National Early Warning Score and associated Education Programme

CASE STUDY 3
Case Study 3

Case 3 (Atrial Fibrillation)

The important things to get across in this case are:

- Sick patients must always go back to bed
- Hypoxia should be treated with oxygen even though the patient has COPD
- Always check an un-recordable BP with a manual machine
- Work out why the BP has fallen (BP = Cardiac Output x Peripheral Vascular Resistance)
  - Her hands are cool therefore it must be a fall in cardiac output
  - The increased heart rate does not allow for adequate cardiac filling and so Stroke Volume will fall then Cardiac Output will fall and then BP will fall (BP=Cardiac Output x Total Peripheral Resistance)
  - Left atrium will not expel all the required blood, left atrial pressure will build up and patient will develop pulmonary oedema (hence the worsening hypoxia).

Patient has poor cardiac output due to impaired myocardium from previous ischaemic heart disease and inadequate stroke volume because of rapid ventricular rate. Need to slow heart rate, requires a loading dose of digoxin to return to therapeutic levels and Frusemide to reduce the end diastolic volume and get the heart back onto the right part of the Starling curve

- Increasing EWS
- BP not recording, try a manual
- RR increasing & SaO₂ decreasing
- When ECG done shows Atrial Fibrillation with rapid ventricular response
- Medication Prescription Chart
  - Digoxin given
  - Frusemide given
  - Inhalers given
  - Bloods
  - Digoxin level low
Facilitator Card

**Case 3**

Aim: To recognise a deteriorating medical patient.

**Learning objectives:**
- Obtain adequate history
- Obtain appropriate vital signs using appropriate equipment
- Recognise limitations of electronic equipment
- Refer appropriately
- Communicate effectively
- Appropriate use of oxygen in a patient with COPD.

**Equipment:**
- Facilitator Card
- Player 1 Card – Patient
- Player 2 Card – Student Nurse
- IV cannula
- Medication Chart
- Blood Test results
- Observation chart
- Fluid balance chart not available
- Communication Card

**Roles in the scenario:**
1. Patient
2. Student Nurse
3. Registered Nurse
4. Medical Registrar
5. Optional extras:
   - Additional Nurses
   - Intern
   - Consultant
   - Relative

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Scenario

**Gladys Jones**
Healthcare Record No: 123458

A 78 year old patient, admitted to hospital because of atrial fibrillation. She has a history of recent falls, IHD, COPD and hypertension. After her morning shower she is more short of breath than usual and by lunchtime didn’t have much of an appetite. The Student Nurse has come to do the 2pm vital signs.

She has increased respirations and is quite dyspnoeic speaking in short (1-2 word) sentences. Her ankles are swollen and her heart rate is rapid.

**To start the scenario:**
1. Assign roles to each player
2. Set up room with patient in a chair
3. Give the first player card to the player designated as the patient
4. Give the second player card to the player designated as the student nurse
5. When the RGN phones the registrar, place the two players (RGN & registrar) back to back to simulate communication via the phone
6. Allow the scenario to build on itself prompting other players to enter as called for or prompt if necessary
7. Supply players with further information such as medication charts, observations or blood results when requested
### During the Scenario:

If the Student Nurse needs prompting:

1. What are your first actions?

Suggested responses
   - Check accuracy of the pulse oximeter by checking a manual pulse
   - Oxygen
   - Assistance
   - Move patient back to bed
   - Manual BP

2. Who would you notify?
   - RGN
   - Registrar

The student nurse should discuss this case face-to-face with the RGN. Communication should be clear expressing concerns and what he/she would like the RGN to do.

#### If the RGN needs prompting:

1. What are your first actions? & Why?
   - Oxygen
   - Vital signs
   - Assist patient back to bed if not already in bed

2. Who would you notify?
   - Registrar

The RGN needs to be clear about the issues and state what he/she would like the Registrar to do.

If the Medical Registrar needs prompting:

1. What further information do you require & what assessment would you do?
   - Full examination
   - History

2. What test would you order?
   - ABG
   - Electrolytes
   - Digoxin level
   - CXR

3. What is your management plan for this patient?
   - Oxygen
   - IV Access
   - Bloods
   - Ongoing vital sign orders
   - Notification

#### To summarise:

Ask the group:

1. What they thought went well?
2. What suggestions would they make to improve their roles?

### Take Home message from Case 3

1. EWS policy – requires a Registrar review
2. The importance of Respiratory Rate & the physiology
3. Communication
4. Oxygen therapy and COPD patients
Case Study 3

Player 1 Card

Patient

You are a 78 year old patient, Gladys Jones, admitted to hospital because of atrial fibrillation. You have a history of recent falls, IHD, COPD and hypertension. After your shower you noted that you were more short of breath than usual and by lunchtime you didn’t have much of an appetite. The student nurse has come to do your 2 pm vital signs.

