



National Early Warning Score and associated Education Programme

CASE STUDY 1

Facilitator Card

Case 1:

The important messages to get across in this case are:

- Recognise that the airway is obstructed and requires chin lift/jaw thrust to open the airway
- Demonstrate correct sizing and use of adjunct airway
- Demonstrate assisted ventilation with bag valve mask device
- Recognise the need for higher level of care
- Notify senior staff

Cause of deterioration: Pneumonia and retained secretions with CO₂ retention.

If a pulse oximeter is attached before airway is opened O₂ saturations are 78%.

Depth of respirations improves with opening of airway but tidal volume is inadequate.

O₂ saturations improve to 85%.

There are noisy secretions in chest which require suctioning. O₂ saturations increase to 92% with correct airway/breathing manoeuvres.

Blood Pressure initially un-recordable on automated blood pressure monitor e.g.

Dinamap© responds to fluid bolus during scenario.

ABG demonstrates a combination of Respiratory and Metabolic Acidosis.

Out of hour's physiotherapy omitted.

Prescription chart- bronchodilator withheld earlier as patient too drowsy.

Observation chart-increasing HR, falling BP, Initially tachypnoeic, the Respiratory Rate has decreased.

Medical Notes- Past medical history of COPD. Last FEV1=80 mls.

On call physiotherapist requirement documented

Case 1:

Aim: To demonstrate correct identification and management of patient requiring airway & breathing assistance

Group Objectives:

- Prompt recognition of airway obstruction
- Airway management and assisted ventilation skills demonstrated
- Recognition of significance of with-holding regular important therapy
- Importance of good communication and preventative care
- Importance of pre-existing illnesses
- Influence of obesity and distended abdomen
- Administration and monitoring of oxygen therapy in COPD
- Need for upgrade in care
- Need to call for expert help early

Equipment/Tools required

- Mannequin
- Facilitator Card
- Player 1 Card-RGN
- Player 2 Card-Junior doctor
- Ambu bag with reservoir bag and oxygen mask
- adjuncts Airways
- IV cannula
- Medication Chart
- Observation Chart
- Patient history sheet

Roles in the scenario

1. Patient-Mannequin
2. Registered Nurse
3. Junior Doctor
4. Additional Nurse
5. Medical Registrar

Junior Doctor(Player Card)**Scenario-****Patient is a Mannequin****John Murphy**

John Murphy is a 74 year old male admitted to the hospital with a chest infection following influenza.

Medical History: COPD for years
Smoker 20-30 cigarettes/day, Obesity.

He is being treated with IV antibiotics and bronchodilators. Physiotherapist had indicated that he would require further treatment from the on-call physiotherapist but this was not given. John is found in bed unresponsive, sweaty and blue. Breathing is very noisy, with see-saw respirations. BP is un-recordable on automated Blood Pressure Monitor e.g. Dinamap©.

To start the scenario:

1. Set up room with mannequin on bed
2. Assign roles to each player
3. Give the first player card to the player designated RGN
4. Once the RGN calls for help allow player 2 the junior doctor to enter
5. Allow the scenario to build on itself prompting other players to enter as called for or prompt if necessary
6. Supply players with further information such as medication chart, observation chart as required

During the scenario:

Prompt as required (**Facilitator Card**)

RGN (Player Card)

1. What are your first actions?
 - ABC
 - Call for help

Facilitator to direct the entry of the other participants.

<p>1. What are your first actions?</p> <ul style="list-style-type: none"> • ABC • adjuncts Airway • Assisted ventilation • IV access <p>2. What information do you require?</p> <ul style="list-style-type: none"> • Senior/expert help • Need for higher level of care <p>Medical Registrar You are called by your junior colleague to attend to a patient drowsy and in respiratory distress. What are your actions?</p> <p>Expected flow of scenario (Prompt as required)</p> <ul style="list-style-type: none"> • Recognition of airway obstruction and respiratory distress • Head tilt/chin lift manoeuvre applied • Adjuncts Airway measured and inserted correctly with correct use of ambu bag and mask for assisted ventilation and high flow oxygen • Pulse oximeter attached • Noisy secretions cleared with suctioning • Ventilatory support maintained throughout the scenario • Circulation assessed-peripheries, BP (using manual sphygmomanometer to confirm reading), HR • Large IV cannula inserted • Fluid challenge administered • ECG monitor attached. BP recorded frequently during the scenario 	<p><u>To summarise</u> Questions: What management plan does this patient need?</p> <ul style="list-style-type: none"> • Oxygen • IV access • IV fluids and see response • IV bronchodilators • 15 minute observations • Expert help/higher level of care • Regular physiotherapy <p>Who needs to be consulted?</p> <ul style="list-style-type: none"> • Anaesthesia • ICU/HDU • Senior staff • Family <p>How often will observations need to be performed until transfer to new destination?</p> <ul style="list-style-type: none"> • 15 minutes <p>What escort/monitoring would the patient require to their new destination?</p> <ul style="list-style-type: none"> • Cardiac monitoring, nurse & medical escort <p>Ask the group:</p> <ul style="list-style-type: none"> • What they thought went well? • What suggested changes they would make to improve their roles?
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<p>Take home messages from Case 1:</p> <ol style="list-style-type: none"> 1. Correct the ABCs, then address the underlying problem 2. Importance of good communication and preventative care 3. Significance of withholding regular important therapy 4. Appropriateness of inhalers rather than nebulisers 5. Influence of obesity and distended abdomen

