Helping Mothers Survive

Bleeding after Birth Complete

Provider Guide - Second Edition

jhpiego
Saving lives. Improving health. Transforming futures.

UNFPA

International Confederation of Midwives
Strengthening Midwifery Globally

FIGO
International Federation of Gynecology and Obstetrics
the Global Voice for Women's Health

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®

Helping Mothers Survive
Bleeding after Birth Complete

Provider Guide

Authors
Susheela Engelbrecht, CNM, MPH, MSN
Cherrie Lynn Evans, DrPH, CNM, MSN
Laura Fitzgerald, MPH, CNM
Jhpiego

Reviewers
Jen Breads, MSN, MPH
Kayla Britt, BA
Peter Johnson, PhD, CNM
Sheena Currie, RM, MEd
Gaudiosa Tibaijuka, MEd, RN, RM
Rosemary Kamunya, MA, DN/M
Bonnie Dowling, MPH, MSN
Barbara Deller, CNM, MPH
Jhpiego

Nester T. Moyo, MScN, SCM, RN
International Confederation of Midwives

Ida Neuman, BPol, MMedSci, MHP
Laerdal Global Health

Helping Babies Breathe Editorial Board
Susan Niermeyer, MD, MPH, FAAP
William J. Keenan, MD, FAAP
George A. Little, MD, FAAP
Nalini Singhal, MD, FRCPC, FAAP

Evaluation and Data Analysis
Cherrie Lynn Evans, DrPH, CNM
Eva Bazant, DrPH, MPH
Jhpiego

Educational Design Editor/Art Director
Anne Jorunn Svalastog Johnsen
Laerdal Global Health
Stavanger, Norway

Illustrator
Bjørn Mike Boge
Laerdal Global Health
Stavanger, Norway

Acknowledgments

The Helping Mothers Survive Bleeding after Birth Complete training module began as Bleeding after Birth, a basic package of skills to for prevention, detection and initial management of post partum hemorrhage. After calls from around the world globe to expand the module to include expanded management of PPH, Bleeding after Birth Plus was developed. The original BAB was conceived and designed by a team in the Global Learning Office of Jhpiego led by Cherrie Evans and Peter Johnson. Expansion of the module was led by Laura Fitzgerald.

We express our sincere gratitude to our partners and colleagues around the world who work with us to reduce the needless deaths of women and newborns. We would like to give special thanks to those who provided guidance in the development of these materials: the International Confederation of Midwives, the International Federation of Gynecology and Obstetrics, the United Nations Population Fund, the World Health Organization (WHO), and the American Academy of Pediatrics (AAP). We wish to thank our partner colleagues in Malawi, India, Tanzania, and Afghanistan who contributed to testing of these materials. Many thanks to Anne Jorunn Svalastog Johnsen, the graphic designer and illustrator at Laerdal for her invaluable assistance in helping make these materials accessible to all.

This work was made possible through Jhpiego, an affiliate of Johns Hopkins University, the Laerdal Foundation for Acute Medicine, and Laerdal Global Health.

Jhpiego is an international, nonprofit health organization affiliated with The Johns Hopkins University.
For 40 years, Jhpiego has empowered frontline health workers by designing and implementing effective, low-cost, hands-on solutions to strengthen health care services for women and their families.

Saving Lives at Birth

Helping Mothers Survive (HMS) and Helping Babies Survive (HBS) are learning modules that address critical care needs for women and newborns. By building the capacity of the health workforce to provide care before, during, and after birth, needless deaths can be prevented. Targeting providers at all levels who attend births or who are called upon to manage complications, HMS and HBS equip frontline health workers to provide evidence-based, high-quality care and to promptly identify and manage life-threatening complications.

Understanding that care for women and babies must be integrated for the best possible outcomes, HMS and HBS both use hands-on, interactive approaches. Modules include team-based learning, skills practice, and simulation with immediate practice and feedback. Each module utilizes low-dose, high-frequency (LDHF) interactive learning followed by repeated, team-based practice at the worksite to strengthen and maintain skills.

The HMS Bleeding after Birth Complete (BABC) training package is designed for teams of providers who care for women at birth. These include skilled birth attendants such as midwives, nurses, and doctors, and those who assist them.

HMS BABC helps providers master the competencies needed to safely and effectively prevent, detect, and manage postpartum hemorrhage (PPH). The BAB module is designed as a 1- or 2-day onsite training, depending on whether or not your facility provides advanced care for PPH.

The materials for this module include:

1. **Action Plans** are graphic job aids that help providers prevent, identify, and manage PPH. The BAB Action Plan, addressed in Day 1, includes Active Management of Third Stage of Labor, monitoring, and initial identification and management of PPH. The second Action Plan, used in Day 2, covers prevention and management of PPH-related shock and includes more advanced PPH management skills.
2. **The Flip Chart** is used for instruction and can be a reference after initial training.
3. **This Provider's Guide** is for both facilitators and learners. It contains information for ongoing practice and more in-depth information. After training, learners will continue to practice new or refreshed skills led by onsite peer coordinators. Recognizing that any learner can potentially coordinate practice after initial training, this Provider's Guide contains information for everyone.

Use this Provider's Guide to:

- Help you provide the best care for women and babies at birth.
- Continue weekly practice with peers at your facility after training day. Short exercises start on page 64 and last from 10 to 25 minutes once a week for up to 10 weeks.
- Give you more information and resources to maintain your skills.

When you put into practice the skills you learn in BABC, you can help save even more lives!

Contents

Provide respectful care to women and their families

Performance Expectation

Communicate professionally and respectfully with women and their families.

Key points

- *Every person deserves respectful care.*
- *Respectful care saves lives.*
- *Women have a right to privacy and confidentiality.*

Key Knowledge

- Every woman is worthy of respect.
- Respectful care is lifesaving; women may not seek care from facilities where providers do not treat them well.
- Treat all women equally regardless of ethnic background, culture, social standing, religion, educational level, age, and marital or economic status.
- Honor women's right to privacy and confidentiality during counseling, physical exam, and clinical procedures, and in the handling of records.
- Respect a woman's right to a companion when receiving care. The presence of a birth companion improves outcomes and can shorten labor.
- Recognize that women have the right to refuse care or to seek care elsewhere.

Key Actions

- Always explain what is happening and why.
- Be gentle when giving care.
- Never leave a woman with a complication alone. If you must leave, have someone stay with her and tell that person how to get help if needed.

Counseling Note

How to demonstrate respect:

1. Introduce yourself by name and smile.
2. Look at women when speaking to them.
3. Use simple, clear language.
4. Speak calmly.
5. Pay attention when women speak.
6. Include women and families in discussions about their care.
7. Always explain any procedure and get her permission before you begin.

Adapted from job aid by USAID/MCHIP/ACNM: "I treat patients and their families in the way I would like to be treated!" https://www.k4health.org/sites/default/files/RMC%20Patient%20Care.pdf

Communicate effectively with woman and team members

Performance Expectation

Communicate effectively with team members at all times, especially during an emergency.

Key points

- *Good communication saves lives.*
- *Know whom to call for help.*
- *Assign a role to each team member.*
- *Have an emergency plan in place.*

Key Knowledge

- Team members include people who work at your facility, those at the referral facility, and women and their family members.
- Poor communication can result in poor outcomes for women and babies.
- Know who to call and how in case of an emergency.
- Anxiety and fear are normal in emergencies, but these responses can block good communication. Providers must stay calm and talk to other providers, the woman, and the family in clear but reassuring tones.
- Having a plan before an emergency, and simulating what to do during an emergency through practice drills, builds confidence and makes communication during emergencies easier. Drills give providers the opportunity to practice problem-solving, teamwork, and decision-making.

Key Actions

- Quickly alert others on your team to an emergency so everyone can respond quickly.
- Communicate confidently and clearly - do not assume that others know what you are thinking.
- Speak loudly to be sure that all actions have been heard and are being done.
- Clearly establish roles for each person. Address people by name and clarify who will do what. Have each team member repeat the task he or she has been delegated to do - for example, "I will start an IV of normal saline" - to show that the instruction was understood.

Prepare for birth

Performance Expectation

Prepare for and conduct clean and safe delivery.

Key points

- *Make the birth area private, warm and well lit.*
- *Use the right, clean equipment to prepare for each birth.*
- *Before EVERY BIRTH, always draw up the uterotonic and have it ready for use.*
- *Test the bag and mask to make sure they function well.*
- *Wash hands and use sterile or high-level disinfected gloves and equipment to reduce infection risk.*
- *Note time of birth.*
- *Always keep the woman and baby together.*

Knowledge and Skills

- Know how to use available equipment.
- Wash hands, wear sterile gloves, and use sterile or high-level disinfected instruments to prevent infection.
- Wear an apron, mask, and eye shield to protect you from infection.
- If possible, double-glove prior to birth. This allows you to remove dirty gloves before cutting and clamping the cord, and protects the baby from infection.
- Communicate what you are going to do and why so that the woman and birth team are informed. This helps them stay calm.
- After birth, keep the woman and baby together.

It is very important that the injectable uterotonic is drawn up into the syringe or misoprostol is ready to give BEFORE THE BABY IS BORN. This will allow you to give the medicine quickly to prevent the mother from bleeding and will reduce delays in life saving care if the baby is not breathing.


Soap or alcohol hand rub


Gloves


Scissors and/or blade


Towels


Hemostats, clamps, ties


Personal protection for provider


Medication


Suction bulb

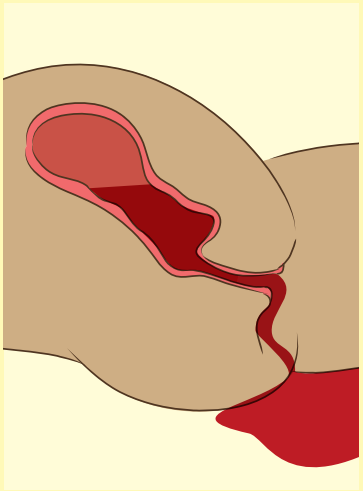

Ventilation bag and mask


Stethoscope

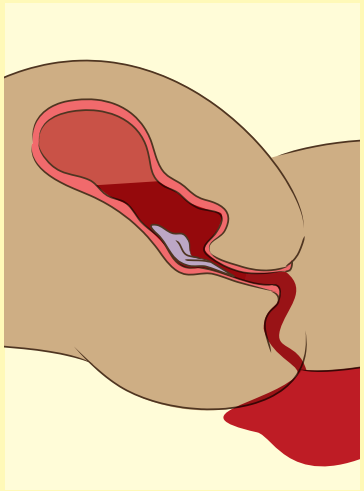

Clock/watch

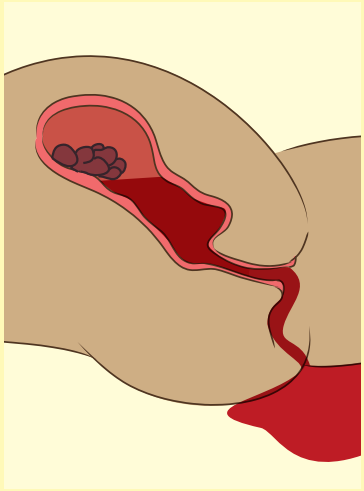
Main causes of bleeding after birth

Poor tone

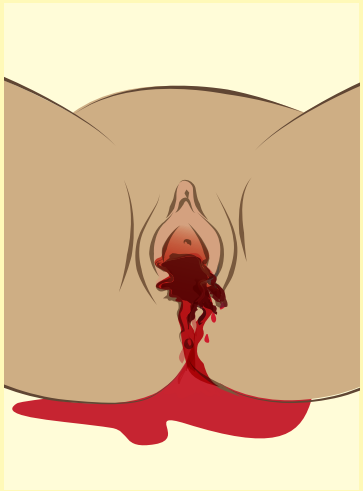


Retained placenta tissue





Tears



Performance Expectation

Identify the causes of heavy bleeding and manage each one correctly.

Key points

- *Poor tone, tears, and retained tissue are the most common causes of bleeding after birth.*
- *Most bleeding after birth is caused by a uterus that will not contract (poor tone).*
- *Tissue from the placenta or membranes that stay inside the uterus can also cause bleeding.*
- *Tears can also cause PPH.*
- *Episiotomies and female genital cutting increase the risk for tearing.*
- *Anyone can bleed too much after birth.*
- *All bleeding can be life-threatening.*

Knowledge and Skills

- There are three main causes of bleeding after birth: poor uterine tone (or atony), tears, and retained tissue.
- Bleeding can be a slow, constant trickle, or a large gush. Both can be dangerous.
- Losing more than 500 ml is considered a hemorrhage, although some women can lose less than 500 ml and still die.

If a woman is bleeding heavily, has bleeding that trickles slowly but does not stop, or passes clots bigger than a lemon, begin treating her regardless of how much blood she has lost if she has any of the following:

- Increasing pulse rate (>100 bpm or an increase of 20 bpm);
- Decreasing systolic BP (<100 mmHg or a decrease of 20 mmHg).

Poor tone

- The vast majority of bleeding is due to an atonic uterus.
- If the uterus does not contract, blood vessels continue to pump blood into the empty uterus.
- Large babies, twins, a long labor, many pregnancies, or a full bladder make it more difficult for the uterus to contract.

Retained placental tissue

- Retained tissue from the placenta or membranes can also cause PPH.
- If a piece of the placenta (or membranes) is left behind, the uterus may not contract and the woman may bleed too much or she may get infected.
- Inspect the placenta after it is delivered to be sure it is complete.

Tears

- Another common source of bleeding is tears caused by trauma.
- Tears can be big or small, inside or outside the vagina.
- Gently wiping the blood away will help you look for tears.
- Episiotomies can cause increased tearing and bleeding; they should not be done routinely.
- Female genital cutting also increases the likelihood of tearing.

Advanced Care Note

If you have additional training and authorization to provide more advance levels of care, act within your scope of practice. This may include cutting an episiotomy if there is a medical indication.

Actively make decisions for mother and baby

Performance Expectation

Recognize problems and make decisions quickly and effectively.

Key points

- *Monitor signs of changing condition for women and babies.*
- *Use blood loss, uterine tone, and infant breathing to guide your decisions.*
- *Actively look for signs, make decisions, and respond quickly! This is essential to helping women and babies survive.*

Knowledge and Skills

- After birth, things can change quickly for both women and newborns.
- Monitor for signs of change and decide quickly on a course of action.

For the woman

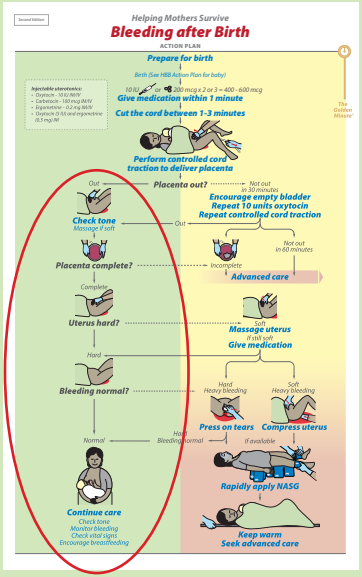
- Actively look for heavy bleeding beginning from the moment of birth, as you await the placenta, and every 15 minutes for the first two hours after the placenta has delivered.
- Feel the top of the uterus to check if it is contracted and observe the mother for signs that she may be losing too much blood – increased pulse, dropping blood pressure, or pale, clammy skin.

For the baby

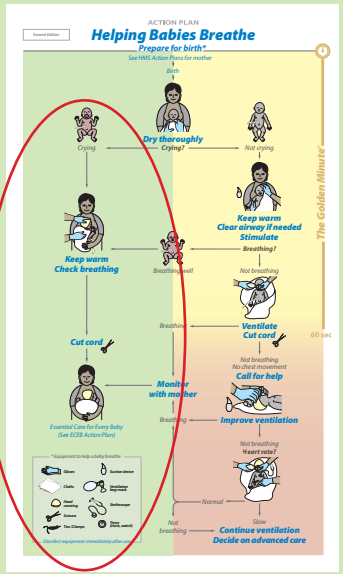
- Actively watch that the baby begins breathing and responds to your touch as you dry her.
- If the baby is not breathing, keep her warm and follow guidelines for resuscitation.

For both

- Use what you see, feel, and hear to actively make decisions on the best next steps to provide high quality care to women and babies.



Routine care for mother and baby



Performance Expectation

Provide high quality routine care for the woman and her baby immediately after birth.

