Essential Newborn Care 1

Immediate Care and Helping Babies Breathe at Birth

Flipchart

World Health Organization

For the facilitator

How to facilitate a hands-on workshop

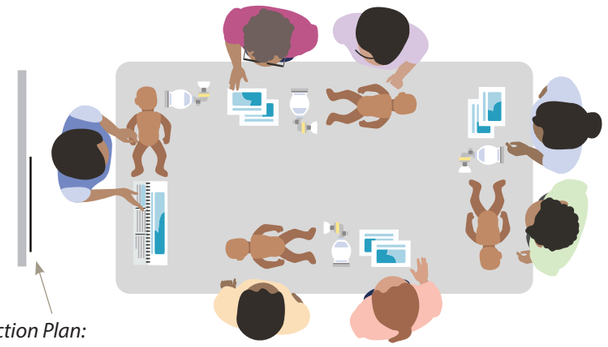
1 *Before the training*

- Begin planning with leadership and local organizers well in advance and visit the facility to identify locations where the workshop and practice activities will take place.
- Visit hmbs.org to get planning checklists, agenda, evaluations, Clinical Practice Cards, Simulation Practice Cards, and more resources such as videos and scientific evidence.
- Prepare/order course materials and equipment.
- Prepare yourself to facilitate by reviewing course materials and the guide to facilitation and implementation.

2 *Arrange materials and equipment on tables and the Action Plan on a wall*

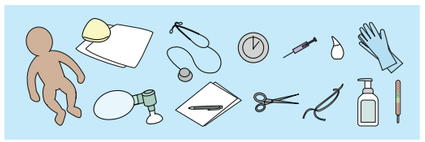
- Arrange participants in small groups with at most 6 participants per facilitator.
- Provide 1 simulator, set of equipment, and course agenda for every 2 participants so they can practise in pairs.
- Set up and test the audiovisual system if planning to use videos.

Example table setup for 6 participants:



Action Plan:

Equipment for every 2 participants:



3 *Welcome participants and assess knowledge and skills*

- Welcome participants when they arrive and introduce yourself.
- Ask participants to introduce themselves.
- Make sure each participant completes the Knowledge Check.
- Ask participants to "show what you would do for a baby who is not breathing" to help assess their skills.

4 *Introduce the course and learning objectives*

- Involve participants in acting out care of a newborn.
- Point to the learning objectives on the Action Plan. If possible, link the learning objectives to the causes of death in your setting. Countdown 2030 resources
- Follow the course content.

5 *Engage participants*

- Actively involve participants on each page of the Flipchart and practise in pairs. The participant in the role of mother interacts with the simulator as a baby and operates the controls.
- Encourage participants to ask questions.
- Try turning key points into questions to engage experienced participants.
- Demonstrate good technique and make sure participants practise the same.

6 *Evaluate and link to continuous practice*

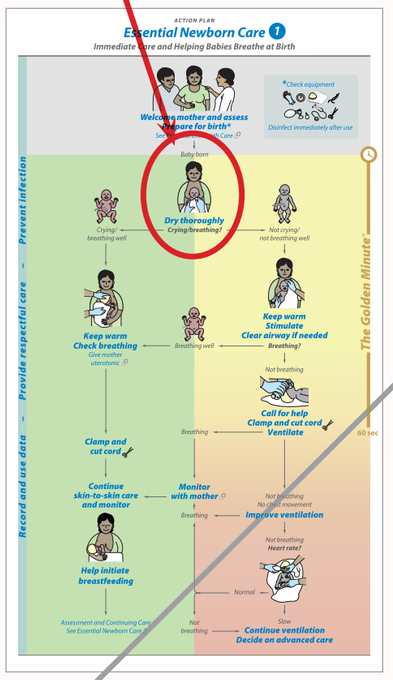
- Repeat Knowledge Check and complete Bag-and-Mask Skills Check.
- Complete Case Scenarios A and B.
- Introduce the use of Simulation Practice Cards and Clinical Practice Cards.
- Visit hmbs.org to get the resources you need to support continuous practice and quality improvement after the workshop.

For the facilitator

How to facilitate learning with the materials

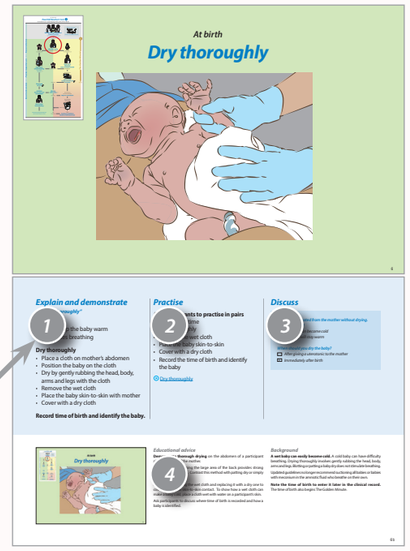
Action Plan

Ask a participant to point out the relevant **Action** or *Evaluation*



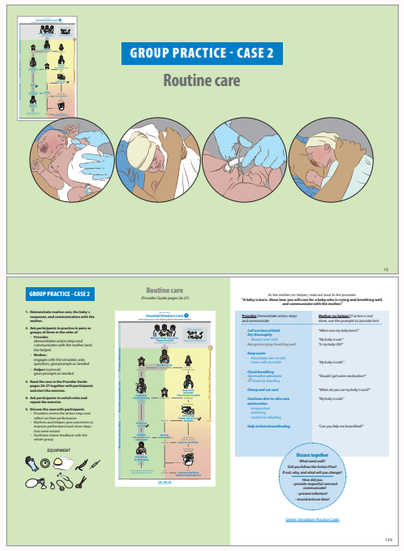
Flipchart

Use the illustration and text to guide learning the actions.



Practise

Practise the sequence of actions using the Group Practice page.



Provider Guide

Participants use the illustrations, text, and practice to guide their learning. They can also identify and address changes that will improve care in the facility.

Modules and Clinical Practice Cards

Use the Modules and Clinical Practice Cards to explore specific topics on the Action Plan and support quality improvement.

Simulation Practice Cards

Introduce practice cards during the workshop to ensure continued simulation practice in the facility.

Parent Guide

Use the Parent Guide to give guidance for home care .

Symbols explanation

- Point to the Action Plan step
- Resource and evidence
- Video
- Essential Childbirth Care Course (ECBC)

1

Explain and demonstrate

Explain key points briefly.
Involve participants by asking questions.
Almost every bolded statement in the Flipchart can be turned into a question (What? Why? How?).

Demonstrate the action with a simulator and emphasize the key techniques for successful performance.

Use links to videos and additional materials to enhance the course.

2

Practise

Spend more time on practice than talking.

After demonstrating an action, ask a pair of participants to practise it with the other 4 participants watching. Invite self-reflection and give feedback, then ask the pair to switch roles and repeat. Finally, ask the other two pairs to practise. Give feedback and invite the first pair to offer feedback.

Use the group practices to gain mastery of skills. Encourage self-reflection, constructive feedback, and review of actions by all participants to improve performance (debriefing).

3

Discuss

Ask participants to explain why they gave the answer they did.

Explore what is actually being done in the local facility (Is this what you do now?
Why or why not?). Explain the reasons for new practices and help find alternatives to harmful practices. Identify ways to overcome barriers and put new skills into practice.

4

Educational advice

Read the educational advice section before the workshop to get teaching tips for key knowledge and skills. Each page emphasizes tips on the proper technique to perform the action step.

Background

Read the background before the workshop to find information and evidence and to help answer questions.

With your skills

You make the difference

Explain and demonstrate

Start the course by acting out care after a normal birth in front of the participants.

- Assign the role of the mother and birth companion to facilitators.
- Ask participants to assist as the birth attendant and a helper.

Not all births are safe. Babies die because they

- fail to breathe after birth
- suffer complications of prematurity or small size
- develop infections

Essential Newborn Care (ENC) addresses the 3 major causes of newborn death. With the skills of ENC you can make the difference by

- helping babies breathe at birth
- keeping babies warm
- promoting exclusive breastfeeding
- preventing infection
- treating mother and baby with respect
- keeping records that help you give the best care

The workshop is only a first step. Achieving better outcomes for babies requires continued practice and deliberate efforts to improve care.

Discuss

Did the role play of care after birth reflect what happens at your facility?

- ☐ *Yes - and the reasons why*
- ☐ *No - and the reasons why*

Why do babies die in your region?

- ☐ *Infections, complications of prematurity, failure to breathe after birth*
- ☐ *Other causes*

Educational advice

Enact the scenario of a normal birth in front of all participants. Engage them in the content and the style of learning used in the workshop. Prepare the facilitators in advance to guide the scenario through the steps of immediate care (green zone of Action Plan). Select participants who are willing and comfortable in their roles. Ask the participants to reflect on the questions in the Discuss section.

Background

About 1 million newborns die within the first 24 hours. Preterm birth, intrapartum-related complications (birth asphyxia or lack of breathing at birth), infections and birth defects cause most neonatal deaths. 99% of these deaths are in low and middle income countries. Improving access and quality of skilled care and treatment immediately after birth and in the first days of life is essential to prevent these deaths.

Essential Newborn Care has two parts: 1) Immediate Care and Helping Babies Breathe at Birth and 2) Assessment and Continuing Care. Each part has a corresponding Action Plan, Facilitator Flipchart, and Provider Guide. There is also a Parent Guide for counseling at discharge and Modules with additional information.

Research shows that Essential Newborn Care is effective in reducing newborn deaths. For example, 123 facilities in Uganda that implemented Immediate Care and Helping Babies Breathe at Birth saw a 34 % reduction in intrapartum stillbirth, and 62 % reduction in early newborn death. For more evidence about how these changes occurred, see Resources on hmbs.org

This is what you will learn

- *Welcome mother and assess*
- *Prepare for birth*

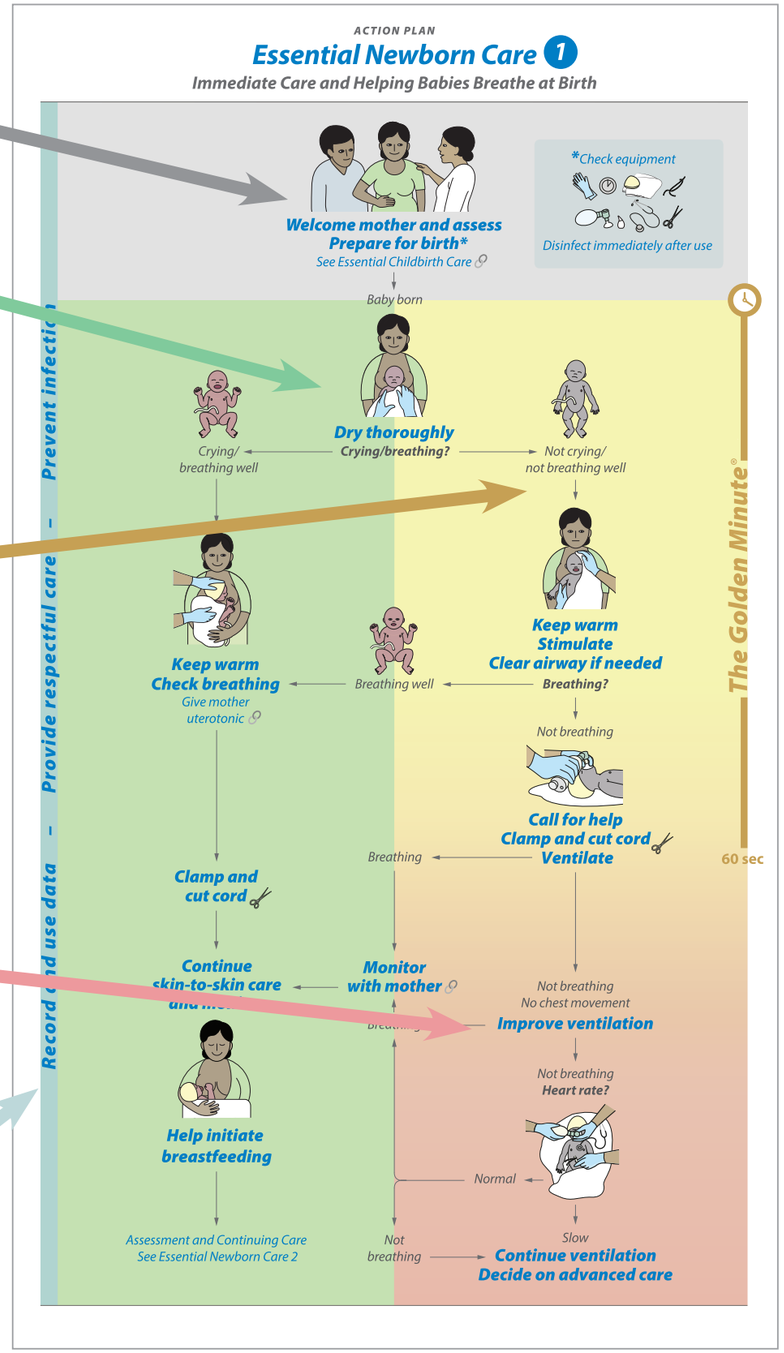
- *Dry thoroughly*
- *Assess crying/breathing*
- *Keep warm*
- *Check breathing*
- *Clamp and cut cord*
- *Continue skin-to-skin care and monitor*
- *Help initiate breastfeeding*

Help a baby breathe within The Golden Minute:

- *Keep warm*
- *Stimulate*
- *Clear airway if needed*
- *Assess breathing*
- *Call for help*
- *Clamp and cut cord*
- *Ventilate*

- *Improve ventilation*
- *Assess heart rate*
- *Continue ventilation*
- *Decide on advanced care*
- *Monitor with mother*

- *Prevent infection*
- *Provide respectful care*
- *Record and use data*



Explain and demonstrate

Have each participant place one hand on the simulator or mannequin.

- **Say to the participants:** *"Close your eyes and imagine that a baby is born. The baby is not breathing. There is no one to help the baby.* **(Pause)** *The baby dies."*
- **Pause to allow the participants to reflect with their eyes closed.** *"Imagine that another baby is born. The baby is not breathing. You are there to help the baby. You rub him dry, keep him warm, and help him breathe with a bag and mask. The baby begins to cry."* **(Imitate baby crying.)**

"At every birth, there must be a skilled person prepared to care for the baby, assess and help the baby who is not breathing well."

Introduce the materials and learning objectives by pointing out:

- Action Plan with color coding, The Golden Minute and learning objectives
- Flipchart, Provider Guide and Parent Guide
- Neonatal simulator and other equipment
- Additional resources, standards and evidence at hmbs.org

Practise

Ask participants to practise in pairs

- Use the neonatal simulator to show crying, breathing and heart rate.
- Share experiences with babies who needed help to breathe.

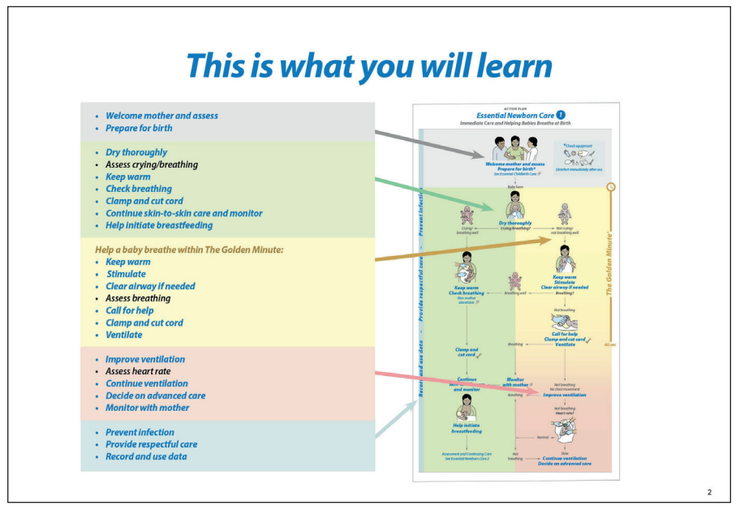
Discuss

Which babies benefit from a skilled birth attendant?

☐ *Only babies who need help to breathe*
☒ *All babies*

The provider who cares for a mother and baby at birth

☒ *Can influence the rest of a baby's and family's life*
☐ *Has very little effect on their health*



Educational advice

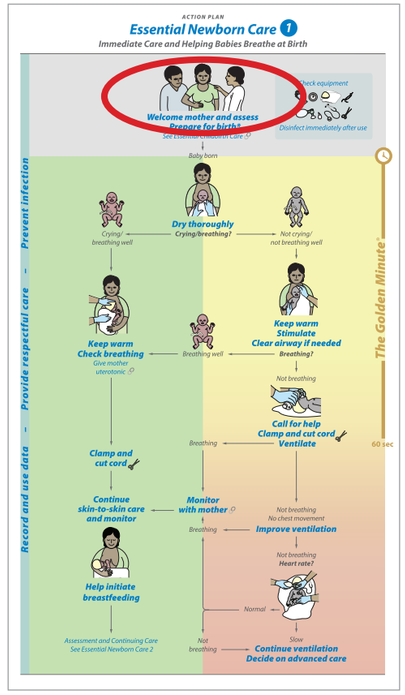
If the course is done with a large group, this page is best done with all participants. **Ask participants to share their experiences** - both good and bad - after the story and when answering the Discuss questions.

Each action step on the Action Plan is a learning objective. Three cross-cutting themes (prevent infection, provide respectful care, record and use data) influence the way that all care is provided.

Background

Understanding the lifesaving importance of actions around the time of birth helps participants appreciate how they can make a difference for all babies and families. Providers need specialized and age-appropriate knowledge and skills to care for babies and mothers around birth.

The way that care is provided can also save lives. Respectful care saves lives because families may not seek care if they think they will not be treated well. Mothers and babies are worthy of respect regardless of ethnic background, culture, social standing, religion, educational level, and marital or economic status. Mothers have a right to refuse care or seek care elsewhere.



Welcome mother and assess factors that affect newborn care

Explain and demonstrate

"Welcome mother and assess"

Welcome the mother, her labour companion and introduce yourself.

Assess factors that affect newborn care by reviewing medical records and talking with the mother.

Pregnancy:
- Gestational age: term, preterm or post-term
- Number of fetuses: single or multiple
- Growth: normally grown, small, or large
- Chronic or pregnancy-related disease in mother, infections or other illness, immunization status
- Labour:
  - Danger Signs and vital signs in mother
  - Rupture of membranes: time and character of fluid
  - Progress of labour: dilation, contractions
  - Fetal well-being: fetal heart rate
- Birth:
  - Presentation and type of delivery planned: vaginal, assisted, C-section
  - Analgesia
  - Cord or bleeding complications
- Always explain what is being done for the mother and her baby, and why. Show respect and kindness when providing care.
- Record the data for mother and baby.

Welcome mother

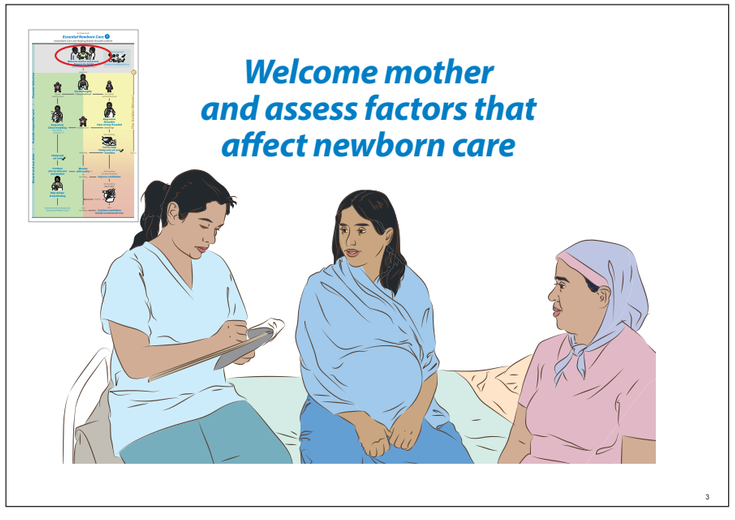
Practise

Ask participants to practise in pairs
- Welcome the mother, her labour companion and introduce yourself. Review the records for pregnancy and birth to find the necessary information.
- Identify and communicate the factors that will affect newborn care.

Discuss

Abnormal vital signs in a mother during labour
- ☐ *are of little importance to the newborn*
- ☒ *can warn of problems in the newborn*

A healthy pregnancy and normal labour
- ☐ *guarantee the baby will be healthy*
- ☒ *may lead to a baby who needs help to breathe*



Educational advice

Obtain the recording forms used for pregnancy, labour and birth history and create a case example. With a participant or another facilitator, demonstrate how the provider identifies the information using the forms, checks information with mother, and explains important findings. Encourage participants to raise common issues as they talk in the roles of provider and mother. Ask them to reflect on their conversation and give feedback to one another on clear communication and respectful care.

Background

Mothers have a right to:
- Labour companion if that is her wish
- Privacy and confidentiality during counseling and in the handling of records

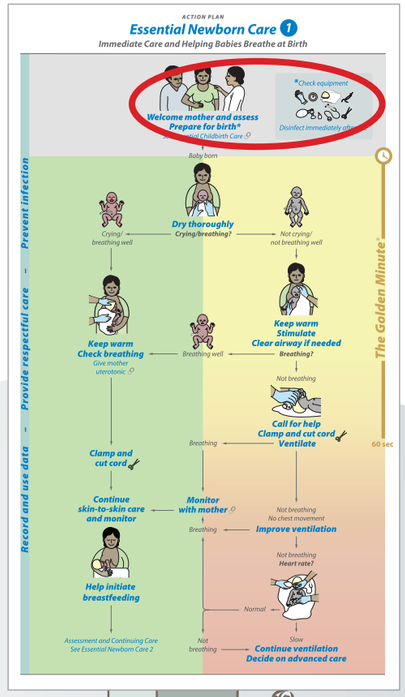
Babies have a right to:
- Uninterrupted contact with mother after birth (except in medical emergencies)
- Birth registration and individual clinical records

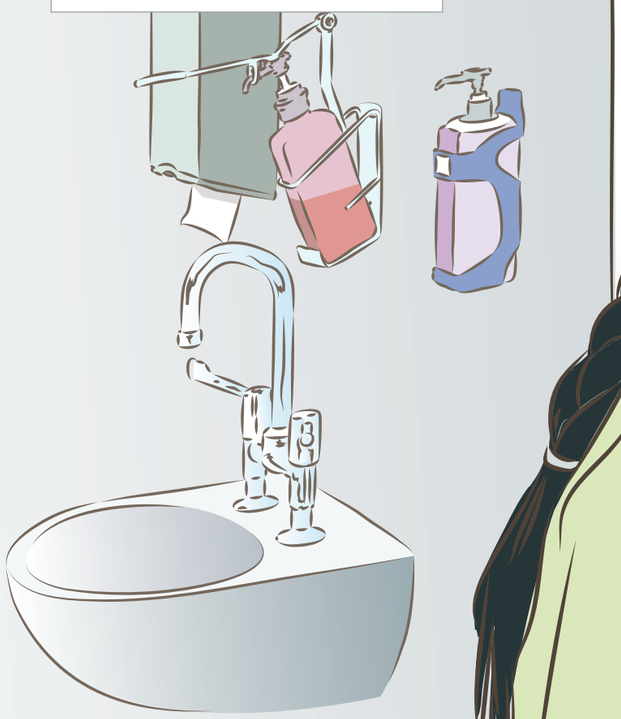
History of the pregnancy, labour, and birth provides information that is important for care of the baby and the mother. However, a healthy pregnancy and normal labour do not guarantee a healthy baby.

Pregnancy: Knowing the gestation and growth of the fetus can predict a small baby or difficulties at the birth of a large baby. Chronic (HIV, TB) and acute infections with bacteria, viruses , or protozoa may require treatment of mother and baby. Maternal immunization against tetanus, diptheria, and pertussis provides early protection to the baby. Other non-infectious diseases in mother (high blood pressure, diabetes) can affect growth of the fetus and care needed by the newborn.

Labour: Danger Signs or abnormal vital signs in the mother can require medication use (antibiotics, magnesium sulfate). Prolonged rupture of membranes (>18 hours) increases the risk of infection. Meconium in the amniotic fluid or abnormal fetal heart rate can be associated with increased need for help to breathe.

Birth: Trauma, analgesia, and bleeding or cord complications can increase the need for help to breathe at birth.





Before a baby is born

Prepare for birth

Explain and demonstrate

"Prepare for birth" 🔗 ***Essential Childbirth Care***

Preparation for a birth

- Identify a helper and review the emergency plan with the mother
  - Communication
  - Transportation
- Prepare the area for delivery
  - Warm, well-lit, clean
- Wash hands (Provider Guide page 60)
  - ▶ How to handwash
  - ▶ How to use handrub
- Prepare an area for ventilation and check equipment
  - Assemble disinfected equipment and supplies
  - Test the ventilation bag, mask and suction device (Provider Guide page 59)

🔗 Check that a uterotonic is prepared for the mother before birth.

▶ Prepare for birth

Practise

Ask participants to practise in pairs

- Identify a helper and review the emergency plan
- Prepare the area for delivery
- Wash hands
- Prepare an area for ventilation
  - Assemble disinfected equipment and supplies
  - Test the ventilation bag, mask, and suction device
  - Check that a uterotonic is prepared for the mother

Discuss

What important tasks can a helper do during a birth?

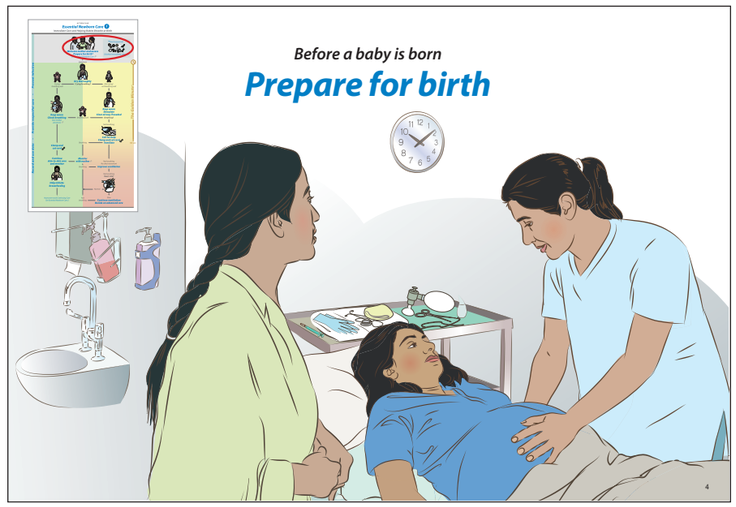
☐ *Place a cold cloth on the baby's forehead*

☒ *Call for help or assist if problems arise*

Who needs to wash hands before a birth?

