# Essential Newborn Care 1

## Immediate Care and Helping Babies Breathe at Birth

### Provider Guide

World Health Organization

Draft version for field testing

# *To those who care for babies at birth*

***Essential Newborn Care 1*– Immediate Care and Helping Babies Breathe at Birth** gives health care providers the knowledge and skills to care for newborns in the first hour after birth.

- All babies need to be clean, warm, and have support for breastfeeding.
- Babies who do not breathe need extra help in the first minute after birth.

In the first minute after birth, ***The Golden Minute***, stimulation to breathe and ventilation with bag and mask can save a life. At least one person skilled in helping a baby breathe should be present at every birth.

Use this Provider Guide before, during, and after an educational workshop in Essential Newborn Care.

**Before**
- Read the Provider Guide
- Answer the Discuss questions
- Point out each step on the Action Plan

**During**
- Practice the evaluations, decisions, and skills of the Action Plan
- Share your experiences and ask questions
- Participate in Group Practice and discussion
- Develop good routines for infection prevention, respectful care, and record keeping
- Help others learn
- Link the care and assessment of mother and baby

**After**
- Commit to providing the best care at birth
- Continue to practice the Action Plan
- Work with others to improve care in your facility

***Essential Newborn Care*** continues after **Immediate Care and Helping Babies Breathe at Birth** *(*Part 1) with **Assessment and Ongoing Care** (Part 2).

By performing these actions in the first hours and days of life, you can help newborns survive and thrive.

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## *Continued ventilation with normal or slow heart rate*



## *Commit to making a difference*



For additional resources, see hmbs.org

*With your skills*

# *You make the difference*

**As a health care provider skilled in Essential Newborn Care, you can save the lives of babies. You must be present at birth and prepared to take immediate action.**

**By one minute after birth - *The Golden Minute* - a baby should be breathing well or you should be providing ventilation.**

**How to make a difference**

- Be prepared to help a baby who does not breathe
- Promote warmth and breastfeeding for all babies
- Prevent infection
- Treat mother and baby with respect
- Keep records that help you give the best care

## *Practice*

**Use the neonatal simulator to show crying, breathing, 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*

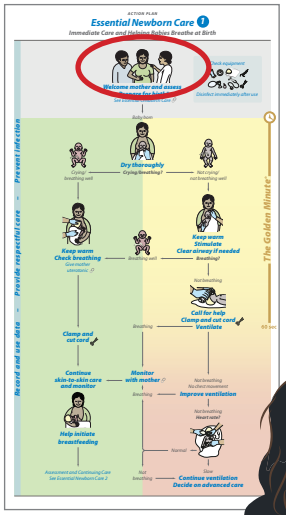
***Follow the Action Plan** (page 9)*
The Action Plan acts as a guide to the questions you ask, the decisions you make, and the actions you take to help a baby.

***To improve care in your facility***

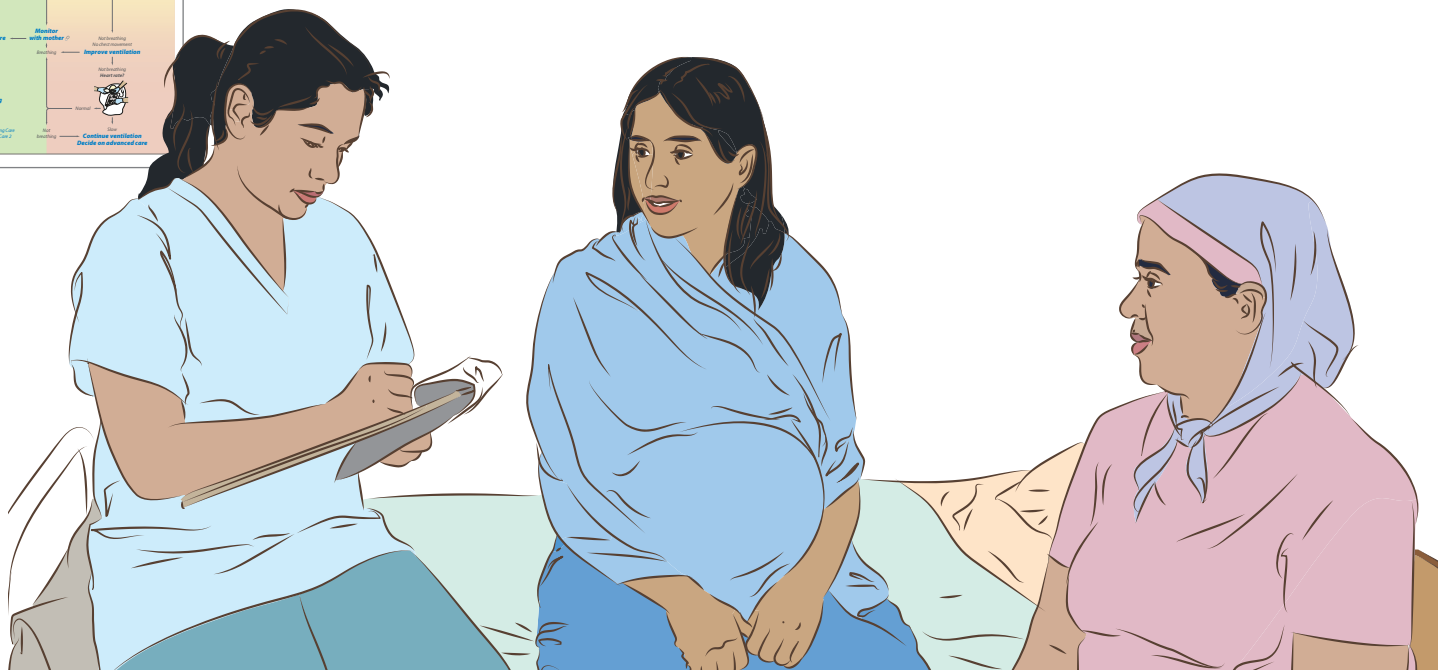
- *How will new providers be trained in Essential Newborn Care?*
- *How will providers maintain and improve their skills?*

***What to monitor***

- *Have all providers who attend births in the facility been trained to help babies breathe?*




# Welcome mother and assess factors that affect newborn care



### *"Welcome mother and assess"*

**Welcome the mother, her labor 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

**Labor**
- Danger Signs and vital signs in mother
- Rupture of membranes: time and character of fluid
- Progress of labor: 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.**

## *Practice*

**Practice in pairs**
- Welcome the mother, her labor companion and introduce yourself.
- Review the records for pregnancy, labor, 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 labor***
- ☐ *are of little importance to the newborn*
- ☐ *can warn of problems in the newborn*

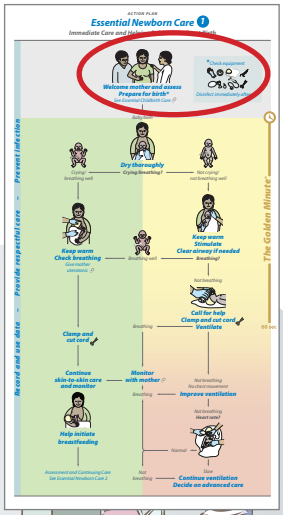
***A healthy pregnancy and normal labor***
- ☐ *guarantee the baby will be healthy*
- ☐ *may lead to a baby who needs help to breathe*

***To improve care in your facility***
- *Before every birth does a provider assess the factors that can affect newborn care?*

***What to monitor***
- *Are all the factors that affect newborn care recorded at every birth?*

*Before a baby is born*

# Prepare for birth



### *"Prepare for birth"*

**Identify a helper and review the emergency plan with the mother**

Prepare the birth companion or another skilled helper to assist if the baby does not breathe.

- A birth companion can help the mother and call another helper.
- A second skilled helper can assist in caring for the baby.

An emergency plan includes communication and transportation to advanced care.

**Prepare the area for delivery**

The area where a baby is born should be

*Warm* Close windows and doors to stop drafts. Warm the room to 25-28°C.

*Well-lit* Use a portable lamp if needed to assess the baby.

*Clean* Help mother wash her hands and prepare a clean cloth to cover the baby during skin-to-skin care.

**Wash hands**

Handwashing helps prevent the spread of infection. Wash hands with soap and clean water or use an alcohol-based cleaner before and after caring for a mother or a baby (see page 60). Be sure that everyone at the birth washes their hands. Gloves also protect from infections carried by blood and body fluids.

**Prepare an area for ventilation**

Prepare a warm, dry, flat, and safe space for the baby to receive ventilation if needed. Check that a uterotonic is prepared for the mother and prepare equipment to help a baby breathe. Equipment should be disinfected after use and kept clean. Assemble all equipment and supplies within reach while seeing both mother and baby. Test the function of the ventilation bag, mask, and suction device (see page 53).

## *Practice*

**Practice in pairs**

Practice the four steps to prepare for a birth

## *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*

***To improve care in your facility***

- *Who is responsible for having equipment disinfected and available for every birth?*
- *How can a second skilled person be available to help in an emergency?*

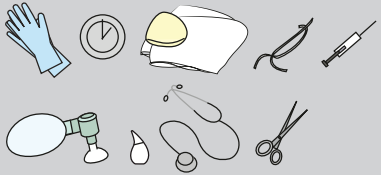
***What to monitor***

- *Is equipment to help a baby breathe available at all births?*

# GROUP PRACTICE CASE 1

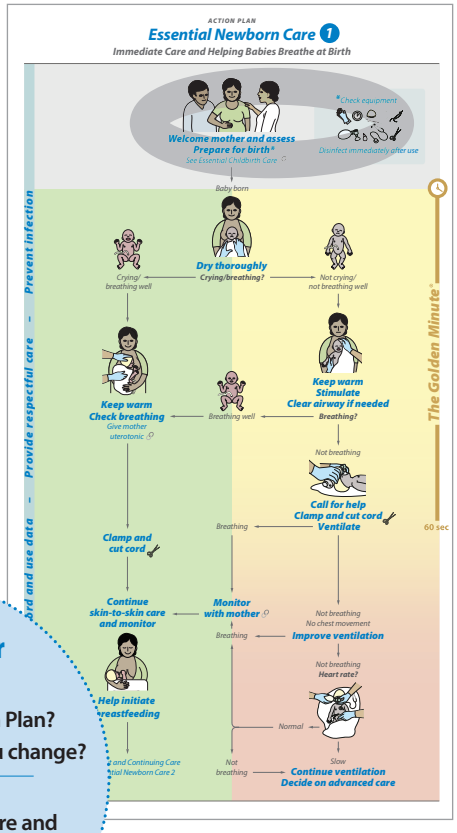
# Preparation for a birth

**EQUIPMENT**



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




## Discuss together

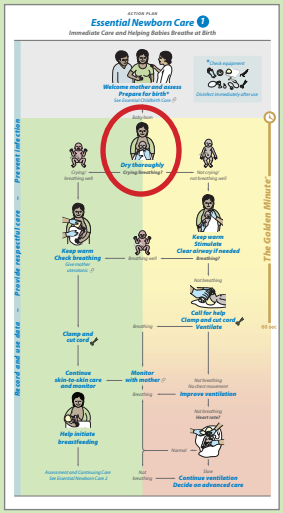
**What went well?**

**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*

### *"Dry thoroughly"*

**Dry the baby thoroughly at birth. Drying helps keep the baby warm and stimulates breathing. A newly born baby is wet and can become cold even in a warm room.**

**Dry the head, body, arms, and legs by gently rubbing with a cloth.**
Drying the back provides important stimulation to breathe. Wipe the face clean of blood and feces.

