Helping Babies Breathe, 2nd Edition
Update Guide

For facilitators and providers who have used HBB 1st Edition

Helping Babies Breathe 2nd Edition includes scientific updates to harmonize with the 2015 ILCOR Consensus on Science with Treatment Recommendations as well as the 2012 WHO Basic Newborn Resuscitation Guidelines.

Since its launch in 2010, HBB has been implemented in 80 countries around the world. HBB 2nd Edition now builds on that success with strengthened guidance on educational methods, implementation, and ways to improve care in facilities.

Helping Babies Breathe 2nd Edition offers the opportunity to refresh training of providers and renew the commitment to better health for newborn babies. All providers who care for babies at birth should be trained, but training in a workshop should be only the first step in improving care.

Use the following summary of updates and changes to understand how HBB 2nd Edition can renew the focus on helping babies breathe at birth and improve care in facilities.
What’s new on the HBB 2nd Edition Action Plan?

- Equipment disinfection and storage
- Decision on advanced care
- Emphasis on continued ventilation until the baby is breathing
- Link with Essential Care for Every Baby
- Emphasis on chest movement with ventilation
- Decision to begin ventilation before or after cutting the cord
- Clearing airway by positioning for all
- Suctioning only if needed
- Removal of “If meconium, clear airway”
- Illustration of care of the baby with
- Link with Helping Mothers Survive

(action plan diagram with steps: Prepare for birth, Check breathing, Cut cord, Monitor with mother, Call for help, Improve ventilation, Continue ventilation, Decide on advanced care, Clearing airway, Ventilation, Monitoring, and Advances Care.)
What’s new in the HBB 2nd Edition Facilitator Flip Chart?

Link to the Action Plan at each step

Emotional engagement of the participant

More complete outline for what to explain and demonstrate

Ask a participant to point out
The Golden Minute

**Explain and demonstrate**

Begin The Golden Minute with a breath-holding exercise.
Ask participants to stand and breathe deeply. Then ask them to hold their breath for 1 minute. Call out the time every 15 seconds. Ask participants to be seated if they need to take a break before one minute.

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

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

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

**Clear the airway if needed**
- Position the head slightly extended
- Remove secretions from the airway if they are blocking the mouth or nose OR if there is meconium in the amniotic fluid

**Facilitate practice**

Ask the participants to practice in pairs
- Keep warm
- Clear the airway - position the head, remove secretions if needed
- Stimulate breathing

**Check yourself (page 23)**

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

**Background**

Clearing the airway can cause harm if done unnecessarily or not done gently. Suction only if there are secretions blocking the nose or mouth or if there is meconium in the amniotic fluid. Suctioning too deeply can damage 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 be breathed 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 arneta to another. Each device has advantages and disadvantages. Any device can introduce infection if not disinfected before use. Otherwise, the device must be discarded (page 244).

Some forms of stimulation can harm babies and should never be used. Helpful methods include straightening the back, squeezing the legs, flexing the fingers onto the abdomen, dilating the anus, using hot salt water, and shaking or holding the baby upside-down. Help participants simulate other methods of stimulation that may be in use.

**Educational advice**

Stimulation can help a baby begin to breathe, even after drying. Prolonged suctioning or stimulation are unlikely to be effective, may cause harm, and will delay ventilation. A baby is not breathing well or crying after clearing the airway and blind stimulation, the baby needs ventilation with bag and mask. These stimulation alone is unlikely to be effective. Prolonged stimulation only works while the baby is becoming older. Stimulation can be given to improve and sustain spontaneous breathing during and after ventilation with bag and mask.

Emphasize that there are two ways to clear the airway: first, by positioning the head and second by removing secretions that are blocking the airway. Stimulation by rubbing the back is a separate step from drying.

Use suction devices available locally to demonstrate the skill. Discuss their advantages and disadvantages. Help participants use the full suction device correctly by transferring water from one container to another.
Exercise: Continued ventilation with normal or slow heart rate (pages 44-45)

The facilitators will demonstrate continued ventilation with normal or slow heart rate.

Participants will work in pairs with the mannequin to practice the checklist. One person takes the role of the birth attendant. The other person gives the response of the baby, and acts as the mother and a helper when needed. The birth attendant communicates with the helper and the mother.

Participants review their actions, give one another feedback, switch roles and repeat the exercise.