Key points

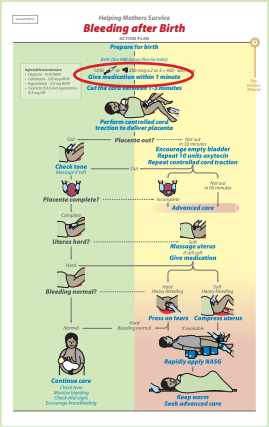
- *The third stage of labor is the time between the birth of the baby and the placenta.*
- *The three steps of active management of third stage of labor (AMTSL) are: give uterotonic, provide controlled cord traction if you are a skilled birth attendant, check for uterine tone.*
- *Active management of this stage can speed delivery of the placenta and reduce bleeding.*
- *The first minute is the critical time to be sure the baby is breathing well.*

Key Knowledge and Skills

- During the third stage of labor, the uterus contracts and gets smaller.
- Contractions help the placenta separate from the uterine wall.
- Separation and birth of the placenta usually takes 8-9 minutes, but can take up to an hour.
- The World Health Organization recommends giving a uterotonic in the third stage of labor for all women because it reduces the risk of hemorrhage after birth by 60-70 %.
- If the baby needs resuscitation and the provider is alone, give preference to care for the baby. If possible, at least give the uterotonic dose, preferably by the IM route, even if CCT is not possible.
- If both women and babies are doing well, routine care for both can be done at the same time.

Checklist

- ☐ *Deliver baby onto mother's stomach*
- ☐ *Dry baby thoroughly and assess for crying or breathing; cover with a dry cloth*
- ☐ *Check for second baby; if none, proceed with third stage care while continuing to observe baby*
- ☐ *Give a uterotonic drug within one minute of birth of the last baby.*
- ☐ *While awaiting the placenta, remove first pair of gloves if double gloved or change gloves and clamp and cut the cord between 1-3 minutes after birth*
- ☐ *Perform controlled cord traction during contractions*
- ☐ *Feel the uterus once the placenta delivers and massage if soft*
- ☐ *Check placenta for completeness*
- ☐ *Check the amount of bleeding*
- ☐ *Check for tears*
- ☐ *Continue to closely observe mother and baby and provide routine care*



Immediately after birth, check for second baby

Give uterotonic within 1 minute - Oxytocin

Performance Expectation

Safely and effectively give oxytocin within 1 minute after the last baby is born to prevent bleeding after birth.

Key points

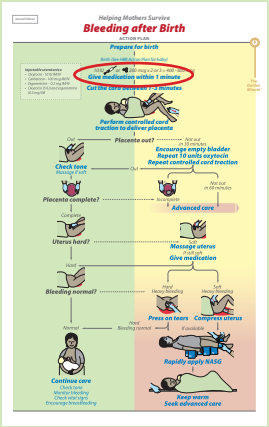
- *Oxytocin is an injectable uterotonic drug that causes the uterus to contract. It is recommended for actively managing the third stage of labor.*
- *Oxytocin is inexpensive and is associated with minimal side-effects.*
- *Oxytocin must be kept at 2-8°C (36 to 46°F) but not frozen.*
- *Check for a second baby before giving oxytocin! Give oxytocin within one minute of birth of the last baby.*
- *Dosage: 10 IU by IM / IV bolus injection*

Knowledge and Skills

Show and tell how to safely give medication.

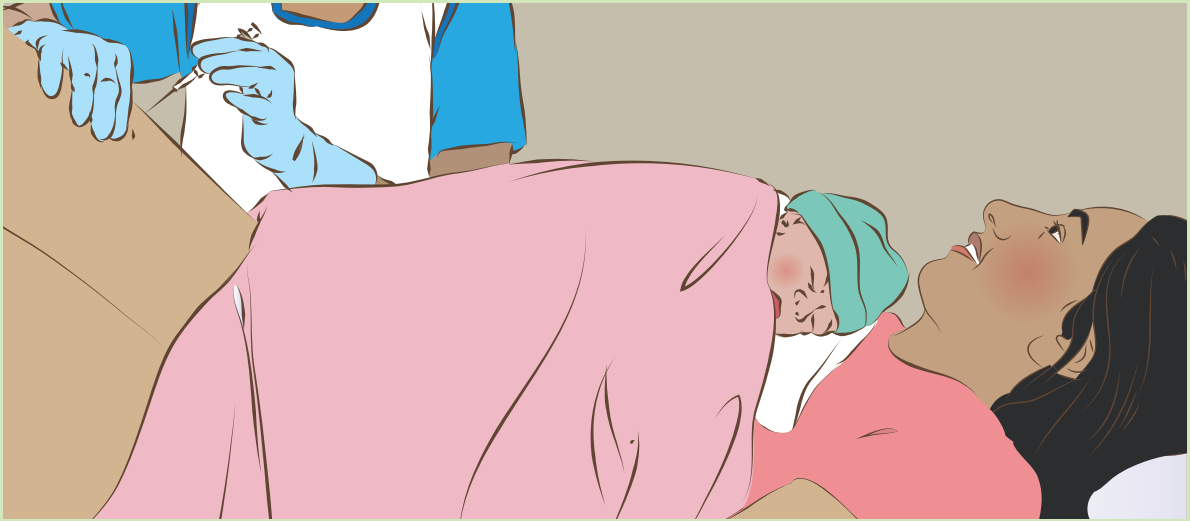
- Oxytocin is a medication that causes uterine contractions. When the uterus contracts, it separates the placenta from the uterus, then squeezes the blood vessels and stops bleeding.
- Oxytocin should be kept at 2-8°C during transport and storage to preserve drug quality. In settings where this cannot be guaranteed, another effective uterotonic may be considered.
- For any uterotonic, follow the manufacturer's recommendations for storage. Do not freeze.
- The correct dose of oxytocin is 10 IU by IM/IV bolus injection. In situations ***where women already have IV access,*** the slow IV administration of 10 IU oxytocin (over 1-2 minutes) is recommended in preference to IM administration.
- Always check to see if there is another baby before giving 10 IU of oxytocin by IM / IV bolus injection. ***NEVER give this dose of oxytocin before birth of the last baby.*** If this dose of oxytocin is given with a baby in the uterus, it can cause the uterus to contract too strongly which can kill both the woman and her baby.
- Give oxytocin within one minute of birth of the last baby.
- Before giving the injection, tell the woman that you are giving her medicine to reduce bleeding.

Be sure to have oxytocin drawn up in the syringe BEFORE THE BIRTH!



Immediately after birth, check for second baby

Give uterotonic within 1 minute - Carbetocin / Heat stable carbetocin



Performance Expectation

Safely and effectively give carbetocin/HSC within 1 minute after birth of the last baby to prevent bleeding after birth.

Key points

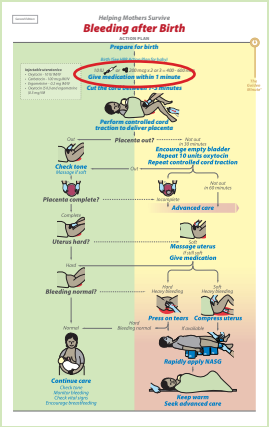
- *Carbotecin is an injectable long-acting uterotonic drug. Store under refrigeration 2 to 8 ℃ . Do not freeze.*
- *Heat-stable carbetocin (HSC) does not require refrigeration during transport and storage and keeps high potency in hot climates.*
- *When used for PPH prevention, HSC was found to be as good as oxytocin for reduction of PPH after vaginal birth.*
- *Check for a second baby before giving the medicine! Give medicine within one minute of birth of the last baby.*
- *Dosage - IM: 1 mL (100 mcg); IV: 1 mL (100 mcg). slowly over 1 minute.*
- ***Only give one dose of carbetocin/ HSC. Never give further doses.***

Knowledge and Skills

Show and tell how to safely give medication.

- Carbetocin/HSC is a medication that causes uterine contractions similar to oxytocin.
- Follow manufacturer's recommendations for storage of HSC: Store below 30°C; Do not freeze; Keep ampoules in the outer carton to protect from light.
- Carbetocin/HSC has a similar duration of action to oxytocin: 60 minutes after an IV injection and 119 minutes after an IM injection.
- ***Carbetocin/HSC is NOT recommended for labor induction, labor augmentation or treatment of PPH.***
- The correct dose of carbetocin/HSC is IM: Give 1 mL (100 mcg);
  IV: Give 1 mL (100 mcg) slowly over 1 minute.
- ***Always check to see if there is another baby before giving carbetocin/HSC.***
  If carbetocin/HSC is used during labor or when a baby is still in the uterus, excessive contractions may lead to uterine rupture or may reduce the amount of oxygen reaching the fetus leading to cerebral palsy, organ damage or death.
- Before injecting carbetocin/HSC, check for contraindications: Pregnancy; First and second stages of labor; Serious cardiovascular disorders; Epilepsy; Liver or kidney disorders; Hypersensitivity to carbetocin, oxytocin or any of the excipients.
- Give carbetocin/HSC within one minute after birth of the last baby.
- Before giving the injection, tell the woman that you are giving her medicine to reduce bleeding.
- ***Only give one dose of carbetocin/ HSC. No further doses should ever be administered.***
- Inform the woman about possible side-effects: nausea, abdominal pain, headache, shivering and fever.

Be sure to have the carbetocin/HSC out and ready to give BEFORE THE BIRTH!



Immediately after birth, check for second baby

Give uterotonic within 1 minute - Misoprostol

Performance Expectation

Safely and effectively give misoprostol within 1 minute after birth of the last baby to prevent bleeding after birth.

Key points

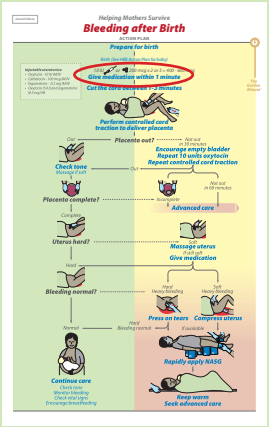
- *Misoprostol is a uterotonic.*
- *It does not need to be kept cold.*
- *Where oxytocin or carbetocin/HSC are not available, use misoprostol.*
- *Check for a second baby before giving the medicine! Give medicine within one minute of birth of the last baby.*
- *Misoprostol is a tablet, and is taken by mouth. Dosage: 400-600 mcg (two to three 200 mcg tablets).*

Knowledge and Skills

Show and tell how to safely give medication.

- Misoprostol is a medication that causes uterine contractions. When the uterus contracts, it separates the placenta from the uterus, then squeezes the blood vessels and stops bleeding.
- Misoprostol can be used where oxytocin or carbetocin are not available, or where the provider is not able to give injections.
- Misoprostol does not need to be refrigerated.
- The correct dose of misoprostol is 400-600 mcg orally – It comes in 200 mcg tablets. You must give 2-3 tablets.
- ***Always check to see if there is another baby before giving misoprostol.*** If this dose of misoprostol is given with a baby in the uterus, it can cause the uterus to contract too strongly which can kill both the woman and her baby.
- ***Give misoprostol within one minute of birth of the last baby.***
- Misoprostol has side effects that do not last long and are not harmful, but the woman should be told what to expect. Side effects include shivering, nausea, diarrhea, and fever.
- Before giving the tablets, tell the woman that you are giving her medicine to reduce bleeding.

Be sure to have the misoprostol out and ready to give BEFORE THE BIRTH!



Immediately after birth, check for second baby

Give uterotonic within 1 minute - Ergometrine or ergometrine/ oxytocin fixed dose

Performance Expectation

Safely and effectively give ergometrine or ergometrine/oxytocin fixed dose within 1 minute after birth of the last baby to prevent bleeding after birth.

Key points

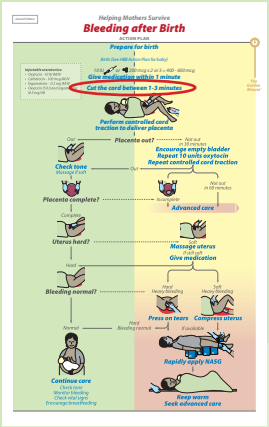
- *Ergometrine is a long-acting uterotonic drug used to prevent and treat PPH. It is also available in a fixed dose combination with oxytocin.*
- *Store any products with ergometrine in a refrigerator at 2-8°C (36 to 46 °F) and protected from light.*
- ***Do not give ergometrine to women with pre-eclampsia, eclampsia or high blood pressure because it increases the risk of convulsions and stroke.***
- *Check for a second baby before giving the medicine! Give medicine within one minute of birth of the last baby.*
- *Dosage - Ergometrine (0.2 mg) IM OR the fixed drug combination of oxytocin and ergometrine (1 mL = 5 IU oxytocin + 0.5 mg ergometrine) IM.*

Knowledge and Skills

Show and tell how to safely give medication.

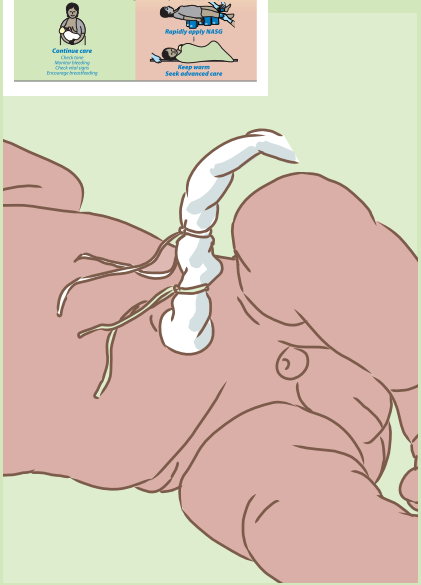
- Ergometrine is a medication that causes uterine contractions. When the uterus contracts, it separates the placenta from the uterus, then squeezes the blood vessels and stops bleeding.
- Ergometrine is more sensitive to heat than oxytocin and is sensitive to light. Store any products with ergometrine in a refrigerator at 2-8°C (36 to 46 °F) and protected from light.
- ***Only use ergometrine or ergometrine / oxytocin fixed dose if oxytocin, carbetocin, or misoprostol are not available.***
- Ergometrine is NOT recommended for labor induction, labor augmentation or treatment of retained placenta.
- The correct dose for ergometrine or ergometrine/oxytocin fixed dose is:
  - Ergometrine (0.2 mg) IM OR
  - The fixed drug combination of oxytocin and ergometrine (1 mL = 5 IU oxytocin + 0.5 mg ergometrine) IM.
- Before injecting ergometrine, check for contraindications: - Pregnancy / 1st and 2nd stages of labor; Pre-eclampsia, eclampsia, hypertension; Allergy
- ***Always check to see if there is another baby before giving ergometrine or ergometrine / oxytocin fixed dose.*** If ergometrine or ergometrine/oxytocin is given with a baby in the uterus, it can cause the uterus to contract too strongly which can kill both the woman and her baby.
- Give ergometrine or ergometrine / oxytocin fixed dose within one minute after birth of the last baby.
- Before giving the injection, tell the woman that you are giving her medicine to reduce bleeding.
- Inform the woman about possible side-effects: Nausea, vomiting, abdominal pain, headache, dizziness, rashes, hypertension, bradycardia, arrhythmias, chest pain.

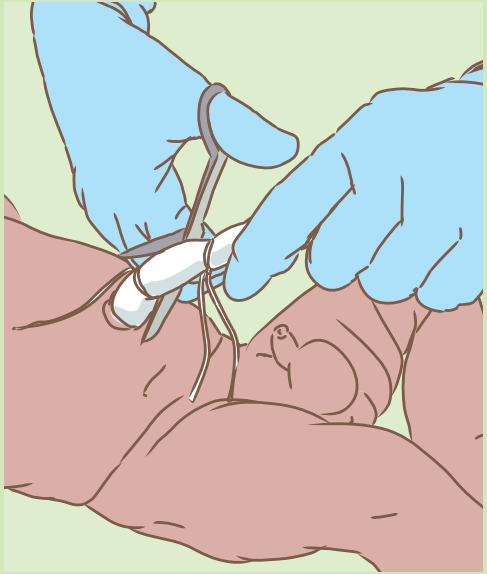
Be sure to have the injection ready to give BEFORE BIRTH!

