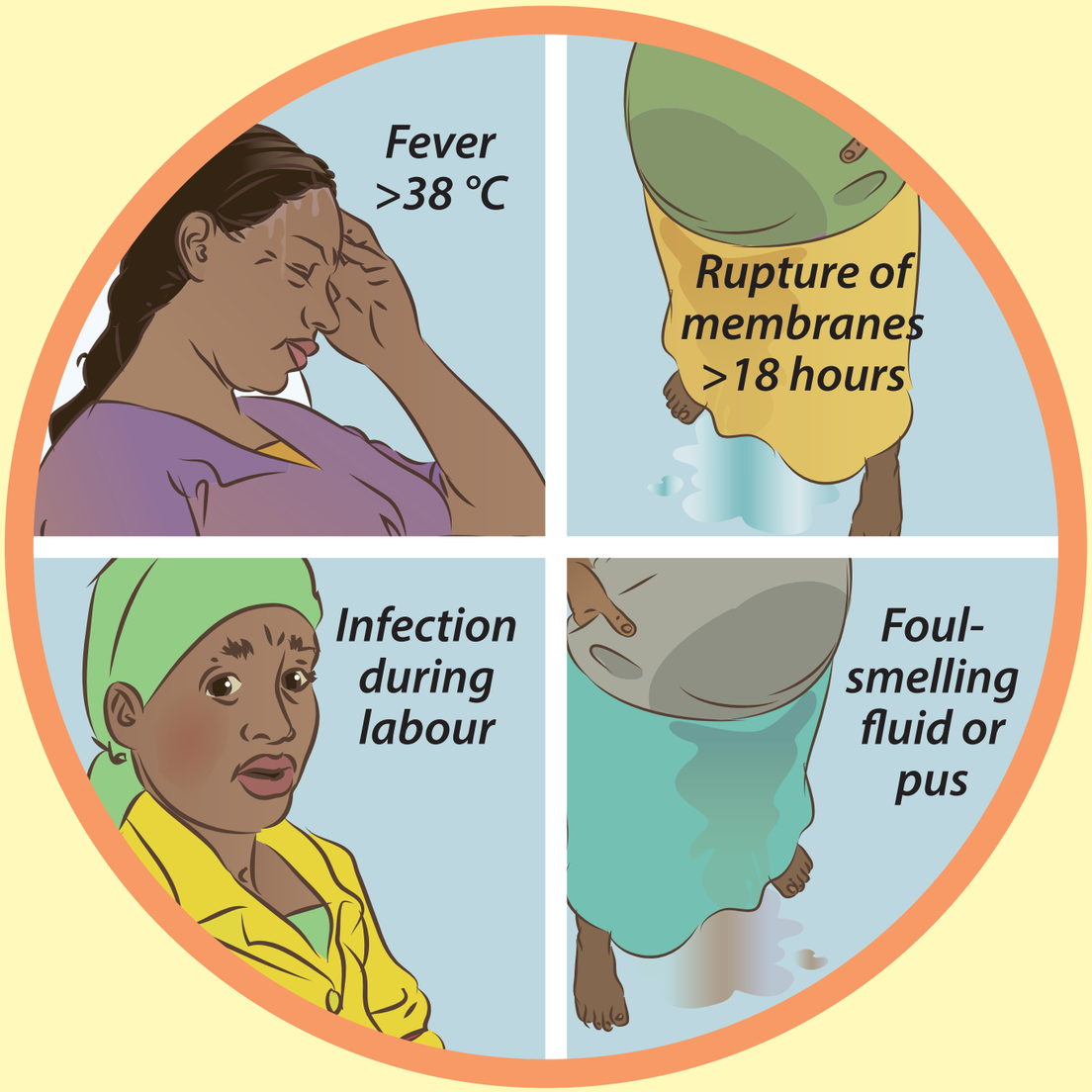
Small babies may also tire easily and should not be pushed to feed longer than 30 minutes. To ensure adequate intake by breast, babies should be watched to determine if actively feeding with regular suck for adequate duration.

Mothers of small babies need special support in their efforts to breastfeed. Patience and encouragement will help mothers succeed, as some small babies need weeks to develop adequate breastfeeding skills.



Using risk factors identified

Treat risk of infection



Maternal risk factors

Explain and demonstrate

"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 foul-smelling amniotic fluid or pus, OR rupture of membranes >18 hours before delivery. Baby looks well. 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 Mother HIV positive Mother started TB treatment <2 mos before delivery.	*Give baby single dose benzathine penicillin; treat mother and partner.* *Give antiretrovirals to baby.* *Give baby isoniazid prophylaxis for 6 mos; 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

Ask participants to practise in a small group.

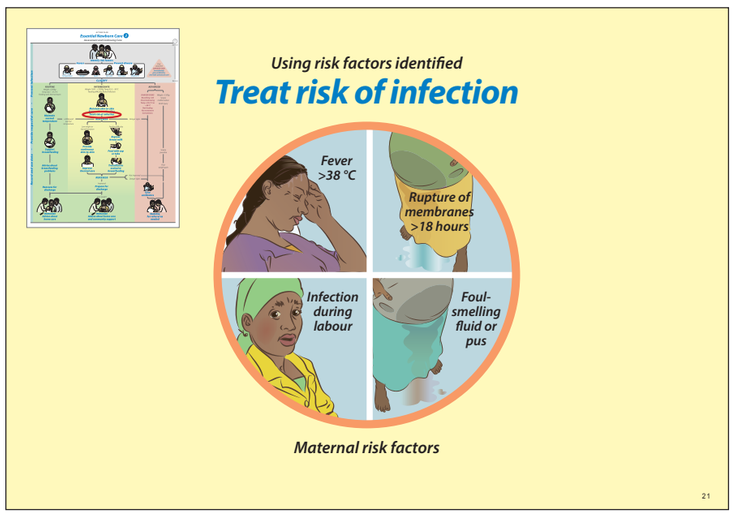
Identify the risk of infection, the treatment for each baby and if baby can be treated in your facility:

- **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?

Treat risk of infection



Educational advice

Ask participants to practise in a small group. Discuss each of the cases:
- identify the risk factors
- state if the baby looks well or unwell and why
- describe the treatment
- decide if baby can be treated in their facility

Correct answers:
Case 1: probable infection, give antibiotics and provide advanced care
Case 2: possible infection, give antibiotics
Case 3: maternal infection, give benzathine penicillin
Case 4: maternal infection, give antiretrovirals and arrange appropriate testing and follow-up and follow-up

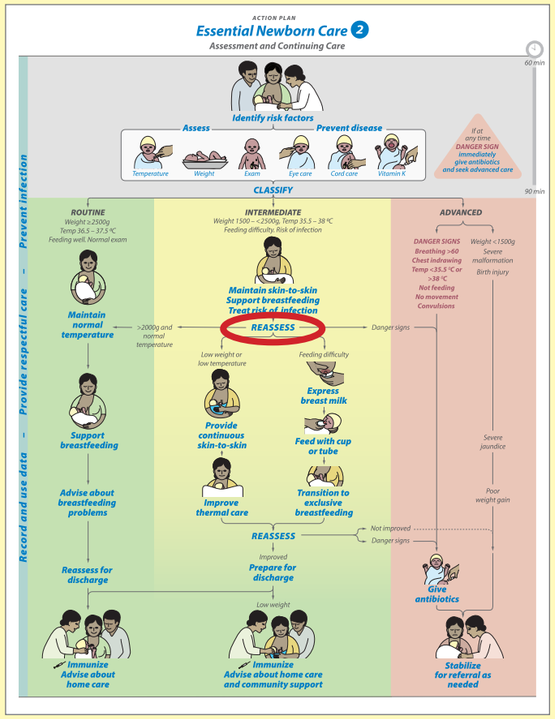
Managing Complications in Pregnancy and Childbirth
Recommendations for Newborn Health – page 9
Operationalizing management of sick young infants

Background

Identifying a baby who has a possible infection early and beginning treatment can prevent the baby from becoming sick. However, treating with antibiotics when a baby does not need them can result in negative effects later in infancy and childhood. Antibiotics change the normal bacteria in the intestine and development of the immune system. **It is important to treat babies at high risk of infection to reduce death and not treat babies at low risk of infection to promote healthy development.**

There are many different systems that help providers estimate the risk of infection and decide what babies need antibiotic treatment. The health authority may provide guidelines for treatment of certain conditions.

The length of treatment with antibiotics depends upon the type of infection and the ability to perform blood cultures and other diagnostic tests, as well as the response of the baby to treatment. Guidelines for treatment of specific infections can be found in Recommendations for Newborn Health and Managing Complications in Pregnancy and Childbirth from WHO.



When a baby needs intermediate care

Reassess

Explain and demonstrate

"Reassess"

Routine assessment of babies guides decisions on 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. ▶ Reassess

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

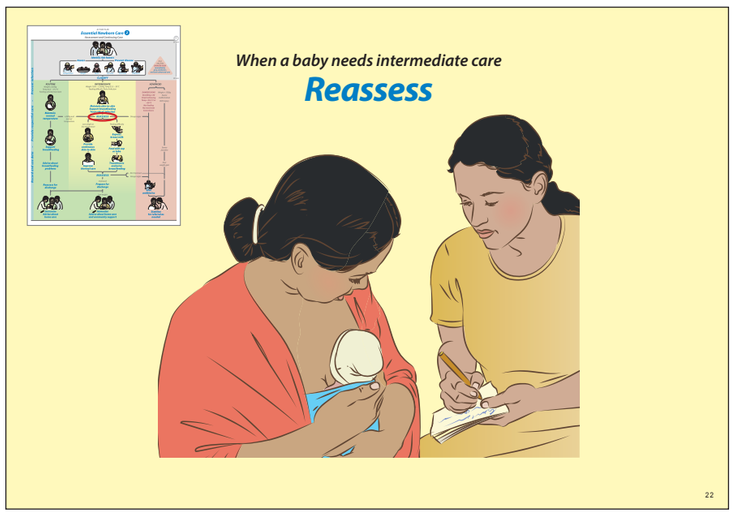
Ask participants to practise in groups of 3 to play the role of the mother, a provider and a colleague who is assuming care of the baby.

A 1 day-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?



Educational advice

Emphasize that assessment is a cycle of evaluation, decision, and action. Ask participants to review the steps in assessment, decide if the baby is well or unwell, and make a plan of action based on the findings. The baby described in the practice activity has normal vital signs and physical exam, but is breastfeeding infrequently and has low output. The baby needs more frequent feeds with an alternative method to give breast milk. Participants should document the assessment and plan in the patient record and communicate it to their colleagues.

Use the example provided as a template to develop other case scenarios for babies with uncertain findings, problems, or Danger Signs.

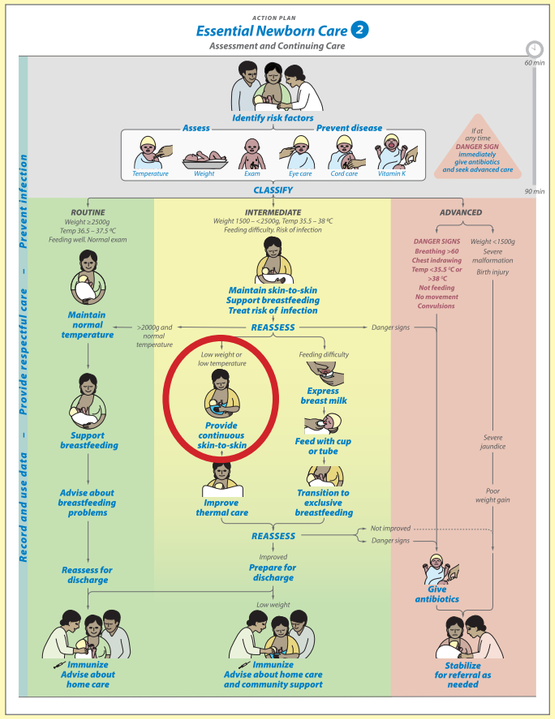
Background

Regular assessment can identify needed changes in care to keep a baby well and thriving as well as serious problems before they are life-threatening.

Assessment of a baby ideally should bring together observations of mother and provider on every shift. Document findings, describe any interventions and the baby's response. Accurate records and communication of assessments help detect changes rapidly.

Changes in temperature not in the danger zone, change in physical signs from baseline, feeding intolerance, and poor growth all require closer monitoring. Weight gain can be affected by temperature of the baby, intake, tolerance of feeds and other problems.

Assessment of early breastfeeding adequacy can be difficult as urine output may be low and weight loss is expected. A change in stool color and consistency from tarry black to seedy yellow-green by day 4 to 5 suggests adequate early breastfeeding.



If weight or temperature is low

Provide continuous skin-to-skin

Explain and demonstrate

"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) 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

Provide continuous skin-to-skin care

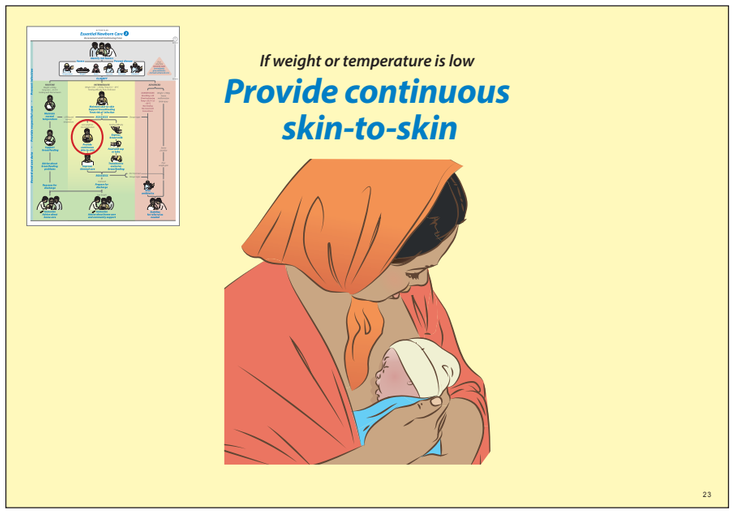
Practise

Ask participants to 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 feeds and wet or dirty diapers on a simple form (Provider Guide 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?