Drying can be done on the mother's abdomen. Place a clean cloth on mother's abdomen before birth. Position the baby on the cloth and dry thoroughly. Remove the wet cloth, place the baby skin-to-skin with the mother, and cover with a dry cloth.

**Record the time of birth and identify the baby.**

## *Practice*

**Practice in pairs**

- Call out the time
- Dry thoroughly by gently rubbing the head, body, arms, and legs
- Remove the wet cloth
- Place the baby skin-to-skin
- Cover with a dry cloth
- Record the time of birth and identify the baby

## *Discuss*

*A baby is separated from the mother without drying.*
*What happens?*
☐ *The baby can become cold*
☐ *The baby will stay warm*

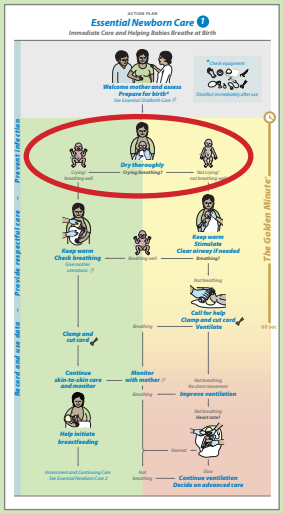
*When should you dry the baby?*
☐ *After giving a uterotonic to the mother*
☐ *Immediately after birth*

### *To improve care in your facility*

- *Who is responsible for providing cloths to dry and cover the baby?*

### *What to monitor*

- *Are all babies dried thoroughly at birth?*




*After drying*

# *Is the baby crying/ breathing well?*

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

**About 1 in 10 babies needs help to breathe. Rapid assessment after drying at birth is the best way to know if a baby needs help to breathe.**

**Ask this question immediately after drying:** *Is the baby crying /breathing well?*

**A baby who is crying/breathing well**
- is crying
OR
- is breathing quietly and regularly
AND
- has good tone and activity

If a baby is not crying/breathing well, the baby may be breathing shallowly, gasping, or not breathing at all. A baby who is not breathing is limp and does not move. The skin may be pale or bluish. This baby needs immediate help to breathe.

Quick action will help a baby start breathing sooner. If no help is given to a baby who is not breathing, that baby may die or experience serious brain damage.

## Practice

**Practice in pairs**
Use a neonatal simulator to show crying and breathing well.

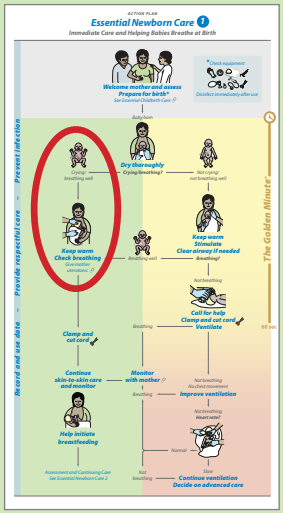
## Discuss

*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*

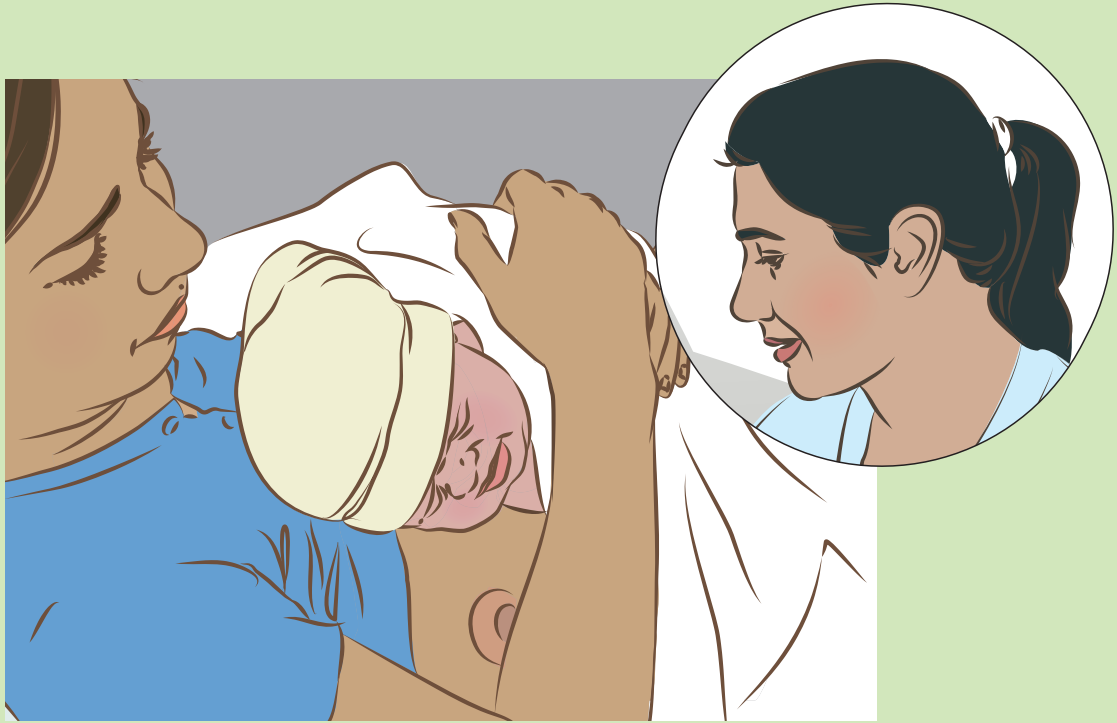
### *To improve care in your facility*
- *Is every baby evaluated at birth to decide what care the baby needs?*

### *What to monitor*
- *Is a trained person who can help a baby breathe present at all births?*
- *How often are babies not crying after thorough drying?*




*If the baby is crying/breathing well*

# Keep warm, check breathing



### *"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**

Warmth from the mother's body is one of the best ways to keep a baby warm. Position the baby skin-to-skin on mother's abdomen or between her breasts. Turn the baby's head and extend the neck slightly. Cover the baby's head. Remove any wet cloths and keep mother and baby covered with a dry cloth. Postpone bathing and weighing and keep the area warm.

**Check breathing**

Continue to assess the baby's breathing. Listen to the sounds of breathing and look at or feel the movement of the chest.

Check that the baby is breathing quietly and easily or crying. Make sure that the neck is slightly extended and air can pass freely through the baby's nose. Be sure that mother and baby are not alone during the first hours after birth.

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

## *Practice*

**Practice 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?***

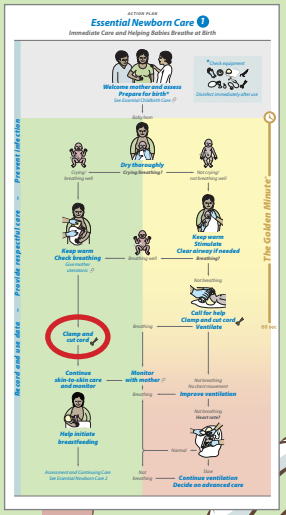
☐ *Give a warm bath*
☐ *Position the baby skin-to-skin with mother, cover with a dry cloth and a head covering*

***To improve care in your facility***

- *What are the reasons that some babies do not receive skin-to-skin care after birth?*
- *Who checks the baby's breathing and temperature in the first hour after birth?*

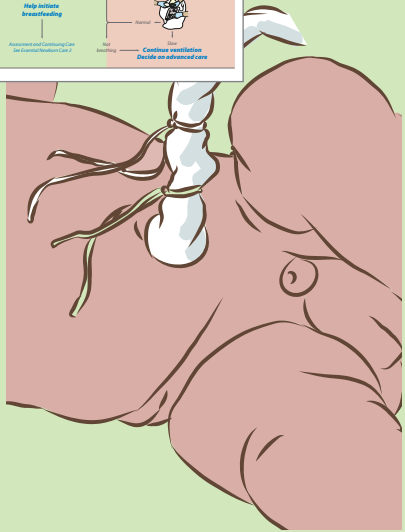
***What to monitor***

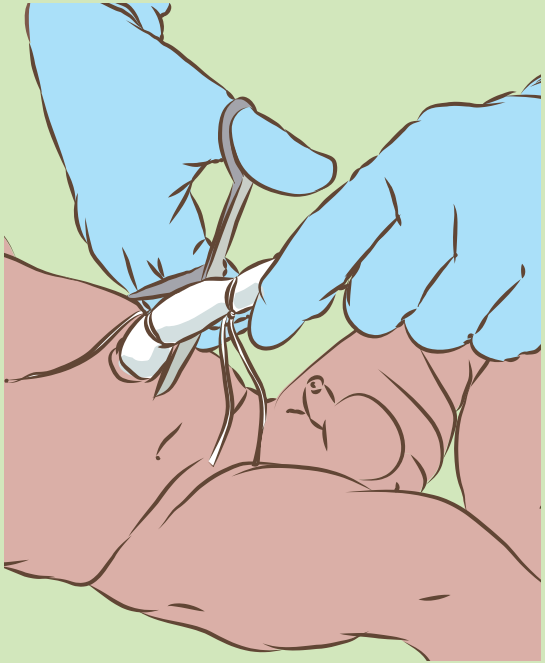
- *Do all babies receive skin-to-skin care at birth?*

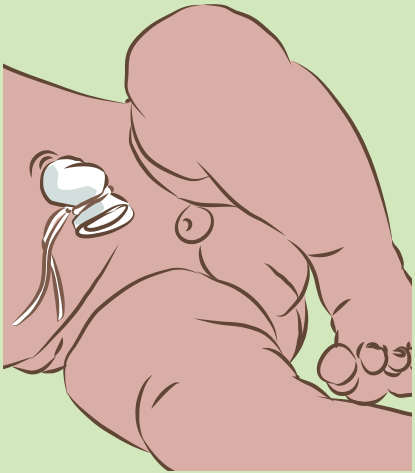



*After 1-3 minutes*

# Clamp or tie and cut the umbilical cord







## *"Clamp and cut cord"*

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

**Place two clamps or ties around the cord**
Wear clean gloves. Place a clamp or tie about 2 fingerbreadths from the baby's abdomen. Place another about 5 fingerbreadths from the abdomen.

**Cut between the clamps or ties with a disinfected scissors or blade**
Look for any bleeding or oozing of blood. If bleeding occurs, place a second clamp or tie between the first one and the baby's skin. Leave the cut end of the cord open to the air to dry.

Everything that touches the umbilical cord should be clean to avoid infection. Wear clean gloves when clamping or tying and cutting the cord.

