Scenario: O3	Patient: Barbra Windsor	Simulator: SIMMOM preferred
Case Summary: Barbra is a 32 year-old lady who has given birth to her second child in the back of an ambulance en route to hospital. Barbra has started to bleed heavily and continuously since the birth of her child. She will have reducecd uterine tone and retained products, needing further specialist obstetric management. She is otherwise fit and well with no allergies or medications. 1.		**Participant Briefing:**BAT Call I – 32 year old woman with post partum haemorrhage after delivering the baby and placenta en route. M – Delivery of healthy baby girl in the ambulance, ongoing maternal bleeding. The placenta has been delivered. I – Approximately 1 litre of blood loss with patient feeling lightheaded. S – RR 25/min, Sats 99% on oxygen, HR 115 regular, BP 100/65, GCS 15 and a BSL of 6.4. T – High flow oxygen, 2 IVC and 500ml normal saline. The baby is healthy and with dad at the moment.
Clinical Issues		**Human factors / Non technical issues**
ABCDE approach to the patient with postpartum haemorrhage Management of continued PV bleeding in the postpartum stage. Consideration of the 4Ts – Tissue, Tear, Tone and Thrombin (clotting).		Role allocation Communication with team in ED, Obstetric team and patient Situational awareness of deterioration of patient despite best efforts – need for further obstetric involvement or theatre.
Learning Objectives: Recognise the patient with significant postpartum PV bleeding. Think about the 4 Ts as causes of the haemorrhage. Think about what can be accomplished in the ED to stop or reduce the bleeding. Recognise the need for further acute treatment by obstetric and theatre staff. **Communicate:** Within the team, with the patient and with external teams for the benefit of the patient **Conduct:** A thorough ABCDE approach to the patient with postpartum haemorrhage **Demonstrate:** Good situational awareness throughout the simulation, resources available, deterioration, team skill mix **Interpret:** Investigation results along with history and examination results		
Faculty Actors: **Barbra Windsor –** You are otherwise fit and healthy mother of a 2 year-old-son and now a healthy baby girl. You are feeling a little light headed and you are worried as you seem to bleeding quite a lot "down below". You remain conscious throughout and cooperative with the team. You do become more worried as the scenario progresses and as you become a little more light headed. **Faculty Nurse –** Helpful and as you would be in the ED resus. Allow the team to make their own decisions but prompt the team if needed to maintain course of simulation. Act as though you would in the ED with a real patient. Have blood results face down on a seat/bench near by so that you can give these to the team as requested. If you are happy to you can have a 50ml syringe of fake blood ready to "top up" Barbra's bleeding on the sheets, during the scenario (try to do this unnoticed). **Parent of the baby** holding baby and is appropriately concerned but stays out of the way. Able to feed information regarding maternal health and history if		

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asked.
Patient Moulage: Manikin needs to have uterus in situ with reduced tone. The tone of this uterus will improve with uterine massage. Laminated I MIST on patient. Blood staining of sheets around pelvic areas and below. Blood in the vagina and uterus. Have blueys/pads under the sheet before applying the dye. May also be a good idea to have extra sheets/blueys/etc to catch any drips that may occur during the scenario.

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Equipment & Props: Fake blood available for transfusion by the team – group O –ve. Fake FFP available for transfusion by the team – group O-ve Blood soaked sheets as above Orange based cleaner to clean up the mannequin after the session Placenta – torn placenta available to be assessed. All parts are there but team should consider retained products.		
Monitor: ED 3 wave monitor ECG – 3lead NIBP Sats RR	**Investigations:** ABG and VBG results available x2 of each HB, K, Na available on the ABG Other blood tests not available during the scenario	
Patient presentation	**Expected response by participants**	**Faculty /Actors Notes**
BAT CALL BAT Call I – 32 year old woman with post partum haemorrhage after delivering the baby and placenta en route. M – Delivery of healthy baby girl in the ambulance 20 minutes ago, ongoing maternal bleeding. The placenta has been delivered I – Approximately 1 litre of blood loss with patient feeling lightheaded. S – RR 25/min, Sats 99% on oxygen, HR 115 regular, BP 100/65, GCS 15 and a BSL of 6.4. T – High flow oxygen, 2 IVC and 500ml normal saline. The baby is healthy and with dad at the moment. Arrival in 2 minutes	Role allocation Preparation of equipment and drugs Call for help	Obstetrics team when contacted will be available in 15 minutes as finishing a caesarean section