Educational advice

Encourage participants who are playing the role of mother to raise common concerns they have heard.

Background

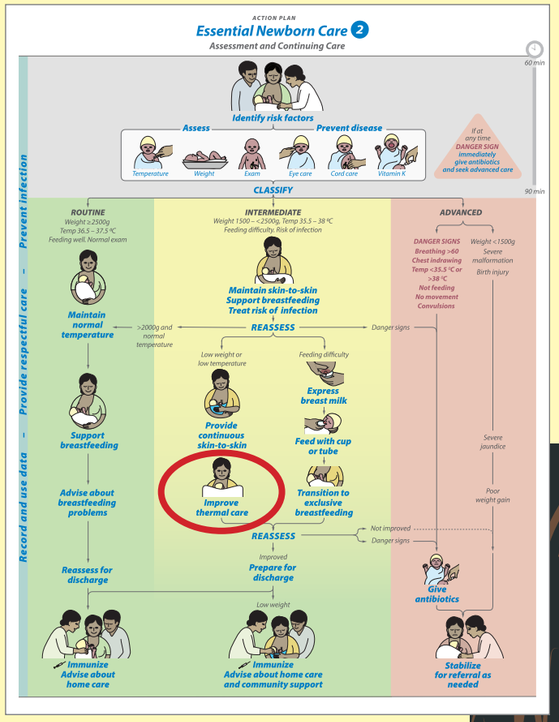
Continuous skin-to-skin care is part of Kangaroo Mother Care, which also includes exclusive breastfeeding, parental empowerment, a supportive physical and administrative structure in the facility, early discharge and comprehensive outpatient follow-up.

Skin-to-skin care is safe and effective in keeping babies warm. Alternative heat sources (incubator and warmers) can overheat babies. Additional benefits for the baby include improved sleep and tolerance to pain, less crying, better development and weight gain and reduced risk of infection.

A baby should be kept skin-to-skin at all times except when cleaning and changing diapers or when the mother is attending to personal needs including expression of breast milk. During these times, other family members can provide care or the baby can be wrapped and cared for in a warm place. Mothers can safely sleep in a supported half-sitting position while providing skin-to-skin care. Nurses should be readily available to the mother and baby.

Small babies are at higher risk for apnea (periods >20 seconds when a baby stops breathing). With apnea, babies may have bluish discoloration around the lips and/or a low heart rate. Mother's activity during skin-to-skin care can reduce apnea and irregular breathing. Apnea may respond to gentle touch or rubbing of a limb or the back, or pausing feeding. Recurrent apnea may be a sign of infection and should result in referral for advanced care.

Mothers must be willing and supported to provide continuous skin-to-skin care. Most mothers find satisfaction in nurturing and giving life-sustaining care to their babies. A facility should provide a place for mothers to sleep, bathe and have access to a toilet with privacy. Family involvement should be welcomed and fathers, grandparents and other adult family members should be included in teaching about the care of a small baby.



If baby's temperature is low

Improve thermal care

Explain and demonstrate

"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

Improve thermal care

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, dehydration, apnea and brain injury.

Practise

Ask participants to practise in pairs

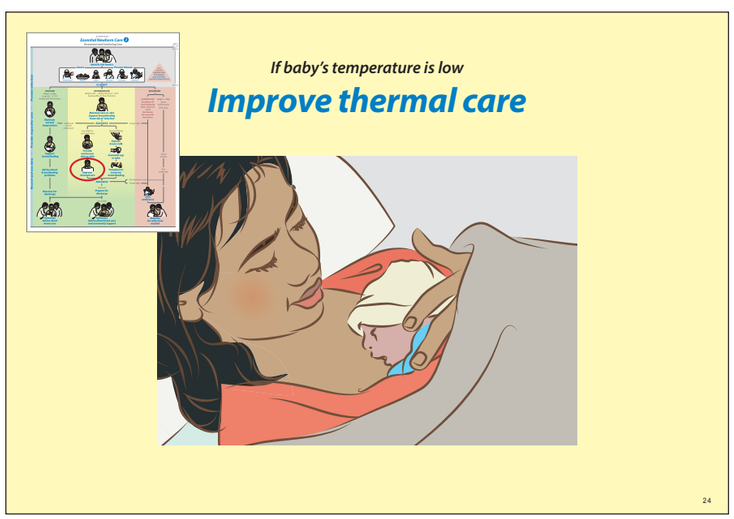
A baby has a low temperature despite skin-to-skin care.

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

If your facility uses incubators or radiant warmers, see ENC 2 Annex page 4 – 6 **for proper use and skills practice.**

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?



Educational advice

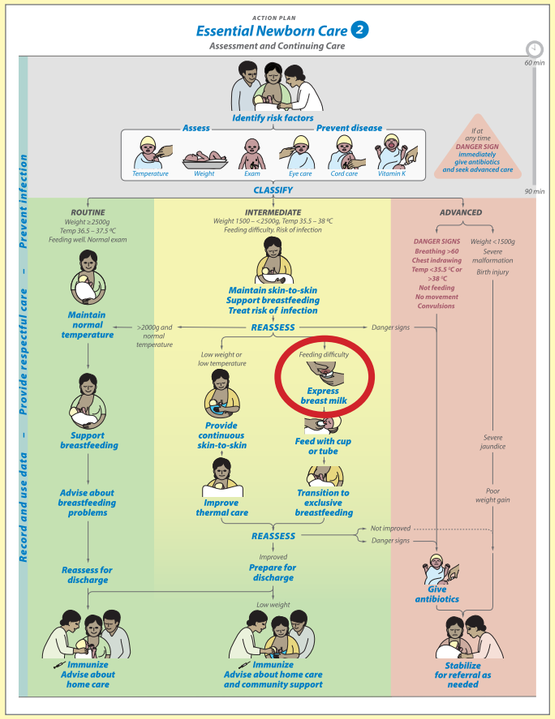
Ask participants to perform the exercise as a dialogue with the provider asking mother questions about possible causes of low temperature during skin-to-skin care. The participant playing the mother can raise common issues. Discuss how the temperature of a room in the facility can be safely increased.

Emphasize that a baby who is too warm may need to have fewer layers of clothing or blankets. Recheck the temperature in 1 hour to make sure it has returned to normal.

Background

The most effective and reliable way to maintain normal temperature for a small baby is skin-to-skin care. If a baby is cold, make sure that skin-to-skin care is being provided in a warm environment and without unnecessary interruption before using an alternative warming method. Assess the baby carefully for changes in condition and Danger Signs.

There are many ways to provide additional warmth to small babies. If continuous skin-to-skin care is not possible for the mother, find another family member who can provide skin-to-skin care. If necessary, select an alternative warming method that is proven to be both effective and safe. The use of warming devices requires more frequent monitoring of temperature because low and high temperatures occur more often and can be dangerous. Radiant warmers and incubators are safest when used with continuous temperature monitoring (servo mode).



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

Express breast milk

Explain and demonstrate

"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 toward 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 labelled 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

Express breastmilk

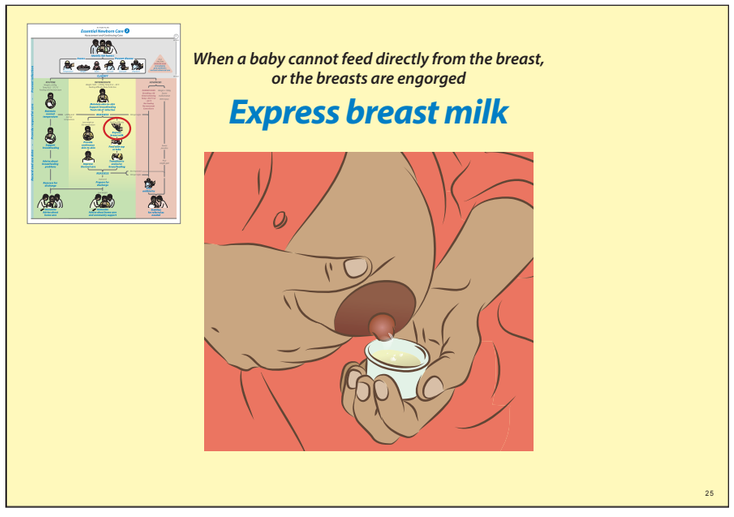
Practise

Ask participants to 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?



Educational advice

If available, use a breast model to show hand positioning and movement. Assemble examples of possible collection containers for breast milk that are available locally. Have participants select the most appropriate containers for storage and indicate how they would clean the container.

Have participants practise in pairs, with one acting as the mother and the other as the provider. The participant who is taking the role of the provider should offer guidance to the mother while directing the technique.

If possible, demonstrate breast milk expression with a mother who is breastfeeding.

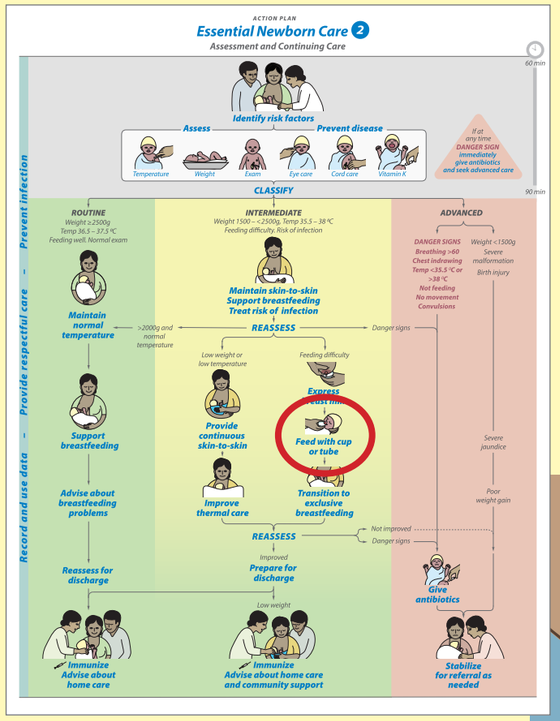
Background

Mothers may express milk for babies who are unable to feed from the breast. Also, some mothers may express milk to relieve engorgement which helps the baby latch onto the nipple.

Milk should be expressed at the time intervals when a baby would normally feed - in the first hours after birth and every 2–4 hours throughout the day and night. Breast milk may be produced in small amounts initially, but production typically increases after 2–3 days.

Mothers should have a comfortable place to express milk with privacy as needed. Mothers should clean their hands with soap and water. Rotating the compressions around the breast will help empty the breast and relieve blocked ducts.

Collect breast milk in a clean container with a lid if it is to be stored. Use freshly expressed milk whenever possible.



When the baby cannot feed directly from the breast

Provide appropriate volume of breast milk

Explain and demonstrate

"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.

Determine the volume of a feeding by birth weight and days after birth.

	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.

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

Feeding intolerance that requires advanced care includes

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

Practise

Ask participants to 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

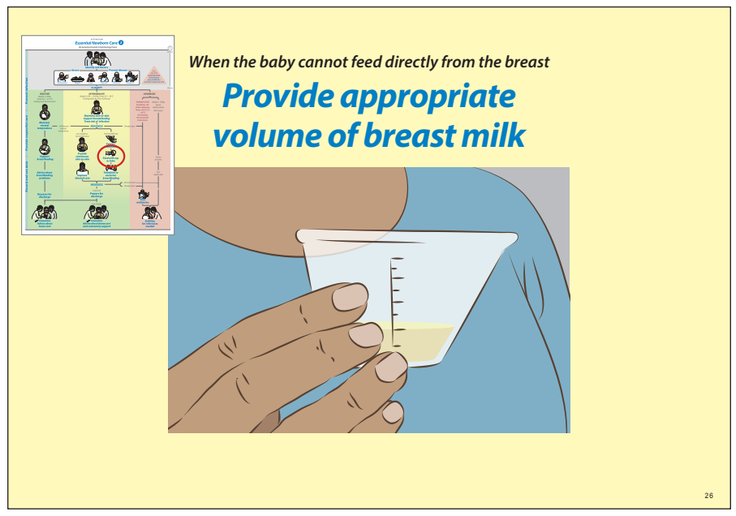
Discuss as a group.

Correct answers:

a. 19 mL
b. 23 mL
c. 34 mL
d. Y es, appropriate weight loss
e. Yes, appropriate weight gain
f. No, slow weight gain <12 g/kg/day

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?



Educational advice

Discuss the feeding volume calculations and evaluation of weight change as a group. Consider plotting weight on a growth chart if available.

Materials for Practice:
- Table to calculate desired milk volume (Provider Guide page 53)
- Pen and paper
- Growth chart (if available)

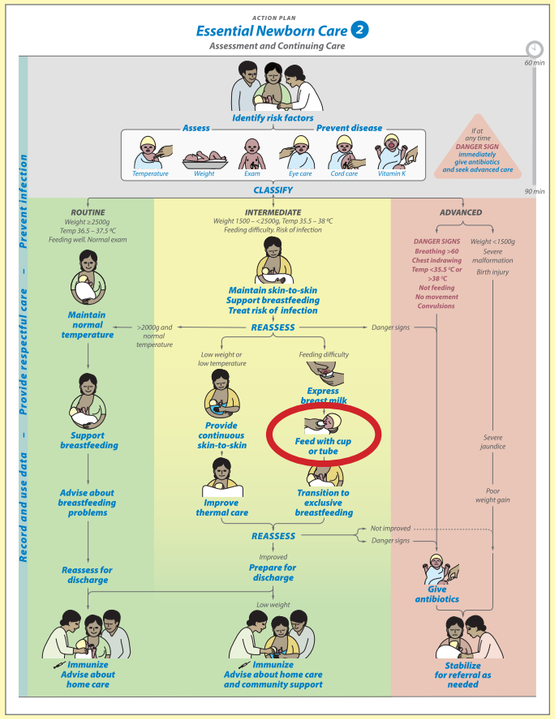
Background

Adequate feeding volumes are critical for a baby who is receiving feeding by cup or nasogastric tube.

