Scenario: O4 – 2	**Patient: Kate Winslet**	**Simulator: SIMMOM or other mannequin as appropriate**
Case Summary: Kate is a 22 year-old lady who is 36 weeks pregnant. She was the driver of a car travelling on the motorway. She lost control on some spilled oil and has struck a post at about 80 KPH. The car has rolled and she required extrication from the badly damaged vehicle. She has a moderate to severe closed head injury, sternal fracture and right fractured femur. She is at risk of c-spine injury, pulmonary and cardiac contusions as well as abdominal and pelvic injury. She requires rapid assessment and management in an AcBCDE fashion. Depending upon the skills of the team she may require intubation and further neurosurgical management.		**Participant Briefing:** BAT CALL I – 22 year old woman 36 weeks pregnant. M – Single vehicle MVA 80 km/hr into a pole with 20 minute extrication. I – Closed head injury, sternal pain and right femoral fracture. S – Sats 96% on NRB, RR 25/min, BP 90/50, HR 125, GCS 13 and BSL of 4.5 T – C spine collar, Oxygen via NRB, 2x IVC, 10mg morphine, 500ml saline.
Clinical Issues		**Human factors / Non technical issues**
Management of major trauma in pregnancy Demonstration of neuroprotective measures		Team approach to the pregnant trauma patient Awareness of resources at the facility and where this patient would be best managed Communication with team, patient, other specialities, retrieval, other
Learning Objectives: Importance of a structured team approach to the pregnant trauma patient. Awareness of resources available within their hospital and area **Communicate:** Within the team, with the patient and with other specialities as needed **Conduct:** A structured assessment, investigation and management of the pregnant trauma patient **Demonstrate:** Good communication, decision making, situational awareness and team work **Interpret:** History, examination, investigations and mechanism of injury		

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Faculty Actors:
Kate Winslet – You will start off being GCS 13 (E4 , M4, V4 confused). This will deteriorate throughout the scenario, if the team are experienced enough then it will deteriorate to the point of needing intubation (GCS 7). You have severe pain in the right thigh. You cannot remember what happened, only that you were on the way to your friend's house. You are otherwise fit and well and you are worried about you unborn baby. You are keen to make sure that the baby is being looked after and is safe.
Nurse Faculty - Act as if you were a member of the team and as you would in a real life situation. Support the team and allow them to make their own decisions but you may need to subtly prompt at times. You will also need to be on hand to help the team find equipment and to maintain fidelity as much as possible (taking blood tests away to be analysed, returning with results, calling for help, etc.). If the team are exposing the mannequin then you can also prompt them about the right thigh saying that it looks really swollen. If using SIMMOM then you will need to prompt the team that Kate's eyes are closed, once she has stopped responding to the team's questions or verbal stimulus. It will be important to cover the fact that her eyes will remain open in the familiarisation to the mannequin.

Patient Moulage:
Head – Bruise to front right forehead with some blood dripping down
Neck – C-spine collar in situ
Chest – Bruising over sternum
Abdomen – Bruising in a seatbelt pattern over her lower abdomen/upper pelvis
Right Thigh – Bruising around middle of thigh
Arms – Cannulas in each arm ready to use by team

Equipment & Props:
Make-up for moulage
Street clothes
Femoral splint and pelvic sheeting as used in the host hospital's ED
Units of O –ve blood, FFP and Platelets