☐ *Only the provider*

☒ *Everyone who is present at a birth*



Educational advice

Demonstrate each of the skills in the role of the provider with a participant or another facilitator. Review the emergency plan and actions of the helper. Explain skin-to-skin care and help to breathe to the mother. Show the steps to prepare the area for delivery. Lead everyone in handwashing and testing of their equipment. Use clean gloves.

Ask participants to practise how they will carry out each step of preparation where they work. Who will be the helper? What are the means of communication and transportation? Where will ventilation be provided? How will disinfected, working equipment and supplies be ready for use at every birth? What type of uterotonic is given? Consider including a piece of equipment that does not function properly.

Background

Identify a helper and review the emergency plan. The mother's birth companion can call for help as directed and remain with the mother and baby. A skilled helper can assist as needed – for example, giving a uterotonic to the mother, cutting the cord, evaluating heart rate, or seeking advice from a higher level facility. Make an emergency plan for getting help within the facility and from a referral center if needed.

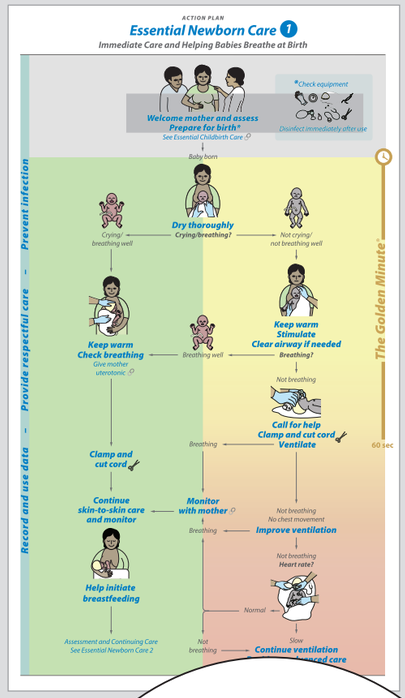
Prepare the area for delivery. Eliminate drafts from fans, air conditioners, or open windows and doors. Warm the room to 25-28 ºC. Have enough light to assess safely both mother and baby.

Wash hands. Everyone who attends a delivery, including the mother, father, and birth companion, must wash their hands. Remove rings, bangles, and false nails. Follow the pictures on page 60 of the Provider Guide to practise. Clean gloves also help prevent infection and protect the birth attendant from blood and body fluids. Review the facility's procedures for personal protection and infection prevention.

Prepare an area for ventilation and check equipment. The area for ventilation should be warm, draft-free, dry, flat, and safe, without risk for falls or other injury. Arrange the equipment so that it can be reached easily while seeing both mother and baby. Use a warm cloth to cover and protect the baby from cool surfaces.

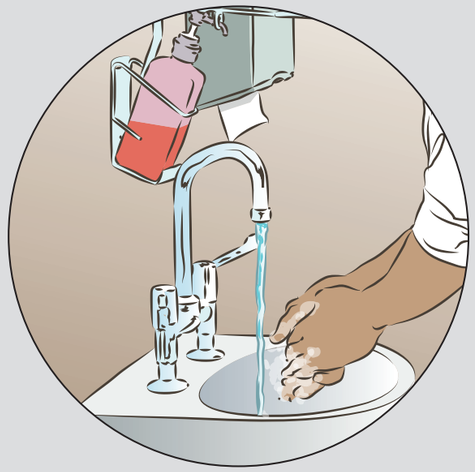
Preparing the uterotonic, such as oxytocin or misoprostol, before birth will save time if the baby needs help to breathe (refer to Essential Childbirth Care).

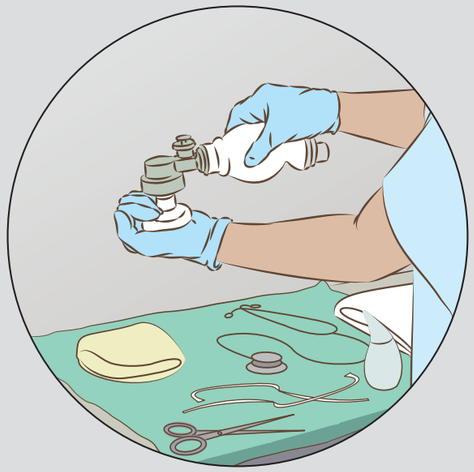
Ⓔ Reprocessing Guidelines for Basic Neonatal Resuscitation Equipment in Resource-Limited Settings



GROUP PRACTICE - CASE 1

Preparation for a birth

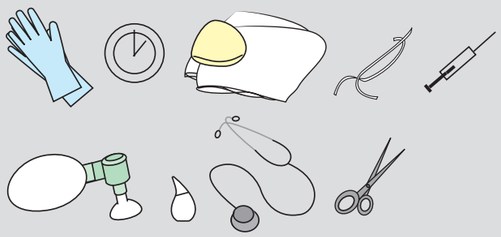




GROUP PRACTICE - CASE 1

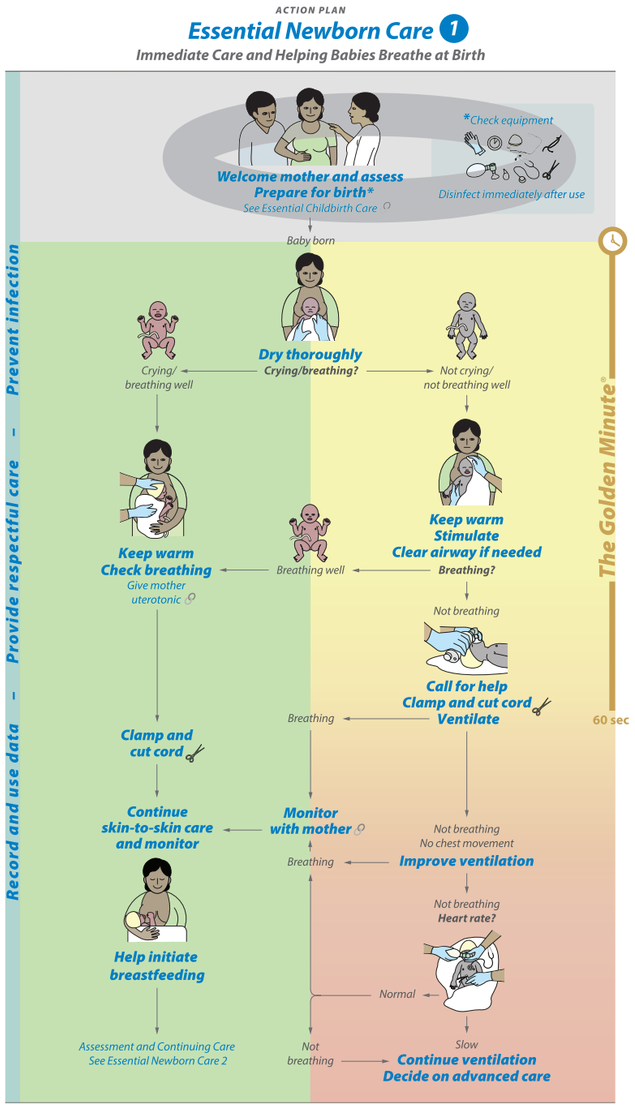
1. **Demonstrate assessment, preparation for birth and communication with the mother and a helper.**
2. **Ask participants to practise in pairs or groups of three in the roles of**
   - **Provider**: demonstrates action steps and communicates with the mother (and the helper)
   - **Mother:** engages with the simulator, asks questions, give prompts as needed
   - **Helper** (optional): gives prompts as needed
3. **Read the case in the Provider Guide pages 12-13 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



Preparation for a birth

(Provider Guide pages 12-13)



As the mother (or helper), read out loud to the provider:
"A mother in labour is now 8 cm dilated. Show how you will prepare for birth of the baby 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
☐ ***Welcome mother and assess*** - *Assess risk factors*	*"Who are you?"*
☐ ***Prepare for birth*** - *Identify a helper and review the emergency plan* - *Prepare the area for delivery* - *Wash hands* - *Prepare an area for ventilation*	*"Is there anyone who can help you?"* *"I am cold." or "The room is very dark."* *"Your hands are dirty." or "My hands are dirty."* *"What if my baby needs help to breathe?"*
☐ ***Check equipment*** - *Assemble disinfected equipment* - *Test the ventilation bag, mask and suction device* - *Check that a uterotonic is prepared for the mother*	*"Do you need things to help my baby?"* *"Is everything working?"* *"Will I be OK?"*

Discuss together

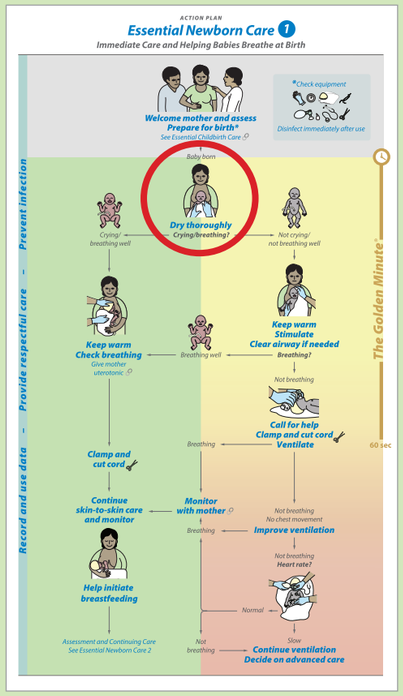
What went well?

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



At birth

Dry thoroughly

Explain and demonstrate

"Dry thoroughly"

Drying

- Helps keep the baby warm
- Stimulates breathing

Dry thoroughly

- Place a cloth on mother's abdomen
- Position the baby on the cloth
- Dry by gently rubbing the head, body, arms and legs with the cloth
- Remove the wet cloth
- Place the baby skin-to-skin with mother
- Cover with a dry cloth

Record time of birth and identify the baby.

Practise

Ask participants to practise in pairs

- Call out the time
- Dry thoroughly
- Remove the wet cloth
- Place the baby skin-to-skin
- Cover with a dry cloth
- Record the time of birth and identify the baby

Dry thoroughly

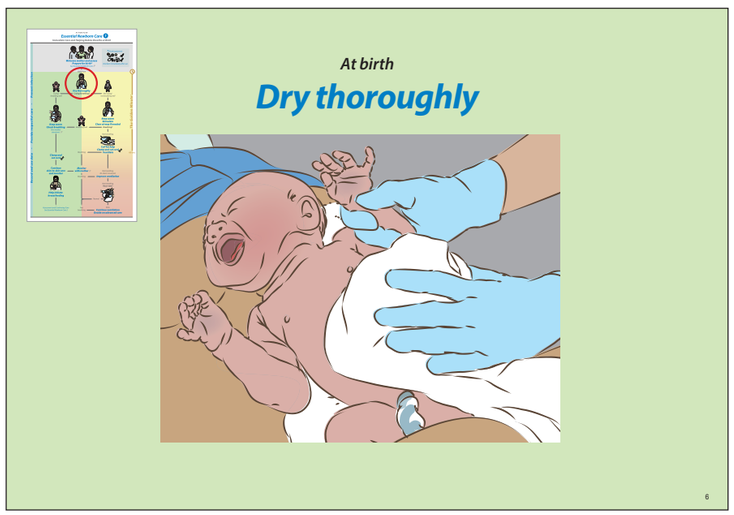
Discuss

A baby is separated from the mother without drying. What happens?

- [x] *The baby can become cold*
- [ ] *The baby will stay warm*

When should you dry the baby?

- [ ] *After giving a uterotonic to the mother*
- [x] *Immediately after birth*



Educational advice

Demonstrate thorough drying on the abdomen of a participant playing the role of the mother.

Emphasize that rubbing the large area of the back provides strong stimulation to breathe. Contrast this method with patting dry or simply wrapping.

Emphasize removing the wet cloth and replacing it with a dry one to cover the baby in skin-to-skin contact. To show how a wet cloth can make a baby cold, place a cloth wet with water on a participant's skin.

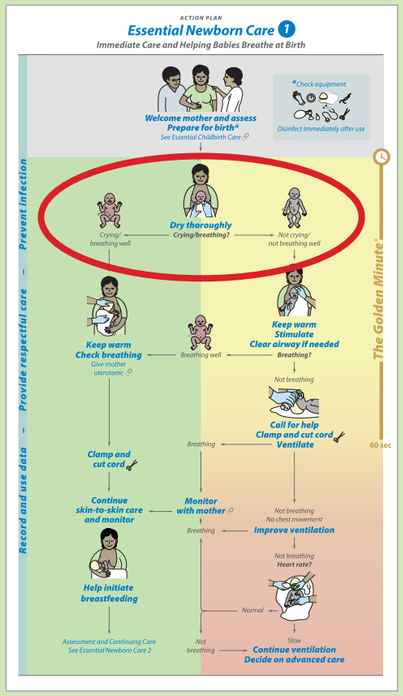
Ask participants to discuss where time of birth is recorded and how a baby is identified.

Background

A wet baby can easily become cold. A cold baby can have difficulty breathing. Drying thoroughly involves gently rubbing the head, body, arms and legs. Blotting or patting a baby dry does not stimulate breathing.

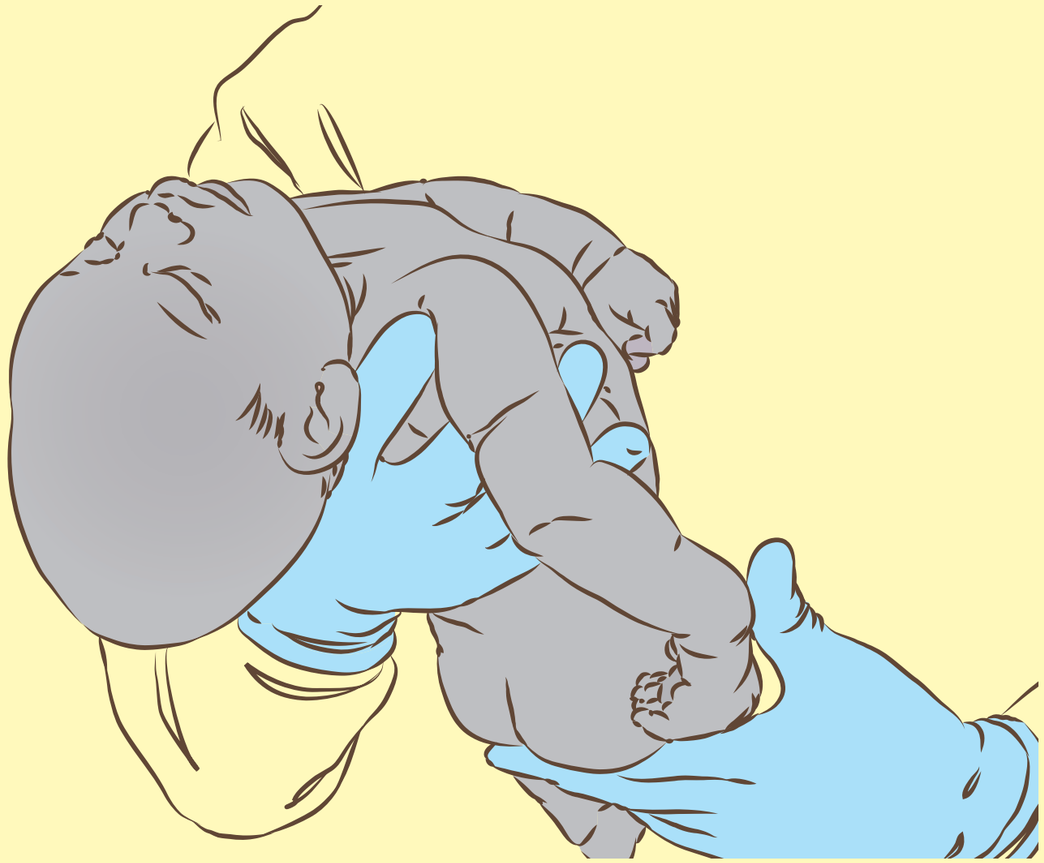
Updated guidelines no longer recommend suctioning all babies or babies with meconium in the amniotic fluid who breathe on their own.

Note the time of birth to enter it later in the clinical record. The time of birth also begins The Golden Minute.



After drying

Is the baby crying/ breathing well?



Explain and demonstrate

"Crying/breathing well" or "Not crying/ not breathing well"

Rapid assessment after drying at birth is the best way to know if a baby needs help to breathe.

- Ask participants to describe the differences between the two babies in the illustrations.

A baby who is crying/breathing well

- is crying
  OR
- is breathing quietly and regularly
  AND
- has good tone and activity

- Demonstrate a baby crying and a baby breathing quietly and regularly.

A baby who is not crying/not breathing well needs immediate help to breathe.

- About 1 in 10 babies needs help to breathe.
- Without help, a baby may die or experience serious brain damage.
- Quick action will help a baby start breathing sooner.

Is the baby crying/breathing well?

Practise

Ask participants to practise in pairs.

- Use a neonatal simulator to show crying, breathing well.

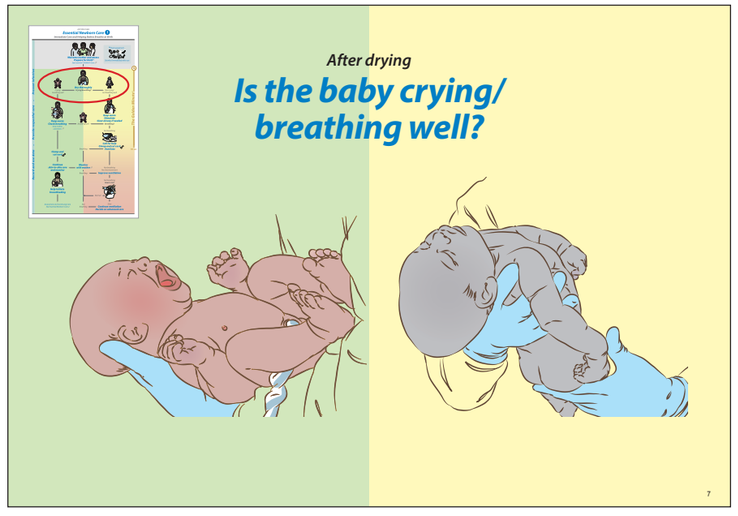
Discuss

A baby is not crying after thorough drying. He is limp. What should you do?

☐ *Give routine care*
☒ *Provide help to breathe*

A baby cries after birth and then breathes quietly and regularly. What should you do?

☒ *Give routine care*
☐ *Provide help to breathe*



Educational advice

Using the illustrations on the front of the Facilitator Flipchart, ask participants to contrast the features of a baby who is crying with one who is not breathing. Ask participants to describe the tone, position of the arms and legs, hands, and mouth as well as the change in color.

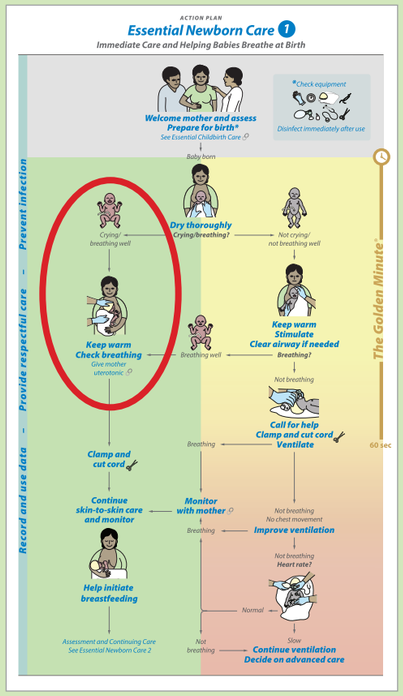
Emphasize the importance of recognizing the baby who needs help to breathe in order to act quickly.

Review videos (optional) in the small group and ask each of the participants to evaluate and comment.

Background

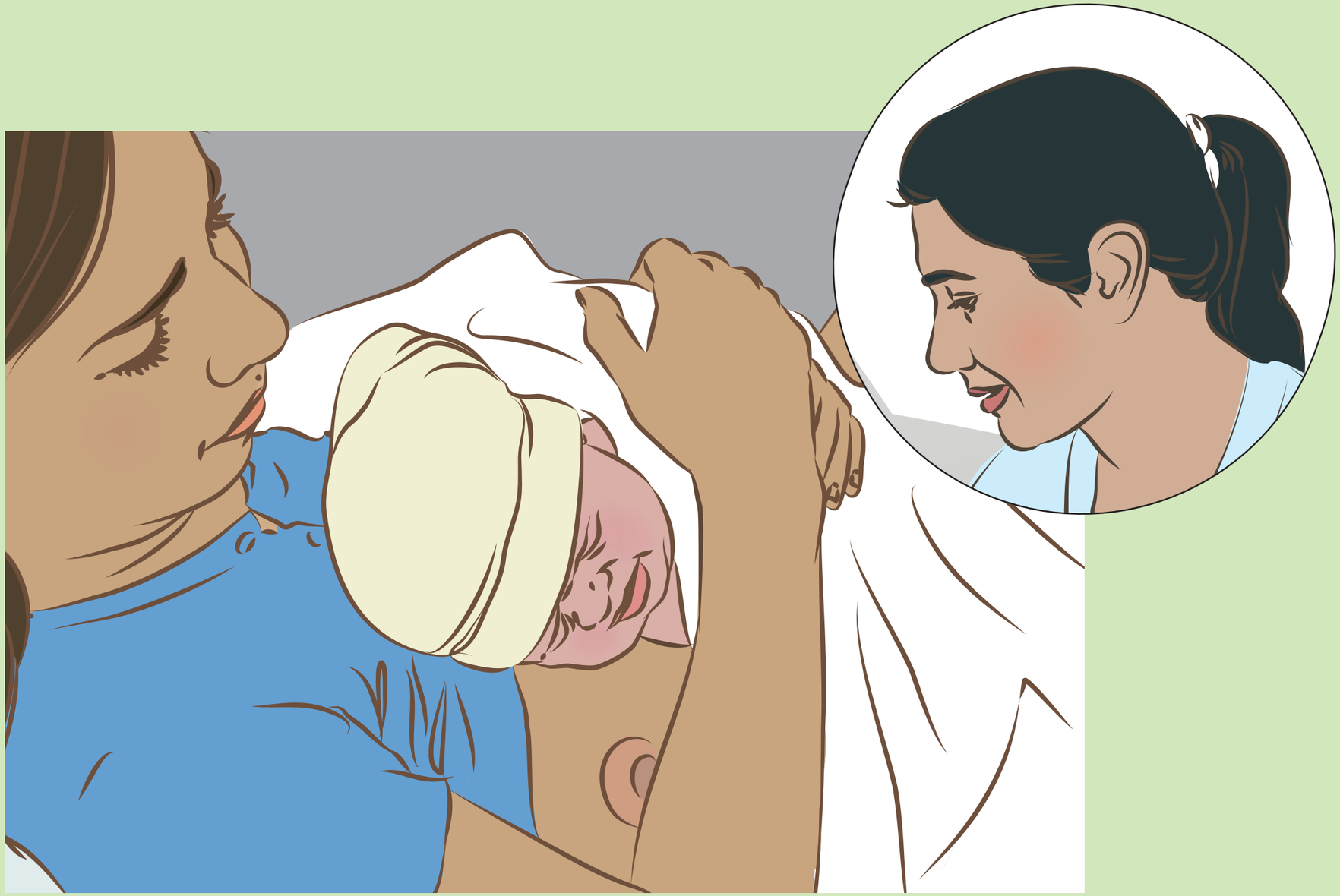
A skilled person should be present at every delivery. Problems during the pregnancy, labour, or delivery predict some - but not all - babies who need help to breathe.

In some cases, a newborn baby does not cry but does breathe quietly. When delivery is not stressful and a baby is immediately placed skin-to-skin, the baby may not cry. This baby will be healthy, but requires immediate, rapid assessment to make sure that the baby is breathing well. Good tone, activity, and responsiveness are signs that a baby is breathing well.



If the baby is crying/breathing well

Keep warm, check breathing



Explain and demonstrate

"Keep warm, check breathing"

The baby who is crying/breathing well can receive routine care. Skin-to-skin contact with mother helps a baby stay warm and breathe well.

Keep warm

- Position with head turned and neck slightly extended on mother's abdomen or between her breasts
- Cover the head
- Remember to remove any wet cloths

Check breathing

- Listen, look at or feel movement of chest
- Most babies breathe at a rate of 40-60 breaths/minute, but some will breathe faster in the first hour

Demonstrate quiet and regular breathing.

When checking baby's breathing, also check the mother for bleeding. Make sure she receives a uterotonic within one minute after birth.

Keep warm, check breathing

Practise

Ask participants to practise in pairs

- Position the baby skin-to-skin with head turned and neck slightly extended
- Cover the head
- Check for noisy, difficult, slow or fast breathing
- Check mother for bleeding and make sure she receives a uterotonic

Discuss

When should skin-to-skin care begin?

- ☐ *After delivery of the placenta*
- ☒ *Immediately after drying the baby following birth*

How can you keep a baby warm after birth?

- ☐ *Give a warm bath*
- ☒ *Position the baby skin-to-skin with mother, cover with a dry cloth and a head covering*

Educational advice

Demonstrate safe positioning skin-to-skin with mother semi-reclined and responsive. Baby's mouth and nose should be seen with head turned, neck straight, chest flat, and legs flexed.

Emphasize that checking breathing means looking at, listening to, and sometimes feeling the baby's breathing.

Establish a link between checking the baby's breathing and checking the mother for bleeding. Make sure that mother receives a uterotonic.

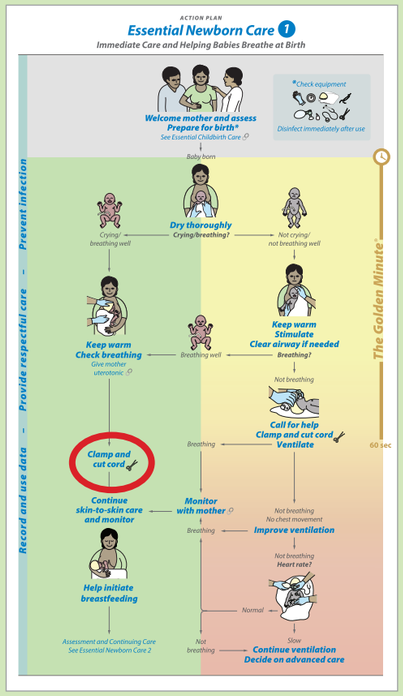
Active management of the third stage of labour and monitoring of the mother may occur while the birth attendant is also checking the baby.

