**Purpose of the tool:** The Postpartum Hemorrhage In Situ Simulation tool provides a sample scenario for labor and delivery (L&D) staff to practice teamwork, communication, and technical skills in the unit where they work. Upon completion of a Postpartum Hemorrhage In Situ Simulation, participants should be able to do the following:

* Demonstrate effective communication with the patient and support person during a postpartum hemorrhage.
* Demonstrate effective teamwork and communication with clinical team members during assessment of the patient, changes in the patient’s clinical status, and actions required for the optimum patient outcome.
* Demonstrate timely and accurate clinical intervention for a postpartum hemorrhage.
* Demonstrate the efficient use of checklists, protocols, or similar cognitive aids for a postpartum hemorrhage.

**Who should use this tool:** Simulation facilitators

**How to use this tool:** This tool should be used in connection with “Facilitation Instructions for Conducting In Situ Simulations” to prepare, conduct, and debrief in situ simulations in L&D units. Simulation facilitators can adapt, modify, and further tailor this sample scenario to meet the training needs of their unit staff or resources available in their facility.

Other resources: Additional scenarios related to obstetric hemorrhage are available from the California Maternal Quality Care Collaborative:

<https://www.cmqcc.org/resources-tool-kits/toolkits/ob-hemorrhage-toolkit>

**Note:** The information presented in this document does not necessarily represent the views of AHRQ. Therefore, no statement in this document should be construed as an official position of AHRQ or of the U.S. Department of Health and Human Services. Outside resources identified do not represent an endorsement of those resources and do not reflect the position of AHRQ or the Federal Government.

Sample Scenario for Postpartum Hemorrhage In Situ Simulation

This document provides a sample scenario for an in situ simulation for postpartum hemorrhage. This document contains the following:

* Preparation Required
* Clinical Context, Triggers, Distractors, and Expected Behaviors for the Simulation
* Postpartum Hemorrhage Simulation Assessment Tool
* Clinical Context, Triggers, and Distractors Formatted for Printing Separately

Refer to the document titled “Facilitation Instructions for Conducting In Situ Simulations” for general guidance and instructions regarding presimulation planning, presimulation briefing, simulation assessment, and simulation debriefing.

During the simulation, participants are encouraged to practice the use of protocols, checklists, or cognitive aids the unit has developed or adapted for use in evaluating and treating postpartum hemorrhage.

# Preparation Required

This simulation requires people to play the roles of the patient and the patient’s support person:

* The actor playing the patient should wear a patient gown, padding (to simulate a postpartum belly), and a wrist identification band and should lie in bed. The simulated patient (“actor”) should wear scrubs under the gown to ensure her privacy.
* The actor playing the support person should be briefed on his or her disposition and how to interact with others in the simulation.

In addition, the following props (i.e., simulated equipment and materials) are required:

* Simulated blood for the patient or support person to pour on the perineal pad and the blue absorbent underpad at various intervals during the simulation.
* Simulated intravenous (IV) fluids and medications (e.g., Pitocin,® Methergine®). The team should order and access simulated fluids and medication the way it normally would order these items—for example, through electronic order entry, a Pyxis machine, or an obstetric hemorrhage kit or cart. This allows the team to experience the normal passage of time required to order and access necessary supplies for treatment. Prior planning and coordination with the pharmacy for these simulated items will help make the simulation as realistic as possible.
* Simulated bags of blood for transfusion. Likewise, coordinating with the blood bank to have simulated bags ready to send to the unit once requested by the team will make the simulation more realistic.

Clinical Context, Triggers, Distractors, and Expected Behaviors for the Simulation

The content of this simulation is divided into four parts: Clinical Context, Triggers, Distractors, and Expected Behaviors. The Clinical Context is provided at the beginning of the simulation in the form of a patient handoff and introduces that simulated patient and her clinical history. The handoff is followed by a series of Triggers and Distractors, events or actions that introduce new information and shape the context of the clinical response. The simulation facilitator introduces the Triggers and Distractors throughout the course of the simulation. A set of Expected Behaviors is also provided for the Clinical Context and each set of Triggers and Distractors. The Expected Behaviors offer a list of ideal actions that the clinical team might take in response to each set of events in the simulation with particular regard to those that foster effective teamwork and communication. The Expected Behaviors can also serve as a tool to use in evaluating the performance of the simulation participants.

