Helping Mothers Survive

Bleeding after Birth +
Assess for Danger Signs of shock

The provider needs to know and do

Diagnose shock if either of the following is present:
- Fast, weak pulse (110 beats per minute or more)
- Low blood pressure (systolic BP is less than 90 mmHg)

These additional signs and symptoms support the diagnosis of shock:
- Rapid breathing (over 30 breaths per minute or more)
- Pale skin, especially noted around the inner eyelids, mouth, or palms
- Sweating, or cold and clammy skin
- Changes in the woman’s 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.

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

Continuously assess for shock (check and record BP and pulse at least every 15 minutes) until the woman is stable.

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

Performance Expectation
The provider will continuously assess for warning signs of, and diagnose, shock in women bleeding after birth.

Key points
- Shock occurs when the circulatory system fails to maintain adequate blood flow to vital organs. This can happen due to PPH.
- Shock is a life-threatening emergency.
- A woman can die of PPH quickly if bleeding is not treated. Bleeding can also occur slowly over several hours and may not be recognized until a woman is in shock.
- Any time a woman experiences bleeding, she should be closely monitored for signs of shock.
- Clinical signs and symptoms provide the most accurate information about a woman’s status. They are more useful than blood loss estimates for guiding management.
- Women who gave birth at home may arrive already in shock. Conduct a rapid initial assessment, mobilize the team, and initiate immediate care.
- Act quickly!
Advanced Management of shock

Performance Expectation
The provider will appropriately manage shock caused by PPH according to guidelines.

Key points
- Shock is a life-threatening emergency
  Act fast!
- Coordinated teamwork is essential in managing shock and saving lives.

The provider needs to know and do

When shock is suspected, act in a quick, coordinated manner. Team members can perform several tasks simultaneously.

To manage shock:
- Shout for help.
- Ensure that airway is open and woman is breathing. If she is not breathing, start resuscitation. If breathing, start oxygen at 6 – 8L/minute.
- Check vital signs, and check uterine tone. Massage if soft.
- Give oxytocin 10 IU IM.
- Position on left side and cover her with a blanket and elevate her legs.
- Start IV infusion with a 16- or 18-gauge cannula or needle.
- Collect blood for: hemoglobin, cross-matching, and bedside clotting test.
- Rapidly infuse IV fluids (1 L of normal saline or Ringer’s lactate with 20 IU of oxytocin added) at 1 L per 15–20 minutes. Give at least 2 L of fluid in the first hour.
- Catheterize bladder.
- Rapidly infuse IV fluids (1 L of normal saline or Ringer’s lactate with 20 IU of oxytocin added) at 1 L per 15–20 minutes. Give at least 2 L of fluid in the first hour.

Reassess condition every 15 minutes for 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)
- Improving mental status (less confusion or anxiety)
- If condition improves, reduce IV infusion rate to 1 L/six hours.
- If heavy vaginal bleeding continues, assess for other causes of shock (e.g., tear or retained tissue) and manage accordingly.
- If unresolved, seek advanced care and transfusion; transfer to higher level of care if needed.

To perform bedside clotting test:
- Place 2 ml of blood into a small glass tube.
- Hold the tube in a closed fist to keep it warm.
- After four minutes, tip the tube slowly to see if a clot is forming.
- Tip it again every minute until blood clots and the tube can be turned upside down.
- If a solid clot fails to form, suspect a clotting disorder.

If a woman is severely anemic – hemoglobin below 7 g/dl or hematocrit below 20% – seek higher care to arrange a transfusion.
Facilitate discussion
What should be done in facilities or situations without IV infusion capacity? While oxytocin by IV infusion is the first line treatment for PPH, IM oxytocin can also be used. If bleeding does not respond to initial dose of 10 IU oxytocin IM, repeat with 10 IU oxytocin IIM again in 20 minutes. If heavy bleeding persists, follow with 800 mcg misoprostol under the tongue.