## *Practice*

**Practice in pairs**

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

## *Discuss*

*How long should 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?*

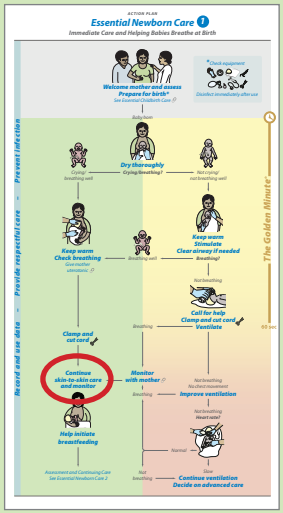
☐ *Good hand washing, wearing clean gloves, cutting with sterile scissors*
☐ *Covering the cord to keep it moist*

### *To improve care in your facility*

- *Are all supplies and equipment that touch the cord disinfected?*

### *What to monitor*

- *Do all babies have cord clamping delayed for 1-3 minutes?*
- *How often does bleeding occur after clamping or tying and cutting the cord?*




*During the first hour after birth*

# Continue skin-to-skin care and monitor

### *"Continue skin-to-skin care and monitor"*

**Continued skin-to-skin care keeps babies warm 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 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.**

## *Practice*

**Practice 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*

***When should skin-to-skin care begin?***

☐ *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?***

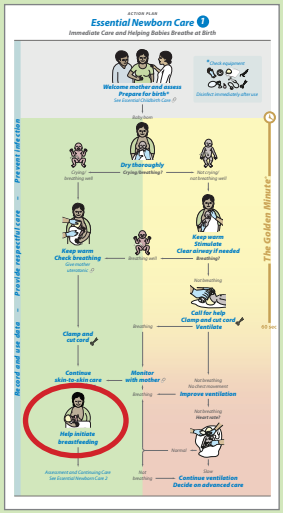
☐ *To transfer the mother to the postnatal ward*
☐ *To treat post-partum hemorrhage*

***To improve care in your facility***

- *What interrupts skin-to-skin care before one hour?*
- *How often are breathing and temperature monitored in the first hours after birth?*

***What to monitor***

- *Do all babies receive an hour of skin-to-skin care after birth?*
- *How often are babies noted to feel cool in the first hour?*
- *Do all these babies have a temperature measured?*




*In the first hour after birth*

# Help initiate breastfeeding

### *"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.** Babies are often alert soon after birth and will move toward the mother's breast.

**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.

## *Practice*

**Role play assisting the mother 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*

☐ *offers nutrition and protection against infection*
☐ *can be dangerous to the newborn*

*A baby is ready to breastfeed when*

☐ *the mouth is open and the tongue extends*
☐ *the eyes are closed and the baby is crying*

***To improve care in your facility***

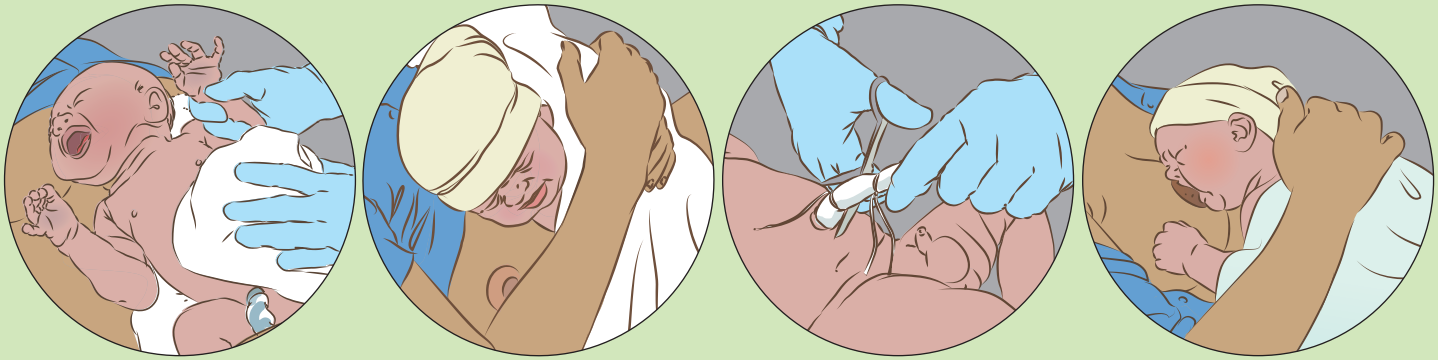
- *How can you make it easier for mothers to begin breastfeeding soon after birth?*

***What to monitor***

- *Do all mothers receive counseling about breastfeeding before delivery?*
- *Do all babies initiate breastfeeding in the first hour after birth?*

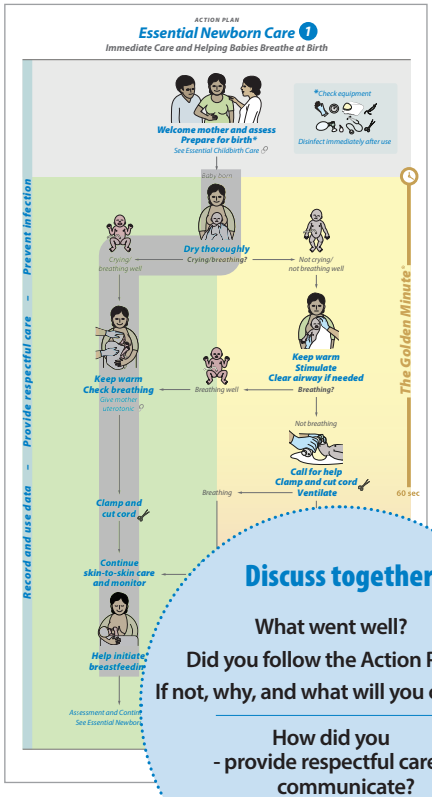
# GROUP PRACTICE CASE 2

## Routine care



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**

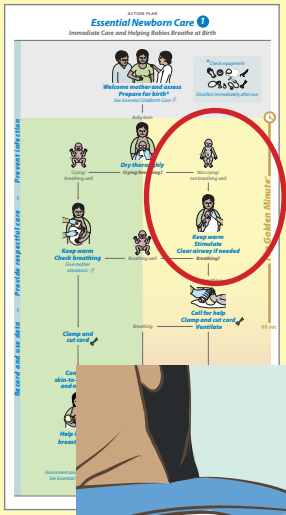
**What went well?**

**Did you follow the Action Plan?**

**If not, why, and what will you change?**

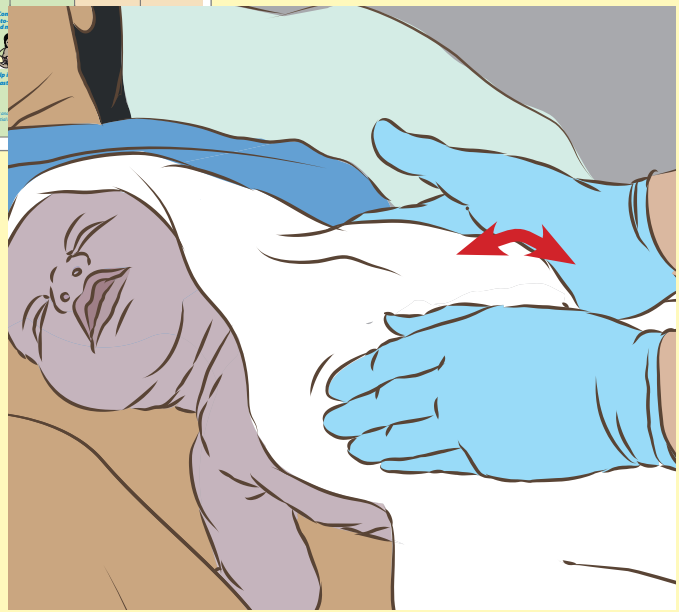
**How did you**
**- provide respectful care and communicate?**
**- prevent infection?**
**- record and use data?**

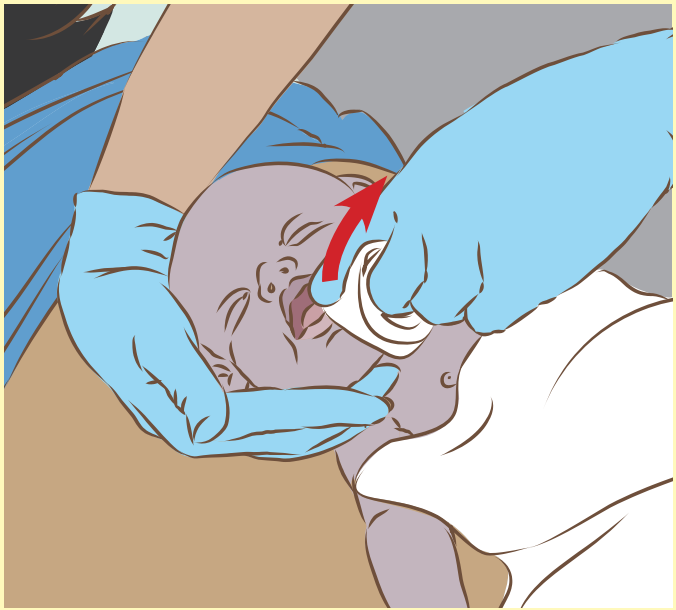
Online Simulation Practice Cards




*If the baby is not crying/not breathing well*

# Keep warm
# Stimulate
# Clear airway if needed





*"The Golden 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 on the mother's chest/abdomen. If not possible, place the baby on a warm, dry blanket beside the mother. Ask your helper to cover the head.

**Stimulate breathing**
Rub the back 2 or 3 times gently but firmly. Do not delay or stimulate longer. Move quickly to evaluate breathing and ventilate if needed. Drying, stimulating breathing, and clearing the airway if needed should take less than one minute.

**Clear the airway if needed**
Position the head with the neck slightly extended to keep the airway open. The nose will be as far forward as possible. If the neck is flexed or extended too far, air may not enter freely. If secretions are not seen and there is no meconium, move directly to ventilation.

**Remove secretions from the airway**
- **if they are blocking the mouth or nose**
  OR
- **if there is meconium in the amniotic fluid**

Remove secretions by
- wiping – use a cloth to gently clear mouth and then nose.
  OR
- bulb suction – squeeze the bulb before inserting the tip into the mouth and release before withdrawing. Then clear the nose.
  OR
- suction tube – insert the tube into the side of the baby's mouth no more than 5 cm. Apply suction for 2-3 seconds while withdrawing the tube. Insert the tube 1 to 2 cm into the nostril and apply suction while withdrawing.