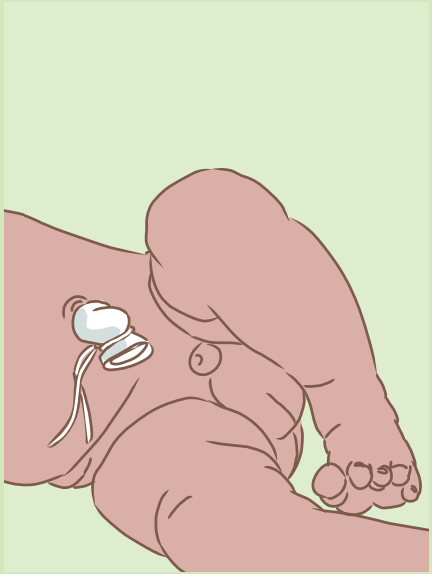


After 1-3 minutes

Clamp or tie and cut the umbilical cord







Performance Expectation

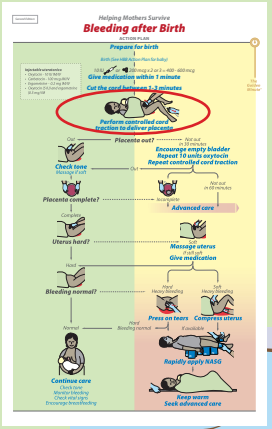
Cut the cord at the right time in a manner that reduces risk of infection to the baby.

Key points

- *If the baby is breathing well, cut the cord between 1 and 3 minutes after birth.*
- *Before cutting the cord, remove your first pair of gloves if doubled gloved, or change gloves.*
- *Place two ties or clamps and cut between them.*

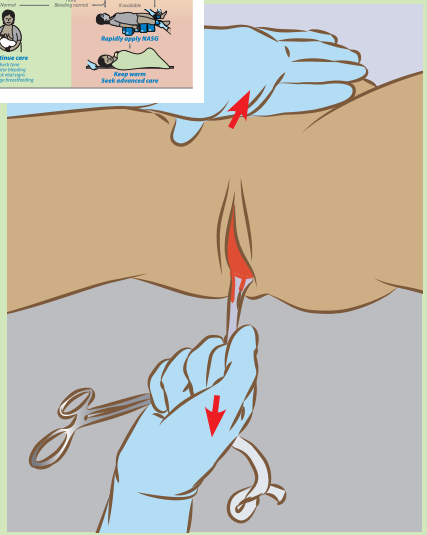
Knowledge and Skills

- Timing of cutting the cord depends on the condition of both woman and baby.
- If both are doing well, cut the cord between one and three minutes after birth. This delay allows time to give medication to prevent bleeding (oxytocin or misoprostol).
- Waiting at least one minute before cutting the cord helps ensure that the baby gets enough red blood cells from the placenta to prevent anemia in the first six months of life.
- If the woman is bleeding heavily or if the baby is not breathing well, cut the cord immediately and call for help.
- Cleanliness is important to prevent infection of the cord. If possible, double glove before birth so that you can remove dirty gloves before you cut the cord. All supplies should be sterile or disinfected.
- To cut the cord, place 2 clamps or ties around the cord. Place the first clamp or tie around the cord about 2 finger-breadths from the baby's abdomen.
- Place another clamp or tie about 5 fingerbreadths from the abdomen. Cut between the clamps or ties.
- When cutting the cord, be sure to shield your face from blood splashing before cutting.

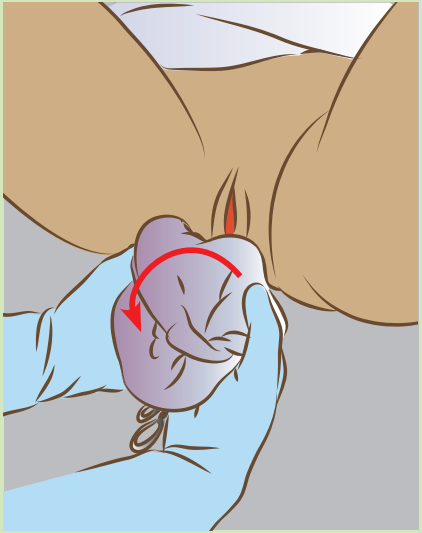


While applying counter-traction

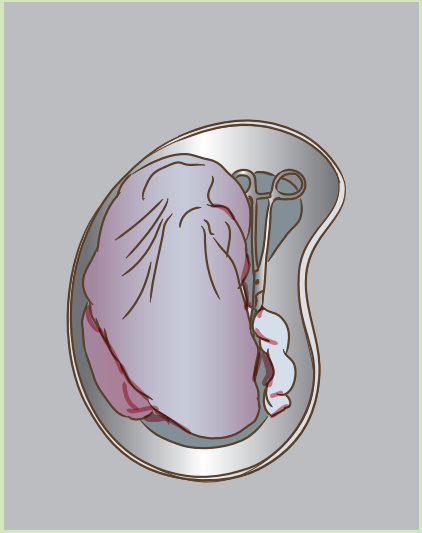
Perform controlled cord traction to deliver placenta



Place one hand on the mother's abdomen, above the pubic bone, while the other holds the clamped cord



Use both hands to catch the placenta, rotating it as it comes out of the vagina



Place the placenta in basin for further examination of completeness

Performance Expectation

Safely provide controlled cord traction.

Key points

- *The placenta usually deliverswithin 10 minutes but it can take up to 1 hour and still be normal.*
- *Performing controlled cord traction to deliver the placenta is the second step of AMTSL and should only be done by skilled birth attendants.*
- *Controlled cord traction speeds delivery of the placenta, however, it can be harmful if not done properly.*
- *Controlled cord traction must be gentle and done only during contractions.*
- *Always stabilize the uterus when providing controlled cord traction.*
- *Never pull too hard on the cord and do not pull if you feel resistance, since you can tear the cord or invert the uterus.*
- *Tissue left inside the uterus can cause hemorrhage and infection.*

Knowledge and Skills

Safely provide controlled cord traction.

Clamp cord close to perineum and wait for contraction.

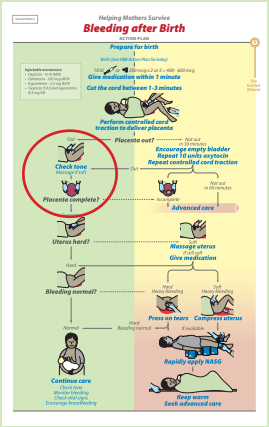
- Watch for a small gush of blood or the cord to get longer; these are signs of a contraction or that the placenta is separating.
- Use one hand to stabilize the uterus by placing it just above the woman's pubic bone and pressing upward to provide counter pressure.
- During the contraction, use the other hand to gently pull down on the cord. Keep counter-pressure on the uterus from above the pubic bone.
- If resistance is felt, stop and try again with the next contraction. DO NOT pull when resistance is felt or when there is no contraction because you can tear the cord or pull the uterus out. This can kill the mother.
- Release traction on the cord between contractions. It may take several contractions to deliver the placenta.
- Continue to provide controlled cord traction during contractions until the placenta appears at the opening of the vagina.

Safely deliver the placenta.

- When the placenta is visible in the vagina, gently lifting the hand holding the cord upward will guide the placenta out.
- As the placenta delivers, hold it with both hands and gently turn the placenta as it delivers. Gentle twisting of the placenta as it delivers helps keep the membranes whole.
- If tissue from the placenta or membranes stays inside the uterus, the mother may bleed too much and can become infected.
- The placenta and membranes should be placed in a bowl/basin to be looked at later. Immediately check the tone of the uterus and massage if soft.

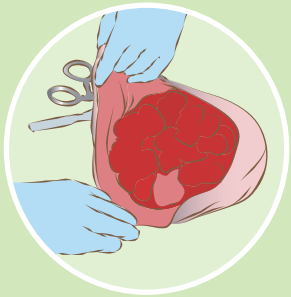
Advanced Care Note

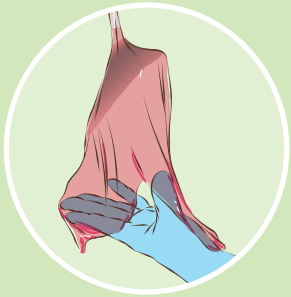
If you have additional training and authorization to provide more advanced care, act within your scope of practice. This may include performing controlled cord traction as described here.



When placenta is out

Check tone
Check placenta for completeness





Performance Expectation

After birth, always check uterine tone and the placenta. Check uterine tone every 15 min for the first 2 hours after birth, and frequently for first 24 hours after birth.

Key points

- *Check the uterus for tone and massage if soft. This is the third step of AMTSL.*
- *Uterine tone can change quickly. Check the uterus every 15 minutes for the first 2 hours. Look for bleeding as you check tone. Recheck often for the first 24 hours.*
- *Ask the woman to tell you if she notices a gush or constant trickle of blood.*
- *After you have checked her uterus, check both sides of the placenta and membranes for completeness.*
- *Tissue left inside the woman can cause hemorrhage and infection.*

Blended Learning

If you can watch videos, watch:

Examining the Placenta.

Knowledge and Skills

Assess the uterus for tone and massage it if it is soft.

- Know the difference between a soft and firm uterus to determine when massage is needed. A firm uterus feels like your forehead. A soft uterus feels like the tip of your nose and needs massage.
- Uterine massage is important, but may be uncomfortable to the woman. Tell her why you are massaging her uterus.
- Check the bladder for fullness if the uterus is not contracting. A full bladder can cause the uterus to soften even if it was hard before.
- Actively monitor uterine tone and bleeding every 15 minutes for the first two hours after birth.
- Teach the woman how to check and massage her own uterus and alert you if she notices a gush of blood or a trickle that does not stop.

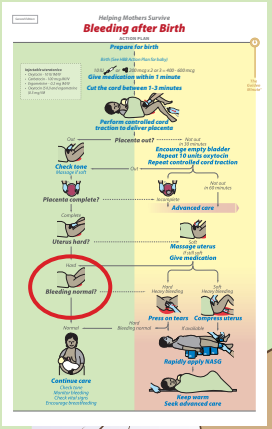
Check the placenta for completeness.

Identify the two sides of the placenta.
The side of the placenta that is against the woman is dark red and meaty looking.
It is made up of lobes. The other side is shiny and grey, covered by membrane.

- When complete, the lobes of the placenta fit together like a puzzle. Cup the placenta in your hands to see if the lobes fit together and none are missing.
- The membranes should also be checked for missing pieces. Hold the placenta upside down and look at the membranes to be sure large pieces are not missing.
- Check for blood vessels trailing off the edge of the placenta as they may indicate that a lobe is still inside.
- When tissue from the placenta or the membranes is left in the uterus, the uterus cannot contract well and the woman may bleed too much.
- If it looks like pieces are missing, check for bleeding and fundal tone and get advanced help.
- If everything is normal, check the perineum for tears.

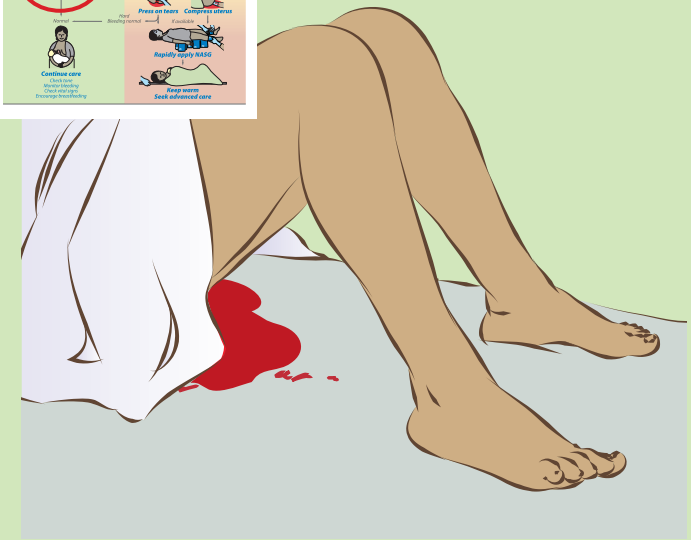
Advanced Care Note

If you have additional training and are authorized to provide more advanced care, act within your scope of practice. This may include catheterizing the mother's bladder if she is unable to empty it.



If uterus hard

Check if bleeding normal



Normal

Not normal

Performance Expectation

Check bleeding every time uterine tone is checked - every 15 min for first 2 hours after birth and frequently in first 24 hours.

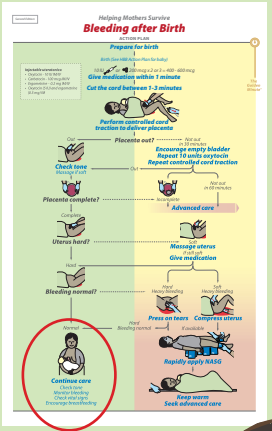
Key points

- *Bleeding can be slow or fast.*
- *Any bleeding that is heavy or does not stop is life- threatening.*
- *Checking and rechecking uterine tone and blood loss are critical for the first two hours.*
- *Have the woman alert you if she notices a gush of blood or a trickle that does not stop.*

Knowledge and Skills

Constantly watch for bleeding after birth.

- Heavy bleeding that pours out and won't stop is obviously life-threatening.
- A smaller stream of bleeding that trickles out but doesn't stop can be life-threatening, too.
- Actively assess the amount of bleeding. Look at the bleeding while checking uterine tone.
- Look for blood on the bed, the mother's clothes, and the floor.
- Check for a full bladder; check and re-check bleeding and uterine tone.
- Now is the time to check for tears.
- After checking for tears, be sure the woman is clean and comfortable.
- If bleeding is more than normal, check uterine tone, check for a full bladder, and check BP and pulse.
- Respond immediately if you think the woman is bleeding too much or you diagnose PPH!!



If bleeding is normal and uterus hard

Continue care for mother and baby

Performance Expectation

If the woman is not bleeding and uterus is contracted, provide high-quality care for her and her baby for 24 hours after birth.

Key points

- *Always keep mother and baby together.*
- *Encourage women to start breastfeeding as soon as possible within the first hour.*
- *Check and re-check the woman and her baby during this important time. This also includes checking the baby's color, breathing and activity .*
- *Check uterine tone and bleeding every 15 minutes for the first two hours after birth.*

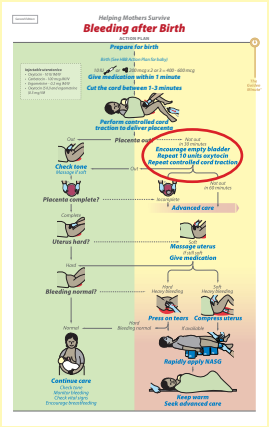
Blended Learning

If you can watch videos, watch:

▶ Managing the third stage of labor.

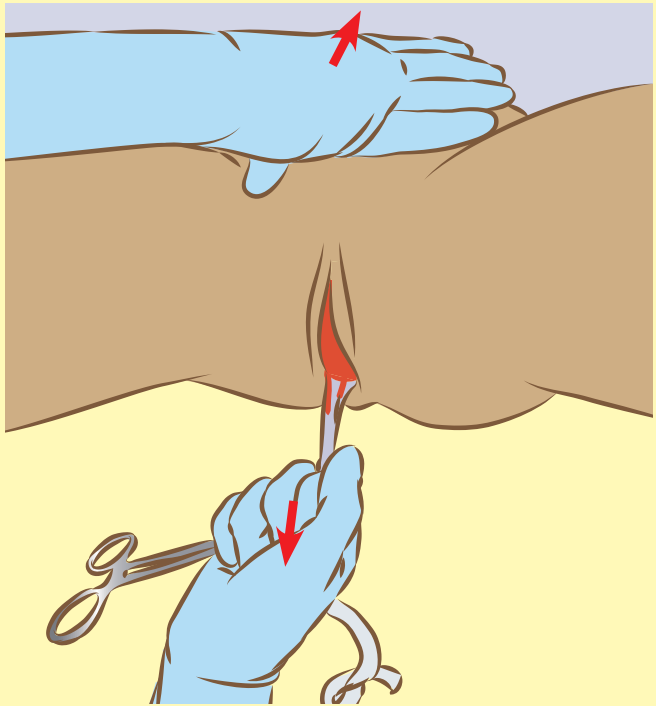
Knowledge and Skills

- Routine care means continued monitoring of both the woman and her baby.
- Keep them both warm and together. If the baby is crying and breathing normally, place the baby against her mother's skin as soon as possible.
- If the woman and baby are healthy, encourage the woman to start breast-feeding as soon as possible within the first hour after birth.
- Encourage the woman to empty her bladder.
- Active decision-making does not end here. A woman and baby who are fine now might have trouble a few minutes later.
- Use the skills you learn here to actively monitor your clients and provide high-quality care.
- Women and babies should remain in facilities for 24 hours following a normal vaginal birth for monitoring, counseling, and recovery.
- Prior to discharge, counsel women about the amount of bleeding to expect, as well as warning signs of excessive bleeding (i.e. bleeding that soaks a pad in less than five minutes).