Even if a baby receives adequate fluid, weight may not increase as it should. This may be seen by regularly plotting the baby's weight on a growth chart. Lack of appropriate weight gain for a small or preterm baby may indicate the need for more breast milk. Babies who still do not gain weight may need special supplementation of breast milk or intravenous nutrition.

Very low birth weight babies or those who do not tolerate feeds will require care in a center that can administer intravenous fluids. Spitting up in a well-appearing baby with a soft abdomen can be normal. However, feeding intolerance with vomiting, distension or bloody stools needs advanced care and possible evaluation by a surgeon.

Review national guidelines for the use of nutritional supplements. Many guidelines support the administration of 400 IU vitamin D orally each day until 6 months after the expected date of delivery. Small and preterm babies are also often given 3 mg/kg/day of elemental iron orally from 2 weeks after birth until 6 months of age. Vitamins, certain medications and occasionally nutritional supplements may be given by tube. Medications can be mixed with a small amount of breast milk or given directly.



When the baby cannot feed directly from the breast

Feed with cup or tube

Explain and demonstrate

"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 breastfeed.

When using a cup to feed breast milk

- Feed according to baby's cues every 2–4 hours, at least 8 feeds per day while the baby is be 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 (see ENC 2 Annex page 2 – 3).

Feed with cup

Assess feeding tolerance

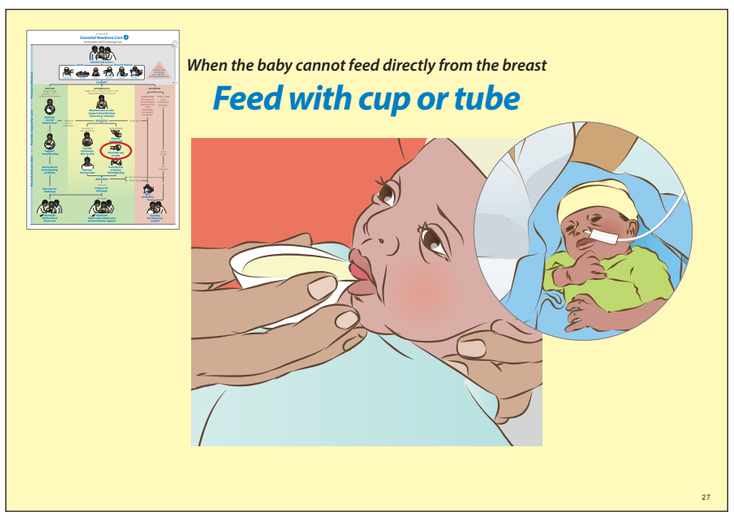
Practise

Ask participants to 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?



Educational advice

Demonstration and practice of alternative methods to feed breast milk can use a simulator or a baby whose mother has given her consent.

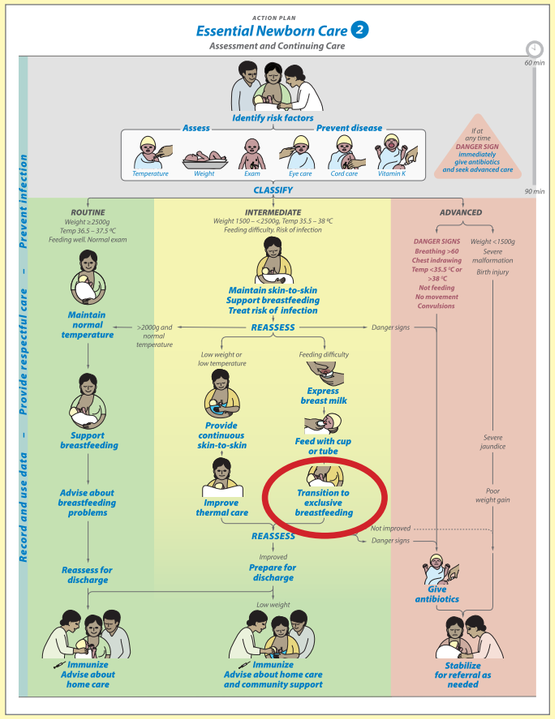
Water may be used to simulate breast milk when practicing with a simulator, but it should never be fed to a baby. Do not pour water into manikins not designed to demonstrate feeding.

Background

Feeding mother's milk helps prevent infection and decreases mortality. Some small babies, sick babies, or those with an abnormality such as cleft lip and palate, may be able to swallow but cannot suck effectively, or they may suck effectively for a brief period but tire before an adequate volume has been taken. These babies may benefit from being fed expressed milk with a cup, spoon or paladai.

The baby is ready to feed when awake, looking around, with mouth open or licking. Allow the baby to lick the milk directly rather than pouring milk into the mouth, which may cause the baby to choke.

A baby may feed with a combination of breastfeeding and cup feeding. If there is good transfer of breast milk (audible swallowing, softening of breasts, several minutes at breast), the volume of milk fed by cup may be adjusted.



After feeding with alternative methods

Transition to exclusive breastfeeding

Explain and demonstrate

"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

Transition to exclusive breastfeeding

Practise

Ask participants to 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 breastfeeds?
2. How frequently is a baby's readiness to breastfeed assessed?

Educational advice

Practise in pairs, then discuss the feeding plans in the small group. If possible, providers should observe a baby and mother as they transition to breastfeeding.

Background

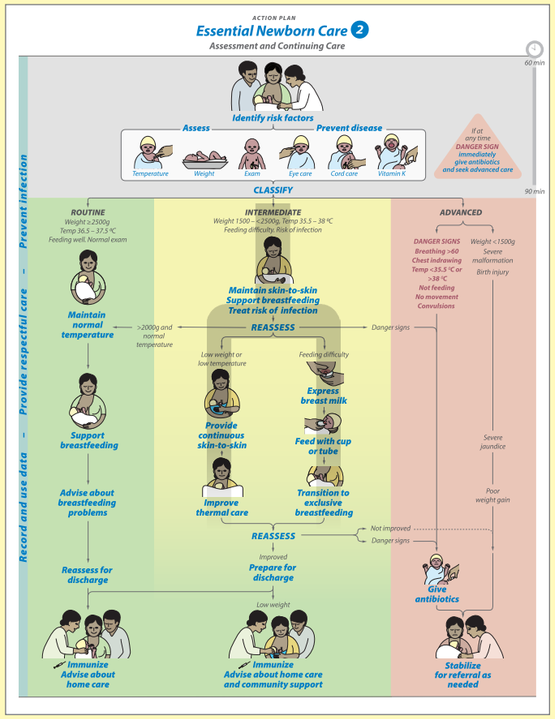
Babies who need alternative feeding require continuous adjustments based on performance and maturation. Coordination of sucking, swallowing, and breathing typically occurs around 34 weeks, but the timing varies and gestational dates are often unknown. For this reason, all stable babies should be assessed daily for feeding readiness. Babies can practise latching even before coordinated suck, swallow and breathing are present. Small babies are unlikely to demand feeds in the same way as term babies. Even stirring and changes in sleep state may be considered cues for readiness to feed.

To facilitate future breastfeeding, maintain skin-to-skin contact close to the breast during nasogastric feeds. Suckling at the breast should be encouraged even if the baby does not yet have coordinated feeding skills. Suckling supports mother's milk production and develops the baby's feeding skills.

Early attempts may not result in measurable intake. Babies may tire with early attempts at feeding or risk aspiration. If there are concerns for choking or blue episodes with breastfeeding, consider waiting several days before attempting breastfeeding again. Attempts to orally feed a baby with immature suck and swallow could result in aspiration of milk and should be approached with caution.

When early feeding is initiated, mother should alternate breasts to decrease risk of mastitis.

When a baby begins to demonstrate successful attempts at feeding, decrease supplementation by cup or nasogastric tube to account for the intake by breast. Volumes obtained during breastfeeding are estimated based on time at breast, audible swallowing, and softening of the breast.



GROUP PRACTICE - CASE 3

Intermediate care

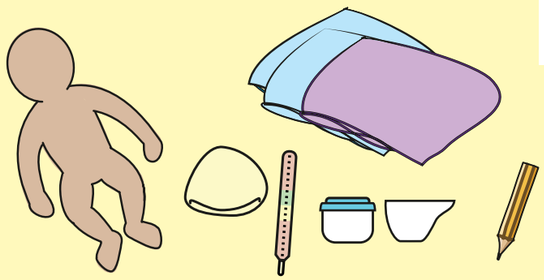
GROUP PRACTICE - CASE 3

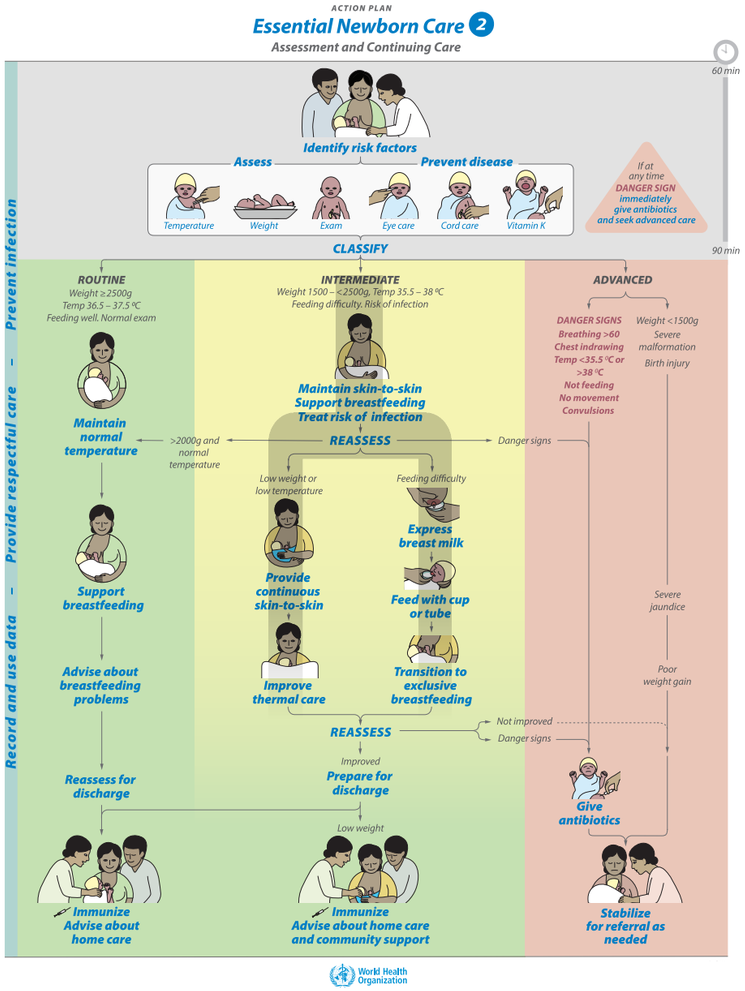
Intermediate care

(Provider Guide page 59)

1. **Demonstrate and describe the care of a baby with low weight, low temperature, difficulty feeding, or risk of infection.**
2. **Ask participants to practise in groups of two or three in the roles of**
   - **Provider**: demonstrates action steps and communicates with the mother (and the helper)
   - **Mother:** engages with the simulator, asks questions, give prompts as needed
   - **Helper** (optional): gives prompts as needed
3. **Read the case in the Provider Guide page 59 together with participants and start the exercise.**
4. **Ask participants to switch roles and repeat the exercise.**
5. **Discuss the case with participants**
   - Providers review the action steps and reflect on their performance
   - Mothers and helpers give comments to improve performance and show steps that were missed
   - Facilitator shares feedback with the whole group

EQUIPMENT





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?

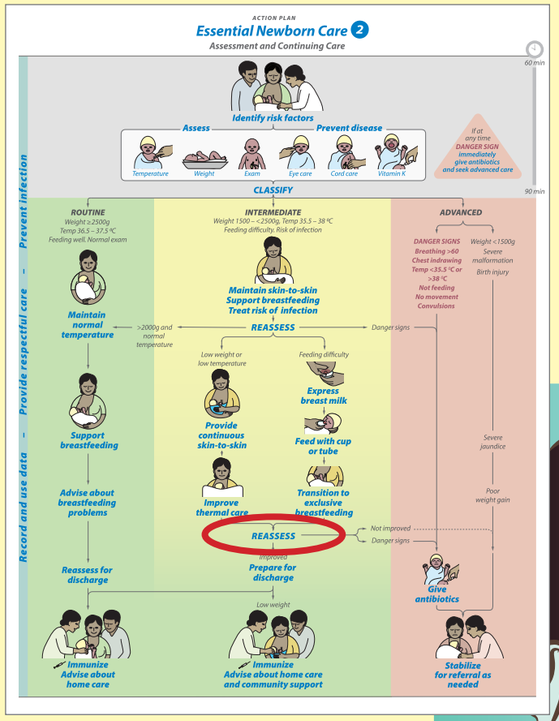
If not, why, and what will you change?

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

Online Simulation Practice Cards

After intermediate care

Reassess



Explain and demonstrate

"Reassess"

Reassessment later during a 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 (on a growth chart), 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

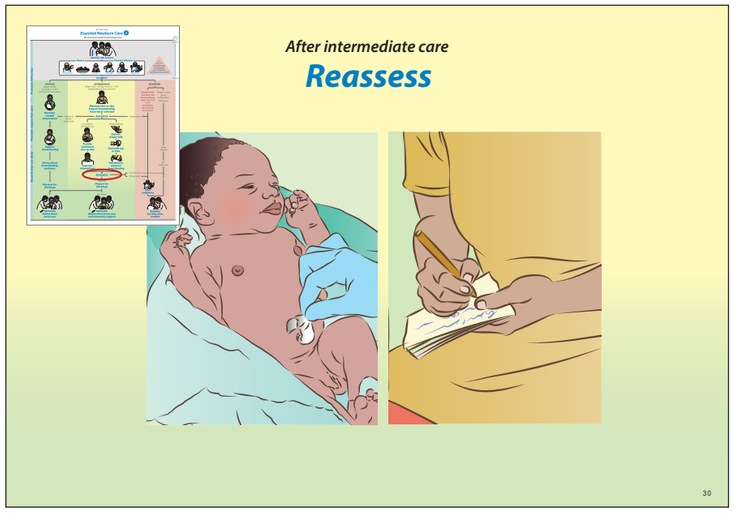
Ask participants to practise in groups of 3 to play the role of the mother, a provider and a colleague who is assuming care of these babies:

- 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

Decide on the significance of the findings and communicate the assessment and plan to your colleague and the mother.