Background

Keep warm. Keeping the baby skin-to-skin with mother gives the baby a source of heat. Skin-to-skin contact can help a baby breathe well, encourage early breastfeeding, and help reduce infection.

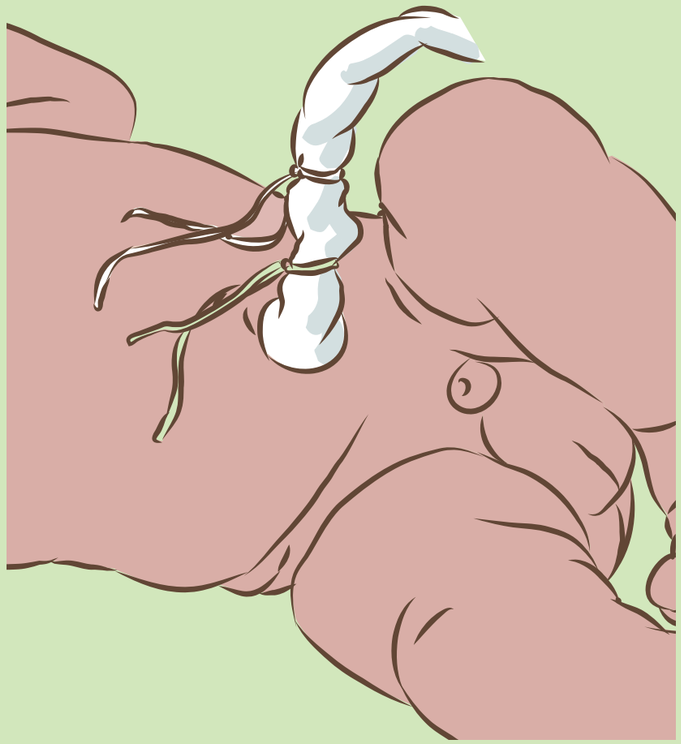
Check breathing. Most babies who cry at birth continue to breathe well. Some babies may have large amounts of fluid in the mouth and nose. Position these babies to help the fluid drain. A baby's neck should be slightly extended – not flexed or hyperextended. The nose should not be blocked by mother's skin or clothing. Babies who are grunting, flaring, retracting, or breathing fast may be experiencing normal early transition, but they need frequent and close observation. Mother and baby should not be left alone during the first hours after birth.

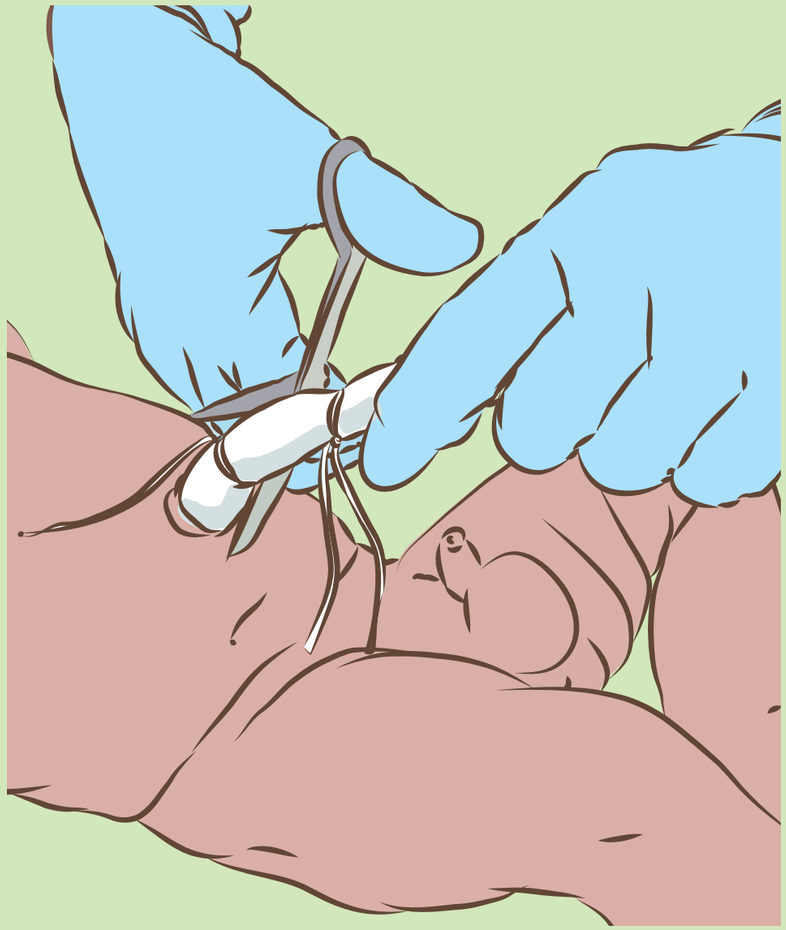
A birth companion should remain with mother and baby when a health worker is not present. Providers should check both mother and baby every 15 minutes in the first hour after birth and complete delivery of the placenta.

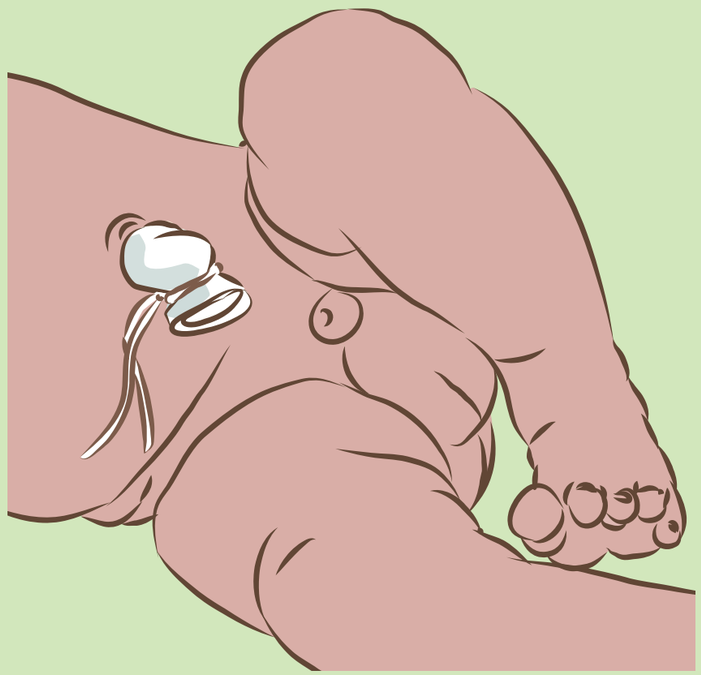


After 1-3 minutes

Clamp or tie and cut the umbilical cord







Explain and demonstrate

"Clamp and cut cord"

Wait 1 - 3 minutes to clamp or tie and cut the cord so the baby receives blood from the placenta.

Cut the cord

- Wear clean gloves
- Place clamps or ties around the cord at 2 and 5 fingerbreadths from the abdomen
- Cut between the clamps or ties with disinfected scissors or blade
- Leave the cut end of the cord open to air to dry

Practise

Ask participants to practise in pairs

- Clamp or tie and cut the umbilical cord using locally available supplies

Clamp and cut the cord

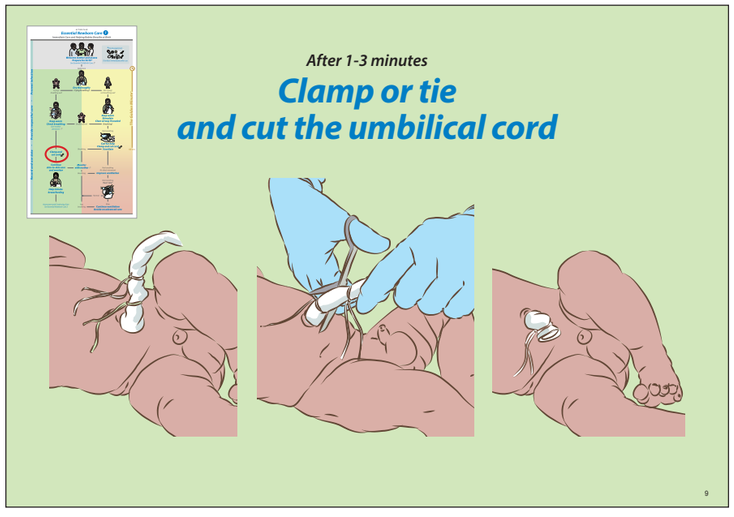
Discuss

How long do you wait to clamp or tie and cut the umbilical cord of a crying baby?

- ☐ *Clamp or tie and cut the cord immediately*
- ☒ *Wait 1 to 3 minutes to clamp or tie and cut the cord*

What actions help prevent infection of the umbilical cord?

- ☒ *Good hand washing, wearing clean gloves, cutting with sterile scissors*
- ☐ *Covering the cord to keep it moist*



Educational advice

The equipment and technique to clamp or tie and cut the cord differ from one area to another. Have available the supplies that are used locally to clamp or tie and cut the cord. Demonstrate the local technique using devices that will not damage the neonatal simulator or mannequin. For example, hair pins or clips can be used to simulate cord clamps. Plastic knives can be used to simulate scalpels.

Emphasize ways to prevent infection: wear sterile gloves (change gloves or remove the first pair if double-gloved), use clean clamp or tie and sterile or highly disinfected blade or scissors, put nothing on the cord (unless recommended by local guidelines).

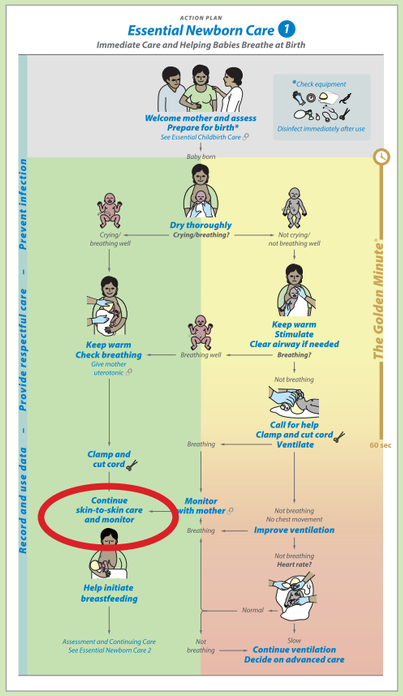
Emphasize using a tight double knot to prevent bleeding when cord ties are used.

Ask participants to discuss when and how they currently clamp and cut the cord.

Background

Timing of clamping or tying and cutting the cord may vary. Timing of clamping or tying and cutting the cord depends on the condition of the baby and the mother during the third stage of labour. When a baby breathes before the cord is clamped, changes in the circulation to the heart and lungs occur more smoothly. Waiting a few minutes to clamp the cord allows more blood to pass from the placenta to the baby. This reduces anemia later in infancy. Maternal bleeding or moving the baby to the area for ventilation may require earlier clamping or tying and cutting of the umbilical cord. HIV in the mother does not require immediate cord clamping.

Sterility is important to help prevent infection when clamping or tying and cutting the cord. Infection of the umbilical cord can lead to serious infection. Everything used to clamp or tie and cut the cord should be sterile or highly disinfected. Follow the guidelines for clean delivery used in your facility. In some regions, antiseptic solutions may be applied to the cord.



During the first hour after birth

Continue skin-to-skin care and monitor

Explain and demonstrate

"Continue skin-to-skin care and monitor"

Continued skin-to-skin care keeps babies warm, helps prevent infection, and promotes early breastfeeding and bonding. Monitoring temperature and breathing helps identify problems early.

Continue skin-to-skin care

- Help mother find a comfortable semi-reclining position
- Continue skin-to-skin contact without interruption for at least one hour

Monitor the baby's temperature and breathing every 15 minutes until the first complete exam.

- Feel the baby's skin (foot or forehead) to estimate temperature
- If the skin feels cool, measure the temperature with a thermometer in the armpit

Look for rapid breathing (>60 breaths/ minute) and chest indrawing

- Many babies who breathe fast but without increased effort gradually improve
- Babies who do not cry or breathe at birth are at higher risk for problems
- Babies with severe breathing difficulty or babies with mild breathing difficulty who do not improve need advanced care

Monitor mother for bleeding while monitoring the baby.

Practise

Ask participants to practise in pairs

- Position the baby skin-to-skin with mother in a semi-reclining position
- Monitor temperature and breathing
- Record findings and communicate with the mother that skin-to-skin contact continues without interruption for at least one hour

Discuss

What can you do to encourage breastfeeding?

☒ *Keep baby skin-to-skin with mother*

☐ *Suction the mouth of every baby*

Why may skin-to-skin care be interrupted during the first hour?

☐ *To transfer the mother to the postnatal ward*

☒ *To treat post-partum hemorrhage*

Educational advice

Ask participants to discuss how to ensure skin-to-skin care is not interrupted before one hour. Review the newborn record used in their facility and discuss what information should be recorded immediately after birth.

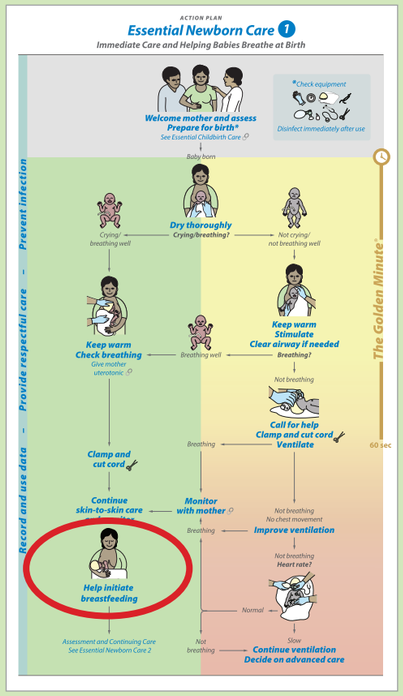
Background

The most common problems immediately after birth are low temperature and rapid breathing. A baby begins to lose heat immediately after birth.

Skin-to-skin care transfers heat from the mother to the baby. It also promotes mother-infant bonding and can help babies breathe more regularly. If a mother is not well, other family members can provide skin-to-skin care. Position the baby between mother's breasts with the abdomen of the baby touching the mother's abdomen. Mother should be in a semi-reclining position. Skin-to-skin care should be continued for at least one hour after birth to give time for initiation of breastfeeding.

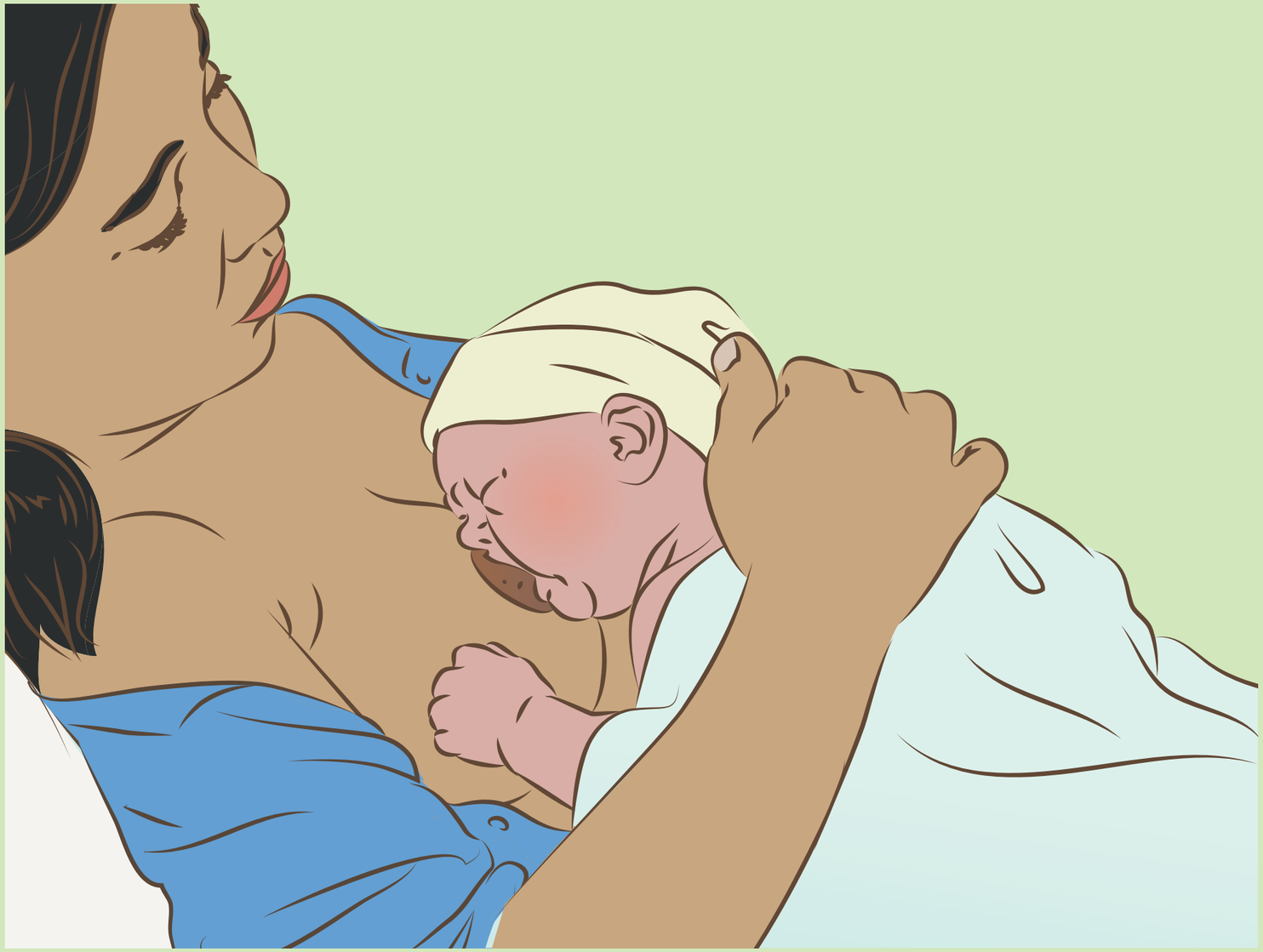
Rapid breathing after birth often occurs because of delay in absorption of lung fluid and usually resolves rapidly. However, rapid breathing may persist or be caused by a more serious problem that requires advanced care. If a baby is very small (<1500 grams) or appears ill (serious malformation, difficult breathing, or pauses in breathing, low temperature, abnormal color), the baby should be assessed immediately (see Action Plan for Assessment and Continuing Care) and provided advanced care.

Babies who do not cry at birth have a higher risk of dying in the first days than those who do cry. They need close monitoring for Danger Signs throughout the stay in the facility and may need extra support.



In the first hour after birth

Help initiate breastfeeding



Explain and demonstrate

"Help initiate breastfeeding"

Breast milk is the best food for all babies because it

- is highly nutritious
- protects against infection and illnesses
- prevents some deaths

Early breastfeeding

- helps establish successful and exclusive breastfeeding
- helps the uterus contract to decrease bleeding after birth
- encourages maternal-baby bonding

Position mother and baby so the baby can latch when ready to feed.

Help mother recognize when the baby is ready to breastfeed

- Opening eyes and restless
- Opening mouth and seeking breast
- Making small noises
- Moving hands to mouth
- Sucking fingers

Some babies will not latch and feed during the first hour.
Give no liquids other than breast milk (or colostrum) and re-assess as part of Assessment and Continuing Care, Essential Newborn Care - Part 2.

Immediate care after birth

Practise

Ask participants practise in pairs as the mother and the provider assisting her with

- positioning herself comfortably
- positioning the baby near her breasts
- recognizing the baby's signs of readiness to breastfeed

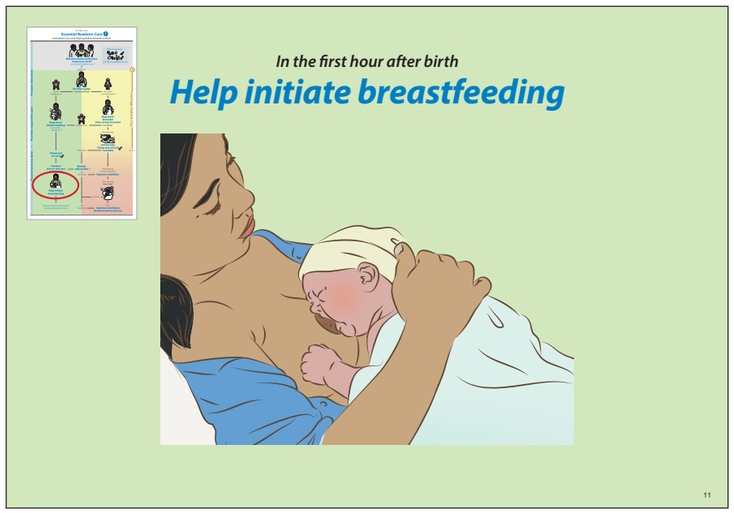
Discuss

Early breastfeeding provides colostrum, which

- [x] *offers nutrition and protection against infection*
- [ ] *can be dangerous to the newborn*

A baby is ready to breastfeed when

- [x] *the mouth is open and the tongue extends*
- [ ] *the eyes are closed and the baby is crying*



Educational advice

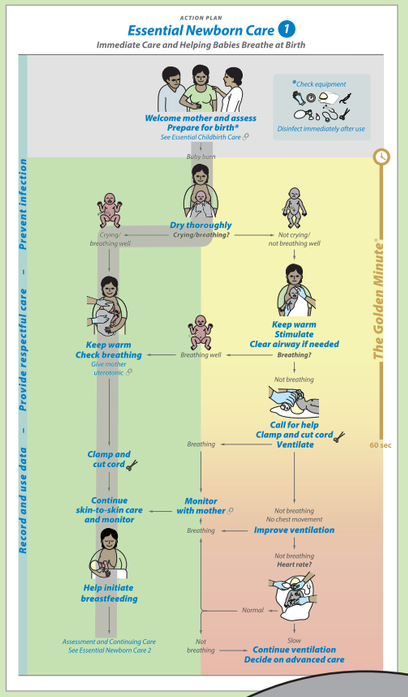
Ask participants to take the roles of the mother and the provider who will counsel the mother. Emphasize respectful communication and responding to feeding cues. The provider should describe his or her actions to the mother. The person playing the role of the mother can raise commonly asked questions. Reverse the roles and repeat the skill practice.

Background

Early and exclusive breastfeeding lowers the risk of serious infections and death. Colostrum, milk that is produced by the breast during the first days after birth, is often yellow in color and contains large amounts of antibodies. It is important for the baby to receive colostrum. Babies who are fed other food or liquids before six months of age are more likely to develop diarrhea and may have growth problems. The benefits of breastfeeding and early initiation of breastfeeding should be discussed during antenatal visits.

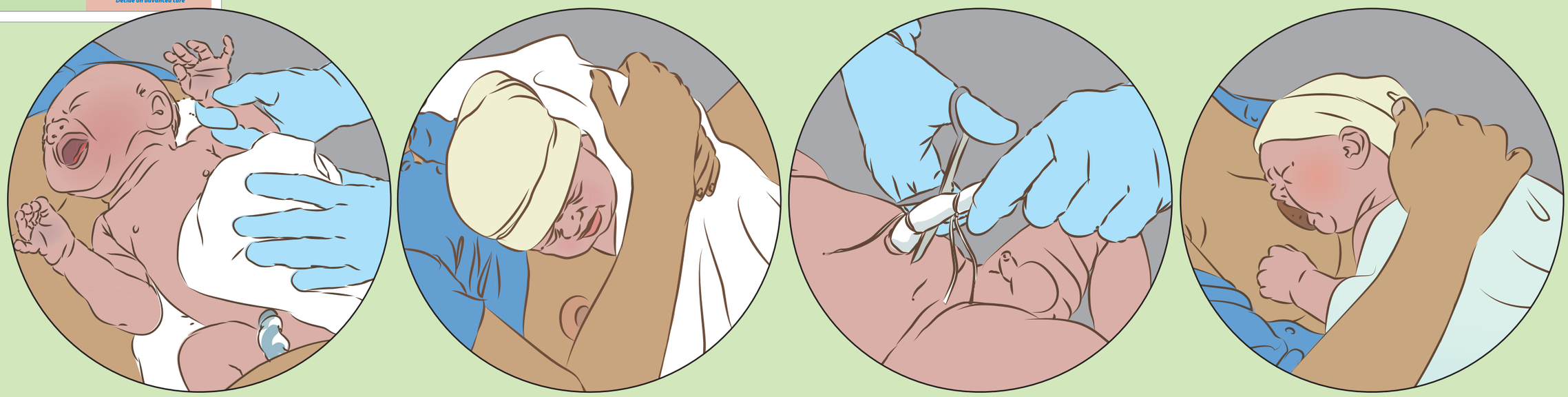
Early initiation of breastfeeding increases the likelihood of successful and exclusive breastfeeding. Mothers should know how to recognize signs of readiness to breastfeed and how to encourage the baby to latch onto the breast.

Keep mother and baby together in the first hour after birth unless a problem separates them. A baby needs time to adjust and become ready to breastfeed. Some babies who are preterm, small, unwell, or have cleft lip and palate may need extra support or alternative feeding methods (see Continuing Care).



