**Purpose of the tool:** The Antepartum 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 the Antepartum Hemorrhage In Situ Simulation, participants should be able to do the following:

* Demonstrate effective communication with the patient and support person during an antepartum 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 an antepartum hemorrhage.
* Demonstrate the efficient use of checklists, protocols, or similar cognitive aids for responding to an antepartum hemorrhage.

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

**How to use this tool:** This tool should be used in connection with the “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 Antepartum Hemorrhage In Situ Simulation

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

* Preparation Required
* Clinical Context, Triggers, Distractors, and Expected Behaviors for the Simulation
* Antepartum 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 evaluating and treating an antepartum 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 in the blood bank ready to send to the unit once requested by the team will make the simulation more realistic.
* Fetal heart rate (FHR) simulator or FHR strips for teams to assess. Simulator should be capable of simulating Category I, II, and III tracings. If a simulator is not available, old FHR paper strips can be used.

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. This is Jessica Riley. She’s a very pleasant 31-year-old G2P1 at 35 weeks of gestation. She came in about an hour ago because she had been in a ‘fender bender’ and wanted to make sure the baby was all right. She didn’t hurt anything but didn’t have her seatbelt on. She said she barely bumped the wheel. She was in the car alone. She had an uncomplicated prenatal course except that she has been measuring small for dates, but ultrasounds have shown a small-sized but within normal limits fetus. Her only medications during pregnancy were prenatal vitamins and Benadryl® to help her sleep.

"Her vitals have been normal since she’s been here, and the fetus is Category I, FHR 115. She’s had some contractions about every 4 minutes, but says she gets lots of them at home. Her cervix is long and 1 cm. She told me that’s what she was last time in the clinic.

"The baby’s father is out of town on business, but her sister lives close by and might come by.”

## 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 feel something wet between my legs.”

**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 60

BP 90/55

Resp Rate 12

O2 Saturation 98%

FHR 135, moderate variability, no late or variable decelerations

Patient is tender to palpation right above umbilicus.

Small amount of blood on the patient’s blue underpad.

*The facilitator may provide answers to team as needed to help maintain the flow of the simulation.*

**Distractors**

“You know, these contractions are a little harder than normal, but they’re not really that bad.”

“How long am I supposed to be here?”

Patient is on her cell phone, busy with text messages and checking apps.

Patient wants to call her baby’s father.

Patient asks for some water.

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

* Nurse assesses vital signs, uterine status, and fetal status and checks for bleeding.
* Nurse calls for additional help, provider, or rapid response team.
* 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.
* All team members use closed-loop communication and provide mutual support to one another.
* All team members call out critical patient information.

**Trigger #2**

Pain gets worse.

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

Pulse 100

BP 85/55

Resp Rate 16

O2 Saturation 97%

FHR 125 with decreased variability, occasional variable deceleration.

Patient continues to have tenderness above the umbilicus and is in visible distress from pain.

Modest increase in the amount of blood on the patient’s blue underpad.

*The facilitator may provide answers to team as needed to help maintain the flow of the simulation. This may include providing interval maternal and fetal assessments in response to team actions. The facilitator should allow the patient to have pain and bleeding despite any and all diagnostic or therapeutic interventions.*

**Distractors**

Patient: “This isn’t like my contractions before. Is my baby OK?”

Sister comes into room. She wants to know what’s going on.

Sister asks lots of questions, such as "Have you talked to her husband?"

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

* Nurse calls for additional help, provider, or rapid response team.
* Provider speaks to patient and support person or delegates to another team member to inform and answer questions.
* SBAR is used to inform others of the situation when they arrive. Additional help might be attending physician, anesthesiology, nursing, or rapid response team.
* All team members use closed-loop communication and provide mutual support to one another.
* Team initiates appropriate clinical response per any protocols, checklists, or cognitive aids.
* Team quantitatively estimates blood loss.
* Leader may call team huddle.

**Trigger #3**

Large gush of blood occurs.

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

Pulse 110

BP 78/52

Resp Rate 18

O2 Saturation 94%

FHR 110 with absent variability, recurrent late decelerations.

Patient gown, bed lines, and blue underpads are soaked with blood (500ml–1,000ml estimated loss)

*The facilitator may provide answers to team as needed to help maintain the flow of the simulation. This may include providing interval maternal and fetal assessments in response to team actions. The facilitator should allow patient to continue bleeding despite any and all diagnostic or therapeutic interventions.*

*End the simulation after no further opportunities for teamwork and communication are apparent, but aim to keep things going until team has successfully transferred to the OR and prepped for surgery.*

**Distractors**

Sister says, “What is that? Oh my God!”

Sister becomes very upset.