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Initial Presentation: Ambulance arrival Sats – 99% on oxygen RR – 25 NIBP – 98/65 HR – 120 regular	Systematic ABCDE approach to the patient with postpartum haemorrhage AMPLE history, Examination and appropriate investigation. The perineum is largely intact, without obvious tears. Communicate within the team and with patient	**On arrival of ambulance faculty to pull back the sheet and advise that the patient's condition is unchanged and the handover was as the IMIST was given. The delivery of the baby and the placenta was uncomplicated and the bleeding started several minutes after the delivery was complete. Laminated IMIST sheet can be on the patient for reference.** **Barbra –** You are worried with all the bleeding and the fuss. You are also a little light headed if you are asked. Otherwise you are compliant and helpful. **Faculty Nurse –** Act as you would if you were part of a team treating such a patient within the ED. Encourage the team to follow an ABCDE approach (in a subtle manner). If team focus on baby advise that the paediatric team is with dad and the baby and the child is fine.
Progression: Sats – 99% on oxygen RR – 28/min NIBP – 85/60 HR – 130 regular	Awareness of the patient's deterioration Perform uterine fundal massage. Organise treatment options – syntocinon IM, manual compression, Blood and blood products Communicate with obstetric team for expertise and escalate to prepare for theatre with anaesthetics.	**Barbra –** You are more light headed and becoming more worried. You can feel more bleeding from "down below". If a member of the team attempts bimanual compression then this is very uncomfortable! You will allow it if the team reassures you about it. Uterine massage will improve the tone of the uterus but bleeding will continue. **Faculty Nurse –** Continue as above. If the team takes VBG/ABG tests then "process" the blood and then give the leader the appropriate laminated sheet.

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Deterioration: Sats – 99% on oxygen RR – 30/min NIBP – 80/60 HR – 135/min	Situational awareness that ED treatment is not solving the problem. Further deterioration despite treatment should prompt urgent obstetric involvement and thoughts of theatre. Continued communication with the patient and also with other teams needed to optimally treat the patient.	**Barbra –** You continue as above. You feel more light headed but remain GCS 15 throughout. **Faculty Nurse –** Continue as above. This will mean that you will not be able to be the team member doing the bimanual compression as you will need to be free to arrange blood tests as appropriate. SCENARIO FINISHES WITH THE ARRIVAL OF OBSTETRICS WITH A HANDOVER OF THE PATIENT CONDITION

Debrief Guide	
Key clinical issues: Structured approach to the patient with postpartum haemorrhage in the ED The 4Ts of PV bleeding Treatment options in the ED	**Key non technical issues:** Role allocation Situational awareness of deterioration and also need for more specialist intervention/theatre Communication within the team (and teams external to the ED) and with the patient