If placenta is not out in 30 minutes

Encourage empty bladder
Repeat 10 units oxytocin
Repeat controlled cord traction



Performance Expectation

Recognize a retained placenta and take actions to get advanced help.

Key points

- *Remember, the placenta usually delivers within 10 minutes, but can take up to one hour.*
- *If the placenta does not deliver, the uterus cannot contract to stop bleeding and the risk of infection is increased.*
- *Additional oxytocin and continued controlled cord traction may be needed to help the placenta deliver.*
- *If the placenta is not out in one hour OR the mother is bleeding heavily at any time, get advanced help.*

Knowledge and Skills

- Keep track of time since birth.
- Note if the bleeding is normal or heavy.
- Continue controlled cord traction. It may take several contractions for the placenta to deliver.

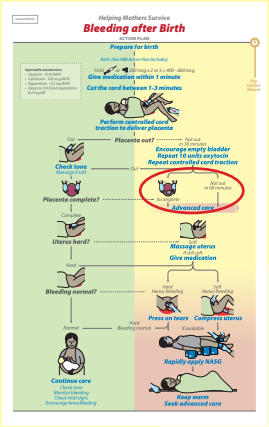
If the placenta does not deliver in 30 minutes, **AND bleeding is normal:**

- Encourage the woman to empty her bladder
- If the placenta does not deliver after this, repeat 10 units of oxytocin. DO NOT repeat misoprostol or carbetocin/HSC. Do not give ergometrine. Before giving the injection, tell the woman that you are giving her medicine to help deliver placenta.
- Help the mother change position and breastfeed. These actions can help the placenta deliver.
- Continue controlled cord traction. It may take several more contractions for the placenta to deliver.
- Provide gentle downward traction only when there is a contraction to help deliver the placenta safely. Pulling harder on the cord or when resistance is felt is dangerous! You can pull the uterus out or tear the cord.
- Remember to stabilize the uterus with one hand above the pubic bone.
- Contact advanced help if the placenta does not deliver in one hour or if the mother is bleeding too much.
- A retained placenta may not cause heavy bleeding at first, but it can be very dangerous for the mother.

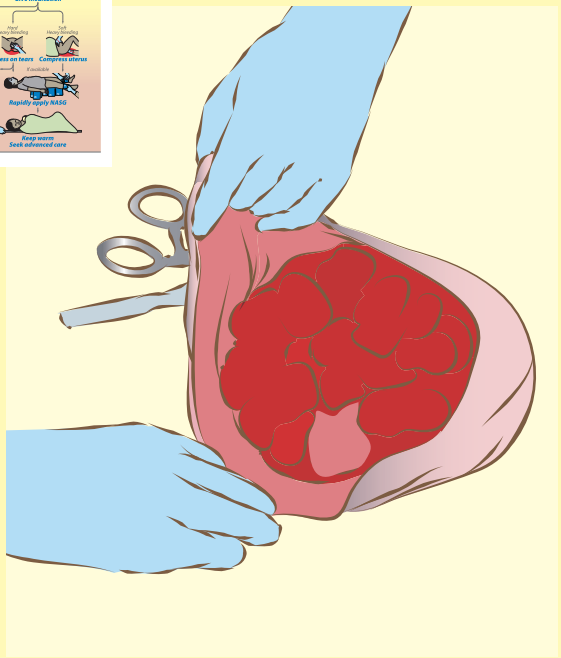
NOTE: Up to this point, we have been reviewing care for women through birth. But sometimes a woman will arrive in your care after she has delivered and already has a retained placenta or PPH. In these cases, you will need adapt your management plan from the point you receive her.

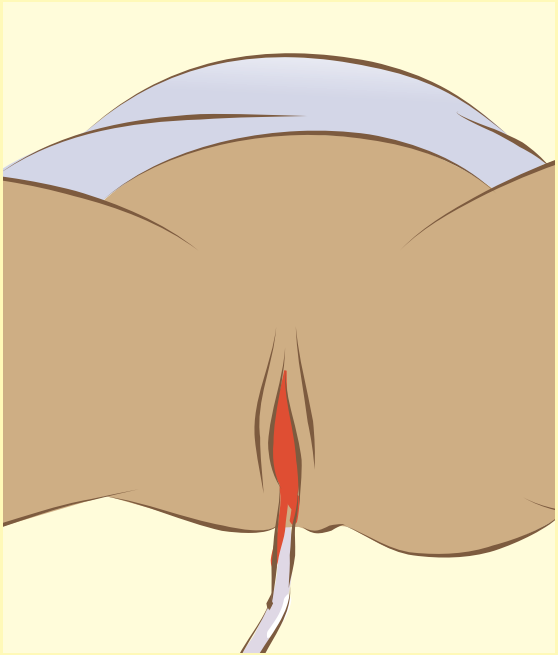
Advanced Care Note

If you have additional training and are authorized to provide more advanced care, act within your scope of practice. This may include repeating controlled cord traction described here, repeating oxytocin or catheterizing the bladder.



If placenta is incomplete or not out...





Performance Expectation

Use active decision-making to identify a retained or incomplete placenta and respond appropriately.

Key points

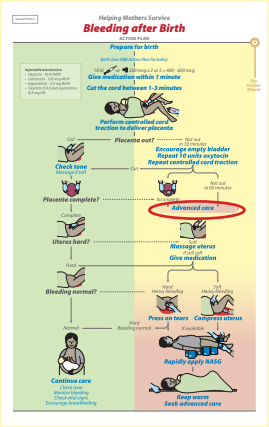
- *A retained placenta or a retained piece of placenta can keep the uterus from contracting. Retained placentas or placental parts increase the risk of bleeding.*
- *A woman with retained placenta after 1 hour OR incomplete placenta at any time will need advanced care to remove the placenta or any pieces that remain in the uterus.*

Knowledge and Skills

- If the mother is bleeding heavily at any time, obtain advanced help immediately whether the placenta is delivered or not.
- Monitor the woman's pulse and blood pressure to watch for shock (pulse ≥110, systolic BP < 90).
- If the placenta is out, inspect it for completeness.
- Get advanced help if the placenta does not deliver in 1 hour, regardless of bleeding.
- A retained placenta may not cause much obvious bleeding, but it can be very dangerous.
- Incomplete placentas can be difficult to identify. Constant, trickling or lots of bright red bleeding can mean that a piece of the placenta remains inside the uterus and is causing bleeding.
- If the uterus rises above the navel, it could mean clots are forming inside.

Advanced Care Note

- If you have additional training and are authorized to provide more advanced care, act within your scope of practice. This may include manual removal of the placenta or or retained pieces. For those participating in Day 2, this skill will be covered.
- If you perform manual removal of placenta, the woman will require antibiotics to reduce the risk of infection.
- Manual removal is very uncomfortable for women and can be dangerous.
- Manual removal should NEVER be attempted without proper training and authorization.



...Seek advanced care

Performance Expectation

Promptly seek advanced care any time a woman or baby's condition worsens beyond your ability to manage it.

Key points

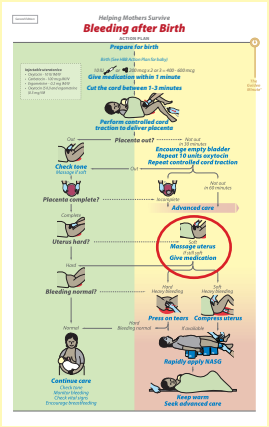
- *Quickly getting advanced care can save a woman or baby's life.*
- *Never leave the woman to get help.*
- *It is better to transport the woman while she is stable than to wait until an emergency. Check the woman for status changes throughout transport.*
- *Keep mother and baby together.*

Knowledge and Skills

- Knowing when and where to get help quickly saves lives.
- Contact information for advanced care providers and local transport should be clearly posted.
- Depending on the provider, advanced care providers may be able to manually remove the placenta, suture deep tears, or even do surgery.
- Send staff or family to get advanced help; NEVER leave the woman.
- If advanced help is not immediately available, the woman should be transported to a higher level of care. A provider should accompany the woman during the referral.

When advanced care is needed:

- Immediately call for help. Send staff or family to get advanced care, if available at your facility. If advanced care is not immediately available at your facility, the woman and her baby should betransported together to a higher level of care.
- Send staff or family to get advanced help; NEVER leave the woman.
- Start an IV infusion with normal saline or Ringers lactate.
- In case of flooding or broken vehicles, your facility should have a backup plan for transportation.
- Notify the referral facility that the woman is coming.
- During transport, check the woman's bleeding and vital signs, and watch for delivery of the placenta.
- If the placenta delivers or is out but not complete, check uterine tone and massage if soft during transport.



If placenta is out and uterus is soft

Massage uterus

If still soft

Repeat medication

Performance Expectation

If the uterus is soft after delivery of placenta, massage uterus and repeat medication.

Key points

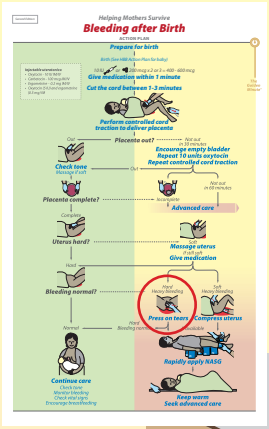
- *A soft uterus or atony is the leading cause of hemorrhage.*
- *Massaging the uterus helps it contract.*
- *The uterus may be contracted, but then get soft. Checking and re-checking is important.*
- *Remember, a full bladder can make the uterus soft.*
- *If uterine massage alone does not help the uterus contract, give a repeated dose of uterotonic, and if there is PPH, give TXA.*
- *If the uterus does not contract with massage and medication, immediate action is needed.*
- *Start an IV infusion.*

Knowledge and Skills

- A uterus that does not stay contracted after the placenta delivers causes the majority of PPH.
- Be sure to check uterine tone and bleeding every 15 minutes for the first two hours after birth, and regularly for the first 24 hours.
- If the uterus is soft, massage the fundus until it contracts.
- Massaging the uterus can also express blood clots which will help the uterus contract and stop bleeding.
- Watch the woman's bleeding while massaging the uterus to see if the bleeding slows as the uterus contracts.
- A full bladder can keep a uterus from contracting. Encourage women to empty their bladders after birth or catheterize if needed.
- If the uterus is still soft, give a second dose of medicine to help it contract and slow or stop bleeding: 10 units oxytocin by IM or IV, as well as 800 mcg misoprostol under the tongue. DO NOT give carbetocin/HSC.
- Regardless of the cause of PPH, if the woman is diagnosed with PPH within 3 hours of birth, give tranexamic acid (TXA) 1g in 10 mL intravenously over 10 minutes. Do not give if birth was more than 3 hours ago! TXA prevents clots from breaking down at the bleeding site. Do not use TXA in women who have had blood clots in pregnancy.
- Give a second dose of TXA if bleeding continues 30 minutes after the first dose OR if bleeding restarts within 24 hours.
- Continue to massage the uterus and watch bleeding to determine if treatment is working.
- If bleeding continues, immediately initiate the transportation plan.
- Monitor for signs of shock (pulse ≥110, Systolic BP < 90).

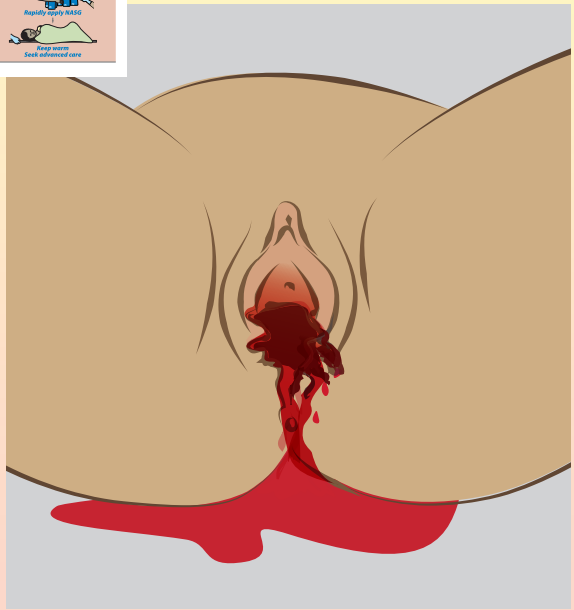
Advanced Care Note

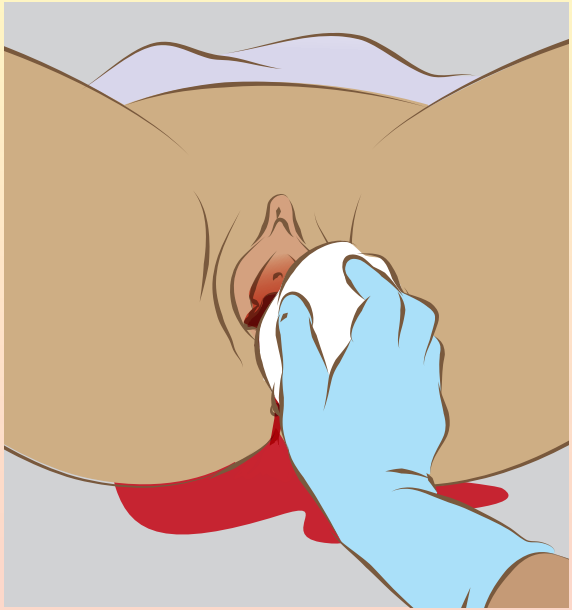
If learners have additional training and authorization, they should act within their scope of practice; this may include starting an IV infusion or giving other medications to stop bleeding.



If bleeding is excessive
but placenta is out and uterus hard

Check for tears and press on visible tears





Performance Expectation

If uterus is contracted but woman is still bleeding heavily, check for tears.

Key points

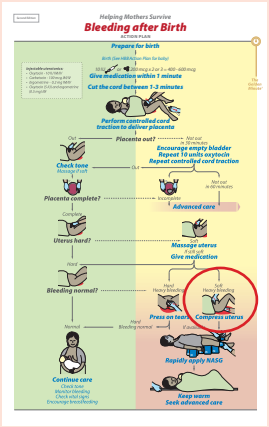
- *Lacerations or tears are the second most common cause of bleeding after birth.*
- *If the uterus is firm and the woman is still bleeding, tears are likely even if they cannot be seen. Get advanced help immediately.*
- *A woman who has had female genital cutting or an episiotomy is at increased risk for bleeding from tears.*

Knowledge and Skills

- Gently wipe away blood to help see tears.
- Lacerations or tears increase the risk of infection for the woman. To reduce risk of infection, maintain clean or sterile technique while checking the woman for tears.
- Gently separate the labia to look for tears.
- Apply firm, steady pressure to tears with a clean or sterile cloth to slow bleeding and prevent infection.
- Continue to apply pressure to tears until the bleeding stops or you've reached advanced care.
- Do not remove soaked cloths, but add additional cloths on top.
- If the bleeding slows or stops, leave the cloth in place and have the woman turn to her side. Her closed legs will keep pressure on the tear.
- A woman may bleed after birth for more than one reason, such as a tear and a soft uterus, so look for other causes.
- If PPH is diagnosed, regardless of cause, give treatment dose of uterotonic: 10 units oxytocin IM or IV OR 800 mcg misoprostol PO. If it is within 3 hours of birth, give 1g TXA in 10 mL over 10 minutes while waiting for advanced care.
- Episiotomies should not be cut on any woman unless there is a need such as if she has had genital cutting, and should only be done by an advanced care provider.
- If the tear is high in the vagina or in the cervix, you may not be able to see it.
- If the uterus is firm and the woman continues to bleed, but you can't see any tears, advanced help or transport is needed.