You have increased respirations and are quite short of breath speaking in short (1-2 word) sentences. Your ankles are swollen, your heart rate is rapid.
Case Study 3

Player 2 Card

Student Nurse

You are a student nurse working on a medial ward attending to the 2 pm ward observations. You are attending to a 78 year old patient, Gladys Jones who has been admitted with atrial fibrillation. The patient has a history of recent falls, IHD, COPD and hypertension. You proceed to record the patient’s observations.
<table>
<thead>
<tr>
<th>ABG</th>
<th>Normal Range</th>
<th>Other bloods</th>
<th>Normal Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH</td>
<td>7.236</td>
<td>7.35-7.45</td>
<td>Digoxin Level 0.5</td>
</tr>
<tr>
<td>PO₂</td>
<td>4.7</td>
<td>11-15 kPa</td>
<td></td>
</tr>
<tr>
<td>PCO₂</td>
<td>8</td>
<td>4.6-6 kPa</td>
<td></td>
</tr>
<tr>
<td>HCO₃</td>
<td>30.0</td>
<td>22-26</td>
<td></td>
</tr>
<tr>
<td>BE</td>
<td>+5</td>
<td>-2.4-+2.3</td>
<td></td>
</tr>
<tr>
<td>SaO₂</td>
<td>70</td>
<td>95-98%</td>
<td></td>
</tr>
<tr>
<td>Glucose</td>
<td>10.0</td>
<td>3.7-5.2</td>
<td></td>
</tr>
</tbody>
</table>
# Case Study 3

## ABCDE Assessment

### A - Airway

<table>
<thead>
<tr>
<th>Problem</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breathlessness</td>
<td>2</td>
</tr>
<tr>
<td>Oxygen saturation</td>
<td>2</td>
</tr>
</tbody>
</table>

### B - Breathing

<table>
<thead>
<tr>
<th>Problem</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory rate</td>
<td>2</td>
</tr>
<tr>
<td>潮</td>
<td>2</td>
</tr>
<tr>
<td>Oxygen saturation</td>
<td>2</td>
</tr>
</tbody>
</table>

### C - Circulation

<table>
<thead>
<tr>
<th>Problem</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP</td>
<td>2</td>
</tr>
<tr>
<td>Heart rate</td>
<td>2</td>
</tr>
<tr>
<td>Arrhythmia</td>
<td>2</td>
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</tbody>
</table>

### D - Disability

<table>
<thead>
<tr>
<th>Problem</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>2</td>
</tr>
<tr>
<td>Pupil size</td>
<td>2</td>
</tr>
</tbody>
</table>

### E - Exposure

<table>
<thead>
<tr>
<th>Problem</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>2</td>
</tr>
<tr>
<td>Skin</td>
<td>2</td>
</tr>
<tr>
<td>Sedation</td>
<td>2</td>
</tr>
</tbody>
</table>

## Early Warning Score System

### Triage

<table>
<thead>
<tr>
<th>Score</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal</td>
</tr>
<tr>
<td>1</td>
<td>Watchful</td>
</tr>
<tr>
<td>2</td>
<td>Stable</td>
</tr>
<tr>
<td>3</td>
<td>Unstable</td>
</tr>
</tbody>
</table>

### Scores

<table>
<thead>
<tr>
<th>Score</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal</td>
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<tr>
<td>2</td>
<td>Stable</td>
</tr>
<tr>
<td>3</td>
<td>Unstable</td>
</tr>
</tbody>
</table>

### Summary

- **Triage:** 1
- **Score:** 2
- **Action:** Stable

### Patient Information

- **Name:** Chris Jones
- **Date of Birth:**
- **Healthcare Record No.:** 123456
- **Address:**

### Notes

- Consider early non-invasive ventilation.
- If no heart failure, systolic BP < 90 mmHg.
- If no respiratory failure, oxygen saturation < 90%.
- If no sedation, level of consciousness < 5.
- If no temperature, body temperature < 36°C.

### Consultant

- Dr. O'Neill

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**Note:** If there are concerns about urine output (> 500 ml/h), contact Doctor for review.
## Case Study 3

### Regular Prescriptions

<table>
<thead>
<tr>
<th>Prescription</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>#1: Pain</strong></td>
<td>08:00</td>
</tr>
<tr>
<td><strong>#2: backing</strong></td>
<td>12:00</td>
</tr>
<tr>
<td><strong>#3: D. odds</strong></td>
<td>22:00</td>
</tr>
<tr>
<td><strong>#4: Trusemide</strong></td>
<td>08:00</td>
</tr>
<tr>
<td><strong>#5: pipatropium bromide</strong></td>
<td>08:00</td>
</tr>
<tr>
<td><strong>#6: Flax</strong></td>
<td>12:00</td>
</tr>
</tbody>
</table>

**Prescription Details:**
- **Drug:** pain relief
- **Route:** PO
- **Prescriber's Signature:**
- **Start Date:** 3/10/09
- **Pharmacist:** Stop Date & Signature

**Prescription Details:**
- **Drug:** D. odds
- **Route:** PO
- **Prescriber's Signature:**
- **Start Date:** 3/10/09
- **Pharmacist:** Stop Date & Signature

**Prescription Details:**
- **Drug:** Trusemide
- **Route:** PO
- **Prescriber's Signature:**
- **Start Date:** 3/10/09
- **Pharmacist:** Stop Date & Signature

**Prescription Details:**
- **Drug:** pipatropium bromide
- **Route:** PO
- **Prescriber's Signature:**
- **Start Date:** 3/10/09
- **Pharmacist:** Stop Date & Signature

**Prescription Details:**
- **Drug:** Flax
- **Route:** PO
- **Prescriber's Signature:**
- **Start Date:** 3/10/09
- **Pharmacist:** Stop Date & Signature