**Clinical Context**

*The facilitator provides the clinical context to person in the role of nurse. This can be done using a verbal report and handoff from one nurse to another nurse during change of shift.*

“Welcome to your shift. Your patient for this evening is Elena Gonzalez, a 32-year-old G4P4 who vaginally delivered a 4,309-gm term male infant 45 minutes ago. She had an uncomplicated prenatal course, and her only medications during pregnancy were prenatal vitamins.

"Her membranes ruptured at home 48 hours prior to delivery, and she was admitted to L&D about 2 hours ago in active labor. Her labor progressed quickly, and she delivered an hour later. The placenta was delivered spontaneously within 5 minutes. Her estimated blood loss was 400 ml. She had a second-degree perineal laceration that was repaired under local anesthesia. No type and cross [T&C] was done. She has no known allergies.

"Her most recent vital signs 10 minutes ago were as follows: Pulse 88, BP 124/70, Resp Rate 20, Temp 37.1 Celsius, O2 Saturation 97% on room air. I just helped her back from the bathroom, where she accidentally pulled out her IV. She’s doing well; the baby’s father is at the bedside. The kitchen is sending her up a dinner tray.”

## Expected behavior/performance (not in any particular order):

* Nurse introduces self to the patient and begins assessment.

**Trigger #1**

*Patient volunteers information to assessing nurse*:

“I don’t feel good. I feel sick to my stomach. My head is spinning. I am really crampy. Can I have something for pain?”

**Clinical information provided on cards (one at a time) in response to assessment actions taken by team. For example, after team measures blood pressure (BP), the BP value is provided to team on a card.**

Pulse 100

BP 100/76

Resp Rate 22

O2 Saturation 93% on room air

Uterine fundus is boggy at 3 cm above umbilicus.

Patient is lethargic but intelligible.

Patient has pain in lower abdomen and area around vagina.

Hospital gown soaked with blood, perineal pads saturated with blood, blood on bed linens.

*The facilitator may provide answers to team as needed to help maintain the flow of the simulation. Symptoms and bleeding should continue while the team attempts various measures to address.*

**Distractors**

Partner appears anxious, is rocking crying baby in its crib.

Partner asks nurse for water and pain medication for patient.

Baby is crying at intervals.

Partner asks patient to breastfeed baby.

Partner asks questions, does not hear answers, does not understand medical jargon.

Partner is very verbal.

## Expected behavior/performance (not in any particular order):

* Nurse assesses vital signs, uterine status, mental status, and pain and looks for vaginal bleeding.
* Nurse calls for additional help, provider, or rapid response.
* Nurse advises patient that she needs the IV back in.
* Situation-Background-Assessment-Recommendation (SBAR) is used to inform others of the situation when they arrive. Additional help might be attending physician, anesthesiology, nursing, or rapid response team.
* Provider clearly demonstrates leadership role.
* Provider delegates use of any protocols, checklists, or cognitive aids.
* Provider speaks to patient and the patient's support person or delegates to another team member to inform and answer questions.
* All team members use closed-loop communication and provide mutual support to one another.
* All team members call out critical patient information.
* Nurse uses critical language to express concern about lack of blood T&C match.
* Team searches for potential etiology of bleeding.
* Team quantitatively estimates blood loss.
* Team initiates appropriate clinical response per any protocols, checklists, or cognitive aids.

**Trigger #2**

Partner or patient continues to pour more simulated blood on blue underpad at intervals. Patient will begin to have deteriorating vital signs. Patient will become more lethargic, but is still responsive.