GROUP PRACTICE - CASE 2

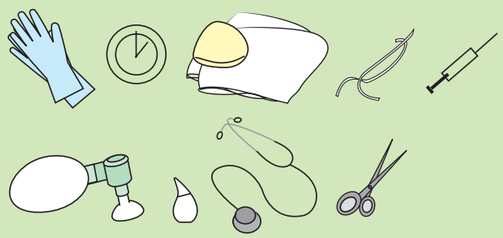
Routine care



GROUP PRACTICE - CASE 2

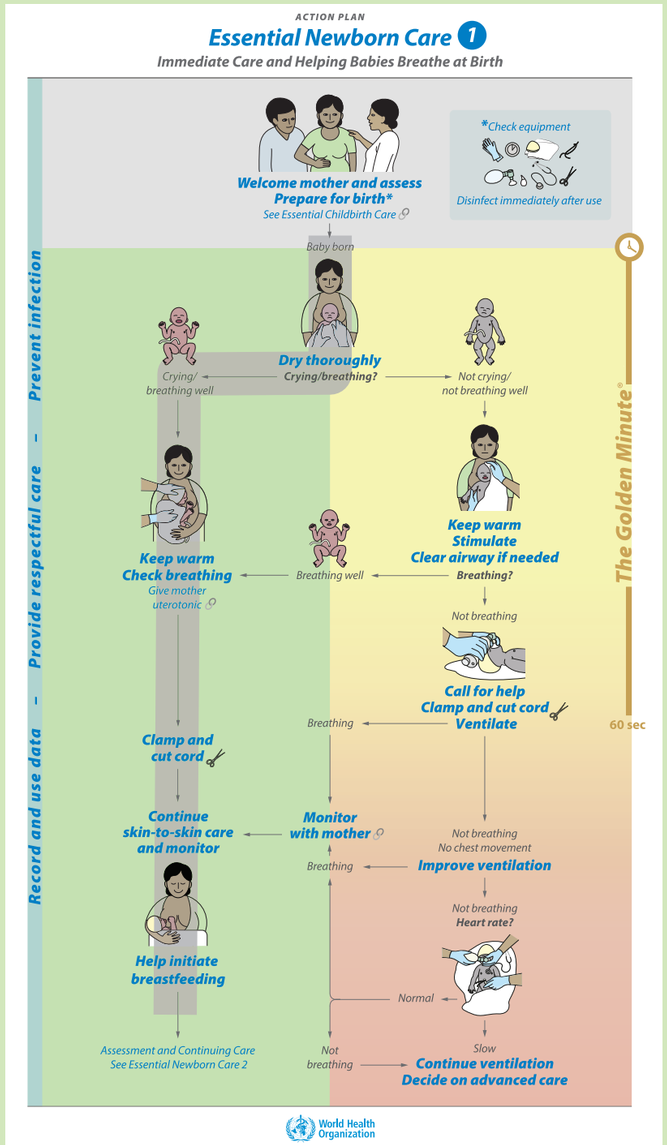
1. **Demonstrate routine care, the baby´s responses, and communication with the mother.**
2. **Ask participants to practise in pairs or groups of three in the roles of**
   - **Provider**: demonstrates action steps and communicates with the mother (and the helper)
   - **Mother:** engages with the simulator, asks questions, give prompts as needed
   - **Helper** (optional): gives prompts as needed
3. **Read the case in the Provider Guide pages 26-27 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 pages 26-27)



As the mother (or helper), read out loud to the provider:
"A baby is born. Show how you will care for a baby who is crying and breathing well, 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
☐ ***Call out time of birth***	*"When was my baby born?"*
☐ ***Dry thoroughly***	
- *Remove wet cloth*	*"My baby is wet."*
☐ *Recognize crying/ breathing well*	*"Is my baby OK?"*
☐ ***Keep warm***	
- *Place baby skin-to-skin*	
- *Cover with dry cloth*	*"My baby is cold."*
☐ ***Check breathing***	
☐ *Give mother uterotonic*	*"Should I get some medication?"*
Check for bleeding	
☐ ***Clamp and cut cord***	*"When do you cut my baby's cord?"*
☐ ***Continue skin-to-skin care and monitor***	*"My baby is cold."*
- *temperature*	
- *breathing*	
- *mother for bleeding*	
☐ ***Help initiate breastfeeding***	*"Can you help me breastfeed?"*

Discuss together

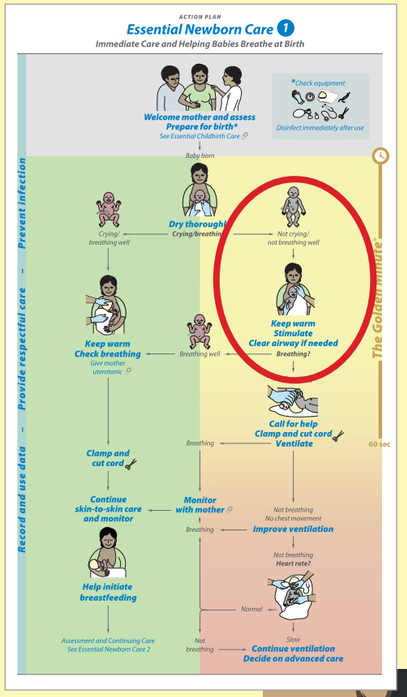
What went well?

Did you follow the Action Plan?

If not, why, and what will you change?

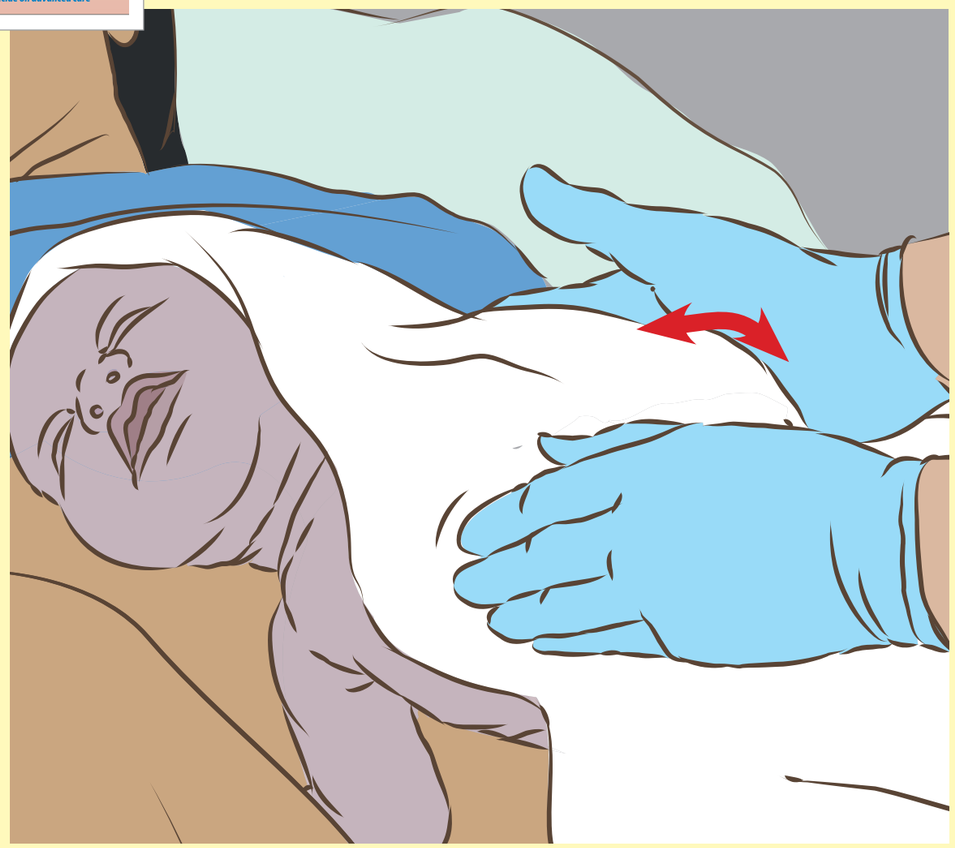
How did you
- provide respectful care and communicate?
- prevent infection?
- record and use data?

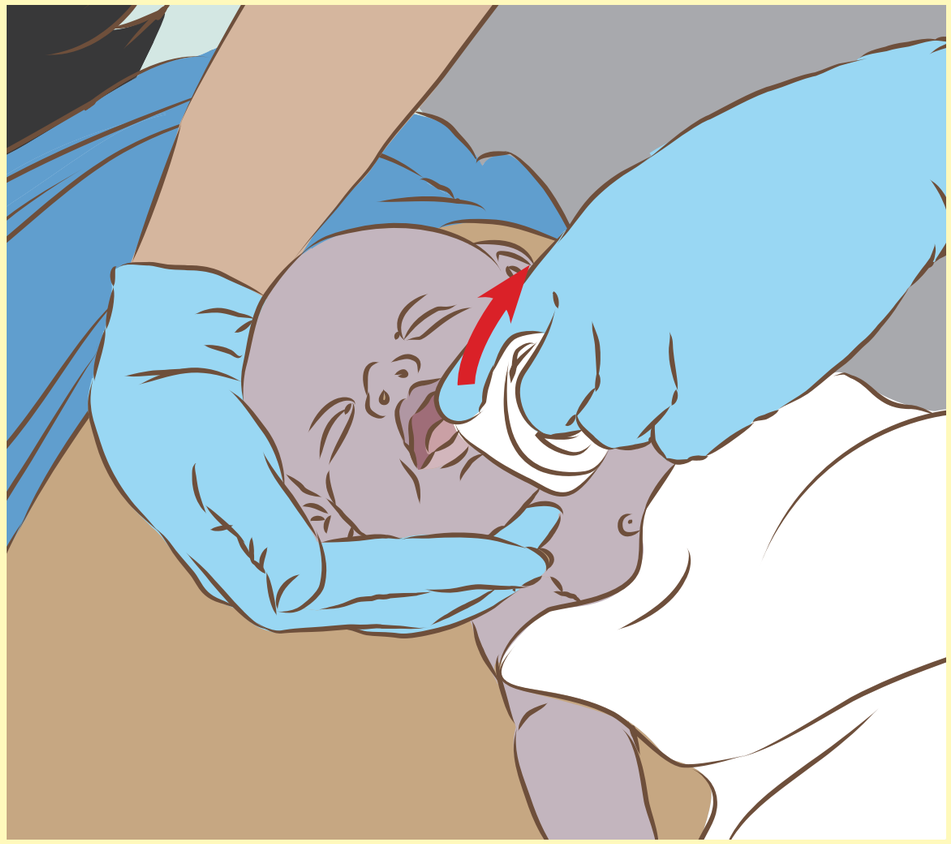
Online Simulation Practice Cards



If the baby is not crying/not breathing well

Keep warm
Stimulate
Clear airway if needed





Explain and demonstrate

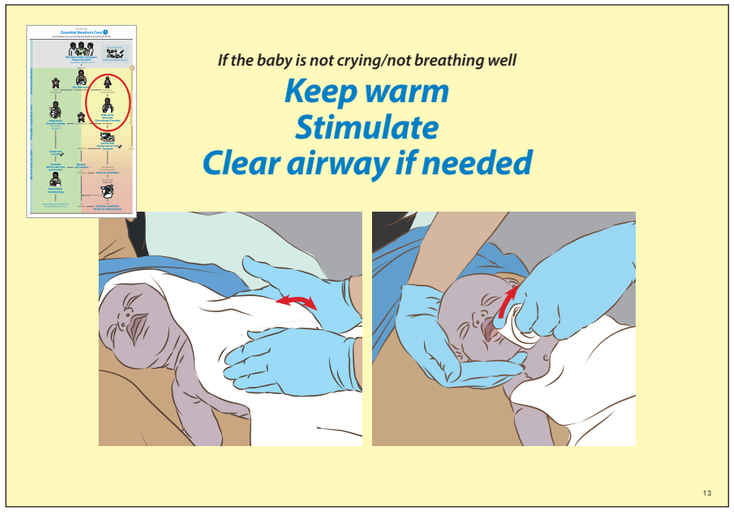
"The Golden Minute"

Begin The Golden Minute with a breath-holding exercise.

- Ask participants to stand and breathe deeply. Then ask them to hold their breath for as long as they can and be seated when they need to take a breath. Call out the time every 15 seconds until 1 minute.

If the baby is not crying/not breathing well, help the baby breathe in The Golden Minute.

"By one minute a baby should be breathing or receiving ventilation."



Keep warm

- Keep the baby skin-to-skin
- Cover the head (helper may assist)

Stimulate breathing

Rub the back firmly 2 or 3 times to improve or start breathing ▶ Stimulate breathing

Clear the airway <u>only if needed</u>

- Position the head slightly extended
- **IF** secretions are blocking the airway OR **IF** there is meconium in the amniotic fluid, gently suction the mouth first and then the nose. ▶ Clear the airway if needed

Do not suction the mouth and nose of every baby. Suctioning can cause injury, slow heart rate, and prevent breathing.

Practise

Ask the participants to practise in pairs

- Keep warm
- Stimulate breathing
- Clear the airway - position the head, remove secretions if needed

Discuss

Which babies need clearing of the airway with a suction device?

- [x] *Babies who are not breathing and have secretions blocking the mouth or nose*
- [ ] *All babies who are not crying*

Suctioning several times or suctioning deeply can

- [ ] *Stimulate a baby's breathing*
- [x] *Keep a baby from breathing*

Educational advice

Stimulation by rubbing the back is a separate step from drying. Babies with shallow or irregular breathing may benefit from stimulation to deepen and sustain regular breathing.

Emphasize that there are two ways to clear the airway- first by positioning the head and second by removing secretions blocking the airway. Emphasize the correct technique of squeezing a bulb suction before inserting it into the airway. Demonstrate using suction devices available locally. Help participants master the technique by transferring water from one container to another.

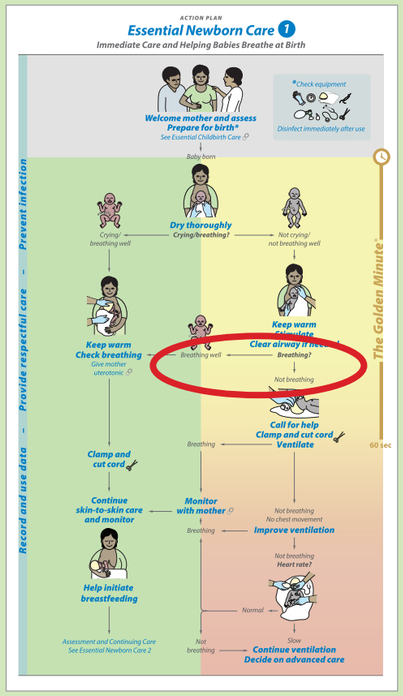
Background

Stimulation can help a baby begin to breathe, even after drying. Some forms of stimulation can harm babies and should never be used. Harmful methods include slapping the back, squeezing the ribs, forcing the thighs onto the abdomen, dilating the anus, using hot/cold water, and shaking or holding the baby upside down. Help participants evaluate other methods of stimulation that may be in use.

Clearing the airway can cause harm if done unnecessarily or not done gently. If secretions are obviously blocking the nose or mouth or there is meconium in the amniotic fluid, suction may be performed before stimulation. Suctioning too deeply can bruise or tear the back of the throat. Suctioning or wiping too hard can injure the lining of the mouth. In both cases, the baby may not breastfeed well. Suctioning repeatedly or too long can keep a baby from breathing or cause a baby to have difficulty breathing.

The device used to clear the airway differs from one area to another. (Provider Guide page 29). Each device has advantages and disadvantages. Any device can introduce infection if it is not disinfected before re-use (page 25b). Otherwise, the device must be discarded.

Prolonged suctioning or stimulation are unlikely to be effective, may cause harm, and will delay ventilation. If a baby is not breathing well or crying after clearing the airway and brief stimulation, the baby needs ventilation with bag and mask. Other actions are unlikely to be effective and only waste time while the baby is becoming sicker.



After stimulation

Is the baby breathing well?

Explain and demonstrate

"Breathing well" or "Not breathing"

A baby who is breathing well

- is crying
  OR
- is breathing quietly and regularly
  AND
- has good tone and activity

This baby can receive routine care with continued monitoring of breathing.

A baby who is not breathing well

- is gasping
  OR
- is not breathing at all
  AND
- has poor tone and activity

This baby needs ventilation with bag and mask.

A baby with shallow, irregular, fast or noisy breathing or chest indrawing needs continued monitoring and may need advanced care.

Is the baby breathing well?

Practise

Ask participants to practise in pairs

Use a neonatal simulator to show

- crying
- breathing quietly and regularly
- gasping
- not breathing at all

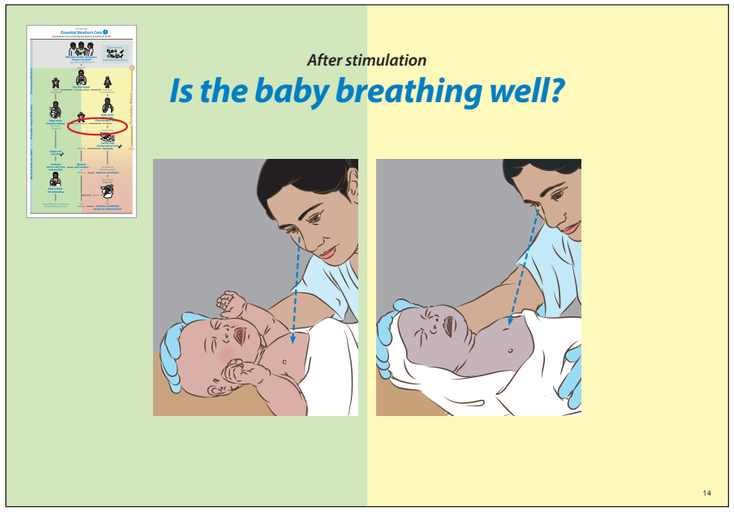
Discuss

A baby is not breathing after drying and rubbing the back. There are no visible secretions. What should you do?

- ☐ *Suction the airway and give more stimulation*
- ☒ *Ventilate with bag and mask*

Which baby is breathing well?

- ☒ *A baby who is breathing quietly and regularly*
- ☐ *A baby who takes one deep breath followed by a long pause*



Educational advice

Demonstrate different patterns of breathing with the simulator or your own breathing: crying, breathing quietly and regularly, gasping, not breathing. Emphasize the difference between gasping and effective breathing through discussion and video if possible.

Ask participants to practise producing and identifying these patterns of breathing that will be the basis for deciding on the next action step.

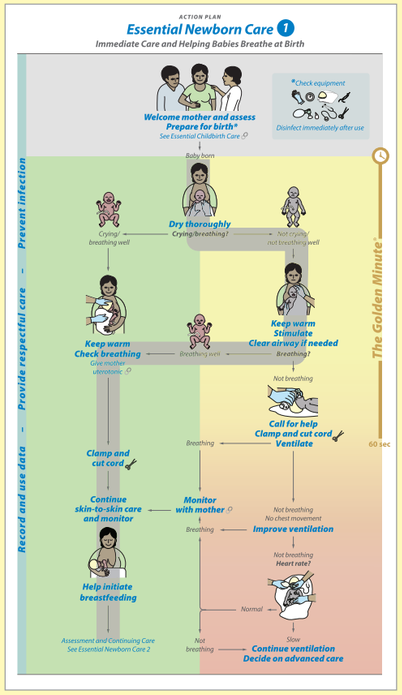
Background

Some babies will require close monitoring to determine if they need more help to breathe. Some babies who breathe shallowly or slowly may improve with rubbing the back to stimulate more effective breaths. Some babies with blocked airways may improve after clearing the airway. Others will need advanced care and more help to breathe.

If a baby is not breathing or is gasping after stimulation and clearing the airway as needed, the baby needs ventilation with bag and mask. Gasping or not breathing at all often means a baby has experienced stress during labour. Prolonged evaluation only delays needed action.

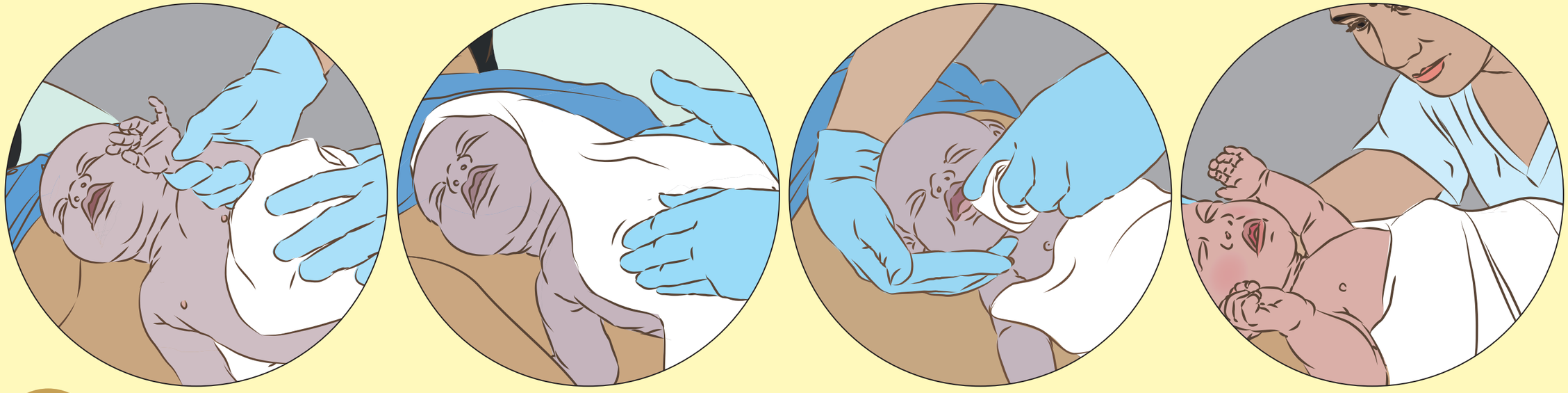
Within The Golden Minute the baby should be breathing or receiving ventilation. Delay in ventilation will mean that a baby needs ventilation longer before starting to breathe and may cause serious brain damage.

A baby who has difficulty breathing may need advanced care with supplemental oxygen, other breathing support, or treatment for infection. Babies who needed help to breathe are at higher risk of dying in the first days than those who breathe on their own. They need close monitoring for Danger Signs throughout the stay in the facility and may need extra support.



GROUP PRACTICE - CASE 3

The Golden Minute®
Keep warm, stimulate breathing and clear the airway if needed



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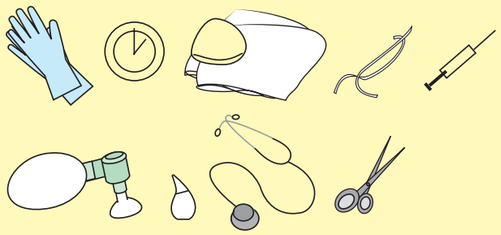
GROUP PRACTICE - CASE 3

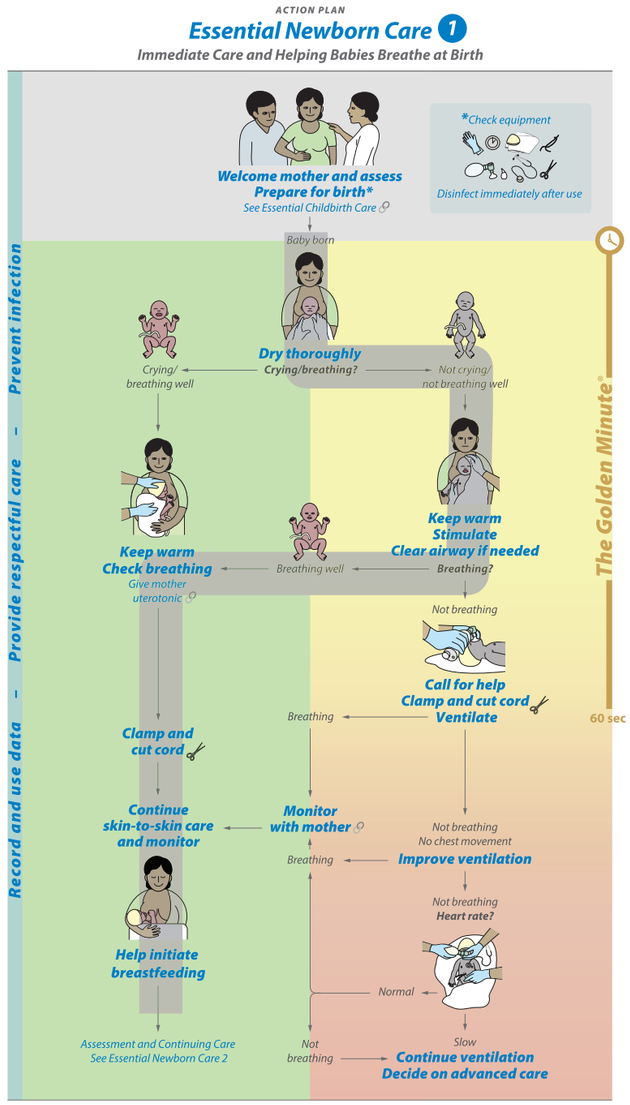
1. **Demonstrate The Golden Minute - Stimulate breathing and clear the airway if needed. Show the baby´s responses and communicate with the mother and helper.**
2. **Ask participants to practise in pairs or groups of three in the roles of**
   - **Provider**: demonstrates action steps and communicates 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 pages 32-33 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



The Golden Minute®
Keep warm, stimulate breathing and clear the airway if needed

(Provider Guide pages 32-33)



As the mother (or helper), read out loud to the provider:
"A baby is born. Show how you will care for the baby who is NOT crying or breathing well. Communicate with the mother."

Provider Demonstrate action steps and communicate	**Mother (or helper)** If action is not done, use the prompts to provide hint
☐ ***Call out time of birth***	*"When was my baby born?"*
☐ ***Dry thoroughly***	*"My baby is wet."*
- *Remove wet cloth*	*"My baby is cold."*
☐ *Recognize not crying/ not breathing well*	*"Is my baby OK?"*
☐ ***Keep warm***	
- *Place baby skin-to-skin*	*"My baby is cold."*
- *Cover with dry cloth*	
☐ ***Stimulate***	*"How can you help my baby breathe?"*
☐ ***Clear airway if needed***	*IF PROVIDER ASKS, say:* *"Nothing is blocking the airways."*
☐ *Recognize breathing well*	*"Is my baby OK?"*
☐ ***Keep warm***	
☐ ***Check breathing***	
☐ *Give mother uterotonic*	*"Should I get some medication?"*
Check for bleeding	
☐ ***Clamp and cut cord***	*"When do you cut my baby's cord?"*
☐ ***Continue skin-to-skin care and monitor***	*"Will my baby get cold?"*
- *temperature*	
- *breathing*	
- *mother for bleeding*	
☐ ***Help initiate breastfeeding***	*"Can you help me breastfeed?"*

Discuss together

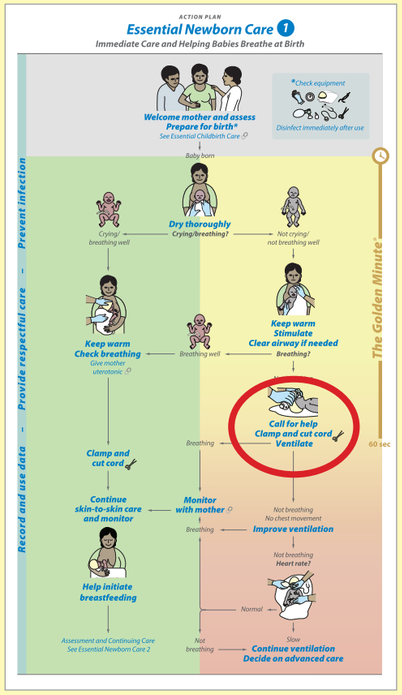
What went well?