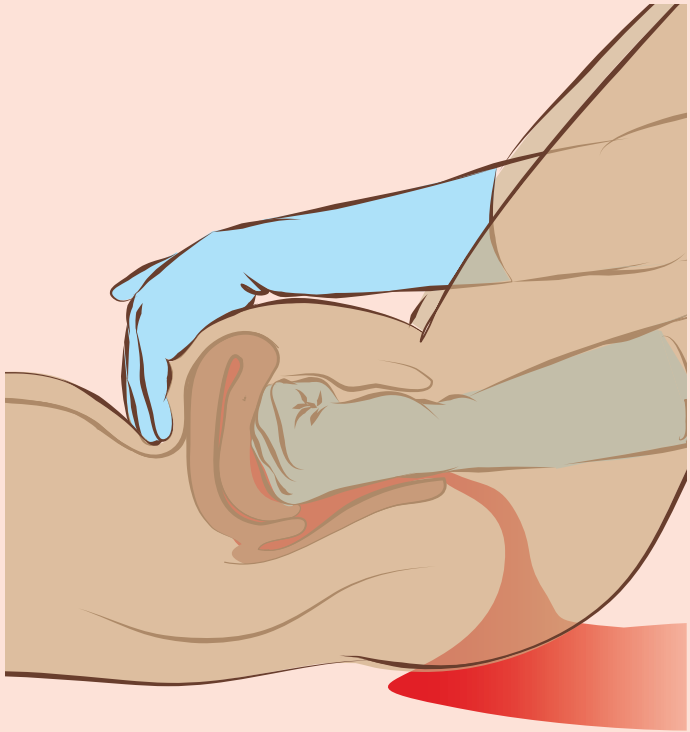
Advanced Care Note

If you have additional training and are authorized to provide more advanced care, act within their scope of practice. This may include repairing lacerations. For those participating in Day 2, this skill will be covered.



If bleeding excessive and uterus is soft after repeated medication and massage

Compress uterus



Performance Expectation

If massage and medication have been repeated but the uterus is still soft and bleeding heavy, perform bimanual uterine compression.

Key points

- *If the uterus does not contract after emptying bladder, repeating medication and massage, squeeze the uterus between your hands (bimanual uterine compression) to stop the bleeding.*
- *Act fast! Do not wait until the woman is in shock to compress the uterus.*
- *Compression may buy time to allow the medication to work and advanced help to arrive.*
- *Putting anything into the vagina after birth can cause an infection. Wash hands thoroughly and wear sterile gloves.*

Knowledge and Skills

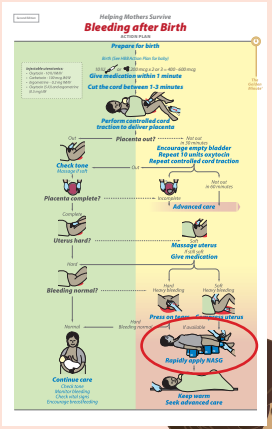
- Bimanual uterine compression applies pressure to the vessels and may help the uterus contract and stop bleeding.
- Make sure the woman has an IV, has received a treatment dose of uterotonic, and has received 1g TXA in 10 mL over 10 minutes.. Remember, the first dose of TXA should only be given within the first three hours of birth.
- Bimanual uterine compression can increase the risk of infection. You must have very clean hands and sterile, long gloves to prevent an infection inside the woman's uterus.
- Women who need this intervention have already lost a lot of blood and are more likely to bleed again. They need to be watched even more closely and for longer than women who do not have this much bleeding.
- If you are not at a facility that can supply blood transfusion, you must transfer the woman.

To perform bimanual compression of the uterus:

- If you are alone, shout for help!
- This is a painful but life-saving measure: it is important to tell the woman what you are about to do and why and that it will hurt.
- Quickly but thoroughly wash hands and put on sterile, long gloves or improvise to use regular gloves to make long gloves.
- Insert a flattened hand in the upper vagina and then make a fist. Put the other hand on the abdomen at the fundus.
- Squeeze the uterus between your two hands until the bleeding has stopped and the uterus is firm OR someone has a uterine balloon tamponade (UBT) prepared and ready to insert. If no UBT is available, wait at least 5 minutes before removing your hand to see if bleeding has slowed.

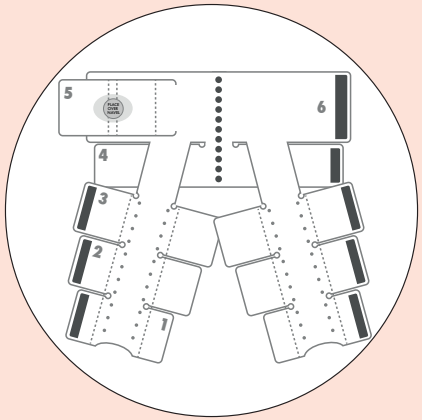
Advanced Care Note

If you have additional training and are authorized to provide more advanced care, act within your scope of practice. This may include insertion of an intrauterine balloon tampanade (UBT). For those participating in Day 2, this skill will be covered.



If available

Rapidly apply NASG



Performance Expectation

Rapidly apply NASG to women with PPH who are at risk for OR are in shock.

Key points

- *The non-pneumatic anti-shock garment (NASG) is a wrap that applies pressure to the lower body and abdomen. It forces blood to the heart, lungs, and brain to stabilize a woman in shock.*
- *Check uterine tone and vital signs; then apply NASG to women with PPH.*
- *Women can then receive ongoing management, be transported, and survive delays in receiving blood and surgery.*
- *The NASG does not treat the source of PPH, but buys time to seek treatment.*

Blended Learning

If you can watch videos, watch:
Using an anti-shock garment.

Knowledge and Skills

Always wear gloves when applying, removing, and cleaning the NASG!

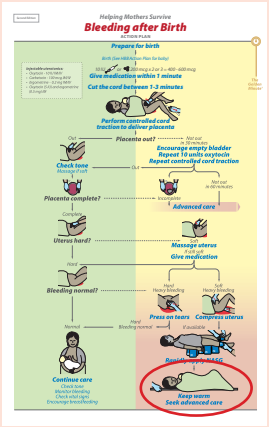
To apply:

- As you explain what you are doing and why, place the woman on open NASG with the top of NASG is at lowest rib and pressure ball over umbilicus.
- Close each segment pair beginning at ankles and ending with 6th segment using 1 OR 2 people. Use as much strength as possible, while ensuring woman can breathe normally.
- To ensure proper fit, place 1-2 fingers under top of each closed segment. Pull up on fabric and let go. You should hear a snapping sound. If no snapping sound is heard, tighten segment.
- Start an IV now (if not already in place) with Ringers lactate or normal saline using a 16 or 18 guage needle.
- **The NASG should remain in place during all procedures (including surgery), and must stay on until the source of bleeding is found and corrected, no matter how long this takes.**
- Monitor for shortness of breath and decreased urine output; signs that the NASG may be too tight. If either occur, loosen 5th & 6th segments.

NOTE: If you suspect shock when a woman arrives in your care, apply the NASG immediately.

To remove:

- Remove NASG if for at least 2 hours :
  - Pulse is 100 bpm or less.
  - Systolic BP is 100 or greater.
  - Bleeding has reduced to normal postpartum rate.
  - Confirm pulse and BP immediately before removal.
- Keep IV running.
- Begin at ankle segments. Open both segments, wait 15 minutes, retake BP and pulse.
- If pulse does not increase more than 20 beats per minute and sBP does not decrease more than 20 mmHg, continue opening each segment pair, waiting 15 minutes and checking vitals before opening next segment.
- If at any time BP or pulse change more than outlined above, rapidly reclose the NASG starting with the last segment opened and continue from top to bottom. Look for source of bleeding.



If emergency transport is needed

Keep warm
Seek advanced care

Performance Expectation

Promptly seek advanced care anytime the condition worsens for the mother or baby beyond your ability to manage it.

Key points

- ***Act fast!*** *If the woman continues to bleed, she may go into shock and die. If you are not in an advanced care facility with access to blood and surgery, emergency transport is necessary.*
- *If bimanual compression was needed to slow bleeding, advanced care is needed even if bleeding has slowed or stopped!*
- *Always keep the mother and baby together and keep them warm during transport.*

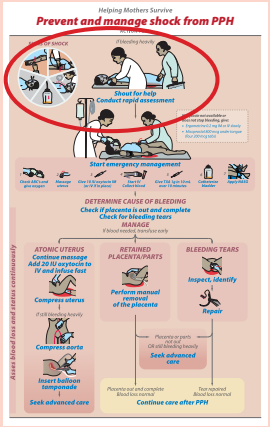
Knowledge and Skills

- Delay in getting advanced care is one of the most common reasons women die from PPH.
- All providers should be able to describe site-specific transportation plans for the next level of care.
- Make contact with the hospital or clinic in advance to reduce waiting when the woman arrives.
- During transport, monitor for any changes in vital signs or bleeding. Continue to massage uterus as needed.
- In case of broken vehicles or challenges with roads, have and use a back up plan.
- Keep mother and baby warm and monitor for any changes in vital signs or bleeding during transport.
- Ensure IV perfusion, treatment dose of uterotonic and TXA have been given prior to transport.
- Continue to massage uterus as needed throughout transport to slow bleeding.

Advanced Care Note

If you have additional training and are authorized to provide more advanced care, consider doing so prior or during transport. This may include:

- IV insertion
- Foley catheterization
- Aortic compression
- Balloon tamponade



If bleeding heavily

Shout for help
Conduct rapid assessment

Performance Expectation

Conduct a rapid assessment of women as they enter your care to rule out an emergency. Continuously assess for signs of shock for women who are bleeding heavily.

Key points

- *Shock occurs when there is inadequate blood flow to vital organs. This can happen from PPH.*
- *Any time a woman experiences heavy bleeding, while addressing cause, watch her closely for signs of shock.*
- *Clinical signs and symptoms are most accurate to determine if she is in shock.*
- *If you suspect shock, act quickly!*

NOTE: A woman may present with heavy bleeding in one of 3 situations: immediately after you've assisted her birth, some time after birth when you assume responsibility for her care, or she may arrive from home bleeding heavily. These assessment and management steps apply in all cases.

Knowledge and Skills

Conduct a rapid assessment to diagnose shock if either of these is present:

- **Fast, weak pulse (≥110 beats per minute),**

  OR
- **Low blood pressure (systolic BP < 90 mmHg).**

Take a "quick pulse": count the heartbeat for 6 seconds and multiply by 10 to get the pulse rate.

A woman with shock may also have:

- Rapid breathing (over 30 breaths per minute or more)
- Pale skin, especially around the inner eyelids, mouth, or palms
- Sweating, or cold and clammy skin
- Changes in mental state: anxiety, confusion, or unconsciousness
- Scanty urine output (less than 30 ml per hour)

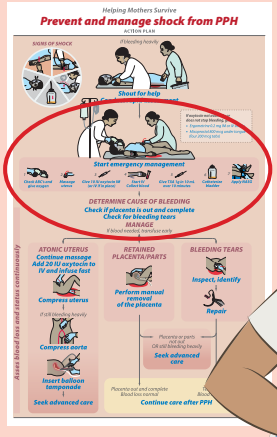
Agitation, confusion or unconsciousness, weak pulse, and very low BP are signs of late shock.

Communicate with the woman and reassure her. Tell her what you are doing and why.

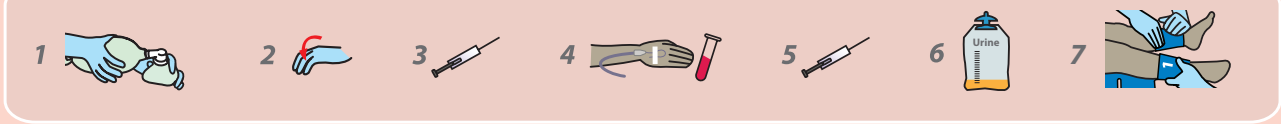
Anticipate shock if a woman has experienced heavy bleeding, whether she delivered at home or in a facility.

Continuously assess for shock. Check and record BP, pulse and blood loss at least every 15 minutes until the woman is stable as indicated by:

- Pulse 90 beats/minute or less
- Systolic BP 100 mmHg or higher
- Urine output 30 ml/hour or more
- Less confusion or anxiety



Start emergency management



Performance Expectation

If a woman is bleeding heavily and is in shock or at risk for shock, immediately mobilize your team, and manage shock caused by PPH according to guidelines

Key points

- *Shock is a life-threatening emergency* ***Act fast!***
- *Coordinated teamwork is essential to manage shock and save lives*

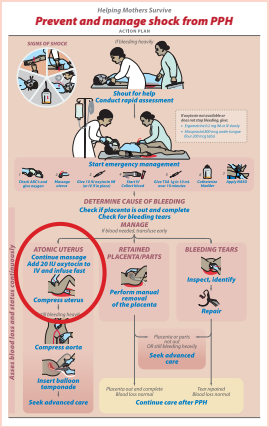
Knowledge and Skills

When shock is suspected, act quickly as a team. Team members can perform several tasks at once as directed by the team leader.

To manage shock:

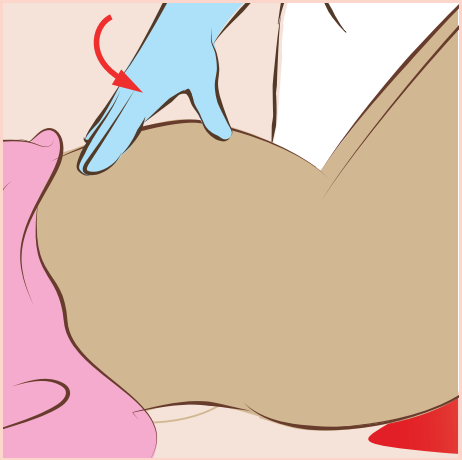
- Shout for help.
- Ensure airway is open and woman is breathing. If not breathing, start resuscitation.
- If breathing, start oxygen at 6 – 8L/minute.
- Check uterine tone. Massage if soft.
- Check vital signs.
- Give oxytocin 10 IU IM.
- Start IV infusion with 16 or 18 gauge needle.
- Collect blood for hemoglobin, cross-matching, and bedside clotting test.
- Give 1g TXA in 10 mL dilutent per IV over 10 minutes. Start TXA within 3 hours of birth. ***Do not give if birth was more than 3 hours ago!***
- Rapidly infuse IV fluids, either Ringers lactate or normal saline.
- Empty bladder. Catheterize if necessary.
- Rapidly apply non-pneumatic anti-shock garment (NASG) if available. Note that NASG may be applied earlier, depending on previous care and management options at your facility.
- If NASG is not available, cover her, keep her warm and elevate her legs.
- Move rapidly to detect cause of bleeding.

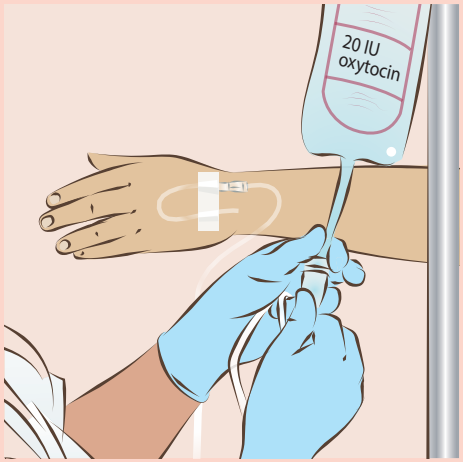
If a woman is severely anemic – hemoglobin below 7 g/dl/ 4.3 mmol/l or hematocrit below 20% – seek advanced care for blood transfusion.

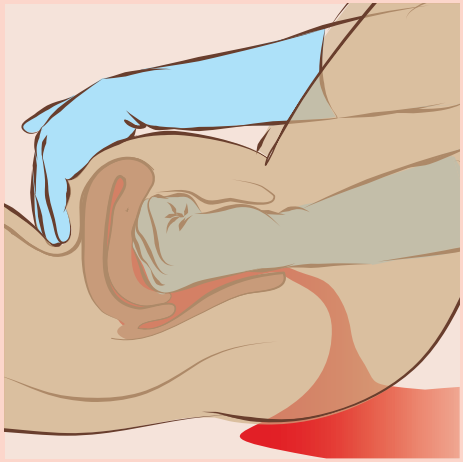


ATONIC UTERUS

Continue massage
Add 20 IU oxytocin to IV and infuse fast
Compress uterus







Performance Expectation

If a woman is still bleeding heaviily from atony and is at risk for or in shock, continue management for atony with drugs and bimanual uterine compression.