Advanced care for atonic uterus

Performance Expectation
The provider will identify atonic uterus as the cause of PPH and appropriately apply all basic emergency management steps to stop bleeding, including aortic compression.

Key points
- A uterus that fails to contract (atonic) causes the majority of life-threatening bleeding.
- Assisting the uterus to contract with uterotonic medications and massage is essential to control bleeding. If these measures are not effective, advanced care and possibly surgical management may be required.
- Aortic compression can be used as a short-term, lifesaving measure while seeking advanced care. It is often performed if bimanual compression is not effective to decrease blood loss due to atonic uterus, but can be used for any cause of bleeding.

The provider needs to know and do
For atonic uterus, do the following, even if AMTSL was done:
- Give 10 IU of oxytocin IM
- Give 20 IU oxytocin in 1 L normal saline or Ringer’s lactate by IV infusion at 60 drops/minute. Continue at 10 IU in 1 L at 30 drops/minute. Do not give more than 3 L of IV fluid with oxytocin.
- If IV oxytocin is not immediately available, give 800 mcg (four 200 mcg tabs) of misoprostol under the tongue.
- Continue checking uterine tone and massage if uterus is soft.

If the woman is still bleeding heavily, perform bimanual compression of the uterus.

If heavy bleeding persists despite uterotonic medication, uterine massage, and bimanual compression, apply aortic compression:
- Tell the woman what you are about to do and why.
- Feel the femoral pulse.
- Apply downward pressure with a fist on abdominal aorta. Compress just above and to the left of the umbilicus. With other hand, palpate for femoral pulse. You should not feel a pulse.
- Continue pressure until bleeding stops.
- If bleeding persists, keep applying pressure while seeking advanced care.
- After the provider locates the correct placement over the abdominal aorta, an assistant or family member can continue to apply pressure. This can be done if the provider needs to coordinate an urgent referral or provide other care.
The provider needs to know and do

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

- If the placenta is not delivered in one hour, remove placenta and fragments manually (ensure that IV is placed before performing manual removal of placenta).

- **If the woman is bleeding heavily**, oxytocin has been given, and placenta cannot be delivered by controlled cord traction or the placenta is incomplete, remove placenta and fragments manually.

**Performance Expectation**

The provider will identify retained placenta or fragments as the cause of PPH and will perform manual removal of the placenta or fragments.

**Key points**

- Retained placenta or fragments can cause dangerous bleeding and infection.
- The uterus cannot contract if the placenta, retained fragments, or clots are present.
- If a uterotonic is given in the third stage of labor, the placenta usually delivers within 10 minutes.
- 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!

**To perform manual removal of the placenta:**

- Tell the woman and her family what will be done and why.
- Ask the woman to empty her bladder, or insert bladder catheter.
- Give diazepam 5 mg IM (if woman is not in shock).
- Start an IV line with normal saline, and give ampicillin 2 gm and metronidazole 500 mg IV.
- Wash hands. Put on personal protective equipment and long, sterile surgical gloves.
- Hold the umbilical cord with a clamp. Gently pull using cord to guide your hand into uterus.
- Place fingers of one hand into uterus and locate placenta. Move lateral aspect of hand back and forth in a smooth motion until placenta separates from uterine wall.
- Withdraw hand, bringing the placenta with it. Provide counter-traction abdominally.
- Check uterine tone and massage if soft.
- Give oxytocin 20 IU IV in 1 L fluid at 60 drops/minute.
- Examine placenta for completeness.
- Remove gloves and discard. Wash hands.
- Monitor bleeding, take vital signs, and ensure that uterus is well-contraction (every 15 minutes for two hours, and then every 30 minutes until 6 hours).
Advanced care for tears: Inspect, identify and repair

Knowledge and skills
Cervical tears occur most frequently at 3 and 9 o’clock, using a clock as the reference for the cervix.