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?



Educational advice

Use the reassessment of babies who have a prolonged stay in the facility (for example, kangaroo mother care) to re-emphasize the steps in evaluation, decision, and action. Critical thinking and judgment are skills that develop with time and experience. Encourage participants to document the assessment in the patient record and communicate clearly with their colleague and the mother.

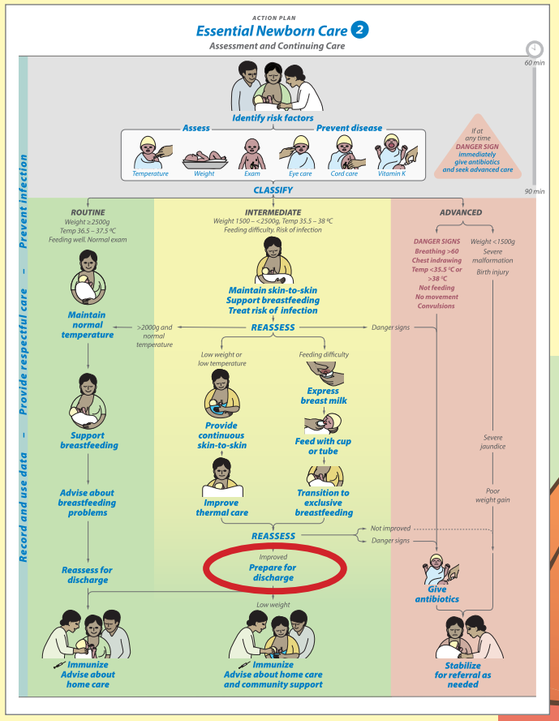
Use the conditions mentioned by participants during the discussion to develop other case scenarios for babies with uncertain findings, problems, or Danger Signs.

Background

Slow weight gain is a common problem among babies born preterm or with low weight. Once the initial period of weight loss ends, a baby should gain at least 12 grams/kg daily. Weight gain may be variable, so it is important to calculate the average weight gain over several days and review it every week. Graphing growth on a growth chart permits comparison with expected rates of growth and shows when growth is slow.

Local infections may develop because of organisms present at birth or acquired in the facility. Redness, swelling, or pus from the umbilical cord or skin may signal infection before Danger Signs occur.

Small babies are especially vulnerable to several problems. Jaundice is more frequent in premature babies. Apnea, or pauses in breathing for 20 seconds or more, can occur in otherwise healthy premature babies or be a sign of infection in older or previously stable babies.



If the baby has improved after intermediate care

Prepare for discharge

Explain and demonstrate

" 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 ℃) 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 (see page 16)
- 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.

Prepare for discharge

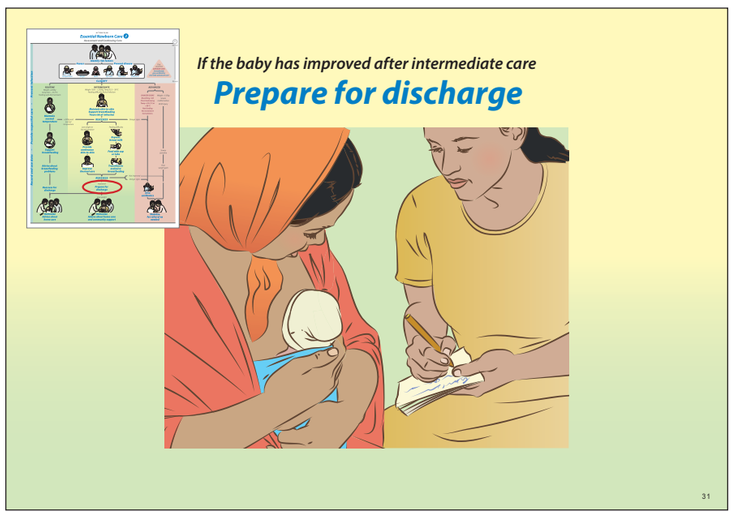
Practise

Ask participants to 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?



Educational advice

Local materials may exist for counseling at discharge and follow up in the community. Use these materials or the Parent Guide at discharge.

Background

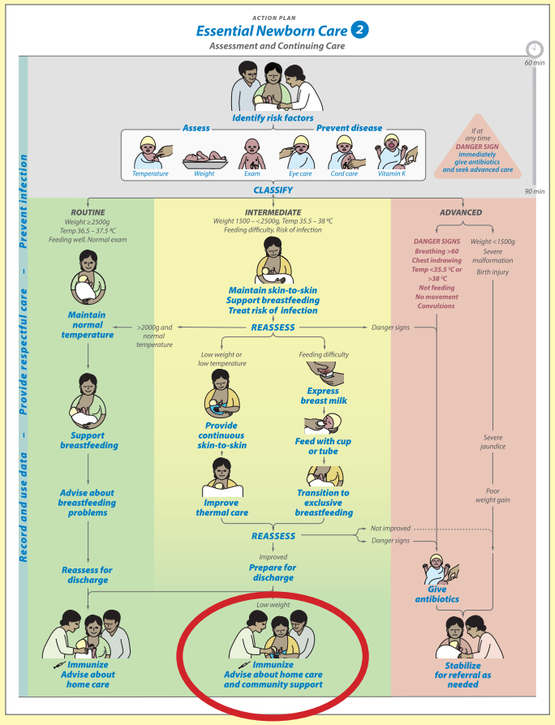
When small babies have a stable temperature and effective feeding skills, they should be evaluated for possible discharge. Access to follow-up may influence the timing of discharge as babies sent home weighing <2500 grams will still require close monitoring. Small babies may need to remain in a facility. Babies with social or medical risk factors may need additional support.

When transitioning to home, small babies require special attention to warmth, feeding and hygiene and prompt attention to Danger Signs. Feeding may include gradual transition to more breastfeeding as a baby's skills and strength improve.

Weight gain should be closely monitored to assure that a baby is receiving appropriate nutrition. A baby discharged in the first week will likely not have established weight gain yet or may still be losing weight. Babies can lose up to 10% of their birth weight but should regain their birth weight in 7 to 14 days and then gain 12-grams/kg/day.

Families need to be aware of the importance of good hygiene. They should wash their hands every time they change diapers, feed the baby, or whenever their hands are soiled. If mother lives in a malaria zone, both mother and baby should sleep under a treated bed net. When the baby starts sleeping alone, the baby should sleep on his or her back.

Parents should review Danger Signs with a provider before going home and discuss a plan for action if they have concerns. Follow up appointments should be arranged for weight check, evaluation for Danger Signs, immunizations and additional postnatal care. There should be a written record of follow up plans, weight at discharge, feeds at the time of discharge and any medications. There may be social worker or community health worker support available in some places to help with the transition of small babies to home.



If a baby has required intermediate care

Immunize
Advise about home care and community support

Explain and demonstrate

"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 (see page 16).

Provide the family with

- date, time, place for follow-up
- contact information for emergencies
- advice 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

Advise about ongoing care

Practise

Ask participants to 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 communicate with the provider who will follow a baby in your community?
2. What information and records are given to parents?

Educational advice

Obtain copies of any recording forms that are given to parents on discharge of a baby who has required intermediate or advanced care. Review the recording forms with participants to decide if the information collected is adequate to provide good care in the community. Ask if there is a system to follow babies who are discharged while receiving continuous skin-to-skin care to ensure good weight gain.

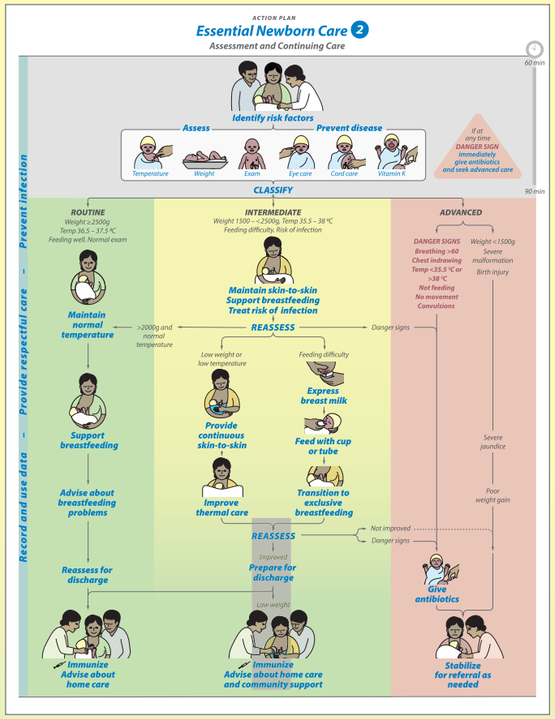
Ask participants to show how they will assess parents' understanding of home care. Encourage them to model parents explaining the plan of home care to the provider.

Background

The baby who has required intermediate care in the facility will require continued special attention in the community.

Providers in the health facility should communicate directly with providers who will continue care in the community. This may be done in written or electronic form, as well as with communication in person or by phone. The "hand-off" is important to make sure that follow-up providers understand the problems that occurred in the facility and the ongoing care required.

Parents also need a record of care provided (including immunizations) and clear understanding of the time, place and date for follow-up care. In addition, there should be an emergency contact for unexpected problems.



GROUP PRACTICE - CASE 4

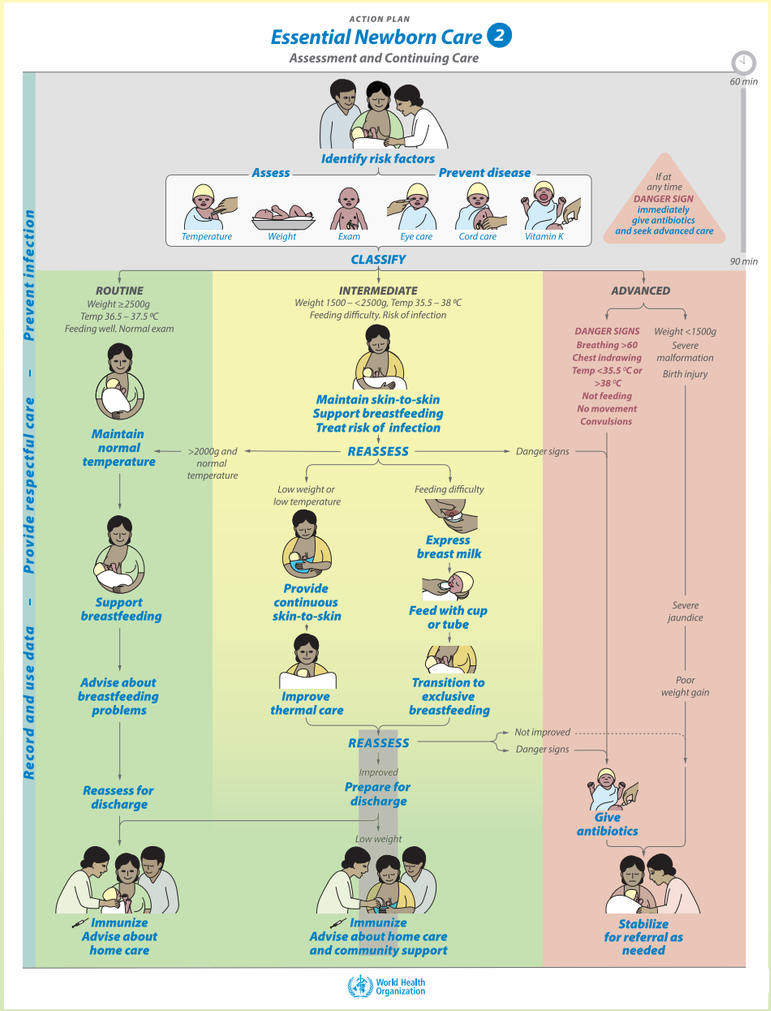
Transition to home after intermediate care

GROUP PRACTICE - CASE 4

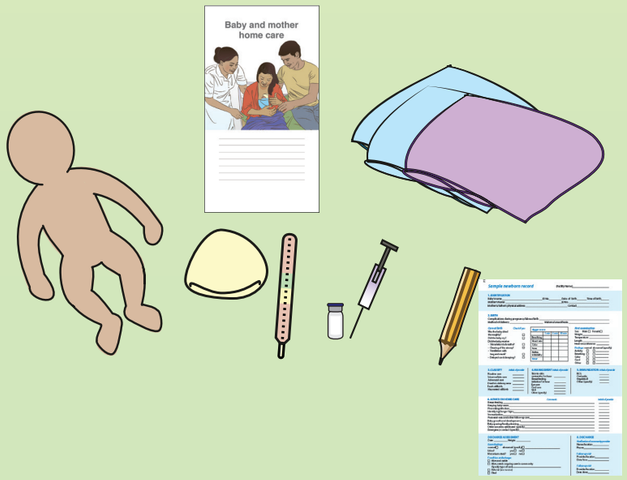
1. **Demonstrate assessing whether a baby who has required intermediate care is ready for discharge, giving immunizations, and advising the mother about home care and community support**
2. **Ask participants to practise in groups of two or three in the roles of**
   - **Provider**: demonstrates action steps and communicates with the mother (and the helper)
   - **Mother:** engages with the simulator, asks questions, give prompts as needed
   - **Helper** (optional): gives prompts as needed
3. **Read the case in the Provider Guide page 67 together with participants and start the exercise.**
4. **Ask participants to switch roles and repeat the exercise.**
5. **Discuss the case with participants**
   - Providers review the action steps and reflect on their performance
   - Mothers and helpers give comments to improve performance and show steps that were missed
   - Facilitator shares feedback with the whole group

Transition to home after intermediate care

(Provider Guide page 67)



EQUIPMENT



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)* - *Temperature is stable (36.5 – 37.5 ˚C) wrapped in two blankets* - *Weight gain is adequate over the last week* - *Mother has established successful breastfeeding* - *Mother has demonstrated confidence in caring for the baby*	*"How is my baby?"* *"Is his temperature OK?"* *"Is my baby growing?"* *"How do I know he is getting enough milk?"*

Baby is ready for discharge. Advise about home care.