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

## Practice

**Practice in pairs**
- Keep warm
- Stimulate breathing
- Clear the airway - position the head, remove secretions if needed

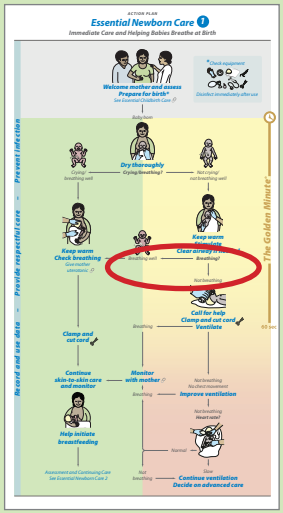
## Discuss

***Which babies need clearing of the airway with a suction device?***
- ☐ *Babies who 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*
- ☐ *Keep a baby from breathing*

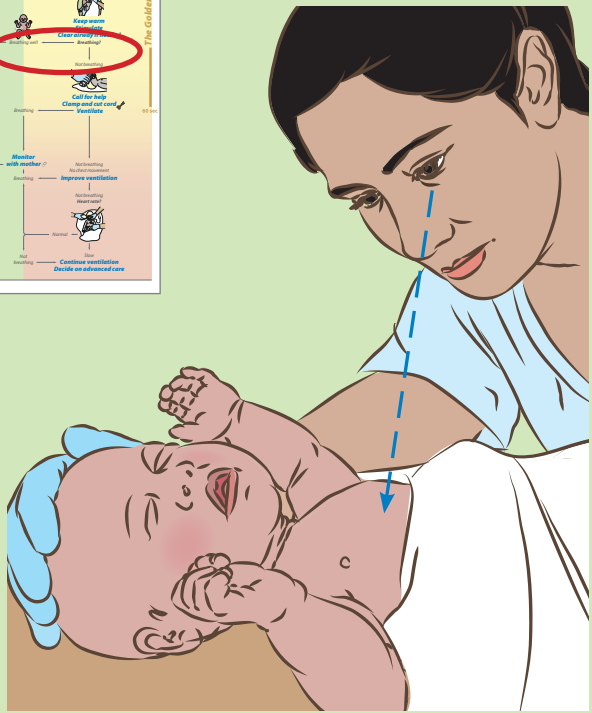
***To improve care in your facility***
- *How do you remove secretions from the airway?*
- *If a suction device is used, is it disinfected before being used again?*

***What to monitor***
- *How often do babies require suctioning of secretions from the airway?*
- *How often do babies who are crying (routine care) receive unnecessary suctioning of the airway?*




*After stimulation*

# *Is the baby breathing well?*



*"Breathing well" or "Not breathing"*

**Evaluate the baby after stimulation by asking the following question:**
*Is the baby breathing well?*

**A baby who is breathing well may be**
- crying
  OR
- breathing quietly and regularly with good tone and activity

**A baby who is not breathing well may be**
- gasping - taking a single deep breath followed by a long pause or several deep, irregular breaths followed by a pause
  OR
- not breathing at all

Some babies will have shallow, irregular, fast or noisy breathing immediately after birth. Others may have chest indrawing (retractions). These babies with abnormal breathing will require continued monitoring of their breathing, heart rate, and color to decide if they need more help to breathe.

**Decide what care the baby needs.**
If the baby is breathing well, the baby can receive routine care. Continue to check the breathing. Clamp or tie and cut the umbilical cord. Encourage breastfeeding in the first hour.
**If the baby is not breathing well (gasping or not breathing at all), begin ventilation with bag and mask.**
Quickly move the baby to the area for ventilation. Delaying ventilation may result in death or brain damage.

## Practice

**Practice in pairs with a neonatal simulator**
- 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*

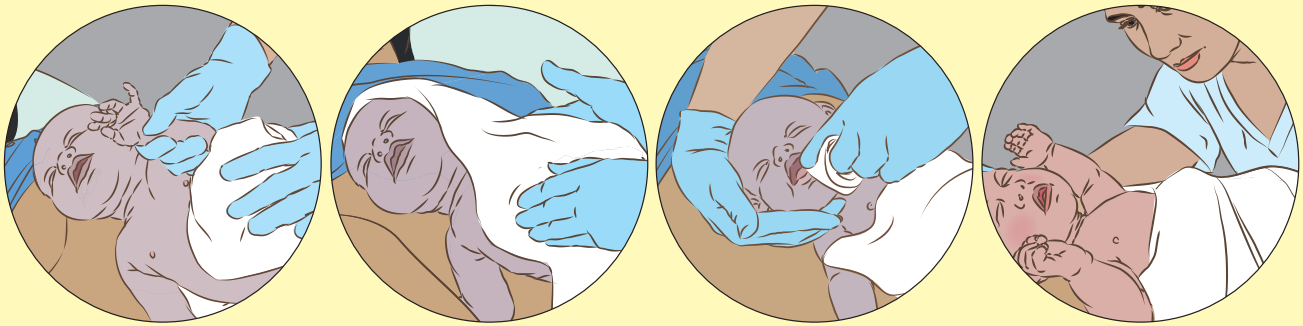
*Which baby is breathing well?*
- ☐ *A baby who is breathing quietly and regularly*
- ☐ *A baby who takes one deep breath followed by a long pause*

***To improve care in your facility***
- *How long does it take to evaluate if a baby is breathing well?*

***What to monitor***
- *How often do babies who are not crying after drying begin to breathe after stimulation?*

## GROUP PRACTICE - CASE 3

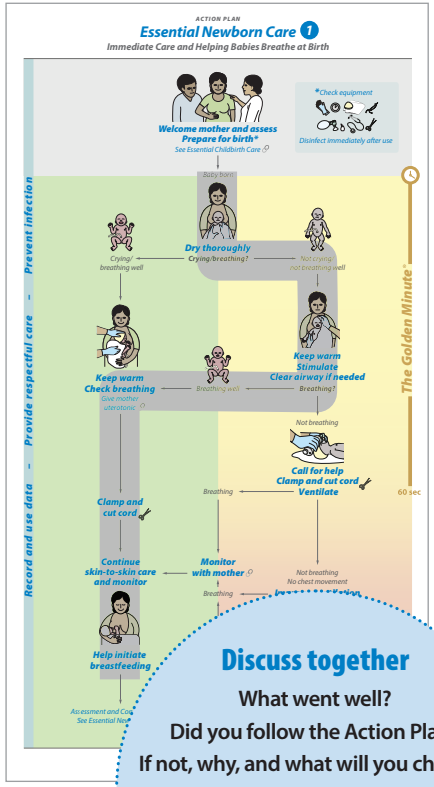
# The Golden Minute®
# Keep warm, stimulate breathing and clear the airway if needed



60 sec

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?"* |



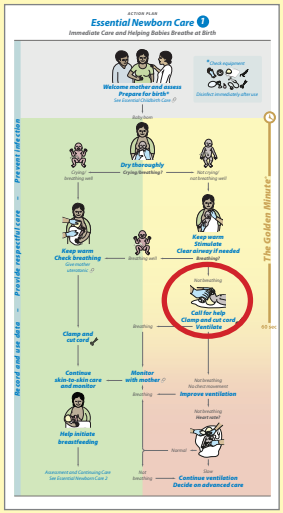

## Discuss together

**What went well?**

**Did you follow the Action Plan?**

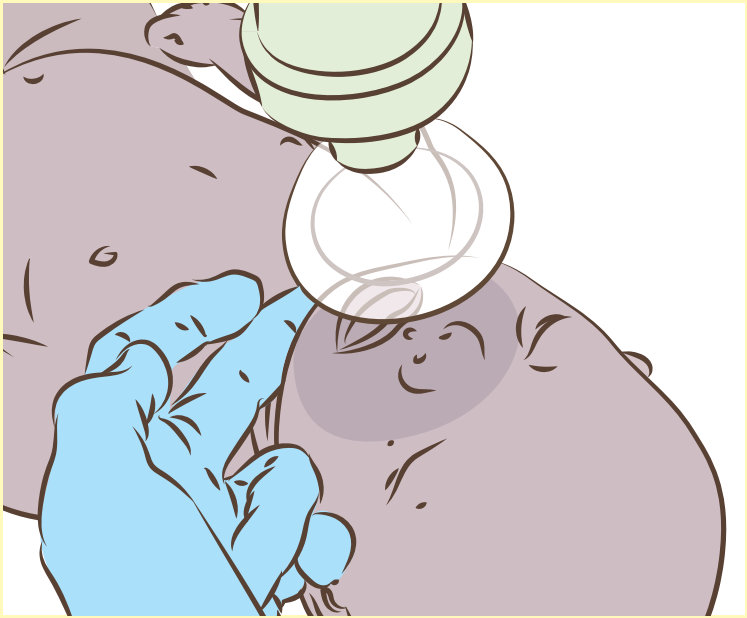
**If not, why, and what will you change?**

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




*If the baby is not breathing well*

# Call for help
# Clamp and cut cord
# Ventilate



*"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. Ventilation opens the lungs with air.**

**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**
Position the baby's head toward you.

**Stand at the baby's head**
You will need to control the position of the head and look for movement of the chest.

**Check that the mask size is correct**
The mask should cover the chin, mouth, and nose, but not the eyes. The mask should make a tight seal on the face so air will enter the baby's lungs.

A mask that is too large will not seal well on the face. Air will escape under the mask. A mask that is too small will not cover both the mouth and nose and may block the nose. Air will not enter the lungs freely.

## Practice

**Practice in pairs**
- Call for help
- Follow the facility routine for when 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

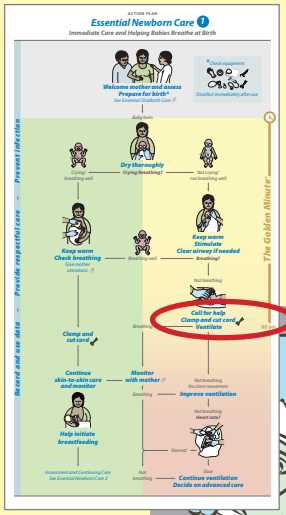
## Discuss

*How do you select the correct mask?*
☐ *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*
☐ *On a flat, warm, dry surface*

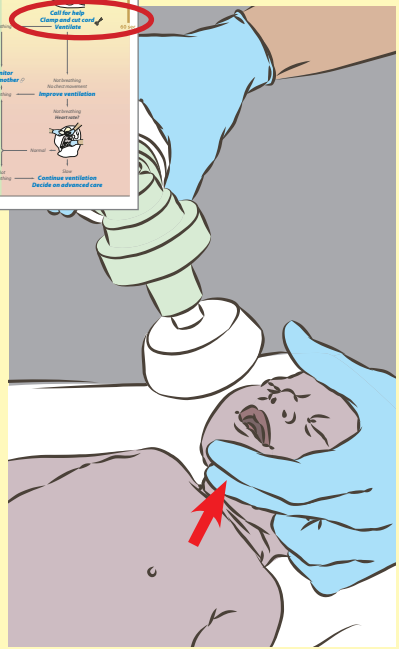
***To improve care in your facility***
- *Is there an appropriate size of mask for all babies born in the facility?*

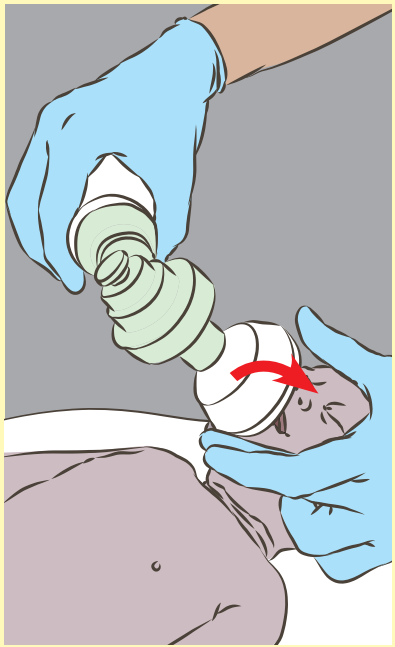
***What to monitor***
- *Does ventilation begin by one minute after birth for all babies who are not yet breathing?*

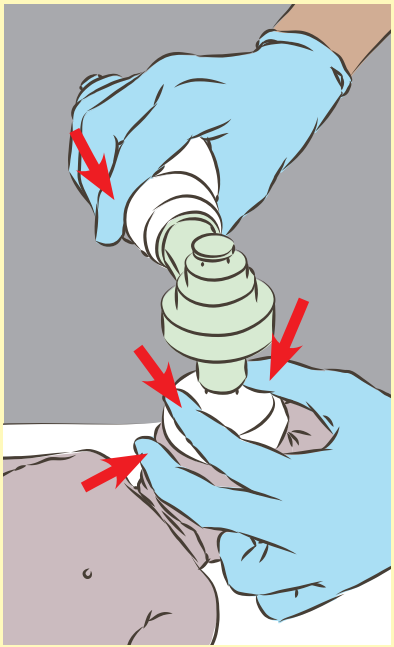



*By one minute*

# Ventilate with bag and mask







### *"Ventilate"*

**Position the head slightly extended**
Keep the baby's airway open by positioning the head slightly extended and supporting the chin.