Case Study 1

Player 1

RGN 1

You are working on a medical ward. John Murphy was admitted earlier in the day with history of chronic bronchitis, preliminary diagnosis chest infection following influenza. It is 04:30 and on passing the patients bed you notice that he is slumped over. He is very drowsy and making grunting noises only. He is blue and sweaty, with noisy breathing.

Past Medical History: COPD x years. Life long smoker 20-30 per day

Case Study 1

Player 2

Medical Doctor 1

You are the SHO on call and are called to see a 74 year old gentleman with chronic bronchitis admitted with a chest infection following influenza. The nurse says that the patient has been tachypnoeic, but is now unresponsive, sweaty and blue.

BP is un-recordable on automated Blood Pressure Manometer e.g. Dinamap©.

Case Study 1

Blood Results

ABG		Normal Range
PH	7.15	7.35-7.45
PO2	7.8	12.6-14.0 kPa
PCO2	9.2	4.6-6.0 kPa
HCO3	14	22-26 mmol/l
Lactate	2.2	0.6-2.4 mmol/l
BE	-3.8	-2.4-+2.3
SaO2	88	95.0-100.0

Ward: BURKITT

Frequency of observations		Date	Time		
Year	<u>2011</u>	<u>24</u>	<u>16:00</u>	<u>16:00</u>	<u>16:00</u>
ABCDE Assessment					
A					
RESPIRATORY DISTRESS					
Consider:					
• Airway					
• Hypoxia					
• Acidosis					
Intervention:					
• Immediate medical review					
• ABCDE assessment					
• Give Oxygen to target:					
90% in COPD patients,					
96% or more in all other patients					
• Request CXR & ABG					
• Airway Obstruction: activate					
Emergency Response System					
• Respiratory Acidosis:					
Consider early non-invasive					
ventilation					
	Respiratory Rate (breaths per minute)	≥ 25	<u>26</u>	<u>28</u>	<u>30</u>
	21-24				
	12-20				
	9-11				
	≤ 8				
	Respiration Score		<u>3</u>	<u>3</u>	<u>3</u>
	≥ 96				
	94-95				
	92-93				
	≤ 91		<u>90</u>	<u>91</u>	<u>90</u>
	SpO ₂ %				
	BpO ₂ Score		<u>3</u>	<u>3</u>	<u>3</u>
	Room Air				
	F _I O ₂ % or L/min		<u>2</u>	<u>2</u>	<u>60</u>
	F _I O ₂ Score		<u>3</u>	<u>3</u>	<u>3</u>
	Blood Pressure (mmHg)	250			
	240				
	230				
	220				
	210				
	200				
	190				
	180				
	170				
	160				
	150				
	140				
	130				
	120				
	110				
	100				
	90				
	80				
	70				
	60				
	50				
	40				
	BP Score		<u>0</u>	<u>0</u>	<u>3</u>
	Heart Rate (beats per minute)	180			
	170				
	160				
	150				
	140				
	130				
	120				
	110				
	100				
	90				
	80				
	70				
	60				
	50				
	40				
	30				
	Heart Rate Score		<u>1</u>	<u>1</u>	<u>3</u>
	Alert (A)		<u>✓</u>	<u>✓</u>	<u>✓</u>
	Voice (V)		<u>✓</u>	<u>✓</u>	<u>✓</u>
	Pain (P)		<u>✓</u>	<u>✓</u>	<u>✓</u>
	Unresponsive (U)				
	AVPU Score		<u>0</u>	<u>0</u>	<u>3</u>
	Temperature (°C)	39.0			
	38.5				
	38.0		<u>37.5</u>	<u>37.8</u>	<u>37.9</u>
	37.5				
	37.0				
	36.5				
	36.0				
	35.5				
	35.0				
	34.5				
	Temp Score		<u>0</u>	<u>0</u>	<u>3</u>
	Total EWS		<u>0</u>	<u>10</u>	<u>21</u>
	Blood Glucose				
	Bowel Movement				
	Weight (kg)				
	Initials		<u>MB</u>	<u>SC</u>	<u>SC</u>

Urine Output: If there are concerns about urine output (< 0.5 ml/kg/hr), contact Doctor for review