Participants should be prepared to care for a baby who:
- Has no chest movement
- Has a normal OR slow heart rate and Breathes OR does not breathe

Self-reflection, feedback in pairs, and review of actions to help a baby breathe (debriefing)

Checklist
- Recognize not breathing and chest not moving
- Call for help
  - Cut the cord if not already done
- Continue and improve ventilation
- Recognize normal OR slow heart rate
  - Recognize breathing OR not breathing
  - If breathing and normal heart rate, monitor with mother OR if not breathing OR slow heart rate continue ventilation and decide on advanced care
- Communicate with mother and family
- Continue with essential newborn care, identify the baby, complete the birth record, and review your actions
- Disinfect equipment

Communication with mother and other providers

Simplified red zone – one exercise

Background and educational advice

In a small group of participants (no more than 6 persons with 1 facilitator)
- Demonstrate continued ventilation with normal or slow heart rate and communication with mother and a helper.
- Show four different scenarios:
  - Heart rate normal, baby begins to breathe—close monitoring
  - Heart rate normal, baby not breathing—continue ventilations, 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 minutes
  - No heart rate, no breathing after 10 minutes of ventilation—stop ventilation
- Answer questions and encourage correct actions during the exercise.
- Have participants practice the checklist in pairs, give one another feedback and review their actions (debrief).

- What happened at the birth?
- Did you follow the action plan?
- What went well and what could have been done better?
- What did you learn?
- What will you do differently next time?

- Share feedback with the whole group after the exercise.
- Review the group discussion questions.

Group discussion

At the end of the exercise, ask participants to answer these questions in the small group. Encourage them to think about how they will put the skills learned into practice. Take note of other questions that participants ask and their answers.

1. How can you give ventilation and evaluate the baby if there is not a second skilled person at a delivery?
2. If a baby needs continued ventilation for longer than several minutes, when will that baby require care?
3. What are the reasons you would transfer a baby?
4. What are the challenges of communicating with the family of a baby who died?
Implementation – putting new knowledge and skills to use after the workshop

Systems for practice and identifying areas for improvement

3 questions to improve care

Improving care seven times. Knowing the right care to give is not always enough to make babies live. That knowledge must be put into practice.

Completing a workshop in Helping Babies Breathe 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

What are you going to do differently?
1. Review the Action Plan as a guide to the best care at birth.
2. Review the Questions to Improve care and What to measure 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.

Committed to making a difference!

Educational advice - putting new knowledge and skills to use after the workshop

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Implementation – putting new knowledge and skills to use after the workshop

Systems for practice and identifying areas for improvement

3 questions to improve care

Improvement team activities

Explain and demonstrate

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

A provider who has mastered the Action Plan will perform the necessary actions for every baby and maintain those skills.

A provider will master the Action Plan by:
1. Participating in ongoing practice
2. Reviewing the steps taken after helping a baby breathe
3. Using case reviews and audits to identify areas that need improvement

Invite discussion

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 skill practice become a routine?
2. How will routine will providers create a standardization after helping a baby breathe?
3. How will routine case reviews or audits be organized to improve care?

Facilitate practice

Ask participants to:
1. Not all skills where the care at birth did not go well
2. Describe the care from their experience and trace the corresponding path through the Action Plan
3. Discuss how they can improve the care if a similar situation should occur again

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.

Invite discussion

Assemble small groups from single facility, or a group of similar facilities.

Ask each group to write their answers to the following questions to plan for next steps on an area that needs improvement.
1. What do we want to improve?
2. Why hasn’t it worked? What’s new?
3. How are we going to change?
4. How will we go to make the change?
5. How will we know the change is improving care?
If the baby is not crying
Keep warm, clear airway if needed and stimulate breathing

- Bulb suction – squeeze the bulb before inserting the tip into the mouth and release before withdrawing. Then clear the nose.
- 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.

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, clearing the airway, and stimulating breathing should take less than one minute. Your actions in The Golden Minute can help many babies begin to breathe.

To improve care in your facility
- How often do babies require suctioning of secretions from the airway?
- How should secretions be stored and disposed of?
Commit to making a difference

Preparation for birth
- Provide full information to the family before the mother’s hospitalization.
- Communicate the importance of early labor.
- Implement policies to help labor progress in the hospital setting.

Routine care
- Provide immediate care after birth.
- Support lactation and breastfeeding.
- Help babies feel and move.

After the birth
- Ensure babies have a check-up at birth.
- Provide proper care and treatment.