To identify tears:
• Ensure privacy and good lighting. Tell the woman what you are doing.
• With gloved, non-dominant 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 with your dominant fingers to look deep into the vagina.
• Press against the vaginal wall and move gauze-wrapped fingers up the side wall. Repeat on other side. Feel up the vagina and to the cervix.
• Have assistant massage uterus and provide fundal pressure to visualize cervix.
• Insert sponge forceps to grasp cervix on one side, and a second sponge forceps to grasp cervix on the other side – gently pull in various directions to visualize the entire cervix and identify tears.

To prepare for cervical tear repair:
• Wash hands. Put on sterile gloves.
• Clean perineum, vulva, and vagina with antiseptic solution.
• Have the woman empty bladder, or insert catheter.
• Give IV pethidine and diazepam, or ketamine, if tears are high and extensive. (Do not give if woman is in shock.)

To repair cervical tears:
• After identifying cervical tear, put both forceps in one hand.
• Place first suture above the tear. Close tear with continuous suture.
• If the tear is deep, place a second layer of the same stitch to close the space.

To repair deep vaginal tears:
• Draw 10 ml of 1% 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 that the needle is not in a blood vessel and then inject as needle is withdrawn. Wait two minutes for anesthetic effect.
• Place interrupted 2-0 sutures for the length of the tear, spaced about 1 cm apart.
• If the tear is deep, place a second layer of the same stitch to close the space.
• Review wound care and hygiene measures.

Performance Expectation
The provider will identify tears as the cause of PPH and will inspect, identify, and repair deep vaginal and cervical tears.

Key points
- Tears linked to PPH are most likely to be deep vaginal or cervical tears.
- Only tears that are large and bleed persistently need to be repaired.
- Bleeding from a tear may ooze slowly or spurt from an artery.
Advanced care for tears: Inspect, identify and repair

The provider needs to know and do

Once stable and before discharge:

• Closely monitor the woman’s condition – take vital signs every 15 minutes until the woman stabilizes.
• Adjust the IV infusion rate to 1 L in six hours.
• Maintain oxygen at 6–8 L/minute.
• Perform laboratory tests including repeat hemoglobin. If laboratory facilities are available, check serum electrolytes, serum creatinine, and blood pH.
• If hemoglobin is less than 7 g/dl:
  - Give iron supplementation orally – ferrous sulfate or ferrous fumarate 120 mg. After three months, continue supplementation with ferrous sulfate or ferrous fumarate 60 mg orally for six more months. Give folic acid 400 mcg orally once daily for all nine months (to be taken with iron supplementation).
• If hemoglobin is 7–11 g/dl:
  - Give ferrous sulfate or ferrous fumarate 60 mg by mouth plus folic acid 400 mcg by mouth once daily for six months.

If the woman had a tear and repair:

• Watch for bleeding and development of hematoma.
• Teach the woman to:
  - Wash perineum at least twice a day, always after defecation.
  - Change pad frequently.
  - Wash hands after self-care.
• A woman who has experienced hemorrhage, and her family, should be counseled about the need for adequate rest and good nutrition as she recovers. Her diet should include iron-rich foods such as meat/poultry/fish, groundnuts, legumes, beans, eggs, dark green, leafy vegetables, and fortified grains.
• Follow up with the woman in 10 days and again in six weeks to check that the wound is healing properly.
Facilitation note

Assemble the following supplies in preparation for the simulation:

• Childbirth simulator
• BP machine
• Stethoscope
• IV infusion equipment
• Oxygen cylinder, mask, and tubing
• Syringes and vials
• Sims vaginal retractor
• Sponge forceps
• Good light source
• HLD or sterile surgical gloves
• Urinary catheter and bag
• 2-0 suture and needle
• Antiseptic solution and gauze
• Blanket

The purpose of this activity is to provide a simulated experience for learners to practice problem-solving and decision-making, with emphasis on thinking and acting quickly. Carry out the simulation in the most realistic setting possible, where equipment and supplies are available for emergency interventions.