Key points

- *An atonic uterus causes the majority of life-threatening bleeding.*
- *Use massage and drugs to contract the uterus to stop bleeding. If these measures do not work, surgery may be required.*
- *Tranexamic acid (TXA) should be given in all cases of PPH. Do NOT give if it has been more than 3 hours since birth.*

Knowledge and Skills

Act fast! For atonic uterus, give the following regardless of AMTSL:

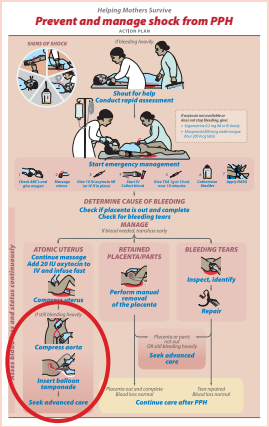
- 10 IU of oxytocin IM
- 20 IU oxytocin in 1 L normal saline or Ringer's lactate by IV infusion as fast as possible. Continue at 20 IU in 1L at 40 drops/minute in second bag. Do not give more than 3 L of IV fluid with oxytocin.
- If IV oxytocin is not immediately available, or fails to stop bleeding:
  - give 0.2 mg ergometrine IM or IV slowly. **Do not give if blood pressure is high, placenta is retained or woman has heart disease!**

  OR
  - 800 mcg (four 200 mcg tabs) of misoprostol under the tongue
- **TXA should also be given quickly and within 3 hours of birth in all cases of PPH, regardless of cause.**
- TXA helps blood clot at the bleeding site (genital tract or placental bed).
  - Adverse events for TXA are rare, but include nausea, diarrhea, or deep vein thrombosis.
  - Give a second dose of TXA if bleeding continues 30 minutes after the first dose OR if bleeding restarts within 24 hours.
- Continue checking uterine tone and bleeding. Massage as needed.

If the woman is still bleeding heavily, perform bimanual compression. This can be performed by one provider while another is providing other PPH interventions and preparing referral.

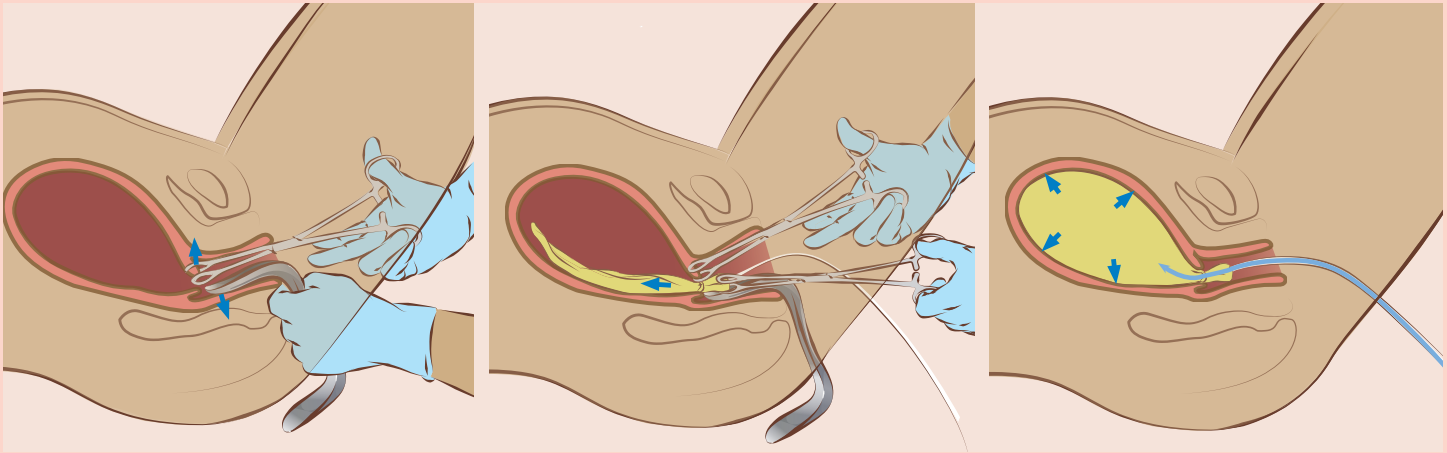
Assess the woman's response to fluids within 30 minutes for these signs of improvement:

- Stabilizing pulse (90 beats/minute or less)
- Increasing systolic BP (100 mmHg or higher)
- Increasing urine output (30 ml/hour or more)
- Less confusion or anxiety
- If condition improves, reduce IV infusion rate to 1 L/six hours.
- If heavy vaginal bleeding continues in a woman with a well-contracted uterus, assess for other causes of shock (e.g., tear or retained tissue) and manage accordingly.
- If unresolved, seek advanced care and transfusion.



If still bleeding heavily

Compress aorta
Insert balloon tamponade
Seek advanced care



Performance Expectation

- *Determine if uterine balloon tamponade (UBT) is right treatment*
- *Properly insert and inflate the tamponade*
- *Closely monitor women with UBTs*
- *Properly remove UBT*

Key points

- *Intrauterine balloon tamponade (UBT) treats PPH due to atony.*
- *UBT reduces the need for surgery and blood transfusion. It can be used during transfer.*
- *Supplies for UBT are low-cost and available and should be in the PPH emergency kit.*
- *Ensure no retained placental pieces or bleeding lacerations before inserting UBT.*

Knowledge and Skills

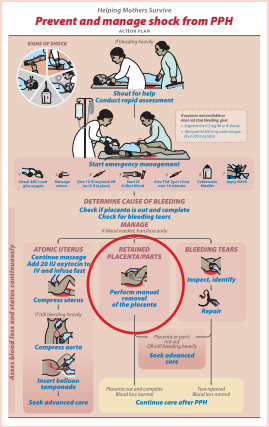
NOTE: Only insert UBT if it is included in national guidelines for management of PPH.

Use these supplies to practice making and inserting UBT and add them to the PPH emergency kit:

- Sterile gloves
- IV infusion bag with saline & IV giving set
- 2 ring forceps & scissors
- Condoms
- Sims speculum
- Foley catheter
- Suture (black silk suture or cord tie)

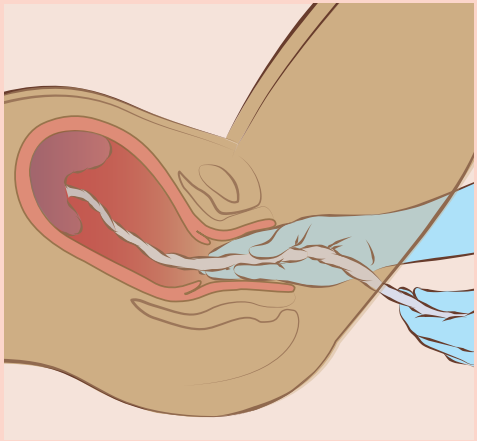
If heavy bleeding due to atony persists despite uterotonics, TXA, massage, and bimanual compression, insert UBT:

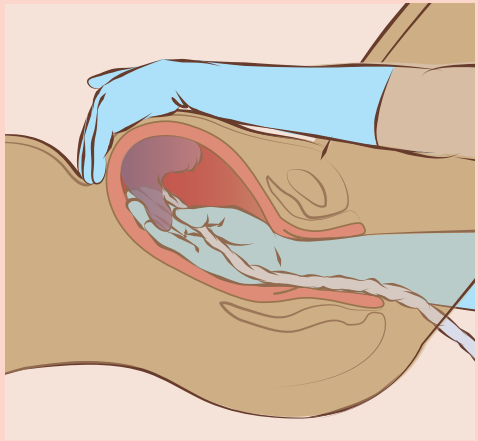
- Before inserting the UBT, ensure no retained placental pieces or bleeding lacerations.
- Prepare UBT: tie condom to foley catheter. Do not inflate catheter balloon.
- Ensure privacy. Tell woman what you will do and why.
- Give a single dose of antibiotics; either 2 g ampicillin IV OR 1 g cefazolin 1V.
- Ensure her bladder is empty.
- Put on personal protective equipment, wash hands, and put on sterile gloves.
- If a helper is providing bimanual uterine compression, have them move to abdominal aortic compression until UBT is placed. Expose cervix with Sims speculum. Hold cervix with forceps. Insert condom and catheter \\ through cervix and high into uterine cavity.
- Inflate UBT: Connect catheter to IV giving set and IV bag. Inflate condom with IV solution (300-500 mL) until bleeding stops.
- Fold and tie the catheter to retain fluid.
- If bleeding is not controlled 15 minutes after insertion, seek advanced surgical care immediately!
- Record insertion time and amount of fluid used.
- Keep UBT in uterus for 12-24 hours once bleeding is controlled and woman is stable.
- When she is stable and at least 12 hours have passed, deflate condom by 200 ml of fluid every hour. Re-inflate if bleeding starts again.
- After removal, monitor closely for the next 6 hours. Record BP, pulse, urine output, pallor, amount of bleeding, and check tone:
  - every 15 minutes for the first 2 hours
  - every 30 minutes for the next 2 hours
  - every hour for the next 2 hours.
- Do not use UBT in case of arterial bleeding, cervical or uterine cancer, danger of uterine rupture, infections, uterine anomalies, or disseminated intravascular coagulation.

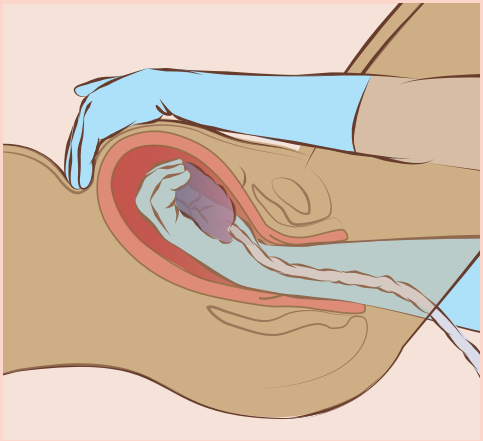


RETAINED PLACENTA OR PARTS

Perform manual removal of the placenta







Performance Expectation

Identify retained placenta or fragments and perform manual removal of the placenta or fragments.

Key points

- *Retained placenta or fragments can cause bleeding and infection.*
- *The uterus cannot contract if it contains the placenta, fragments, or clots.*
- *If the placenta does not deliver in 30 minutes, initiate treatment.*
- *If the placenta fails to deliver within one hour, OR the woman is bleeding heavily, remove placenta manually.* ***Do not delay!***
- *If you cannot remove the placenta or* ***parts, surgery may be needed.***

Knowledge and Skills

If the placenta is not delivered in 30 minutes **and the woman is not bleeding**, ensure that she has an empty bladder, repeat 10 IU oxytocin IM, continue controlled cord traction during contractions, and encourage her to bear down, squat, or breastfeed. **Do NOT repeat misoprostol**!

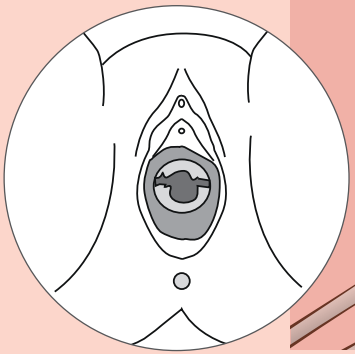
If the woman is bleeding heavily, OR if the placenta is not complete OR treatment at 30 minutes fails to work within one hour of birth, remove placenta and fragments manually.

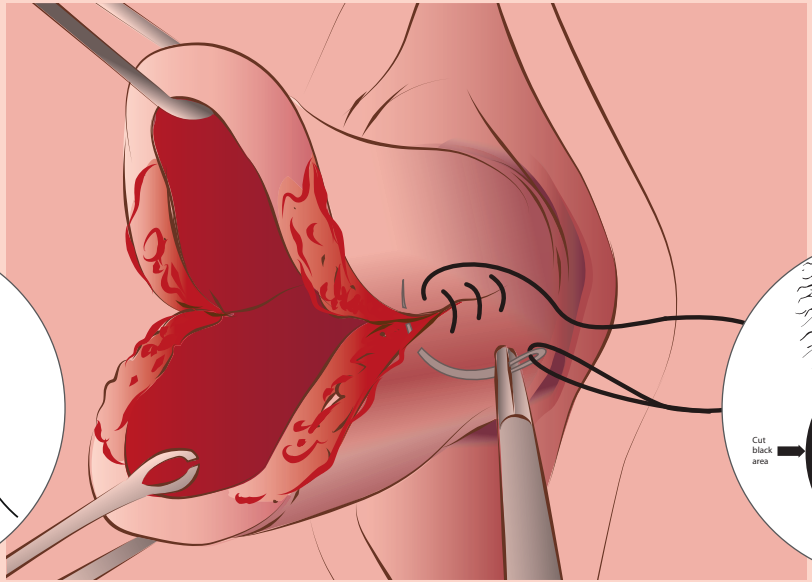
To perform manual removal of placenta:

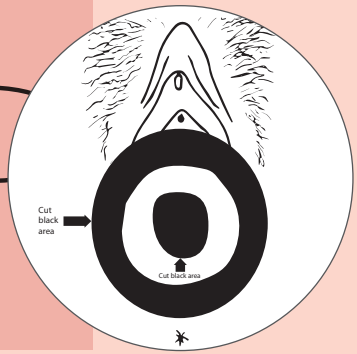
- ☐ Ensure privacy. Tell her what you will do and why.
- ☐ Ask the woman to urinate or catheterize bladder.
- ☐ Start IV infusion.
- ☐ Give diazepam 10 mg IM/IV (if woman is not in shock). Depending on local preference and clinical situation, you may use pethidine or ketamine.
- ☐ Give a single dose of antibiotics: either 2 g ampicillin IV or 1 g cefazolin IV.
- ☐ Put on personal protective equipment, wash hands, and put on long, sterile gloves.
- ☐ Hold umbilical cord with a clamp. Gently pull, using the cord to guide your other hand into uterus.
- ☐ Place fingers into uterus following cord to locate placenta. Identify the rough surface behind the placenta and carefully separate it from the uterine wall by smoothly sweeping fingers back and forth.
- ☐ Withdraw hand, bringing placenta with it and provide counter-traction abdominally.
- ☐ Check uterine tone. Massage if soft.
- ☐ Give oxytocin 20 IU IV in 1 L normal saline at 40 drops/minute.
- ☐ Examine placenta for completeness.
- ☐ Remove gloves and discard. Wash hands.
- ☐ Monitor bleeding, take vital signs, and ensure the uterus is well-contracted (every 15 minutes for two hours, and then every 30 minutes for the next 4 hours).

BLEEDING TEARS

Inspect, identify and repair







Performance Expectation

I dentify tears as the cause of PPH and inspect, identify, and repair deep vaginal and cervical tears.

Key points

- *Tears that cause PPH are most often deep vaginal or cervical tears.*
- *Only tears that are large and bleed persistently need to be repaired.*
- *Bleeding from a tear may ooze slowly, bleed heavily, or spray from an artery.*

Knowledge and Skills

Cervical tears usually occur at 3 and 9 o'clock, using a clock as the reference for the cervix.

Identify and repair tears:

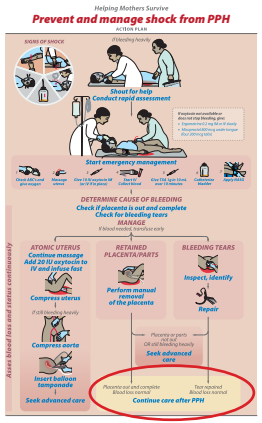
- Ensure privacy and good lighting. Tell the woman what you are doing.
- Ensure the bladder is empty, or catheterize.
- Give IV pethidine and diazepam, or ketamine, if tears are high and extensive (Do not give if woman is in shock).
- Wash hands. Put on sterile gloves.
- Clean perineum, vulva, and vagina with antiseptic solution.
- With gloved hand, separate the labia and examine peri-urethral area, perineum, and vaginal opening. Wrap fingers in a gauze and press on the back wall of the vagina to look deep into the vagina.
- Press against the vaginal wall and move gauze-wrapped fingers up the side wall. Repeat on other side. Move up the vaginal wall to the cervix.
- Have assistant massage uterus and provide fundal pressure to visualize cervix.
- Use sponge forceps to grasp the cervix at 12 o'clock position, and another to grasp the cervix at 3 o'clock. Inspect between the forceps for any tears.
- Then move the first forceps to 6 o'clock and inspect the area between the forceps again for any tears. Continue rotating forceps and inspecting in this manner until the full cervix is inspected and tears are identified.