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

* Provider speaks to patient and support person or delegates to another team member to inform and answer questions.
* SBAR is used to inform others of the situation when they arrive. Additional help might be attending physician, anesthesiology, nursing, or rapid response team.
* Leader may call team huddle.
* Team initiates appropriate clinical response per any protocols, checklists, or cognitive aids.
* 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, operating room [OR] staff, laboratory, blood bank, nurse manager).
* Team moves patient to the OR.
* Team uses appropriate communication techniques for handoff or transition of patient to OR team.

# Antepartum 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: Vaginal Bleeding First Noted

| Targeted Behavioral Response | Observed | Not Observed | Notes |
| --- | --- | --- | --- |
| Nurse assesses vital signs, uterine status, fetal status, and checks for bleeding. |  |  |  |
| Nurse calls for additional help, provider, or rapid response team. |  |  |  |
| SBAR is used to inform others of the situation when they arrive. |  |  |  |
| All team members use closed-loop communication and provide mutual support. |  |  |  |
| All team members call out critical patient information. |  |  |  |

Trigger 2: Worsening Pain

| Targeted Behavioral Response | Observed | Not Observed | Notes |
| --- | --- | --- | --- |
| Nurse calls for additional help, provider, or rapid response team. |  |  |  |
| Provider speaks to patient and support person or delegates to another team member to inform and answer questions. |  |  |  |
| SBAR is used to inform others of the situation when they arrive. |  |  |  |
| All team members use closed-loop communication and provide mutual support. |  |  |  |
| Team initiates appropriate clinical response per any protocols, checklists, or cognitive aids. |  |  |  |
| Team quantitatively estimates blood loss. |  |  |  |
| Leader may call team huddle. |  |  |  |

Trigger 3: Large Gush of Blood

| Targeted Behavioral Response | Observed | Not Observed | Notes |
| --- | --- | --- | --- |
| Provider speaks to patient and support person or delegates to another team member to inform and answer questions. |  |  |  |
| SBAR is used to inform others of the situation when they arrive. |  |  |  |
| Leader may call team huddle. |  |  |  |
| Team initiates appropriate clinical response per any protocols, checklists, or cognitive aids. |  |  |  |
| All team members use closed-loop communication and provide mutual support. |  |  |  |
| All team members call out critical patient information. |  |  |  |
| Team mobilizes additional help (e.g., anesthesiologist, OR staff, laboratory, blood bank, nurse manager). |  |  |  |
| Team moves patient to OR. |  |  |  |
| Team uses appropriate communication techniques for handoff or transition of patient to OR team. |  |  |  |

**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. This is Jessica Riley. She’s a very pleasant 31-year-old G2P1 at 35 weeks of gestation. She came in about an hour ago because she had been in a ‘fender bender’ and wanted to make sure the baby was all right. She didn’t hurt anything but didn’t have her seatbelt on. She said she barely bumped the wheel. She was in the car alone. She had an uncomplicated prenatal course except that she has been measuring small for dates, but ultrasounds have shown a small-sized but within normal limits fetus. Her only medications during pregnancy were prenatal vitamins and Benadryl® to help her sleep.

"Her vitals have been normal since she’s been here, and the fetus is Category I, at 115 BPM [beats per minute]. She’s had some contractions about every 4 minutes, but says she gets lots of them at home. Her cervix is long and 1 cm. She told me that’s what she was last time in the clinic.

"The baby’s father is out of town on business, but her sister lives close by and might come by.”

Trigger #1

Patient: “I feel something wet between my legs.”

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

Pulse 60

BP [blood pressure] 90/55

Resp Rate 12

O2 Saturation 98%

Patient is tender to palpation right above umbilicus.

FHR [fetal heart rate] 135, moderate variability, no decelerations.

Small amount of blood on the patient’s blue underpad.

Distractors (Trigger #1)

* You know, these contractions are a little harder than normal, but they’re not really that bad.”
* “How long am I supposed to be here?”
* Patient is on her cell phone, busy with text messages and checking apps.
* Patient wants to call her baby's father.
* Patient asks for some water.

Trigger #2

Pain gets worse.

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

Pulse 100

BP 85/55

Resp Rate 16

O2 Saturation 97%

FHR 125 with decreased variability, occasional variable deceleration.

Patient continues to have tenderness above the umbilicus and is in visible distress from pain.

Modest increase in the amount of blood on the patient’s blue underpad.

Distractors (Trigger # 2)

* Patient: “This isn’t like my contractions before. Is my baby OK?”
* Sister comes into room. She wants to know what’s going on.
* Sister asks lots of questions, such as "Have you talked to her husband?"

Trigger #3

Large gush of blood occurs.

Clinical information to be provided to team in response to their assessment after Trigger #3

Pulse 110

BP 78/52

Resp Rate 18

O2 Saturation 94%

FHR 110 with absent variability, recurrent late decelerations.

Patient gown, bed linens, and blue underpads are soaked with blood (500ml–1,000ml estimated loss).

Distractors (Trigger #3)

* Sister says, “What is that? Oh my God!”
* Sister becomes very upset.

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