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Monitor: ED Screen setting 3 lead ECG Sats NIBP RR CTG – if appropriate for department and if asked for	**Investigations:** 2x laminated ABG and/or VBG results will be available. Trauma series of X-rays will be available. All will be normal Laminated 12-lead ECG – sinus tachycardia	
Patient presentation	**Expected response by participants**	**Faculty /Actors Notes**
BAT CALL I – 22 year old woman 36 weeks pregnant. M – Single vehicle MVA 80 km/hr into a pole with 20 minute extrication. I – Closed head injury, sternal pain and right femoral fracture. S – Sats 96% on NRB, RR 25/min, BP 90/50, HR 125, GCS 13 and BSL of 4.5 T – C spine collar, Oxygen via NRB, 2x IVC, 10mg morphine, 500ml saline.	Roll allocation Equipment and drugs preparation Early notification of trauma team and obstetrics	**Faculty nurse should prompt team to prepare and plan**
Initial Presentation: Sats – 95% on oxygen RR – 28/min NIBP – 95/60 HR – 125/min with VEBs CTG – will be normal	When Kate arrives a structured team approach to the Pregnant trauma patient. AcBCDE approach Lateral tilt of the patient as possible – discuss methods of this in debrief Communication with obstetric team If appropriate, discussion with seniors and retrieval	**Faculty nurse will uncover the patient and prompt team to reassess based on the unchanged IMIST documentation** **Kate –** You start off almost lucid but with repeating of questions – "how is my baby", "where am I", "what happened". You will answer some questions properly but with some just answer with one of the above questions. Your right thigh is extremely painful. **Faculty Nurse -** You are helpful as a team member. Prompt the team, if needed, about monitoring the baby. Kate will localise to pain but not to direction, this will need to be prompted to the team. You may also need to prompt about the ventricular ectopics on the 3-lead EGC.

Progression: Sats – 96% on Oxygen RR – 30/min NIBP – 85/65 HR – 120/min CTG – normal	Continued team approach to the patient Pregnancy Primary survey of fetal and uterine assessment. Awareness and communication of the deterioration in the patient Management with blood products, tranexamic acid, splinting of femoral fracture, consider pelvic injury Investigation of the patient – X-rays, Blood tests Thinking about appropriate disposition of the patient (theatre/CT/Other hospital) If team decide to intubate then an uncomplicated intubation should be performed as an RSI.	**Kate –** You become less responsive after the first 5 minutes to a GCS of 7 (if an experienced team, if inexperienced then stay GCS 9-10 with incoherent speech and flexing to pain) after about 8 minutes into the scenario. You are still in pain with the right thigh until it is splinted. Shout out lots when it is being reduced, unless nerve block is performed. **Faculty Nurse –** As above. If an experienced team then you will need to prompt that Kate's eyes have closed and that she does not respond to any stimulus. May need to prompt about the splinting of the femur.
Deterioration: Sats – 95% on oxygen RR – 30/min NIBP – 90/55 HR – 130/min regular with VEBs CTG - normal	Continue as above with organisation of blood and blood products. Potential to involve retrieval services depending upon the site Communication with appropriate teams Interpretation of investigation results Active communication for activation of definitive care.	**Kate –** You will remain at the GCS that you were at previously (either 7 or 9-10). **Faculty Nurse –** Continue as above. Give the team the appropriate laminated sheets when the investigations are asked for.

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Debrief Guide	
Key clinical issues: The structured assessment and management of severe trauma in a pregnant patient Foetal viability (gestation, health of mother) Blood and blood products in the pregnant patient X-rays in a pregnant patient	**Key non technical issues:** Decision making Situational awareness – deterioration and hospital resources Communication within team and between teams

