

Scenario template: Procedural sedation airway compromise. Dislocated shoulder		
Scenario: Bill Gates Lifting a box above his head – recurrent dislocated right shoulder	Patient: Bill Gates 45 year old man	Simulator SIMMAN Essentials or similar
Case Summary: Bill Gates has presented with a recurrent dislocated right shoulder. He has a history of OSA, nil allergies and is fasted. Cunningham technique hasn't worked and procedural sedation is required. The consultant has asked you do perform the reduction, whilst they perform the sedation. The BAT phone rings as soon as the shoulder is in and the consultant leaves the team to manage the recovery. As the painful stimulus has gone now the patient relaxes and with the sedation Bill's airway obstructs. This requires the participants to support the airway with manual manoeuvres and with basic airway adjuncts.		Participant Briefing: Bill Gates, 45 year old man Recurrent shoulder dislocation, requiring sedation for relocation after failed Cunningham method. PMHX Obstructive Sleep Apnoea.
Clinical Issues		Human factors / Non technical issues
Structured approach to the assessment of the airway Recognition of an obstructing airway Use of basic manual airway opening manoeuvres and airway adjuncts		Role allocation within a newly set-up team Communication within the team
Learning Objectives: Clinical and non-technical objectives Demonstrate: Recognition of potential airway difficulty and obstruction, use of basic manoeuvres and airway adjuncts to maintain an airway Conduct: A structured, multidisciplinary approach to a patient with airway compromise Communicate: With the team to coordinate care		
Faculty Actors: Bill Gates: Bill's shoulder is relocated easily, once the participant enters the scenario. Obstruction of the airway is then required. Consultant: After the sedation is given, the BAT phone calls them away for a paediatric arrest. Assure the team that the patient will wake up fine. Senior RN: You are helping out the consultant and stay with the team treating Bill after the shoulder is relocated. You are helpful and attentive, as you would be in real life. You answer the BAT phone and tell the consultant he is needed for a paediatric arrest elsewhere in the department.		

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Participants: This scenario is designed to be run with 2 doctors and 1 nurse helping the faculty in the relocation. The make up of the team should be discussed by the faculty prior to the start of the workshop and be modified as required based on local resources.

Mannequin moulage: No specific moulage required. Street clothing on the mannequin.

Equipment and Props:

EdWISE Airway transport box and extras list

X-ray of a right anteriorly dislocated shoulder

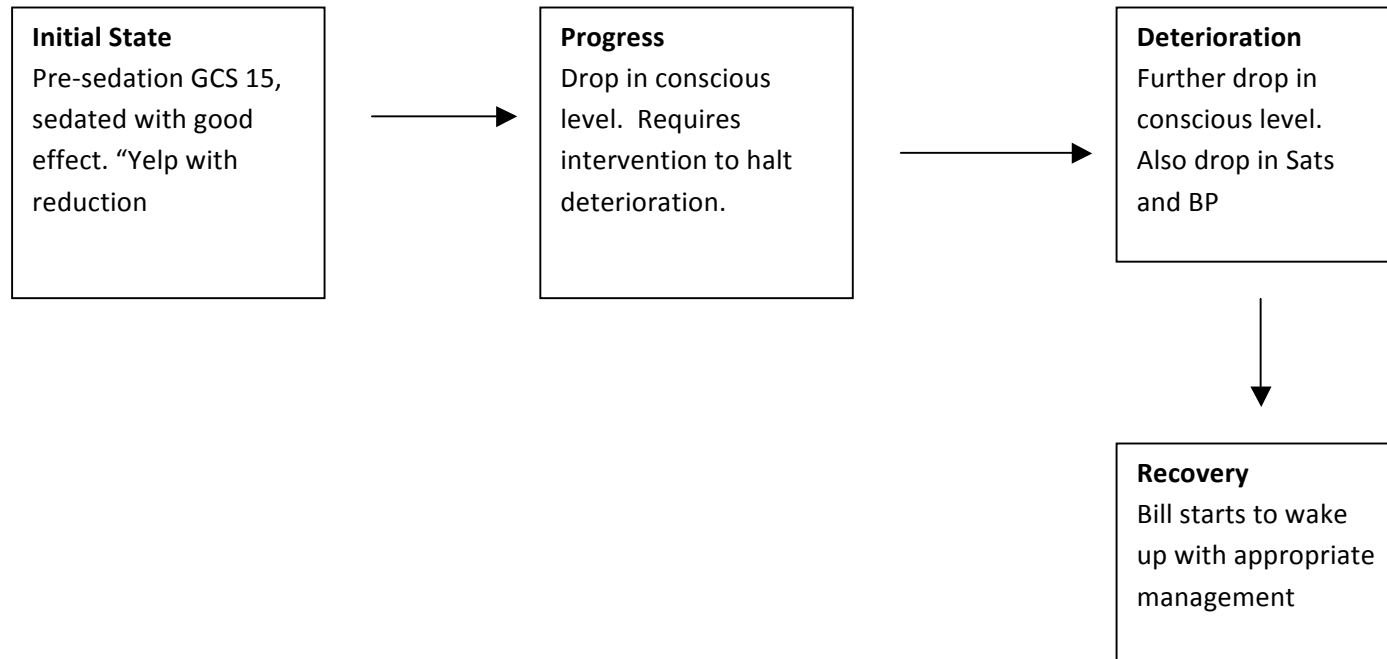
Sling for arm post reduction (simple triangle bandage sufficient)

