2022

Drill & Simulation Binder

A guide to quick, multidisciplinary OB drills

Post-Partum Hemorrhage Drills

The heart and science of medicine.

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Welcome to the Drill Book. Doing OB drills might be near the last thing you want to do if you have a few minutes for yourself, so we put together a framework that might make it easier.

The goal is to run and talk through infrequent events frequently, in order to develop the mental and muscle memory to help you during those times when you need it. We do not have easy jobs.
These drills are designed to be quick (10-15 min, shorter if you want), multidisciplinary (perfect for that nullip second stage), and above all, judgement-free: this is an educational activity, no bad question, no response that cannot be corrected. We encourage the use of teaching tools during the drill, to remind you of those small details.

Use these resources during any drill - this is not a test.

Feel free to modify based on how the team feels: even running through a drill sitting at the

Drill Champion Instructions:

1. Identify the availability of at least 2 different Providers (ie. Nursing & OB Provider)
2. Select scenario type: PPH vs. HTN Crisis
3. Choose Appropriate binder and select scenario
4. Access applicable resources for drill: ie. Vital sign cards, blood product cards, role cards
5. Review Scenario and then identify your participants
6. Explain that this is a drill and review the Pre-Brief section with them
   a. This is the time to identify the environment in which the drill is happening
   b. Identify if participants need to find the resources located on the unit or if you've provided any of them in your environment
      i. Medications, algorithm, PPH cart/scale, etc.
         1. This is a good time to review WHERE things can be located
   c. Remind them to complete a debrief of the scenario utilizing the unit-specific debrief form as part of the simulation
7. Run scenario, identify when the scenario portion is complete, and have participants complete a debrief.
8. After the participants complete their debrief, announce the END to drill.
9. Utilizing the Debrief Quick Reference Guide go through these steps including reviewing the debrief form that was filled out by participants.
   a. Highlight where these forms live, how quick it was to fill out, where to file completed ones, and the process to which they will be utilized
      i. IE. Nurse Manager will collect these and bring them to the QI committee for review
10. Thank everyone for their participation and distribute tokens of appreciation (if applicable)
11. Fill out Grab & Go Drill Log, file in designated spot, and return all drill items to drill binder

Role Cards

It may be helpful to have role cards available to use as a tool in the prebrief if you are working with novice learners. These can also be utilized in the debrief to review who did what, who's responsible for what, and to share a general awareness of what all members of the team are doing in this type of OB emergency. Examples of the different roles on the team can be found below.

Role Card Options:

- Primary RN
- Secondary RN
- Charge RN
- OB Resident
- OB Attending
- Anesthesia Provider
- Additional Personnel
- Nursing Assistant/Tech
- Support Staff

For permanent role cards to be used during simulation: you can create them via print-your-own sites such as: https://www.zazzle.com/create_your_own_badge-256357529671054531

Supply List

This drill binder does not provide the following supplies; you should retrieve these items for the drills.

Additional PPH Drill Supplies: When setting up for your drill consider the environment. If you're not in a patient care area with all of the equipment and supplies available, make sure you grab everything you need to create a realistic environment and the resources you want participants to use.

Items to consider:

1. IV start supplies. For most of the drills the patient already has an IV in place. Cutting the catheter off the hub and securing with a tegaderm looks pretty realistic!
2. IV tubing
3. Bag of IVF
4. Pressure bag for IVF
5. Demo medications:
    a. Pitocin
    b. Methergine
    c. Hemabate
    d. Misoprostol
    e. TXA
6. Syringes and needles for drawing up medication
7. IV pump and channel and pole
8. Supplies for drawing labs
9. BP cuff/stethoscope and/or BP monitor
10. O2 sat probe and cable
11. O2 source and NC/face mask/non rebreather
12. Fake blood
13. Additional chux pads
14. Demo Bakri balloon or other hospital specific option for uterine tamponade
15. Demo PPH cart or visual representation of the cart
16. Scale
17. Gown for patient if using a real person or manikin
18. Copies of either your hospitals checklists, algorithms and protocols or the AIM versions provided

PPH – Case Study Packets

In the next section, you will find different case studies.

In each packet you will find:

- Laminated case study and facilitator guide
- Laminated patient case study – to be given to primary RN
- Laminated VS Cards
- Laminated Role Cards
- AIM PPH Checklist (paper copy) – replace with your institution's version if created.
- AIM Debrief Form (paper copy) – replace with your institution's version if created.
- Grab & Go Drill Log – to be completed at the end to document drill

In the 4th envelope, you will find an additional activity for a scavenger hunt that staff could participate in to identify where their resources are located. Tailor as need be.

- Scavenger hunt activity sheet.

Case #1

General Simulation Instructions:

General Principles during the Simulation:

We recommend that the team run the scenario as if they were addressing the care of a real patient. This means obtaining all adjunct supplies and calling ancillary services as they would in a real-life emergent situation. If medications are needed,those should be retrieved – but not opened – to prevent waste.

The team should assign a member to write down the desired orders as if they were ordering them in the electronic medical record (if applicable). Using this approach provides an opportunity to both observe the teamwork and communication and identify any potential facilities or systems issues that arise.

If you have little time, specifically state where each needed cart/equipment/medication is and how it will be used/administered.

Case 1: Postpartum Hemorrhage Secondary to Uterine Atony

Learning Objectives:

By the end of this scenario, each care team member should be able to successfully do the following:

- Recognize risk factors for postpartum hemorrhage.
- Identify postpartum hemorrhage due to uterine atony and be able to treat with appropriate medical management.
- Demonstrate teamwork and communication skills during a simulated postpartum hemorrhage.

Case Scenario:

Patient Information

Mrs. Marla Smith is a 38-year-old G3P2012 who was admitted in active labor at 39+3 weeks and had a spontaneous vaginal delivery 30 minutes ago.

- Her delivery was uncomplicated. She had a first-degree laceration that did not require repair. She is approximately 30 minutes postpartum and has just called out because she feels dizzy and has more bleeding.
- She has no significant past medical history.
- She has no known drug allergies.
- Her pregnancy was uncomplicated except for an elevated 1-hour glucose screen with a normal 3- hour glucose tolerance test.

Laboratory Data (On Admission):

- Hemoglobin: 12.2
- Hematocrit: 36.6 ▪ WBC: 12,000
- Platelets: 218,000

What do you want to know about the delivery?

Delivery Information

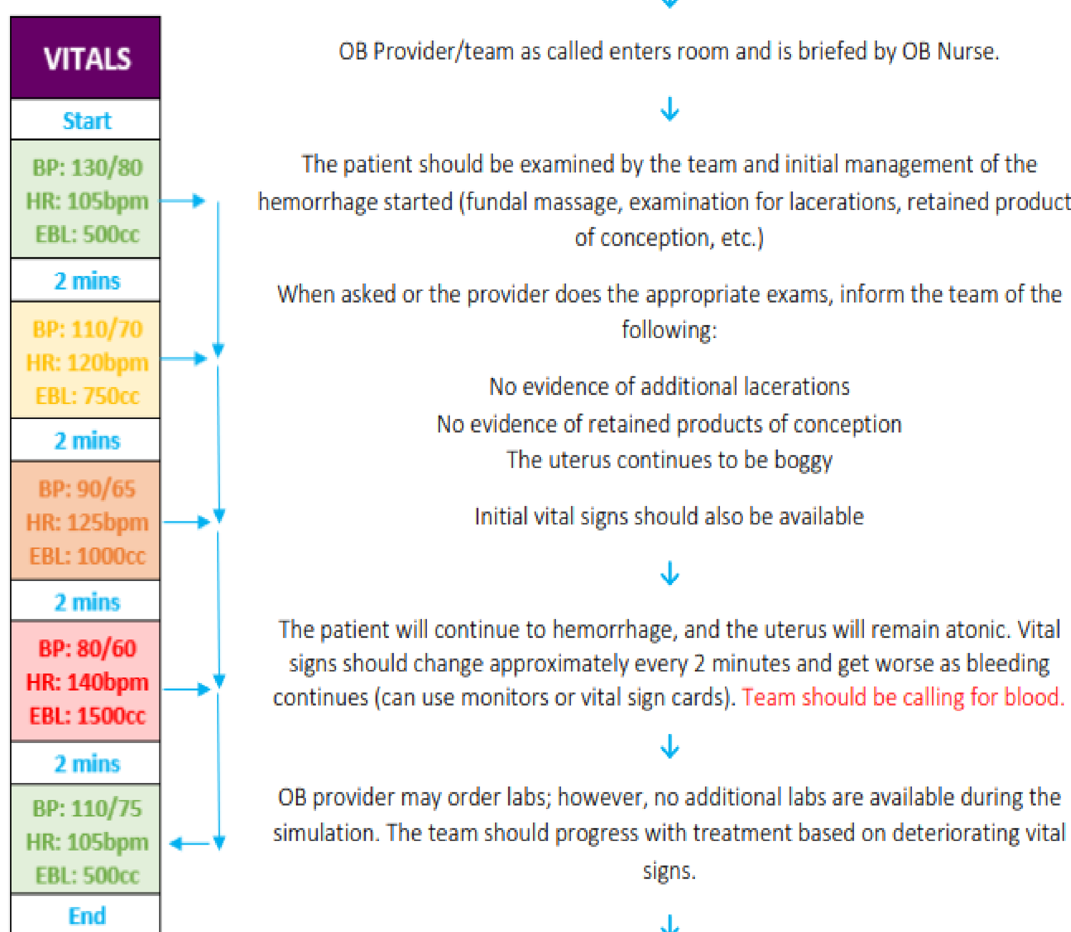
- Measurement of cumulative blood loss (as quantitative as possible) from the delivery was 300cc.
- The placenta was inspected at the time of delivery and appeared to be intact per the delivery note.
- There was only a first-degree laceration that did not require repair.
- The infant weighed 4120 grams.
- The patient has an IV line in place with oxytocin running.

What do you want to know about her medical history?

- The patient does not have a history of asthma or hypertension in this case.
- The patient does not have any known allergies to medications.
- If asked additional questions, try to redirect and not answer specifics so as not to introduce things that might complicate the scenario (i.e. don’t say that she has a relative with an unknown bleeding disorder

Case 1: Case Flow/Algorithm with Branch Point and Completion Criteria

Simulation facilitator will introduce the scenario to the team outside the room and then bring OB Nurse to the patient's room to review the patient scenario. The OB Nurse should then enter the room, assess the patient and then call for assistance.



OB Provider/team as called enters room and is briefed by OB Nurse.

The patient should be examined by the team and initial management of the hemorrhage started (fundal massage, examination for lacerations, retained products of conception, etc.)

When asked or the provider does the appropriate exams, inform the team of the following:

No evidence of additional lacerations
No evidence of retained products of conception
The uterus continues to be boggy

Initial vital signs should also be available

The patient will continue to hemorrhage, and the uterus will remain atonic. Vital signs should change approximately every 2 minutes and get worse as bleeding continues (can use monitors or vital sign cards). Team should be calling for blood.

OB provider may order labs; however, no additional labs are available during the simulation. The team should progress with treatment based on deteriorating vital signs.

Providers should recognize hemorrhage and call for additional help and administer medications (may also use Intrauterine balloon tamponade or pack uterus).

Scenario ends when the team has done the following:

Performed uterine massage
Examined for lacerations
Evaluated for retained products of conception
Administered two medications to correct uterine atony (correct dose and route)
Called for blood

OR

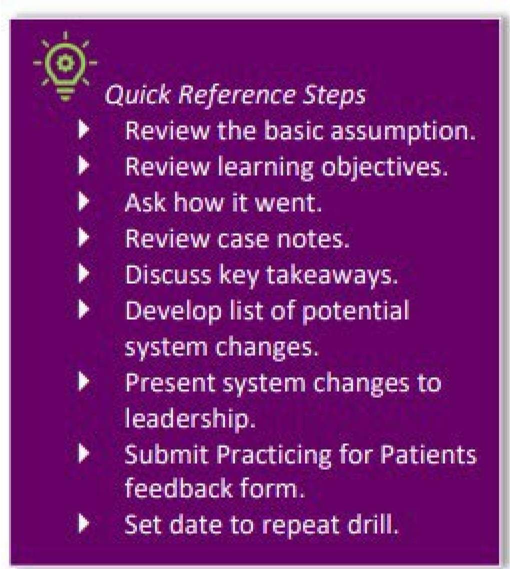
The team fails to correct the hemorrhage within 10 minutes or fails to call for blood.

Planned Completion Points:

To successfully complete this scenario, the care team should successfully do the following:

- Recognize uterine atony as the etiology for postpartum hemorrhage.
- Perform uterine massage.
- Administer two different uterotonic medications.
- Call for blood (e.g. 2 units of PRBCs).
- If 10 minutes has elapsed after recognition of hemorrhage and the team has not corrected the hemorrhage or called for blood.

Debrief:



Complete debrief form with focus on educational issues and system improvements

Fill out drill log and give to RN Manager/Educator

Initial

BP: 130/80

HR: 105

EBL: 500ml

2 Minutes

BP: 110/70

HR: 120

EBL: 750ml

4 minutes

BP: 90/65

HR: 125

EBL: 1000ml

6 minutes

BP: 80/60

HR: 140

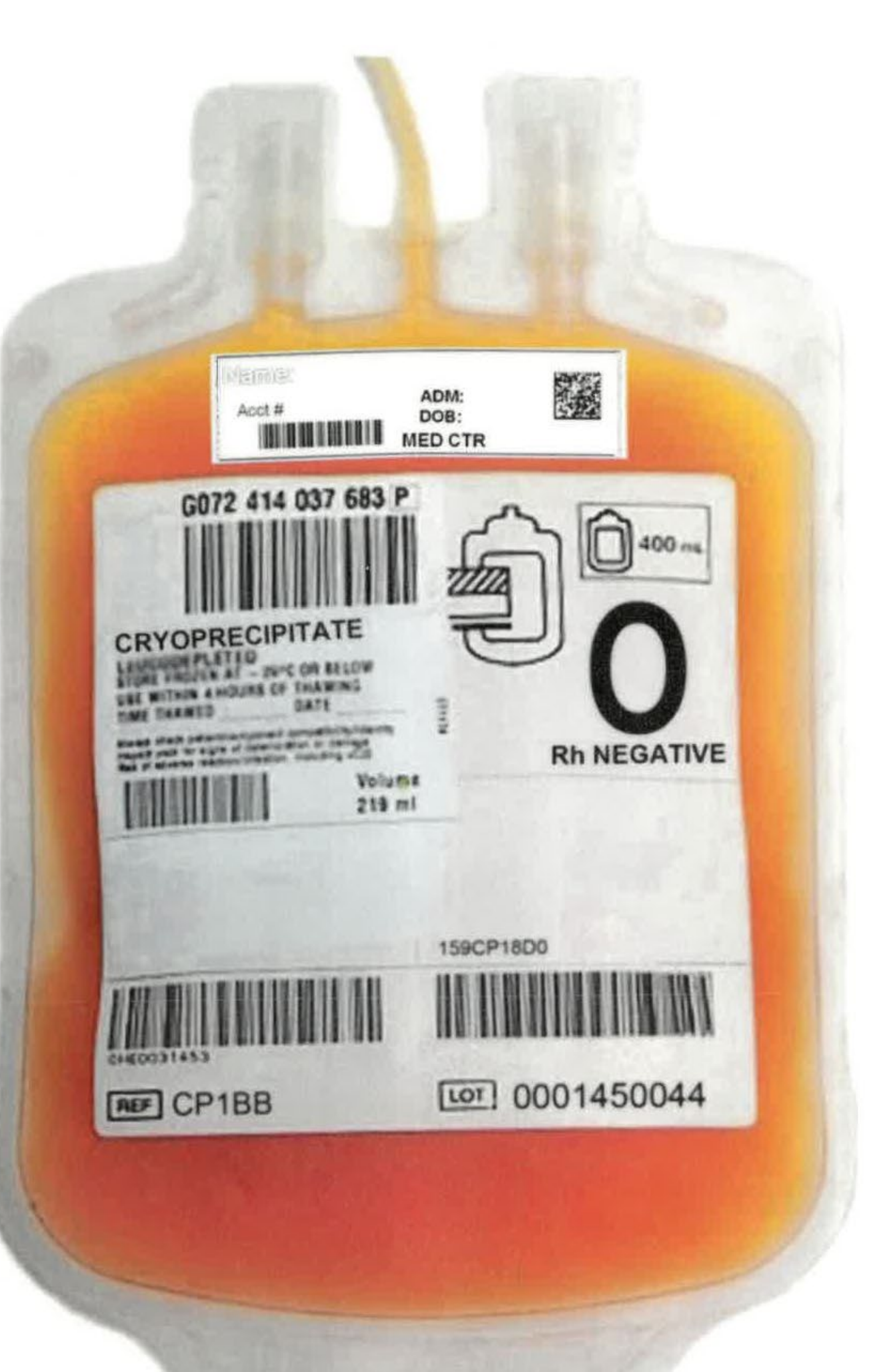
EBL: 1500ml

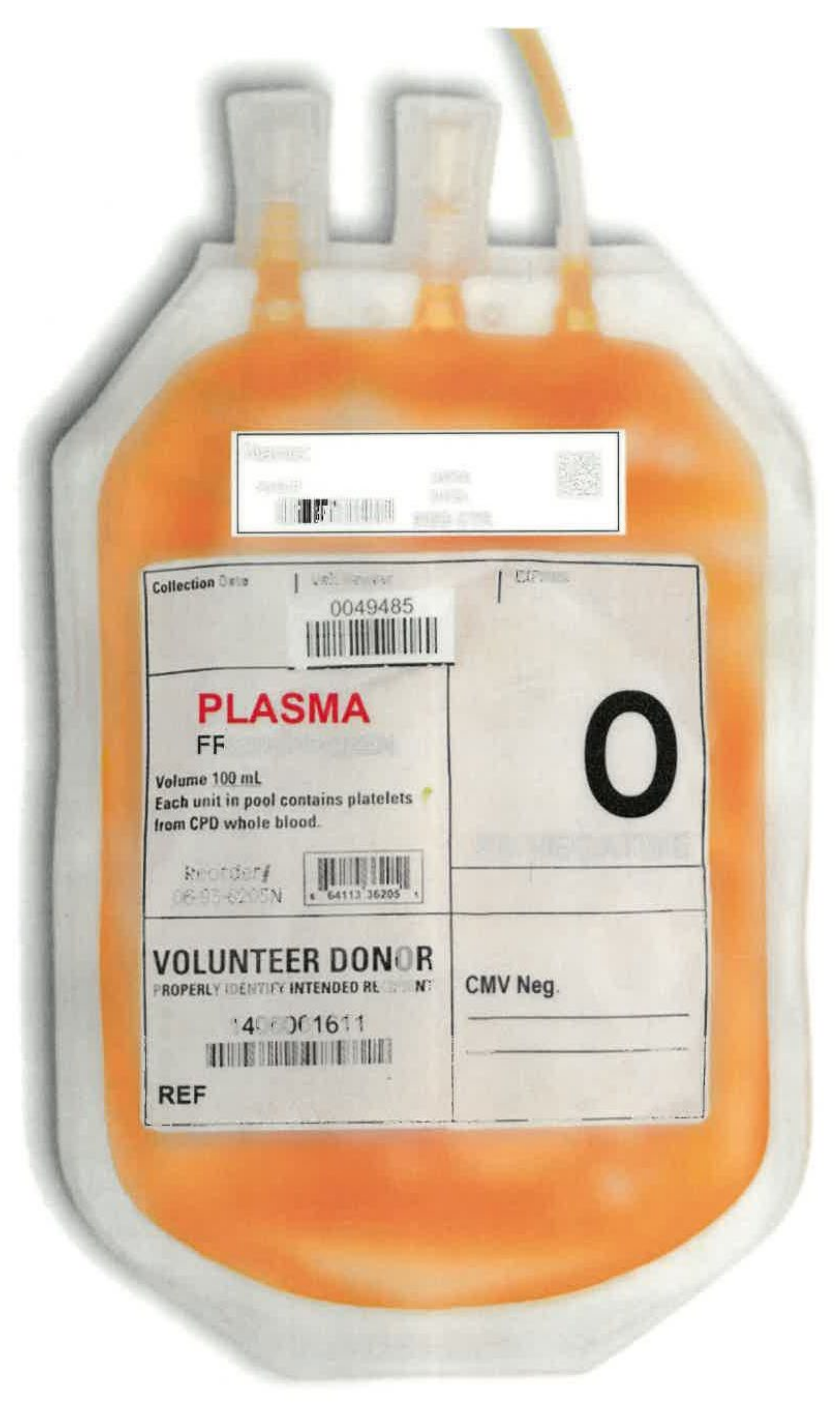
10 minutes

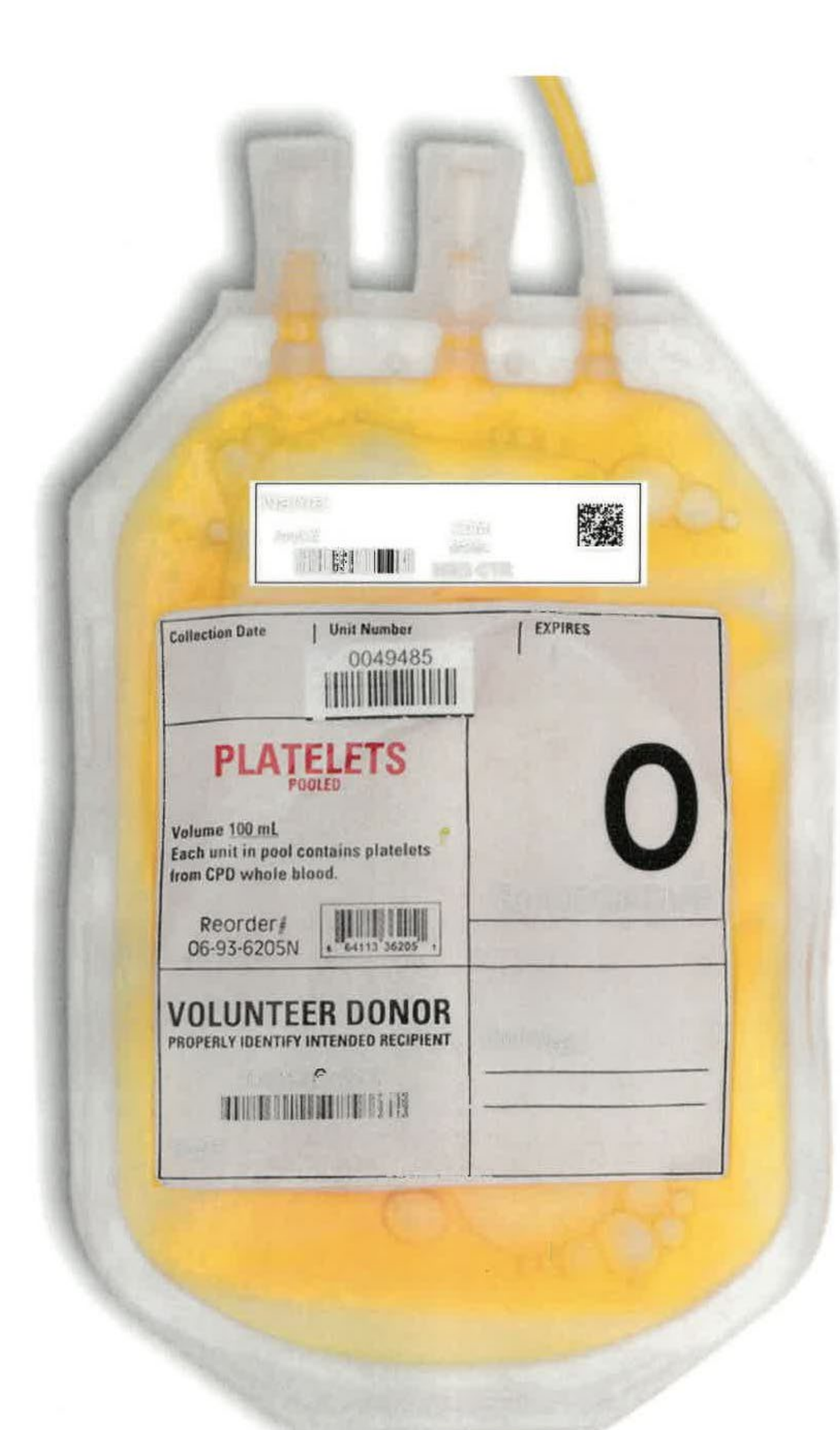
BP: 110/75

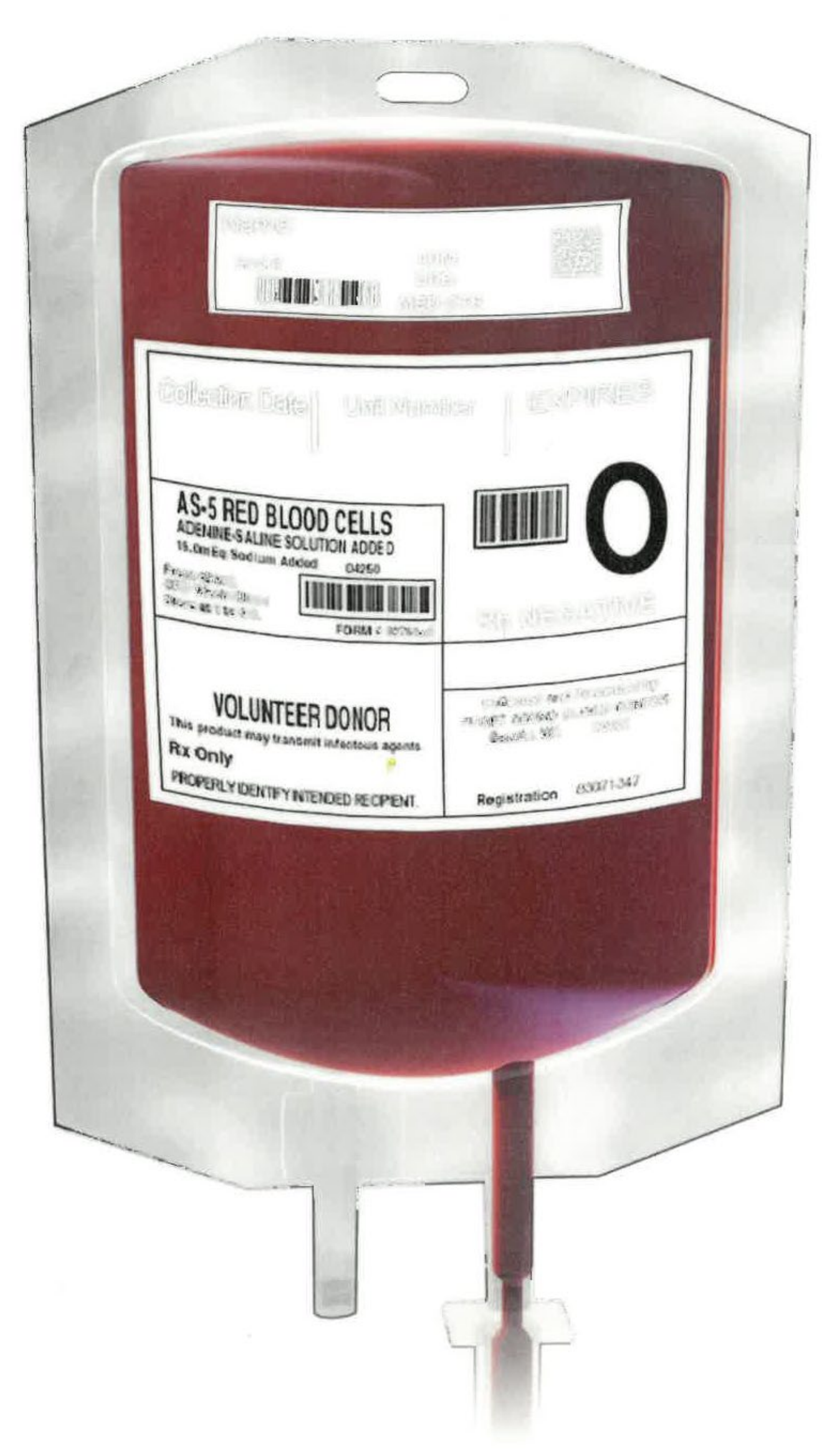
HR: 105

EBL: 500ml


Name:
Acct #
ADM:
DOB:
MED CTR
G072 414 037 683 P
CRYOPRECIPITATE
USE WITHIN 4 HOURS OF THAWING
Volume
219 ml
O
Rh NEGATIVE
159CP18D0
REF CP1BB
LOT 0001450044


Collection Date
0049485
PLASMA
FF
Volume 100 mL
Each unit in pool contains platelets
from CPD whole blood.
0
VOLUNTEER DONOR
CMV Neg.
REF


Collection Date
Unit Number
0049485
EXPIRES
PLATELETS
POOLED
O
Volume 100 mL
Each unit in pool contains platelets
from CPD whole blood.
Reorder#
06-93-6205N
VOLUNTEER DONOR
PROPERLY IDENTIFY INTENDED RECIPIENT



AS-5 RED BLOOD CELLS
ADENINE-SALINE SOLUTION ADDED
O
VOLUNTEER DONOR
This product may transmit infectious agents
Rx Only
PROPERLY IDENTIFY INTENDED RECIPIENT.
Registration

AS-5 RED BLOOD CELLS
ADENINE-SALINE SOLUTION ADDED
CPD Whole Blood
O
VOLUNTEER DONOR
Rx Only
PROPERLY IDENTIFY INTENDED RECIPIENT.
Registration

PPH Role Card – RN

RN – This encompasses the RN role and could be divided up amongst multiple RNs (i.e. Primary, Secondary, Charge) based on how your team functions:

- Ask for help/hit the call light
- Activate Team: Notify appropriate providers (follow paging or OB emergency protocols)
- *Are the right team members present? Consider additional players if need be:
  - Additional OB Providers (consider MFM)
  - OB Anesthesiology
  - Gyn-Onc Providers
  - Rapid Response Team
- Relays pertinent medical history / current situation
- Assess need for IV and labs
- Obtains PPH cart
  - Prepare to set-up Bakri as indicated
- Obtain OB Hemorrhage Flowsheet & Checklist
- Obtains virtual PPH medication kit from Pyxis
- Obtain blood products from lab as ordered (consider activating MTP)
- Perform VS
- Administer medications as ordered by OB Provider (consider medical hx)
- Administer IV fluids/bolus as ordered by OB Provider
- Continue uterine massage
- Insert foley catheter
- Weigh and communicate QBL
- Communicate with family
- Prepare for transfer to higher level of care or operating room

PPH Role Card – Resident Provider

Get IV access

CBC, fibrinogen, coags, Type and Cross x2 units

Call senior OB Provider and/or attending
Order labs

Exam for etiology and treatment
Initiate uterotonics as indicated
Initiate TXA and PPH algorithms if indicated

Request MTP activation if indicated
Request blood to be brought to room

Assess level for PPH: admission, second stage, transfer to PP
Active management third stage
Assess for etiology
Initiate treatment as appropriate
Call for assistance, anesthesiology
Move to OR Stage 2 (EBL > 1000)

Communicate with family

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

PPH Role Card – Attending Provider

Get IV access

CBC, fibrinogen, coags, Type and Cross x2 units

Call additional OB Provider and/or attending
Ask for Gyn Onc to be called as indicated
Order labs

Exam for etiology and treatment
Initiate uterotonics as indicated
Initiate TXA and PPH algorithms if indicated

Request MTP activation if indicated
Request blood to be brought to room

Assess level for PPH: admission, second stage, transfer to PP
Active management third stage
Assess for etiology
Initiate treatment as appropriate
Call for assistance, anesthesiology
Move to OR Stage 2 (EBL > 1000)

Communicate with family

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

PPH Role Card – Anesthesia Provider

- Collaborate with OB re: etiology and treatment
- Assess for optimal mode of analgesia as clinically indicated
- Assess need for pressors (and initiate if needed)
- Request MTP activation if indicated
- Assist in moving to OR, establishing additional IV access for volume

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

PPH Role Card – LNA/Support Staff

- Clear room of extraneous equipment/furniture
- Provide support to support person or newborn as needed (newborn to nursery)
- Complete VS as delegated by RN
- Weigh and calculate QBL
- Provide support in covering lights/completing hourlies in other patient rooms
- If delegated, assist with transfer to higher level of care.

Obstetric Hemorrhage Checklist

EXAMPLE

Complete all steps in prior stages plus current stage regardless of stage in which the patient presents.

Postpartum hemorrhage is defined as cumulative blood loss of greater than or equal to 1,000mL or blood loss accompanied by signs or symptoms of hypovolemia within 24 hours. However, blood loss >500mL in a vaginal delivery is abnormal, and should be investigated and managed as outlined in Stage 1.

RECOGNITION:

- ☐ Call for assistance (Obstetric Hemorrhage Team)

Designate: ☐ Team leader ____________ ☐ Checklist reader/recorder ☐ Primary RN

Announce: ☐ Cumulative blood loss ☐ Vital signs ____________ ☐ Determine stage

STAGE 1: Blood loss >1000mL after delivery with normal vital signs and lab values. Vaginal delivery 500-999mL should be treated as in Stage 1.

INITIAL STEPS:

- ☐ Ensure 16G or 18G IV Access
- ☐ Increase IV fluid (crystalloid without oxytocin)
- ☐ Insert indwelling urinary catheter
- ☐ Fundal massage

MEDICATIONS:

- ☐ Ensure appropriate medications given patient history
- ☐ Increase oxytocin, additional uterotonics

BLOOD BANK:

- ☐ Confirm active type and screen and consider crossmatch of 2 units PRBCs

ACTION:

- ☐ Determine etiology and treat
- ☐ Prepare OR, if clinically indicated (optimize visualization/examination)

Oxytocin (Pitocin):
10-40 units per 500-1000mL solution

Methylergonovine (Methergine):
0.2 milligrams IM (may repeat);
Avoid with hypertension

15-methyl PGF$_2\alpha$ (Hemabate, Carboprost):
250 micrograms IM (may repeat in q15 minutes, maximum 8 doses); **Avoid with asthma; use with caution with hypertension**

Misoprostol (Cytotec):
800-1000 micrograms PR
600 micrograms PO or 800 micrograms SL

Tone (i.e., atony)
Trauma (i.e., laceration)
Tissue (i.e., retained products)
Thrombin (i.e., coagulation dysfunction)

STAGE 2: Continued Bleeding (EBL up to 1500mL OR ≥ 2 uterotonics) with normal vital signs and lab values *(*two or more uterotonics in addition to routine oxytocin administration; or ≥ 2 administrations of the same uterotonic)*

INITIAL STEPS:

- ☐ Mobilize additional help
- ☐ Place 2nd IV (16-18G)
- ☐ Draw STAT labs (CBC, Coags, Fibrinogen)
- ☐ Prepare OR

MEDICATIONS:

- ☐ Continue Stage 1 medications; consider TXA

Tranexamic Acid (TXA)
1 gram IV over 10 min (add 1 gram vial to 100mL NS & give over 10 min; may be repeated once after 30 min)

BLOOD BANK:

- ☐ Obtain 2 units PRBCs (DO NOT wait for labs. Transfuse per clinical signs/symptoms)
- ☐ Thaw 2 units FFP

ACTION:

- ☐ For uterine atony --> consider uterine balloon or packing, possible surgical interventions
- ☐ Consider moving patient to OR
- ☐ Escalate therapy with goal of hemostasis

Possible interventions:
- Bakri balloon
- Compression suture/B-Lynch suture
- Uterine artery ligation
- Hysterectomy

Huddle and move to Stage 3 if continued blood loss and/or abnormal VS

Safe Motherhood Initiative

ACOG
The American College of Obstetricians and Gynecologists
District II

Revised September 2020

STAGE 3: Continued Bleeding (EBL > 1500mL OR > 2 RBCs given OR at risk for occult bleeding/coagulopathy OR any patient with abnormal vital signs/labs/oliguria)

INITIAL STEPS:
- ☐ Mobilize additional help
- ☐ Move to OR
- ☐ Announce clinical status (vital signs, cumulative blood loss, etiology)
- ☐ Outline and communicate plan

MEDICATIONS:
- ☐ Continue Stage 1 medications; consider TXA

BLOOD BANK:
- ☐ Initiate Massive Transfusion Protocol (If clinical coagulopathy: add cryoprecipitate, consult for additional agents)

ACTION:
- ☐ Achieve hemostasis, intervention based on etiology
- ☐ Escalate interventions

Oxytocin (Pitocin):
10-40 units per 500-1000mL solution

Methylergonovine (Methergine):
0.2 milligrams IM (may repeat);
Avoid with hypertension

15-methyl $PGF_2\alpha$ (Hemabate, Carboprost):
250 micrograms IM
(may repeat in q15 minutes, maximum 8 doses)
Avoid with asthma;
use with caution with hypertension

Misoprostol (Cytotec):
800-1000 micrograms PR
600 micrograms PO or 800 micrograms SL

Tranexamic Acid (TXA)
1 gram IV over 10 min (add 1 gram vial to 100mL NS & give over 10 min; may be repeated once after 30 min)

Possible interventions:
- Bakri balloon
- Compression suture/B-Lynch suture
- Uterine artery ligation
- Hysterectomy

STAGE 4: Cardiovascular Collapse (massive hemorrhage, profound hypovolemic shock, or amniotic fluid embolism)

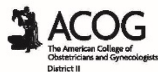
INITIAL STEP:
- ☐ Mobilize additional resources

MEDICATIONS:
- ☐ ACLS

BLOOD BANK:
- ☐ Simultaneous aggressive massive transfusion

ACTION:
- ☐ Immediate surgical intervention to ensure hemostasis (hysterectomy)

Post-Hemorrhage Management
- Determine disposition of patient
- Debrief with the whole obstetric care team
- Debrief with patient and family
- Document



Obstetric Team Debriefing Form

Remember: Debriefing is meant to be a learning experience and a way to address both human factors and systems issues to improve the response for next time. There is to be no blaming/finger-pointing.

Type of event: ______________________ **Date of event:** ____________

Location of event: ______________________

Members of team present: (check all that apply)

- ☐ Primary RN
- ☐ Primary MD
- ☐ Charge RN
- ☐ Resident(s)
- ☐ Anesthesia personnel
- ☐ Neonatology personnel
- ☐ MFM leader
- ☐ Patient Safety Officer
- ☐ Nurse Manager
- ☐ OB/Surgical tech
- ☐ Unit Clerk
- ☐ Other RNs

Thinking about how the obstetric emergency was managed,

Identify what went well:
(Check if yes)

- ☐ Communication
- ☐ Role clarity (leader/supporting roles identified and assigned)
- ☐ Teamwork
- ☐ Situational awareness
- ☐ Decision-making
- ☐ Other: ______________________

Identify opportunities for improvement:
"human factors" (Check if yes)

- ☐ Communication
- ☐ Role clarity (leader/supporting roles identified and assigned)
- ☐ Teamwork
- ☐ Situational awareness
- ☐ Decision-making
- ☐ Other: ______________________

Identify opportunities for improvement:
"systems issue" (Check if yes)

- ☐ Equipment
- ☐ Medication
- ☐ Blood product availability
- ☐ Inadequate support (in unit or other areas of the hospital)
- ☐ Delays in transporting the patient (within hospital or to another facility)
- ☐ Other: ______________________

Obstetric Team Debriefing Form

For identified issues, fill in table below

Issue	Actions to be Taken	Person Responsible
	1	
	2	
	3	
	4	

Grab and Go Drill Log Information

(to be utilized by drill facilitators)

Date:

Time:

Scenario:

Location (ex. M7, B7, OR):

Participants:

Facilitator:

General Simulation Instructions:

General Principles during the Simulation:

We recommend that the team run the scenario as if they were addressing the care of a real patient. This means obtaining all adjunct supplies and calling ancillary services as they would in a real-life emergent situation. If medications are needed, those should be retrieved – but not opened – to prevent waste.

The team should assign a member to write down the desired orders as if they were ordering them in the electronic medical record (if applicable). Using this approach provides an opportunity to both observe the teamwork and communication and identify any potential facilities or systems issues that arise.

If you have little time, specifically state where each needed cart/equipment/medication is and how it will be used/administered.

Case 2: Postpartum Hemorrhage Secondary to Uterine Atony Requiring Intrauterine Tamponade with a Balloon or Uterine Packing

Learning Objectives:

By the end of this scenario, each care team member should be able to successfully do the following:

- Recognize risk factors for postpartum hemorrhage.
- Identify postpartum hemorrhage due to uterine atony and be able to treat with appropriate medical management.
- Recognize persistent hemorrhage requiring additional management with intrauterine tamponade with a balloon or packing.
- Demonstrate teamwork and communication skills during a simulated postpartum hemorrhage.

Case Scenario:

Patient Information

Mrs. Patty Noble is a 42-year-old G5P4014 who was admitted in active labor at 38+2 weeks and just had a spontaneous vaginal delivery 30 minutes ago. The delivery was uncomplicated, and she had no lacerations. She is approximately 30 minutes postpartum and has just called out because she feels dizzy and has noticed more bleeding.

Patient Information:

- The patient has no significant past medical history.
- She has no known drug allergies.
- Her pregnancy was uncomplicated except for asymptomatic anemia with an H/H=10/30.3 and was on iron BID during her prenatal course.

Laboratory Data (On Admission):

- Hemoglobin: 10.5
- Hematocrit: 31.1
- WBC: 12,000
- Platelets: 218,000

What do you want to know about the delivery?

Delivery Information:

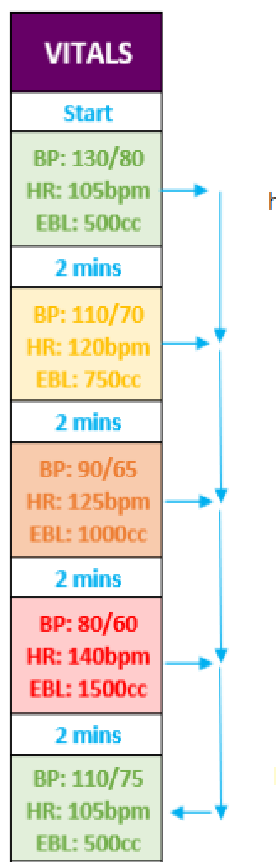
- Measurement of cumulative blood loss (as quantitative as possible) from the delivery was 400cc.
- The placenta was inspected at the time of delivery and appeared to be intact per the delivery note.
- There was no laceration.
- The infant weighed 4220 grams.
- The patient has an IV line in place with oxytocin running.

What do you want to know about her medical history?

- The patient does not have a history of asthma or hypertension in this case.
- The patient does not have any known allergies to medications.
- If asked additional questions, try to redirect and not answer specifics so as not to introduce things that might complicate the scenario (i.e. don’t say that she has a relative with an unknown bleeding disorder)

Case 2: Case Flow/Algorithm with Branch Point and Completion Criteria

Simulation facilitator will introduce the scenario to the team outside the room and then bring OB Nurse to the patient's room and then read them the patient scenario. The OB Nurse should then enter the room, assess the patient and then call for assistance



OB Provider/team as called enters room and is briefed by OB Nurse

↓

The patient should be examined by the team and initial management of the hemorrhage started (fundal massage, examination for lacerations, retained products of conception, etc.)

When asked or the provider does the appropriate exams, inform the team of the following:

No evidence of additional lacerations
No evidence of retained products of conception
The uterus continues to be boggy
Initial vital signs should also be available

The patient will continue to hemorrhage, and the uterus will remain atonic and vital signs should change approximately every 2 minutes and get worse as bleeding continues (can use monitors or Vital Signs cards). Team should be calling for blood.

OB provider may order labs; however, no additional labs are available during the hemorrhage. The team should progress with treatment based on deteriorating vital signs.

Providers should recognize hemorrhage and call for additional help and administer medications, but the patient continues to bleed and have vital signs worsening

Providers call for and may also use intrauterine balloon tamponade or pack uterus

Scenario ends when the team has done the following:

Recognized uterine atony as the etiology for postpartum hemorrhage
Performed uterine massage
Administered two different uterotonic medications correctly
Placed intrauterine balloon or packs the uterus
Called for blood

OR

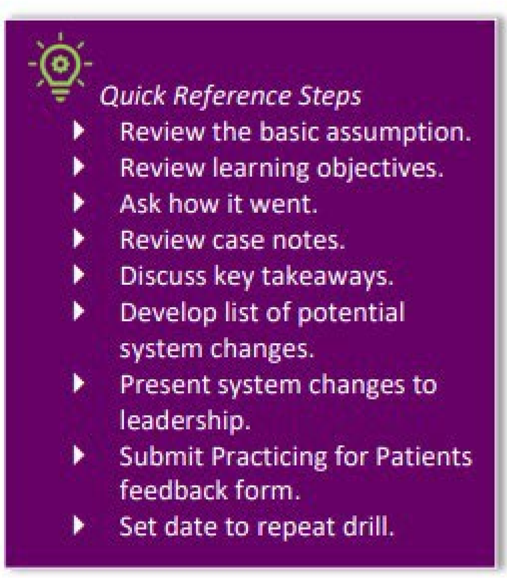
The team fails to correct the hemorrhage within 10 minutes or fails to call for blood.