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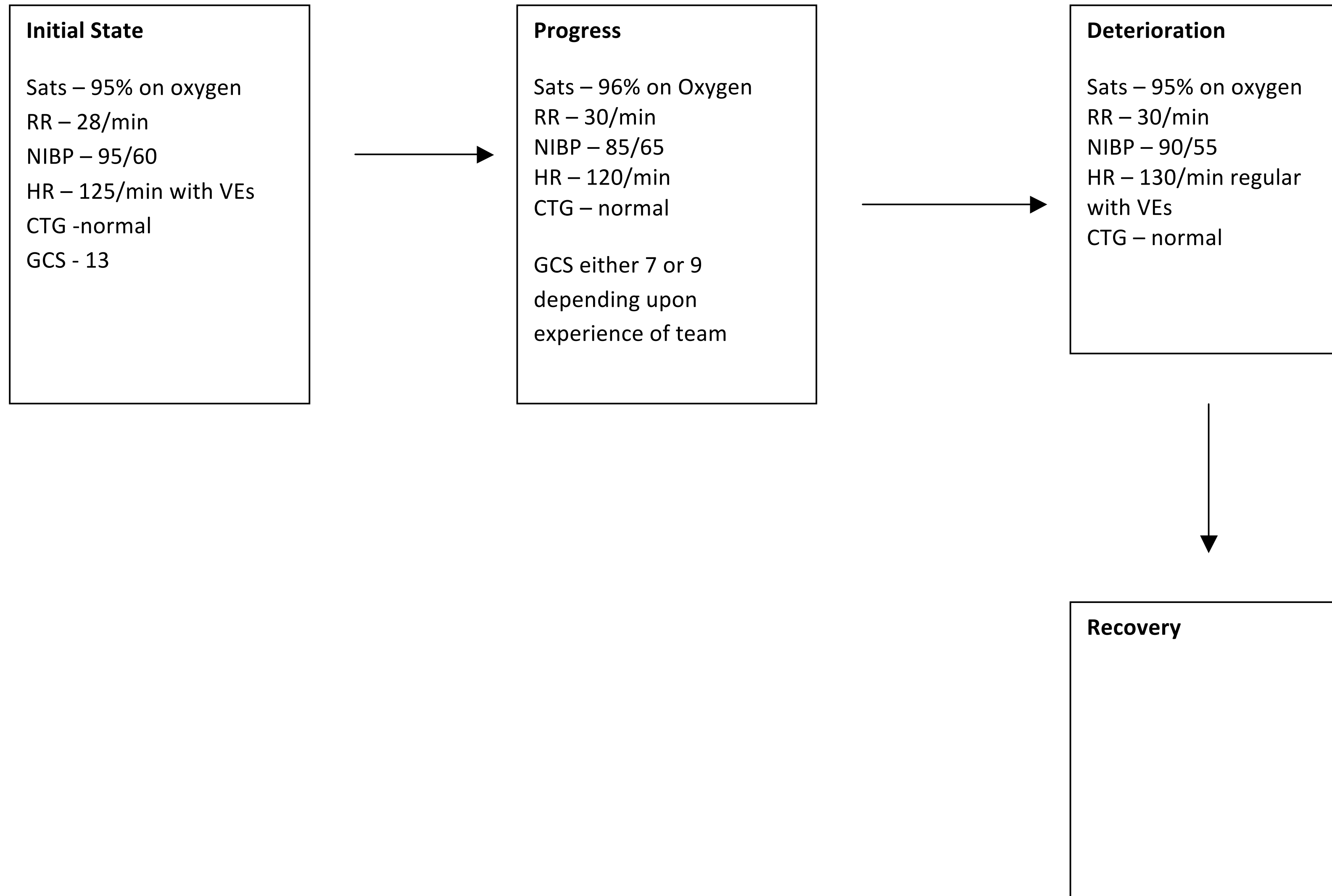

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ABG 1

pH	7.31	(7.35-7.45)
pO_2	175	(80-100 mmHg)
pCO_2	32	(35-45 mmHg)
HCO_3	18	(20-24 $mmoll^{-1}$)
BE	-2.3	(-2 to +2)
Lac	1.4	(0-2)
Hb	90	
Na^+	133	
K^+	4.4	

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VBG 1

pH	7.30	(7.35-7.45)
pO_2	66	(80-100 mmHg)
pCO_2	35	(35-45 mmHg)
HCO_3	17	(20-24 $mmoll^{-1}$)
BE	-3	(-2 to +2)
Lac	1.6	(0-2)
Hb	88	
Na^+	137	
K^+	4.6	