Providing the best care at birth

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

Completing a workshop in Helping Babies Breathe is just the first step in improving the care that you give.

After the course, commit to making a difference by:
1. Identify areas where improvement is needed. 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 care. Maintain 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 birth record for every baby to help plan ongoing care. A sample birth record also helps identify areas that need improvement and measure change as a result of improvement activities.

For example, every baby should receive:
- Thorough drying
- Immediate skin-to-skin contact
- Delayed cord clamping

If these actions do not occur, reviewing and talking with other providers will help you understand why. Once problems and barriers are identified, changes can be made to overcome them.

Review the actions taken if a baby:
- Does not cry at birth
- Reverses respiration 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 in care that can be improved. When improvement activities are in progress, the birth record can help measure change.

Sample birth record for newborn

1. IDENTIFICATION
   - Baby’s name: __________ ID No. __________ Birth date __________ Time __________
   - Mother’s Name: __________ ID No. __________
   - Mother/Father’s physical address: __________ Contact: __________

2. BIRTH
   - Complications during pregnancy/delivery: __________
   - Gestational age: __________ Method of delivery: __________ Maternal anaesthesia: __________

   - Care at birth
     - Check if yes: __________
     - Apgar score: __________
     - Breech breathing: __________
     - Did the baby cry? yes __________
     - Did the baby receive:
       - Opiating of the airway? yes __________
       - Stimulation to breathe? yes __________
     - Ventilation with bag and mask? yes __________
     - Immediate skin-to-skin contact? yes __________
     - Delayed cord clamping? yes __________
     - Birth Provider: __________ Date: __________ Time: __________

   - Status at birth
     - Sec.: __________
     - Weight: __________
     - Male: __________
     - Female: __________
     - C-section: __________
     - Stabilized: __________
     - Stable in delivery area: __________
     - Fresh stillbirth: __________
     - Miscarried stillbirth: __________
Checklist
Updating Helping Babies Breathe 1st Edition materials


☐ Compare the Action Plans
  - Mark through “If meconium, clear airway”
  - Add “if needed” to Clear airway
  - Note emphasis on chest movement when ventilation begun
  - Decide on and follow the facility routine for initiating ventilation with cord intact or cut
  - Decide on when and where advanced care will be sought
  - Add “Disinfect equipment after use” under box in lower left corner

☐ Annotate the Facilitator Flip Chart – consider gathering a group of facilitators to discuss the changes and make notes on the materials
  - Review What the facilitator needs to know and do; explore the additional resources
  - Read Educational advice on each page to pick up teaching tips
  - Emphasize communication with mother and self-reflection, feedback in pairs, and review of actions (debriefing) during the exercises
  - Insert the breath-holding exercise at the beginning of The Golden Minute
  - Download pdfs of the HBB 2nd Edition Knowledge Check, Bag and Mask Skill Check, OSCEs A and B
  - Download pdfs and insert the pages Commit to making a difference, Master the Action Plan, make changes to improve care. Practice facilitating these pages

☐ Update knowledge and skills with the Provider Guide – consider gathering all providers for a refresher to discuss the major changes and practice skills
  - Present and demonstrate the changes on the following pages and practice the skills:
  - Dry thoroughly – do not routinely clear the airway before drying if meconium is present
  - Keep warm, clear the airway if needed and stimulate breathing – suction only if secretions block the nose or mouth or if there is meconium in the fluid (and the baby is not crying)
  - Ventilate with bag and mask – practice ventilation with chest rise for a full minute
  - Is the chest moving or is the baby breathing well – emphasize 2 immediate steps if the chest does not move with ventilation (reapply the mask, reposition the head)
Call for help, improve ventilation – emphasize 5 steps to improve ventilation

Continue ventilation, evaluate heart rate and breathing to decide on advanced care – emphasize need for spontaneous breathing before stopping ventilation; discuss when, where, and how to refer

Monitor with mother – emphasize communication with family; disassemble ventilation bag and mask for disinfections

Commit to making a difference – identify what to change

Master the Action Plan – create a routine in the facility for low-dose high-frequency practice, use self-reflection, feedback, review of actions after help to breathe and case reviews

Make changes to improve care – identify a change and work through the steps to accomplish the change; discuss data collection and use

Additional Resources available on hbs.aap.org

- Summary of Changes
- FAQs
- Update Guide for users of HBB 1st Edition
- Background presentations
- Reprocessing Guidelines and associated materials
- HBB 2nd Edition Webinar