**Apply the mask to the face**
Position the rim of the mask to rest on the tip of the chin, then place the mask over mouth and nose.

**Make a tight seal between the mask and the face**
Hold the mask on the face with the thumb and index finger on top of the mask. Use the middle finger to hold the chin up toward the mask. Use the 4th and 5th fingers along the jaw to lift it forward and help keep the airway open.

Make a tight seal by pressing lightly on the top of the mask and gently holding the chin up toward the mask. If the seal is not tight, air will not move into the lungs as you squeeze the bag. The air will escape under the rim of the mask. Do not push the mask down onto the face. This may change the head position and interfere with air entering the lungs.

**Squeeze the bag to produce a gentle movement of the chest**
The chest should move as if the baby were taking an easy breath. Make sure there is no leak between the mask and the baby's face. Squeeze the bag smoothly between your thumb and 2 fingers. Squeeze the bag harder if you need to deliver more air with each breath.

**Give 40 ventilation breaths per minute**
Count aloud, "1…2…3…1…2…3".
If you squeeze the bag as you say, "1" and release while you say, "2…3," you will ventilate at a rate that helps air move into and out of the lungs well.
If the chest is moving with each ventilation breath, continue ventilation until the baby begins to breathe.

## *Practice*

**Practice 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

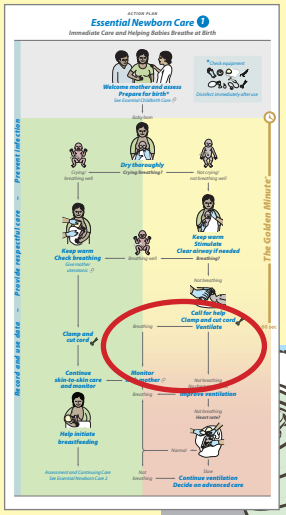
## *Discuss*

***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*

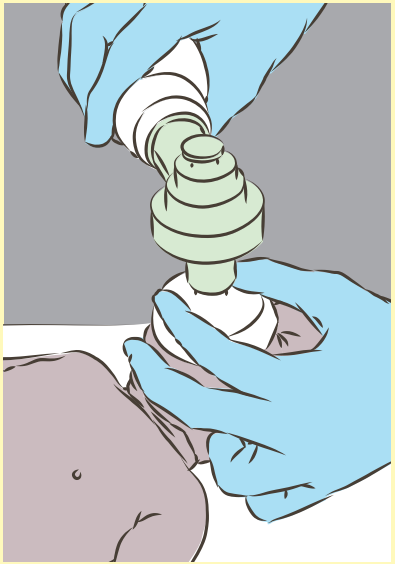
***To improve care in your facility***
- *What is the most difficult part of providing ventilation with bag and mask?*

***What to monitor***
- *How often is ventilation given with the correct rate of 40 breaths per minute?*




*During ventilation*

# *Is the chest moving or is the baby breathing well?*



*"Breathing" or "Not breathing"*

**Evaluate the baby during ventilation by asking:** *Is the chest moving with ventilation or is the baby breathing well?*

**Effective ventilation should produce a gentle movement of the chest.**

**If the chest is not moving immediately**

- Reapply the mask to make a better seal and at the same time
- Reposition the head to open the airway

Keep ventilating with good chest movement until the baby begins to breathe. Some babies improve quickly and begin breathing well after brief ventilation.

**A baby who is breathing well may be**

- crying
  OR
- breathing quietly and regularly

**A baby who is not breathing well may be**

- gasping or breathing abnormally
  OR
- not breathing at all

**Decide what care the baby needs after beginning ventilation**

Stop ventilation when the baby is breathing well. The baby can remain with the mother under close monitoring. Count the breathing rate, listen for grunting, and look for chest indrawing. A baby who is gasping or not breathing at all needs continued ventilation with bag and mask. A baby who is breathing abnormally needs close monitoring and may need more help to breathe.

## Practice

**Practice 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 and 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*

***To improve care in your facility***

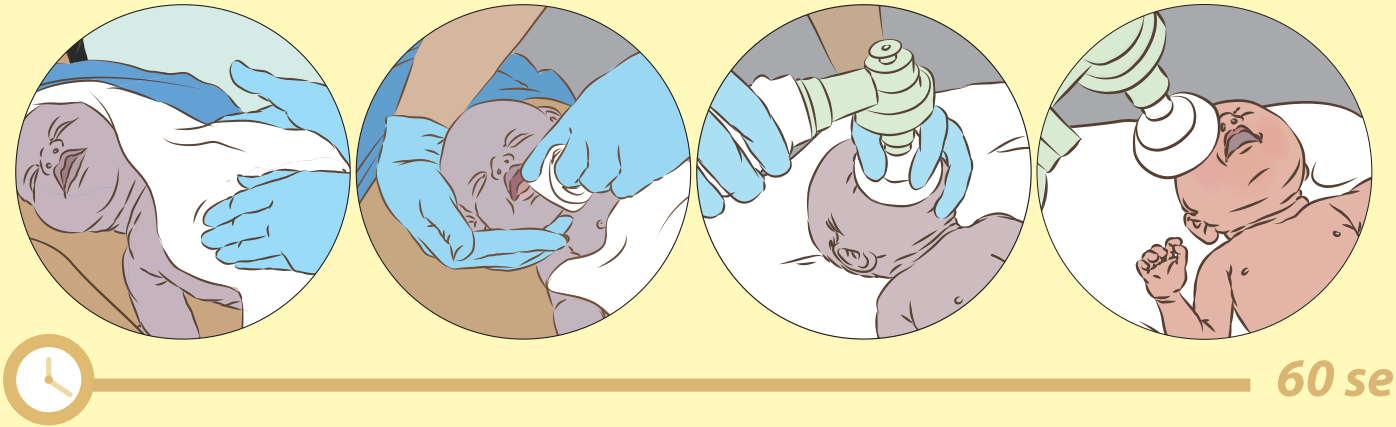
- *What do you do if the baby does not breathe quickly with ventilation?*
- *Who monitors the baby who has received ventilation with bag and mask? Where does the care of mother and baby take place?*

***What to monitor***

- *How often do babies not crying or breathing well after stimulation begin to breathe with brief bag and mask ventilation (less than 1 minute)?*

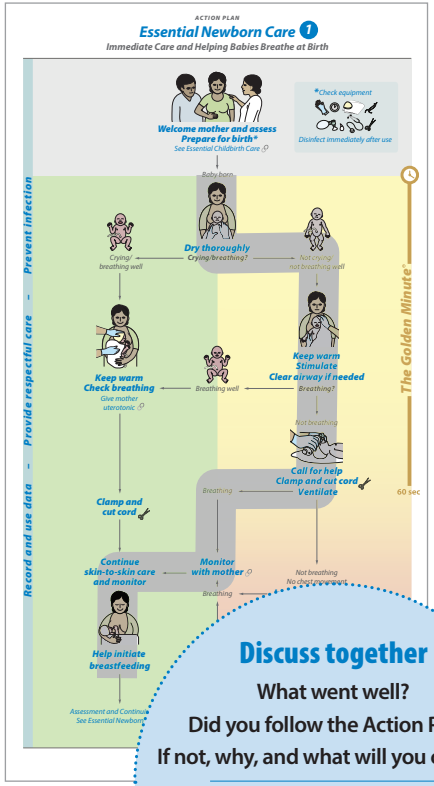
# GROUP PRACTICE - CASE 4

# The Golden Minute® - ventilation



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?"* |



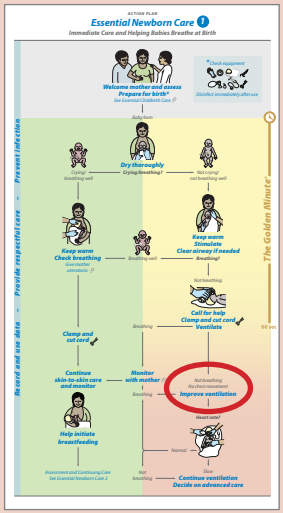

**Discuss together**

**What went well?**

**Did you follow the Action Plan?**

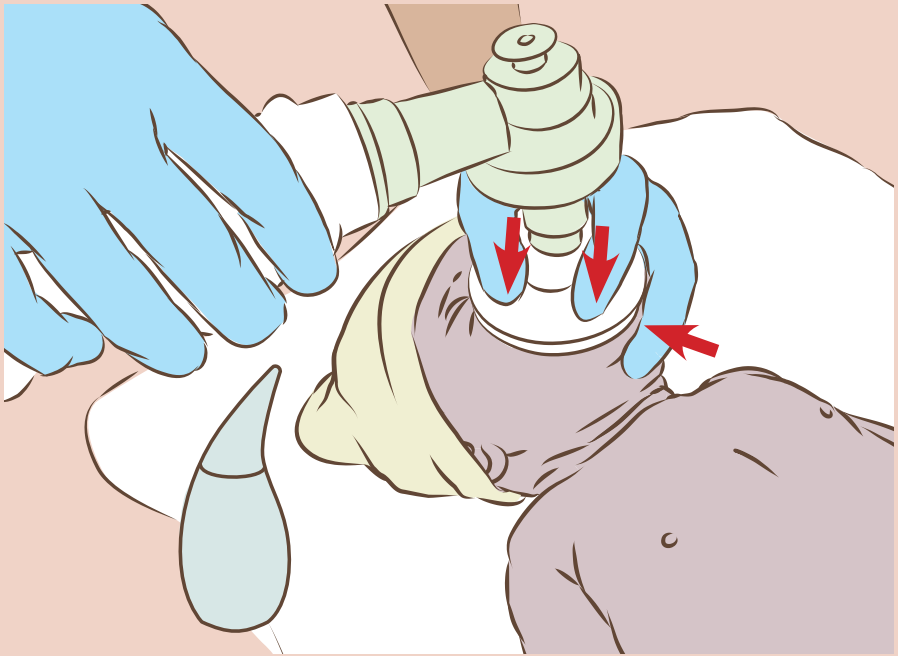
**If not, why, and what will you change?**

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




*If the baby is not breathing / no chest movement*

# Improve ventilation



### *"Improve ventilation"*

**If the baby is not breathing, continue ventilation.**

**Take steps to improve ventilation if the chest is not moving**

- Reapply the mask to the face to form a better seal
- Reposition the head with the neck slightly extended
- Clear mouth and nose of secretions
- Open the baby's mouth slightly before reapplying the mask
- Squeeze the bag harder to give a larger breath

**Continue ventilation while checking for chest movement.**

An air leak under the mask and incorrect head position are common reasons for poor chest movement. If the chest still does not move, try to find the problem and repeat the necessary steps to improve ventilation. Recheck the function of the ventilation bag. Replace it if another bag is available.