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BAT CALL

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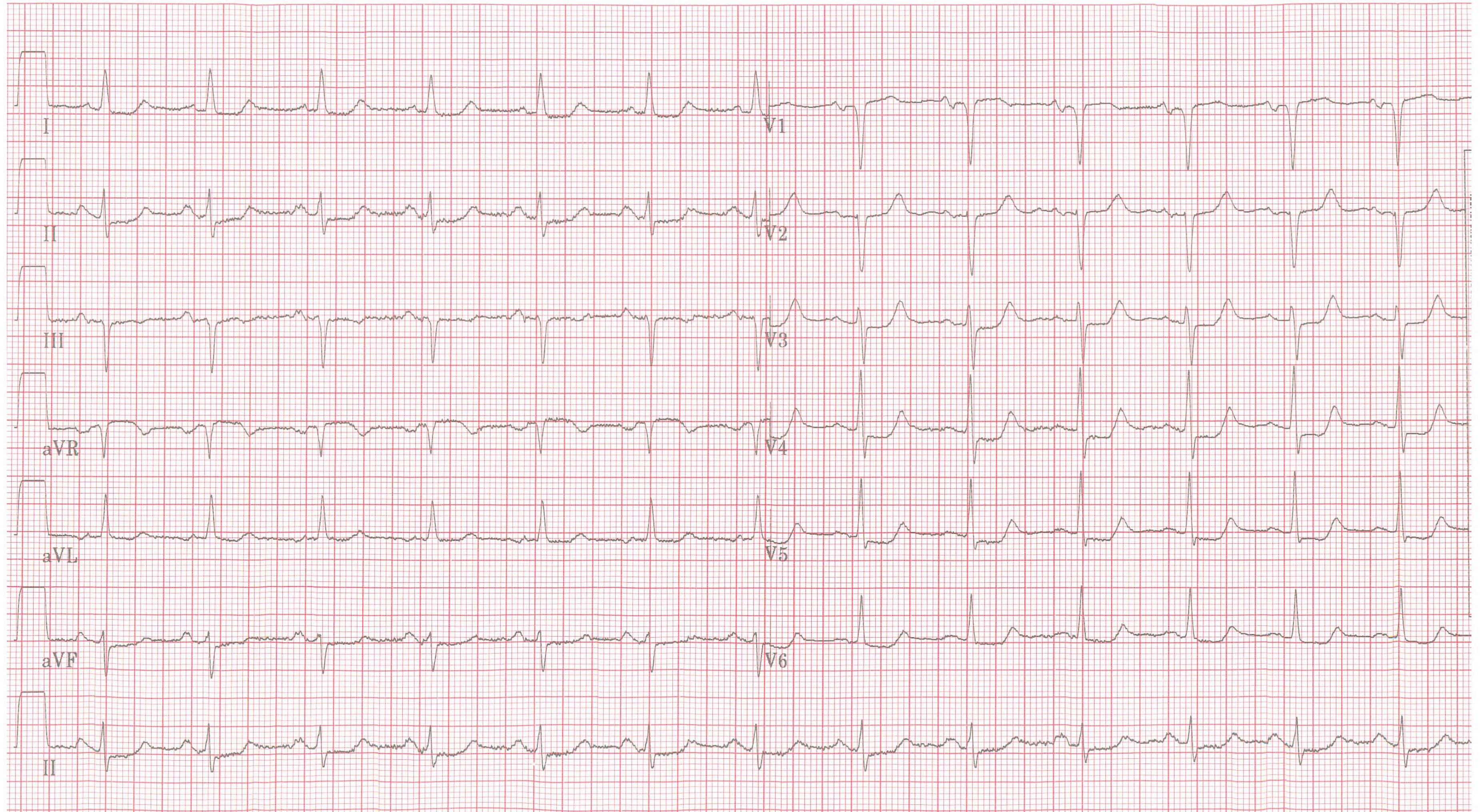