☐ ***Prepare for discharge***	
☐ ***Immunize***	
☐ ***Advise about home care*** - *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*	*"What do I do at home?"*
☐ ***Advise about community support*** - *Communicate with care providers in the community*	

Discuss together

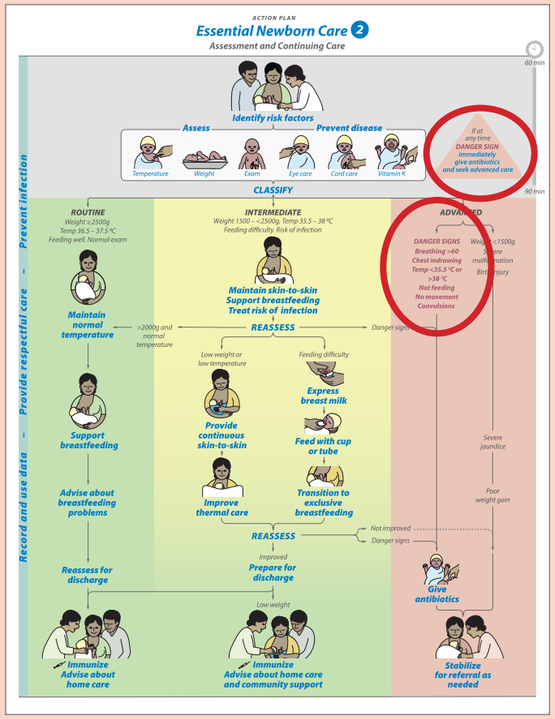
What went well?

Did you follow the Action Plan?

If not, why, and what will you change?

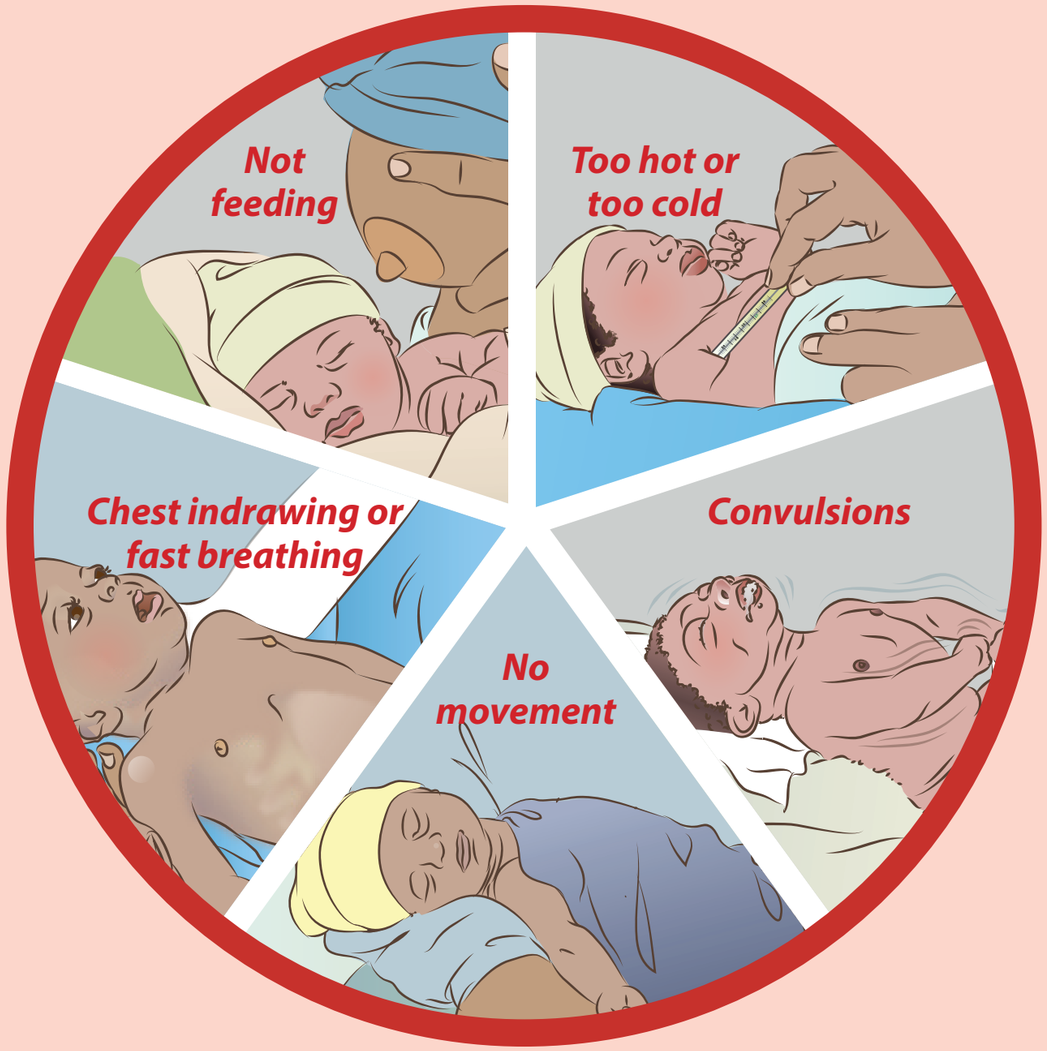
How did you
- provide respectful care and communicate?
- prevent infection?
- record and use data?

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



Explain and demonstrate

"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 ℃ or >38 ℃
- **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.

Assess for Danger Signs

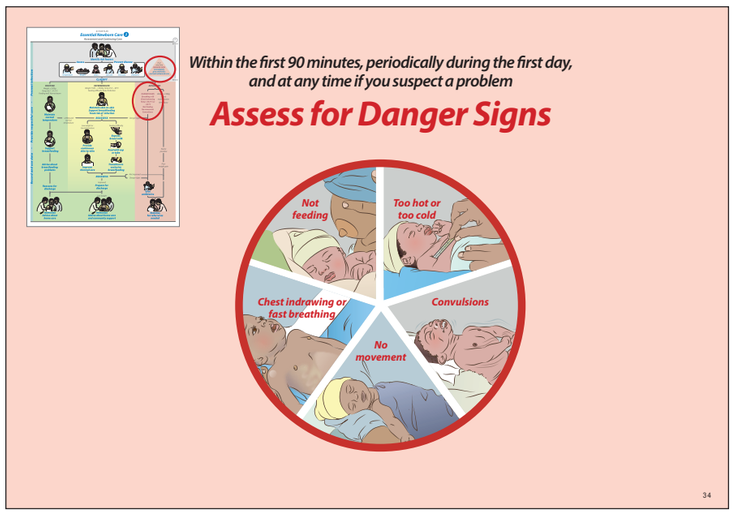
Practise

Ask participants to 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?
2. What are different words used by mothers and others in the community for describing Danger Signs?



Educational Advice

Help participants define how they will take action promptly when a baby has Danger Signs.

Background

Danger Signs are caused by infection or other serious conditions and indicate that a baby is at risk of death. All babies should be assessed for Danger Signs in the first 90 minutes after birth and at frequent intervals thereafter. Any time a Danger Sign is detected, urgent action (antibiotic treatment and advanced care) is required.

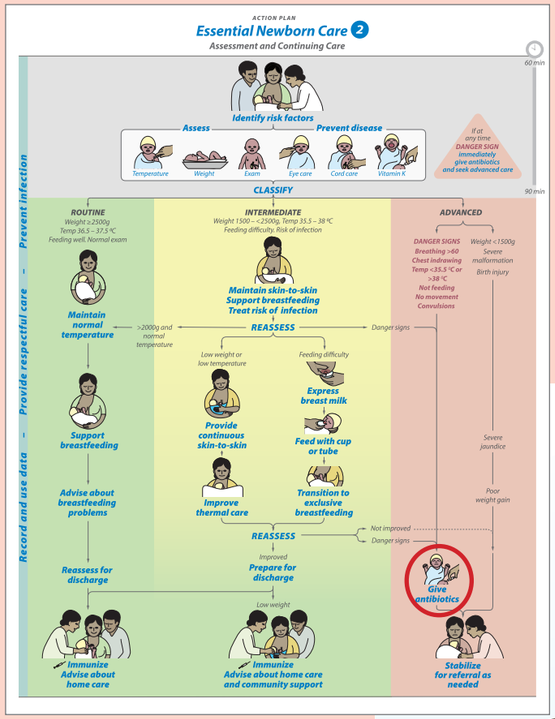
Fast breathing and chest indrawing can be due to pneumonia or blood stream infection and are Danger Signs. Chest indrawing is when the spaces between, above or below the ribs indent with each breath. Fast breathing is a breathing rate more than 60 per minute. The breathing rate should be counted for one minute twice to determine if fast breathing is present. Babies with breathing problems may have a blue color of the skin or inside the mouth. These signs indicate that the baby is not getting enough oxygen.

Temperature that is too low (under 35.5 °C) or too high (over 38 °C) may be a sign of infection and is a Danger Sign. A temperature that is 35.5 – 36.4 °C and does not rise with re-warming (e.g., Improve thermal care, page 19b) is also a Danger Sign.

Not feeding may be a sign of infection, prematurity, or other serious problems and is a Danger Sign. Healthy babies usually feed every 2-4 hours and feed 8-12 times per day. A baby who is not feeding, feeds very poorly, or vomits large quantities of each feeding has a Danger Sign.

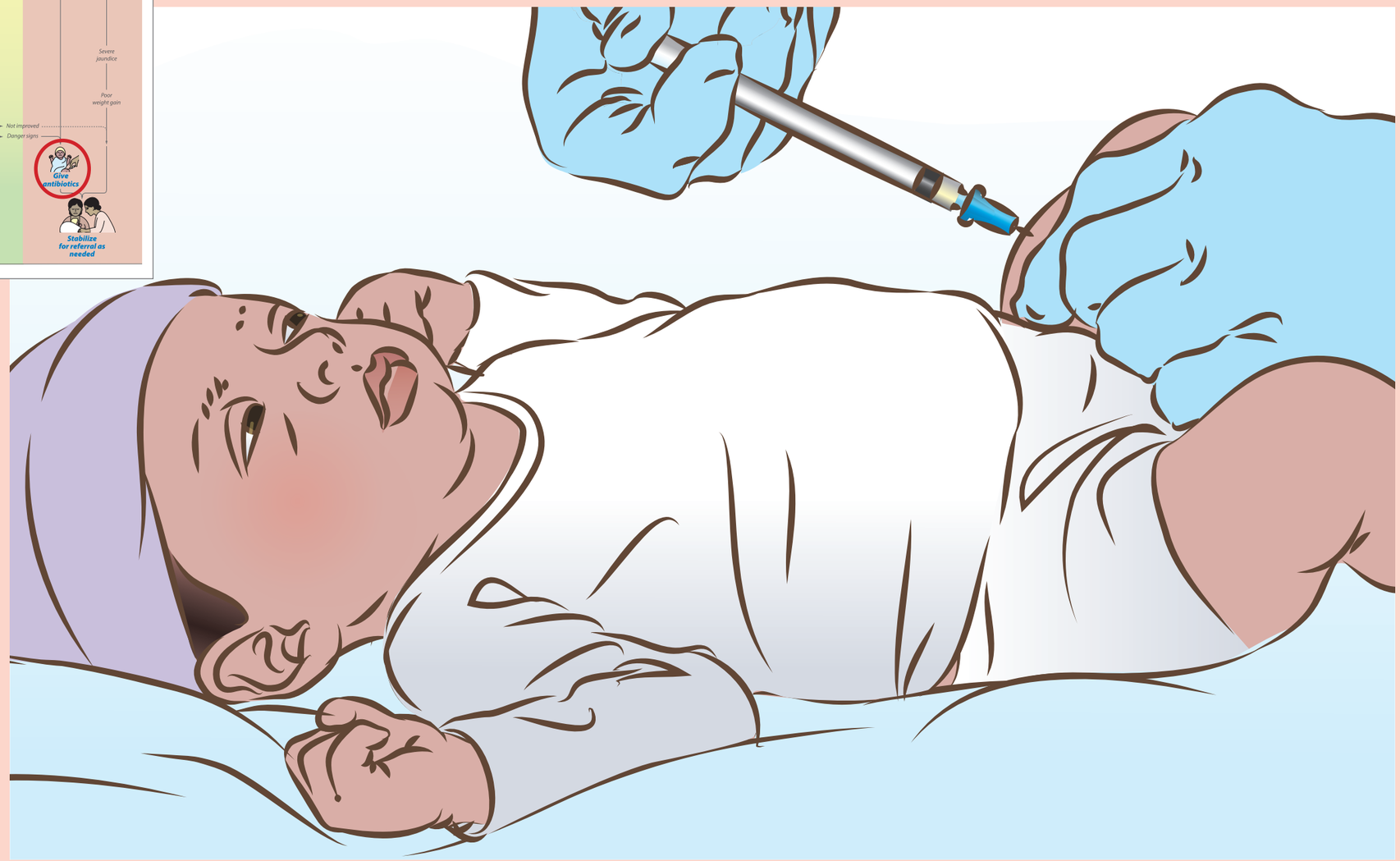
No movement or very little movement, even when stimulated, may be a sign of infection or other serious problems and is a Danger Sign.