Planned Completion Points

To successfully complete this scenario, the care team should do the following:

- Recognize uterine atony as the etiology for postpartum hemorrhage.
- Perform uterine massage.
- Administer two different uterotonic medications correctly.
- Recognize the need for intrauterine tamponade with a balloon or packing

DEBRIEF:



Complete debrief form with focus on educational issues and system improvements

Fill out drill log and give to RN Manager/Educator

Initial

BP: 130/80

HR: 105

EBL: 500ml

2 Minutes

BP: 110/70

HR: 120

EBL: 750ml

4 minutes

BP: 90/65

HR: 125

EBL: 1000ml

6 minutes

BP: 80/60

HR: 140

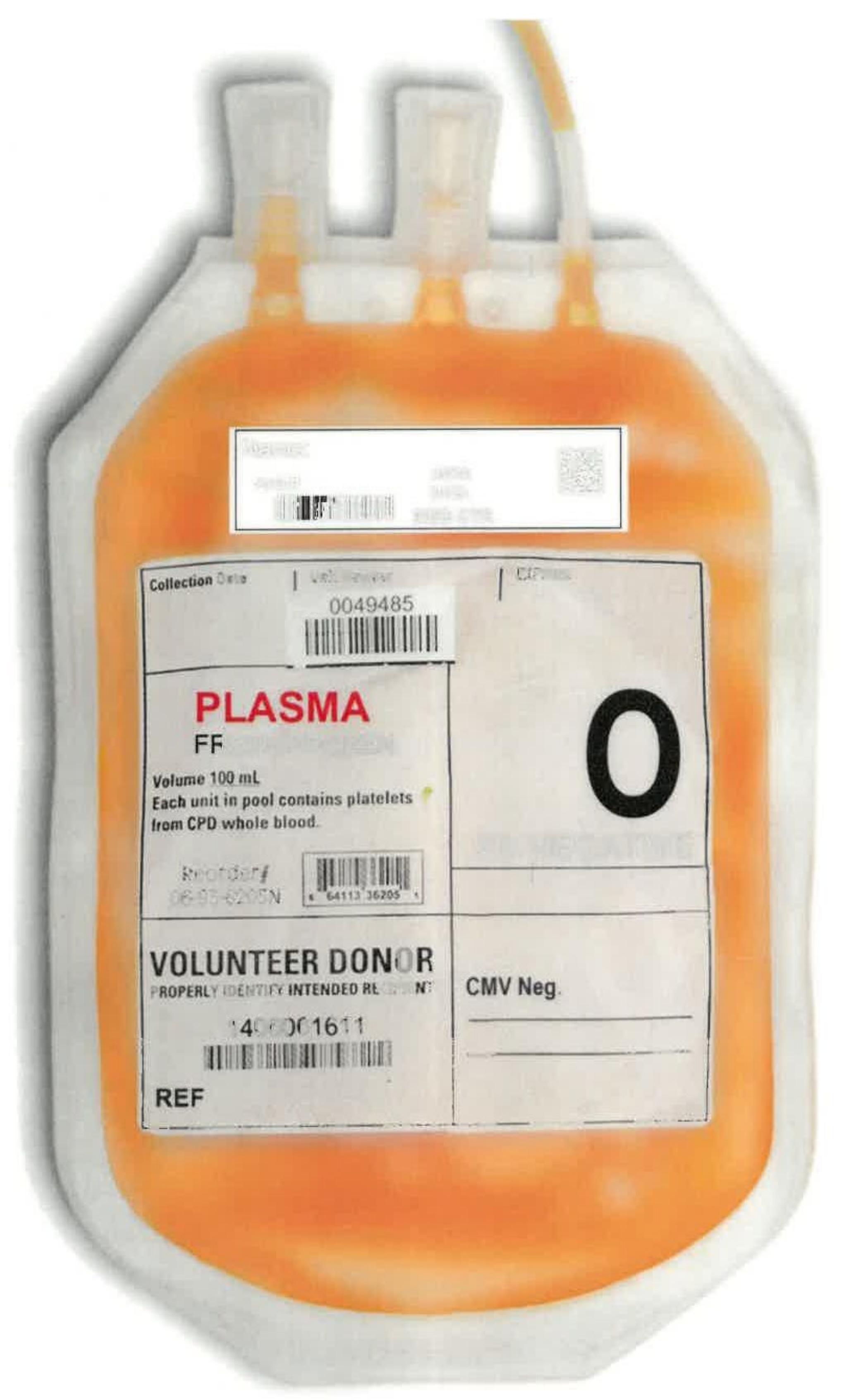
EBL: 1500ml

10 minutes

BP: 110/75

HR: 105

EBL: 500ml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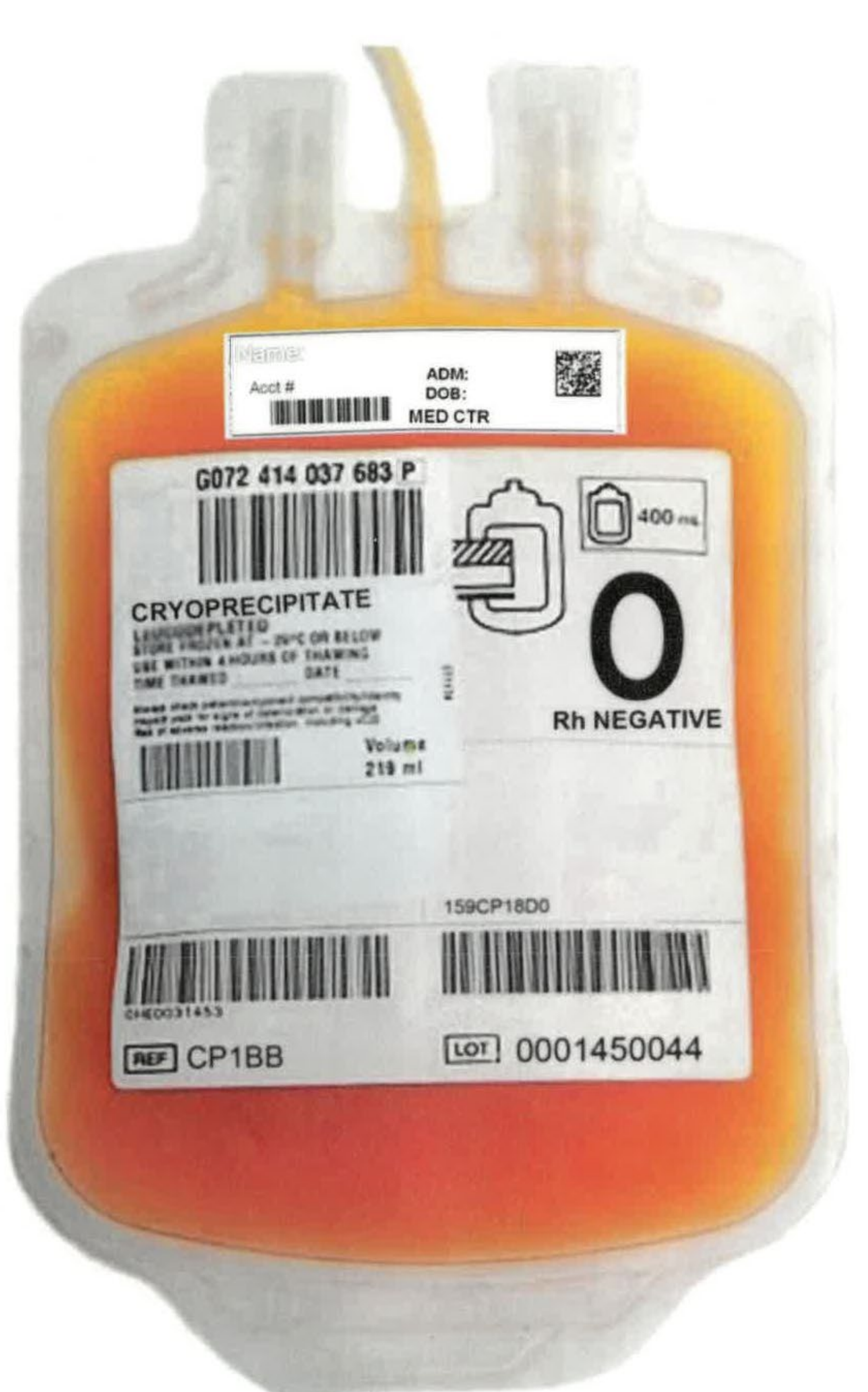
PLASMA
Volume 100 mL
Each unit in pool contains platelets
from CPD whole blood.
O
VOLUNTEER DONOR
PROPERLY IDENTIFY INTENDED RECIPIENT
CMV Neg.
REF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Acct #
ADM:
DOB:
MED CTR
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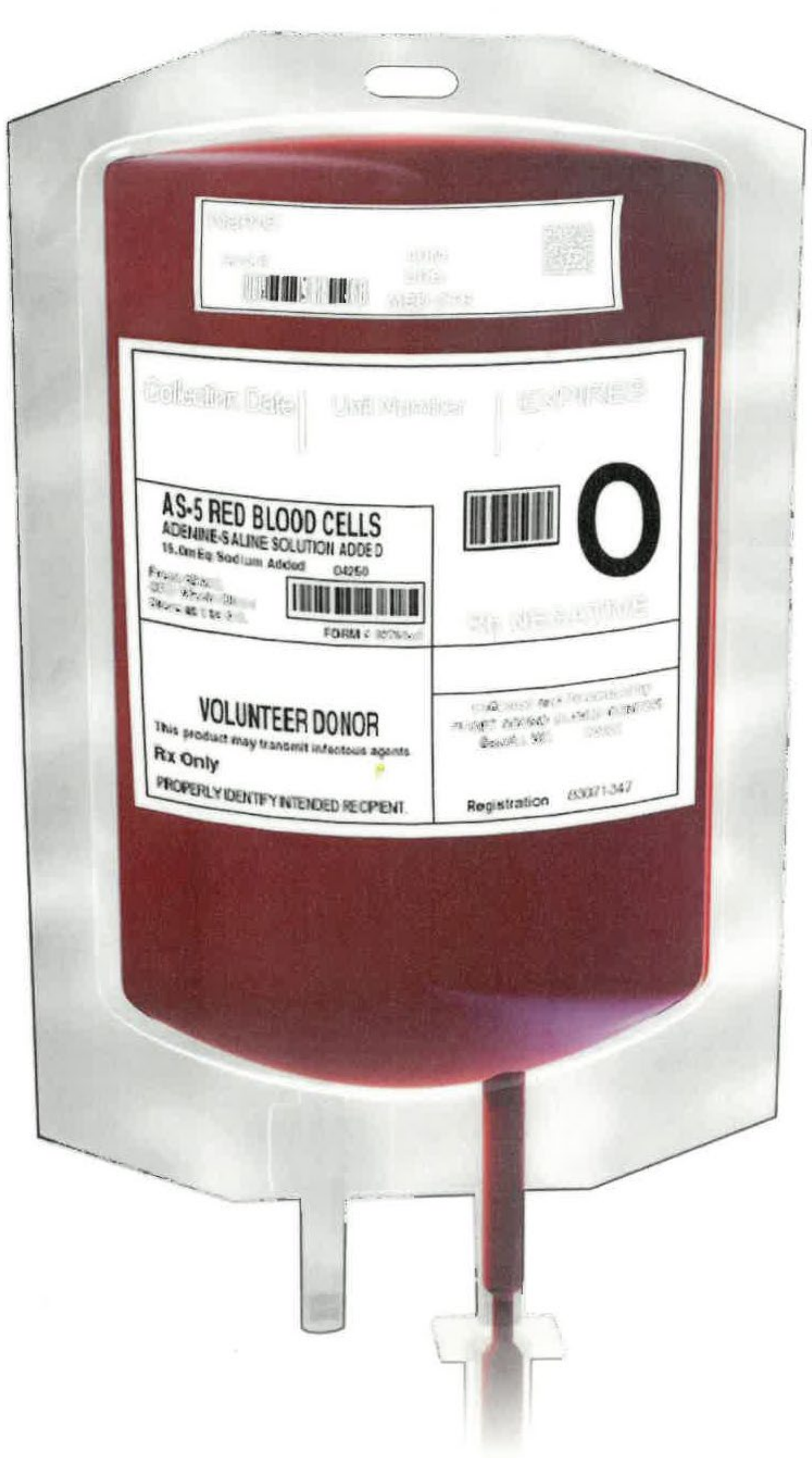
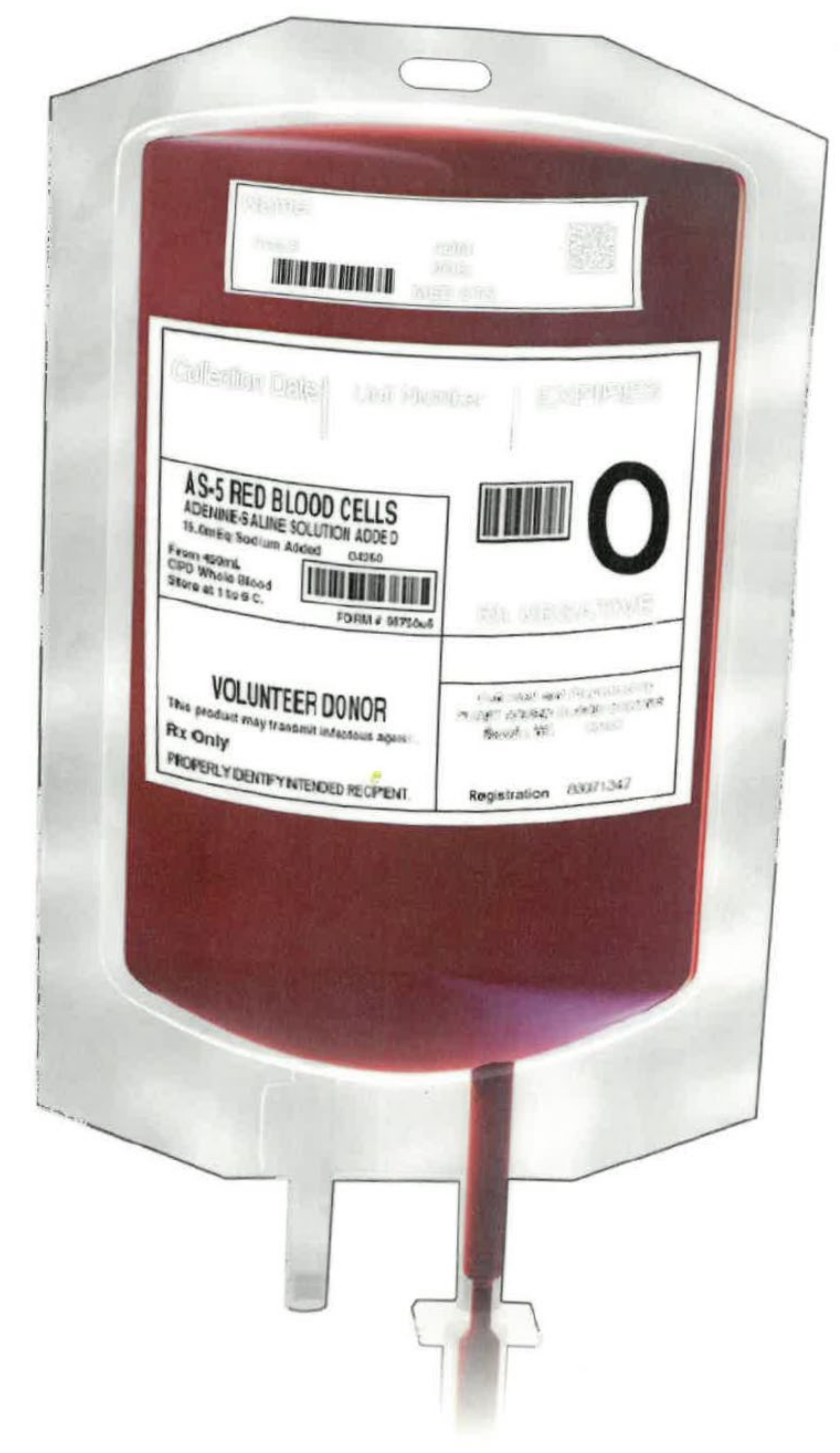
CRYOPRECIPITATE
USE WITHIN 4 HOURS OF THAWING
TIME THAWED
DATE
Volume
219 ml
O
Rh NEGATIVE
159CP18D0
REF CP1BB
LOT 0001450044

Collection Date
Unit Number
0049485
EXPIRES
PLATELETS
POOLED
O
Volume 100 mL
Each unit in pool contains platelets
from CPD whole blood.
Reorder#
06-93-6205N
VOLUNTEER DONOR
PROPERLY IDENTIFY INTENDED RECIPIENT


Collection Date
Unit Number
EXPIRES
AS-5 RED BLOOD CELLS
ADENINE-SALINE SOLUTION ADDED
Sodium Added
04250
FORM
O
VOLUNTEER DONOR
This product may transmit infectious agents
Rx Only
PROPERLY IDENTIFY INTENDED RECIPIENT
Registration



AS-5 RED BLOOD CELLS
ADENINE-SALINE SOLUTION ADDED
Sodium Added
CPD Whole Blood
O
VOLUNTEER DONOR
This product may transmit infectious agents
Rx Only
PROPERLY IDENTIFY INTENDED RECIPIENT.
Registration

PPH Role Card – RN

RN – This encompasses the RN role and could be divided up amongst multiple RNs (i.e. Primary, Secondary, Charge) based on how your team functions:

- Ask for help/hit the call light
- Activate Team: Notify appropriate providers (follow paging or OB emergency protocols)
- *Are the right team members present? Consider additional players if need be:
  - Additional OB Providers (consider MFM)
  - OB Anesthesiology
  - Gyn-Onc Providers
  - Rapid Response Team
- Relays pertinent medical history / current situation
- Assess need for IV and labs
- Obtains PPH cart
  - Prepare to set-up Bakri as indicated
- Obtain OB Hemorrhage Flowsheet & Checklist
- Obtains virtual PPH medication kit from Pyxis
- Obtain blood products from lab as ordered (consider activating MTP)
- Perform VS
- Administer medications as ordered by OB Provider (consider medical hx)
- Administer IV fluids/bolus as ordered by OB Provider
- Continue uterine massage
- Insert foley catheter
- Weigh and communicate QBL
- Communicate with family
- Prepare for transfer to higher level of care or operating room

PPH Role Card – Resident Provider

Get IV access

CBC, fibrinogen, coags, Type and Cross x2 units

Call senior OB Provider and/or attending
Order labs

Exam for etiology and treatment
Initiate uterotonics as indicated
Initiate TXA and PPH algorithms if indicated

Request MTP activation if indicated
Request blood to be brought to room

Assess level for PPH: admission, second stage, transfer to PP
Active management third stage
Assess for etiology
Initiate treatment as appropriate
Call for assistance, anesthesiology
Move to OR Stage 2 (EBL > 1000)

Communicate with family

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

PPH Role Card – Attending Provider

Get IV access

CBC, fibrinogen, coags, Type and Cross x2 units

Call additional OB Provider and/or attending
Ask for Gyn Onc to be called as indicated
Order labs

Exam for etiology and treatment
Initiate uterotonics as indicated
Initiate TXA and PPH algorithms if indicated

Request MTP activation if indicated
Request blood to be brought to room

Assess level for PPH: admission, second stage, transfer to PP
Active management third stage
Assess for etiology
Initiate treatment as appropriate
Call for assistance, anesthesiology
Move to OR Stage 2 (EBL > 1000)

Communicate with family

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

PPH Role Card – Anesthesia Provider

- Collaborate with OB re: etiology and treatment
- Assess for optimal mode of analgesia as clinically indicated
- Assess need for pressors (and initiate if needed)
- Request MTP activation if indicated
- Assist in moving to OR, establishing additional IV access for volume

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

PPH Role Card – LNA/Support Staff

- Clear room of extraneous equipment/furniture
- Provide support to support person or newborn as needed (newborn to nursery)
- Complete VS as delegated by RN
- Weigh and calculate QBL
- Provide support in covering lights/completing hourlies in other patient rooms
- If delegated, assist with transfer to higher level of care.

Obstetric Hemorrhage Checklist

EXAMPLE

Complete all steps in prior stages plus current stage regardless of stage in which the patient presents.

Postpartum hemorrhage is defined as cumulative blood loss of greater than or equal to 1,000mL or blood loss accompanied by signs or symptoms of hypovolemia within 24 hours. However, blood loss >500mL in a vaginal delivery is abnormal, and should be investigated and managed as outlined in Stage 1.

RECOGNITION:

☐ Call for assistance (Obstetric Hemorrhage Team)

Designate: ☐ Team leader ______ ☐ Checklist reader/recorder ☐ Primary RN

Announce: ☐ Cumulative blood loss ☐ Vital signs ______ ☐ Determine stage

STAGE 1: Blood loss >1000mL after delivery with normal vital signs and lab values. Vaginal delivery 500-999mL should be treated as in Stage 1.

INITIAL STEPS:

☐ Ensure 16G or 18G IV Access
☐ Increase IV fluid (crystalloid without oxytocin)
☐ Insert indwelling urinary catheter
☐ Fundal massage

MEDICATIONS:

☐ Ensure appropriate medications given patient history
☐ Increase oxytocin, additional uterotonics

BLOOD BANK:

☐ Confirm active type and screen and consider crossmatch of 2 units PRBCs

ACTION:

☐ Determine etiology and treat
☐ Prepare OR, if clinically indicated (optimize visualization/examination)

Oxytocin (Pitocin):
10-40 units per 500-1000mL solution

Methylergonovine (Methergine):
0.2 milligrams IM (may repeat);
Avoid with hypertension

15-methyl PGF$_2\alpha$ (Hemabate, Carboprost):
250 micrograms IM (may repeat in q15 minutes, maximum 8 doses); **Avoid with asthma; use with caution with hypertension**

Misoprostol (Cytotec):
800-1000 micrograms PR
600 micrograms PO or 800 micrograms SL

Tone (i.e., atony)
Trauma (i.e., laceration)
Tissue (i.e., retained products)
Thrombin (i.e., coagulation dysfunction)

STAGE 2: Continued Bleeding (EBL up to 1500mL OR ≥ 2 uterotonics) with normal vital signs and lab values *(*two or more uterotonics in addition to routine oxytocin administration; or ≥ 2 administrations of the same uterotonic)*

INITIAL STEPS:

☐ Mobilize additional help
☐ Place 2nd IV (16-18G)
☐ Draw STAT labs (CBC, Coags, Fibrinogen)
☐ Prepare OR

MEDICATIONS:

☐ Continue Stage 1 medications; consider TXA

Tranexamic Acid (TXA)
1 gram IV over 10 min (add 1 gram vial to 100mL NS & give over 10 min; may be repeated once after 30 min)

BLOOD BANK:

☐ Obtain 2 units PRBCs (DO NOT wait for labs. Transfuse per clinical signs/symptoms)
☐ Thaw 2 units FFP

ACTION:

☐ For uterine atony --> consider uterine balloon or packing, possible surgical interventions
☐ Consider moving patient to OR
☐ Escalate therapy with goal of hemostasis

Possible interventions:
- Bakri balloon
- Compression suture/B-Lynch suture
- Uterine artery ligation
- Hysterectomy

Huddle and move to Stage 3 if continued blood loss and/or abnormal VS

Revised September 2020

Stage 3: Continued Bleeding (EBL > 1500mL OR > 2 RBCs given OR at risk for occult bleeding/ coagulopathy OR any patient with abnormal vital signs/labs/oliguria)

Initial Steps:

- ☐ Mobilize additional help
- ☐ Move to OR
- ☐ Announce clinical status (vital signs, cumulative blood loss, etiology)
- ☐ Outline and communicate plan

Medications:

- ☐ Continue Stage 1 medications; consider TXA

Blood Bank:

- ☐ Initiate Massive Transfusion Protocol (If clinical coagulopathy: add cryoprecipitate, consult for additional agents)

Action:

- ☐ Achieve hemostasis, intervention based on etiology
- ☐ Escalate interventions

Oxytocin (Pitocin):
10-40 units per 500-1000mL solution

Methylergonovine (Methergine):
0.2 milligrams IM (may repeat);
Avoid with hypertension

15-methyl $PGF_2\alpha$ (Hemabate, Carboprost):
250 micrograms IM
(may repeat in q15 minutes, maximum 8 doses)
Avoid with asthma;
use with caution with hypertension

Misoprostol (Cytotec):
800-1000 micrograms PR
600 micrograms PO or 800 micrograms SL

Tranexamic Acid (TXA)
1 gram IV over 10 min (add 1 gram vial to 100mL NS & give over 10 min; may be repeated once after 30 min)

Possible interventions:

- Bakri balloon
- Compression suture/B-Lynch suture
- Uterine artery ligation
- Hysterectomy

Stage 4: Cardiovascular Collapse (massive hemorrhage, profound hypovolemic shock, or amniotic fluid embolism)

Initial Step:

- ☐ Mobilize additional resources

Medications:

- ☐ ACLS

Blood Bank:

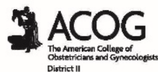
- ☐ Simultaneous aggressive massive transfusion

Action:

- ☐ Immediate surgical intervention to ensure hemostasis (hysterectomy)

Post-Hemorrhage Management

- Determine disposition of patient
- Debrief with the whole obstetric care team
- Debrief with patient and family
- Document



Obstetric Team Debriefing Form

Remember: Debriefing is meant to be a learning experience and a way to address both human factors and systems issues to improve the response for next time. There is to be no blaming/finger-pointing.