<p>Monitor: ED setup ECG – SR 95 reg SPO2 – 98% on nasal prongs CO2 ready NIBP – 145/75</p>	<p>Investigations: X-ray of dislocated right shoulder – laminated x2</p>	
Patient presentation	Expected response by participants	Faculty /Actors Notes
<p>Initial Presentation – Pre-sedation Rhythm – Sinus rhythm HR – 95, regular BP – 145/75 RR – 22/min SPO2 – 98% on nasal prongs Temp – 36.8 (not shown unless asked for) Conscious level – GCS 15/15 – decreases with the sedation. CO2 – 45 (not shown unless asked for) The monitoring and the nasal oxygen are already on the patient at the start of the scenario.</p>	<p>2 doctors and 1 nurse allocated to help with the relocation.</p> <p>The participants should consider the set up of the room. Staff Equipment Space</p> <p>Also should assess the patient for airway difficulty (BOOTS and LEMON) and note the history of OSA.</p> <p>Help the consultant to relocate Bill's shoulder. Communicate with the patient as to what they are going to do.</p>	<p>Bill Gates: You are in pain until the SR/Consultant gives you some propofol. You then fall asleep and your shoulder is put back into place. As the team “pull” you wake as your shoulder is relocated with a loud “yelp”. You then will drift back into sedation as the consultant has left with slow decline into upper airway obstruction.</p> <p>Consultant: As you direct the participants to help you, you are explaining that you have given 5mg of morphine. You give propofol 70mg for the relocation. Explain that the participants should not use propofol themselves unless properly supervised, or as per host ED protocol. Supervise the relocation as required. When the BAT phone rings for the paediatric arrest you leave the room immediately (you will have to physically leave) reassuring the participants the patient should wake up fine.</p> <p>Senior RN: Allow the participants to help with the relocation and prompt as required. Answer the BAT phone and urge the consultant to leave the room urgently. From this time you are helping the participant as you normally would.</p> <p>TECHNICAL : The BAT phone will need to ring simultaneously with the shoulder being relocated to urge the consultant away.</p>