Did you follow the Action Plan?

If not, why, and what will you change?

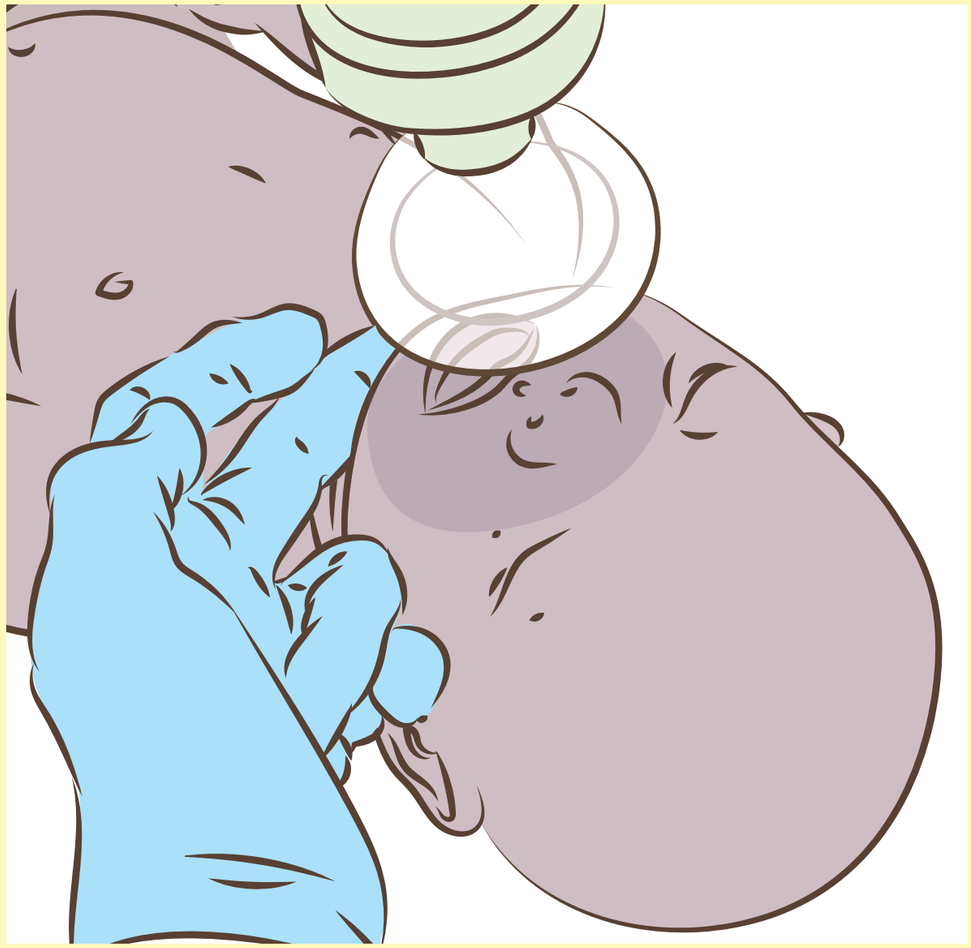
How did you
- provide respectful care and communicate?
- prevent infection?
- record and use data?

Online Simulation Practice Cards



If the baby is not breathing well

Call for help
Clamp and cut cord
Ventilate



Explain and demonstrate

"Call for help - Clamp and cut cord - Ventilate"

Ventilation with bag and mask is the most effective way to help the baby who is not breathing or is gasping.

Call for help

- Ask for a skilled helper, if available

Clamp or tie and cut the cord

- If the area for ventilation is close to the mother, and the umbilical cord is long enough, consider starting ventilation with cord intact

Begin to ventilate

- Place the baby on the area for ventilation
- Stand at the baby's head
- Check correct size of mask (covering mouth and nose but not the eyes)

Practise

Ask participants to practise in pairs

- Call for help
- Follow the facility routine to clamp or tie and cut the cord
- Place the baby on the area for ventilation
- Stand at the baby's head
- Check that the mask size is correct

Where to resuscitate

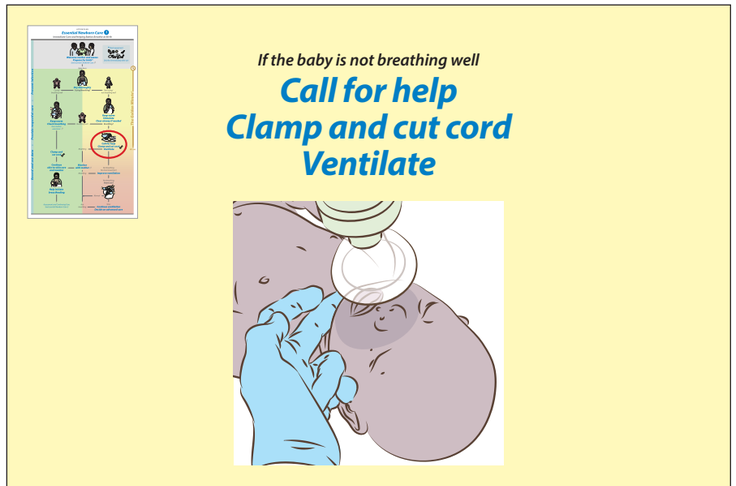
Discuss

How do you select the correct mask?

- [x] *Select the mask that covers the chin, mouth, and nose, but not the eyes*
- [ ] *Select the mask that covers the chin, mouth, nose, and the eyes*

Where will you place the baby for ventilation?

- [ ] *In a crib to protect from cold*
- [x] *On a flat, warm, dry surface*



Educational advice

Discuss how participants will decide when to clamp or tie and cut the cord and where to ventilate a baby in their facility. Practise the order of steps they will use.

Emphasize how incorrect position or incorrect mask size can make ventilation ineffective.

Demonstrate how a mask that is too large will not make a seal. Show how a mask that is too small can block the airway. Use masks that are available in the facility to show that torn or incomplete masks will not make a seal.

Background

During The Golden Minute the most important steps to help a baby breathe are performed. Ventilation is the most effective way to help the baby who has not responded to drying, clearing the airway and stimulation. Ventilation carries air into the lungs. Air effectively starts the changes in the body that are necessary so the baby can begin to breathe.

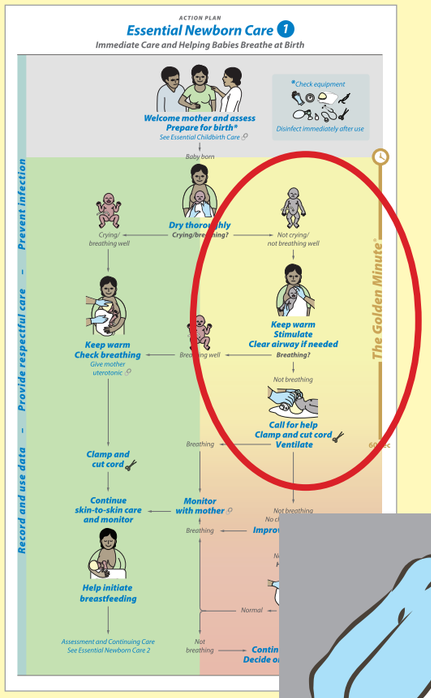
Each facility should decide on a routine for when to clamp or tie and cut the cord. The best time to cut the cord of the baby who needs ventilation is not known. It is known that babies who do not breathe or receive ventilation by one minute are more likely to die. Cutting the cord should not delay ventilation. A second skilled person may clamp or tie and cut the cord before ventilation begins. Clamping is often faster than tying. In some cases, clamping or tying and cutting the cord will occur after ventilation has begun.

Assembling equipment and supplies and checking the bag and mask should be part of preparation for every birth. It is too late to look for equipment when a baby is not breathing.

Correct mask size is important to form a tight seal on the face and keep the airway open during ventilation.

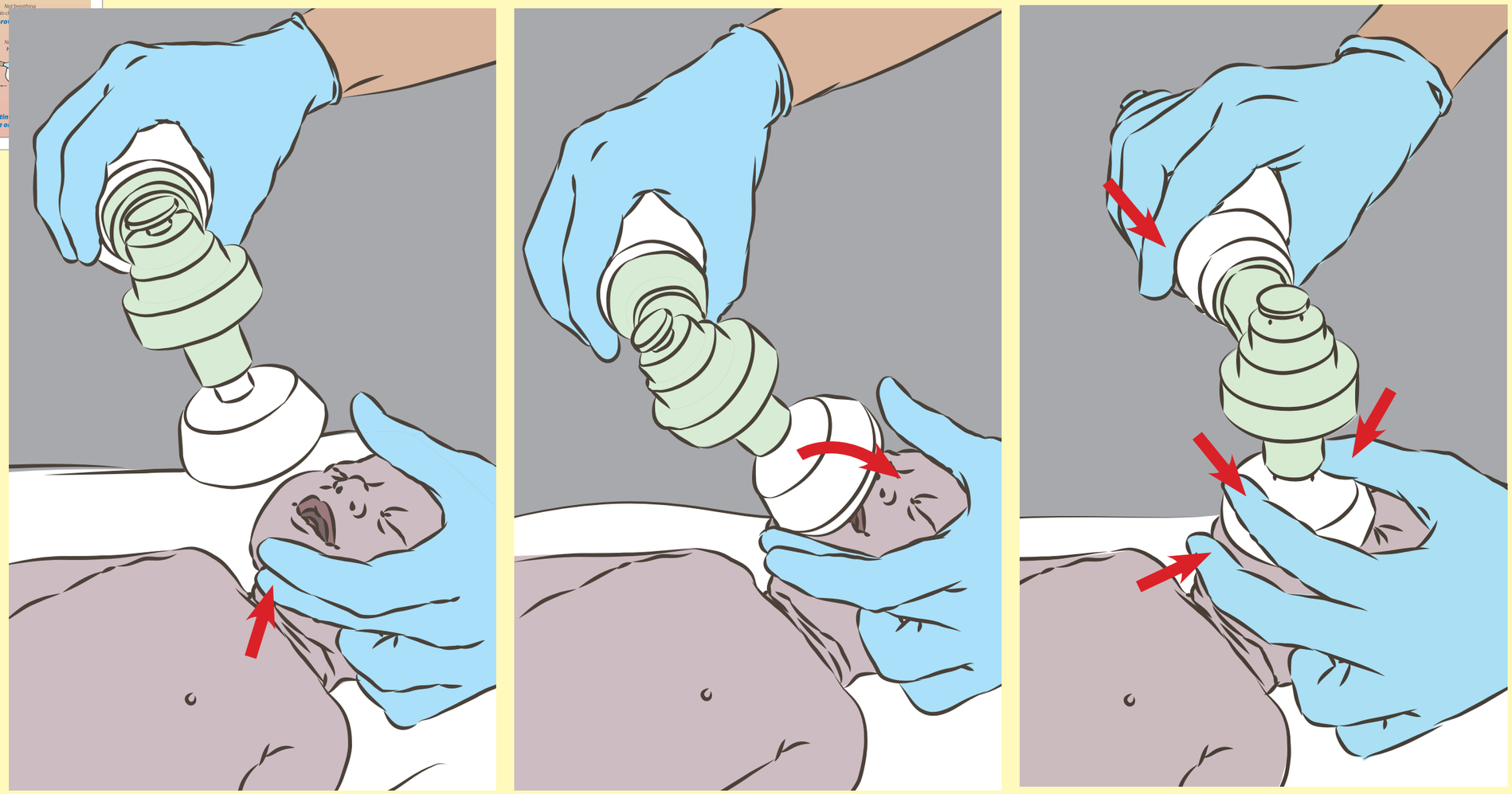
- If the mask is too large, it will not make a good seal and may press on the eyes and cause low heart rate.
- If the mask is too small, it can block the mouth and nose.

A mask with a round or pointed shape may be used. When using a pointed mask, the point fits over the nose and the round part fits over the chin. Masks with cushioned or flexible rims follow the shape of the face and form a seal more easily.



By one minute

Ventilate with bag and mask



Explain and demonstrate

"Ventilate"

Ventilate with bag and mask

- Position the head slightly extended
- Apply the mask to the chin, then over the mouth and nose
- Make a tight seal between the mask and face
- Squeeze the bag to produce gentle movement of the chest
- Give 40 ventilation breaths per minute

If the chest is moving with each ventilation breath, continue ventilation until the baby begins to breathe. Begin to ventilate

Practise

Ask participants to practise in pairs

- Position the head
- Apply the mask to the chin, then over the mouth and nose
- Make a tight seal
- Squeeze the bag to produce gentle movement of the chest
- Give 40 ventilation breaths in one minute

Develop with the participants the ability to keep the correct tempo for at least one minute without interruption and recognize when the chest is moving well.

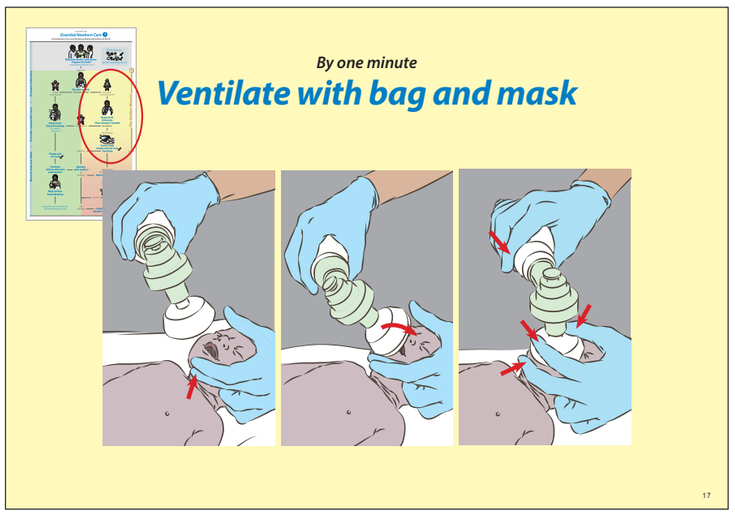
Discuss

What allows you to move air into a baby's lungs during ventilation?

☐ *A flexed position of the head*
☒ *A good seal between the mask and the face*

To help keep the baby's airway open, you should position the head

☒ *Slightly extended*
☐ *Hyperextended*



Educational advice

Emphasize the 3 steps in placing the mask for ventilation as shown in the illustration. Ask participants to experiment with correct and incorrect position of the head. Note the change in chest movement. Apply the mask by positioning it first on the chin, then rolling the mask over the moth and nose. Help each person find the hand position that forms a tight seal between the mask and face.

- Two-point method: The tips of the thumb and first finger push down on the mask
- Encircling method: The thumb and the first finger form the letter "c" around the top of the mask

Show how holding the mask by the rim deforms the mask and creates a leak.

The 2 most important and difficult steps in ventilation are correct head position and making a tight seal. Make sure that each participant can maintain good head position with proper chin support. Pushing down on the mask without lifting up on the chin and jaw can flex the head and block the airway. Participants should practise until they can move the chest gently with each ventilation. Help participants find leaks by feeling where the air escapes against their hand.

Ask participants to ventilate for a full minute. A sand timer or cell phone is a convenient way to measure a minute. Watch for smooth, not jerky breaths. Help participants ventilate with a rate between 30 and 50 breaths per minute. Count aloud "1…2…3…1…2…3" and give a breath on "1".

- Use a timer or watch to set the tempo.
- Ask participants to think of a phrase or a rhythm from a well-known song or dance that helps them keep a tempo of 40 breaths per minute.

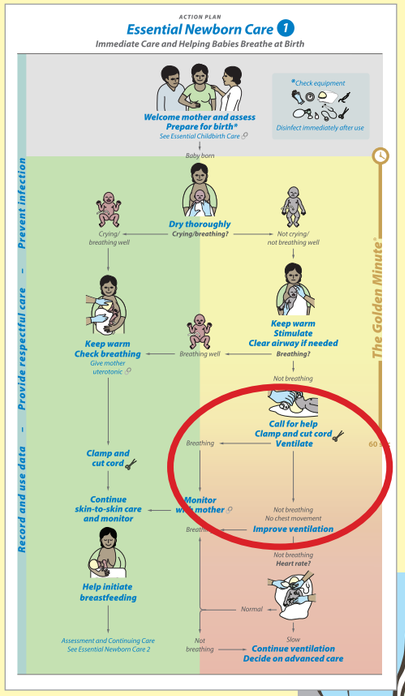
Encourage participants to help one another master the skill of ventilation.

Background

Ventilation is started with air. The amount of air delivered with each ventilation breath depends on 3 factors:

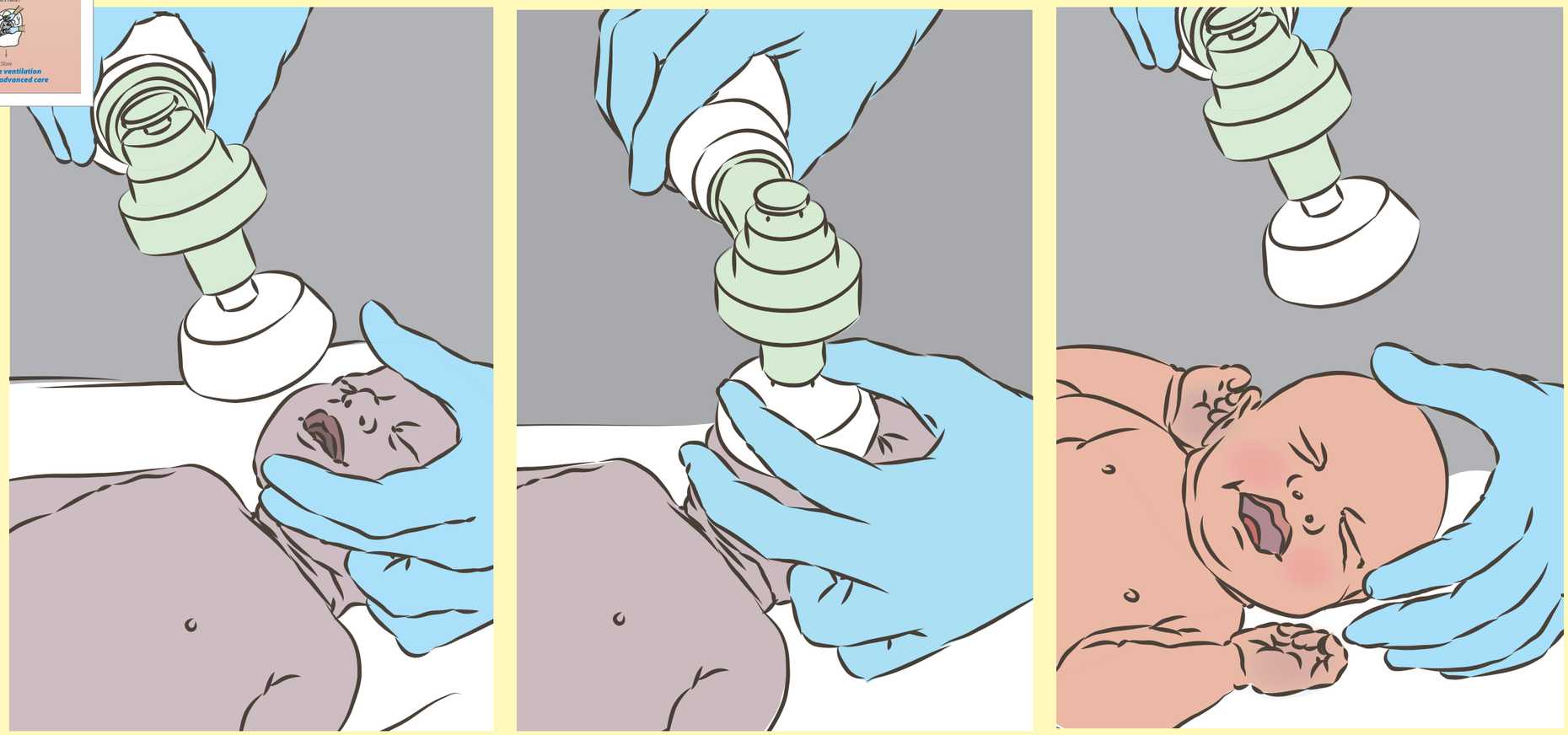
- The amount of air that leaks between the mask and face
- How hard and how long you squeeze the bag
- The set point of the pop-off (pressure-release) valve

Deliver enough air to move the chest as if the baby is taking a normal breath. Too little air means the baby may not improve. Too much air may damage the lungs. **A ventilation device may or may not have a pop-off valve.** This valve limits the amount of air sent to the lungs – even when squeezing the bag very hard. Know the set point at which air escapes. Closing the valve makes it possible to give a larger breath. A very large breath can injure or rupture the baby's lungs.



During ventilation

Is the chest moving or is the baby breathing well?



Explain and demonstrate

"Breathing" or "Not breathing"

If the chest is not moving immediately

- Reapply the mask
- Reposition the head

If the chest is moving well, continue to ventilate until the baby begins

- crying OR
- breathing regularly

Stop ventilation and monitor with mother.

If the baby is not crying or breathing well the baby may be

- gasping
- not breathing at all

Continue ventilation with good chest movement.

OR the baby may be

- taking fast, irregular, or shallow breaths
- grunting with chest wall indrawing

Monitor breathing, heart rate, muscle tone and color to decide whether the baby is improving or needs advanced care.

Demonstrate each type of breathing.

Is the chest moving well?

Practise

Ask participants to practise in pairs

- Evaluate chest movement
- Improve chest movement by reapplying the mask and repositioning the head
- Use a neonatal simulator to show
  - Crying or breathing well
  - Gasping or breathing abnormally
- Ventilate for one minute at 40 ventilations per minute with good chest movement

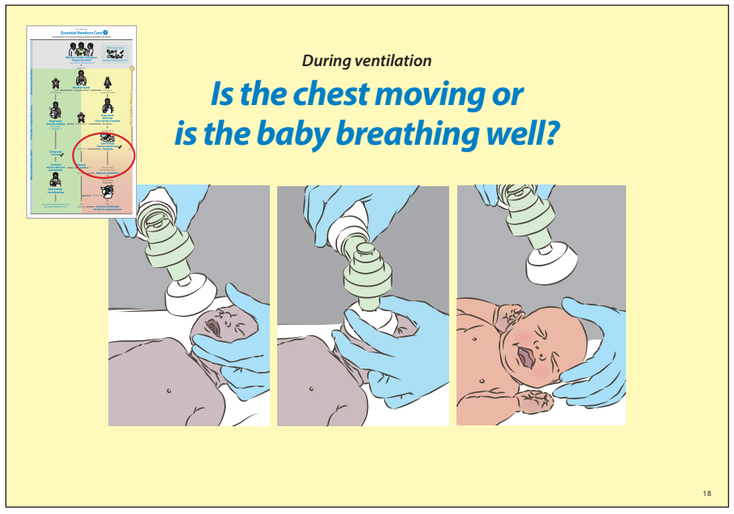
Discuss

A baby who is not breathing is receiving ventilation with bag and mask. The chest is moving gently with ventilation. What should you do?

☐ *Stop ventilation to see if the baby breathes*
☒ *Continue ventilation*

A baby begins to breathe well after 30 seconds of ventilation with bag and mask. What should you do?

☒ *Monitor the baby closely with the mother*
☐ *Provide routine care only*



Educational advice

Emphasize the importance of watching chest movement with each breath. Demonstrate how to quickly reapply the mask and reposition the head simultaneously. These two actions address the two most common causes of the chest not moving.

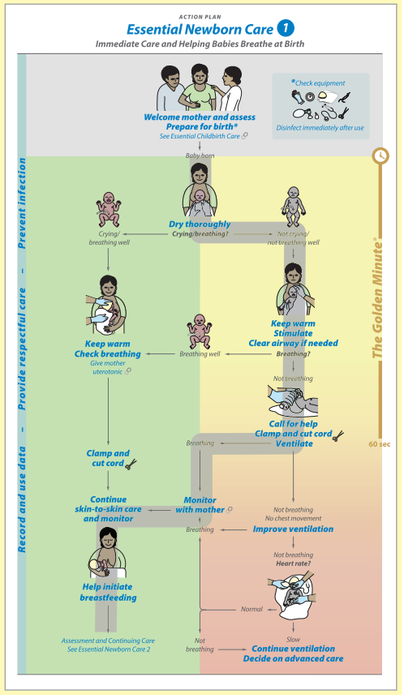
Emphasize that If the baby is not breathing, the provider should continue to ventilate. Ventilation does not stop until the baby breathes.

Demonstrate a variety of breathing patterns. Ask participants to identify fast, slow, shallow, and irregular breathing. Demonstrate grunting using your own voice and describe chest wall indrawing using the mannequin or simulator.

Background

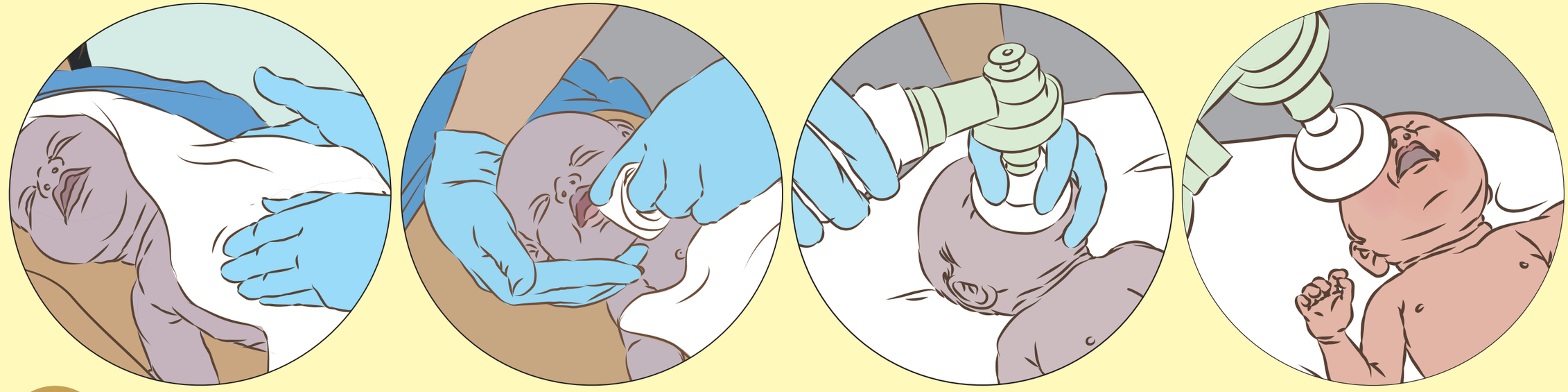
Improvement in a baby's condition with ventilation may occur rapidly or slowly. A baby may begin breathing after only a few ventilations. When the baby improves more slowly, you will need to look for other signs.