Type of event: ______________________ **Date of event:** ____________

Location of event: ______________________

Members of team present: (check all that apply)

- ☐ Primary RN
- ☐ Primary MD
- ☐ Charge RN
- ☐ Resident(s)
- ☐ Anesthesia personnel
- ☐ Neonatology personnel
- ☐ MFM leader
- ☐ Patient Safety Officer
- ☐ Nurse Manager
- ☐ OB/Surgical tech
- ☐ Unit Clerk
- ☐ Other RNs

Thinking about how the obstetric emergency was managed,

Identify what went well:
(Check if yes)

- ☐ Communication
- ☐ Role clarity (leader/supporting roles identified and assigned)
- ☐ Teamwork
- ☐ Situational awareness
- ☐ Decision-making
- ☐ Other: ______________________

Identify opportunities for improvement:
"human factors" (Check if yes)

- ☐ Communication
- ☐ Role clarity (leader/supporting roles identified and assigned)
- ☐ Teamwork
- ☐ Situational awareness
- ☐ Decision-making
- ☐ Other: ______________________

Identify opportunities for improvement:
"systems issue" (Check if yes)

- ☐ Equipment
- ☐ Medication
- ☐ Blood product availability
- ☐ Inadequate support (in unit or other areas of the hospital)
- ☐ Delays in transporting the patient (within hospital or to another facility)
- ☐ Other: ______________________

Obstetric Team Debriefing Form

For identified issues, fill in table below

Issue	Actions to be Taken	Person Responsible
	1	
	2	
	3	
	4	

Grab and Go Drill Log Information

(to be utilized by drill facilitators)

Date:

Time:

Scenario:

Location (ex. M7, B7, OR):

Participants:

Facilitator:

Case #3

General Simulation Instructions

General Principles during the Simulation:

We recommend that the team run the scenario as if they were addressing the care of a real patient. This means obtaining all adjunct supplies and calling ancillary services as they would in a real-life emergent situation. If medications are needed, those should be retrieved – but not opened – to prevent waste.

The team should assign a member to write down the desired orders as if they were ordering them in the electronic medical record (if applicable). Using this approach provides an opportunity to both observe the teamwork and communication and identify any potential facilities or systems issues that arise.

If you have little time, specifically state where each needed cart/equipment/medication is and how it will be used/administered.

Case 3: Postpartum Hemorrhage Secondary to Retained Products of Conception and is Responsive to a Single Medication

Learning Objectives:

By the end of this scenario, each care team member should be able to successfully do the following:

- Recognize risk factors for postpartum hemorrhage.
- Identify postpartum hemorrhage due to retained products of conception and be able to treat with appropriate medical management.
- Demonstrate teamwork and communication skills during a simulated postpartum hemorrhage.

Case Scenario

Patient Information

Mrs. Jennifer Patton is a 32-year-old G5P0040 who was admitted in active labor at 41+2 weeks. History is significant for 4 surgical terminations. She progressed in labor and has an uncomplicated delivery of a live female infant with Apgars 9, 9 and a weight of 3755 grams.

Immediately after delivery, she had some brisk bleeding. The placenta took about 20 minutes to deliver and required a bit more traction than normal. After the delivery of the placenta she continues to have bleeding that is more than normal. She had no lacerations.

She is now approximately 30 minutes postpartum and is still having some bleeding.

- She has no significant past medical history.
- She has no known drug allergies.
- Her pregnancy was uncomplicated except for an elevated 1-hour glucose screen with a normal 3-hour glucose tolerance test.

Laboratory Data (On Admission)

- Hemoglobin: 12.2
- Hematocrit: 36.6
- WBC: 12,000
- Platelets: 218,000

What do you want to know about the delivery?

Delivery Information

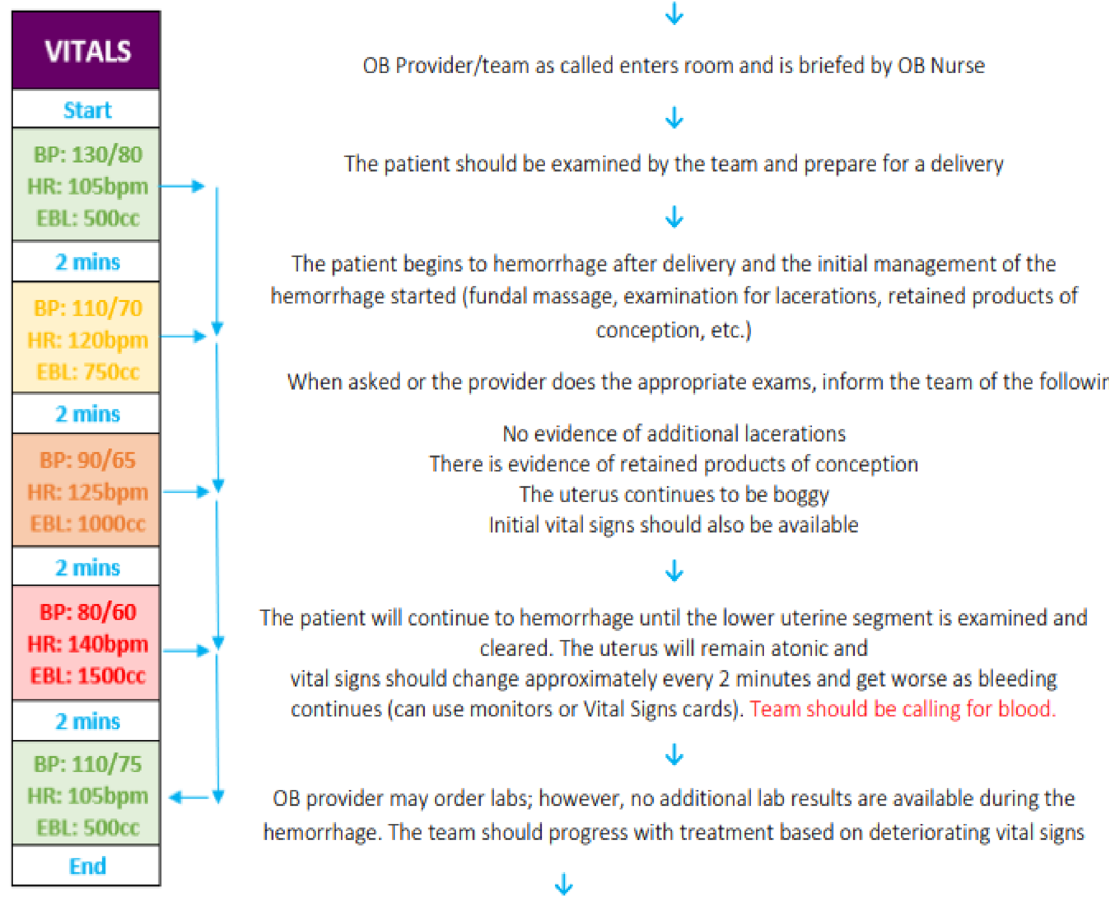
- Measurement of cumulative blood loss (as quantitative as possible) from the delivery was 400cc.
- There was no laceration.
- The infant weighed 4220 grams.
- The patient has an IV line in place with oxytocin running.
- Placental inspection shows missing portions of the placental bed.

What do you want to know about her medical history?

- The patient does not have a history of asthma or hypertension in this case.
- The patient does not have any known allergies to medications.
- If asked additional questions, try to redirect and not answer specifics so as not to introduce things that might complicate the scenario (i.e. don’t say that she has a relative with an unknown bleeding disorder)

Case 3: Case Flow/Algorithm with Branch Point and Completion Criteria

Simulation facilitator will introduce the scenario to the team outside the room and then bring OB Nurse to the patient's room and then read them the patient scenario. The OB Nurse should then enter the room, assess the patient and then call for assistance



Providers should recognize hemorrhage and call for additional help and administer medications

Bleeding and vital signs start to improve

Scenario ends when the team has done the following:

Recognized retained products of conception as the etiology for postpartum hemorrhage
Performed uterine massage
Performed a vaginal exam and examine lower uterine segment
Examined the delivered placenta
Administered at least one uterotonic medication correctly
Called for blood

OR

The team fails to correct the hemorrhage within 10 minutes or fails to call for blood.

Planned Completion Points

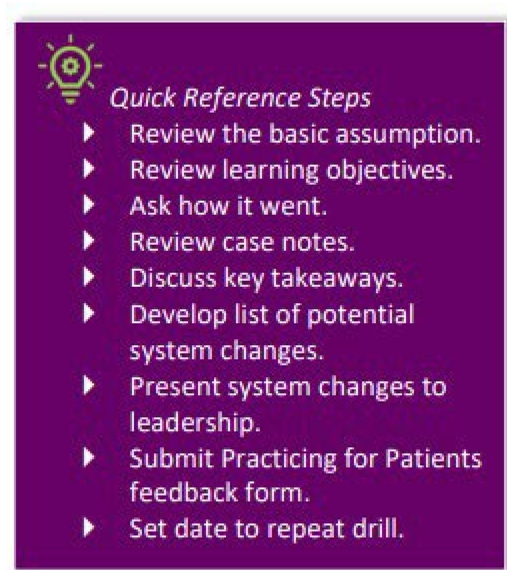
To successfully complete this scenario, the care team should do the following:

- Recognize retained products of conception as the etiology for postpartum hemorrhage and plan for removal
- Perform uterine massage
- Perform a vaginal exam and examine lower uterine segment
- Examine the delivered placenta
- Administer at least one uterotonic medication correctly
- Call for blood (e.g. 2 units of PRBCs)

OR

- If 10 minutes has elapsed after recognition of hemorrhage and the team has not corrected the bleeding or called for blood.

DEBRIEF:



Complete debrief form with focus on educational issues and system improvements

Fill out drill log and give to RN Manager/Educator

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EBL: 500ml

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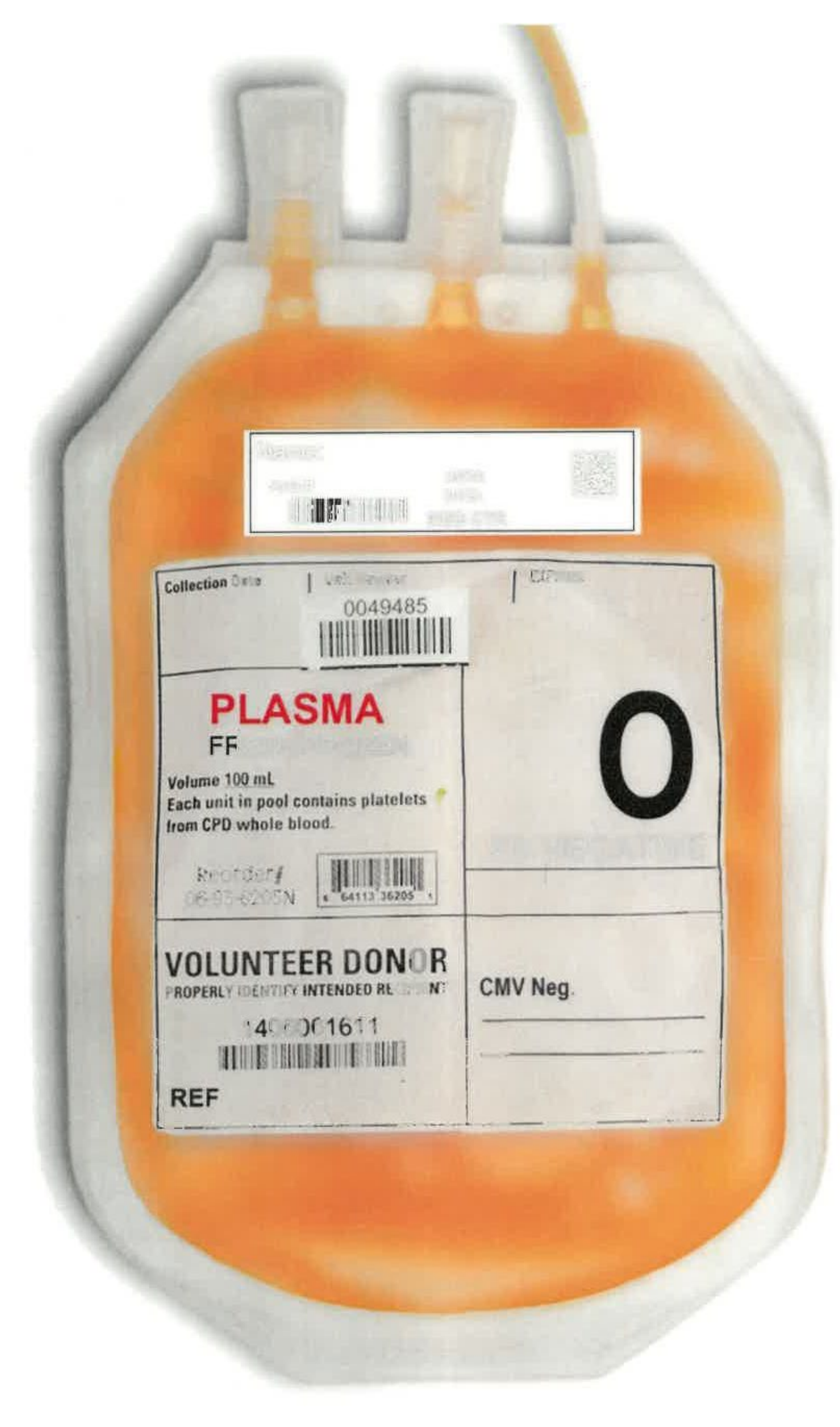
EBL: 500ml


Collection Date
0049485
PLASMA
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Volume 100 mL
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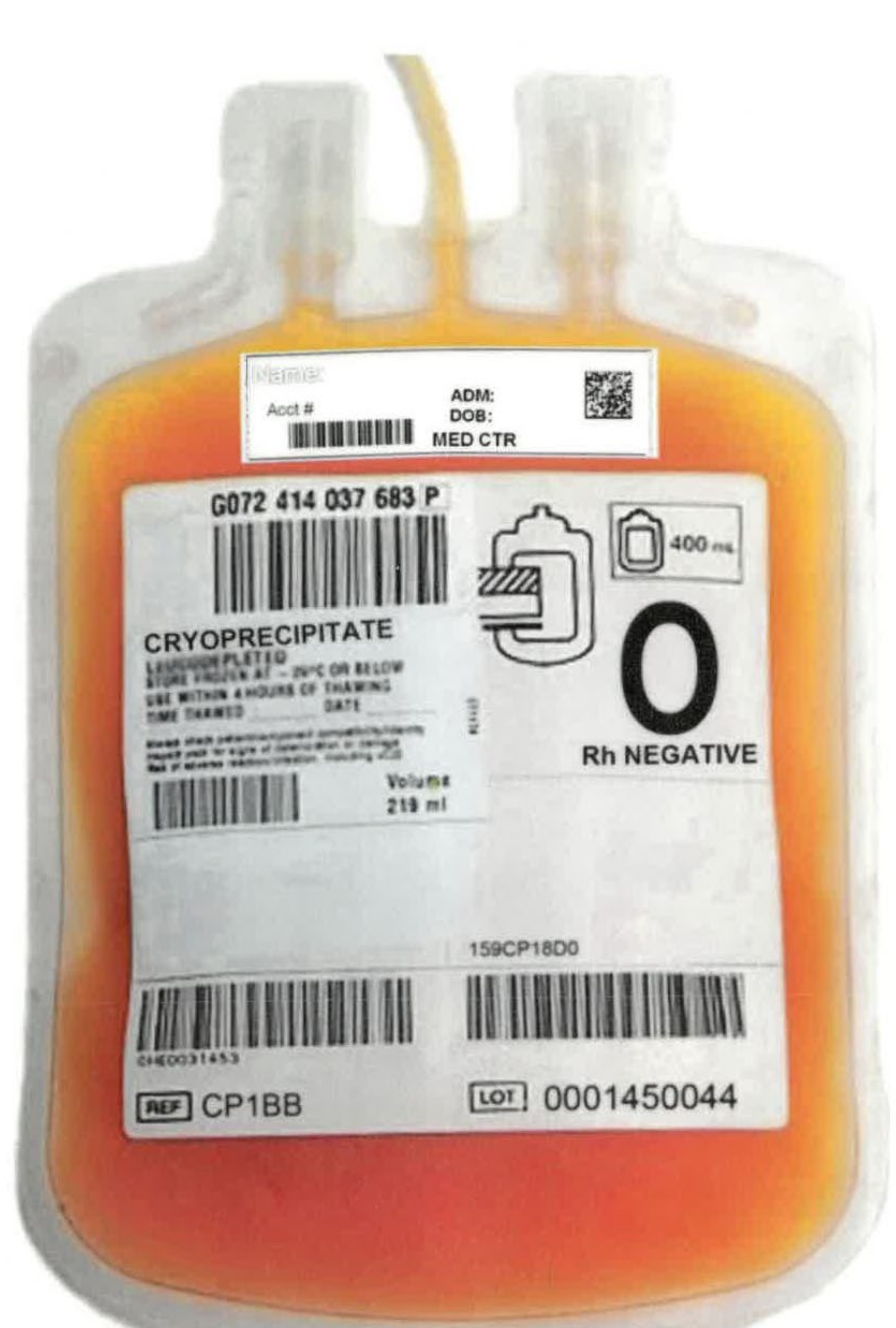
Name:
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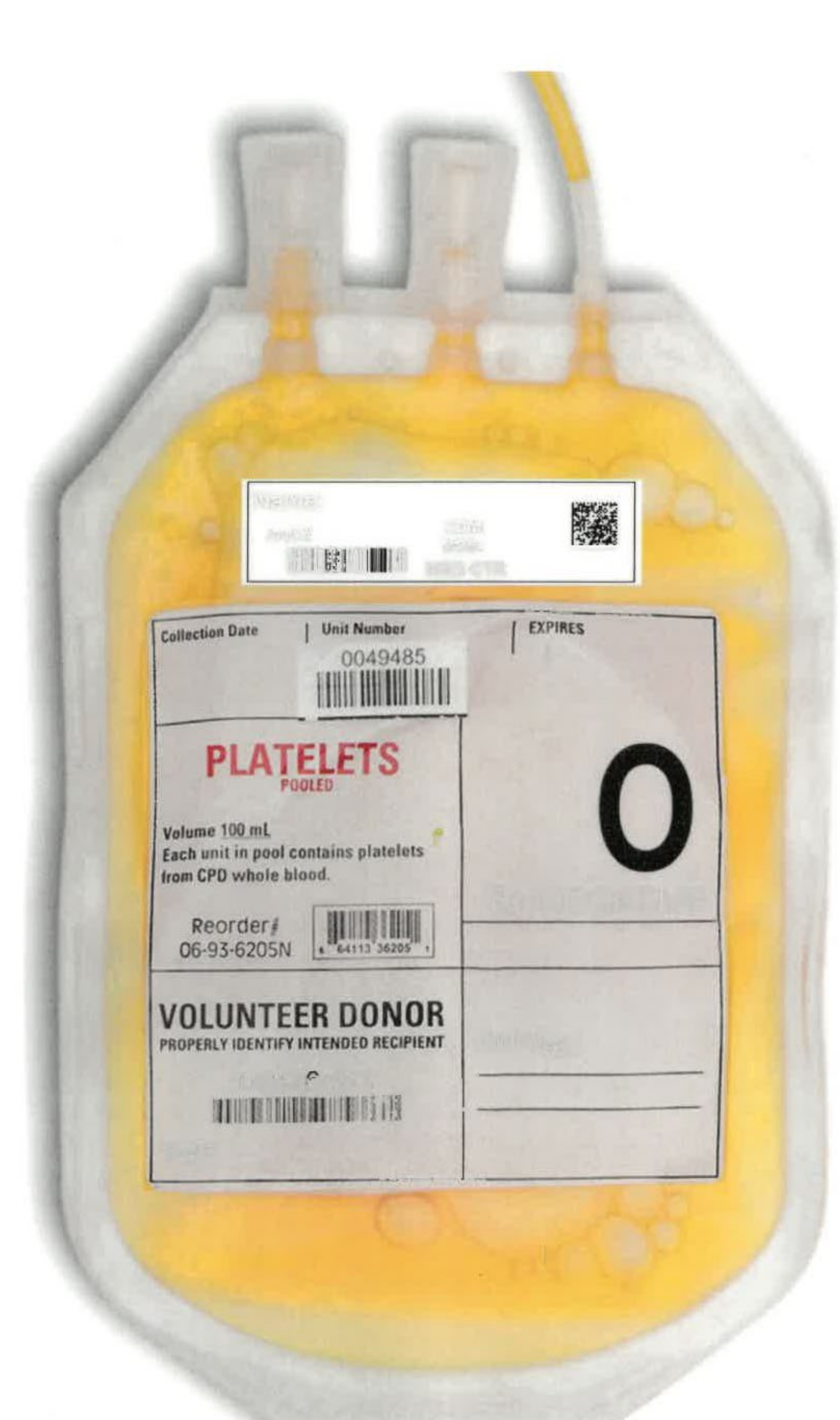
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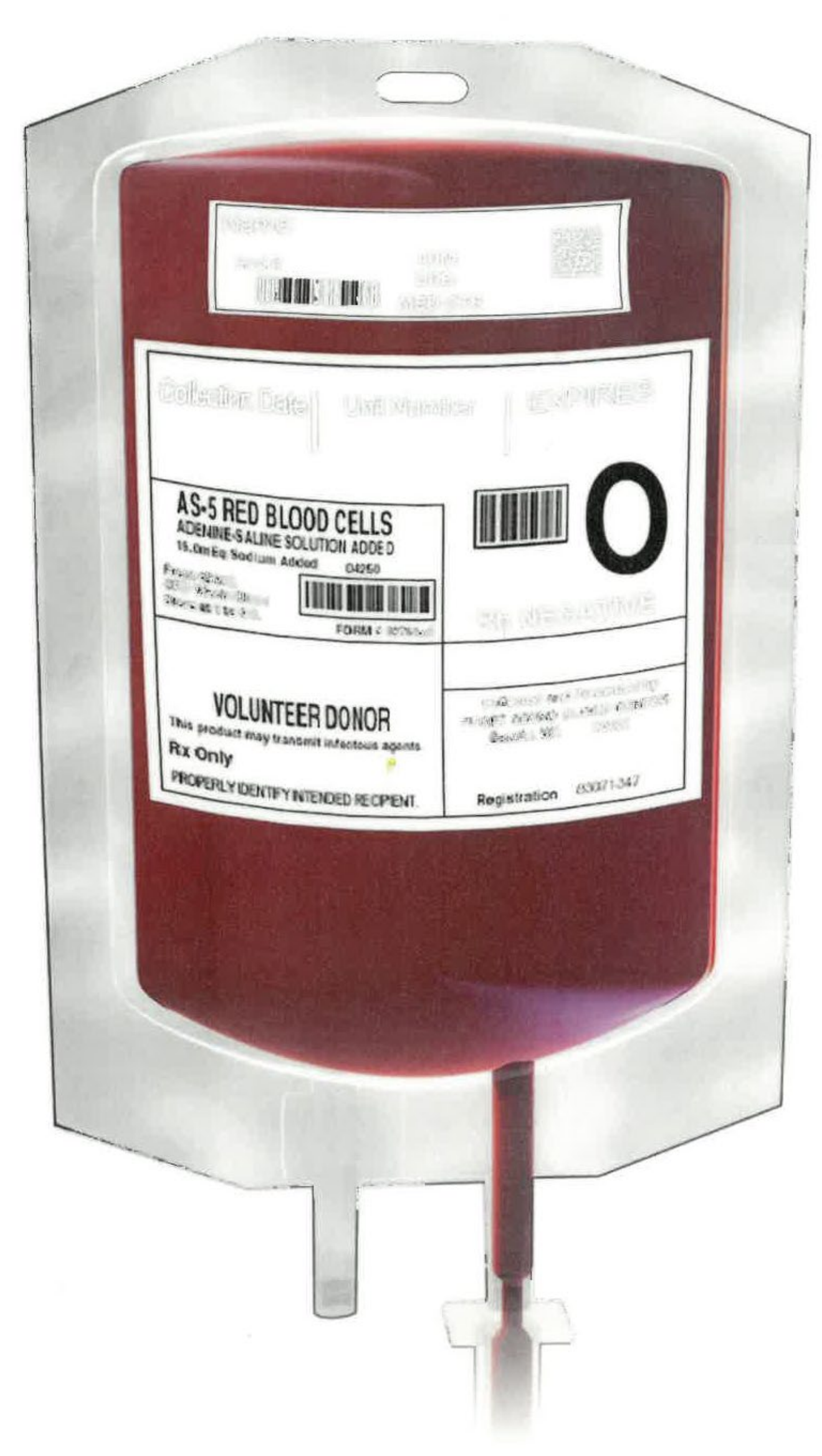
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Registration