Repair cervical tears:

- After identifying cervical tear, put both forceps in one hand.
- Use size 0 chromic or polyglycolic sutures. Place first suture above the tear. Close tear with continuous suture.

Repair deep vaginal tears:

- Draw 10 ml of 0.5% lignocaine into syringe. Insert the needle from the bottom and to the side of the tear to the top of the tear. Withdraw plunger to ensure needle is not in a blood vessel. Inject as needle is withdrawn. Wait 2 minutes for effect.
- Place continuous 2-0 chromic or polyglycolic sutures for length of tear., starting just beyond the apex. Close deep space first, then reapproximate vaginal epithelium. Repair in 2 layers if tear is deep.
- Review wound care and hygiene measures.



Continue care after PPH

Performance Expectation

Give ongoing care for women recovering from PPH, and offer appropriate counseling.

Key points

- *Monitor a woman recovering from PPH closely until her condition improves.*
- *Respectful maternal and newborn care and counseling are essential.*
- *Women recovering from PPH may need extra support to initiate and continue breastfeeding.*

Knowledge and Skills

Watch woman closely until she is stable:

- Closely monitor her condition: take vital signs every 15 minutes until she stabilizes.

Once she is stable:

- Adjust IV infusion rate to 1 L in 6 hours.
- Begin decreasing oxygen per local protocol.
- Perform laboratory tests including repeat hemoglobin.

To decide if woman can return home:

- The woman's vital signs, urine output, and mental state must return to normal.
- She must be able to walk around without dizziness and care for herself and her baby.
- If the woman had manual removal of her placenta OR insertion of UBT, watch closely for infection. Continue or begin antibiotics per local protocol and do not send home if she has symptoms of infection.

Discharge instructions after PPH:

- Explain to the woman and her family that she needs rest as she recovers. Teach the warning signs of anemia, increased bleeding, and infection. Tell her to seek care if she has any of these signs.
- If hemoglobin was less than 7 g/dl or 4.3 mmol/l: Give iron tablets by mouth – ferrous sulfate or ferrous fumarate 120 mg. After 3 months, continue supplements with either preparation at 60 mg for 6 more months. Give folic acid tablets by mouth, 400 mcg once daily for 9 months.
- If hemoglobin is 7–11 g/dl (4.3 to 6.8 mmol/l): Give ferrous sulfate or ferrous fumarate 60 mg plus folic acid 400 mcg by mouth once daily for 6 months.
- Provide all other routine postpartum care instructions and family planning counseling.
- Advise her about her diet. It should include iron-rich foods such as meat/poultry/fish, groundnuts, legumes, beans, eggs, dark green, and leafy vegetables.
- Have woman follow up for care in 48 hours, 10 days and again in 6 weeks.
- If woman has tears, teach her to wash her perineum at least twice a day (always after bowel movements), change pad frequently, and wash hands after self-care.

PEER PRACTICE:
Instructions for practice and quality improvement activities after training

What is "continued practice" and why is it important?
Training alone is not enough to improve care. We need to add regular practice and other activities to reinforce new knowledge and skills. Practice also develops skills and improves teamwork and clinical decision-making.

Who helps you practice?
One or two people from your facility will be asked to coordinate practice sessions. The coordinator will remind you to practice and will guide the sessions. She/he is a colleague who has learned how to support these activities. Remember though, you and your peers can practice without a coordinator if you don't have one or they are not available.

Skills practice objectives
The objectives of each session link to key learning objectives. Skills practice will help you refine your skills, especially for skills that are not used often. During all sessions, demonstrate respectful care, good teamwork, and communication.

Session preparation
Each session plan includes preparation and a list of items needed. Please review the session plans and answer section (page 66) in advance. The answer section includes additional important facilitation guidance. Practice coordinators are responsible for ensuring that everything is ready. Session plans also include instruction about how to run the session. You will need at least two Provider's Guides (PG) for reference and the Action Plans. Coordinators will coach as needed in a friendly, helpful manner.

Simulating care with skills practice, role plays, and drills
To help practice skills and clinical decision making, skills practice, role plays and drills are used. When conducting these activities, coordinators will:

- Establish a safe learning environment
- Run the activity
- Conduct organized debrief
- Support discussion to improve learning
- Identify and explore gaps
- Help providers transfer what they learned into clinical practice

Debrief
During debrief, coordinators guide providers to analyze how they performed individually and as a team. This gives everyone the chance to learn by carefully reviewing what happened. Coordinators and providers should be constructive and avoid embarrassing each other. The goal is self-reflection and team improvement.

Session 1
Active Management of Third Stage of Labor (AMTSL) Role play

20 minutes per provider

Read objectives aloud:
- Perform AMSTL to standard.
- Communicate completely, effectively, and respectfully.
- Ensure referral plan is posted.

Preparation:
- Set out everything in advance.
- Have the referral transport plan and contact information available
- Download the BABC Chapter Book onto the computer.

Materials:
- Action Plan
- Computer and projector / BABC Chapter Book.
- Open to PG page 9 and gather all supplies in the equipment list.

Activity: Watch the video ⊙ Managing the third stage of labor. **Coordinator should explain that only oxytocin and misoprostol are discussed but carbetocin, ergometrine, and ergometrine/oxytocin fixed dose can also be used.**

Activity: Role play with 1 or 2 providers and 1 coordinator.

Coordinator should:
- Wear simulator with baby on stomach and cord still attached. Start with blood tank off.
- Coordinator acts as a "client" and says, "You have just delivered this baby. When I say begin, care for me as you would a woman who has just given birth under your care."
- When you tell them to begin, have the baby "cry" and open blood tank to normal once placenta delivers. Turn blood tank off once provider has given appropriate assessment of uterine tone.
- Assess providers and debrief after each provider has practiced (assessment and debrief guidance in "Answers" section, PG page 70)

Referral planning:
- For facilities that refer to another facility for complications, review the referral plan. Be sure the plan is posted in a visible place (near patient care) with contact numbers for the referral hospital and transportation. Consider programming contact numbers into staff and/or facility mobile phones. Ensure phones are pre-loaded with data and that staff document all communications made. If there is no transportation plan posted, schedule a meeting to draft and post it.

Session 2
Retained Placenta Role play

10 minutes per provider

Read objectives aloud:
- Correctly manage retained placenta

Materials & Preparation:
- Same as session 1

Activity: Watch video ⊙ Examining the Placenta. **Coordinator should explain the importance of carefully examining the placenta immediately after birth and any time the woman is bleeding too much.**

Activity: Role play with 1 or 2 providers and 1 coordinator.

Coordinator should:
- Wear simulator with baby on the stomach and cord still attached.
- Coordinator acts as "client" and says, "You have delivered my healthy baby girl and given me 10 IU oxytocin IM within one minute and cut the cord at 2 minutes. Please care for me as you normally would. I'm beginning to feel another cramp!"

- Allow providers to care for you for about 5 minutes (or two simulated contractions). Then, tell providers that 30 minutes have passed.
- Assess providers and debrief after each provider has practiced (assessment and debrief guidance in "Answers" section, PG page 70)

Session 3
Skills Practice and game, NASG

10 minutes per provider pair

Note: This session is only for those facilities with access to NASGs. If you do not have an NASG, skip this session and proceed with Session 4.

Read objectives aloud:
- Appropriately apply NASG for women in shock or who may be developing shock.
- Verbalize safe removal of NASG.
- Communicate completely, effectively, and respectfully.

Materials and Preparation:
Set out everything in advance:
- Computer and projector / BABC Chapter Book.
- Personal protective equipment (PPE)
- BP machine / Stethoscope / Timer
- NASG

Activity: Watch the video ▶ Using an anti-shock garment .

Activity: Recruit a volunteer to act as the "client" if practicing with only 1 provider.

- Initial practice with 1 - 2 providers and 1 coordinator. Each provider should have an opportunity to be team lead in applying and removing the NASG.
- Assess providers and debrief after each provider has practiced (assessment and debrief guidance in "Answers" section, PG page 70).
- After initial practice, providers can continue with a timed "game." Then, coordinator should say, "Now we are going to see who can put on the NASG the fastest. The team that CORRECTLY applies NASG and follows all the steps in the shortest amount of time wins a certificate." Peer practice coordinator is time keeper and observes team performance. Determine who correctly applied the NASG the fastest. Award Speedy Queen or King certificate.

Session 4
PPH Drill

15-25 minutes for the team

Read objectives aloud:
- Correctly manage PPH from atony.
- Materials set out in advance:
- Simulator
- Delivery supplies from PG page 9

Note: ensure materials are available but do not set them up in advance

Preparation:
This is a "surprise" drill that coordinator will plan in advance with facility management. Practice with 1 coordinator in teams that mirror typical staffing. Materials available during the drill should be those typically found in facility. Session will be 10 min longer if using NASG.

Activity:
Coordinator should:
- Wear simulator with baby and placenta delivered, cervical ribbon tightened, and uterus soft.
- Coordinator acts as "client" and says, "I am Mrs. D who delivered normally and received 10 IU oxytocin within 1 minute of birth. Now, 10 minutes later, you have delivered my placenta. Begin to care for

me as you normally would. "When you begin, open blood tank.
- Assess providers and debrief after drill (assessment and debrief guidance in "Answers" section, PG page 71.)

Note: Continue with Session 5 – Session 10 only if providers have completed Day 2.

Session 5
Shock management Drill

20 minutes

Read objectives aloud:
- Appropriately manage shock caused by PPH
- Communicate completely, effectively, and respectfully to the woman and the team

Materials:
- Shock Management Action Plan
- Simulator
- PPE
- BP machine
- Stethoscope
- IV infusion equipment
- Oxygen cylinder, mask, and tubing
- Syringes and uterotonic drugs
- HLD or sterile surgical gloves
- Urinary catheter and bag
- Blanket
- NASG (if available)

Note: Ensure materials are available, but do not set them up in advance.

Preparation:
- This is a "surprise" drill that coordinator will plan in advance with facility management. Practice with 1 coordinator in teams that mirror typical staffing. Materials available during the drill should be those typically found in facility. Coordinator wears simulator.

Activity:
Coordinator should:

- Set up simulator without the baby or the placenta. Start with blood tank open, and cervical ribbon tightened.
- Coordinator acts as the "client" and says, "I am Mary, and I just had my ninth baby at your facility. The delivery was normal and you correctly provided AMTSL. After my placenta delivered 15 minutes ago, my uterus did not contract. You estimate my blood loss is 500 mL. I am not feeling well."
- Assess providers and debrief after drill (assessment and debrief guidance in "Answers" section, PG page 71-72.)

Session 6
Preparing Intrauterine Balloon Tamponade (UBT) Kits with Condoms

10 minutes with discussion
(may be combined with Session 7)

Read objectives aloud:
- Assemble UBT kit with condoms

Materials & Preparation:
- Computer and projector / BABC Chapter Book.
- Ensure materials listed on PG page 57 are available but do not set them up in advance. Find an airtight bag or box for the kit. Sterile instruments will also be needed for UBT insertion, but are not part of the kit since they are used frequently for other purposes.

Activity: Watch the video ▶ UBT .

Activity: Assembly of the UBT kit
- Ask the providers to find all contents required for the UBT kit and place in the bag or box. Label the container as "uterine balloon tamponade" and list contents on label.
- Discuss after kits are assembled (guidance in "Answers" section, PG page 72.)

Session 7
Skills Practice, UBT Insertion
20 minutes per learner

Read objectives aloud:
- Demonstrate proper technique for inserting UBT.
- Verbalize how to assess that UBT is properly placed and how and when to remove it.
- Ensure supplies to assemble 2 UBT kits to be available in emergency kit.

Materials & Preparation:
Coordinator should be competent in UBT insertion. If not, invite most expert person at facility to assist. Prepare uterine simulator in advance or use 500cc water bottle. Gather all instruments and materials listed on PG page 57.

Activity:
- Practice with up to 4 providers and 1 coordinator. Activity should be conducted in pairs. Orient providers to simulator and materials on a table.
- Ask providers to demonstrate proper UBT insertion technique. Before beginning, remind providers that it is safe to pause and ask questions so that they can practice correct actions.
- Observe learners practicing and provide supportive coaching, as needed. Debrief with learners immediately after practice to answer questions and share feedback.
- Be sure to restock kits and decide who will check the trolley weekly to ensure there are at least 2 kits available. Keep kits in visible, accessible location. Assess providers and debrief after each provider has practiced (assessment and debrief guidance in "Answers" section, PG page 72.)

Session 8
Skills Practice, Manual Removal of Placenta
10 minutes per learner

Read objectives aloud:
- Identify retained placenta
- Perform manual removal of the placenta.

Materials:
- Computer and projector / BABC Chapter Book
- Action Plans
- Simulator
- Soap or alcohol hand rub, gloves, long gloves, PPE for provider
- IV infusion equipment
- Medication (diazepam, ampicillin and metronidazole), Syringes and vials
- Urinary catheter and bag

Preparation:
- Set out everything in advance of activity. Have the Action Plans, Flipbook, and Provider's Guide available for reference.

Activity: Watch the video ▶ Manual removal of the placenta.

Activity: Manual removal of the placenta
- Practice with up to 4 providers and 1 coordinator. Activity should be conducted in pairs.

Coordinator should:
- Wear the simulator with the baby delivered, and placenta undelivered.
- Coordinator acts as the "client" and says, "Today we are going to simulate how to perform manual removal of placenta." Do not tell learners how the activity will proceed.
- Then say, "I received 10 IU of oxytocin within 1 minute of delivery. At 30 min, I emptied my bladder and received another 10 IU of oxytocin. CCT failed to deliver my placenta. It is now 60 minutes after delivery. Begin to care for me as you normally would."
- Providers take turns demonstrating. Stop and coach as needed so they do not continue incorrect actions.
- Assess providers and debrief after each provider has practiced (assessment and

debrief guidance in "Answers" section, PG page 72-73)

Session 9
Skills practice, Cervical Laceration Requiring Repair

15 - 20 minutes

Read objectives aloud:

- Inspect, identify, and repair cervical lacerations

Materials:

- Computer and projector / BABC Chapter Book
- Foam block simulator or rolled towel inserted into simulator (1 per learner)
- Good light source
- Black markers (1 per learner)
- Box cutters/Exacto knives
- Tape (if using towels)
- Antiseptic solution
- Sterile gloves
- Suture kits (2-0 absorbable suture with needle attached, needle holder, pick-ups/ tissue forceps)
- Sponge forceps
- Scissors
- 0.5% or 1% lignocaine, syringe and needle
- Sterile gauze

Preparation:

- Coordinator should be competent in suturing. If not, invite most expert person at facility to assist.
- Set out everything in advance. Prepare foam simulator or rolled towel according to guidance on page 74 of this PG.

Activity: Watch the video ▶ Cervical tears.

Activity: Practice repair of cervical tears

- Practice with up to 4 providers and 1 coordinator. Activity should be conducted in pairs.
- Orient providers to simulator and materials on a table.
- Ask providers to demonstrate proper cervical laceration repair technique. Before beginning, remind providers that it is safe to pause and ask questions so that they can practice correct actions.
- Providers practice on individual towels or foam blocks. If foam is used, each "face" of can be used, so repeat practice multiple times. Each towel has two 'sides" but each can be reused.
- Assess providers and debrief after each provider has practiced (assessment and debrief guidance in "Answers" section, PG page 73.)

Session 10
Integrated Drill

20 – 25 minutes per team

Read objectives aloud:

- Provide quality care for women in shock
- Reinforce team roles during an emergency

Preparation:

This is a "surprise" drill that coordinator will plan in advance with facility management. Practice with 1 coordinator in teams that mirror typical staffing. Materials available during the drill should be those typically found in facility. Session will be 10 min longer if using NASG.

Activity:

- Coordinator wears simulator and acts as a "client". Set up simulator without baby or placenta. Start with blood tank open, and cervical ribbon closed around the cervix.
- Coordinator acts as the "client" and says, "I am 21 years old. I just had my second baby at home so quickly that I wasn't able to have anyone with me but my mother. Everything seemed normal until the placenta delivered about 2 hours ago and I started to bleed heavily. I now feel weak and confused. My mother brought me here because the bleeding will not stop. Please help me!" Assess providers and debrief after drill (assessment and debrief guidance in "Answers" section, PG page 69.)