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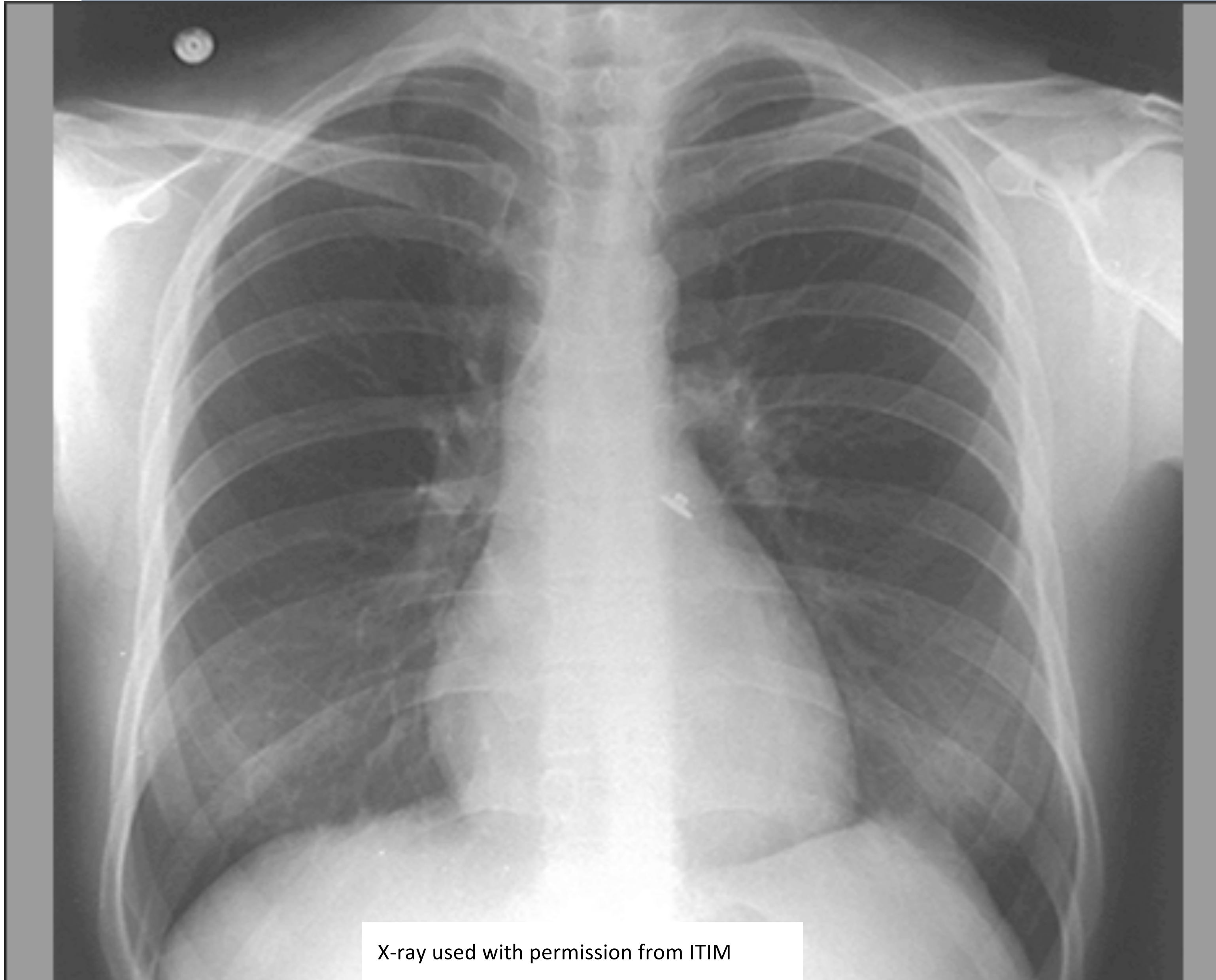