- The earliest sign that the lungs are being expanded with air is a rapid rise in the baby's heart rate. This cannot be seen. It requires feeling the umbilical cord pulse or listening to the heart rate with a stethoscope.
- Next, a baby will show improvement in muscle tone and color. The color will become pink. The baby will move and no longer be floppy.
- Finally, a baby's own breathing will begin.



GROUP PRACTICE - CASE 4

The Golden Minute® - ventilation



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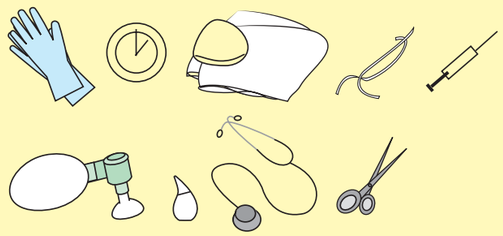
GROUP PRACTICE - CASE 4

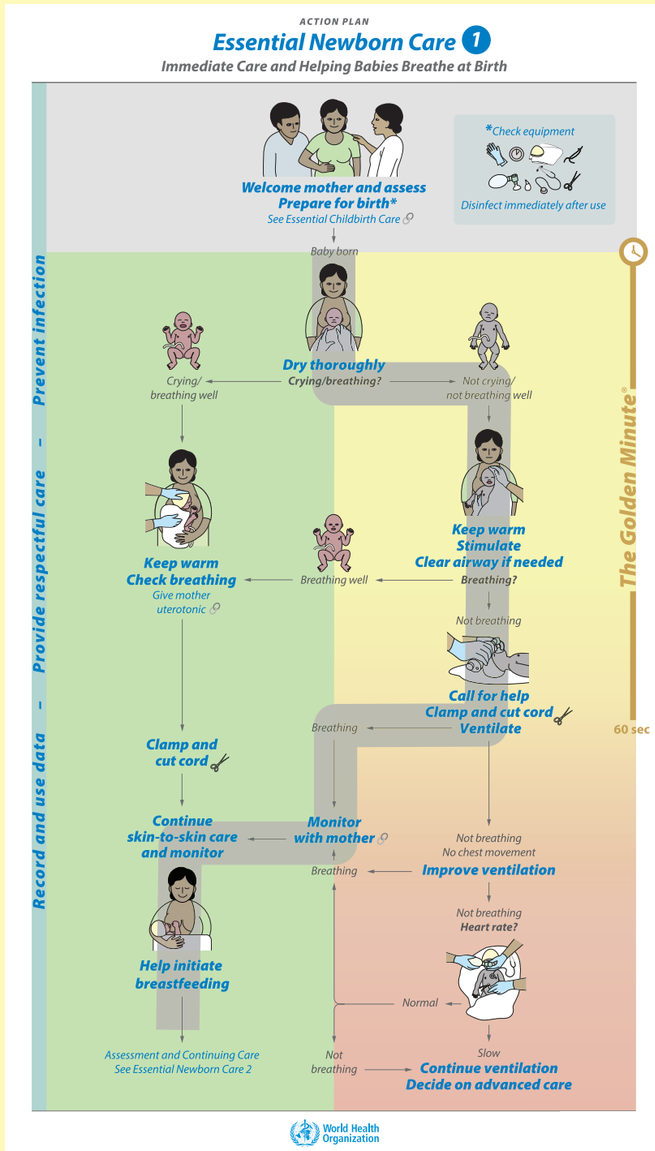
1. **Demonstrate The Golden Minute - ventilation, the baby´s responses, and communication with the mother and a helper.**
2. **Ask participants to practise in pairs or groups of three in the roles of**
   - **Provider**: demonstrates action steps and communicates with the mother (and the helper)
   - **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 pages 40-41 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



The Golden Minute®- ventilation

(Provider Guide pages 40-41)



As the mother (or helper), read out loud to the provider:
"A baby is born. Show how you will care for the baby who is NOT crying or breathing well. Communicate with the mother."

Provider Demonstrate action steps and communicate	**Mother (or helper)** If action is not done, use the prompts to provide hint
☐ ***Call out time of birth***	*"When was my baby born?"*
☐ ***Dry thoroughly***	*"My baby is wet."*
- *Remove wet cloth*	*"My baby is cold."*
☐ *Recognize not crying/ not breathing well*	*"Is my baby OK?"*
☐ ***Keep warm***	
- *Place baby skin-to-skin*	*"My baby is cold."*
- *Cover with dry cloth*	
☐ ***Stimulate***	*"How can you help my baby breathe?"*
☐ ***Clear airway if needed***	*IF PROVIDER ASKS, say:*
	"Nothing is blocking the airways."
☐ *Recognize not breathing*	*"Is my baby OK?"*
☐ ***Call for help***	*"Should you get some help?"*
☐ ***Clamp and cut cord***	*"When do you cut my baby's cord?"*
- *Move to area for ventilation*	*"Is my baby OK now?"*
- *Stand at head*	
- *Check mask size*	
☐ ***Ventilate***	*"Is what you are doing working?"*
- *40 breaths per minute*	
- *Observe chest movement*	
☐ *Recognize breathing*	*"Is my baby OK now?"*
☐ ***Monitor with mother***	*"My baby is cold."*
🔗 *Give mother uterotonic*	*"Should I get some medication?"*
☐ ***Continue skin-to-skin care and monitor***	
- *temperature*	
- *breathing*	
- *mother for bleeding*	
☐ ***Help initiate breastfeeding***	*"Can you help me breastfeed?"*

Discuss together

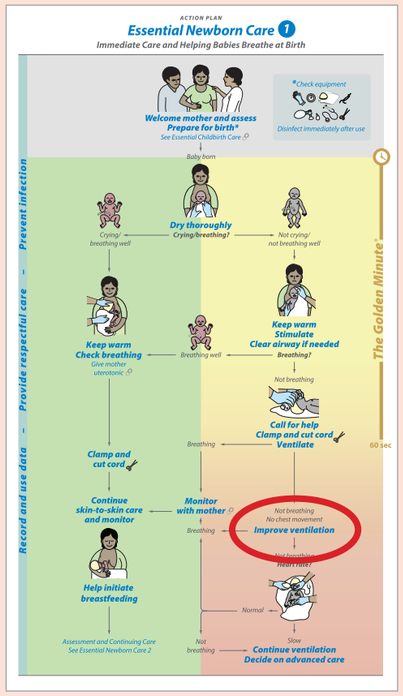
What went well?

Did you follow the Action Plan?

If not, why, and what will you change?

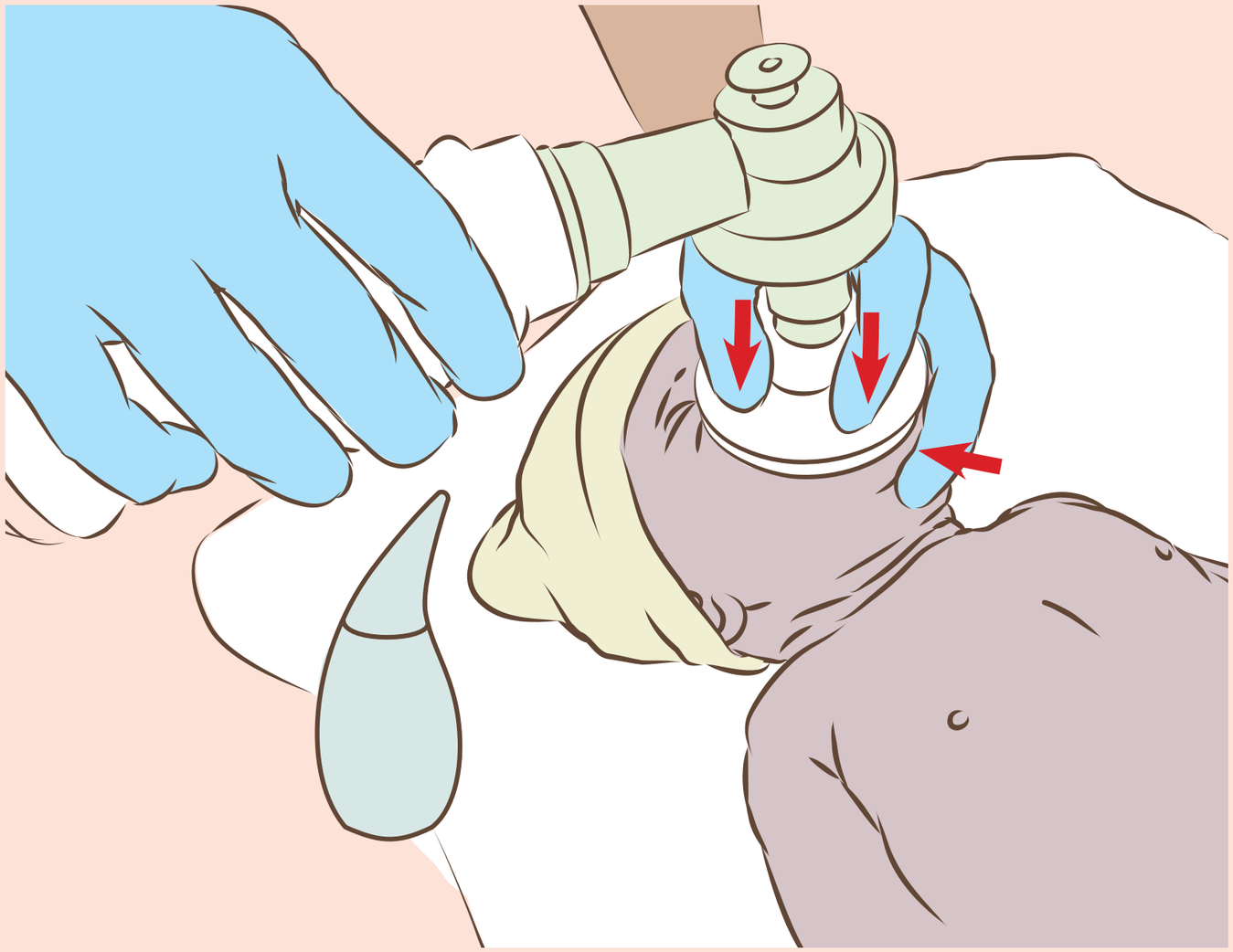
How did you
- provide respectful care and communicate?
- prevent infection?
- record and use data?

Online Simulation Practice Cards



If the baby is not breathing/no chest movement

Improve ventilation



Explain and demonstrate

"Improve ventilation"

If the baby is not breathing, continue ventilation. Improve ventilation if the chest is not moving

- Reapply mask
- Reposition head
- Clear mouth and nose of secretions
- Open mouth slightly
- Squeeze the bag harder

Continue ventilation while checking for chest movements.

Clamp and cut the cord if not already done. Ask a skilled helper to give a uterotonic to the mother if not already given.

Practise

Ask participants to practise in pairs

- Improve ventilation
  - Reapply mask
  - Reposition head
  - Clear mouth and nose of secretions
  - Open mouth slightly
  - Squeeze the bag harder

Improve ventilation

Discuss

A baby's chest does not move with ventilation. What should you do?

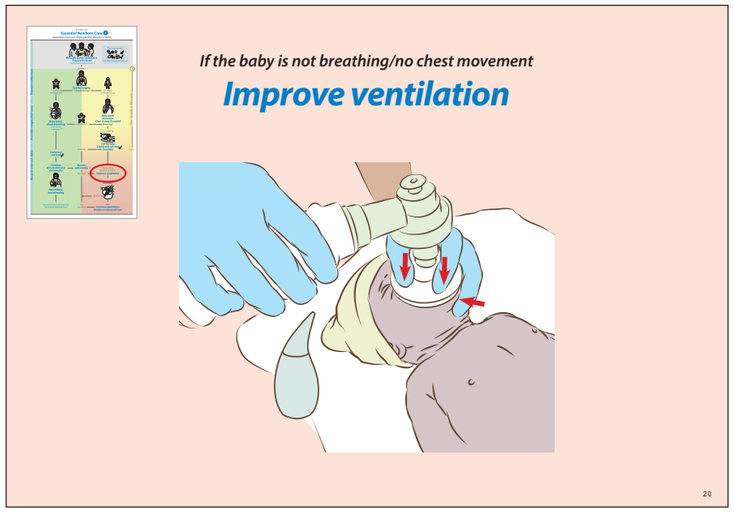
☐ *Suction the airway and stimulate the baby*

☒ *Reapply the mask to the face and reposition the head with the neck slightly extended*

A baby does not breathe after several ventilation breaths with bag and mask. What should you do?

☐ *Suction the airway and stimulate the baby*

☒ *Continue ventilation and improve ventilation if the chest is not moving*



Educational advice

Emphasize the steps to improve ventilation. Ask participants to develop their own way to remember these steps.

Show participants how to prevent chest movement with the neonatal simulator. Squeeze the ventilation bulb hard and hold it. Point out that the chest no longer moves well with each ventilation breath. Placing a finger on the neck of the simulator also prevents chest movement. Also demonstrate excessive movement of the chest. Give participants feedback on how a good mask seal instead of large volumes of air can produce appropriate chest movement.

Participants may learn at a different pace. All participants should practise and master the skill.

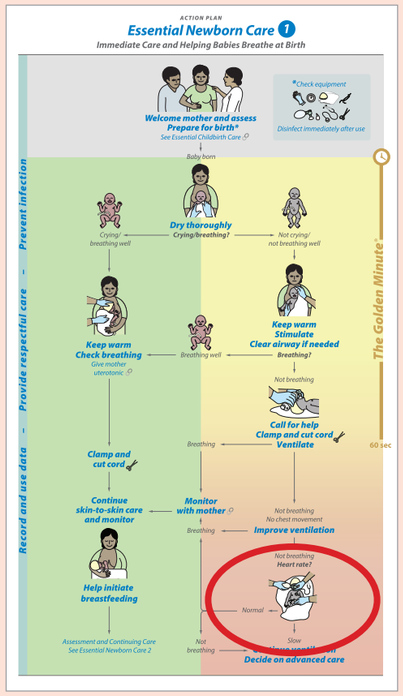
Background

Reapplying the mask and repositioning the head often improve chest movement.

- Reapply the mask when you hear or feel air escaping around the mask.
- Extend the neck slightly. Keep the head in correct position by lifting the chin and jaw up and forward while pressing down on the mask. If these steps do not improve chest movement, continue on to the next steps.

Clearing the mouth and nose of secretions and opening the mouth slightly can easily be combined. Remove secretions and open the mouth slightly before reapplying the mask. Suction only if the first two steps do not result in chest movement. Opening the mouth and lifting the jaw up and forward help prevent the tongue from blocking the airway. If the chest still is not moving, continue on to the final step.

Squeezing the bag harder increases the amount of air that enters the lungs. Squeeze the bag harder to give a larger ventilation breath. If the ventilation bag has a pop-off valve and even more air is needed, close the valve and ventilate again with caution. Look carefully at the chest movement. Decrease the amount of air entering the lungs if the chest moves too much.



If the baby is not breathing after improved ventilation

Is the heart rate normal or slow?

Explain and demonstrate

"Heart rate - Normal or slow?"

Evaluate heart rate after 1 minute to decide if ventilation is adequate (helper may check the heart rate)

- Feel the umbilical cord pulse
  OR
- Listen to the heartbeat with a stethoscope
- Decide quickly if the heart rate is normal or slow
  - Normal >100 beats per minute
  - Slow <100 beats per minute

A normal heart rate is a sign of effective ventilation.

Practise

Ask participants to practise in pairs

- Feel the umbilical cord pulse
- Listen to the heartbeat with a stethoscope
- Decide quickly if the heart rate is normal or slow

Is the heart rate normal or slow?

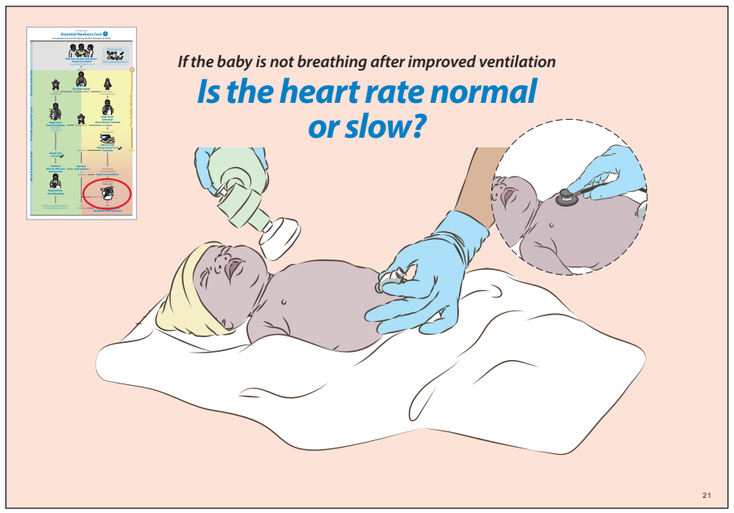
Discuss

You are ventilating a baby with bag and mask. When should you check the heart rate?

- ☐ *After every 10 breaths with the ventilation bag*
- ☒ *After 1 minute of ventilation*

You feel the umbilical cord to count the heart rate. You cannot feel any pulsations. What should you do next?

- ☒ *Listen for the heartbeat with a stethoscope*
- ☐ *Do nothing more, the baby is dead*



Educational advice

Demonstrate normal and slow heart rate with the newborn simulator. Operate the controls of the simulator so they cannot be seen by the person who is evaluating the heart rate. If using a mannequin, tap out the heart rate on the body or the table.

Emphasize how participants quickly recognize a normal and slow heart rate.

- Count their own pulse at rest to feel a slow heart rate.
- Think of a well-known song or dance with about 100 beats per minute. Tap out that tempo to show a normal heart rate or use a metronome.
- Suggest their own method to help classify the heart rate as normal or slow.

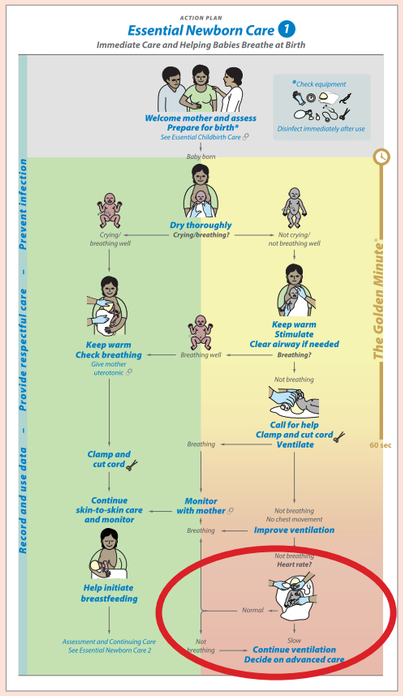
Background

The normal heart rate of a baby is faster than an adult heart rate.

A slow heart rate often means that not enough air is entering the lungs. Heart rate usually rises quickly when the chest begins to move well. This normally happens before the baby begins to breathe. It is important that the heart rate is normal and the baby is breathing before ventilation is stopped.

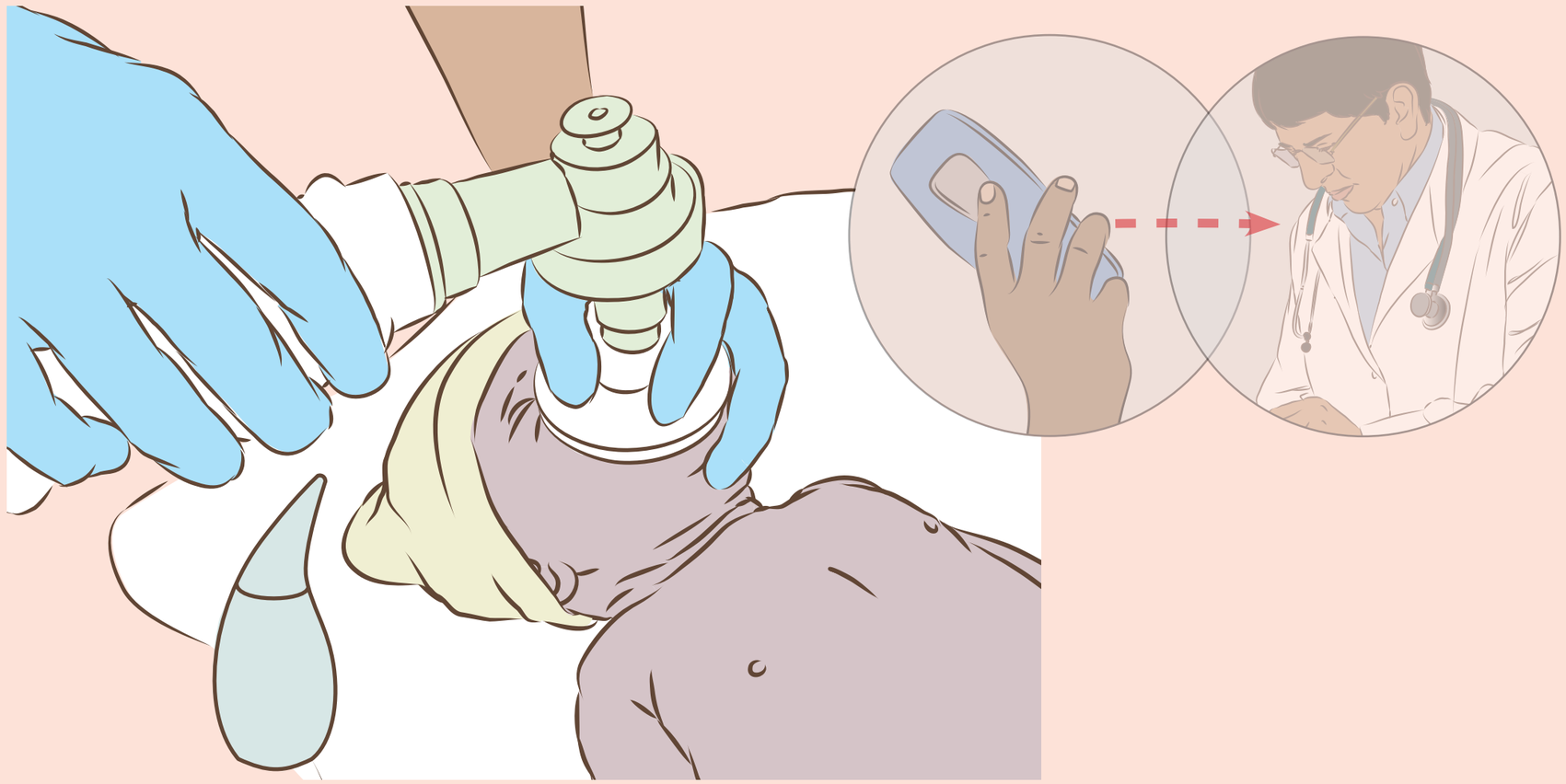
Ventilation should continue for one minute before heart rate is checked unless there is a second skilled person. A skilled helper can feel the cord pulse while ventilation continues uninterrupted. It is usually necessary to pause ventilation in order to listen to the heartbeat with a stethoscope.

It is important to ventilate first and take steps to improve ventilation if heart rate remains low. Chest compressions are given for adults who are not breathing and have a slow heart rate or no heart rate. Chest compressions can interfere with ventilation in babies. If advanced care is available, oxygen and chest compressions may be provided when improved ventilation does not result in a rise in heart rate. With babies, ventilation comes first.



If the baby is not breathing

Continue ventilation, evaluate heart rate and breathing and decide on advanced care



Explain and demonstrate

"Continue ventilation - Decide on advanced care"

If the heart rate is normal and the baby is not breathing or is gasping

- Continue ventilation
- Re-evaluate breathing continuously and check heart rate every 3-5 minutes
- Seek consultation to decide on advanced care

If the heart rate is slow

- Improve and continue ventilation
- Re-evaluate breathing continuously and check heart rate every 3-5 minutes
- Seek consultation to decide on advanced care

If advanced care or transport is not available, consider stopping ventilation and communicate with the parents

- If no heart rate has been detected after 10 minutes of effective ventilation, OR
- If the heart rate remains slow and the baby is not breathing after 20 minutes

The decision to stop ventilation depends on access to advanced care, national and facility policies, and communication with the family. When maceration is recognized and there is no heart rate, ventilation is not needed.
A baby who never had a heart rate and never breathed after birth is stillborn.

Decide on advanced care

Practise

Ask participants to practise in pairs

- Decide what care is needed for
  - Heart rate normal, baby begins to breathe - close monitoring
  - Heart rate normal, baby not breathing- continue ventilation, seek consultation to decide on advanced care
  - Heart rate slow, baby not breathing - improve and continue ventilation, seek consultation to decide on advanced care, consider stopping ventilation after 20 min.
  - No heart rate, no breathing after 10 minutes of ventilation - stop ventilation
- Explain to the mother and family and give respectful supportive care.
- Complete the birth record and death certificate for a stillbirth or neonatal death.

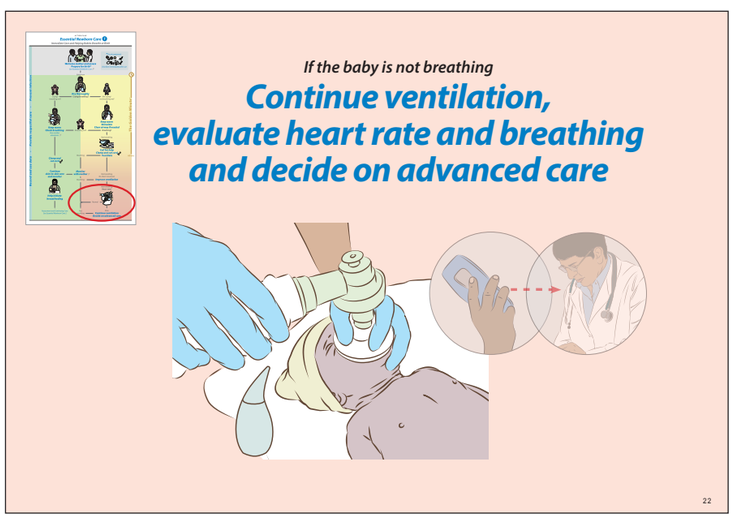
Discuss

A baby has received ventilation for 3 minutes.
The heart rate is checked and is slow. What should you do?