Convulsions may result from infection or low blood sugar and are a Danger Sign. Convulsions are rhythmic, symmetrical movements of the limbs that cannot be stopped by holding the limb. Convulsions must be distinguished from the more common problem of jitteriness. Jitteriness does not involve rhythmic movement of all the limbs, and can be stopped by gently bending or holding a limb or initiating suckling. Unlike jitteriness, convulsions are sometimes accompanied by abnormal eye movements (staring; blinking; deviation). Jitteriness can be caused by an external stimulus, such as a loud noise or sudden movement, but convulsions are not.



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

Give antibiotics



Explain and demonstrate

"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.

Give antibiotics

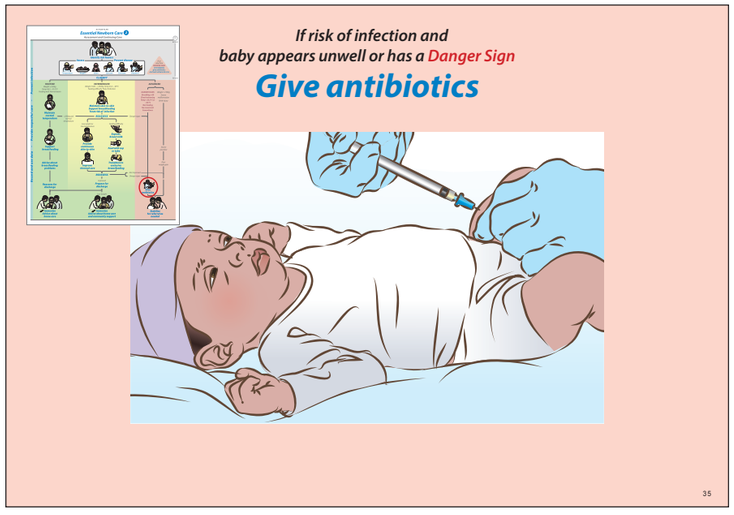
Practise

Ask participants to practise in pairs

- Explain to a baby's parents why the baby needs antibiotics and referral
- Choose appropriate antibiotics and determining the dosage (in mg and mL) for babies who weigh 1.9 kg, 2.6 kg and 4.0 kg
- 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?



Educational advice

Have participants demonstrate assessment for Danger Signs. Assemble antibiotics that are available locally and syringes that will be needed to administer the antibiotics. The following table can be used to calculate dosages of ampicillin and gentamicin according to the baby's weight, but only if these antibiotics and these concentrations are used locally. **A similar table should be available for alternate antibiotics used locally.** This table could be posted in the health facility.

For practice, use water to simulate preparation of the correct dose of each antibiotic. Have participants withdraw the appropriate amount of water for treatment of babies with varying weights, record drug administration in the patient's record.

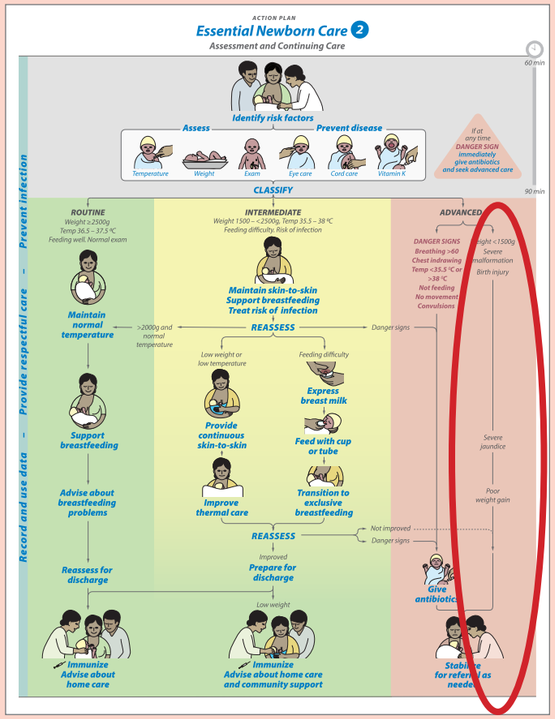
Weight	**Ampicillin IM** **Dose:** 50 mg per kg every 12 hours Add 2.5 mL sterile water to 500 mg vial - 200 mg/mL	**Gentamicin IM** **Dose:** 5 mg per kg every 24 hours if term; 4 mg per kg every 24 hours if preterm 20 mg per 2 mL vial - 10 mg/mL
1.0 - 1.4 kg	0.35 mL	0.5 mL
1.5 - 1.9 kg	0.5 mL	0.7 mL
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

Note:
Specific drug doses should be calculated based on body weight and volume of administration determined by the drug concentration. The table above provides a guide of the amount to be given. The amount of drug in a vial may vary but is always indicated on the label. The instructions for reconstitution will therefore vary, as will the volume to be given to an individual baby. Providers who prepare and administer antibiotics must understand how to calculate the amount of water to add to the vial and the amount to be given to the baby. The table above is one example and only applies when the concentration of ampicillin and gentamicin is as indicated at the top of each column.

Background

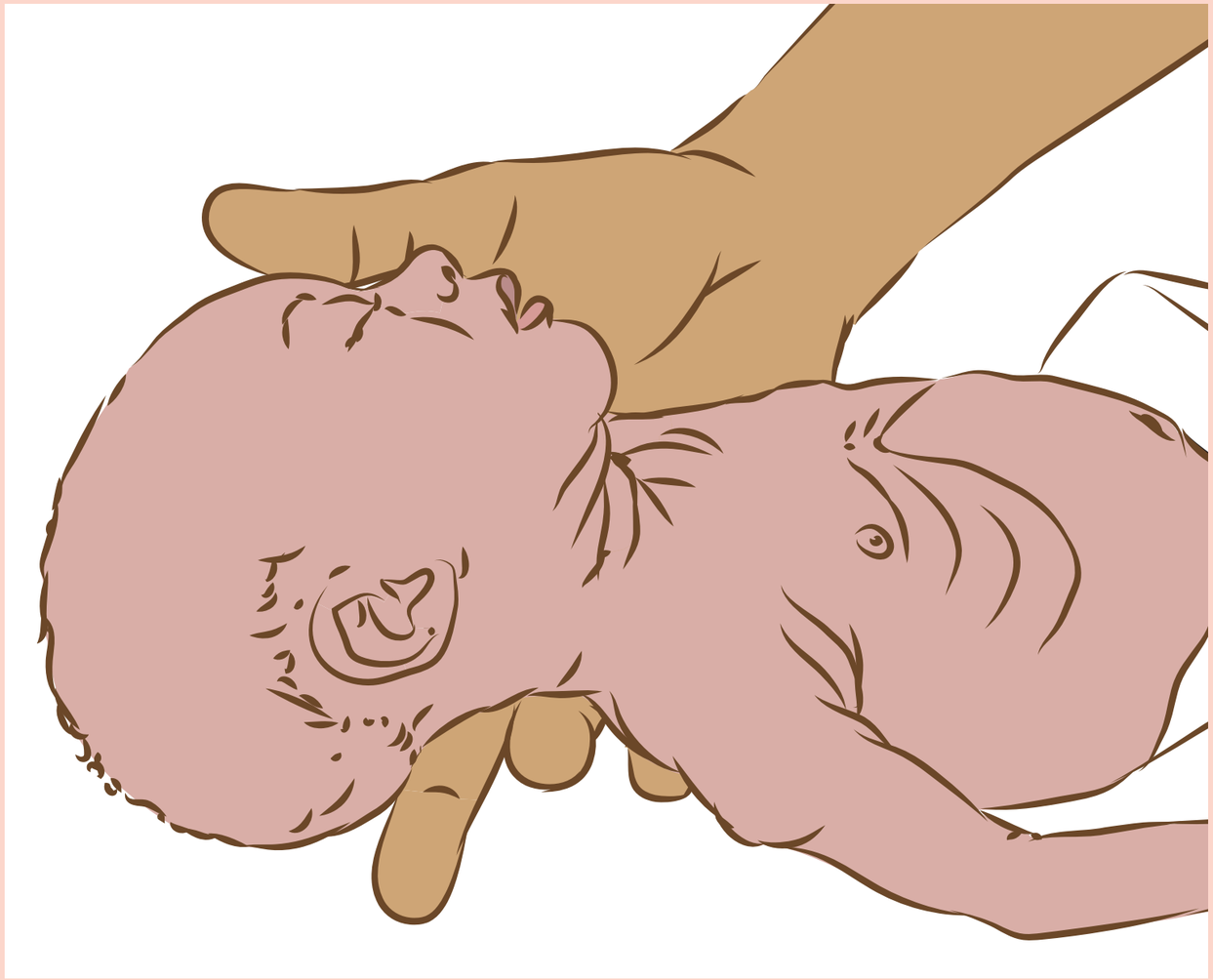
Infection in a baby can cause death. A baby with a Danger Sign is at high risk for having an infection and therefore needs urgent antibiotic treatment. Ampicillin and gentamicin are often used to treat infection in babies. However, your health authority may recommend treatment with different antibiotics.

The first doses of antibiotics should be given as soon as possible after the identification of a Danger Sign because early treatment may improve outcome. The dose will depend on the weight of the baby and the specific antibiotics that will be used. When resources are available, a blood culture should be obtained before antibiotics are given. Spinal fluid and urine culture should be obtained for a complete infection evaluation.



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

Provide advanced care



Explain and demonstrate

"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 (<1500 grams)
- 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 feeding, may need intravenous nutrition.

Practise

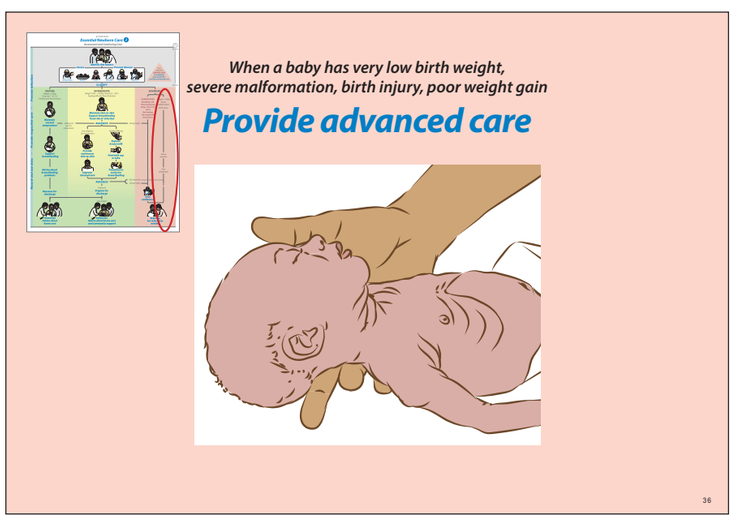
Ask participants to practise together in small groups of up to 6 persons with a facilitator. Answer the following questions for each of the babies described:

- 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?



Educational advice

Help participants define how they will decide which babies can be cared for at the facility and which babies require referral for advanced care. Photos can help illustrate the conditions. Have available the guidelines of the health authority relating to referral of babies. Any variations from the guidelines should be discussed (Who? Why? When? How?).

In the practice activity, emphasize how weight can determine different sites of care. In a similar way, the special services needed by babies with malformations or injuries determine where they receive care.

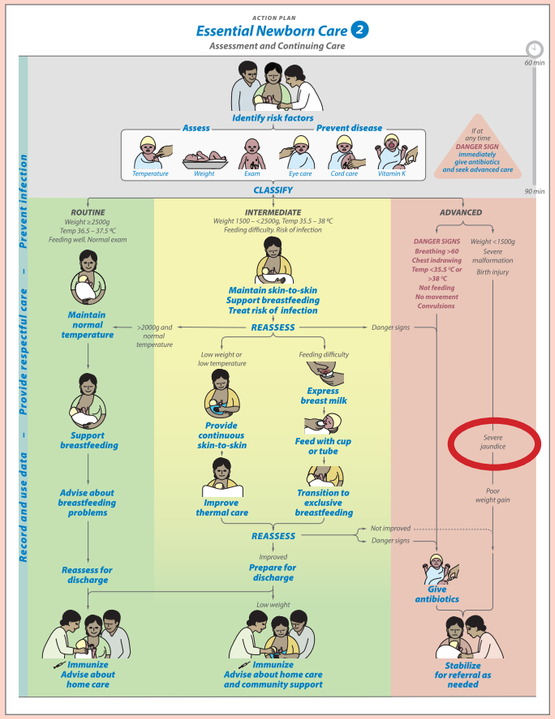
Discuss situations when referral is not possible or when there is no facility available that offers the needed care. Shared decision-making with families becomes important when long distances and high cost complicate transfer.

Background

Weight ranges for routine, intermediate, and advanced care can vary from one facility to another. Babies >2500 grams ordinarily receive routine care. Babies between 2000 and 2500 grams often receive intermediate care until they are stable. Under 1500 to 1800 grams, most health systems specify the need for advanced care.

Babies with a severe malformation or birth trauma often need access to surgery specialists with experience in pediatric conditions. Myelomeningocoele, cleft lip and palate, gastroschisis, omphalocoele, congenital diaphragmatic hernia all require highly trained specialists. Diagnosis and treatment of birth injury usually requires imaging of the brain or other body part and may require blood bank services.

Babies who experience poor weight gain may need parenteral nutrition (IV nutrition with protein, fat, and glucose). They may have medical or surgical conditions that require treatment to allow good growth.



On the first day or later

Recognize severe jaundice

Explain and demonstrate

"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.

Recognize severe jaundice

Practise

Ask participants to 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?

Educational advice

Ask participants to demonstrate how to assess babies for jaundice at different times after birth. Discuss the methods used at the facility for measurement of the severity of jaundice. Consider when babies should be referred for advanced care to avoid severe jaundice and its consequences.

