



# TRACHEOSTOMY CARE STUDY

National Confidential Enquiry into Patient Outcome and Death (NCEPOD)

## WARD CARE QUESTIONNAIRE

**CONFIDENTIAL**

Hospital number:                 NHS number:

### Who completed this questionnaire?

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Hospital: \_\_\_\_\_ Trust: \_\_\_\_\_

To be completed for all patients with a surgical or percutaneous tracheostomy who have a ward stay with the tracheostomy in situ. The questionnaire should be completed (whichever occurs first) AT THE TIME OF DEATH, DISCHARGE FROM THE WARD, DECANNULATION, OR DAY 30 ON THE WARD WITH THE TRACHEOSTOMY IN SITU.

### What is this study about?

NCEPOD is examining remediable factors in the process of care of ADULT patients (16 years or older) who undergo the insertion of a tracheostomy.

Data is being collected over a 4 month period from all sites where the insertion of a tracheostomy is undertaken across England, Wales, Northern Ireland, Jersey, Guernsey and the Isle of Man, from both the public and the independent sector (where applicable). Both surgical and percutaneous insertions undertaken on either an emergency or elective basis will be included in the data collection.

### CPD accreditation:

Consultants who complete NCEPOD questionnaires make a valuable contribution to the investigation of patient care. Completion of questionnaires also provides an opportunity for consultants to review their clinical management and undertake a period of personal reflection. These activities have a continuing medical and professional development value for individual consultants. Consequently, NCEPOD recommends that consultants who complete NCEPOD questionnaires keep a record of this activity which can be included as evidence of internal/self directed Continuous Professional Development in their appraisal portfolio.

If you (the clinician completing the questionnaire) would like email confirmation of the completion of this questionnaire for your records, please clearly supply your email address below.

### How to complete the form:

Information will be collected using two methods; box cross and free text, where your opinion will be requested.

This form will be electronically scanned. Please use a black or blue pen. Please complete all questions with either block capitals or a bold cross inside the boxes provided e.g.

Was this a standalone tracheostomy procedure?

Yes  No

If you make a mistake, please "black-out" the incorrect box and re-enter the correct information, e.g.

Yes  No

**Unless indicated, please mark only one box per question.**

### Questions or help?

A list of definitions is provided on page 2 of the questionnaire.

If you have any queries about this study or this questionnaire, please contact

[tracheostomy@ncepod.org.uk](mailto:tracheostomy@ncepod.org.uk)

Or telephone: 020 7251 9060

Thank you for taking the time to complete this questionnaire. The findings of the study will be published in 2014.

FOR NCEPOD USE ONLY



3 4 4 8 3 1 8 5 8 4 4 3 5

## DEFINITIONS

|                              |  |
|------------------------------|--|
| Elective procedure/operation | A procedure or operation that is planned or booked in advance of routine admission to hospital.  |
| Levels of ward care          | <p>Level 0: Patients whose needs can be met through normal ward care in an acute hospital.</p> <p>Level 1: Patients at risk of their condition deteriorating, or those recently relocated from higher levels of care whose needs can be met on an acute ward with additional advice and support from the critical care team.</p> <p>Level 2: (e.g. HDU) Patients requiring more detailed observation or intervention including support for a single failing organ system or post operative care, and those stepping down from higher levels of care. (NB: When Basic Respiratory and Basic Cardiovascular support are provided at the same time during the same critical care spell and no other organ support is required, the care is considered to be Level 2 care).</p> <p>Level 3: (e.g. ICU) Patients requiring advanced respiratory support alone or basic respiratory support together with support of at least two organs. This level includes all complex patients requiring support for multi-organ failure. (NB: Basic Respiratory and Basic Cardiovascular do not count as 2 organs if they occur simultaneously (see above under Level 2 care), but will count as Level 3 if another organ is supported at the same time).</p> |
| Critical care                | Level 2 and 3 care   |
| Bed head signs               | A sign available at the patient's bed space which allows the quick and easy communication of information, (National Tracheostomy Safety Project, 2012. Page 46)  |

## CODES FOR SPECIALTY

### SURGICAL SPECIALTIES

|  |                                |  |
|--|--------------------------------|--|
| 100 = General Surgery                    | 107 = Vascular Surgery         | 161 = Burns Care                       |
| 101 = Urology                            | 110 = Trauma & Orthopaedics    | 170 = Cardiothoracic Surgery           |
| 103 = Breast Surgery                     | 120 = Ear, Nose & Throat (ENT) | 172 = Cardiac Surgery                  |
| 104 = Colorectal Surgery                 | 130 = Ophthalmology            | 173 = Thoracic Surgery                 |
| 105 = Hepatobiliary & Pancreatic Surgery | 140 = Oral Surgery             | 180 = Accident & Emergency             |
| 106 = Upper Gastrointestinal Surgery     | 145 = Maxillo-Facial Surgery   | 190 = Anaesthetics                     |
|  | 150 = Neurosurgery             | 192 = Critical/Intensive Care Medicine |
|  | 160 = Plastic Surgery          |  |

### MEDICAL SPECIALTIES

|                            |                               |                                |
|----------------------------|-------------------------------|--------------------------------|
| 300 = General Medicine     | 330 = Dermatology             | 430 = Geriatric Medicine       |
| 301 = Gastroenterology     | 340 = Respiratory Medicine    | 500 = Obstetrics & Gynaecology |
| 302 = Endocrinology        | 350 = Infectious Diseases     | 501 = Obstetrics               |
| 303 = Clinical Haematology | 352 = Tropical Medicine       | 502 = Gynaecology              |
| 306 = Hepatology           | 360 = Genito-Urinary Medicine | 800 = Clinical Oncology        |
| 307 = Diabetic Medicine    | 361 = Nephrology              | 810 = Radiology                |
| 314 = Rehabilitation       | 370 = Medical Oncology        | 820 = General Pathology        |
| 315 = Palliative Medicine  | 400 = Neurology               | 823 = Haematology              |
| 320 = Cardiology           | 410 = Rheumatology            |                                |