Collection Date
AS-5 RED BLOOD CELLS
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Store at 1 to 6 C.
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Registration

PPH Role Card – RN

RN – This encompasses the RN role and could be divided up amongst multiple RNs (i.e. Primary, Secondary, Charge) based on how your team functions:

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  - OB Anesthesiology
  - Gyn-Onc Providers
  - Rapid Response Team
- Relays pertinent medical history / current situation
- Assess need for IV and labs
- Obtains PPH cart
  - Prepare to set-up Bakri as indicated
- Obtain OB Hemorrhage Flowsheet & Checklist
- Obtains virtual PPH medication kit from Pyxis
- Obtain blood products from lab as ordered (consider activating MTP)
- Perform VS
- Administer medications as ordered by OB Provider (consider medical hx)
- Administer IV fluids/bolus as ordered by OB Provider
- Continue uterine massage
- Insert foley catheter
- Weigh and communicate QBL
- Communicate with family
- Prepare for transfer to higher level of care or operating room

PPH Role Card – Resident Provider

Get IV access

CBC, fibrinogen, coags, Type and Cross x2 units

Call senior OB Provider and/or attending
Order labs

Exam for etiology and treatment
Initiate uterotonics as indicated
Initiate TXA and PPH algorithms if indicated

Request MTP activation if indicated
Request blood to be brought to room

Assess level for PPH: admission, second stage, transfer to PP
Active management third stage
Assess for etiology
Initiate treatment as appropriate
Call for assistance, anesthesiology
Move to OR Stage 2 (EBL > 1000)

Communicate with family

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

PPH Role Card – Attending Provider

Get IV access
    CBC, fibrinogen, coags, Type and Cross x2 units

Call additional OB Provider and/or attending
Ask for Gyn Onc to be called as indicated
Order labs

Exam for etiology and treatment
Initiate uterotonics as indicated
Initiate TXA and PPH algorithms if indicated

Request MTP activation if indicated
Request blood to be brought to room

Assess level for PPH: admission, second stage, transfer to PP
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Assess for etiology
Initiate treatment as appropriate
Call for assistance, anesthesiology
Move to OR Stage 2 (EBL > 1000)

Communicate with family

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

PPH Role Card – Anesthesia Provider

- Collaborate with OB re: etiology and treatment
- Assess for optimal mode of analgesia as clinically indicated
- Assess need for pressors (and initiate if needed)
- Request MTP activation if indicated
- Assist in moving to OR, establishing additional IV access for volume

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

PPH Role Card – LNA/Support Staff

- Clear room of extraneous equipment/furniture
- Provide support to support person or newborn as needed (newborn to nursery)
- Complete VS as delegated by RN
- Weigh and calculate QBL
- Provide support in covering lights/completing hourlies in other patient rooms
- If delegated, assist with transfer to higher level of care.

Obstetric Hemorrhage Checklist

EXAMPLE

Complete all steps in prior stages plus current stage regardless of stage in which the patient presents.

Postpartum hemorrhage is defined as cumulative blood loss of greater than or equal to 1,000mL or blood loss accompanied by signs or symptoms of hypovolemia within 24 hours. However, blood loss >500mL in a vaginal delivery is abnormal, and should be investigated and managed as outlined in Stage 1.

RECOGNITION:

- ☐ Call for assistance (Obstetric Hemorrhage Team)

Designate: ☐ Team leader ______ ☐ Checklist reader/recorder ☐ Primary RN

Announce: ☐ Cumulative blood loss ☐ Vital signs ______ ☐ Determine stage

STAGE 1: Blood loss >1000mL after delivery with normal vital signs and lab values. Vaginal delivery 500-999mL should be treated as in Stage 1.

INITIAL STEPS:

- ☐ Ensure 16G or 18G IV Access
- ☐ Increase IV fluid (crystalloid without oxytocin)
- ☐ Insert indwelling urinary catheter
- ☐ Fundal massage

MEDICATIONS:

- ☐ Ensure appropriate medications given patient history
- ☐ Increase oxytocin, additional uterotonics

BLOOD BANK:

- ☐ Confirm active type and screen and consider crossmatch of 2 units PRBCs

ACTION:

- ☐ Determine etiology and treat
- ☐ Prepare OR, if clinically indicated (optimize visualization/examination)

Oxytocin (Pitocin):
10-40 units per 500-1000mL solution

Methylergonovine (Methergine):
0.2 milligrams IM (may repeat);
Avoid with hypertension

15-methyl PGF$_2\alpha$ (Hemabate, Carboprost):
250 micrograms IM (may repeat in q15 minutes, maximum 8 doses); **Avoid with asthma; use with caution with hypertension**

Misoprostol (Cytotec):
800-1000 micrograms PR
600 micrograms PO or 800 micrograms SL

Tone (i.e., atony)
Trauma (i.e., laceration)
Tissue (i.e., retained products)
Thrombin (i.e., coagulation dysfunction)

STAGE 2: Continued Bleeding (EBL up to 1500mL OR ≥ 2 uterotonics) with normal vital signs and lab values *(*two or more uterotonics in addition to routine oxytocin administration; or ≥ 2 administrations of the same uterotonic)*

INITIAL STEPS:

- ☐ Mobilize additional help
- ☐ Place 2nd IV (16-18G)
- ☐ Draw STAT labs (CBC, Coags, Fibrinogen)
- ☐ Prepare OR

MEDICATIONS:

- ☐ Continue Stage 1 medications; consider TXA

Tranexamic Acid (TXA)
1 gram IV over 10 min (add 1 gram vial to 100mL NS & give over 10 min; may be repeated once after 30 min)

BLOOD BANK:

- ☐ Obtain 2 units PRBCs (DO NOT wait for labs. Transfuse per clinical signs/symptoms)
- ☐ Thaw 2 units FFP

ACTION:

- ☐ For uterine atony --> consider uterine balloon or packing, possible surgical interventions
- ☐ Consider moving patient to OR
- ☐ Escalate therapy with goal of hemostasis

Possible interventions:
- Bakri balloon
- Compression suture/B-Lynch suture
- Uterine artery ligation
- Hysterectomy

Huddle and move to Stage 3 if continued blood loss and/or abnormal VS

Revised September 2020

STAGE 3: Continued Bleeding (EBL > 1500mL OR > 2 RBCs given OR at risk for occult bleeding/ coagulopathy OR any patient with abnormal vital signs/labs/oliguria)

INITIAL STEPS:

- ☐ Mobilize additional help
- ☐ Move to OR
- ☐ Announce clinical status (vital signs, cumulative blood loss, etiology)
- ☐ Outline and communicate plan

MEDICATIONS:

- ☐ Continue Stage 1 medications; consider TXA

BLOOD BANK:

- ☐ Initiate Massive Transfusion Protocol (If clinical coagulopathy: add cryoprecipitate, consult for additional agents)

ACTION:

- ☐ Achieve hemostasis, intervention based on etiology
- ☐ Escalate interventions

Oxytocin (Pitocin):
10-40 units per 500-1000mL solution

Methylergonovine (Methergine):
0.2 milligrams IM (may repeat);
Avoid with hypertension

15-methyl $PGF_2\alpha$ (Hemabate, Carboprost):
250 micrograms IM
(may repeat in q15 minutes, maximum 8 doses)
Avoid with asthma;
use with caution with hypertension

Misoprostol (Cytotec):
800-1000 micrograms PR
600 micrograms PO or 800 micrograms SL

Tranexamic Acid (TXA)
1 gram IV over 10 min (add 1 gram vial to 100mL NS & give over 10 min; may be repeated once after 30 min)

Possible interventions:

- Bakri balloon
- Compression suture/B-Lynch suture
- Uterine artery ligation
- Hysterectomy

STAGE 4: Cardiovascular Collapse (massive hemorrhage, profound hypovolemic shock, or amniotic fluid embolism)

INITIAL STEP:

- ☐ Mobilize additional resources

MEDICATIONS:

- ☐ ACLS

BLOOD BANK:

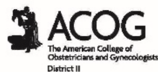
- ☐ Simultaneous aggressive massive transfusion

ACTION:

- ☐ Immediate surgical intervention to ensure hemostasis (hysterectomy)

Post-Hemorrhage Management

- Determine disposition of patient
- Debrief with the whole obstetric care team
- Debrief with patient and family
- Document



Obstetric Team Debriefing Form

Remember: Debriefing is meant to be a learning experience and a way to address both human factors and systems issues to improve the response for next time. There is to be no blaming/finger-pointing.

Type of event: ____________________ **Date of event:** ____________

Location of event: ____________________

Members of team present: (check all that apply)

☐ Primary RN	☐ Primary MD	☐ Charge RN	☐ Resident(s)
☐ Anesthesia personnel	☐ Neonatology personnel	☐ MFM leader	☐ Patient Safety Officer
☐ Nurse Manager	☐ OB/Surgical tech	☐ Unit Clerk	☐ Other RNs

Thinking about how the obstetric emergency was managed,

Identify what went well:
(Check if yes)

- ☐ Communication
- ☐ Role clarity (leader/supporting roles identified and assigned)
- ☐ Teamwork
- ☐ Situational awareness
- ☐ Decision-making
- ☐ Other: ____________________

Identify opportunities for improvement:
"human factors" (Check if yes)

- ☐ Communication
- ☐ Role clarity (leader/supporting roles identified and assigned)
- ☐ Teamwork
- ☐ Situational awareness
- ☐ Decision-making
- ☐ Other: ____________________

Identify opportunities for improvement:
"systems issue" (Check if yes)

- ☐ Equipment
- ☐ Medication
- ☐ Blood product availability
- ☐ Inadequate support (in unit or other areas of the hospital)
- ☐ Delays in transporting the patient (within hospital or to another facility)
- ☐ Other: ____________________

Obstetric Team Debriefing Form

For identified issues, fill in table below

Issue	Actions to be Taken	Person Responsible
	1	
	2	
	3	
	4	

Grab and Go Drill Log Information

(to be utilized by drill facilitators)

Date:

Time:

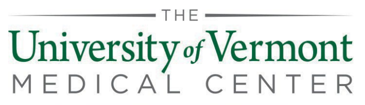
Scenario:

Location (ex. M7, B7, OR):

Participants:

Facilitator:

Name:



Scavenger Hunt for PPH

Instructions: Please walk around the unit and find the items listed below. In some cases, the item will be in more than one location. Please specify the **exact location** of the item.

1. Bakri Balloon (3 places) - what additional supplies are necessary for inserting the Bakri?

   ____
   ____
   ____

2. Fluid Warmer/Rapid Infuser

   ____

3. Tranexaminic Acid (Location and dosing information)

   ____

4. Blood drawing supplies in OR 1 &2.

   ____

5. What is the correct order of draw for tube types and/or where could you find that information?

   ____

6. Estimated Maternal Blood Loss worksheet.

   ____

7. Find the Mass Transfusion Policy. Under **Initiate the MTP** discuss how the blood bank should be notified.

   ____
   ____

Name:

8. What medications are included in the virtual PPH kit in the Pyxis?

____

9. What are the contraindications for hemabate (1) and methergine (2)? 1. ______________
   2. ____________________________

10. What is step #4 on the checklist for obtaining blood products in a cooler, not to be transfused?

____

11. What is the name of the order set we should use to order blood products for mothers?

____

Additional Resources

This section is to provide you with additional copies of the case studies and examples of different resources to supplement, replace, or add to your existing documents for your facility. You should replace you institution specific copies into each case study packet OR have staff retrieve the resources from their original location as part of the drill.

Included Documents:

- PPH Checklist
- PPH medication Table
- Bakri Balloon Instructions
- Bakri Balloon Helpful Tips Sheet
- Example of PPH
- Cart Supplies
- How to Activate a MTP
- Debrief Form
- PPH Response by Role Algorithm
- Role Cards
- Case Study #1
- Case Study #2
- Case Study #3
- Vitals & Blood Products
- Copies of Grab & Go Drill Log Sheet
- Copy of Scavenger Hunt

Obstetric Hemorrhage Checklist

EXAMPLE

Complete all steps in prior stages plus current stage regardless of stage in which the patient presents.

Postpartum hemorrhage is defined as cumulative blood loss of greater than or equal to 1,000mL or blood loss accompanied by signs or symptoms of hypovolemia within 24 hours. However, blood loss >500mL in a vaginal delivery is abnormal, and should be investigated and managed as outlined in Stage 1.

RECOGNITION:

- ☐ Call for assistance (Obstetric Hemorrhage Team)

Designate: ☐ Team leader ____________ ☐ Checklist reader/recorder ☐ Primary RN

Announce: ☐ Cumulative blood loss ☐ Vital signs ____________ ☐ Determine stage

STAGE 1: Blood loss >1000mL after delivery with normal vital signs and lab values. Vaginal delivery 500-999mL should be treated as in Stage 1.

INITIAL STEPS:

- ☐ Ensure 16G or 18G IV Access
- ☐ Increase IV fluid (crystalloid without oxytocin)
- ☐ Insert indwelling urinary catheter
- ☐ Fundal massage

MEDICATIONS:

- ☐ Ensure appropriate medications given patient history
- ☐ Increase oxytocin, additional uterotonics

BLOOD BANK:

- ☐ Confirm active type and screen and consider crossmatch of 2 units PRBCs

ACTION:

- ☐ Determine etiology and treat
- ☐ Prepare OR, if clinically indicated (optimize visualization/examination)

Oxytocin (Pitocin):
10-40 units per 500-1000mL solution

Methylergonovine (Methergine):
0.2 milligrams IM (may repeat);
Avoid with hypertension

15-methyl PGF$_2\alpha$ (Hemabate, Carboprost):
250 micrograms IM (may repeat in q15 minutes, maximum 8 doses); **Avoid with asthma; use with caution with hypertension**

Misoprostol (Cytotec):
800-1000 micrograms PR
600 micrograms PO or 800 micrograms SL

Tone (i.e., atony)
Trauma (i.e., laceration)
Tissue (i.e., retained products)
Thrombin (i.e., coagulation dysfunction)

STAGE 2: Continued Bleeding (EBL up to 1500mL OR ≥ 2 uterotonics) with normal vital signs and lab values *(*two or more uterotonics in addition to routine oxytocin administration; or ≥ 2 administrations of the same uterotonic)*

INITIAL STEPS:

- ☐ Mobilize additional help
- ☐ Place 2nd IV (16-18G)
- ☐ Draw STAT labs (CBC, Coags, Fibrinogen)
- ☐ Prepare OR

MEDICATIONS:

- ☐ Continue Stage 1 medications; consider TXA

Tranexamic Acid (TXA)
1 gram IV over 10 min (add 1 gram vial to 100mL NS & give over 10 min; may be repeated once after 30 min)

BLOOD BANK:

- ☐ Obtain 2 units PRBCs (DO NOT wait for labs. Transfuse per clinical signs/symptoms)
- ☐ Thaw 2 units FFP

ACTION:

- ☐ For uterine atony --> consider uterine balloon or packing, possible surgical interventions
- ☐ Consider moving patient to OR
- ☐ Escalate therapy with goal of hemostasis

Possible interventions:

- Bakri balloon
- Compression suture/B-Lynch suture
- Uterine artery ligation
- Hysterectomy

Huddle and move to Stage 3 if continued blood loss and/or abnormal VS

Revised September 2020

Stage 3: Continued Bleeding (EBL > 1500mL OR > 2 RBCs given OR at risk for occult bleeding/ coagulopathy OR any patient with abnormal vital signs/labs/oliguria)

Initial Steps:

- ☐ Mobilize additional help
- ☐ Move to OR
- ☐ Announce clinical status (vital signs, cumulative blood loss, etiology)
- ☐ Outline and communicate plan

Medications:

- ☐ Continue Stage 1 medications; consider TXA

Blood Bank:

- ☐ Initiate Massive Transfusion Protocol (If clinical coagulopathy: add cryoprecipitate, consult for additional agents)

Action:

- ☐ Achieve hemostasis, intervention based on etiology
- ☐ Escalate interventions

Oxytocin (Pitocin):
10-40 units per 500-1000mL solution

Methylergonovine (Methergine):
0.2 milligrams IM (may repeat);
Avoid with hypertension

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Avoid with asthma;
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1 gram IV over 10 min (add 1 gram vial to 100mL NS & give over 10 min; may be repeated once after 30 min)

Possible interventions:

- Bakri balloon
- Compression suture/B-Lynch suture
- Uterine artery ligation
- Hysterectomy

Stage 4: Cardiovascular Collapse (massive hemorrhage, profound hypovolemic shock, or amniotic fluid embolism)

Initial Step:

- ☐ Mobilize additional resources

Medications:

- ☐ ACLS

Blood Bank:

- ☐ Simultaneous aggressive massive transfusion

Action:

- ☐ Immediate surgical intervention to ensure hemostasis (hysterectomy)

Post-Hemorrhage Management

- Determine disposition of patient
- Debrief with the whole obstetric care team
- Debrief with patient and family
- Document

Appendix R: Medications for Postpartum Hemorrhage

Medications for Postpartum Hemorrhage						
Drug	**Dose**	**Route**	**Frequency**	**Side Effects**	**Contraindications**	**Special Storage Considerations**
Oxytocin (Pitocin™) 10 units/mL	10-40 units per 500-1000 mL, rate titrated to uterine tone	IV infusion	Continuous	Usually none Nausea, vomiting, hyponatremia ("water intoxication") with prolonged IV admin. ↓ BP and ↑ HR with high doses, especially IV push	Hypersensitivity to drug	None
Methylergonovine (Methergine®) 0.2 mg/mL	0.2 mg	IM (**not** given IV)	-q2-4 hours -If no response after first dose, it is unlikely that additional doses will be of benefit	Nausea, vomiting, severe hypertension, especially with rapid administration or in patients with HTN	Hypertension, Preeclampsia, Heart disease Hypersensitivity to drug **Caution** if multiple doses of ephedrine have been used, may exaggerate hypertensive response w/ possible cerebral hemorrhage	Refrigerate Protect from light
Carboprost (Hemabate®) (15-methyl PG F2a) 250 mcg/mL	250 mcg	IM or intra-myometrial (**not** given IV)	-q15-90 min -If no response after 3 doses, it is unlikely that additional doses will be of benefit	Nausea, vomiting, diarrhea, fever (transient), headache, chills, shivering, hypertension, bronchospasm	Caution in women with hepatic disease, asthma, hypertension, active cardiac or pulmonary disease Hypersensitivity to drug	Refrigerate
Misoprostol (Cytotec®) 100 or 200 mcg tablets	600-800 mcg	SL or PO	One time	Nausea, vomiting, diarrhea, shivering, fever (transient), headache	Rare Known allergy to prostaglandin Hypersensitivity to drug	None
Tranexamic Acid (TXA)	1 gram	IV infusion (over 10 min)	-One dose within 3 hrs of hemorrhage recognition -A 2nd dose may be administered if bleeding continues after 30 min or if bleeding stops and then restarts within 24 hrs of completing the 1st dose	Nausea, vomiting, diarrhea, hypotension if given too rapidly	A known thromboembolic event in pregnancy History of coagulopathy Active intravascular clotting	None

Improving Health Care Response to Obstetric Hemorrhage, a CMQCC Quality Improvement Toolkit, 2022

How to place Bakri Balloon (intrauterine balloon)

Bakri®

POSTPARTUM BALLOON WITH RAPID INSTILLATION COMPONENTS

Tamponade technique for postpartum hemorrhage

Refer to the Instructions for Use for complete information on product usage and a complete list of precautions, warnings, and contraindications.

1 Confirm before placement.

Confirm that these statements are true:

- The uterus is free of placental fragments.
- The genital tract has no trauma or lacerations.
- The source of the bleeding is not arterial.
- Patient does not present with any contraindications for use of this device.

2 Determine the uterine cavity's volume.

- For transvaginal placement, determine uterine volume by direct examination or ultrasound examination. For transabdominal placement, determine uterine volume by direct examination.
- Place the predetermined volume of sterile fluid in a separate container.
- If you will use the rapid instillation components, note the predetermined volume for rapid instillation.
- The maximum balloon volume is 500 mL.

