CASE #3
"Vaginal Delivery"

Instructor's Notes:

The simulation drills are made up of two parts: the drill and the debriefing.

1) Assemble the necessary supplies.

2) To make the case more realistic, make a patient chart which includes prenatal record, H&P, laboratory data, relevant consultative notes, FHR tracings since admission etc. (Data included at end of each case)

3) Assign roles – Up to 10 people can participate at one time:
   OB provider (OB or FP, CNM)
   Resident (if applicable)
   Anesthesiologist
   Nurse #1 (primary)
   Nurse #2 (secondary, charge)
   Rapid Response Team
   Tech / CNA
   Facilitator (1-2)

4) Educate the participants about mock drills by discussing what elements of the performance will be evaluated:
   - Technical skills
   - Critical thinking skills
   - Overall performance (individual and team)

5) The highlighted lines indicate key tasks that need to be completed by the team.

6) Use this mock drill sheet with the drill entitled **"Vaginal Delivery"**
   Read the introduction and present the case to participants

7) Begin drill, record start and end times, and use the mock drill check lists to document actions

8) Review objectives and teaching points with participants. On average, the debriefing should take twice as long as the drill.

Objectives of the drill:

- **To identify risk factors for hemorrhage**
- **To provide accurate estimation of blood loss prior to and during admission**
- **To discuss interpretation of lab values and appropriate fluid replacement**

Introduction to be read to participants prior to beginning of the simulation

In a few moments, I will give you basic information about a patient you have been called to evaluate. Work quickly and efficiently as if this were a real clinical situation.
You can talk while you work, but don't let it slow you down. Retrieve medications, IV fluids and other supplies as you normally would. If you require assistance, indicate who you need and why. The assistant will be prepared to perform what you request, but will not do so unless directed.

*Depending on whether an actor or a mannequin is used, pulses or color changes may not be apparent. Additional information you require must be requested, including vital signs, lab results and the condition of the mother and/or fetus. No hints about what steps to take next will be provided.

You will be assessed on how you work both individually and as a team. Part of your evaluation is recognizing when to look for specific signs, and how to proceed quickly as a team.

Do you have any additional questions before we start?

**Please adapt to facility's resources*

This scenario starts with the patient/Noelle/perineum model in bed with a sheet covering the perineum. Have a pad with 3 egg shaped clots plus bright, red, blood totaling 500ml. DO NOT PROVIDE ANY INFO UNTIL PROMPTED.

Case #3
Vaginal Delivery

Past Obstetrical History:
NSVD x1 full term
NSVD 23 weeks-stillborn

Past Medical History
History of cone biopsy for mild dysplasia

Present Obstetrical History:
Positive Anticardiolipin Antibodies
Prenatal care started at 9 weeks with regular visits

Medications: FeSO4 325 mg BID, Baby Aspirin 81 mg daily, stopped at 37 wks

Prenatal Labs
Initial H&H: 10.7g/dL /31.6% **28 weeks H&H:** 10.8 g/dL/33.4%
All labs negative or within normal limits

38 year old G3 P1101 presented with spontaneous rupture of membranes three hours earlier. The fluid was clear. Contractions every 3-4 minutes with moderate intensity by palpation. She progressed to complete but had a prolonged second stage, requiring oxytocin augmentation. Vital signs range during labor: 120/70-110/74. After 12 hours of labor, she had a normal spontaneous vaginal delivery of a baby girl, APGARS 9 & 9 and weight 9# 6 oz (4252 g) over a midline episiotomy.

The next three pages are for the Facilitator Only

Facilitator's Notes*: It is thirty minutes after delivery.* Have patient/Noelle/perineum model in bed with sheet covering perineum. Have a pad with 3 egg shaped clots plus bright, red, blood totaling 500ml. DO NOT PROVIDE ANY INFO UNTIL PROMPTED.

Information on this page includes some of the expected tasks to be accomplished by the drill team.