*The facilitator may provide answers to team as needed to help maintain the flow of the simulation. Symptoms and bleeding should continue while the team attempts various measures to address.*

**Clinical information provided on cards (one at a time) in response to assessment actions taken by team. For example, after team takes BP, the BP value is provided to team on a card.**

Pulse 115

BP 85/45

Resp Rate 22

O2 Saturation 89% on room air

Uterine fundus is boggy at 3 cm above umbilicus.

Patient is moaning and less able to speak.

*The facilitator may provide answers to team as needed to help maintain the flow of the simulation. Symptoms and bleeding should continue while the team attempts various measures to address.*

**Distractors**

Partner continues to ask questions and is very verbal.

Partner acts agitated at discussion of blood transfusion.

## Expected behavior/performance (not in any particular order):

* Team requests nursery staff come and take baby to nursery for care (if baby is still in room).
* If not already done after first trigger, nurse uses critical language to express concern about lack of blood T&C match.
* SBAR is used to inform others of the situation when they arrive.
* Team initiates appropriate clinical response per any protocols, checklists, or cognitive aids (e.g., units of packed red blood cells ordered and brought to bedside).
* Provider clearly demonstrates leadership role.
* All team members use closed-loop communication and provide mutual support to one another.
* All team members call out critical patient information.
* Team searches for potential etiology.
* Team quantitatively estimates blood loss.
* Leader may call team huddle.
* Team mobilizes additional help (e.g., obstetric physician, interventional radiologist, operating room [OR] team).

**Trigger #3**

After blood has been hung, the patient should gradually become nonresponsive.

*The facilitator may provide answers to team as needed to help maintain the flow of the simulation. Symptoms and bleeding should continue while the team attempts various measures to address.*

*Facilitator ends the simulation after no further opportunities for teamwork and communication are apparent.*

## Expected behavior/performance (not in any particular order):

* Team continues appropriate clinical response per any protocols, checklists, or cognitive aids.
* Leader calls team huddle.
* SBAR is used to inform others of the situation when they arrive. Additional help might be attending physician, anesthesiology, nursing, or rapid response team.
* Provider clearly demonstrates leadership role.
* All team members use closed-loop communication and provide mutual support to one another.
* All team members call out critical patient information.
* Team mobilizes additional help (e.g., anesthesiologist, OR staff, nurse manager).
* Team moves to OR.

# Postpartum Hemorrhage Simulation Assessment Tool (Optional)

This tool provides a list of expected behaviors in response to the Clinical Context and each set of Triggers and Distractors in the simulation and can be used as a tool in evaluating the performance of the simulation participants.

Trigger 1: Patient Reports Feeling Ill and Hemorrhage Identified

| Targeted Behavioral Response | Observed | Not Observed | Notes |
| --- | --- | --- | --- |
| Nurse assesses vital signs, uterine status, mental status, and pain and looks for vaginal bleeding. |  |  |  |
| Nurse calls for additional help, provider, or rapid response. |  |  |  |
| SBAR is used to inform others of the situation when they arrive. |  |  |  |
| Provider clearly demonstrates leadership role. |  |  |  |
| Provider delegates use of any protocols, checklists, or cognitive aids. |  |  |  |
| Provider speaks to patient and support person or delegates someone to inform and answer questions. |  |  |  |
| All team members use closed-loop communication and provide mutual support. |  |  |  |
| All team members call out critical patient information. |  |  |  |
| Nurse uses critical language to express concern about lack of blood T&C match. |  |  |  |
| Team searches for potential etiology of bleeding. |  |  |  |
| Team quantitatively estimates blood loss. |  |  |  |
| Team initiates appropriate clinical response per any protocols, checklists, or cognitive aids. |  |  |  |

Trigger 2: Patient Continues to Bleed and Vital Signs Begin To Deteriorate

| Targeted Behavioral Response | Observed | Not Observed | Notes |
| --- | --- | --- | --- |
| Team requests nursery staff come and take baby to nursery for care (if baby is still in room). |  |  |  |
| Nurse uses critical language to express concern about lack of blood T&C match. |  |  |  |
| SBAR is used to inform others of the situation when they arrive. |  |  |  |
| Team initiates appropriate clinical response as per any protocols, checklists, or cognitive aids. |  |  |  |
| Provider clearly demonstrates leadership role. |  |  |  |
| All team members use closed-loop communication and provide mutual support. |  |  |  |
| All team members call out critical patient information. |  |  |  |
| Team searches for potential etiology. |  |  |  |
| Team quantitatively estimates blood loss. |  |  |  |
| Leader may call team huddle. |  |  |  |
| Team mobilizes additional help. |  |  |  |

