

# TRACHY IN TROUBLE

MODULE: ACUTE CARE

TARGET: FY1 & FY2 TRAINEES AND FINAL YEAR MEDICAL STUDENTS

**BACKGROUND:**

Approximately 10-12,000 tracheostomies are performed every year in England for a range of reasons. Life-threatening complications may occur during insertion or use, including pneumothorax, bleeding, blockage and dislodgement. Nationally agreed guidelines for the management of tracheostomy emergencies were published in 2012, which give doctors a logical, structured approach to the management of tracheostomy emergencies. FY trainees should be able to work through the early parts of these emergency algorithms, providing life-saving initial treatment and summoning appropriate additional expertise.

## RELEVANT AREAS OF THE FOUNDATION PROGRAMME CURRICULUM

|   |   |
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| <p><b>7</b><br/><b>Good clinical care</b></p> | <p><b>7.5 Safe prescribing</b></p> <ul style="list-style-type: none"> <li>• Prescribes drugs and treatments appropriately, clearly and unambiguously in accordance with Good Practice in Prescribing Medicines (GMC, 2008)</li> <li>• Uses the BNF plus pharmacy and computer-based prescribing-decision support to access information about drug treatments, including drug interactions</li> <li>• Performs dosage calculations correctly and verifies that the dose is of the right order</li> <li>• Chooses appropriate intravenous fluids as vehicles for intravenous drugs and calculates the correct volume and flow rate</li> <li>• Prescribes oxygen appropriately including to patients with the risk of carbon dioxide retention</li> <li>• Relates prescribing activity to available prescribing guidelines / audit data eg antibiotic usage</li> </ul> <p><b>7.7 Infection control and hygiene</b></p> <ul style="list-style-type: none"> <li>• Demonstrates correct techniques for hand hygiene with hand gel and with soap and water</li> <li>• Takes appropriate microbiological specimens in a timely fashion</li> <li>• Follows local guidelines / protocols for antibiotic prescribing</li> </ul> <p><b>7.9 Interface with different specialties and with other professionals</b></p> <ul style="list-style-type: none"> <li>• Understands the importance of effective communication with colleagues in other disciplines</li> </ul> |

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| <p><b>8 Recognition and management of the acutely ill patient</b></p> | <p><b>8.1 Promptly assesses the acutely ill, collapsed or unconscious patient</b></p> <ul style="list-style-type: none"> <li>• Uses Airway, Breathing, Circulation, Disability, Exposure (ABCDE) approach to assessing the acutely unwell or collapsed patients</li> <li>• Uses the GCS or Alert, Voice, Pain, Unresponsive (AVPU) to quantify conscious level</li> <li>• Investigates and analyses abnormal physiological results in the context of the clinical scenario to elicit and treat cause</li> <li>• Uses monitoring (including blood glucose) to inform the clinical assessment</li> <li>• Asks patients and staff appropriate questions to prioritise care</li> <li>• Seeks senior help with the further management of acutely unwell patients both promptly and appropriately</li> <li>• Summarises and communicates findings to colleagues succinctly</li> <li>• Appropriately communicates with relatives/friends and offers support</li> </ul> <p><b>8.2 Responds to acutely abnormal physiology</b></p> <ul style="list-style-type: none"> <li>• Formulates treatment plan in response to acutely abnormal physiology taking into account other co-morbidities and long-term conditions</li> <li>• Administers and prescribes oxygen, fluids and antimicrobials as appropriate (see Good Clinical Care: Safe Prescribing and Infection Control)</li> <li>• Recognises when arterial blood gas sampling is indicated, identifies abnormal results, interprets results correctly and seeks senior advice</li> <li>• Plans appropriate action to try to prevent deterioration in vital signs</li> <li>• Reassesses ill patients appropriately after starting treatment</li> <li>• Recognises the indicators for intensive care unit review when physiology abnormal</li> </ul> <p><b>8.3 Manages patients with impaired consciousness, including seizures</b></p> <ul style="list-style-type: none"> <li>• Assesses conscious level (GCS or AVPU)</li> <li>• Treats ongoing seizures</li> <li>• Recognises causes of impaired consciousness and seizures and seeks to correct them</li> <li>• Recognises the potential for airway and respiratory compromise in the unconscious patient (including indications for intubation)</li> <li>• Understands the importance of supportive management in impaired consciousness</li> <li>• Seeks senior help for patients with impaired consciousness in an appropriate and timely way</li> </ul> |
| <p><b>11 Investigations</b></p>                                       | <p><b>11.1 Investigations</b></p> <ul style="list-style-type: none"> <li>• Requests investigations appropriate for patients' needs in accordance with local and national guidance to optimise the use of resources</li> <li>• Seeks out, records and relays results in a timely manner</li> <li>• Plans/organises appropriate further investigations to aid diagnosis and/or inform the management plan</li> <li>• Provides concise, accurate and relevant information and understands the diagnostic question when requesting investigations</li> <li>• Understands what common tests (Table 1) and procedures entail, the diagnostic limitations and contraindications, in order to ensure correct and relevant referrals/requests</li> <li>• Interprets the results correctly within the context of the particular patient/presentation e.g. plain radiography in a common acute condition</li> <li>• Prioritises importance of investigation results</li> </ul>  |