3 Place the balloon.

Transvaginal placement, postvaginal delivery (Fig. 1)

- Insert the balloon portion of the catheter into the uterus, making certain that the entire balloon is inserted past the cervical canal and internal ostium.

Transabdominal placement, postcesarean delivery (Fig. 2)

- Pass the uninflated balloon, inflation port first, through the cesarean incision and into the uterus and cervix. Remove the stopcock to aid in placement and reattach prior to filling the balloon.
- Have an assistant pull the balloon shaft through the vaginal canal until the base of the balloon contacts the internal cervical ostium.
- Close the incision, being careful not to puncture the uninflated balloon while suturing.

4 Fill the balloon with sterile liquid.

- **Never inflate with air, carbon dioxide, or any other gas.**
- **Do not fill with more than 500 mL. Overinflation may result in the balloon being displaced into the vagina.**
- **Ensure that all product components are intact and that the hysterotomy is securely sutured prior to balloon inflation.**

- Place a Foley catheter in the patient's bladder to collect urine and monitor urine output.
- Use the enclosed syringe or rapid instillation components to fill the balloon to the predetermined volume through the stopcock.
- If desired, apply traction to the balloon's shaft. In order to maintain tension, secure the balloon shaft to the patient's leg or attach to a weight, not to exceed 500 grams. Note: To prevent displacement of the balloon into the vagina, counterpressure can be applied by packing the vaginal canal with iodine- or antibiotic-soaked gauze.
- **Use ultrasound to confirm that the balloon is properly placed.**

5 Flush the lumen and monitor hemostasis.

- Connect the drainage port to a fluid collection bag to monitor hemostasis.
- The balloon drainage port and tubing may be flushed clear of clots with sterile isotonic saline to facilitate monitoring.
- Monitor the patient for signs of increased bleeding and uterine cramping.

6 Remove the balloon.

- **Maximum indwelling time: 24 hours.**
- **The attending clinician determines when the balloon is removed after bleeding is controlled and the patient is stable.**

- Release the tension on the shaft and remove any vaginal packing.
- Aspirate balloon contents until the balloon is completely empty. The fluid may be removed incrementally to allow for periodic observation of the patient. In an emergency, the shaft may be cut to rapidly deflate the balloon.
- Gently retract the balloon and discard it.
- Monitor the patient for signs of bleeding.

COOK® MEDICAL

Illustrations for placing the Bakri balloon (step 3)

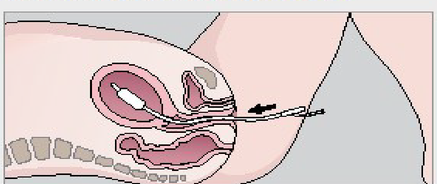


Fig. 1: Transvaginal placement, postvaginal delivery

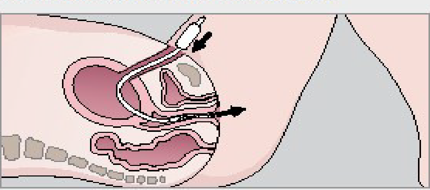
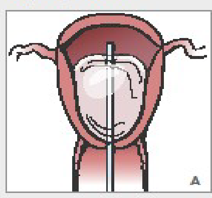


Fig. 2: Transabdominal placement, postcesarean delivery

Proper placement



- Make sure that the entire balloon is inserted past the cervical canal and internal ostium.
- After the balloon is inflated to the predetermined volume, use ultrasound to confirm that it is properly placed.

- If necessary, pack the vagina with iodine- or antibiotic-soaked gauze.
- Do not extend the packing into the uterus.

CONTRAINDICATIONS

- Arterial bleeding requiring surgical exploration or angiographic embolization
- Cases indicating hysterectomy
- Pregnancy
- Cervical cancer
- Purulent infections in the vagina, cervix, or uterus
- Untreated uterine anomaly
- Disseminated intravascular coagulation
- A surgical site that would prohibit the device from effectively controlling bleeding

WARNINGS

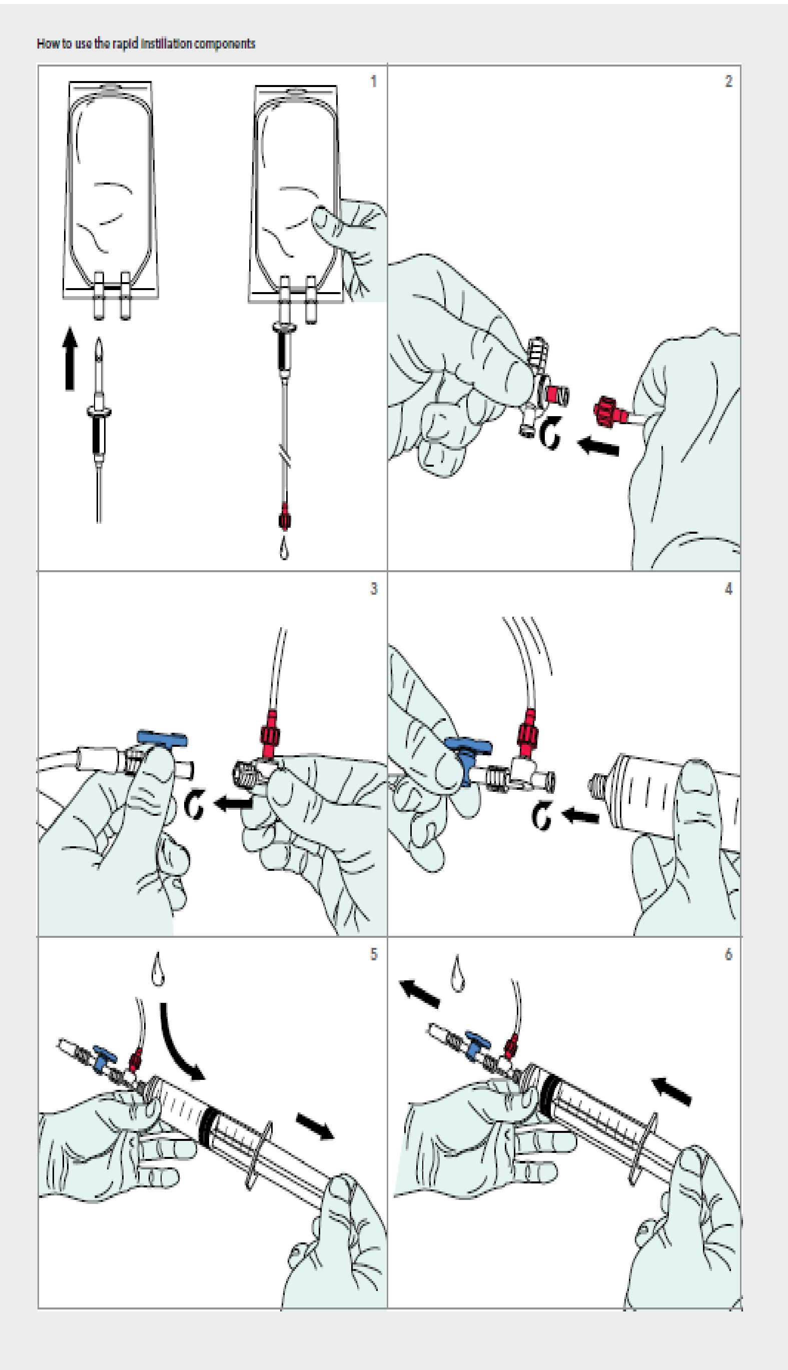
- This device is intended as a temporary means of establishing hemostasis in cases indicating conservative management of postpartum uterine bleeding.
- The Bakri Postpartum Balloon is indicated for use in the event of primary postpartum hemorrhage within 24 hours of delivery.
- The device should not be left indwelling for more than 24 hours.
- The balloon should be inflated with a sterile liquid such as sterile water, sterile saline, or lactated Ringer's solution. The balloon should never be inflated with air, carbon dioxide, or any other gas.
- The maximum inflation is 500 mL. Do not overinflate the balloon. Overinflation of the balloon may result in the balloon being displaced into the vagina.
- Patients in whom this device is being used should be closely monitored for signs of worsening bleeding and/or disseminated intravascular coagulation (DIC). In such cases, emergency intervention per hospital protocol should be followed.
- There are no clinical data to support the use of this device in the presence of DIC.
- Patient monitoring is an integral part of managing postpartum hemorrhage. Signs of a deteriorating or unimproving condition should lead to a more aggressive treatment and management of the patient's uterine bleeding.
- The patient's urine output should be monitored while the Bakri Postpartum Balloon is in use.

PRECAUTIONS

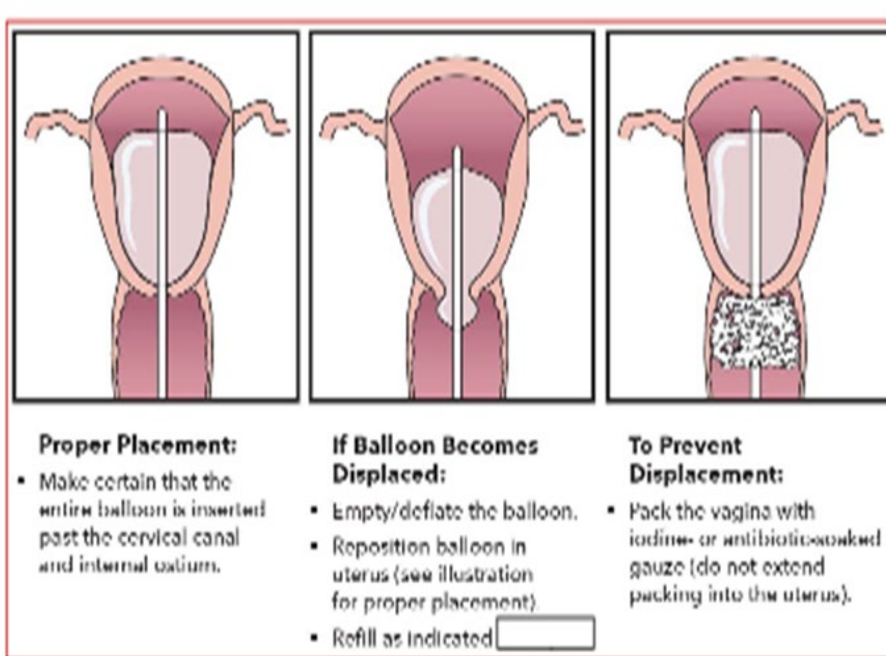
- Avoid excessive force when inserting the balloon into the uterus.
- This product is intended for use by physicians trained and experienced in obstetrics and gynecological techniques.

Bakri®

POSTPARTUM BALLOON WITH RAPID INSTILLATION COMPONENTS



NOTE: If balloon becomes dislodged due to shaft tension and cervical dilation, deflate, reposition, and re-inflate. Use of vaginal packing may be indicated at that time to aid in balloon placement.



Bakri Balloon for PPH

- Helpful tips:
  - Three things to always remember:
    - **Red to Red: red tip of IV tubing connects to the red end of the one-way valve)**
    - 500cc max volume.
    - 24 hr max placement time.
  - When you attach the foley bag to the end of the catheter write these 3 things on the foley bag:
    - Volume of fluid in the balloon
    - Time the balloon was placed
    - Is there vaginal packing? Yes/no
  - The drainage port can be used for flushing {30cc flush recommended) to clear clots, especially if you're not getting much drainage or prior to removal.

Example of Recommend Cart Supplies

To use as an example

OB Hemorrhage Cart: Recommended Supplies	
‣ IV start supplies ‣ Angiocaths ‣ IV tubing ‣ IV extension set ‣ Blood product transfusion tubing ‣ Blood warmer tubing ‣ Urinary catheter kit with urometer ‣ Flashlight ‣ Lubricating jelly ‣ Assorted sizes sterile gloves ‣ Lab tubes: CBC, coagulation studies, etc. ‣ Venipuncture supplies ‣ Pressure infuser bags ‣ Chux ‣ Peri-pads ‣ Vaginal packing (consider arm banding to indicate packing used) ‣ Hemorrhage balloon and supplies ‣ Skin marker	‣ Syringes ‣ Needles ‣ Tegaderm ‣ 2x2 gauze ‣ Adhesive bandages ‣ Alcohol swabs ‣ Paper tape ‣ Cloth tape ‣ Manual BP cuff ‣ Stethoscope ‣ Povidone iodine ‣ Personal Protection Equipment (PPE) ‣ Operating room towels ‣ Sterile speculum ‣ Diagrams depicting various procedures (e.g., B-Lynch, uterine artery ligation, balloon placement) ‣ IV fluids for administration and hemorrhage balloons as your institution permits

How to Activate Massive Transfusion Protocol (MTP)

(This should be Institution Specific. Feel free to use this as a template and place your version in the binder. The next page is an example of UVMMC's protocol for reference)

Information to the person activating the MTP:

Patient

name DOB

MRN

Location

Name of Obstetric provider requesting MTP

Who does the MTP Response Activate:

Blood Bank

Patient

Support

Assistance from other units: Nurse, other providers (ED, anesthesiology, other providers) Pharmacy

Lab

Nursing Supervisor or other assistance

When the MTP is completed:

Plan to let people know you will not need more products or services acutely

How to Activate a Massive Transfusion Protocol (MTP)

First Step: Dial 111 and request a MTP

Information you will need to provide to the code operator:

- Patient Name
- Patient Date of Birth
- Patient MRN
- Patient location
- Name of physician or APP requesting the MTP
- Name of caller and call back phone number

Second Step: Place "Mass Transfusion Protocol" order in to EPIC (this is how you will get lab orders)

Who does the MTP Response Activate?

Code operator will call Blood Bank and page the following MTP Team members:

- Blood Bank
- Patient Support
- Emergency Response Nurse
- Pharmacy
- Hematology lab
- ANC

So What Happens Next?

- Patient Support Services will respond directly to the Blood Bank to obtain the First Round of MTP-**rounds will now come in Coolers**
- The Emergency Response Nurse will respond to the designated area requiring the MTP and help with the MTP
- ANC will respond to the department initiating the MTP to help facilitate transfer to a higher level care if needed
- Request additional rounds of MTP from Blood Bank as needed

Third Step: When the MTP is complete-Dial 111 and request a "Complete MTP" page to be sent

- Return all unused blood products to Blood Bank
- **Complete blood product slips and place in chart/return to Blood Bank**
- Document total volume in EPIC I/O Flowsheet

UVMHealth.org/MedCenter

See MTP policy for additional details/information

THE University of Vermont MEDICAL CENTER

Obstetric Team Debriefing Form

Remember: Debriefing is meant to be a learning experience and a way to address both human factors and systems issues to improve the response for next time. There is to be no blaming/finger-pointing.

Type of event: ______________________ **Date of event:** ______________

Location of event: ______________________

Members of team present: (check all that apply)

- ☐ Primary RN
- ☐ Primary MD
- ☐ Charge RN
- ☐ Resident(s)
- ☐ Anesthesia personnel
- ☐ Neonatology personnel
- ☐ MFM leader
- ☐ Patient Safety Officer
- ☐ Nurse Manager
- ☐ OB/Surgical tech
- ☐ Unit Clerk
- ☐ Other RNs

Thinking about how the obstetric emergency was managed,

Identify what went well: (Check if yes)

- ☐ Communication
- ☐ Role clarity (leader/supporting roles identified and assigned)
- ☐ Teamwork
- ☐ Situational awareness
- ☐ Decision-making
- ☐ Other: ______________________

Identify opportunities for improvement: "human factors" (Check if yes)

- ☐ Communication
- ☐ Role clarity (leader/supporting roles identified and assigned)
- ☐ Teamwork
- ☐ Situational awareness
- ☐ Decision-making
- ☐ Other: ______________________

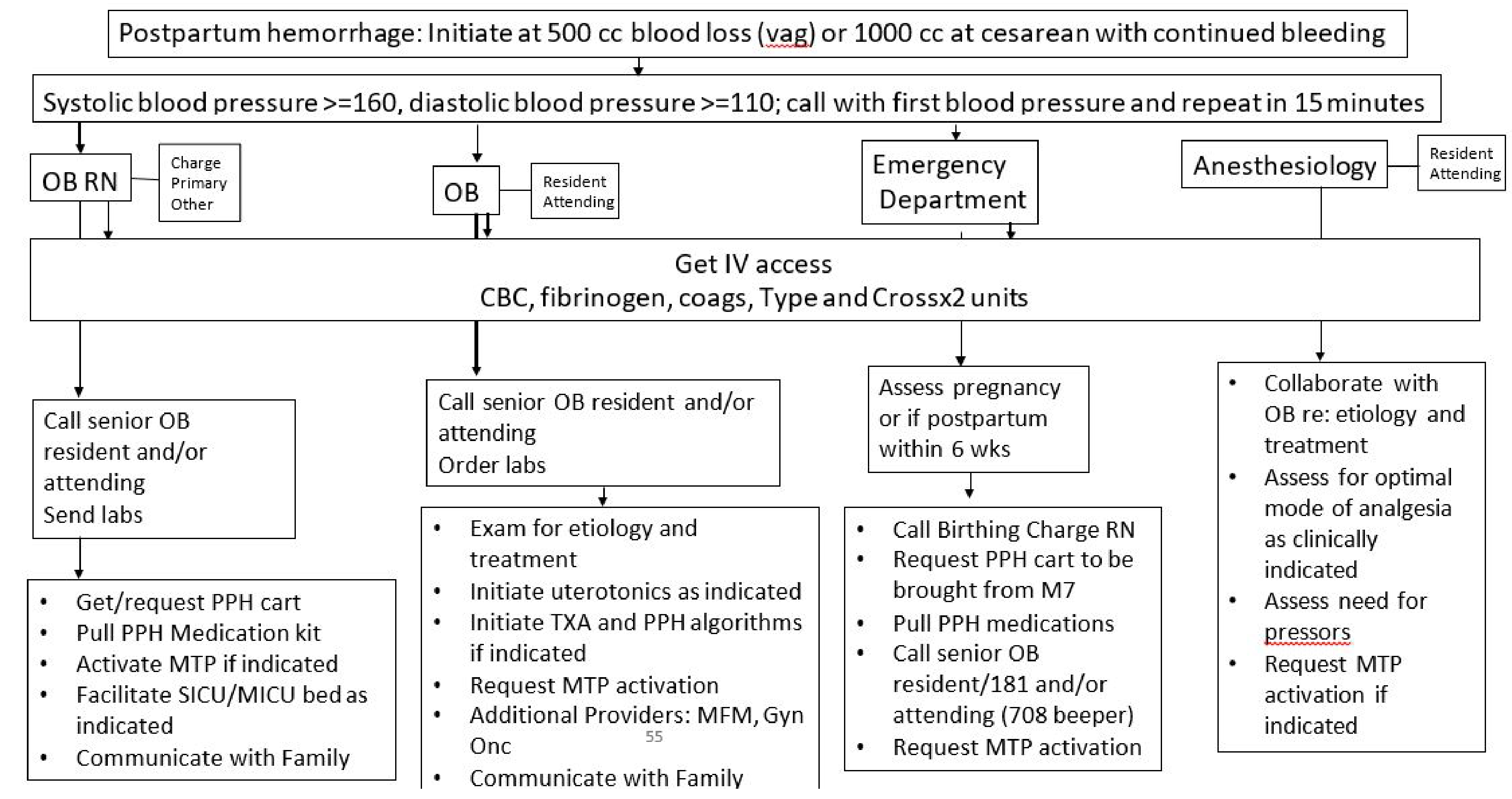
Identify opportunities for improvement: "systems issue" (Check if yes)

- ☐ Equipment
- ☐ Medication
- ☐ Blood product availability
- ☐ Inadequate support (in unit or other areas of the hospital)
- ☐ Delays in transporting the patient (within hospital or to another facility)
- ☐ Other: ______________________

Obstetric Team Debriefing Form

For identified issues, fill in table below

Issue	Actions to be Taken	Person Responsible
	1	
	2	
	3	
	4	



Postpartum hemorrhage: Initiate at 500 cc blood loss (vag) or 1000 cc at cesarean with continued bleeding
Systolic blood pressure >=160, diastolic blood pressure >=110; call with first blood pressure and repeat in 15 minutes
OB RN
Charge
Primary
Other
OB
Resident
Attending
Emergency Department
Anesthesiology
Resident
Attending
Get IV access
CBC, fibrinogen, coags, Type and Crossx2 units
Call senior OB resident and/or attending
Send labs
• Get/request PPH cart
• Pull PPH Medication kit
• Activate MTP if indicated
• Facilitate SICU/MICU bed as indicated
• Communicate with Family
Call senior OB resident and/or attending
Order labs
• Exam for etiology and treatment
• Initiate uterotonics as indicated
• Initiate TXA and PPH algorithms if indicated
• Request MTP activation
• Additional Providers: MFM, Gyn Onc
• Communicate with Family
Assess pregnancy or if postpartum within 6 wks
• Call Birthing Charge RN
• Request PPH cart to be brought from M7
• Pull PPH medications
• Call senior OB resident/181 and/or attending (708 beeper)
• Request MTP activation
• Collaborate with OB re: etiology and treatment
• Assess for optimal mode of analgesia as clinically indicated
• Assess need for pressors
• Request MTP activation if indicated

PPH Role Card – RN

RN – This encompasses the RN role and could be divided up amongst multiple RNs (i.e. Primary, Secondary, Charge) based on how your team functions:

- Ask for help/hit the call light
- Activate Team: Notify appropriate providers (follow paging or OB emergency protocols)
- *Are the right team members present? Consider additional players if need be:
    - Additional OB Providers (consider MFM)
    - OB Anesthesiology
    - Gyn-Onc Providers
    - Rapid Response Team
- Relays pertinent medical history / current situation
- Assess need for IV and labs
- Obtains PPH cart
    - Prepare to set-up Bakri as indicated
- Obtain OB Hemorrhage Flowsheet & Checklist
- Obtains virtual PPH medication kit from Pyxis
- Obtain blood products from lab as ordered (consider activating MTP)
- Perform VS
- Administer medications as ordered by OB Provider (consider medical hx)
- Administer IV fluids/bolus as ordered by OB Provider
- Continue uterine massage
- Insert foley catheter
- Weigh and communicate QBL
- Communicate with family
- Prepare for transfer to higher level of care or operating room

PPH Role Card – LNA/Support Staff

- Clear room of extraneous equipment/furniture
- Provide support to support person or newborn as needed (newborn to nursery)
- Complete VS as delegated by RN
- Weigh and calculate QBL
- Provide support in covering lights/completing hourlies in other patient rooms
- If delegated, assist with transfer to higher level of care.