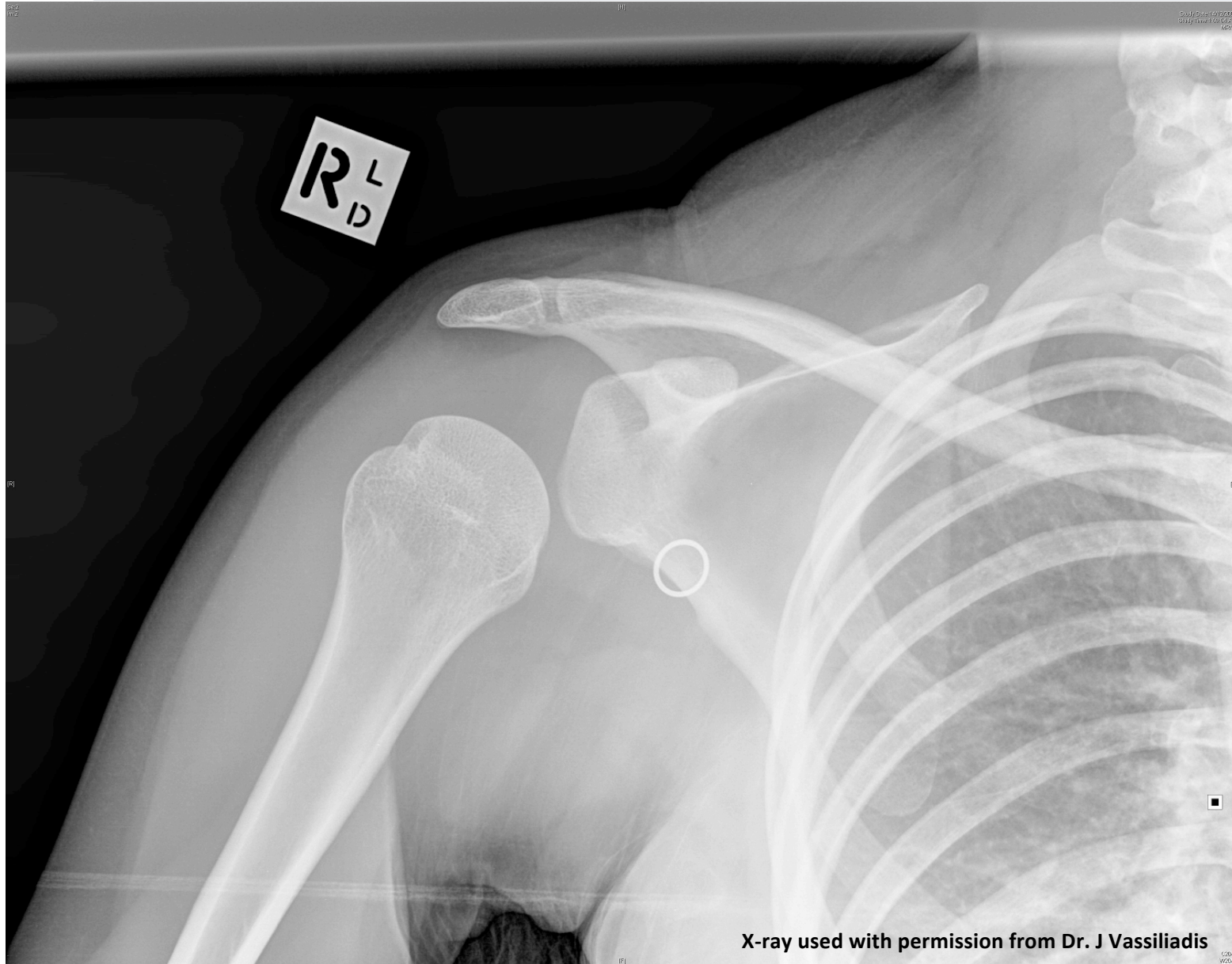
<p>Progression – Rhythm – Sinus rhythm HR – 75, regular BP – 110/55 RR – 12/min (if supported) SPO2 – 93% on nasal prongs Temp – 36.8 (not shown unless asked for) Conscious level – GCS 7/15 – E1, M4, V2 CO2 – drops towards 7 when obstructed but rises to 55 if supported</p>	<p>Recognise that the patient has not recovered from the sedation and is obstructing their airway. Initiate a structured approach to the ED airway (note Bill will tolerate an OP and NP airway) Organise the team to appropriate roles (airway doctor and nurse, team leader, scribe). Communicate within the team. Ask for other help (even with the knowledge that the consultant is at a paediatric arrest)</p>	<p>Bill Gates: You are now obtunded by the sedation. You are snoring and need to have your airway opened well with manual manoeuvres and adjuncts. Senior RN: Support the team as you would in real life. Do try to allow the team to sort the problem themselves but if they need help, support them. If the team applies a painful stimulus to Bill, you will need to say, “it looks like he is trying to move towards the pain”. Prompt the team to consider other methods of help if desired.</p>
<p>Deterioration – If airway manoeuvres are not instituted. Rhythm – Sinus rhythm HR – 75, regular BP – 110/55 RR – 5/min SPO2 – 90% on nasal prongs or other oxygen if applied but no airway manoeuvres Temp – 36.8 (not shown unless asked for) Conscious level – GCS 5/15 – E1, M3, V1 CO2 – drops towards 7 when obstructed but rises to 65 if supported</p>	<p>The participants should have attempted airway-opening manoeuvres or inserted correctly sized adjuncts. If this is not the case then Bill deteriorates due to CO2 retention. The participants should recognise this deterioration. They should then ask for help and whilst it is on the way they should make efforts to open Bill’s airway manually and with adjuncts.</p>	<p>Bill Gates: If airway-opening manoeuvres are not initiated then your GCS drops further and you become pretty much unresponsive. This improves if the correct management is started. Senior RN: If the correct management is not started then prompt the team to call for help and open Bill’s airway. You could start by saying “he is snoring quite loudly, do you think that he is breathing adequately”? You can also point out that his saturations are dropping and that he is less responsive than he was.</p>

<p>Recovery Rhythm – Sinus rhythm HR – 75, regular BP – 130/65 RR – 14/min SPO2 – 99% on nasal prongs or other oxygen if applied but no airway manoeuvres Temp – 36.8 (not shown unless asked for) Conscious level – GCS 13/15 – E3, M6, V4 CO2 – 40 (not shown unless asked for)</p>	<p>Bill improves with correct treatment. As he wakes up he starts to gag on the oropharyngeal airway (if this was inserted)</p>	<p>Bill Gates: Improves with correct management. Gags on oropharyngeal airway as he begins to wake up. Senior RN: Continues to support the team as needed. Orders the check X-ray, if the team remembers this.</p>
Debrief Guide		
<p>Key clinical issues – Pick no more than 2 Recognition of a potentially difficult airway Recognition of inadequate ventilation Basic airway opening manoeuvres Sizing and insertion of basic airway adjuncts</p>	<p>Key non technical issues – Pick no more than 2 Role allocation Communication Resource management for when help is required</p>	

This is a useful flow chart for capturing the key elements of the scenario, particularly for the operators use. Chart any major vital signs changes, programming changes etc. Once arranged appropriately “group” the boxes and arrows so that they all move together (using right click on the mouse after selecting all the boxes and arrows)



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X-ray used with permission from Dr. J Vassiliadis

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