Trigger 3: Patient Becomes Nonresponsive

| Targeted Behavioral Response | Observed | Not Observed | Notes |
| --- | --- | --- | --- |
| Team continues appropriate clinical response per any protocols, checklists, or cognitive aids. |  |  |  |
| Leader calls team huddle. |  |  |  |
| SBAR is used to inform others of the situation when they arrive. |  |  |  |
| Provider clearly demonstrates leadership role. |  |  |  |
| All team members use closed-loop communication and provide mutual support. |  |  |  |
| All team members call out critical patient information. |  |  |  |
| Team moves to OR. |  |  |  |
| Team mobilizes additional help. |  |  |  |

# Clinical Context, Triggers, and Distractors Formatted for Printing Separately

The Clinical Context, Triggers, and Distractors used in this simulation scenario are provided on the next several pages in a format suitable for printing on cardstock in preparation for facilitating this in situ simulation using printed cards. The printed cards can be handed to the simulated patient or participating staff members at appropriate intervals during the simulation.

Clinical Context:

“Welcome to your shift. Your patient for this evening is Elena Gonzalez, a 32 year-old G4P4 who vaginally delivered a 4,309-gm term male infant 45 minutes ago. She had an uncomplicated prenatal course, and her only medications during pregnancy were prenatal vitamins.

"Her membranes ruptured at home 48 hours prior to delivery, and she was admitted to L&D [labor and delivery] about 2 hours ago in active labor. Her labor progressed quickly, and she delivered an hour later. The placenta was delivered spontaneously within 5 minutes. Her estimated blood loss was 400 ml. She had a second-degree perineal laceration that was repaired under local anesthesia. No type and cross [T&C] was done. She has no known allergies.

"Her most recent vital signs 10 minutes ago were as follows: Pulse 88, BP [blood pressure] 124/70, Resp Rate 20, Temp 37.1, O2 Saturation 97% on room air. I just helped her back from the bathroom, where she accidentally pulled out her IV [intravenous line]. She’s doing well; the baby’s father is at the bedside. The kitchen is sending her up a dinner tray.”

Trigger #1

Patient: “I don’t feel good. I feel sick to my stomach. My head is spinning. I am really crampy. Can I have something for pain?”

Clinical information to be provided to team in response to their assessment after Trigger #1

Pulse 100

BP 100/76

Resp Rate 22

O2 Saturation 93% on room air

Uterine fundus is boggy at 3 cm above umbilicus.

Patient is lethargic but intelligible.

Patient has pain in lower abdomen and area around vagina.

Hospital gown soaked with blood, perineal pads saturated with blood, blood on bed linens.

Distractors (Trigger #1)

* Partner appears anxious, is rocking crying baby in its crib.
* Partner asks nurse for water and pain medication for patient.
* Baby is crying at intervals.
* Partner asks patient to breastfeed baby.
* Partner asks questions, does not hear answers, does not understand medical jargon.
* Partner is very verbal.

Trigger #2

Support person or patient continues to pour more simulated blood on pad at intervals.

Patient will begin to have deteriorating vital signs.

Patient will become more lethargic, but is still responsive.

Clinical information to be provided to team in response to their assessment after Trigger #2

Pulse 115

BP 85/45

Resp Rate 22

O2 Saturation 89% on room air

Uterine fundus is boggy at 3 cm above umbilicus.

Patient is moaning and less able to speak.

Distractors (Trigger #2)

* Partner continues to ask questions and is very verbal.
* Partner acts agitated at discussion of blood transfusion.

Trigger #3

After blood has been hung, the patient should gradually become nonresponsive.

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