PPH Role Card – Resident Provider

Get IV access
CBC, fibrinogen, coags, Type and Cross x2 units

Call senior OB Provider and/or attending
Order labs

Exam for etiology and treatment
Initiate uterotonics as indicated
Initiate TXA and PPH algorithms if indicated

Request MTP activation if indicated

Assess level for PPH: admission, second stage, transfer to PP
Active management third stage
Assess for etiology
Initiate treatment as appropriate
Call for assistance, anesthesiology
Move to OR Stage 2 (EBL > 1000)

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

PPH Role Card – Attending Provider

Postpartum Hemorrhage Algorithm

Initiate at EBL >500ml (vag) or EBL >1000ml (cesarean) with continued bleeding

Get IV access

CBC, fibrinogen, coags, Type and Cross x2 units

Call senior OB Provider and/or attending
Order labs

Exam for etiology and treatment
Initiate uterotonics as indicated
Initiate TXA and PPH algorithms if indicated
T+C 2 U PRBC, MTP activation as indicated (EBL > 500)

Assess level for PPH: admission, second stage, transfer to PP
Active management third stage
Assess for etiology
Initiate treatment as appropriate
Call for assistance, anesthesiology
Move to OR Stage 2 (EBL > 1000)

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

PPH Role Card – Anesthesia Provider

Get IV access

CBC, fibrinogen, coags, Type and Cross x2 units

Collaborate with OB re: etiology and treatment
Assess for optimal mode of analgesia as clinically indicated
Assess need for pressors
Request MTP activation if indicated

Add PPH risk assessment to consult information
PPH Stages and treatments are in the OR above the anesthesia cart
RNs have medications for administration
Methylergonivine (methergine) is IM NEVER IV
Anesthesiology pyxis medications

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

PPH Role Card – RN

RN – This encompasses the RN role and could be divided up amongst multiple RNs (i.e. Primary, Secondary, Charge) based on how your team functions:

- Ask for help/hit the call light
- Activate Team: Notify appropriate providers (follow paging or OB emergency protocols)
- *Are the right team members present? Consider additional players if need be:
  - Additional OB Providers (consider MFM)
  - OB Anesthesiology
  - Gyn-Onc Providers
  - Rapid Response Team
- Relays pertinent medical history / current situation
- Assess need for IV and labs
- Obtains PPH cart
  - Prepare to set-up Bakri as indicated
- Obtain OB Hemorrhage Flowsheet & Checklist
- Obtains virtual PPH medication kit from Pyxis
- Obtain blood products from lab as ordered (consider activating MTP)
- Perform VS
- Administer medications as ordered by OB Provider (consider medical hx)
- Administer IV fluids/bolus as ordered by OB Provider
- Continue uterine massage
- Insert foley catheter
- Weigh and communicate QBL
- Communicate with family
- Prepare for transfer to higher level of care or operating room

PPH Role Card – LNA/Support Staff

- Clear room of extraneous equipment/furniture
- Provide support to support person or newborn as needed (newborn to nursery)
- Complete VS as delegated by RN
- Weigh and calculate QBL
- Provide support in covering lights/completing hourlies in other patient rooms
- If delegated, assist with transfer to higher level of care.

PPH Role Card – Resident Provider

Get IV access
CBC, fibrinogen, coags, Type and Cross x2 units

Call senior OB Provider and/or attending
Order labs

Exam for etiology and treatment
Initiate uterotonics as indicated
Initiate TXA and PPH algorithms if indicated

Request MTP activation if indicated

Assess level for PPH: admission, second stage, transfer to PP
Active management third stage
Assess for etiology
Initiate treatment as appropriate
Call for assistance, anesthesiology
Move to OR Stage 2 (EBL > 1000)

* *Pregnant/postpartum women are healthy and may NOT demonstrate hemodynamic instability until near cardiovascular collapse. Do NOT wait for changes in vital signs before aggressive resuscitation: use EBL as guide.*

Case #1

Binder Copy

General Simulation Instructions:

General Principles during the Simulation:

We recommend that the team run the scenario as if they were addressing the care of a real patient. This means obtaining all adjunct supplies and calling ancillary services as they would in a real-life emergent situation. If medications are needed, those should be retrieved – but not opened – to prevent waste.

The team should assign a member to write down the desired orders as if they were ordering them in the electronic medical record (if applicable). Using this approach provides an opportunity to both observe the teamwork and communication and identify any potential facilities or systems issues that arise.

If you have little time, specifically state where each needed cart/equipment/medication is and how it will be used/administered.

Case 1: Postpartum Hemorrhage Secondary to Uterine Atony

Learning Objectives:

By the end of this scenario, each care team member should be able to successfully do the following:

- Recognize risk factors for postpartum hemorrhage.
- Identify postpartum hemorrhage due to uterine atony and be able to treat with appropriate medical management.
- Demonstrate teamwork and communication skills during a simulated postpartum hemorrhage.

Case Scenario:

Patient Information

Mrs. Marla Smith is a 38-year-old G3P2012 who was admitted in active labor at 39+3 weeks and had a spontaneous vaginal delivery 30 minutes ago.

Her delivery was uncomplicated. She had a first-degree laceration that did not require repair. She is approximately 30 minutes postpartum and has just called out because she feels dizzy and has more bleeding.

- She has no significant past medical history.

- She has no known drug allergies. ▪ Her pregnancy was uncomplicated except for an elevated 1-hour glucose screen with a normal 3- hour glucose tolerance test.

Laboratory Data (On Admission):

- Hemoglobin: 12.2
- Hematocrit: 36.6 ▪ WBC: 12,000
- Platelets: 218,000

What do you want to know about the delivery?

Delivery Information

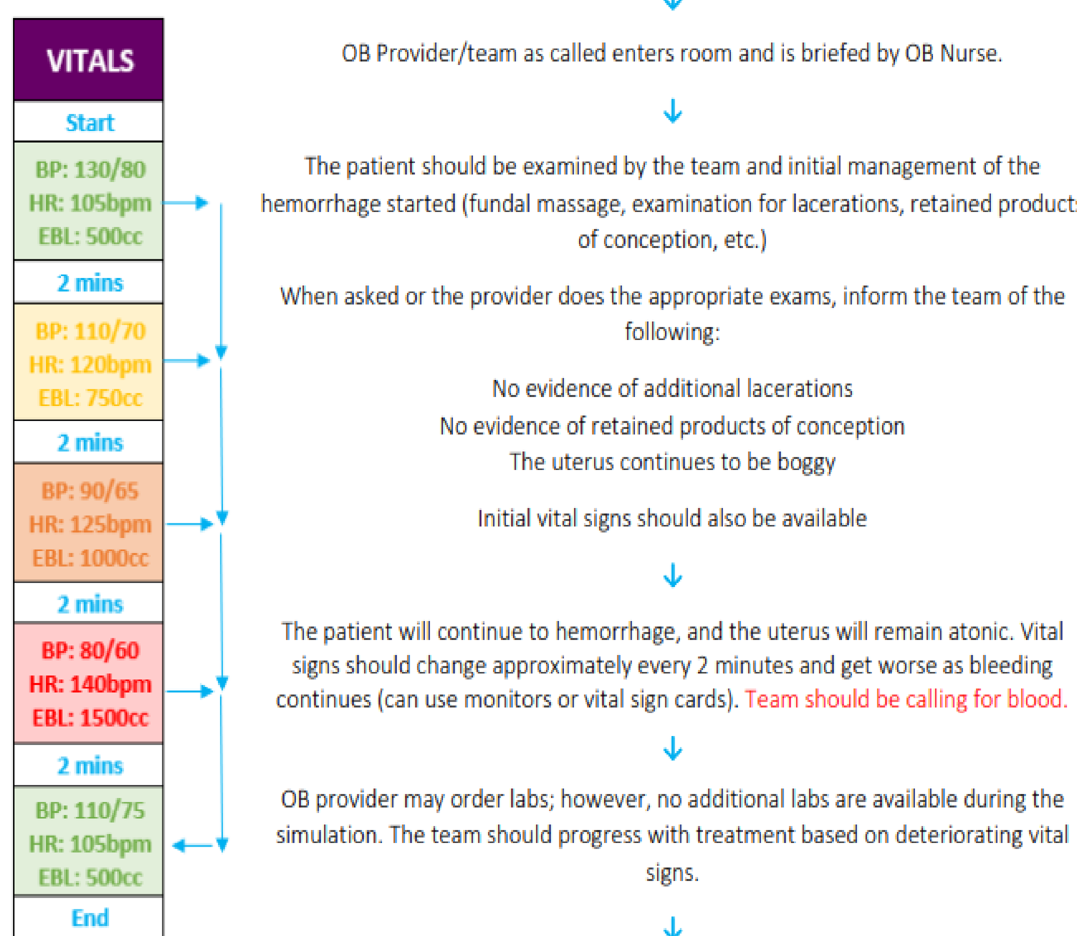
- Measurement of cumulative blood loss (as quantitative as possible) from the delivery was 300cc.
- The placenta was inspected at the time of delivery and appeared to be intact per the delivery note.
- There was only a first-degree laceration that did not require repair.
- The infant weighed 4120 grams.
- The patient has an IV line in place with oxytocin running.

What do you want to know about her medical history?

- The patient does not have a history of asthma or hypertension in this case.
- The patient does not have any known allergies to medications.
- If asked additional questions, try to redirect and not answer specifics so as not to introduce things that might complicate the scenario (i.e. don't say that she has a relative with an unknown bleeding disorder

Case 1: Case Flow/Algorithm with Branch Point and Completion Criteria

Simulation facilitator will introduce the scenario to the team outside the room and then bring OB Nurse to the patient's room to review the patient scenario. The OB Nurse should then enter the room, assess the patient and then call for assistance.



OB Provider/team as called enters room and is briefed by OB Nurse.

The patient should be examined by the team and initial management of the hemorrhage started (fundal massage, examination for lacerations, retained products of conception, etc.)

When asked or the provider does the appropriate exams, inform the team of the following:

No evidence of additional lacerations
No evidence of retained products of conception
The uterus continues to be boggy

Initial vital signs should also be available

The patient will continue to hemorrhage, and the uterus will remain atonic. Vital signs should change approximately every 2 minutes and get worse as bleeding continues (can use monitors or vital sign cards). Team should be calling for blood.

OB provider may order labs; however, no additional labs are available during the simulation. The team should progress with treatment based on deteriorating vital signs.

Providers should recognize hemorrhage and call for additional help and administer medications (may also use Intrauterine balloon tamponade or pack uterus).

Scenario ends when the team has done the following:

Performed uterine massage
Examined for lacerations
Evaluated for retained products of conception
Administered two medications to correct uterine atony (correct dose and route)
Called for blood

OR

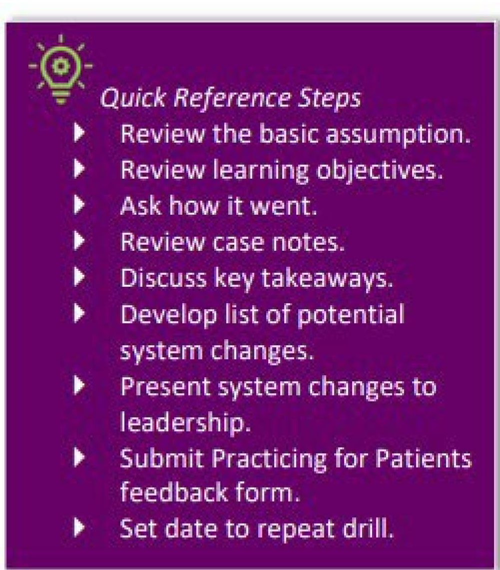
The team fails to correct the hemorrhage within 10 minutes or fails to call for blood.

Planned Completion Points:

To successfully complete this scenario, the care team should successfully do the following:

- Recognize uterine atony as the etiology for postpartum hemorrhage.
- Perform uterine massage.
- Administer two different uterotonic medications.
- Call for blood (e.g. 2 units of PRBCs).
- If 10 minutes has elapsed after recognition of hemorrhage and the team has not corrected the hemorrhage or called for blood.

Debrief:



Complete debrief form with focus on educational issues and system improvements

Fill out drill log and give to RN Manager/Educator

General Simulation Instructions:

General Principles during the Simulation:

We recommend that the team run the scenario as if they were addressing the care of a real patient. This means obtaining all adjunct supplies and calling ancillary services as they would in a real-life emergent situation. If medications are needed, those should be retrieved – but not opened – to prevent waste.

The team should assign a member to write down the desired orders as if they were ordering them in the electronic medical record (if applicable). Using this approach provides an opportunity to both observe the teamwork and communication and identify any potential facilities or systems issues that arise.

If you have little time, specifically state where each needed cart/equipment/medication is and how it will be used/administered.

Case 2: Postpartum Hemorrhage Secondary to Uterine Atony Requiring Intrauterine Tamponade with a Balloon or Uterine Packing

Learning Objectives:

By the end of this scenario, each care team member should be able to successfully do the following:

- Recognize risk factors for postpartum hemorrhage.
- Identify postpartum hemorrhage due to uterine atony and be able to treat with appropriate medical management.
- Recognize persistent hemorrhage requiring additional management with intrauterine tamponade with a balloon or packing.
- Demonstrate teamwork and communication skills during a simulated postpartum hemorrhage.

Case Scenario:

Patient Information

Mrs. Patty Noble is a 42-year-old G5P4014 who was admitted in active labor at 38+2 weeks and just had a spontaneous vaginal delivery 30 minutes ago. The delivery was uncomplicated, and she had no lacerations. She is approximately 30 minutes postpartum and has just called out because she feels dizzy and has noticed more bleeding.

Patient Information:

- The patient has no significant past medical history.
- She has no known drug allergies.
- Her pregnancy was uncomplicated except for asymptomatic anemia with an H/H=10/30.3 and was on iron BID during her prenatal course.

Laboratory Data (On Admission):

- Hemoglobin: 10.5
- Hematocrit: 31.1
- WBC: 12,000
- Platelets: 218,000

What do you want to know about the delivery?

Delivery Information:

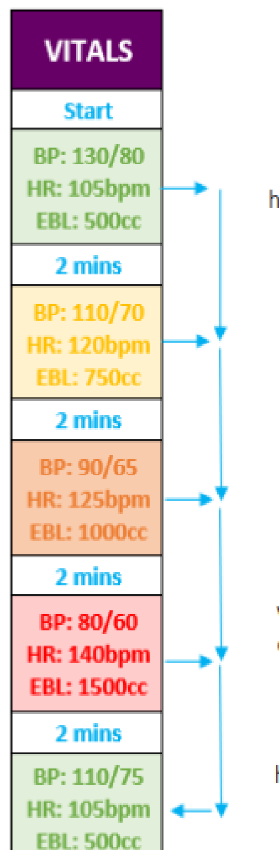
- Measurement of cumulative blood loss (as quantitative as possible) from the delivery was 400cc.
- The placenta was inspected at the time of delivery and appeared to be intact per the delivery note.
- There was no laceration.
- The infant weighed 4220 grams.
- The patient has an IV line in place with oxytocin running.

What do you want to know about her medical history?

- The patient does not have a history of asthma or hypertension in this case.
- The patient does not have any known allergies to medications.
- If asked additional questions, try to redirect and not answer specifics so as not to introduce things that might complicate the scenario (i.e. don't say that she has a relative with an unknown bleeding disorder)

Case 2: Case Flow/Algorithm with Branch Point and Completion Criteria

Simulation facilitator will introduce the scenario to the team outside the room and then bring OB Nurse to the patient's room and then read them the patient scenario. The OB Nurse should then enter the room, assess the patient and then call for assistance



↓

OB Provider/team as called enters room and is briefed by OB Nurse

↓

The patient should be examined by the team and initial management of the hemorrhage started (fundal massage, examination for lacerations, retained products of conception, etc.)

When asked or the provider does the appropriate exams, inform the team of the following:

No evidence of additional lacerations
No evidence of retained products of conception
The uterus continues to be boggy
Initial vital signs should also be available

The patient will continue to hemorrhage, and the uterus will remain atonic and vital signs should change approximately every 2 minutes and get worse as bleeding continues (can use monitors or Vital Signs cards). Team should be calling for blood.

OB provider may order labs; however, no additional labs are available during the hemorrhage. The team should progress with treatment based on deteriorating vital signs.

Providers should recognize hemorrhage and call for additional help and administer medications, but the patient continues to bleed and have vital signs worsening

Providers call for and may also use intrauterine balloon tamponade or pack uterus

Scenario ends when the team has done the following:

Recognized uterine atony as the etiology for postpartum hemorrhage
Performed uterine massage
Administered two different uterotonic medications correctly
Placed intrauterine balloon or packs the uterus
Called for blood

OR

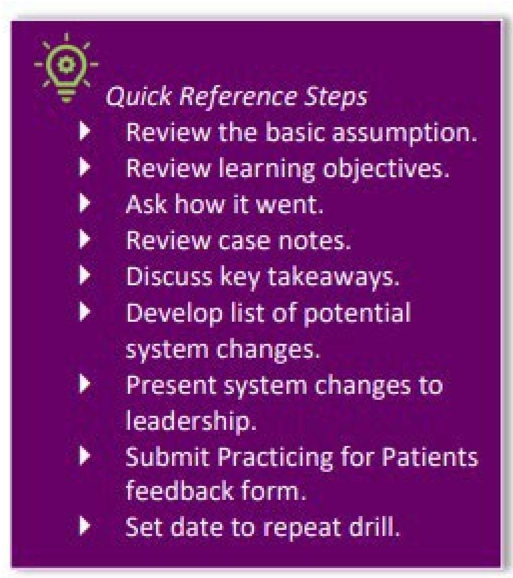
The team fails to correct the hemorrhage within 10 minutes or fails to call for blood.

Planned Completion Points

To successfully complete this scenario, the care team should do the following:

- Recognize uterine atony as the etiology for postpartum hemorrhage.
- Perform uterine massage.
- Administer two different uterotonic medications correctly.
- Recognize the need for intrauterine tamponade with a balloon or packing

DEBRIEF:



Complete debrief form with focus on educational issues and system improvements

Fill out drill log and give to RN Manager/Educator

Case #3

Binder Copy

General Simulation Instructions

General Principles during the Simulation:

We recommend that the team run the scenario as if they were addressing the care of a real patient. This means obtaining all adjunct supplies and calling ancillary services as they would in a real-life emergent situation. If medications are needed, those should be retrieved – but not opened – to prevent waste.

The team should assign a member to write down the desired orders as if they were ordering them in the electronic medical record (if applicable). Using this approach provides an opportunity to both observe the teamwork and communication and identify any potential facilities or systems issues that arise.

If you have little time, specifically state where each needed cart/equipment/medication is and how it will be used/administered.

Case 3: Postpartum Hemorrhage Secondary to Retained Products of Conception and is Responsive to a Single Medication

Learning Objectives:

By the end of this scenario, each care team member should be able to successfully do the following:

- Recognize risk factors for postpartum hemorrhage.
- Identify postpartum hemorrhage due to retained products of conception and be able to treat with
appropriate medical management.
- Demonstrate teamwork and communication skills during a simulated postpartum hemorrhage.

Case Scenario

Patient Information

Mrs. Jennifer Patton is a 32-year-old G5P0040 who was admitted in active labor at 41+2 weeks. History is significant for 4 surgical terminations. She progressed in labor and has an uncomplicated delivery of a live female infant with Apgars 9, 9 and a weight of 3755 grams.

Immediately after delivery, she had some brisk bleeding. The placenta took about 20 minutes to deliver and required a bit more traction than normal. After the delivery of the placenta she continues to have bleeding that is more than normal. She had no lacerations.

She is now approximately 30 minutes postpartum and is still having some bleeding.

- She has no significant past medical history.
- She has no known drug allergies.
- Her pregnancy was uncomplicated except for an elevated 1-hour glucose screen with a normal 3-hour glucose tolerance test.

Laboratory Data (On Admission)

- Hemoglobin: 12.2
- Hematocrit: 36.6
- WBC: 12,000
- Platelets: 218,000

What do you want to know about the delivery?

Delivery Information

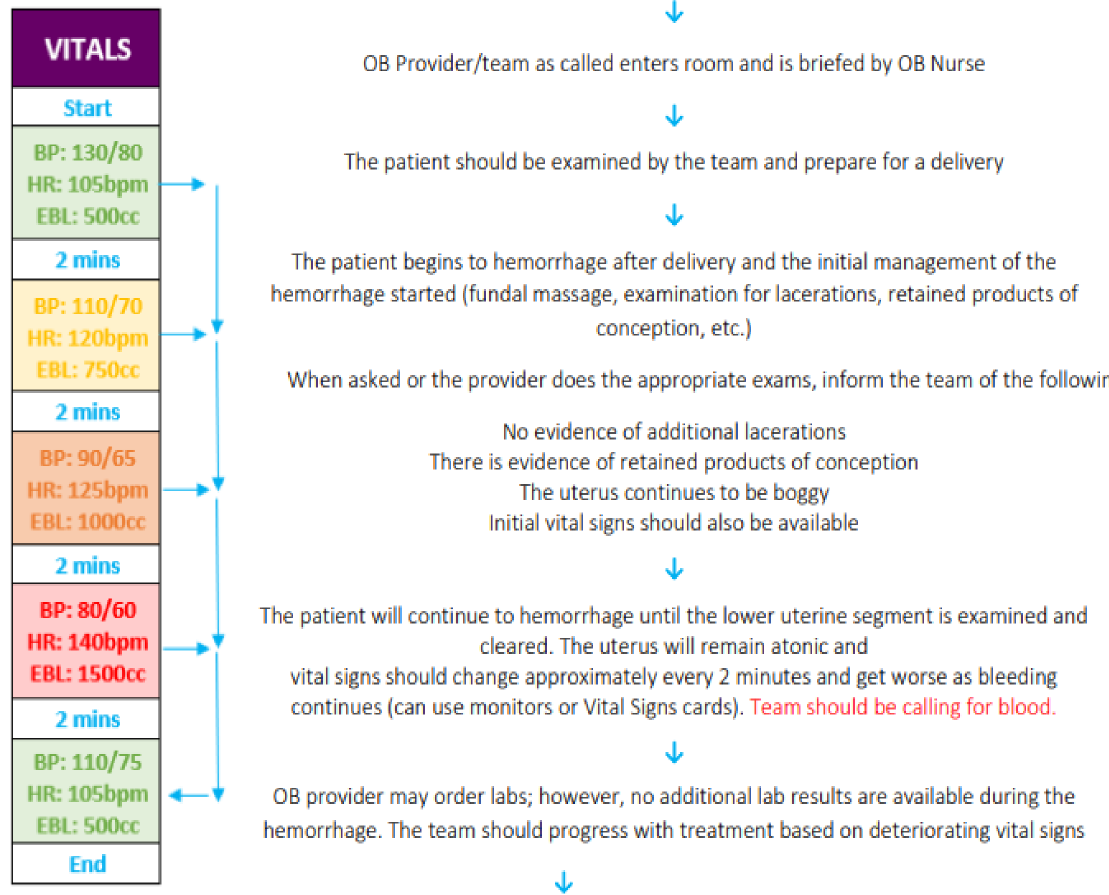
- Measurement of cumulative blood loss (as quantitative as possible) from the delivery was 400cc.
- There was no laceration.
- The infant weighed 4220 grams.
- The patient has an IV line in place with oxytocin running.
- Placental inspection shows missing portions of the placental bed.

What do you want to know about her medical history?