- ☐ *Stop ventilation*
- ☒ *Take steps to improve ventilation and assess that the chest is moving*

After 10 minutes of ventilation with good chest movement, the baby is not breathing and there is no heart rate (no cord pulse, no heartbeat by stethoscope).
What should you do?

- ☒ *Stop ventilation, the baby is dead*
- ☐ *Continue ventilation for another 10 minutes*



Educational advice

Demonstrate how to organize a consultation for advanced care:

- Situation: identify the main problem (breathing/slow heart rate)
- Background: describe any complications of pregnancy, time of birth, actions to help the baby breathe and responses of the baby
- Assessment: current examination findings and support being given
- Reponse: advice on appropriate ongoing care, need for referral, and location for advanced care

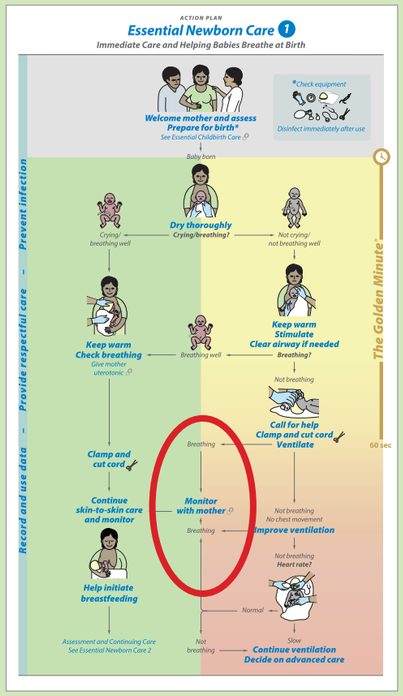
Emphasize the importance of communication about referral whether the baby will receive advanced care in the same facility or a different one. Ask participants to complete the birth record and discuss what else is needed to adequately document care. Use the national guidelines on when to stop ventilation. Give compassionate bereavement care. Support mothers to stop breast milk. Emphasize the importance of recording of stillborns (babies without ANY heart rate or sign of life).

Background

During ventilation, continuously evaluate for breathing and recheck heart rate every 3-5 minutes. A skilled helper can watch chest movement and monitor heart rate more frequently.

Sometimes ventilation is so effective that a baby does not feel the need to breathe. Slowly decrease the ventilation rate, while keeping the baby pink with a normal heart rate. If the baby still does not breathe, continue ventilation and seek specialty consultation or referral.

Many babies who require ventilation will recover well and be healthy. Babies who need 5 minutes or more of ventilation need continued monitoring and may need advanced care. Difficulty breathing or slow heart rate after ventilation means that a baby needs continued ventilation and specialty consultation or referral. The baby may need care on a ventilator, supplemental oxygen, glucose, improvement of thermal control. Hypothermia is frequent after receiving help to breathe.



If the baby responded to ventilation

Monitor with mother

Explain and demonstrate

"Monitor with mother"

A baby who received ventilation is at high risk of developing breathing difficulty or other problems.

Provide continuous monitoring of

- breathing
- heart rate
- color
- temperature

through the first hour and until the baby is assessed and classified for further care (see Assessment and Continuing Care).

If a baby needed help to breathe

- Prolong skin-to-skin care
- Continue with essential newborn care and help initiate breastfeeding
- Record the care provided

If a baby shows a Danger Sign, very low birthweight or severe malformation, refer for advanced care.

If referral is needed, transport mother and baby together

- Continue skin-to-skin care
- Monitor the baby
- Communicate with the receiving facility
- Consider alternative methods of feeding

Support the family

- Communicate with parents and answer any questions

Prepare for the next time a baby needs help to breathe

- Review the actions taken with other team members (debrief)
- Disinfect the equipment used (Provider Guide page 59)
- Store the equipment in a place where it will stay clean and available for use

Practise

Ask participants to practise in pairs

- Communicate with a mother whose baby needs advanced care

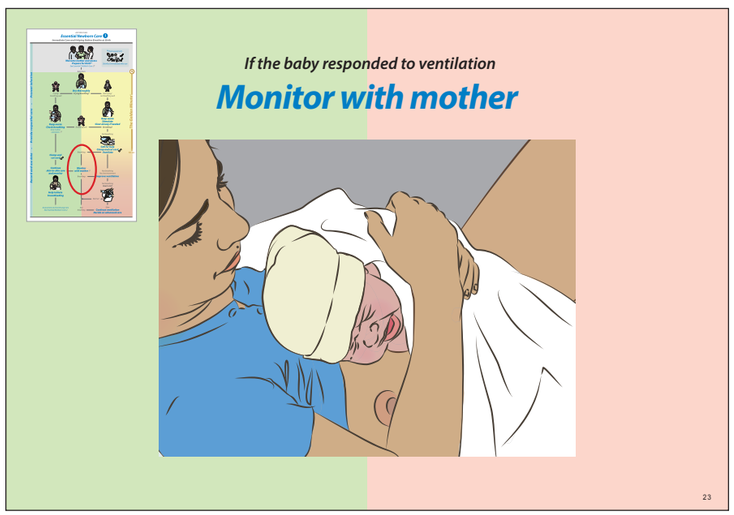
Discuss

A baby needed ventilation with bag and mask. She is breathing fast. What should you do?

☐ *Leave mother and baby alone to rest*
☒ *Explain the baby's condition, record the care provided, and continue to monitor with mother to decide on advanced care*

A baby will be taken to the district hospital with breathing difficulty. How should you advise the mother?

☐ *Advise her not to travel for at least a week*
☒ *Advise her to go with her baby if possible*



Educational advice

Emphasize communication with the mother. As the provider monitors breathing, heart rate, color, and temperature, he or she can also tell the mother whether these are normal or abnormal. Encourage participants in the role of the mother to ask questions families commonly have about help to breathe after birth. Explore with participants religious and cultural behaviours in their region around illness and death. Be prepared to give mother advice on breast care and family planning.

Have available the birth record used locally. Compare the information collected with the sample birth record (Provider Guide page 55) to identify missing or extra items.

Obtain the local policies and procedures relating to disinfection and storage of equipment used for ventilation.

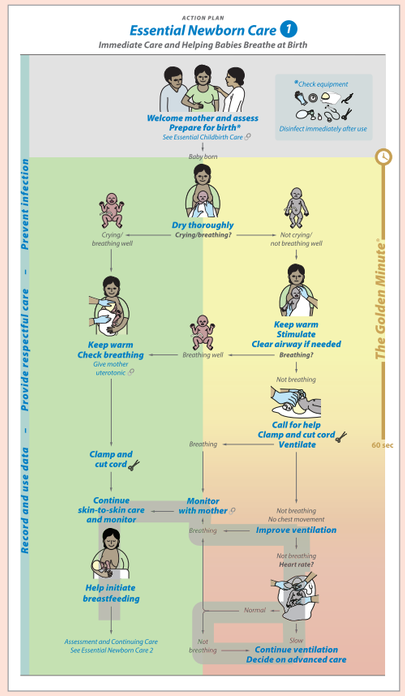
Background

A baby who received ventilation may need only routine essential newborn care or may need referral for advanced care. All babies who received ventilation need essential newborn care (see ENC 2 - Assessment and Continuing Care). Effective breastfeeding may help the baby avoid or recover from low blood sugar.

After helping a baby breathe, it is important to prepare for the next birth. Disinfect equipment immediately after use to be available for the next baby. Immediate cleaning is also easier and more effective than when it is delayed.

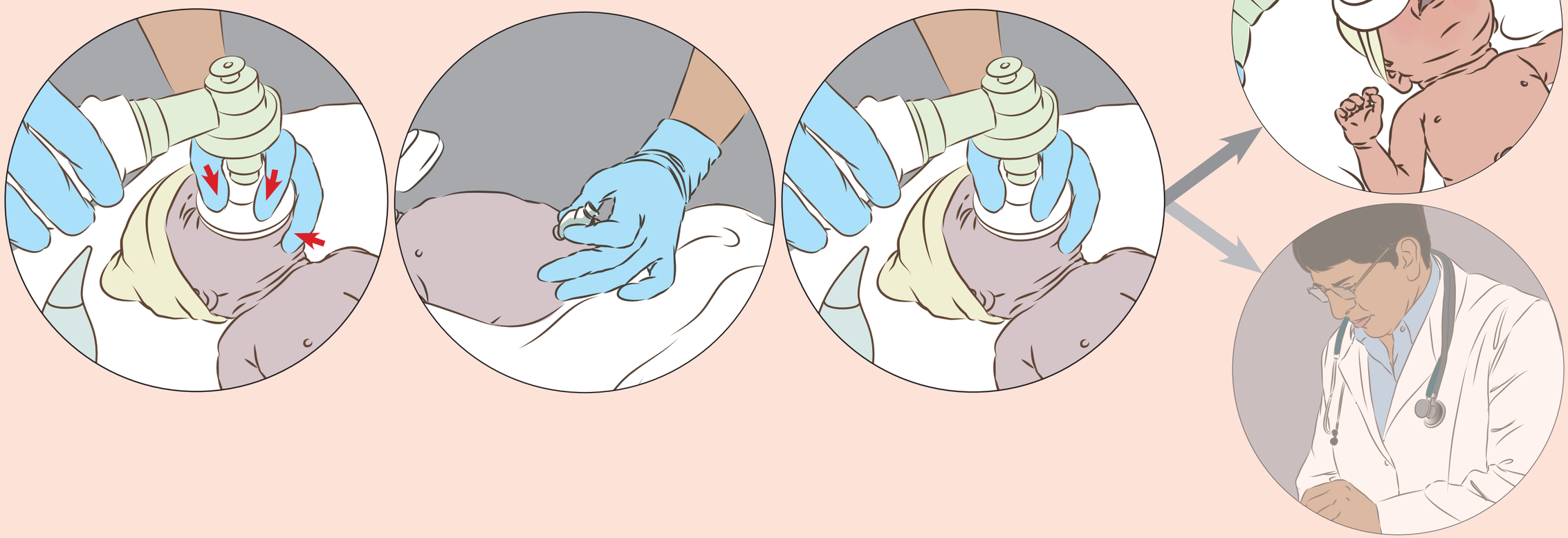
Note the care provided in the birth record to help plan further care or accompany a referral.

E Reprocessing equipment for ventilation



GROUP PRACTICE - CASE 5 AND 6

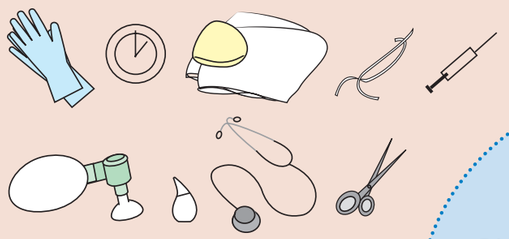
Improve ventilation
Decide on advanced care



GROUP PRACTICE - CASE 5 AND 6

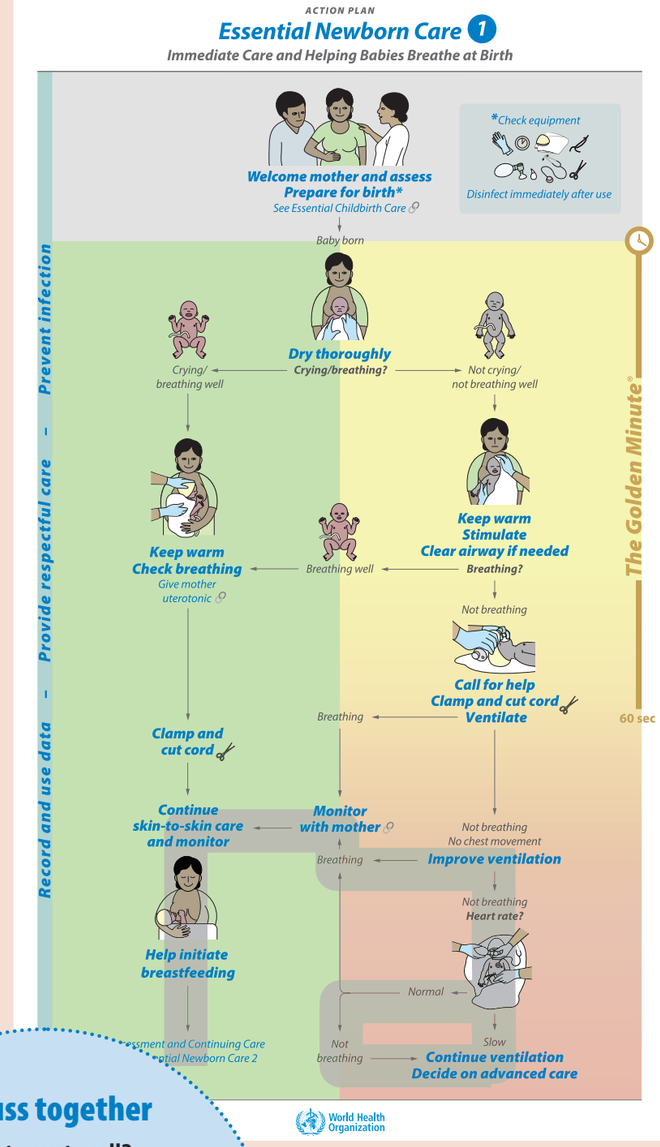
1. **Demonstrate continued ventilation with normal or slow heart rate and communication with mother and a helper.**
2. **Ask participants to practise in pairs or groups of three in the roles of**
   - **Provider**: demonstrates action steps and communicates with the mother (and the helper)
   - **Mother:** engages with the simulator, asks questions, give prompts as needed
   - **Helper** (optional): gives prompts as needed
3. **Read the case in the Provider Guide pages 50-51 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 constructive respectful feedback with the whole group

EQUIPMENT



Improve ventilation
Decide on advanced care

(Provider Guide pages 50-51)



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?

As the mother (or helper), read out loud to the provider:
"A baby is not breathing, you start ventilation and there is no chest movement. Show how you will care for the baby 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
☐ *Recognize not crying/ not breathing* ☐ *Recognize chest not moving*	*"Is my baby OK?"*
☐ ***Improve ventilation*** - *Reapply mask* - *Reposition head* - *Clear mouth and nose* - *Open mouth* - *Squeeze the bag harder* ☐ *Recognize breathing*	*"Is my baby OK? IF PROVIDER ASKS, say: "The baby is breathing now."*
☐ ***Continue skin-to-skin care and monitor with mother*** - *breathing, color, heart rate* - *temperature* - *bleeding (mother)*	
☐ ***Help initiate breastfeeding*** - *Communicate with mother and family* - *Continue essential newborn care, identify the baby, complete birth record*	*"What happened?"*
☐ ***Disinfect equipment***	

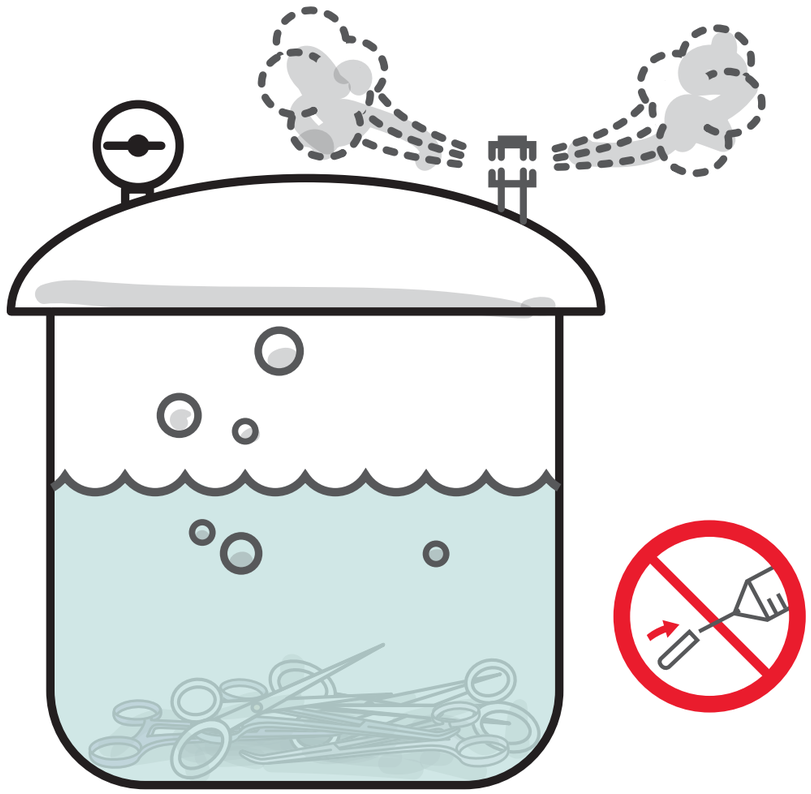
As the mother (or helper), read out loud to the provider:
"A baby is not breathing, but has chest movement with bag and mask ventilation. Show how you will care for the baby and communicate with the mother."

Provider Demonstrate action steps and communicate	**Mother (or helper)** If action is not done, use the prompts to provide hint
☐ *Recognize not breathing* ☐ *Recognize slow heart rate*	*"Is my baby OK?"* *IF PROVIDER ASKS, say: "Heart rate is 70."*
☐ ***Continue ventilation*** ☐ *Recognize not breathing* ☐ *Recognize normal heart rate*	*"Is my baby OK?"* *IF PROVIDER ASKS, say: "Heart rate is 120."*
☐ ***Decide on advanced care*** - *Communicate with mother and family*	*"What happened?"*
☐ ***Record data*** - *Prepare referral note*	*"What do I tell the new doctor?"*

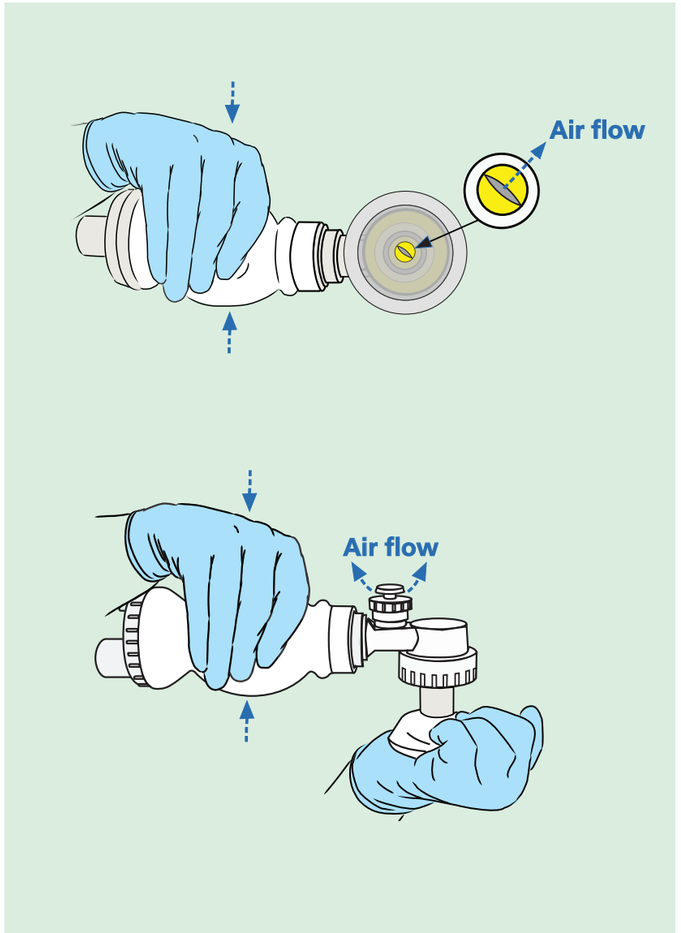
Online Simulation Practice Cards

After every use

Disinfect and test equipment



Disinfect equipment



Test equipment

To disinfect

- **Wipe (immediate pre-cleaning):** While wearing gloves, wipe the outside of the ventilation bag and mask with a gauze soaked in 0.5% chlorine solution. Also wipe the outside of a bulb suction device. If the suction device cannot be opened for cleaning inside, discard it after use.
- **Disassemble:** Take apart the devices completely.
- **Clean:** Wash in warm soapy water to remove visible blood, secretions, and other contaminated matter.
- **Sterilize or high-level disinfect:** Sterilize all parts by autoclaving or high-level disinfect parts by boiling or steaming for 20 minutes or submersion in an appropriate chemical disinfectant. Rinse in boiled water after chemical disinfection.
- **Dry:** Allow all parts to dry completely before reassembly.
- **Reassemble:** Inspect all pieces for cleanliness and damage. Put together the pieces of the ventilation bag and mask and suction device.

Disassemble ventilation bag

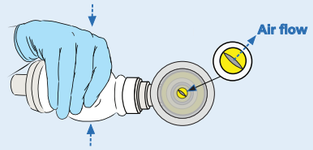
Disinfect equipment

Reprocessing equipment for ventilation

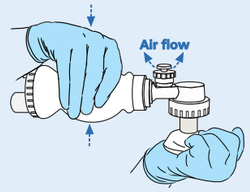
To test

Ventilation bag and mask

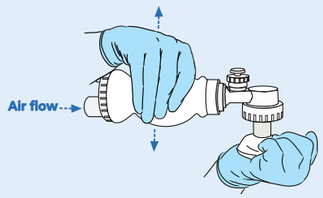
- Put the mask on the ventilation bag. Squeeze the bag and look for the valve in the patient outlet to open as you squeeze. This shows the device is ready to deliver air to a patient.



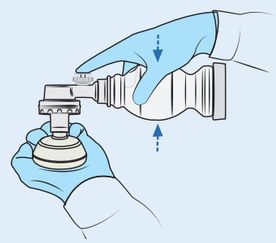
- Seal the mask tightly to the palm of your hand and squeeze hard enough to open the pressure release (pop-off) valve. Listen for the sound of air escaping. This shows that air which cannot be delivered safely to the baby will escape through the pressure relief valve.



- Maintain the tight seal and check that the bag re-inflates after each squeeze. This shows that fresh air will enter the bag through the inlet valve.



- Keep the mask sealed against the hand. Press the pressure release valve down. Squeeze the bag and check that there is no leakage.



Suction device

- Squeeze the bottom portion of the suction device and hold the squeeze. Block the opening of the tip against the palm of your hand and release the squeeze. The suction device should not expand until the tip is unblocked.

To ensure equipment is ready for use at all times:

- **Repair or replace any equipment that is damaged or does not function.** Correct a problem when it occurs.
- **Store disinfected equipment in a protected, safe place where it can be accessed easily.** Store in a closed metal or plastic container that has been high-level disinfected. Keep all equipment together where it will be used.
- **Dispose of contaminated supplies and handle contaminated linen properly.** Restock with clean supplies and linen.

Practise

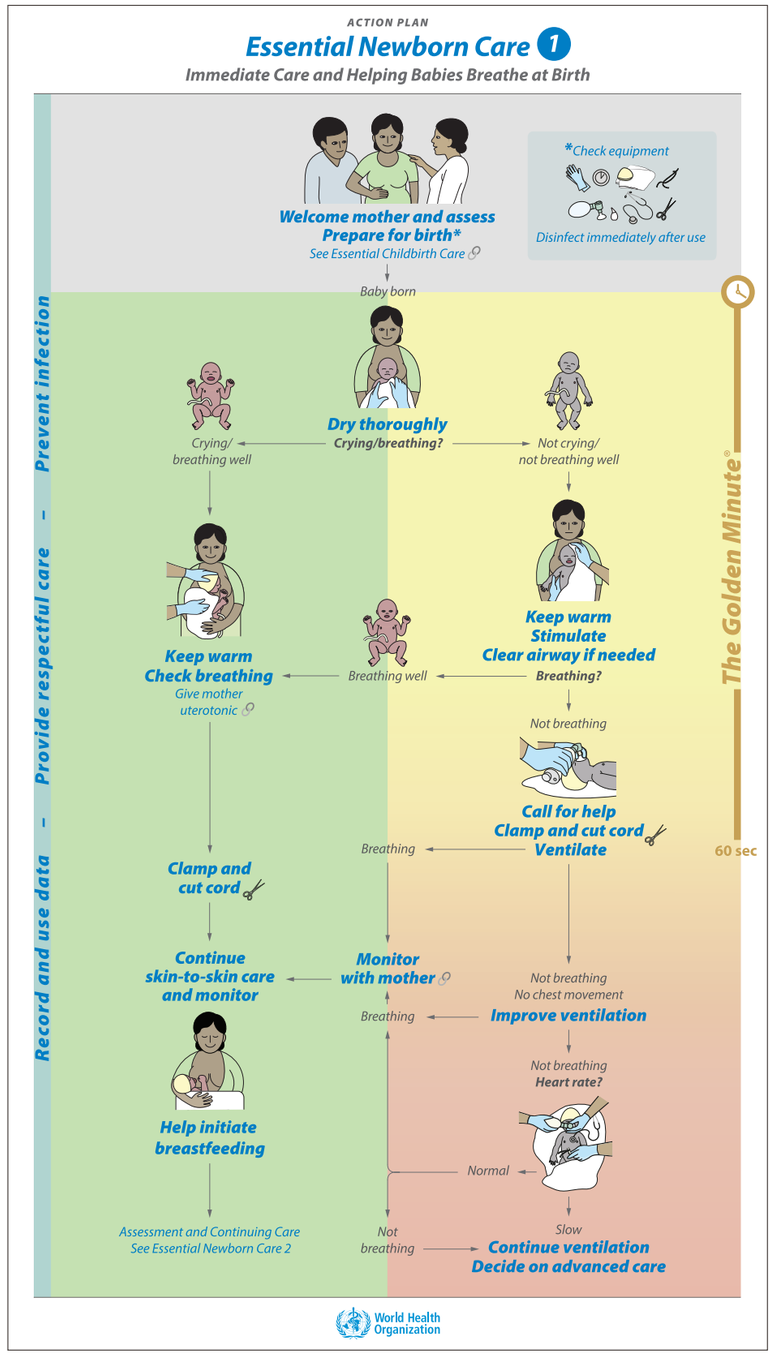
Ask the participants to practise in pairs

- Disassembling, reassembling, and testing the ventilation bag and mask

Discuss

1. What method of disinfection does your facility use for ventilation equipment?
2. Where is clean ventilation equipment stored in your facility?