## INFORMATION FOR FACULTY

### LEARNING OBJECTIVES:

- Understand and apply a standardised approach to the management of tracheostomy emergencies (as per NTSP guidelines)
- Understand roles in co-ordination of emergency care in this setting

### SCENE INFORMATION:

- Location: Respiratory Ward
- Expected duration of scenario: 10 mins
- Expected duration of debriefing: 30mins

Mr Albert Mitchell is 65 years old. He was originally admitted to hospital 4 weeks ago with a bleeding duodenal ulcer. He developed a post-op pneumonia and was ventilated on ITU for 3 weeks, during which time a tracheostomy was performed. He is now back on the respiratory ward and the nurse has called the FY trainee to review the patient because he is finding it difficult to breathe and his O2 saturations have dropped. The nurse has suctioned his tracheostomy and it has not helped. A tracheostomy emergency develops which must be dealt with on the ward.

### EQUIPMENT & CONSUMABLES

- Mannequin: On ward bed, tracheostomy in situ with a blocked inner tube.
- Tracheostomy box or spare inner tubes and trachy
- O2 and selection of masks incl. Trachy mask
- Monitoring equipment (SpO2, ECG, NIBP)
- Stocked airway trolley
- Stocked crash trolley
- Mock-up anaesthetic equipment/drugs

### PERSONS REQUIRED

- FY Trainee to lead scenario
- Ward nurse as assistant
- ENT Registrar (If requested)
- ITU Registrar (If requested)

### PARTICIPANT BRIEFING: (TO BE READ ALOUD TO PARTICIPANT)

1. Scene-setting: Recognition and initial management of the acutely unwell patient are essential skills to develop during FY training. Today we would like one of you to assess a patient on the respiratory ward who has a problem with their tracheostomy. Please assess the patient methodically and treat the problems / symptoms that you find.
2. Assistance: An assistant will be present as the scenario begins (faculty will tell you who this is and what experience they have). If other (appropriate) help is needed at any stage, ask for it (the faculty will let you know how to request it).
3. The scenario will run until a natural conclusion, after which we will regroup to discuss the scenario and any related subjects that the group raises. This is not a test of the person who participates in the scenario and they will not be judged in any way on their performance.
4. We may then move back to the manikin again for the next steps in the management of the patient, followed by a further discussion of any matters that arise.

**'VOICE OF MANIKIN' BRIEFING:**

Extremely distressed, only able to speak single words. Struggling to breathe, can't get air in.

**IN SCENARIO BRIEFING:**

**Ward nurse:**

Mr Mitchell is 65 years old. He was admitted to hospital 4 weeks ago and had surgery for a bleeding duodenal ulcer. He developed a post-op pneumonia, was ventilated on ITU for 3 weeks and had a tracheostomy. He was discharged from ITU 2 days ago after a 4 week stay with his tracheostomy still in place. He was doing fine, and in past 5 minutes has really struggled to breathe. His O<sub>2</sub> saturations have dropped. You tried suctioning his tracheostomy but it hasn't helped. You call the FY doctor to review urgently.

**ADDITIONAL INFORMATION:**

Past medical history: heavy alcohol intake prior to admission, smokes 40 / day, hypertension

Meds on admission:

Ramipril

Additional meds in hospital:

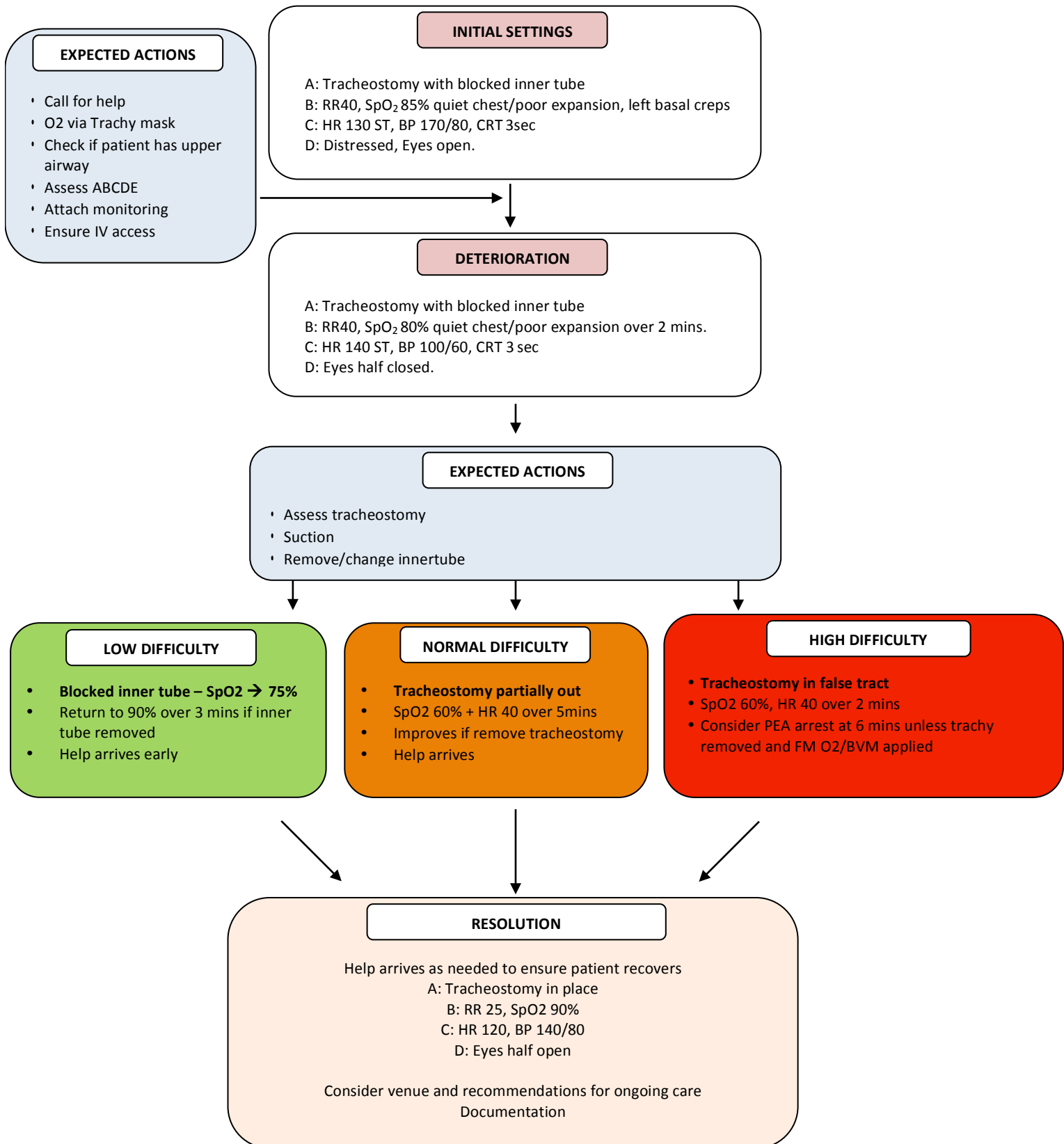
Lansoprazole

Salbutamol nebs PRN

Dalteparin

Allergies: None

CONDUCT OF SCENARIO



## DEBRIEFING

### POINTS FOR FURTHER DISCUSSION:

- Upper airway v no upper airway: how to know the difference
- National Tracheostomy Safety Project resources
- How to direct the initial team and summon expert help in emergency situation

### DEBRIEFING RESOURCES

1. Multidisciplinary guidelines for the management of tracheostomy and laryngectomy airway emergencies. McGrath et al, Anaesthesia 67:1025-41.  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2044.2012.07217.x/pdf>
2. The red algorithm (no upper airway) available at <http://www.resus.org.uk/newsletr/nl12Wal2.pdf>
3. The green algorithm (upper airway present ) available at  
<http://www.resus.org.uk/newsletr/nl12Wal1.pdf>
4. National Tracheostomy Safety Project Manual 2013 available at  
<http://www.tracheostomy.org.uk/Resources/Printed%20Resources/National%20Tracheostomy%20Safety%20Project%20Resource.pdf>

**INFORMATION FOR PARTICIPANTS**

**KEY POINTS:**

- Tracheostomies are not that uncommon!
- Get help immediately for any tracheostomy emergency, give Oxygen and look at inner tube.
- Know if the patient has an upper airway: History and presence of green patient notice behind bed.
- If in doubt, give O<sub>2</sub> via trachy mask + facemask.
- Importance of inner tube.
- When all else fails, consider removing the tracheostomy.

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**PARTICIPANT REFLECTION:**

What have you learnt from this experience? (Please try to list 3 things)

How will your practice now change?

What other actions will you now take to meet any identified learning needs?

**PARTICIPANT FEEDBACK**

Date of training session:.....

Profession and grade:.....

What role(s) did you play in the scenario? (Please tick)

|  |  |
|--|--|
| Primary/Initial Participant                            |  |
| Secondary Participant (e.g. 'Call for Help' responder) |  |
| Other health care professional (e.g. nurse/ODP)        |  |
| Other role (please specify):                           |  |
| Observer   |  |

|   | Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree |
|---|----------------|-------|----------------------------|----------|-------------------|
| I found this scenario useful                      |                |       |                            |          |                   |
| I understand more about the scenario subject      |                |       |                            |          |                   |
| I have more confidence to deal with this scenario |                |       |                            |          |                   |
| The material covered was relevant to me           |                |       |                            |          |                   |

Please write down one thing you have learned today, and that you will use in your clinical practice.

How could this scenario be improved for future participants?  
 (This is especially important if you have ticked anything in the disagree/strongly disagree box)



**FACULTY DEBRIEF – TO BE COMPLETED BY FACULTY TEAM**

What went particularly well during this scenario?

What did not go well, or as well as planned?

Why didn't it go well?

How could the scenario be improved for future participants?