The expected time allotment is 4-10 minutes

If asked please say:

- Delivery of the placenta and bright red bleeding was noted
- Oxytocin was started (dilution 30 units in 500 ml of NS) and infusing at 125ml/hr
- Uterus is boggy and at the level of the umbilicus
- Estimated blood loss at delivery is 250 ml.
- Episiotomy and cervical laceration repaired with 2.0 chromic

If needed, can give vital signs 1-2 with history information

	BP	Temp	Pulse	Resp.	Fundus/Lochia	Comments
# 1	110/74	96.9^{0}F (36.0 ^{0}C)	90	20	• Boggy fundus that firms up with massage, at the level of the umbilicus • Moderate amount of lochia rubra	**Recovery 1**
# 2	112/76	99.0 ^{0}F (37.2 ^{0}C)	95	18	• Fundus firm at the level of the umbilicus • Small amount of lochia rubra	**Recovery 2**
Depending on how the scenario is managed, the following can occur with either vital signs # 3 or # 4 • **3 egg shaped clots and bright, red bleeding totaling 500 ml** • **Fundus 3/u displaced left and does not firm up with massage**						
# 3	100/61		102	24		**Recovery 3** • MD/DO/CNM evaluation • Receives one ampoule of *Carboprost (Hemabate) Not effective in relieving bleeding • IV increased • Foley placed
# 4	92/62		130	24		**Recovery 4** • Receives one ampoule of *Carboprost (Hemabate) • Not effective in relieving bleeding
# 5	88/54		140	24		
# 6	70/40		142	26		To OR for D&C

* **Please note: Use the uterotonic drug that is most appropriate for your institution.**

The patient:

- Received 1 ampoule of Carboprost (Hemabate) every 15 minutes IM x 2
- Was not typed and crossed

Further assessment revealed:

- Oxytocin infusion was wide open. Bleeding does not stop
- Fundus remains boggy
- Bladder emptied via straight catheter
- 300 ml moderate rubra noted on chux and pad, with 2 softball size clots
- The patient was examined no lacerations were found
- Decision made to perform a D& C; patient taken back for a D&C
- Bleeding resolved

Lab values	Admission	After D&C
Hemoglobin	10.1 g/dL	8.2 g/dL
Hematocrit	33.4%	24.6%
Platelets	220,000mm^3	145,000 mm^3
PT	11.5 sec.	11 sec.
PTT	65 sec.	60 sec.
Fibrinogen	310 mg/dL	200 mg/dL

Outcomes:

- Uterotonics were not effective
- D&C was effective
- No blood was transfused for this patient

Teaching points to reinforce during the debriefing:

- Atony vs. cervical/vaginal tear
- Pelvic exam vs. uterine exploration
- Placenta inspected/completed
- Uterotonic Agents
  - Carboprost (Hemabate)
  - Methylergonovine (Methergine)
  - Misoprostol (Cytotec)
- Stepwise identification of bleeding source
- What lab studies other than hematocrit need to be ordered and why
- Lab turnaround times
- Response time for:
  - Anesthesia
  - Surgeon
- Evaluation after treatment
  - Indications for transfusion (symptomatic vs. asymptomatic)
  - Signs of infection (start antibiotics)

The following can be used for low fidelity simulations

Vital Signs #1

Temperature 96.9^{0}F (36.0 ^{0}C)

Blood Pressure 110/74

Pulse 90

Respirations 20

Vital Signs #2

Temperature 99.0^{0}F (37.2 ^{0}C)

Blood Pressure 112/76

Pulse 95

Respirations 18

Vital Signs #3

Blood Pressure 100/61

Pulse 102

Respirations 24

Vital Signs #4

Blood Pressure 92/62

Pulse 130

Respirations 24

Vital Signs #5

Blood Pressure 88/54

Pulse 140

Respirations 24

Vital Signs #6

Blood Pressure 70/40

Pulse 142

Respirations 26

Intervention #1

Receives one ampoule of Carboprost (Hemabate)

Not effective in relieving bleeding

Intervention #2

Receives one ampoule of Carboprost (Hemabate)

Not effective in relieving bleeding

LABS

Lab values	Admission
Hemoglobin	10.1 g/dL
Hematocrit	33.4%
Platelets	220,000mm^3
PT	11.5 sec.
PTT	65 sec.
Fibrinogen	310 mg/dL

LABS

Lab values	Post D&C
Hemoglobin	8.2 g/dL
Hematocrit	24.6%
Platelets	145,000 mm^3
PT	11 sec.
PTT	60 sec.
Fibrinogen	200 mg/dL

Fundus/Lochia # 1

Boggy fundus that firms up with massage, at the level of the umbilicus

Moderate amount of lochia rubra

Fundus/Lochia # 2

Fundus firm, at the level of the umbilicus

Small amount of lochia rubra

Fundus # 3

Fundus does not firm up with massage