Master the Action Plan



Trace six cases

1	2	3	4	5	6
Dry thoroughly	**Dry thoroughly**	**Dry thoroughly**	**Dry thoroughly**	**Dry thoroughly**	**Dry thoroughly**
Crying /breathing well	Not crying / not breathing well	Not crying / not breathing well	Not crying / not breathing well	Not crying / not breathing well	Not crying / not breathing well
Keep warm **Check breathing**	**Keep warm** **Stimulate** **Clear airway if needed**	**Keep warm** **Stimulate** **Clear airway if needed**	**Keep warm** **Stimulate** **Clear airway if needed**	**Keep warm** **Stimulate** **Clear airway if needed**	**Keep warm** **Stimulate** **Clear airway if needed**
Breathing well	Breathing well	Not breathing **Call for help** **Clamp and cut cord** **Ventilate**	Not breathing **Call for help** **Clamp and cut cord** **Ventilate**	Not breathing **Call for help** **Clamp and cut cord** **Ventilate**	Not breathing **Call for help** **Clamp and cut cord** **Ventilate**
Clamp and cut cord **Continue skin-to-skin care and monitor**	**Clamp and cut cord** **Continue skin-to-skin care and monitor**	Breathing **Monitor with mother skin-to-skin**	Not breathing **Improve ventilation**	Not breathing **Improve ventilation**	Not breathing **Improve ventilation**
Help initiate breastfeeding	**Help initiate breastfeeding**	**Help initiate breastfeeding**	Breathing **Monitor with mother skin-to-skin** **Help initiate breastfeeding**	Not breathing **Continue ventilation** Normal heart rate Breathing **Monitor with mother skin-to-skin** **Help initiate breastfeeding**	Not breathing **Continue ventilation** Slow heart rate OR Normal heart rate Not breathing **Continue ventilation** **Decide on advanced care**

The Golden Minute® 60 sec

Explain and demonstrate

Providers with the skills to help every baby at birth will improve the health of babies and the quality of care.

A provider will master the Action Plan by:

(1) Participating in ongoing practice using Simulation Practice Cards and Clinical Practice Cards

(2) Reviewing the steps taken after helping a baby breathe

(3) Using case reviews and audits to identify areas that need improvement

Practise the six cases

Ask the participants to:

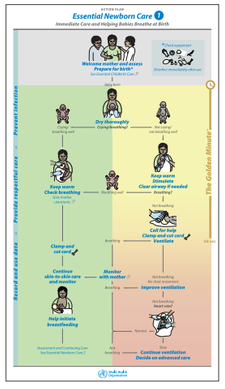
- Describe a clinical scenario and trace its pathway through the Action Plan
- Identify possible problems in following the Action Plan and how they can be avoided
- Repeat until all 6 pathways have been described

Discuss

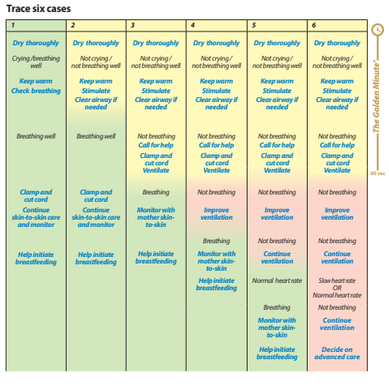
Ask the participants to answer the following questions to organize a system for ongoing practice and case review:

1. What skills need continuing practice? How will frequent skills practice become a routine?
2. How and when will providers review a resuscitation after helping a baby breathe?
3. How will routine case reviews or audits be organized to improve care?

Master the Action Plan



Trace six cases



26

Educational advice

When the participants leave the workshop, they should have a plan for a system of ongoing practice in place. Once participants leave the classroom, they will lose their skills unless they practise. Ongoing practice helps providers use new skills to care for babies and improve their skills, understanding, and confidence. Being able to perform the needed skills at every birth will improve the outcomes for babies.

Use the Discuss questions to help the participants plan a system for ongoing practice. Show participants how they can practise the skills of bag and mask ventilation in a designated area of their workplace. A system of short but frequent practices (for example, 5 minutes at the start of every shift) can help participants retain and improve their skills. Discuss how the participants can use the Simulation and Clinical Practice Cards, the Case Scenarios at the end of the course (OSCEs), or their own case scenarios to practise. Participants may also practise the combined skills of caring for mother and baby in the first minutes after birth.

Encourage participants to work together and analyze cases in which babies needed help to breathe. Facilitate discussion of a real scenario or resuscitation that did not go well. Ask participants to describe the case using the Trace six cases graphic, and help all participants identify what needs to be done differently the next time.

Encourage participants to perform case reviews or audits of neonatal deaths, stillbirths, and other maternal and neonatal complications. Suggest that they include practice or a refresher on skills that need more work as part of these reviews. Emphasize how the conclusions of reviews or audits point out the changes needed to improve care.

Commit to making a difference

Prepare for birth

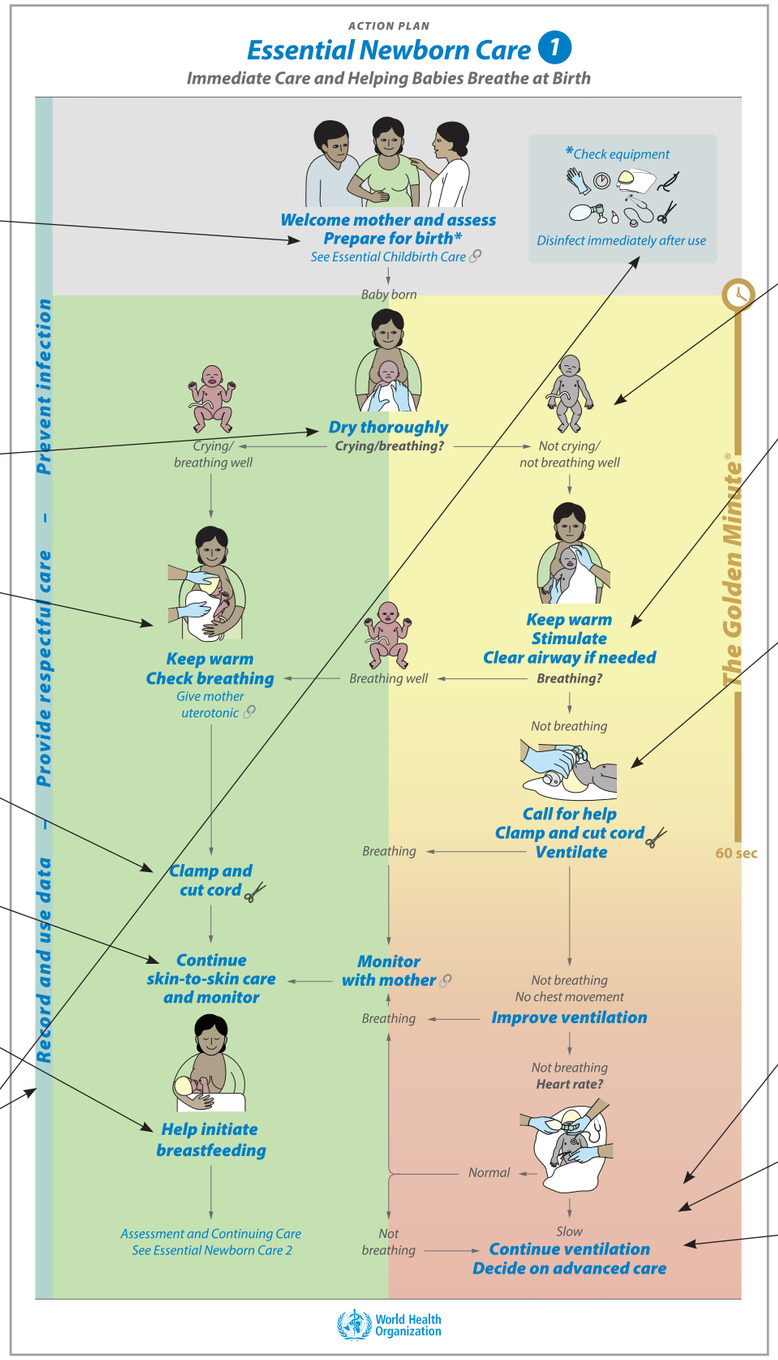
- *Have all birth attendants in the facility been trained to help babies breathe?*
- *Is equipment to help a baby breathe available at all births?*

Routine care

- *Are all babies dried thoroughly at birth?*
- *Do all babies receive skin-to-skin care at birth?*
- *Do all babies have cord clamping delayed for 1-3 minutes?*
- *Do all babies have skin-to-skin contact without interruption for at least one hour after birth?*
- *Do all babies initiate breastfeeding in the first hour after birth?*

After the birth

- *Do all babies have a record of the care received at birth?*
- *Is all equipment disinfected promptly after birth?*



The Golden Minute

- *How often are babies not crying after thorough drying?*
- *How often do babies not crying / not breathing well after thorough drying begin to breathe well after stimulation and clearing of the airway if needed?*
- *How often are babies not breathing well after stimulation given ventilation with bag and mask within 1 minute?*

Continued ventilation

- *How often do babies who require ventilation with bag and mask need advanced care?*
- *How often are babies classified as fresh stillbirths?*
- *How often are babies classified as macerated stillbirths?*

Explain and demonstrate

Improving care saves lives and prevents disabilities. Knowing the right care to give is not always enough. Knowledge must be put into practice.

Completing a workshop in *Essential Newborn Care* is just the first step in improving the quality of care you give.

After the course, commit to making a difference by:

(1) Identifying areas that need improvement
(2) Creating a system for ongoing practice and review of cases
(3) Making changes that will improve care

Practise

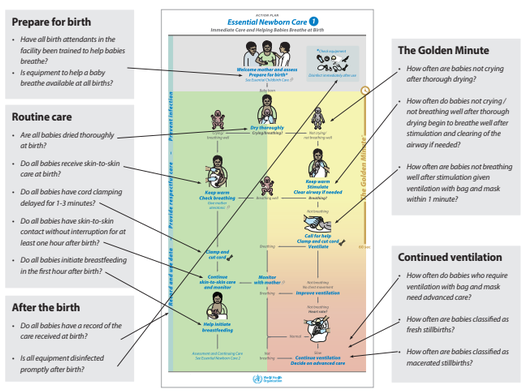
Ask the participants to:

1. Review the Action Plan as a guide to the best care at birth.
2. Review the "Questions to improve care "and "What to monitor" in the Provider Guide.
3. Determine differences in what is recommended and what is currently done at their facility.
4. Identify some areas for further practice and improvement of care.

Discuss

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?

Commit to making a difference



27

Educational advice

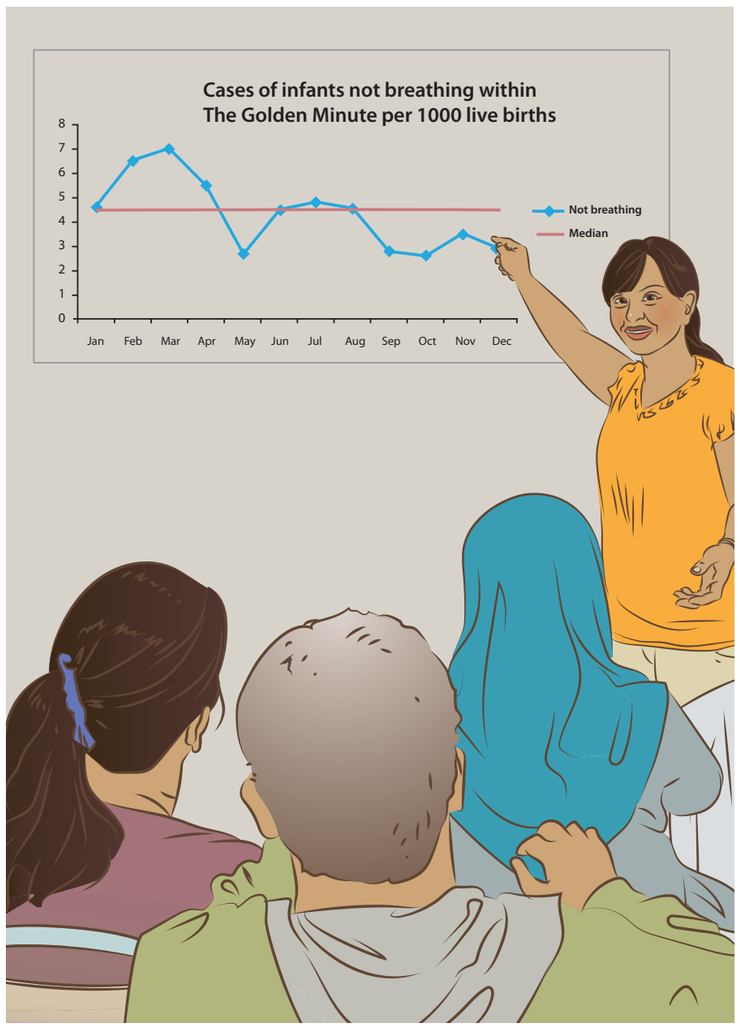
Emphasize that this is only the first step toward improving care for mothers and babies. When the participants return to their regular duties, there is an opportunity to improve care. Help participants commit to making a difference and develop a plan for the actions they will take to improve care in their facility.

Use the Simulation Practice Cards to show the participants how the course materials can help identify areas for improvement. The Action Plan shown here highlights some key actions and outcomes to monitor. Point out the Questions to improve care and What to monitor in the blue boxes in the Provider Guide.

Ask participants to discuss the differences between what they learned in the course and what they do in their facility. Lead the group through the Discuss questions to identify some of these differences. Write down the group's answers on a poster that the participants can keep and hang up in their facility. You may also ask the participants to sign the poster to show their commitment to change.

Invite a local health authority to be present for this discussion. Ask about the local or regional authority's goals for quality improvement. Matching these goals to those of the participants will help everyone work together to improve care.

Make changes to improve care



Explain and demonstrate

A plan for improving care builds support and commitment for ongoing change.

Participants can use a plan to improve care to take action when they return to work at their facility.

Practise

Assemble small groups from a single facility, or a group of similar facilities. Ask each group write their answers to the following questions to plan for next steps on an area that needs improvement.

1. What do we want to make better?
2. Why haven't we done it until now?
3. What are we going to change?
4. How are we going to make the change?
5. How will we know the change is improving care?

Discuss

Ask participants to:

- Write down the answers to the improvement questions.
- Review the information they record on each baby in their facility (delivery register, birth record, other records) and where they can find data on what they want to improve.
- Plan steps to make changes that can improve care.
- Plan how they would demonstrate the success of these changes.
- Present their plan to other workers in the facility or participants in the workshop.

Make changes to improve care

28

Educational advice

Help participants discuss and write down a plan for what they are going to do to improve care in their facility. Guide the participants to channel their excitement and energy from learning the new material into planning what they intend to change. An overall improvement plan will help turn commitment into action.

Group the participants by the facility where they work. Writing down the answers to the improvement questions can be their plan for the next steps they will take in their facility or unit. Encourage each group to chose one thing to make better.

Ask the participants to discuss what information they collect about the area they want to improve. Collecting data gives health workers the power to show where gaps in care exist and whether outcomes are improving. Is the information collected reliably? Is it used? Is it valuable? Ask the participants to review a delivery register or newborn record from their facility and discuss what information is already being collected.

Encourage groups to identify some small changes that they can make when they return to work in their facility. Writing these down can serve as their promise to start with those small steps. The groups should decide who will do the different tasks to accomplish those changes. They may want to identify "champions" or leaders who will help make the changes happen. The groups should discuss what information will be needed to demonstrate the success of these changes.

Ask the groups to present their plan for improvement to the other participants in the workshop. They may get encouragement for their plan, or suggestions of other changes that have worked for other facilities.

Depending on the level of experience of the participants, you may choose to introduce in-depth learning modules or additional quality improvement materials that can guide their long-term improvement efforts. The local health authority may provide a curriculum for ongoing quality improvement.

WHO Standards for improving quality of care of mothers and newborns
SEARO quality improvement

Essential Newborn Care 1 Knowledge check

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

1. What should you do in The Golden Minute?
   a. Bathe the baby
   b. Deliver the placenta
   c. Evaluate the heart rate
   d. Help a baby breathe if necessary

2. To prepare for a birth
   a. You identify a helper and review the emergency plan
   b. You ask everyone but the mother to leave the area
   c. You prepare equipment only when you need it
   d. You do not need a helper

3. To prepare the area for delivery
   a. Open all the doors and windows to get fresh air
   b. Darken the room
   c. Make sure the area is clean, warm, and well-lighted
   d. Keep the room temperature cold

4. What should you do to keep the baby warm?
   a. Open all the windows
   b. Give the baby a bath after birth
   c. Place hot water bottles next to the baby's skin
   d. Place the baby skin-to-skin with mother

5. What should you do to keep the baby clean?
   a. Wash your hands before touching the baby and help mother wash her hands before breastfeeding
   b. Reuse the suction device before cleaning
   c. Keep the umbilical cord tightly covered
   d. Do not touch the baby

6. Which baby can receive routine care after birth?
   a. A baby who is not breathing
   b. A baby who is gasping
   c. A baby who is crying/breathing well
   d. A baby who is limp

7. What actions occur in the first hour after birth?
   a. Eye care, cord care, and vitamin K
   b. Weighing and bathing
   c. Uninterrupted skin-to-skin contact and initiation of breastfeeding
   d. Complete physical exam

8. When should the umbilical cord be clamped or tied and cut during routine care?
   a. After the placenta is delivered
   b. Around 1-3 minutes after birth
   c. Immediately after the baby is born
   d. Before a baby has cried

9. A baby is quiet, limp and not breathing at birth. What should you do?
   a. Dry the baby thoroughly
   b. Shake the baby
   c. Throw cold water on the face
   d. Hold the baby upside down

10. A newborn baby is quiet, limp and not breathing. The baby does not respond to steps to stimulate breathing. What should you do next?
    a. Slap the baby's back
    b. Hold the baby upside down
    c. Squeeze the baby's ribs
    d. Begin ventilation

11. In which situation should a baby be suctioned?
    a. When a baby is crying at birth
    b. When a baby is crying but there is meconium in the amniotic fluid
    c. When a baby is not crying/breathing well and you see secretions blocking the mouth and nose
    d. Before drying the baby

12. Suctioning a baby unnecessarily or frequently can
    a. Cause a baby to stop breathing
    b. Make a baby start coughing and breathing
    c. Stimulate a baby to cry
    d. Increase the baby's heart rate

13. Which of the following statements about ventilation with bag and mask is TRUE?
    a. The mask should cover the eyes
    b. Air should escape between the mask and face
    c. Squeeze the bag to produce gentle movement of the chest
    d. Squeeze the bag to give 80 to 100 breaths per minute

14. A baby's chest is not moving with bag and mask ventilation. What should you do?
    a. Stop ventilation
    b. Reapply the mask to get a better seal
    c. Slap the baby's back
    d. Give medicine to the baby

15. You can stop ventilation if
    a. A baby is blue and limp
    b. A baby's heart rate is slow
    c. A baby's heart rate is normal and the chest is not moving
    d. A baby's heart rate is normal and the baby is breathing or crying

16. A newborn baby's heart rate should be:
    a. Faster than your heart rate
    b. Slower than your heart rate
    c. Checked before drying the baby
    d. Checked only when the baby is crying

17. A baby who received ventilation
    a. Needs continued observation with mother
    b. Cannot be fed
    c. Always needs advanced care
    d. Should immediately receive antibiotics

18. When should the bag and mask and suction device be disinfected?
    a. After every use
    b. Only when they appear dirty
    c. Weekly
    d. Once a month

19. Until the first complete exam, how often should the baby be checked for breathing problems?
    a. Once
    b. Every 30 minutes
    c. Every 15 minutes
    d. Every 5 minutes

20. How long should uninterrupted skin-to-skin contact be continued after birth
    a. Until the cord is cut
    b. 10 minutes
    c. 30 minutes
    d. At least 1 hour

Bag and mask ventilation – skill check

Complete this evaluation with participants before they attempt the Case Scenarios A and B
- Read aloud the following instructions
- Use the comments below the numbered steps to score the performance
- Note the number of steps done correctly on the first attempt
- Give constructive respectful feedback to the participant
- Repeat the evaluation until all steps are done correctly

"You are attending the delivery of a term infant. You have prepared for the birth and tested the bag, mask, and suction device. You have dried and stimulated the baby, but the baby is not breathing. Show me how you will provide ventilation."

	Done	Not done
1. Begin to ventilate with bag and mask		
Place the baby on the area for ventilation	☐	☐
Stand at the baby's head	☐	☐
Check that the mask size is correct	☐	☐
2. Ventilate with bag and mask		
Position the head slightly extended	☐	☐
Apply the mask to the face	☐	☐
Make a tight seal between the mask and the face	☐	☐
Squeeze the bag to produce gentle movement of the chest	☐	☐
3. Continue ventilation (for 1 minute)		
Ventilate to produce gentle movement of the chest with each ventilation breath	☐	☐
Ventilate at 40 breaths/minute (30-50 breaths/minute acceptable)	☐	☐

Prompt: *"The baby's chest has stopped moving with ventilation. Show me what you would do to improve ventilation."*

4. Improve ventilation		
Reapply mask	☐	☐
Reposition head	☐	☐
Clear mouth and nose of secretions	☐	☐
Open the mouth	☐	☐
Squeeze the bag harder	☐	☐

Score on first attempt _____ of 14

All steps done correctly _____ (facilitator initials)

Knowledge check – Answer key

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

Evaluation continued

Case scenarios: provide an opportunity for participants to review and learn. These Objective Structured Clinical Scenarios (OSCEs) can be used as evaluations at the end of a workshop or repeated regularly as group practice in the facility.

Read the Case Scenario aloud to the participant. Provide the prompts shown in italics. Indicate the baby's response to the participant's actions using the neonatal simulator or words if using a mannequin. For example, when the participant evaluates crying, show that the baby is not crying with a simulator. Say that the baby is not crying if using a mannequin. As you observe the participant, tick ☑ the boxes "Done" or "Not Done" for each activity. Participants should note actions done for mother 🔗 but do not need to show them. Apart from giving these prompts, keep silent during the evaluation. After a participant completes the Case Scenario, ask the 5 questions that follow it. Comment on the participant's performance only at the end of the case, after he/she has answered these 5 questions.

Essential Newborn Care 1 Case scenario A

To the facilitator: Read the instructions for the case scenario in quotations below.
"I am going to read a case scenario. Please listen carefully, and then show me the actions you would take. I will indicate the baby's responses, but I will provide no other feedback until the end of the case."
"You are called to assist at the birth of a term baby. There are no complications in the pregnancy. The baby will be born in less than 10 minutes. Introduce yourself and prepare for the birth and care of the baby."

	Done	Not Done
Welcome mother and assess factors that affect newborn care	☐	☐
Identifies a helper and reviews an emergency plan	☐	☐
Prepares the area for delivery (warm, well-lighted, clean)	☐	☐
Washes hands.	☐	☐
Prepares an area for ventilation and checks function of bag, mask and suction device	☐ *	☐
🔗 Prepares a uterotonic for the mother		

Prompt: After 5-7 minutes give baby to participant and say, "There is meconium in the amniotic fluid. The baby is delivered onto the mother's abdomen. Show how you will care for the baby."

Dries thoroughly.	☐ *	☐
Removes wet cloth.	☐	☐

Prompt: Show the baby is not crying or breathing. "There is meconium blocking the mouth."

Recognizes baby is not crying or breathing.	☐	☐
Keeps the baby warm skin-to-skin with the mother	☐	☐
Stimulates breathing by rubbing the back	☐ *	☐
Positions head and clears airway.	☐	☐

Prompt: Show the baby is breathing well (cries)

Recognizes baby is breathing well	☐	☐
🔗 Gives uterotonic to mother		
Clamps or ties and cuts the cord	☐	☐
🔗 Take steps to reduce risk of bleeding and monitor mother		
Continues skin-to-skin care and monitors	☐	☐
Helps initiate breastfeeding	☐	☐

Use the questions below to help the participant reflect on his or her own performance and then provide feedback.
1. What happened at the birth?
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 practise?

SCORING:
Successful completion requires a total score of 12 correct of 15 and "Done" must be ticked for the boxes marked with *.

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

Essential Newborn Care 1 Case scenario B

To the facilitator: Read the instructions for the case scenario in quotations below.
"I am going to read a case scenario. Please listen carefully, and then show me the actions you would take. I will indicate the baby's responses, but I will provide no other feedback until the end of the case."

"You are called to assist at the birth of a baby. Your assessment finds that mother is in preterm labour at 34 weeks (7 1/2 months). You have identified a helper and an emergency plan, prepared an area for ventilation, washed your hands, put on PPE and checked your equipment. The baby is born, and the amniotic fluid is clear. Show how you will care for the baby."

	Done	Not Done
Dries thoroughly	☐	☐
Removes wet cloth.	☐	☐

Prompt: Show the baby is not crying or breathing. "You do not see or hear secretions in the baby's mouth or nose."

Recognizes baby is not crying or breathing.	☐	☐
Stimulates breathing by rubbing the back	☐ *	☐

Prompt: Show the baby is not breathing.

Recognizes baby is not breathing	☐	☐
Calls for help	☐	☐
Clamps and cuts cord and moves to area for ventilation OR positions by mother for ventilation	☐	☐
Ventilates with bag and mask within The Golden Minute (at ____seconds)	☐	☐
Achieves a firm seal as demonstrated by chest movement (at ____seconds)	☐ *	☐
Ventilates at 40 breaths/minute (30-50 acceptable)	☐ *	☐
Evaluates for breathing or chest movement	☐ *	☐

Prompt: Show the baby is not breathing.

Recognizes baby is not breathing.	☐	☐
Continues ventilation.	☐	☐
🔗 Helper gives uterotonic to mother and cuts cord (if not already done)		

Prompt: Show the chest is not moving.
After two or more steps to improve ventilation, say "The chest is moving now."

Reapplies mask	☐ *	☐
Repositions head	☐ *	☐
Clears secretions from the mouth and nose as needed	☐	☐
Opens mouth slightly	☐	☐
Squeezes bag harder	☐	☐

Prompt: Show the baby is not breathing; heart rate is normal.

Recognizes baby is not breathing but heart rate is normal	☐	☐
Continues ventilation.	☐	☐

Prompt: (After 3 minutes) Show the heart rate is 120 per minute and the baby is breathing.

Recognizes baby is breathing and heart rate is normal..	☐	☐
Stops ventilation	☐	☐
Monitors the baby skin-to-skin with mother and communicates with the mother	☐	☐
🔗 Helper takes steps to reduce risk of bleeding and monitors mother.		

Use the questions below to help the participant reflect on his or her own performance and then provide feedback.
1. What happened at the birth?
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 practise?

SCORING:
Successful completion requires a total score of 17 correct of 23 and "Done" must be ticked for the boxes marked with *.

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

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