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

## *Practice*

**Practice in pairs**

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

## *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?***

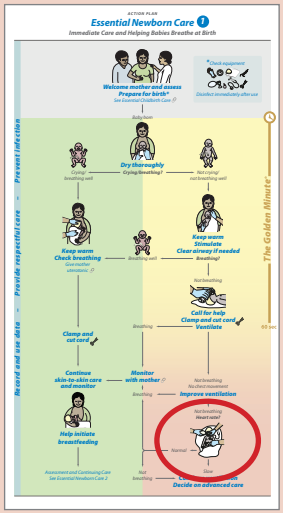
☐ *Suction the airway and stimulate the baby*
☐ *Continue ventilation and improve ventilation if the chest is not moving*

***To improve care in your facility***

- *What are the most common problems when providing ventilation with bag and mask?*
- *What are the most common reasons the chest does not move well during ventilation?*

***What to monitor***

- *How often do babies who are receiving ventilation require prolonged ventilation (>1 minute) before they begin breathing on their own?*
- *How often do babies require the steps to improve ventilation?*




*If the baby is not breathing after improved ventilation*

# Is the heart rate normal or slow?

*"Heart rate - Normal or slow?"*

**If a baby does not begin to breathe after 1 minute of ventilation with chest movement, evaluate heart rate to decide if ventilation is adequate.**

**Ask the question:**
*Is the heart rate normal or slow?*

A skilled helper can count the umbilical cord pulsations during the first minute without interrupting ventilation. If you have no skilled helper or the cord pulse cannot be felt, you will need to stop ventilation briefly to listen to the heartbeat.

**Decide if the heart rate is normal or slow**
A baby's heart rate should be faster than your heart rate. Evaluate the heart rate by feeling the umbilical cord pulse or listening to the heartbeat with a stethoscope. Feel the pulse in the umbilical cord where it attaches to the baby's abdomen. If no pulse can be felt in the cord, you or your helper must listen for the heartbeat. Listen over the left chest and pause ventilation for several seconds in order to hear the heartbeat.

- A heart rate of 100 beats per minute or more is normal.
- A heart rate of less than 100 beats per minute is slow.

Minimize the time without ventilation. Listen to the heart rate just long enough to recognize if it is normal or slow.

## Practice

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

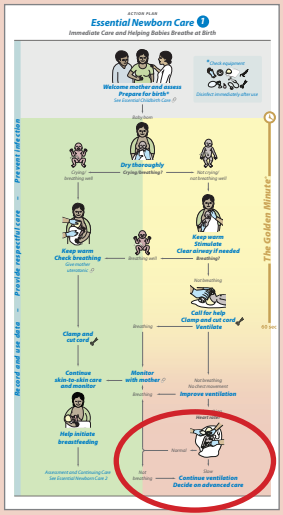
## Discuss

*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*

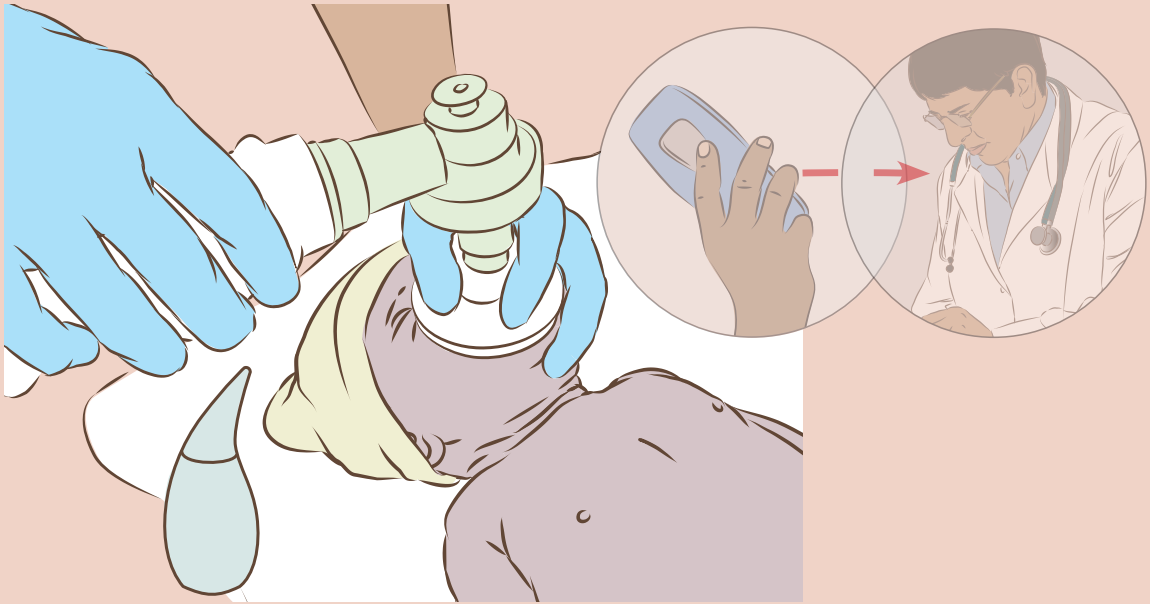
### *To improve care in your facility*
- *Who is available to evaluate heart rate while a baby is receiving ventilation?*
- *Is there good teamwork and communication when a baby needs continued ventilation?*

### *What to monitor*
- *How often is a second skilled helper available to check heart rate during ventilation?*




*If the baby is not breathing*

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



### *"Continue ventilation - decide on advanced care"*

**If the heart rate is normal, continue to ventilate until the baby is breathing.** Stop ventilation when the baby is breathing and the heart rate stays normal.

**If the heart rate is normal, but the baby is not breathing or is gasping, continue ventilation and re-evaluate breathing and heart rate.**

**If the heart rate is slow, take all the steps to improve ventilation and re-evaluate breathing and heart rate.** A skilled helper can continuously evaluate chest rise and heart rate.

**A baby who needs continued ventilation will need advanced care.** Activate the emergency plan to seek consultation or advanced care at a specialty facility. Continue ventilation during transport to 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.

Skin that is purple-white or peeling (maceration) suggests that a baby died long before birth. 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.

## Practice

**Practice in pairs**

- Decide what care is needed for
  - a baby with normal heart rate who is breathing OR not breathing
  - a baby with slow heart rate who is not breathing
  - a baby with not heart rate or breathing after 10 minutes of ventilation
- Seek consultation to decide on advanced care
- Communicate with the family and receiving facility and 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?*

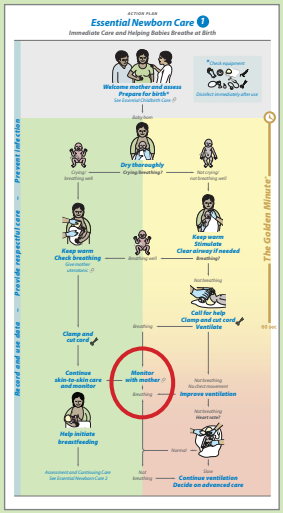
☐ *Stop ventilation, the baby is dead*
☐ *Continue ventilation for another 10 minutes*

### *To improve care in your facility*

- *What problems do babies experience after receiving ventilation?*
- *What resources are available to care for a baby who requires continued ventilation?*

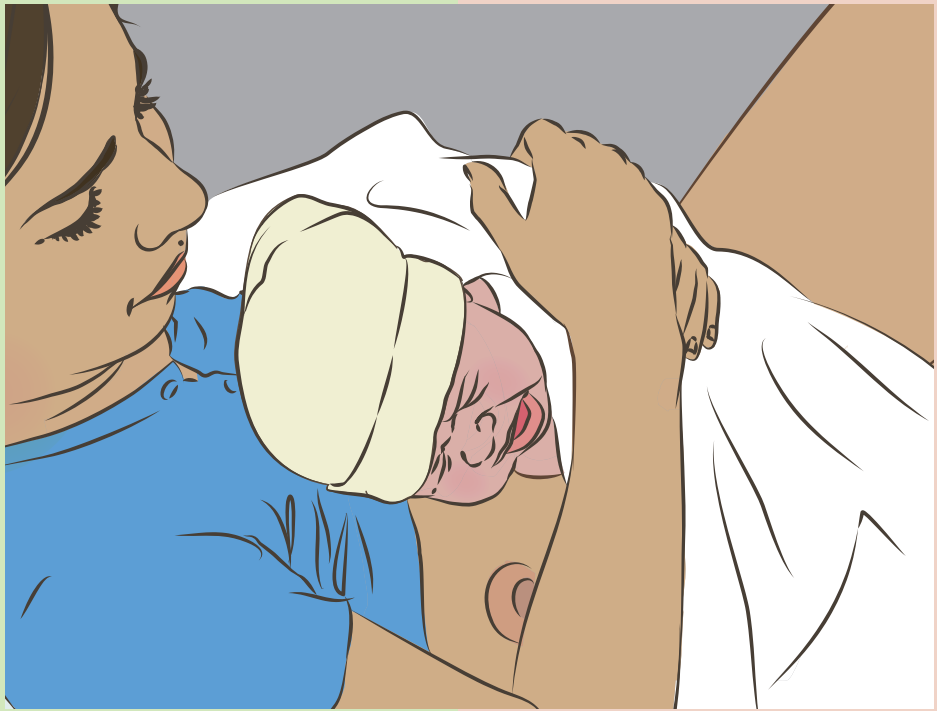
### *What to monitor*

- *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?*




*If the baby responded to ventilation*

# Monitor with mother



*"Monitor with mother"*

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

**If a baby needed help to breathe**

- Monitor breathing, heart rate, color, temperature
- Provide skin-to-skin care during the first hour
- Continue with essential newborn care
- Make a note of care provided in the birth record (page 54)
- If a baby shows a Danger Sign, very low birthweight or severe malformation, refer for advanced care (page 55)

**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**

- Explain what happened and what care will be given
- Answer the family's questions or find help to answer them
- If a baby dies, give mother advice on breast care and family planning
- Communicate in a way appropriate for the culture and religion