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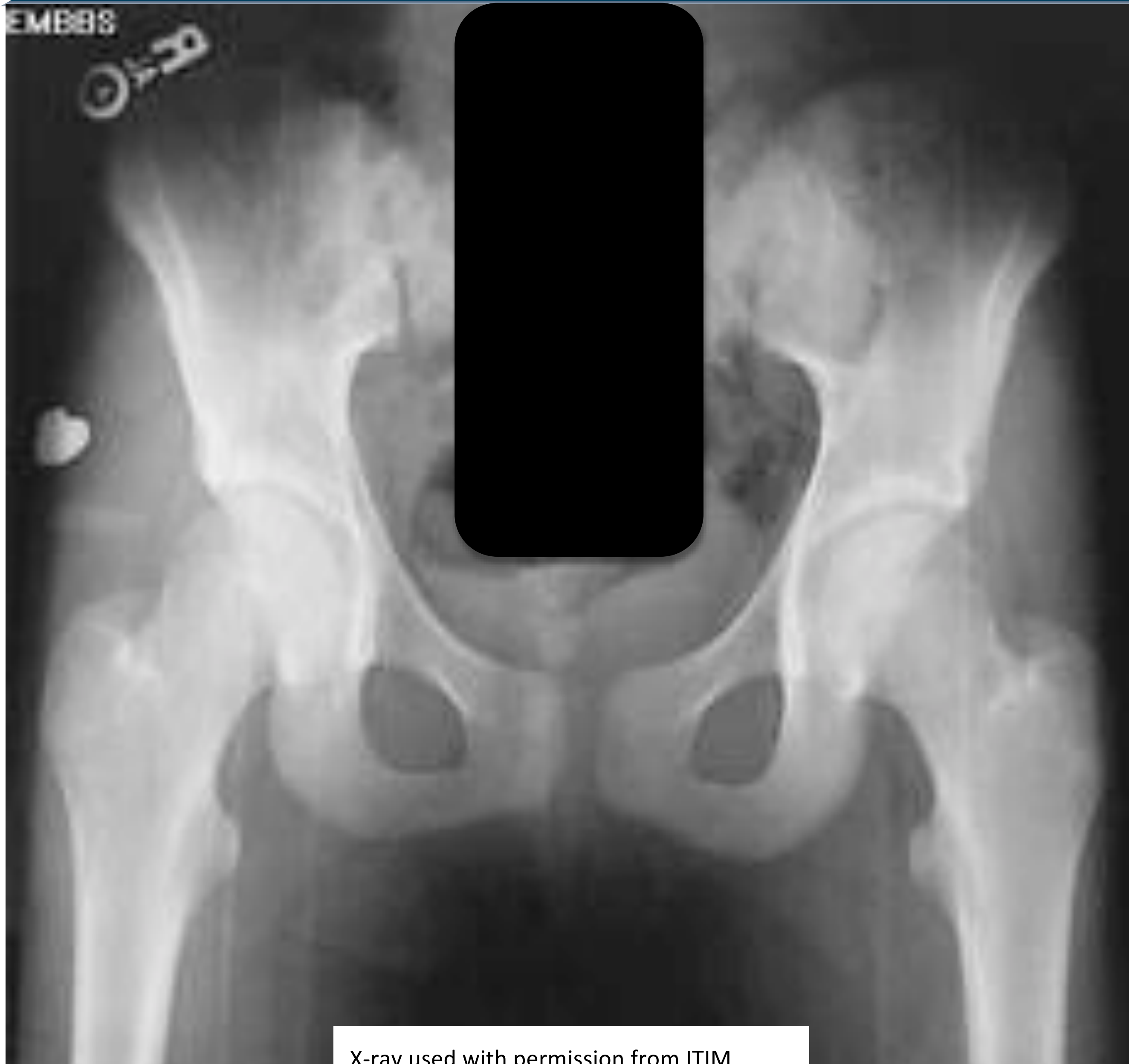

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