Background

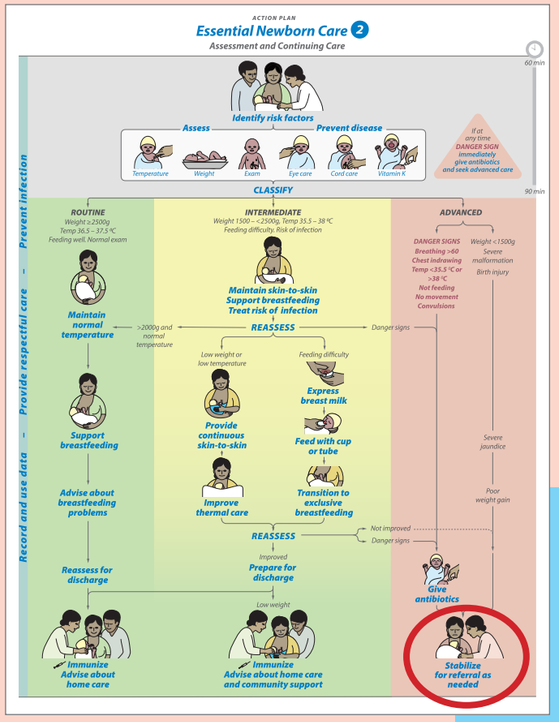
Jaundice is a yellow color of the skin caused by high levels of bilirubin in the blood. Bilirubin comes from the normal breakdown of red blood cells after birth. When levels are high, bilirubin can enter the brain and cause damage or death.

All babies have some jaundice. This usually appears during the first several days after birth and disappears over the next week. Babies who are premature, have infections or certain blood disorders, or who feed poorly are more likely to develop severe jaundice. Certain chemicals, such as those in moth balls or mentholated rubs, can cause severe jaundice. Jaundice becomes dangerous for preterm babies at lower levels than for term babies.

Systems to measure the severity of jaundice use different methods. Jaundice first appears on the head and progresses down the body. Jaundice of the palms and soles signifies a bilirubin level in the range of 340 umol/l (20 mg/dL). Matching the skin color with carefully calibrated color strips is one method to estimate the severity of jaundice. Other methods use a device which measures bilirubin in the skin or in a blood sample.

Jaundice can be difficult to detect in dark-skinned babies. Pressing the baby's skin with a finger and carefully examining palms and soles may help detect jaundice in those babies.

Severe jaundice is life-threatening and requires urgent action. Advanced care might include phototherapy and exchange transfusion if jaundice reaches dangerous levels. Recognizing jaundice and beginning treatment promptly can help avoid the need for exchange transfusion.



When a baby needs advanced care

Stabilize for referral as needed

Explain and demonstrate

"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. Stabilize for referral as needed

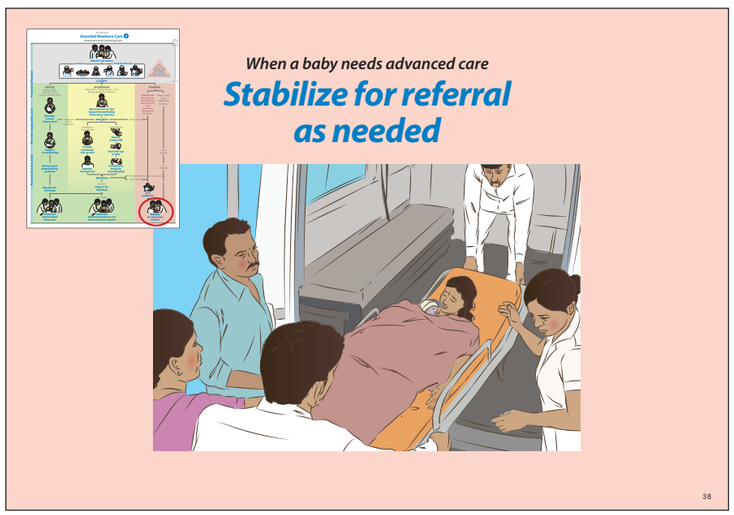
Practise

Ask participants to 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?



Educational advice

Have participants demonstrate writing a referral note to accompany a baby who is transferred to a referral center for advanced care and explaining referral for advanced care to parents. Use the local referral form or adapt the one found in the Provider Guide.

Provider Guide page 83

Background

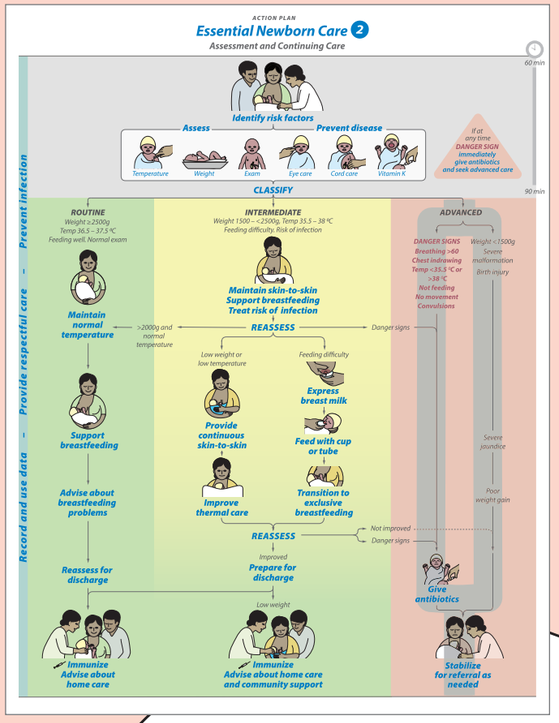
Advanced care may include special treatments, such as antibiotics, intravenous fluids, oxygen, and maintaining normal temperature. Phototherapy and exchange transfusions treat severe jaundice.

Very low birth weight and jaundice on the first day of life are conditions that needs advanced care immediately after birth. Other conditions may appear during later assessment: jaundice of the palms and soles, or jaundice lasting more than 2 weeks, apnea that recurs, cord infection extending onto the abdomen or draining pus, feeding intolerance, and poor weight gain. A baby with a risk factor for infection who appears unwell also needs advanced care.

Timely recognition of problems and prompt referral, stabilization before transport, and care by a trained team with appropriate equipment during transport are three important ways to improve outcomes. Long delays in making the decision or arrangement to transfer can make the baby more unstable and less likely to benefit from advanced care.

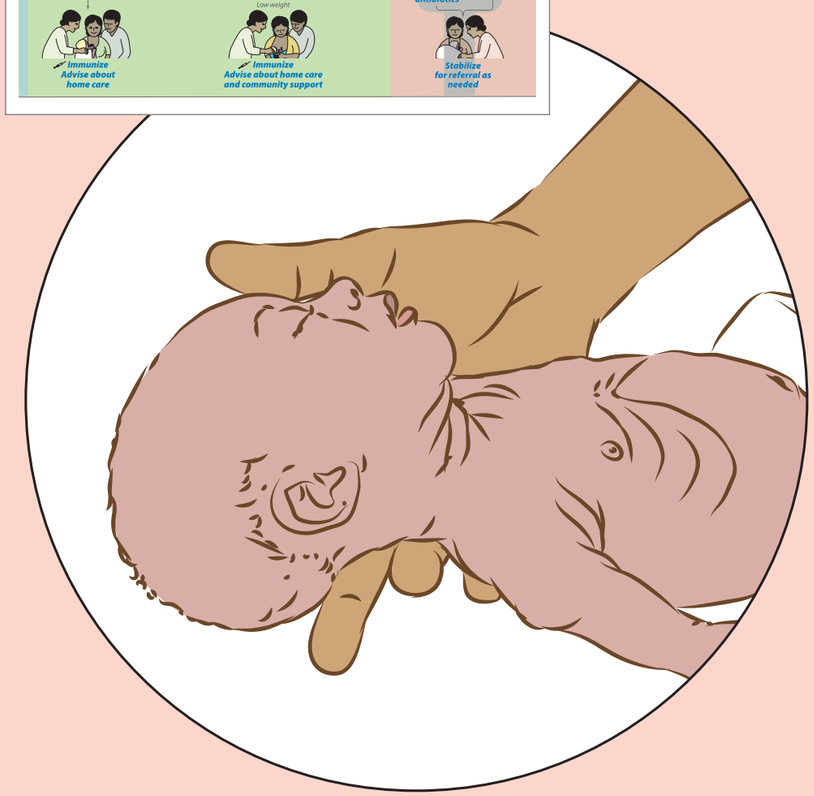
Stabilizing breathing (with oxygen as needed), maintaining warmth, and providing a source of fluids and nutrition are essential to prevent an unwell baby from becoming worse.

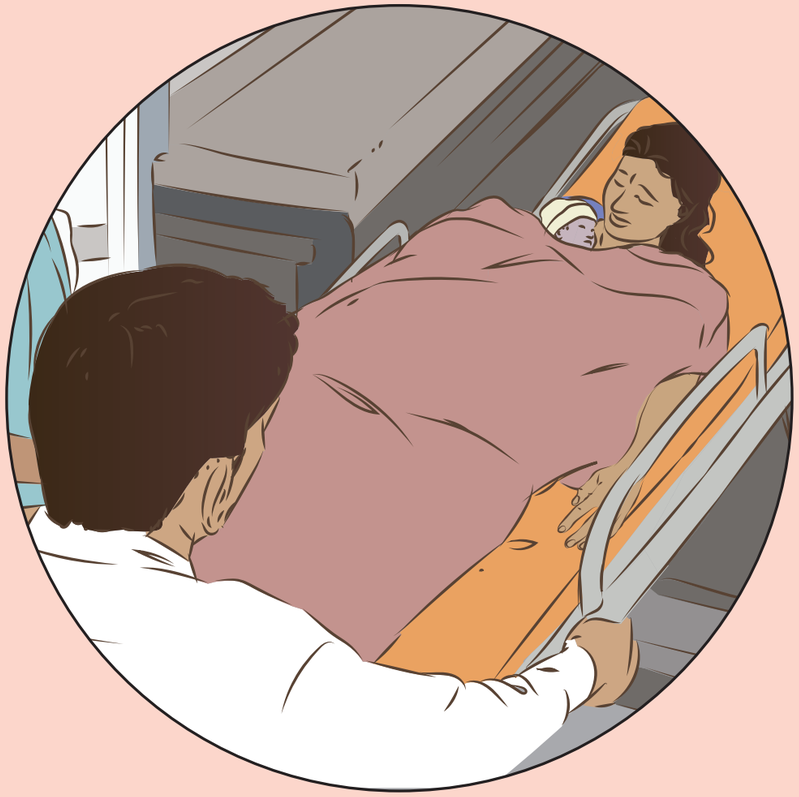
Before referring a baby for advanced care, the provider should contact the facility that will receive the baby to confirm the needed care can be provided. A referral note should be sent with the baby that contains the following information: name, problem for which the baby is being referred, obstetrical complications, time/date of birth, sex, birth weight, results of examinations, and treatments given.



GROUP PRACTICE - CASE 5

Advanced care

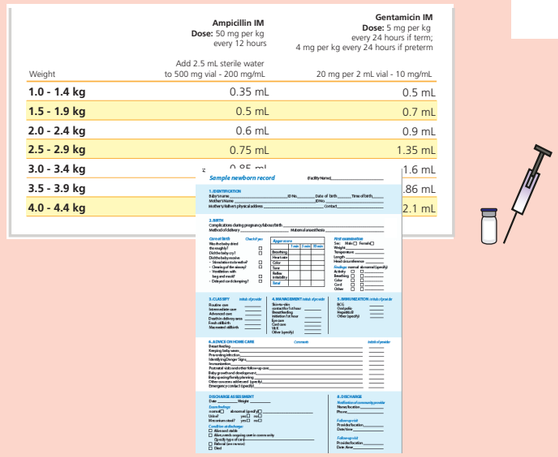




GROUP PRACTICE - CASE 5

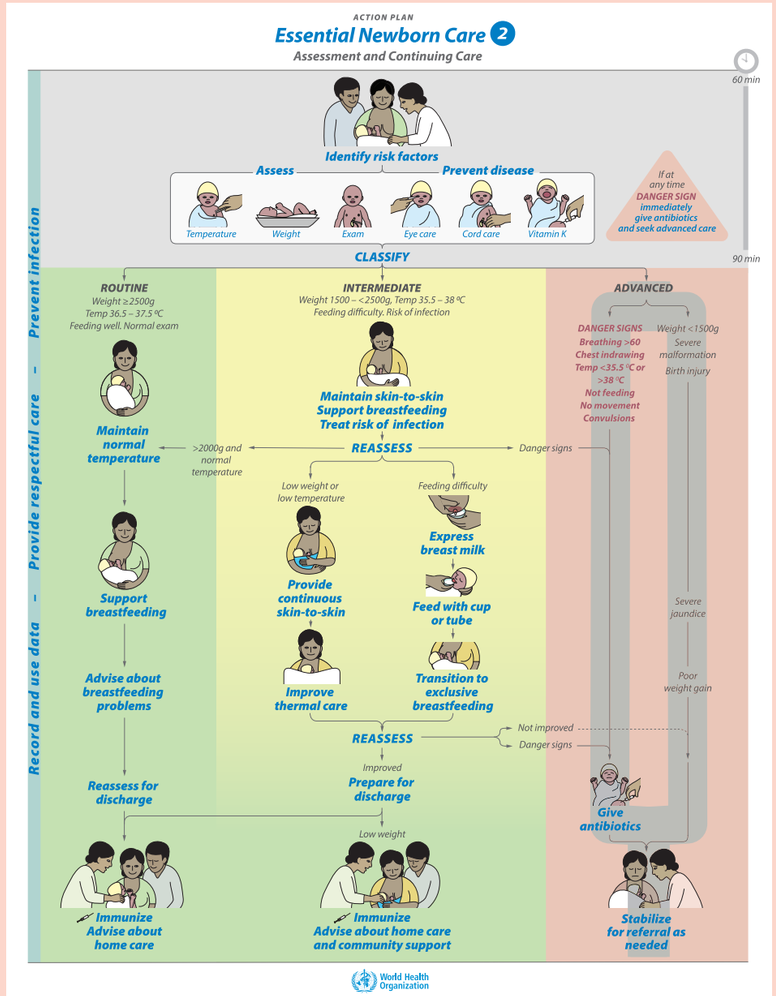
1. **Demonstrate advanced care for Danger Signs or serious problems, giving antibiotics and stabilizing for referral.**
2. **Ask participants to practise in groups of two or three in the roles of**
   - **Provider**: demonstrates action steps and communicates with the mother (and the helper)
   - **Mother:** engages with the simulator, asks questions, give prompts as needed
   - **Helper** (optional): gives prompts as needed
3. **Read the case in the Provider Guide page 79 together with participants and start the exercise.**
4. **Ask participants to switch roles and repeat the exercise.**
5. **Discuss the case with participants**
   - Providers review the action steps and reflect on their performance
   - Mothers and helpers give comments to improve performance and show steps that were missed
   - Facilitator shares feedback with the whole group