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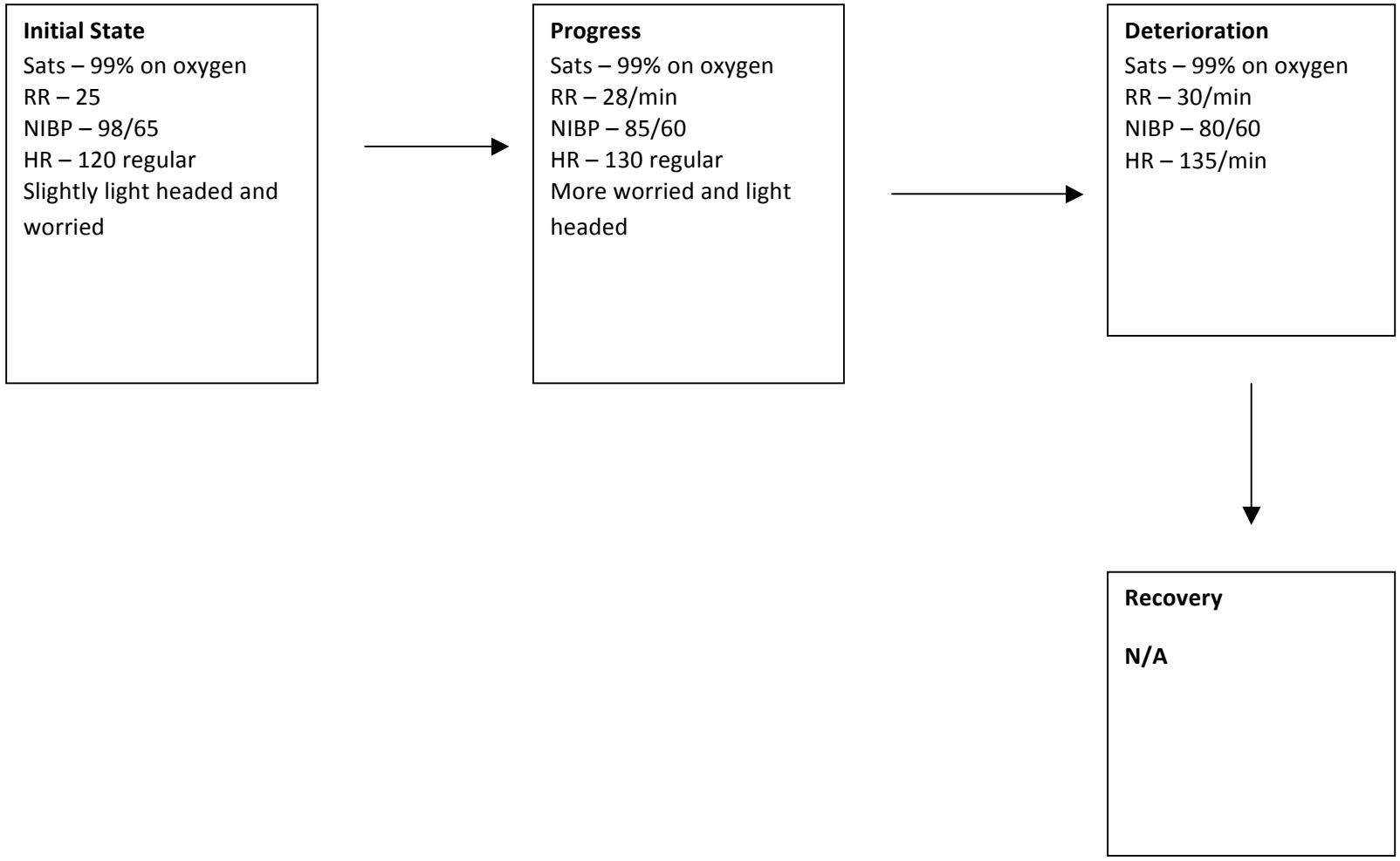

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ABG 1

pH	7.29	(7.35-7.45)
pO_2	287	(80-100 mmHg)
pCO_2	33	(35-45 mmHg)
HCO_3	19	(20-24 $mmoll^{-1}$)
BE	- 3	(-2 to +2)
Lac	1.6	(0-2)
Hb	105	
Na^+	133	
K^+	4.4	

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VBG 1

pH	7.29	(7.35-7.45)
pO_2	77	(80-100 mmHg)
pCO_2	38	(35-45 mmHg)
HCO_3	18	(20-24 $mmoll^{-1}$)
BE	- 2	(-2 to +2)
Lac	1.3	(0-2)
Hb	99	
Na^+	135	
K^+	4.3	

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BAT Call

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Arrival in 2 minutes

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