Rural PPH

Section 1: Case Summary

Scenario Title:	**Rural PPH**
Keywords:	PPH, Obstetrics, Rural, Remote
Brief Description of Case:	Post Partum Hemorrhage in a rural northern community, limited resources.

Goals and Objectives	
Educational Goal:	To practice managing a critical obstetrical patient in a rural setting utilizing RTVS resources
Objectives: (Medical and CRM)	1- Practice the management of PPH in a rural setting with limited resources 2- Build relationships between Real Time Virtual Support pathways, particularly RUDI and MABEL 3- Build relationships between RTVS and Nursing stations/rural/remote communities 3-Improve telemedicine and SIM tele-facilitation skills of healthcare providers providing virtual care 4- Consider logistical challenges in transferring patients from remote northern communities
EPAs Assessed:	

Learners, Setting and Personnel				
Target Learners:	☒ Junior Learners	☒ Senior Learners	☒ Staff	
	☐ Physicians	☐ Nurses	☐ RTs	☒ Inter-professional
	☐ Other Learners:			
Location:	☐ Sim Lab	☒ In Situ	☐ Other:	
Recommended Number of Facilitators:	Instructors:			
	Confederates:			
	Sim Techs:			

Scenario Development	
Date of Development:	August 11, 2020
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Section 2A: Setting:

This scenario takes place in a rural emergency department. It is Fall and the days are short, but there is not yet snow on the ground. Jackie is carried into the small rural ER by 2 people. The doctor is on call, 20mins away.

Section 2B: Initial Patient Information:

A. Patient Chart					
Patient Name: Jackie Jones			Age: 27	Gender: Female	Weight: 70 kg
Presenting complaint: Vaginal delivery 40 minutes ago at home, large volume vaginal bleeding					
Temp: 36.6	HR: 130	BP: 90/50	RR: 22	O_2Sat: 98%	FiO_2: RA
Cap glucose: 6.0			GCS: (E V M) 15 (4,5,6)		
Triage note: Vaginal delivery at home 40 minutes ago, ongoing large volume vaginal bleeding, unsure if placenta was complete. Baby is well, at home with grandma.					
Allergies: None known					
Past Medical History: None			Current Medications: Prenatal vitamins Tums		

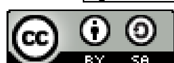
Section 2C: Extra Patient Information

A. Further History

Include any relevant history not included in triage note above. What information will only be given to learners if they ask? Who will provide this information (mannequin's voice, confederate, SP, etc.)?

The patient is a first time mom, who made an informed decision to deliver in her home community with her husband, grandma, and a doula. Patient is G1P1, pregnancy was normal and she delivered at 38 weeks. She had no GDM, no HTN, Serologies were normal/negative, GBS was not done, most recent bloodwork was 6 months ago and patient remembers it was normal, her blood type was A+. She went into spontaneous labour at 38 weeks. She had an uneventful progression of her 1st stage, she was contracting for about 13 hours before she felt a strong urge to push 2nd stage lasted ~2 hours, baby came out uneventfully, crying Apgars 8,9,9 doing well at home with grandma. She had some minor bleeding while waiting to deliver the placenta. Her husband was holding traction and thinks he may have ripped the placenta, the doula says that it "didn't look right" when it came out. At that point she had steady bleeding, soaking though the towels and they got scared and rushed her in. She is continuing to bleed and soaked through 2 large pads on the way to the hospital, the 3rd is in place now and almost saturated. She feels a bit light headed and nauseous and has not had any analgesia or any medications.
PMHx: none, no asthma, no htn PSHx: none, SocHx: Lives in the community, works as a truck driver, family is supportive, no etoh, smoking, or substance use.

B. Physical Exam	
List any pertinent positive and negative findings	
Cardio: NS1S2 No Murmurs	Neuro: Normal
Resp: Normal	Head & Neck: Normal
Abdo: Uterus Boggy	MSK/skin: Normal
Other: Pelvic exam reveals posterior 2nd degree tear, steady stream of blood from vagina, clots are expelled with fundal pressure, ?pieces of placenta, no readily identifiable vaginal wall or cervical tears, no visualized retained placenta.	



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Section 3: Technical Requirements/Room Vision

A. Patient
☒ Mannequin *(specify type and whether infant/child/adult) *If Available*
☒ Standardized Patient (*alternative)
☐ Task Trainer
☐ Hybrid
B. Special Equipment Required
In Situ Simulation utilizing participants usual facilities and equipment. Mannequin if available.
C. Required Medications
Whatever is available on site. SIM will utilize: Oxytocin, Ergotamine, Carboprost, Misoprostol, TXA, IV Fluids, O2
D. Moulage
Hives, Lip swelling (or none and described by facilitator)
E. Monitors at Case Onset
☐ Patient on monitor with vitals displayed ☒ Patient not yet on monitor
F. Patient Reactions and Exam
Include any relevant physical exam findings that require mannequin programming or cues from patient (e.g. – abnormal breath sounds, moaning when RUQ palpated, etc.) May be helpful to frame in ABCDE format. Pain with fundal massage/pressure, pain with vaginal exam.