EQUIPMENT



Advanced care

(Provider Guide page 79)



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

Essential Newborn Care 2 Knowledge check

Select the best answer to each question or statement
Circle the letter of the correct answer

1. What will determine a baby's plan of care after birth?
- a. Mother's request to leave by 6 hours
- b. Risk factors and assessment of the baby
- c. Available bed space in the facility
- d. Sex of the baby

2. Which of these are risk factors that affect a baby's care?
- a. Rupture of membranes >18 hours with foul-smelling fluid
- b. Small or large size at birth
- c. Need for help to breathe at birth
- d. All of the above

3 How fast should a normal baby breathe?
- a. At least 65 times per minute
- b. At any rate as long as there is no chest indrawing
- c. 40–60 times per minute
- d. 25 times per minute

4. When should a baby be given liquids other than breastmilk?
- a. When the baby does not feed at the breast within the first hour after birth
- b. When the mother has engorged breasts
- c. When the baby cries between feeds
- d. Never, unless mother cannot supply breastmilk and formula is clean and available

5. What is the most important reason for weighing all babies soon after birth?
- a. Birth weight may identify babies who need special care
- b. Mother and family members want to know the birthweight
- c. Birthweight will determine how long a baby will breastfeed at each feeding
- d. Birth weight will identify babies who need vitamin K

6. What is the normal temperature range for a healthy baby?
- a. 36.5 – 37.5 °C
- b. 34.0 – 35.5 °C
- c. 35.5 – 36.5 °C
- d. 37.5 – 38.5 °C

7. What is a sign of good attachment at the breast?
- a. The baby's nose is pressed against the breast
- b. The baby bites down and pulls on the nipple
- c. Only the tip of the breast is in the babies mouth
- d. The baby's mouth is wide open on the breast

8. How should a baby be kept warm after skin-to-skin care?
- a. Bathing in warm water
- b. Wrapping in a clean, dry blanket or cloth
- c. Placing near warm stones
- d. Exposing to sunshine

9. When should a healthy baby be bathed?
- a. As soon as the baby has a normal temperature
- b. As soon as normal breathing has been established
- c. At least 24 hours following birth
- d. Immediately after the first breastfeeding

10. How can you feed a baby who is unable to suck but can swallow?
- a. Eye dropper or syringe
- b. Squeeze bottle
- c. Cup feeding
- d. Only intravenous fluids

11. Which of the following would describe convulsions?
- a. Occur only in legs
- b. Cannot be stopped by holding arms and legs
- c. Occur in response to a loud noise
- d. Occur only when the baby is awake

12. After the first day following birth, jaundice is severe when it appears on what body area?
- a. Back and abdomen
- b. White part of the eye
- c. Legs and arms
- d. Palms and soles

13. Which of the following is a sign that a baby is breast feeding adequately?
- a. Crying within one hour after each feeding
- b. Vigorous sucking that causes nipple pain with each feeding
- c. Remaining awake and active after each feeding
- d. Feeding 8–10 times per day and settling after feeds

14. When should a baby be treated with antibiotics?
- a. If birth weight is less than 2000 grams
- b. When a Danger Sign is present
- c. If the baby cries often
- d. If the baby appears to be in pain

15. Babies should be regularly assessed for:
- a. Frequency and success at feeding, temperature, presence of hiccups
- b. Activity, breathing, color, temperature, and weight gain
- c. Breathing problems, temperature, and white blood cell count
- d. Frequency and success at feeding, cough, presence of convulsions

16. What is an important step in the care of all babies?
- a. Teaching the mother to give a bath
- b. Giving the small baby lots of time in the sunlight
- c. Preventing infection by washing hands before touching the baby
- d. Weighing the small baby 3 times a day

17. At 90 minutes after birth, an 1800 gram baby is placed skin-to-skin with the mother and has a temperature of 36.7°C. What should you do to help maintain the baby's temperature?
- a. Bathe the baby in warm water
- b. Place in direct sunlight
- c. Assist mother with continuous skin-to-skin care
- d. Place the baby on an open warmer set for high output

18. Which of the following techniques can help a mother to support or improve a baby's attachment?
- a. Wrapping breasts in tight clothing between feeds
- b. Supporting the baby's head to take the nipple and surrounding area into an open mouth
- c. Putting oils on the breast
- d. Feeding first with a bottle until sucking is strong

19. When a baby cannot feed directly from the breast after support is provided, what should you advise a mother to do next?
- a. Give the baby formula
- b. Keep trying to breastfeed the baby
- c. Express her breastmilk to feed the baby by a safe alternative feeding method
- d. Wait until the baby can feed directly from the breast

20. When a mother expresses her breastmilk, how can it be stored safely?
- a. In a covered container in a cool place for up to 4 hours
- b. In an open container in a shaded area
- c. In an open container in direct sunlight
- d. In a covered container heated in warm water until used

21. How many feeds should a baby have in a day?
- a. Two to four
- b. Five to six
- c. Eight to ten
- d. Twenty-four

22. On the day after birth, a 1600 gram baby cannot breastfeed or cup feed. What would you do?
- a. Refer for intravenous fluids
- b. Start antibiotics
- c. Provide nasogastric feeding
- d. Give sugar water by syringe

23. A baby born at 1700 grams has jaundice to the palms and soles on reassessment on day 5. What would you do?
- a. Put the baby in the sun
- b. Increase the feeding volumes
- c. Measure bilirubin and consider advanced care
- d. Begin antibiotics

24. Which of the following is a Danger Sign?
- a. Temperature 35.4 °C after one hour of rewarming with skin-to-skin care
- b. Breastfeeding less than 5 minutes per side
- c. Stooling 6–8 times per day
- d. Crying before each feeding

25. Which baby do you consider ready for discharge from the birth facility?
- a. Any baby who weighs >2000 grams
- b. A baby who is gaining weight, has stable temperature and no breathing difficulty and a mother who can perform care
- c. A baby whose family lives close to the birth facility
- d. A 1500 gram baby with stable temperature in skin-to-skin care

Knowledge check – Answer key

1. b; 2. d; 3. c; 4. d; 5. a; 6. c; 7. d; 8. b; 9. c; 10. c; 11. b; 12. d; 13. d; 14. b; 15. b; 16. c; 17. c; 18. b; 19. c; 20. a; 21. c; 22. c; 23. c; 24. a; 25. b

Essential Newborn Care 2 Case scenario A

To the facilitator: Read the instructions for the case scenario in quotations below.
Case Scenarios give participants an opportunity to review and learn. They can be used as evaluations at the end of a workshop or repeated regularly as group practice in the facility.
Read the instructions and the Case Scenario (in quotations) aloud to participants.
Provide the prompts shown in italics. Apart from giving these prompts, keep silent during the evaluation.
Indicate the baby's response to the participant's actions using the neonatal simulator or words if using a mannequin. As you observe the participant, tick ☑ the boxes "Done" or "Not Done" for each activity. **After participants complete the Case Scenario, discuss the 5 debriefing questions.**

"I am going to read a case scenario. Please listen carefully, and then show or tell me what you would do to take care of this baby. I will indicate the baby's response with the simulator, or I will answer any questions about the baby's condition, but I will not give information unless you ask. I will provide no other feedback until the end of the case."
"You have a maximum of 15 minutes to demonstrate the care of this baby."
"A 22-year-old mother has given birth to her first baby at term. Show me what you would do to care for this baby now one hour after birth. First, what else would you like to know?"

Identify risk factors	**Done**	**Not Done**
Problems in pregnancy, labour and birth; need for help to breathe, initiation of breastfeeding, temperature in first hour	☐	☐
Assemble equipment and supplies to assess and prevent disease		
Cleans thermometer, scale; obtains appropriate medications	☐	☐
Washes hands.	☐	☐
Measures temperature		
Places thermometer in the armpit	☐	☐
Reads and records temperature accurately	☐	☐
Prompt: Temperature is 37˚C		
Examines baby		
Activity and tone.	☐	☐
Breathing	☐	☐
Skin color	☐	☐
Cord appearance	☐	☐
Prompt: Provide the following information if asked by the learner.		
Baby is breathing normally and is pink, the limbs are flexed, and there is no bleeding from the cord.		
Weighs baby		
Measures and records weight	☐	☐
Prompt: Weight is 2900 grams		
Provides eye care	☐	☐
Provides cord care	☐	☐
Gives vitamin K		
Draws into syringe the correct amount of vitamin K.	☐	☐
Indicates correct location for injection	☐	☐
Classify baby for further care		
Recognizes baby needs routine care	☐	☐
Prompt: How would you classify this baby?		

Use the questions below to help the participant reflect on his or her own performance and then provide feedback.
1. What care did this baby need?
2. Did you follow the Action Plan?
3. What went well and what could have gone better?
4. What did you learn?
5. What will you do differently next time?
6. What do you need to practice?

SCORING:
Successful completion requires a total score of 12 of 15 "Done". Incompletely done items should be marked as not done.
Measuring temperature, weighing and examining the baby, providing eye and cord care, and giving vitamin K can be done in any order.

Number Done Correctly ..... *Facilitator initials* .....

Essential Newborn Care 2 Case scenario B

To the facilitator: Read the instructions for the case scenario in quotations below.

After participants complete the Case Scenario, discuss the 5 debriefing questions.
"I am going to read case scenario. Please show and tell me what you would do to take care of this baby. I will answer any questions about the baby's condition, but I will not give information unless you ask. I will provide no other feedback until the end of the case."

"A 28-year-old mother has given birth to a small baby. On your assessment one hour after birth you find that the baby is breathing well and the rest of the exam is normal; the weight is 1700 grams and the temperature is 36.3ºC. The baby did not initiate breastfeeding. There were no other risk factors identified during pregnancy or labour. You have provided cord care, eye care, and vitamin K. Tell me what information you will use to classify the baby and what care the baby will need."

Classify the baby	**Done**	**Not Done**
Uses the weight, temperature, exam, and risk factors to classify the baby	☐	☐
Recognizes a baby who need intermediate care	☐	☐
Plans to provide continuous skin-to-skin care	☐	☐
Prompt: Describe and show how you will help mother begin continuous skin-to-skin care.		
Show the mother how to do skin-to-skin care		
Explains to mothers steps and advantages of skin-to-skin care	☐	☐
Dresses baby with diaper, hat, and socks (if available)	☐	☐
Places baby upright on mother's skin between breasts	☐	☐
Positions a baby with arms and legs flexed, head turned	☐	☐
Secures snugly with a cloth pulled up to the ear	☐	☐
Covers with a garment or closes mother's shirt	☐	☐
Prompt: What will you assess next?		
Rechecks temperature in 1 hour	☐	☐
Prompt: The temperature is 36.7˚C. What else will you want to re-assess?		
Assesses repeat breastfeeding attempt	☐	☐
Prompt: The baby is sleepy and does not latch or feed from a cup. What will you do?		
Rechecks temperature	☐	☐
Arrange for nasogastric feeding	☐	☐
Prompt: Temperature is 35˚C		
Recognizes hypothermia (a Danger Sign)	☐	☐
Improves thermal care		
(Check for wet clothing and wraps, raises room temperature, adds a layer of clothing/blanket and hat)	☐	☐
Recognizes baby has a Danger Sign	☐	☐
Gives antibiotics (after obtaining blood cultures if possible)		
Calculates correct dose	☐	☐
Draws up and gives correct dose	☐	☐
Makes referral for advanced care	☐	☐
Indicates the need for a referral note	☐	☐

Use the questions below to help the participant reflect on his or her own performance and then provide feedback.
1. What care did this baby need?
2. Did you follow the Action Plan?
3. What went well and what could have gone better?
4. What did you learn?
5. What will you do differently next time?
6. What do you need to practice?

SCORING:
Successful completion requires a total score of 15 of 19 "Done". Incompletely done items should be marked as not done.
_____ of 19

Number Done Correctly ..... *Facilitator initials* .....

With knowledge and skills from the workshop

Take steps to improve care

Explain and demonstrate

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 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

Ask participants to work 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 positive change?

Educational Advice

Prepare an example data set of newly born infants showing some infants with low body temperatures, such as:

- 2400 grams, female, no temperature
- 1970 grams, male, temperature 34.5 °C
- 3400 grams, male, temperature 35.4 °C
- 2240 grams, female, temperature 36.0 °C
- 2100 grams, male, no temperature
- 1990 grams, female, temperature 34.2 °C

Help participants calculate the percentage of babies who get cold and identify low temperature as a problem. Participants complete this skill practice by suggesting local causes and solutions of the problem, designing change, and describing follow up measures. Tools for improvement of care may be available through the regional health system.

Background

Essential Newborn Care emphasizes high quality care through maintenance of normal temperature, feeding that supports growth, hygiene/prevention of infection and recognition and response to Danger Signs. The desired outcomes of this care are a baby who remains well and a family that can adequately assume the care of their own baby.

High quality care demands a continuous process of improvement. Routinely recorded data are valuable to show what needs improvement and to demonstrate the effect of change. Improvement teams are more successful in making change than individuals. Every provider has the responsibility and opportunity to contribute as a participant in improvement work or as a champion who can help organize the team to implement change.

WHO SEARO improvement guide

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