One facilitator should play the role of the client (and wear the simulator). Select one learner to play the role of provider. Other learners may be called on to assist the provider.

Give the learner playing the role of provider information about the patient’s condition (in bold) and ask pertinent questions (in italics). Procedures such as starting an IV, inserting a catheter, and bimanual compression should be role-played, using the appropriate equipment. Debrief with discussion and questions after the simulation is over.

Scenario (read this aloud to learners):
I am Mrs. L., a 22-year-old, and have just given birth to a healthy baby boy after six hours of labor. AMTSL was performed. The midwife who attended the birth left the health center at the end of her shift. Approximately 30 minutes later, an assistant noticed that I was bleeding profusely.

Start role play, assuming the position of a woman with PPH.
Ask learners: What will you do?

Key learner responses:

• Shout for help to urgently mobilize all available personnel.
• Make a rapid evaluation of Mrs. L.’s general condition, including amount of blood loss, uterine tone, vital signs, level of consciousness, and color/condition of skin.
• Explain to Mrs. L. what is going to be done, listen to her, and respond quickly to her questions and concerns.

If “provider” takes vitals, inform him/her that the BP is 86/60 mmHg and the pulse is 120 beats/minute. If “provider” checks uterus, ensure that you leave it soft or inform him/her that it is soft.
Ask learners: What is Mrs. L.’s problem? What will you do now?

Key learner responses:

• State that Mrs. L. is in shock and bleeding due to atony.
• Massage the uterus to expel blood and blood clots and stimulate a contraction.
• Ask one of the staff to start an IV infusion using a large-bore cannula and normal saline or Ringer’s lactate at a rate of 1 L in 15–20 minutes with 20 IU oxytocin.
• While starting the IV, collect blood for appropriate tests (hemoglobin, blood typing...
and cross-matching, and bedside clotting test for coagulopathy).
• Start oxygen at 6–8 L/minute.
• Catheterize bladder.
• Cover Mrs. L. to keep her warm.
• Elevate her legs.
• Continue to check uterine tone.
• Continue to monitor BP, pulse, and blood loss.

**After these interventions, the uterus is still not well-contracted, and Mrs. L. is bleeding heavily.**

**Ask learners:** *What will you do now?*

**Key learner responses:**
• Perform bimanual compression of the uterus:
  - Put on long, sterile gloves.
  - Put a flattened hand in the upper vagina, and then make a fist. Keep the other hand on the abdomen.
• Compress both hands together against the uterus.
• Continue to check uterine tone, and monitor BP, pulse, and blood loss.

**After 25 minutes of bimanual compression, the uterus is still not firm, and heavy bleeding continues.**

**Ask learners:** *Bimanual compression is failing to contract the uterus; what will you do?*

**Key learner responses:**
• Initiate aortic compression:
  - Feel the femoral pulse.
  - Apply downward pressure with fist on the abdominal aorta. Compress just above and to the left of umbilicus. With the other hand, palpate the femoral pulse. You should not feel a pulse.
• Organize urgent referral to advanced care.

**Ask learners:** *Now, imagine that the uterus is well-contracted after five minutes of bimanual compression, but heavy bleeding continues; what will you do?*

**Key learner responses:**
• Examine the cervix, vagina, and perineum for tears.
• Examine placenta for missing pieces.

**The provider needs to know**
If tissue from the placenta or membranes stays inside the uterus, the mother will bleed too much and can become infected.
• When the placenta separates from the uterus, it moves into the vagina.
• In removing the placenta, it is important to take steps to reduce the risk of tearing the placenta or membranes.
• If the provider uses both hands to hold the placenta and gently turns it, the membranes will twist like a rope, which is stronger and less likely to tear.
• If a small piece of membrane does get torn or stuck in the cervix, it can often be removed by twisting the piece into a rope and pulling gently.

**The provider needs to do**
• As the placenta delivers, use both hands to cup it and gently turn the placenta to prevent tearing of membranes.
• 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.