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Section 4: Confederates and Standardized Patients

Confederate and Standardized Patient Roles and Scripts	
Role	*Description of role, expected behavior, and key moments to intervene/prompt learners. Include any script required (including conveying patient information if patient is unable)*
	A standardized patient could provide the history information above, otherwise this can be provided by facilitator.

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Section 5: Scenario Progression

Scenario States, Modifiers and Triggers				
Patient State/Vitals	Patient Status	Learner Actions, Modifiers & Triggers to Move to Next State		Facilitator Notes
1. Baseline State Rhythm: Sinus Tach HR: 130 BP: 90/60 RR: 22 O_2SAT: 98% RA T: °C 36.6 GCS: 15	*Slightly pale, anxious, having pain to uterus and perinium*	Expected Learner Actions ☐ Call local doctor ☐ IV, O2, Monitors ☐ Connect to RUDI / Mabel doc through Zoom or telephone ☐ RUDI / MABEL help complete Hx and PE ☐ Uterine Massage ☐ Oxytocin 10 units IM ☐ Oxytocin 20 units in 1LNS bolus ☐ Ergotamine 0.2mg IM ☐ Carboprost 0.25 mg IM ☐ Misoprostol 1mg PR ☐ TXA 1g IV ☐ Analgesia ☐ NS 1L bolus	Modifiers - If telephone call, RUDI doc asks to switch to Zoom to visualize pt. - If treatment is delayed patient is feeling more nauseated, Vitals: 85/55, 135, 22, 98%RA, 36.6 - if treatment is initiated quickly, vitals: 105/75, 120, 20, 98%RA, 36.6 Triggers - Treatments given or 10 minutes pass(2)	There is no blood available. Can repeat Carboprost q 15min, avoid in asthma Ergotamine – avoid in hypertension
2. Post Treatment Vitals depend on treatment: Sufficient (insufficient) Rhythm: Sinus Tach HR: 120 (135) BP: 105/75 (85/55) RR: 20 (22) O_2SAT: 98%RA (98%) T: °C 36.6 (36.6) GCS: 15 (15)	If treated appropriately, feels a bit better, if not, slightly more nauseated. Bleeding decreased, but still soaking a large pad q30min + clots, uterus has firmed up.	Expected Learner Actions ☐ Decision to transfer patient ☐ RUDI calls PTN ☐ MABEL Stays on line with nurse/local doctor / patient ☐ Discussion about management overnight.	Modifiers - PTN cannot transfer patient until morning 0800h, currently 1930h and dark. Triggers - Discuss overnight management, end scenario.	- local MD does not have experience suturing vaginal tears or in uterine exploration

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Appendix A: Laboratory Results

CBC	Cardiac/Coags
WBC	Trop
Hgb: POC = 95, rpt after bolus = 85	D-dimer
Plt	INR
	aPTT
Lytes	
Na	Biliary
K	AST
Cl	ALT
HCO_3	GGT
AG	ALP
Urea	Bili
Cr	Lipase
Glucose	
	Tox
Extended Lytes	EtOH
Ca	ASA
Mg	Tylenol
PO_4	Dig level
Albumin	Osmols
TSH	
	Other
VBG	B-HCG
pH	
pCO_2	Urine Dip:
pO_2	
HCO_3	
Lactate	

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Appendix B: ECGs, X-rays, Ultrasounds and Pictures

Paste in any auxiliary files required for running the session. Don't forget to include their source so you can find them later!

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Appendix C: Facilitator Cheat Sheet & Debriefing Tips

Include key errors to watch for and common challenges with the case. List issues expected to be part of the debriefing discussion. Supplemental information regarding any relevant pathophysiology, guidelines, or management information that may be reviewed during debriefing should be provided for facilitators to have as a reference.

Management of PPH in resource limited setting.

Communication challenges via ZOOM, Internet connection, multiple callers, mute function, video placement, etc.

What resources and treatments are available in the local centre.

Barriers to transport in the local centre.

Management of a critical patient in a resource limited setting when transportation is delayed.

References

1. Belfort, MA. Overview of Post Partum Hemorrhage. In: UpToDate, Post, TW (Ed), UpToDate, Waltham MA, 2020
2. Belfort, MA. Post Partum Hemorrhage: Medical and Minimally Invasive Managment. In: UpToDate, Post, TW (Ed), UpToDate, Waltham MA, 2020

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