- The patient does not have a history of asthma or hypertension in this case.
- The patient does not have any known allergies to medications.
- If asked additional questions, try to redirect and not answer specifics so as not to introduce things that might complicate the scenario (i.e. don’t say that she has a relative with an unknown bleeding disorder)

Case 3: Case Flow/Algorithm with Branch Point and Completion Criteria

Simulation facilitator will introduce the scenario to the team outside the room and then bring OB Nurse to the patient's room and then read them the patient scenario. The OB Nurse should then enter the room, assess the patient and then call for assistance



Providers should recognize hemorrhage and call for additional help and administer medications

Bleeding and vital signs start to improve

Scenario ends when the team has done the following:

Recognized retained products of conception as the etiology for postpartum hemorrhage
Performed uterine massage
Performed a vaginal exam and examine lower uterine segment
Examined the delivered placenta
Administered at least one uterotonic medication correctly
Called for blood

OR

The team fails to correct the hemorrhage within 10 minutes or fails to call for blood.

Planned Completion Points

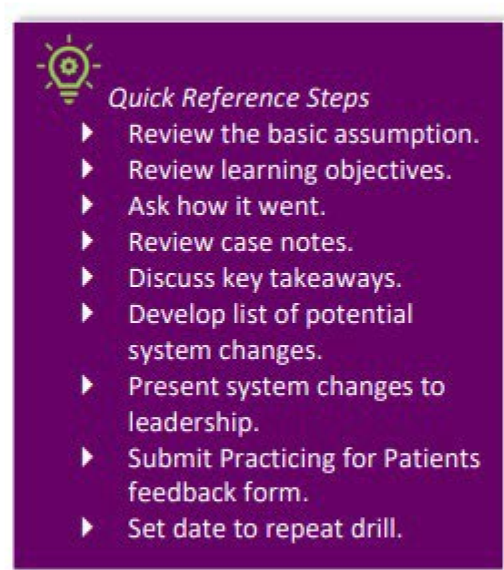
To successfully complete this scenario, the care team should do the following:

- Recognize retained products of conception as the etiology for postpartum hemorrhage and plan for removal
- Perform uterine massage
- Perform a vaginal exam and examine lower uterine segment
- Examine the delivered placenta
- Administer at least one uterotonic medication correctly
- Call for blood (e.g. 2 units of PRBCs)

OR

- If 10 minutes has elapsed after recognition of hemorrhage and the team has not corrected the bleeding or called for blood.

DEBRIEF:



Complete debrief form with focus on educational issues and system improvements

Fill out drill log and give to RN Manager/Educator

Initial

BP: 130/80

HR: 105

EBL: 500ml

2 Minutes

BP: 110/70

HR: 120

EBL: 750ml

Binder Copy

4 minutes

BP: 90/65

HR: 125

EBL: 1000ml

6 minutes

BP: 80/60

HR: 140

EBL: 1500ml

Binder Copy

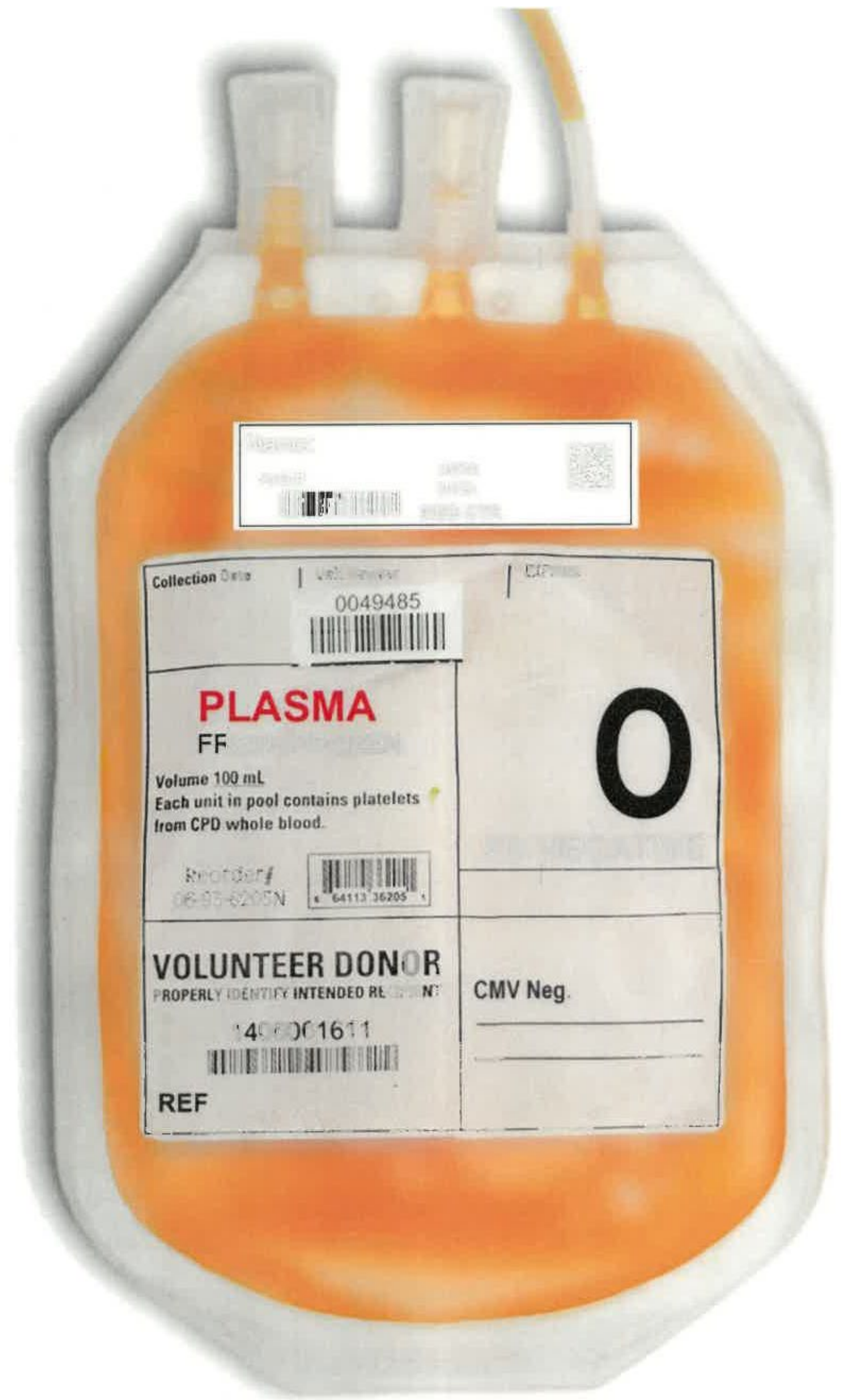
10 minutes

BP: 110/75

HR: 105

EBL: 500ml

Binder Copy



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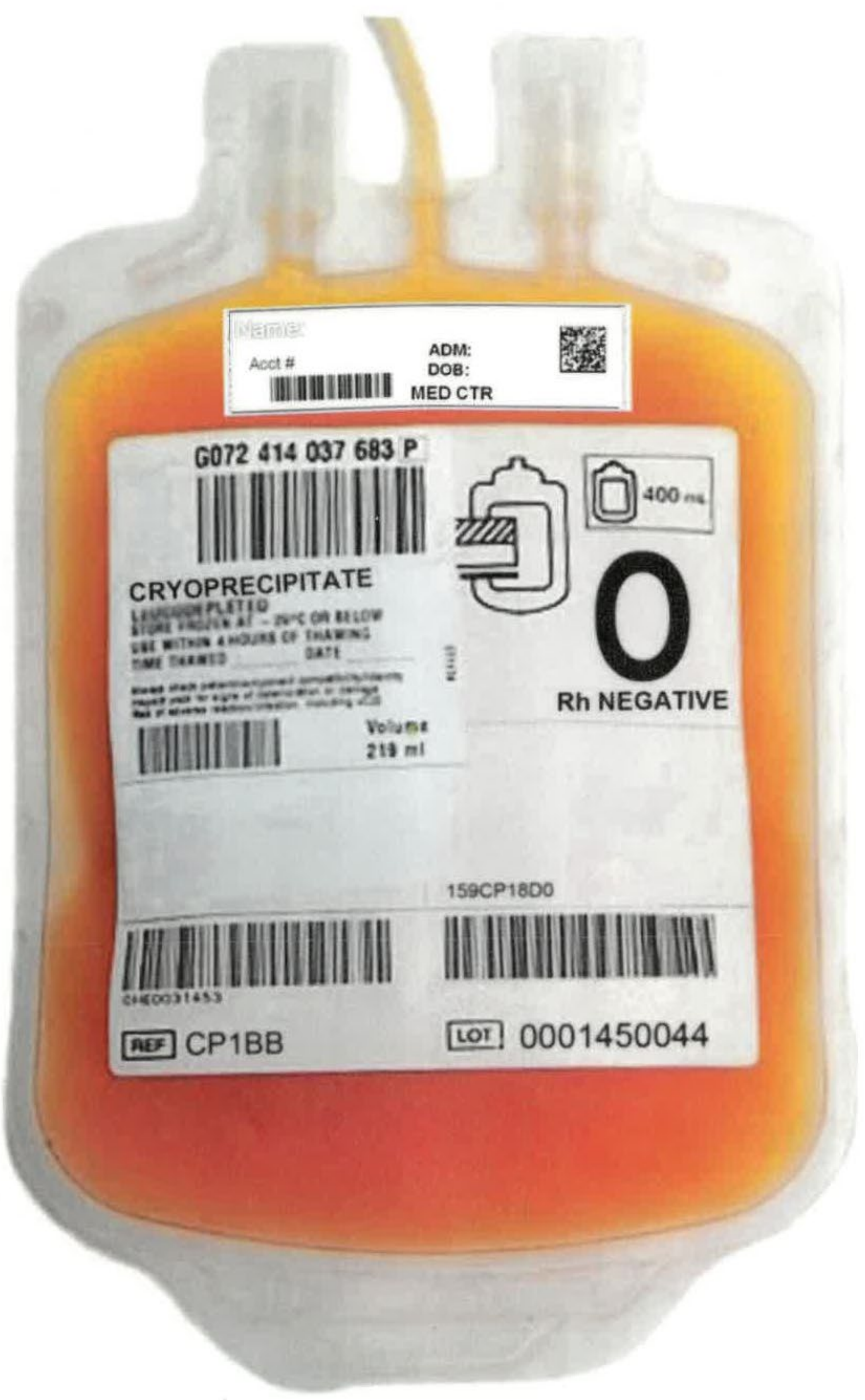

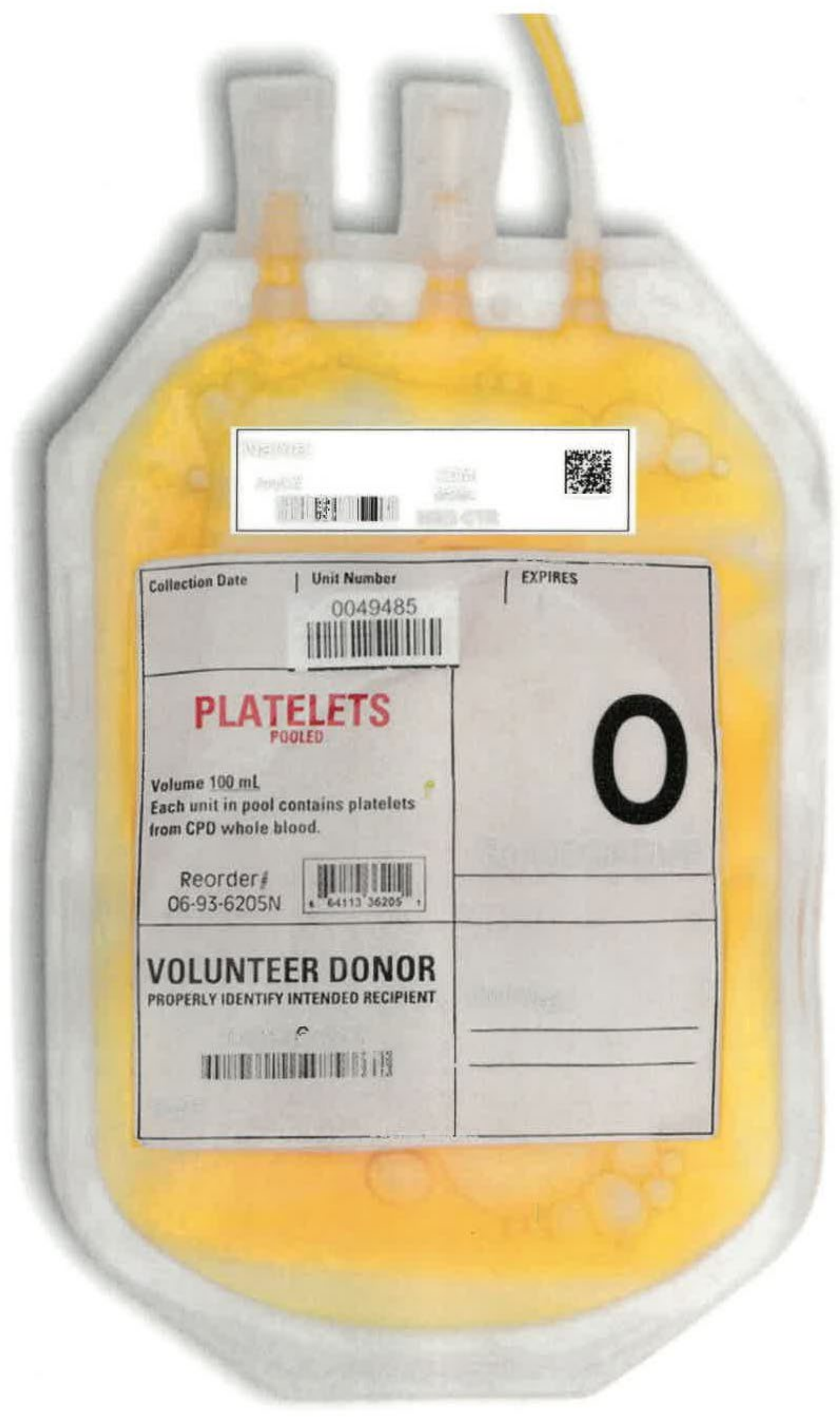
Collection Date
Unit Number
0049485
EXPIRES
PLATELETS
POOLED
Volume 100 mL
Each unit in pool contains platelets
from CPD whole blood.
Reorder#
06-93-6205N
O
VOLUNTEER DONOR
PROPERLY IDENTIFY INTENDED RECIPIENT

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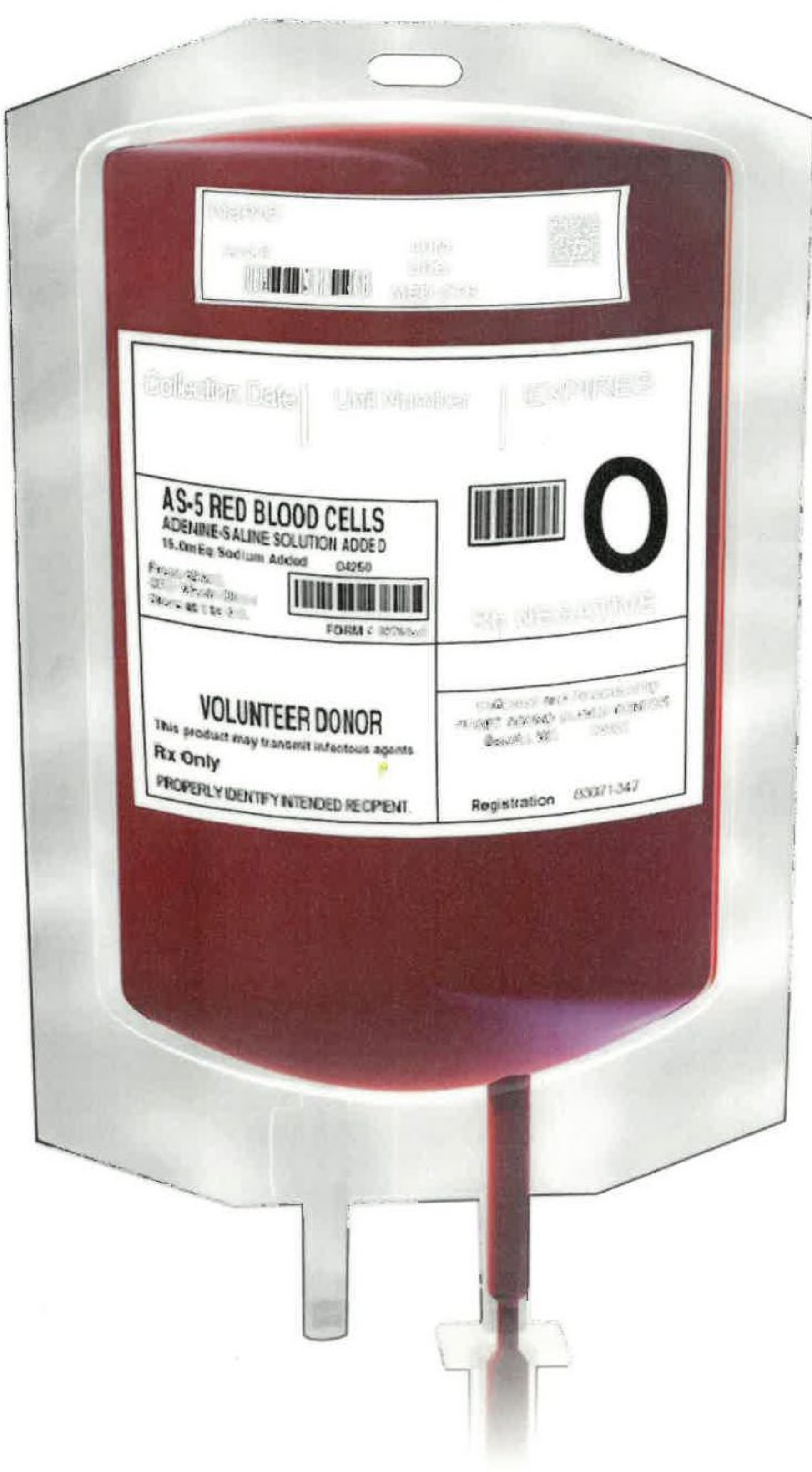

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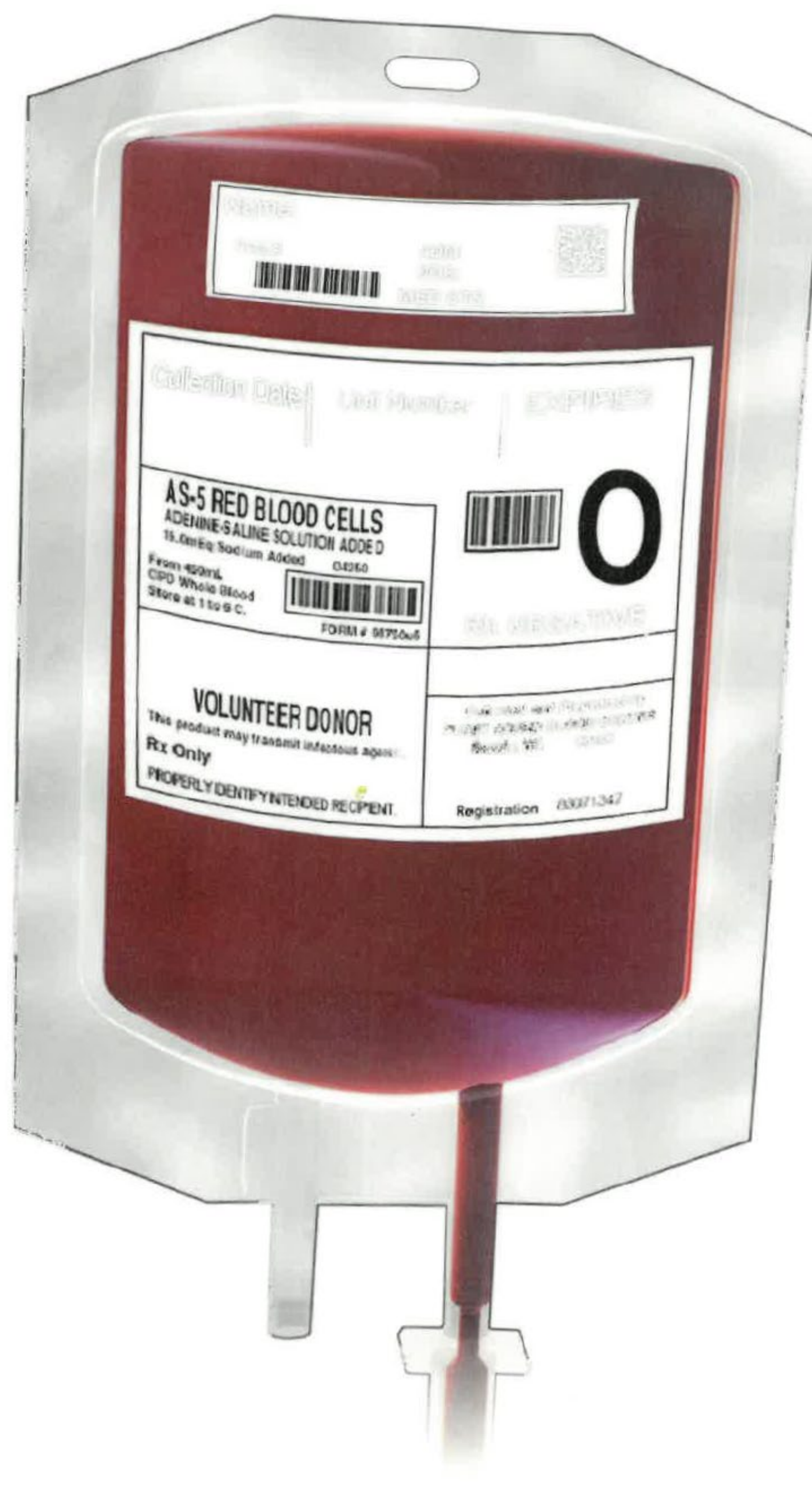


Grab and Go Drill Log Information

(to be utilized by drill facilitators)

Date:

Time:

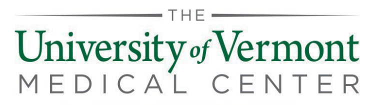
Scenario:

Location (ex. M7, B7, OR):

Participants:

Facilitator:

Name:



Scavenger Hunt for PPH

Instructions: Please walk around the unit and find the items listed below. In some cases, the item will be in more than one location. Please specify the **exact location** of the item.

1. Bakri Balloon (3 places) - what additional supplies are necessary for inserting the Bakri?

   ____

   ____

   ____

2. Fluid Warmer/Rapid Infuser

   ____

3. Tranexaminic Acid (Location and dosing information)

   ____

4. Blood drawing supplies in OR 1 &2.

   ____

5. What is the correct order of draw for tube types and/or where could you find that information?

   ____

6. Estimated Maternal Blood Loss worksheet.

   ____

7. Find the Mass Transfusion Policy. Under **Initiate the MTP** discuss how the blood bank should be notified.

   ____

   ____

Name:

8. What medications are included in the virtual PPH kit in the Pyxis?

____

9. What are the contraindications for hemabate (1) and methergine (2)? 1. ______________
   2. ____________________________

10. What is step #4 on the checklist for obtaining blood products in a cooler, not to be transfused?

____

11. What is the name of the order set we should use to order blood products for mothers?

____