**Prepare for the next time a baby needs help to breathe**

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

## Practice

**Practice 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*

***To improve care in your facility***

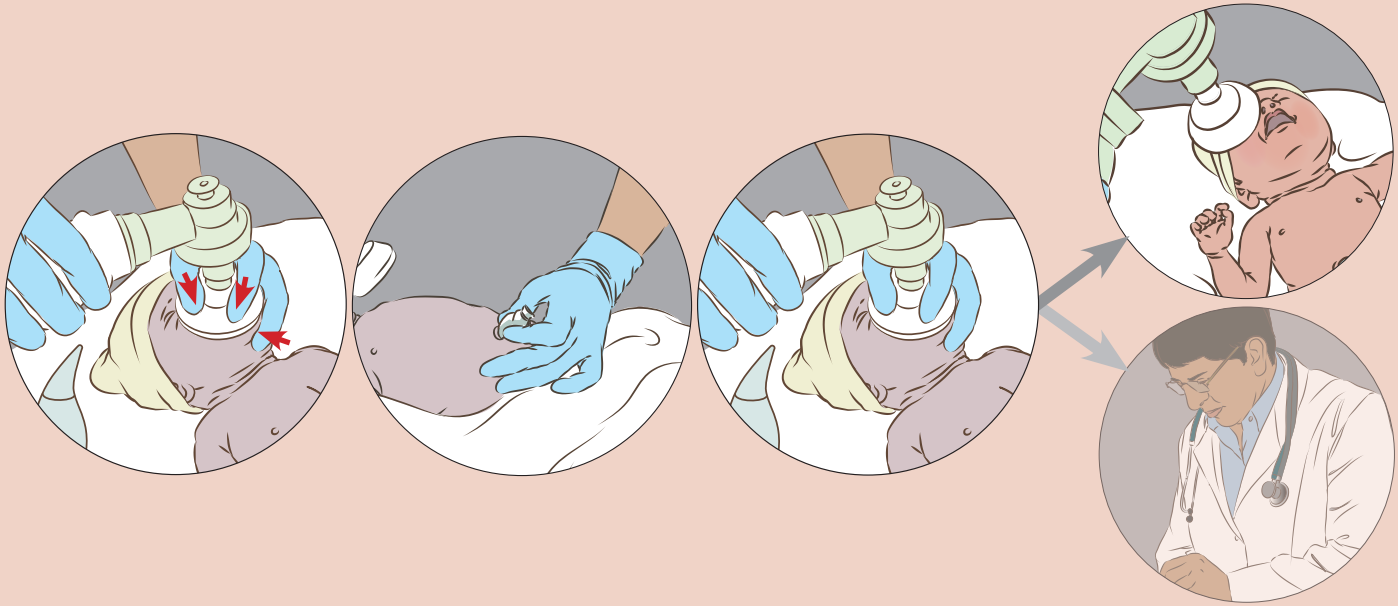
- *What challenges do you face when transporting a baby and mother to advanced care?*
- *Are there policies and procedures for disinfection, storage, and availability of clean equipment ?*

***What to monitor***

- *Do all babies have a record of the care received at birth?*
- *Do all babies have their status recorded when they leave the facility (live, dead, referred for advanced care)?*

# GROUP PRACTICE - CASE 5 AND 6

## Improve ventilation
## Decide on advanced care

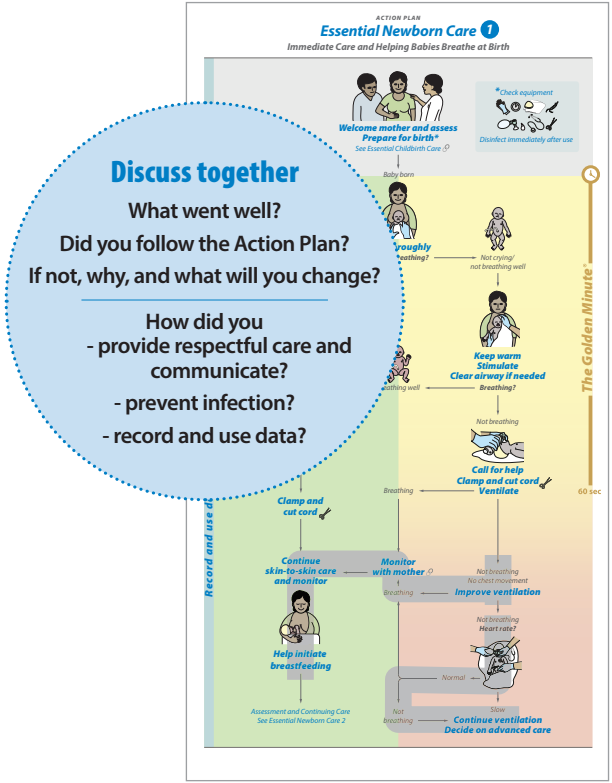


As the mother (or helper), read out loud to the provider:
**"A baby is not breathing, you start ventilation and there is no chest movement. Show how you will care for the baby and communicate with the mother."**

| **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*<br>☐ *Recognize chest not moving* | *"Is my baby OK?"* |
| ☐ ***Improve ventilation***<br>- *Reapply mask*<br>- *Reposition head*<br>- *Clear mouth and nose*<br>- *Open mouth*<br>- *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***<br>- *breathing, color, heart rate*<br>- *temperature*<br>- *bleeding (mother)* | |
| ☐ ***Help initiate breastfeeding***<br>- *Communicate with mother and family*<br>- *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*<br>☐ *Recognize slow heart rate* | *"Is my baby OK?"*<br>*IF PROVIDER ASKS, say: "Heart rate is 70"* |
| ☐ ***Continue ventilation***<br>☐ *Recognize not breathing*<br>☐ *Recognize normal heart rate* | *"Is my baby OK?"*<br>*IF PROVIDER ASKS, say: "Heart rate is 120"* |
| ☐ ***Decide on advanced care***<br>- *Communicate with mother and family* | *"What happened?"* |
| ☐ ***Record data***<br>- *Prepare referral note* | *"What do I tell the new doctor?"* |




Online Simulation Practice Cards

# Commit to making a difference

## Prepare for birth

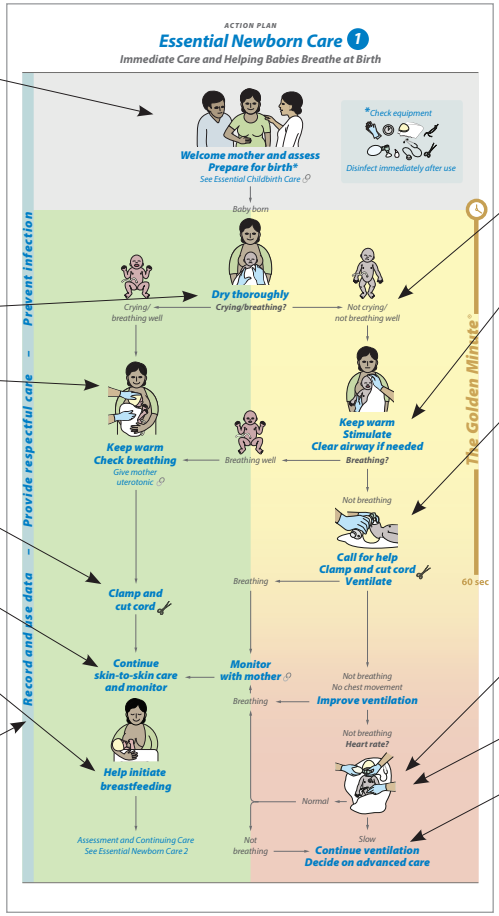
- *Have all birth attendants in the facility been trained to help babies breathe?*
- *Is equipment to help a baby breathe available at all births?*

## 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 after thorough drying begin to breathe 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?*

## *Providing the best care at birth*

Improving care saves lives. Knowing the right care to give is not always enough to save babies' lives—that knowledge must be put into practice.

Patients and families need to feel respected and confident that they are receiving high-quality care.

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

After the course, **commit to making a difference** by:

**(1) Identify areas that need improvement**
Identify differences between what is recommended and what is done at your facility. Use the *Action Plan*, the *Questions to improve care* and *What to monitor*.

**(2) Create a system for ongoing practice and review of cases**
Master the *Action Plan* by participating in ongoing practice, reviewing your actions every time you help a baby breathe, and using case reviews and audits to identify areas that need improvement.

**(3) Make changes that will improve care**
Work with others on a plan to improve care and take action in your facility.

## *Recording information and using it to improve care*

Complete a newborn record for every baby to help plan ongoing care. The birth record helps providers efficiently communicate important information in the facility. The newborn record also can give providers in the community useful details. It can serve as the basis for a referral note when necessary.
A simple newborn record also helps identify areas that need improvement and measure change in actions and outcomes. Use the newborn record to review individual cases.

**Review the actions taken if a baby:**
- Does not cry at birth
- Receives clearing of the airway, stimulation to breathe, or ventilation with bag and mask
- Needs special care after birth
- Dies in the delivery area
- Is stillborn

The care may be appropriate and complete, or there may be steps that can be improved.

The newborn record can be used to summarize the care of babies in the facility using the *What to monitor questions*. During improvement activities, the newborn record can help measure change.

# Sample birth record

(Facility Name):_____

## 1. IDENTIFICATION

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

## 2. BIRTH

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

### Care at birth

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

### Apgar score

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

### First examination

Sex: Male ☐ Female ☐
Weight _____
Temperature _____
Length _____
OFC _____

*Findings:* normal abnormal (specify)

| | | |
|---|---|---|
| Activity | ☐ | ☐ _____ |
| Breathing | ☐ | ☐ _____ |
| Color | ☐ | ☐ _____ |
| Cord | ☐ | ☐ _____ |
| Other | ☐ | ☐ _____ |

## 3. CLASSIFY *Initials of provider*

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

## 4. MANAGEMENT *Initials of provider*

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

## 5. IMMUNIZATION *Initials of provider*

BCG _____
Oral polio _____
Hep B _____
Other _____

## 6. HEALTH EDUCATION ON HOME CARE

| | *Comments* | *Initials of provider* |
|---|---|---|
| Breast feeding | _____ | _____ |
| Keeping baby warm | _____ | _____ |
| Identification of Danger Signs | _____ | _____ |
| Immunization | _____ | _____ |
| Post natal visits and other follow up care | _____ | _____ |
| Baby growth and development | _____ | _____ |
| Baby spacing/family planning | _____ | _____ |
| Other concerns addressed (specify) | _____ | _____ |

### Pre-discharge assessment

Weight _____

*Exam findings:*
normal ☐ abnormal (specify) ☐ _____
Urine? yes ☐ no ☐
Meconium stool? yes ☐ no ☐

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

## 7. DISCHARGE

*Notification of community provider*
Number _____
Copy to _____

*Follow-up visit*
Date _____
Location _____

*Follow-up visit*
Provider _____
Date _____
Time _____

# *Newborn Referral*

(Facility Name):_____

## CLINICAL CONDITION

**Danger Signs**

| | No | Yes | Specify |
|---|---|---|---|
| Fast breathing/chest indrawing | ☐ | ☐ | _____ |
| Temperature <35.4 °C or >37.5 °C | ☐ | ☐ | _____ |
| Not feeding | ☐ | ☐ | _____ |
| No movement | ☐ | ☐ | _____ |
| Convulsions | ☐ | ☐ | _____ |

*Reason for referral:* _____

**Actions taken (specify):**

Alternative feeding _____

Time _____

Thermal support _____

Antibiotics _____

Oxygen _____

Other _____

Laboratory/diagnostic studies:

_____

_____

Treatments given:

_____

_____

Support during transfer:

_____

_____

## REFERRAL INFORMATION

Receiving facility _____

Provider accepting referral _____ Phone _____

Provider making referral _____ Phone _____

Date _____ Time _____

## *Continuing to learn with the Action Plan*

**There are 3 main questions in the Action Plan:**

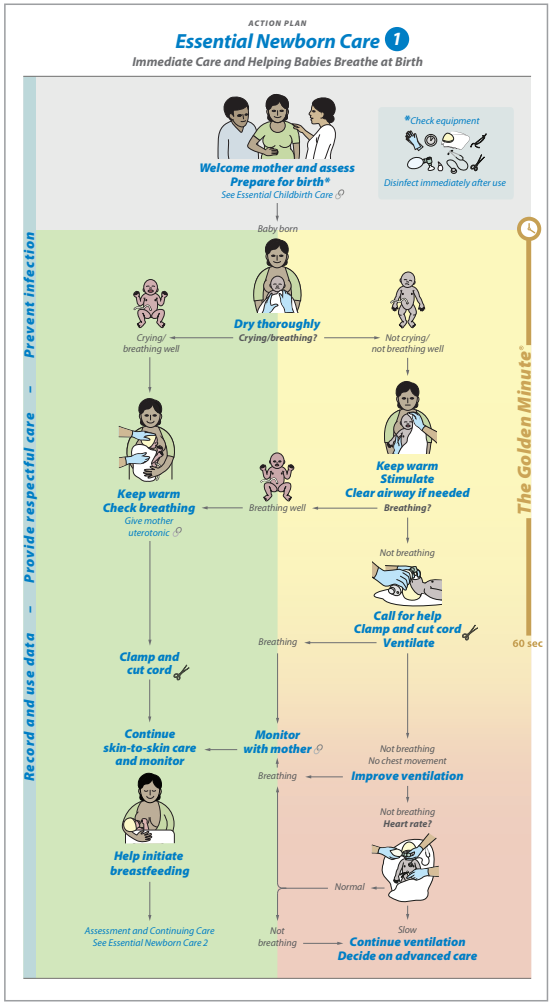
- **Crying/ breathing?**
- **Breathing?**
- **Heart rate?**

*The answers to these questions identify different pathways through the Action Plan.*

- **Trace each of the cases described on page 57 on the Action Plan.** Practice the questions you must ask and the actions you take in the correct order.
- **Have another provider describe a case to you and give feedback.** Ask the evaluation questions. Your partner will answer by responding with the neonatal simulator or in words. Decide on the correct action. Perform the action. Ask the next evaluation question. Continue until the baby is breathing well or you decide on advanced care. Reflect on what you did and ask your partner for feedback (helpful suggestions to improve what you do).
- **Review after helping a baby breathe.** Use the Action Plan as a guide to review your actions after helping a baby breathe. You can review by yourself and with other providers who assisted.

  Ask these questions:
  - What happened at the birth?
  - Did you follow the Action Plan?
  - What went well and what could have gone better?
  - What did you learn from the case?
  - What will you do differently next time?

Share your experiences with other birth attendants so you can learn from one another.



## 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**<br>**Check breathing** | **Keep warm**<br>**Stimulate**<br>**Clear airway if needed** | **Keep warm**<br>**Stimulate**<br>**Clear airway if needed** | **Keep warm**<br>**Stimulate**<br>**Clear airway if needed** | **Keep warm**<br>**Stimulate**<br>**Clear airway if needed** | **Keep warm**<br>**Stimulate**<br>**Clear airway if needed** |
| Breathing well | Breathing well | Not breathing<br>**Call for help**<br>**Clamp and cut cord**<br>**Ventilate** | Not breathing<br>**Call for help**<br>**Clamp and cut cord**<br>**Ventilate** | Not breathing<br>**Call for help**<br>**Clamp and cut cord**<br>**Ventilate** | Not breathing<br>**Call for help**<br>**Clamp and cut cord**<br>**Ventilate** |
| **Clamp and cut cord**<br>**Continue skin-to-skin care and monitor** | **Clamp and cut cord**<br>**Continue skin-to-skin care and monitor** | Breathing<br>**Monitor with mother skin-to-skin** | Not breathing<br>**Improve ventilation** | Not breathing<br>**Improve ventilation** | Not breathing<br>**Improve ventilation** |
| **Help initiate breastfeeding** | **Help initiate breastfeeding** | **Help initiate breastfeeding** | Breathing<br>**Monitor with mother skin-to-skin**<br>**Help initiate breastfeeding** | Not breathing<br>**Continue ventilation**<br>Normal heart rate<br>Breathing<br>**Monitor with mother skin-to-skin**<br>**Help initiate breastfeeding** | Not breathing<br>**Continue ventilation**<br>Slow heart rate<br>OR<br>Normal heart rate<br>Not breathing<br>**Continue ventilation**<br>**Decide on advanced care** |

The Golden Minute®

60 sec

## *Mastering bag and mask ventilation*

**Ventilation with bag and mask can be lifesaving when a baby does not breathe.**
**Mastering and maintaining this skill require ongoing practice.**
**Practice so that you can perform all the steps perfectly.**

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) ☐ ☐

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

# *Disinfecting and testing equipment after every use**

## *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.

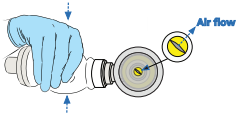
**Reassemble:** Inspect all pieces for cleanliness and damage. Put together the pieces of the ventilation bag and mask and suction device. Practice the disassemble, reassemble and test during the course day.

- *Reprocessing Guidelines for Basic Neonatal Resuscitation Equipment in Resource-Limited Settings*
- *Hmbs.org*

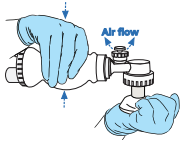
## *To test*

**Ventilation bag and mask**

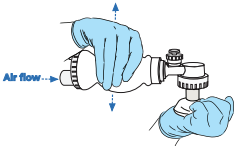
- Put the mask on the ventilation bag. Squeeze the bag and look for the valve in the patient outlet to open as you squeeze. This shows the device is ready to deliver air to a patient.




- Seal the mask tightly to the palm of your hand and squeeze hard enough to open the pressure release 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.

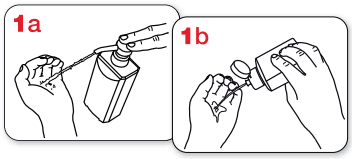
**Suction device**

- 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.

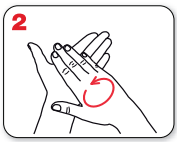
## *To ensure equipment is ready for use at all times*

- **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.

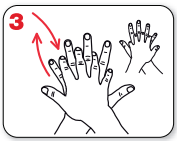
# How to handrub?
## WITH ALCOHOL-BASED FORMULATION



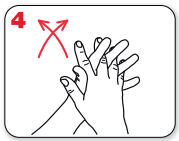

Apply a palmful of the product in a cupped hand and cover all surfaces.



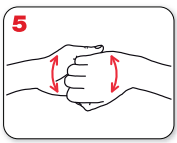

Rub hands palm to palm



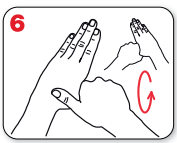

right palm over left dorsum with interlaced fingers and vice versa



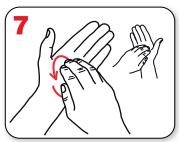

palm to palm with fingers interlaced




backs of fingers to opposing palms with fingers interlocked

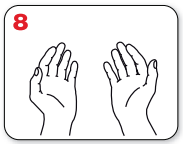



rotational rubbing of left thumb clasped in right palm and vice versa



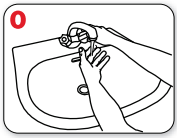

rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa

20-30 sec

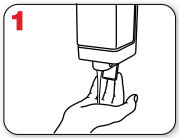



…once dry, your hands are safe.

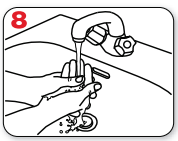
# How to handwash?
## WITH SOAP AND WATER



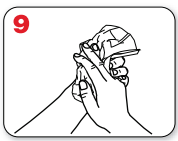

Wet hands with water



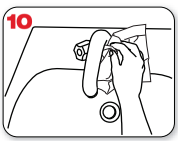

apply enough soap to cover all hand surfaces.




rinse hands with water

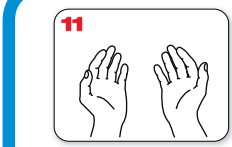



dry thoroughly with a single use towel




use towel to turn off faucet

40-60 sec




…and your hands are safe.

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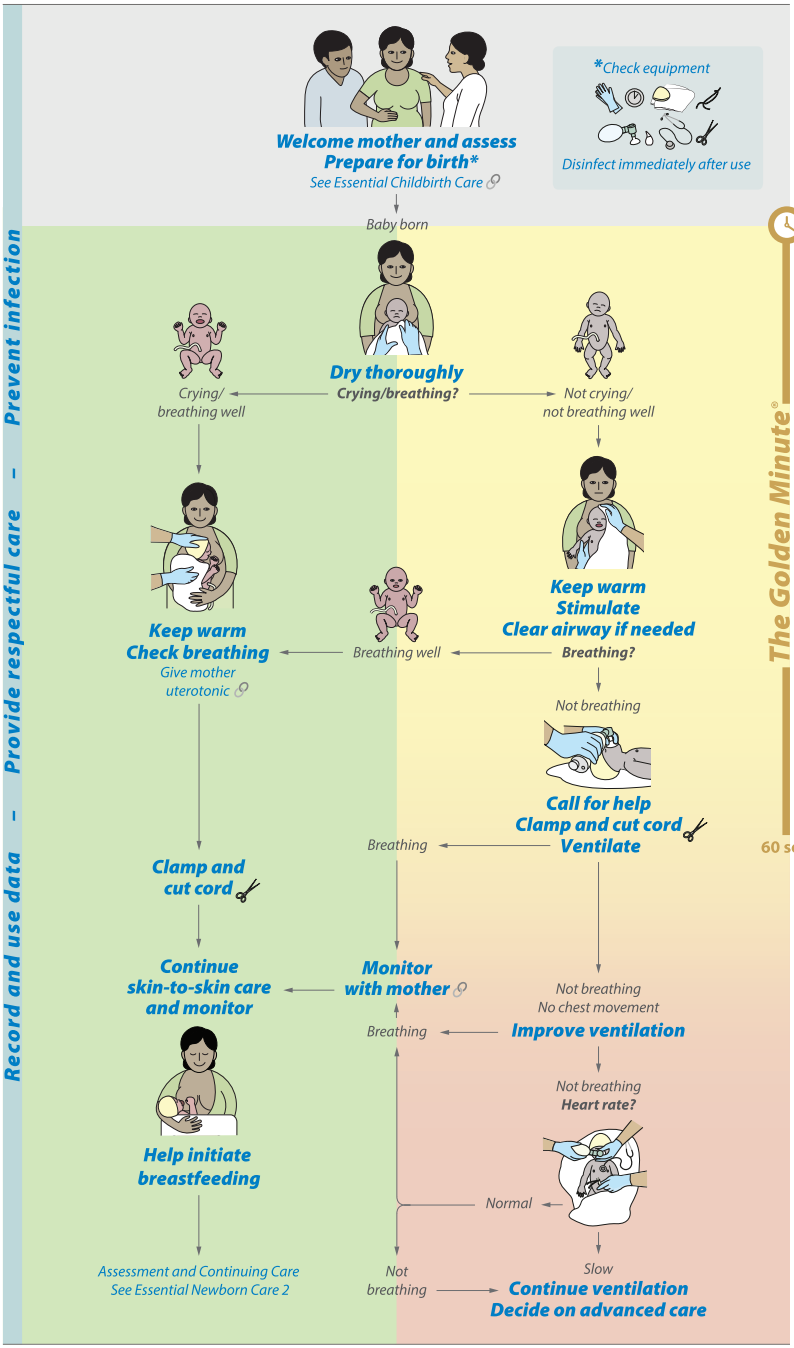
ACTION PLAN

# Essential Newborn Care 1

## Immediate Care and Helping Babies Breathe at Birth

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