SESSION ANSWERS

Session 1: AMTSL

Notice whether each provider:

- Dries and assesses baby for breathing
- Checks for second baby
- Gives uterotonic within 1 minute of delivery
- While awaiting delivery of the placenta, removes first pair of gloves if double gloved, or changes gloves
- Cuts cord between 1-3 minutes after birth
- Correctly performs controlled cord traction with counter traction (only during contractions)
- After placenta delivers, checks uterine tone and massages if needed
- Checks placenta for completeness
- Checks bleeding
- Communicates respectfully throughout

Coordinator should ask during debrief:

- How do you think it went? How did you feel?
- Regarding assessment, what information did you gather and what else might you ask/assess?
- What did you do? Why?
- Do we routinely practice AMTSL as we learned in BABC? If not, why? How can we encourage AMTSL at all births?
- What is something you learned that you might use with a real client? What could be improved?
- Is our oxytocin supply kept cool to preserve drug quality?

Session 2: Retained Placenta

Coordinator guidance during activity:
Do not release the placenta during first 5 minutes/first two contractions. Afterwards, say, "it has been 30 minutes", **release placenta only if providers repeat oxytocin.** Keep blood tank off.

Notice whether provider:

- Encourages woman to empty bladder, repeat oxytocin only (not misoprostol or any other drug) and repeat CCT
- Because woman is not bleeding, waits another 30 minutes and notifies advanced care
- Delivers placenta appropriately
- Checks uterine tone and massages if soft
- Checks placenta for completeness
- Checks bleeding
- Communicates respectfully throughout

Coordinator should ask during debrief:

- How do you think it went? How did you feel?
- Regarding assessment, what information did you gather and what else might you ask/assess?
- What did you do? Why?
- What is something you learned that you might use with a real client? What could be improved?

Session 3: NASG

During application and removal, notice whether provider:

- Places woman correctly on open NASG with top of NASG at lowest rib and pressure ball over umbilicus.
- Closes ankle segment pair. Either one provider closes both sides – or, if working in pairs, one provider closes one ankle segment and the other provider closes the other segment. After closing, checks if the NASG is tight with "snap" test.
- Continues to close segment pairs from segment 2 to 6 (pressure ball over umbilicus). Checks tightness after closing each segment. Assesses that woman can breathe normally. If not, then provider loosens the 5th and 6th segments. **When doing the NASG timed test, stop timer here.**

After NASG is properly applied during initial practice, provider verbalizes when and how

to remove NASG. Notice whether they:

- Remove after source of bleeding has been found and resolved, pulse has returned to 100 bpm or less, sBP returned to 100 or more, and bleeding reduced to normal postpartum rate.
- To remove NASG, begin at ankle segments. Open both ankle segments, wait 15 min, retake BP and pulse. If pulse does not increase more than 20 beats per minute and sBP does not decrease more than 20 mmHg, continue to open each segment pair, waiting 15 min and checking vitals before opening next segment.
- Communicates respectfully with the woman throughout.

Coordinator should ask during debrief:
How do you think it went? How did you feel?
What did you do and why?
What is something you learned that you might use with a real client?
What could be improved?

Session 4: PPH Drill

Coordinator guidance during activity:
Make the uterus soft. Open the blood tank for heavy blood loss. Firm uterus and slow bleeding only when uterotonic is repeated. Keep firm for about 10 seconds then make it soft and open blood tank again until they perform bimanual uterine compression.

Notice whether providers perform the following:

- Shout for help and organize staff
- Check tone and bleeding
- Massage soft uterus
- When bleeding continues, start IV, give second dose of uterotonic (oxytocin 10 IU IM or misoprostol 800 mcg PO) and 1g TXA in 10 mL IV over 10 minutes.
- Continue massage and assess bleeding
- Check if placenta is complete
- Send someone to arrange transport
- Inform woman of heavy bleeding and need for bimanual uterine compression
  - Wash hands and put on sterile long gloves OR improvises
  - Gently inserts hand into vagina. Moves hand to back of vagina in front of cervix. Places other hand on woman's abdomen and squeezes uterus between hand and fist
  - When uterus starts to contract and bleeding stops (at least 5 minutes) slowly releases pressure from both hands
- If not at advanced care facility, call for transport.
  - While preparing for transfer, apply NASG if available.
- If at an advanced care facility, ensure close monitoring
- Communicate respectfully throughout

Coordinator should ask during debrief:

- How do you think it went? How did you feel?
- How did communication with both the team and the woman look?
- What did you do and why?
- What is something you learned that you might use with a real client? What could be improved?
- Who is authorized to perform bimanual compression in your facility?

Session 5: Shock Drill

Coordinator guidance during activity:
Close blood tank and contract uterus only after IV fluid and oxytocin are being infused.

Notice whether providers perform the following:

- Shouts for help and organize staff
- Ensure airway is open and woman is breathing
- Give oxygen if available
- Check uterus and massage if soft, and check vital signs (if checked, coordinator states that BP is 88/52 and pulse is 110).
- Repeat 10 IU oxytocin IM
- Give 1g TXA in 10 mL IV over 10 minutes.
- Start IV infusion
- Collect blood for hemoglobin, and cross-matching.

- Give 1g TXA in 10 mL IV over 10 minutes.
- Rapidly infuse IV fluids containing 20IU oxytocin (1 L per 15 to 20 min)
- Insert Foley catheter
- If NASGs are used here, providers get NASG and say that it will be applied.
- Correctly apply NASG
- If no NASG, ensure warmth with blanket even while assessing bleeding.

Coordinator turns off blood tank to stop bleeding

- Verbalize findings to team and woman. Reassesse condition every 15 minutes.
- Communicate respectfully with the woman throughout.
- If providers reassess vital signs after appropriate management, "client" should tell them:
  - BP is 100/60
  - Pulse is 92

Coordinator should ask during debrief:

- How do you think it went? How did you feel?
- How did communication with both the team and the woman look?
- What did you do and why?
- What is something you learned that you might use with a real client? What could be improved?

Session 6: UBT Assembly

Coordinator should ask during discussion:

- If provider(s) identifies a stock-out of any items, discuss how to fix the problem. Are stock-outs common?
- Are there frequently shortages of certain items?
- Are certain items stored in other units?
- Brainstorm about how to resolve these bottlenecks. Then discuss how the team will manage replacement once the pre-assembled kit(s) have been used. Identify a person who will assume this responsibility as part of ensuring the PPH emergency tray or trolley is well stocked.

Session 7: UBT Practice

Notice whether providers:

- Tie condom to catheter. Do not inflate the catheter balloon.
- Expose "cervical opening" with speculum.
- Hold "cervix" with forceps.
- Insert condom and catheter high into the "uterine cavity" past "cervical canal and internal os"
- Inflate UBT by connecting open end of catheter to giving set connected to infusion bag. Inflate condom with water or saline to about 300 – 500 ml. Providers should verbalize that inflation should stop when bleeding stops.
- Fold and tie the catheter.

Coordinator should ask during debrief:

- What is something you learned that you might use with a real client?
- What would you do next?
- Give oxytocin 20 IU in 1L IV fluids at 40 drops/min. Monitor blood loss, vital signs, uterine tone, and urine output.
- When would you remove the UBT?
- Remove UBT after 12 – 24 hours if bleeding stopped and woman is stable, by letting out 50-100 ml of saline out of condom every hour.

Session 8: Manual Removal of Placenta Practice

Notice whether providers:

- Inform woman about what will be done and why.
- Start IV. Give diazepam 5 g IV.
- Give ampicillin 2 gm and metronidazole 500 mg IV.
- Put on PPE, wash hands, put on long, sterile gloves or improvise with two pairs of regular sterile gloves.
- Hold umbilical cord with a clamp and pull gently, using the cord to guide hand into the uterus.

- Place fingers of one hand into uterus to find edge of placenta. Move lateral aspect of hand back and forth in a smooth "sweeping" motion until placenta separates from uterine wall.
- Withdraw hand, bringing placenta with it. Provide counter-traction abdominally.
- Give 20 IU IV in 1 L normal saline at 40 drops/minute.
- Examine placenta for completeness.
- Monitor uterine tone and vital signs every 15 minutes for 2 hours, and then every 30 minutes for the next 4 hours.

Coordinator should ask during debrief:
- What is something you learned that you might use with a real client?
- Who is authorized to perform manual removal of retained placenta at this facility?
- Are necessary medications routinely available and accessible at this facility?

Session 9: Laceration Repair

Notice whether providers:
- Wash hands. Put on sterile gloves.
- Clean (simulator) perineum, vulva, and vagina with antiseptic solution.
- Have woman empty bladder or insert catheter.
- Grasp cervix on one side with sponge forceps, grasp cervix on the other side with a second sponge forceps and gently pull in various directions to visualize entire cervix
  - there will be limited cervical mobility on the foam block, so providers should verbalize actions. There will be more if towel is used.
- After identifying laceration, place both forceps in one hand.
- Place first suture 0.5cm above beginning of laceration. Close with continuous sutures.

Coordinator should ask during debrief:
What is something you learned that you might use with a real client?

Session 10: Integrated Drill

Coordinator guidance during activity:
Coordinator should have information below but not share until "provider" conducts related assessment during drill.
- Woman is breathing
- Pulse is 116 beats/minute
- BP is 84/58
- Respiration is 32 breaths/ minute
- Vital signs will remain the same until bleeding stops after UBT inserted.
- Uterus remains soft until UBT inserted.
- Display increasing confusion and disorientation.

Notice whether providers perform the following:
- Shout for help and organize support staff.
- Ensure airway is open and woman is breathing.
- Give oxygen if available.
- Check BP, pulse, and respiration
- Check the uterus and massages if soft.
- Give 10 IU oxytocin and TXA 1g in 10 mL IV over 10 minutes.
- Start IV infusion. Collect blood for hemoglobin, and cross-matching.
- Rapidly infuse IV fluids containing 20 IU oxytocin (1 L per 15 to 20 min).
- Give TXA 1g in 10 mL IV over 10 minutes.
- If used at this facility, apply NASG. If not, position woman on the left side, covers upper body with blanket and elevates legs.
- Insert Foley catheter, monitor urine input and output.
- Continue to check uterine tone and massage.
- Coordinator should now be extremely lethargic, confused, semi-conscious.
- Initiate bimanual compression.
- Begin coordination of emergency transport plan.
- Wash hands (or use hand rub) and put on sterile gloves that reach to the elbow.
- Gently insert hand into vagina. Move hand to back of vagina in front of uterus. Place other hand on woman's abdomen and squeezes uterus between hand and fist.

- After 5 min—slowly releases pressure from abdominal hand and releases fist to see if bleeding has slowed/ stopped. (Coordinator should stop blood during bimanual, but reopen blood tank when pressure is released to show that bleeding has not stopped).
- Prepare and insert UBT (per guidance on PG page 53) .
- When shifting to UBT, coordinator should loosen the cervical ribbon and hold a bottle in the uterus OR insert a MamaU inside (or next to) the simulator for practice of UBT insertion.

Learning Activities
Cervical Laceration Repair

Make simulator to repair tears
Cut foam blocks for simulation. Each block should be approximately eight inches by eight inches by eight inches square. Blocks should be cut from foam "mattress" material. Foam should be dense and spongy, and should be tested in advance to ensure that it does not crumble when sutured.

Assemble supplies in advance
- **Good light source**
- **Foam block simulator (each learner should have his/her own)**
- **Black markers (one per learner)**
- **Box cutters/Exacto knives**
- **Antiseptic solution**
- **Sterile gloves**
- **Suture kits:**
- **2-0 or 3-0 chromic suture on CT needle**
- **Needle holder**
- **Pick-ups/tissue forceps**
- **Two sponge forceps**
- **Scissors**
- **0.5% or 1% lignocaine, syringe and needle**
- **Sterile gauze**
- **Specula**

Demonstrate the preparation of foam block simulators by drawing vaginal and cervical anatomical landmarks on several surfaces of the foam block (see diagram above and left). Ask learners to follow along to prepare their blocks for practice. Use box cutters or scissors to remove foam and form the vaginal canal. Cut "tears" in the appropriate places.

Where foam is not easily available, a rolled towel or small, thick cloth can be used. If this method is preferable, you will need a one small facecloth per provider and adhesive tape. You will not need foam blocks, markers, or box cutters.

To create a cloth cervix:

1. Take a small facecloth and roll 2 opposite corners once
2. Fold over two remaining corners once
3. Place one folder corner lengthwise in front of you and roll entire facecloth to the other folded corner (this will make a "tube" with two rolled ends)
4. Place tape around the circumference of the "tube" ends an inch or two from the ends.
5. Each end now simulates a lacerated cervix that can be repaired by providers for practice.

Facilitation note

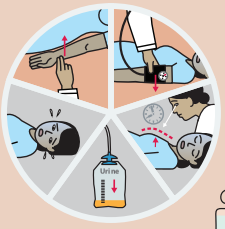
Using prepared foam blocks or towels, demonstrate the technique for repairing tears. Circulate to give guidance and have learners practice.

While time is limited for structured practice during the training day, encourage learners to practice on their own foam blocks at home or during low dose, high frequency practice sessions at their facility. Creating the simulator is a skill they should share with colleagues.

Prevent and manage shock from PPH

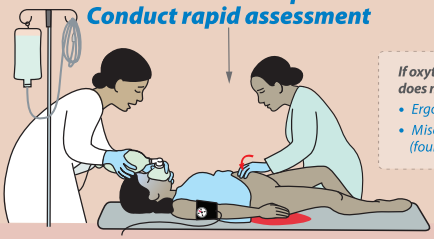
ACTION PLAN

SIGNS OF SHOCK



If bleeding heavily

Shout for help
Conduct rapid assessment



If oxytocin not available or does not stop bleeding, give:

- *Ergometrine 0.2 mg IM or IV slowly*
- *Misoprostol 800 mcg under tongue (four 200 mcg tabs)*

Start emergency management

1. **Check ABC's and give oxygen**
2. **Massage uterus**
3. **Give 10 IU oxytocin IM (or IV if in place)**
4. **Start IV Collect blood**
5. **Give TXA 1g in 10 mL over 10 minutes**
6. **Catheterize bladder**
7. **Apply NASG**

DETERMINE CAUSE OF BLEEDING

Check if placenta is out and complete
Check for bleeding tears

MANAGE

If blood needed, transfuse early

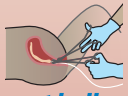
ATONIC UTERUS

Continue massage
Add 20 IU oxytocin to IV and infuse fast

Compress uterus

If still bleeding heavily

Compress aorta



Insert balloon tamponade

Seek advanced care

RETAINED PLACENTA/PARTS

Perform manual removal of the placenta

BLEEDING TEARS

Inspect, identify

Repair

Placenta or parts not out
OR still bleeding heavily

Seek advanced care

Placenta out and complete
Blood loss normal

Tear repaired
Blood loss normal

Continue care after PPH

Asses blood loss and status continuously

Second Edition

Helping Mothers Survive

Bleeding after Birth

ACTION PLAN

Prepare for birth

Birth (See HBB Action Plan for baby)

10 IU or 200 mcg x 2 or 3 = 400 - 600 mcg

Give medication within 1 minute

Cut the cord between 1-3 minutes

Perform controlled cord traction to deliver placenta

Injectable uterotonics:
- *Oxytocin - 10 IU IM/IV*
- *Carbetocin - 100 mcg IM/IV*
- *Ergometrine - 0.2 mg IM/IV*
- *Oxytocin (5 IU) and ergometrine (0.5 mg) IM*

The Golden Minute®

Placenta out?

Out

Check tone
Massage if soft

Not out in 30 minutes

Encourage empty bladder
Repeat 10 units oxytocin
Repeat controlled cord traction

Out

Placenta complete?

Incomplete

Not out in 60 minutes

Advanced care

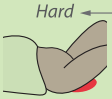
Complete

Uterus hard?

Soft

Massage uterus
If still soft
Give medication

Hard



Bleeding normal?

Hard
Heavy bleeding

Press on tears

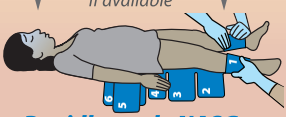
Soft
Heavy bleeding

Compress uterus

Hard
Bleeding normal

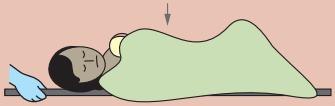
Normal

If available



Rapidly apply NASG

Continue care
Check tone
Monitor bleeding
Check vital signs
Encourage breastfeeding



Keep warm
Seek advanced care