## CODES FOR GRADE

|   |   |
|---|---|
| 01 – Consultant   | 02 – Staff grade/Associate specialist               |
| 03 – Trainee with CCT                                     | 04 – Senior specialist trainee (ST3+ or equivalent) |
| 05 – Junior specialist trainee (ST1&ST2 or CT equivalent) | 06 – Basic grade (HO/FY1 or SHO/FY2 or equivalent)  |
| 07 - Nursing  | 08 - Physiotherapy                                  |
| 09 - Other  |   |



## SECTION 1

### STRUCTURED COMMENTARY

Please provide a brief summary of this case, adding any comments or information you feel relevant, (please write clearly for the benefit of the specialist advisory group who will be reviewing the questionnaires). You may also type on a separate sheet. You may like to fill in the summary once you have completed the rest of the questionnaire.

NCEPOD attaches great importance to this summary. Please give as much information as possible about the care of this patient.



## A. PATIENT DETAILS

1. Age at the time of insertion:
2. Sex:  Male  Female
- 3a. Date of tracheostomy insertion:        Unknown  
d d m m y y y y
- 3b. Time of tracheostomy insertion:   (24 hour clock)  Unknown  
h h m m
- 4a. Date of discharge from critical care:        Unknown  
d d m m y y y y  
 Not applicable
- 4b. Time of discharge from critical care:   (24 hour clock)  Unknown  
h h m m  
 Not applicable
- 5a. Date of admission to ward:        Unknown  
d d m m y y y y
- 5b. Time of admission to ward:   (24 hour clock)  Unknown  
h h m m
6. Type of tracheostomy insertion  Surgical  Percutaneous
7. Reason for questionnaire completion:  
 Death (<=30 days)  
 Decannulation (<=30 days)  
 Discharge alive with tracheostomy in situ (<=30 days)  
 Alive and day 30 after insertion in theatre and transferred straight to ward  
 Alive and day 30 after leaving critical care (Please see definitions P2)

## B. ORGANISATION OF CARE

- 8a. Were comprehensive risk assessment(s) relating to the tracheostomy undertaken on this patient before admission?  Yes  No  Unknown
- 8b. If YES, did this determine:  
 The dependency of the patient  Yes  No  Unknown  
 The level of observation required  Yes  No  Unknown  
 The level of visibility required  Yes  No  Unknown
9. Were staff with particular competencies (in relation to the care of tracheostomies) routinely allocated to this patient?  Yes  No  Unknown



## C. ROUTINE CARE

10a. What was the frequency of routine monitoring of vital signs?

10b. Did this routine monitoring include:

- |  |  |                                      |
|--|--|--------------------------------------|
| <input type="checkbox"/> Respiration rate        | <input type="checkbox"/> Oxygen saturation | <input type="checkbox"/> Temperature |
| <input type="checkbox"/> Any supplemental oxygen | <input type="checkbox"/> Systolic BP       | <input type="checkbox"/> Heart rate  |
| <input type="checkbox"/> Level of consciousness  |  |                                      |

10c. Was a guideline or protocol for humidification or suction of the newly formed tracheostomy followed for this patient?  Yes  No  Unknown

11. What BEDSIDE equipment was available for this tracheostomy patient? (Answers may be multiple)

- |  |  |
|--|--|
| <input type="checkbox"/> Operational suction unit with suction tubing attached and wide bore (e.g. Yankeur) sucker       |  |
| <input type="checkbox"/> Appropriately sized suction catheters   | <input type="checkbox"/> Non-powdered latex free gloves and aprons |
| <input type="checkbox"/> Eye protection  | <input type="checkbox"/> Tracheal dilators                         |
| <input type="checkbox"/> Spare tracheostomy tubes of the same type as inserted: one the same size and one a size smaller |  |
| <input type="checkbox"/> Rebreathing bag and tubing  | <input type="checkbox"/> Catheter mount or connection              |
| <input type="checkbox"/> Tracheostomy disconnection wedge  | <input type="checkbox"/> Tracheostomy tube holder and dressing     |
| <input type="checkbox"/> 10ml syringe (if cuffed tube)   | <input type="checkbox"/> Artery forceps                            |
| <input type="checkbox"/> Resuscitation equipment   | <input type="checkbox"/> Cricoid hook                              |
| <input type="checkbox"/> Headlight/adequate illumination   | <input type="checkbox"/> Bedside oxygen                            |
| <input type="checkbox"/> Stitch cutter   | <input type="checkbox"/> Water soluble gel                         |

## D. TUBE CHANGES ON THE WARD

ONLY TO BE COMPLETED ON PATIENTS WHO HAD A 1st OR 2nd TUBE CHANGE ON THIS WARD

If the patient had their first tube change on this ward please go to question 12

If the patient ONLY had a second tube change on this ward please go to question 16

If the tube had previously been changed twice or more prior to this ward admission please go to question 22

### FIRST CHANGE

12a. Please specify the date of the first change

|                      |                      |                      |                      |                      |                      |                                  |   |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------------------|---|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="checkbox"/> Unknown |   |
| d                    | d                    | m                    | m                    | y                    | y                    | y                                | y |

12b. Time of first change

|                      |                      |                 |                                  |
|----------------------|----------------------|-----------------|----------------------------------|
| <input type="text"/> | <input type="text"/> | (24 hour clock) | <input type="checkbox"/> Unknown |
| h                    | h                    | m               | m                                |





**13a.** Was this:  Planned  Unplanned  Unknown

**13b.** If UNPLANNED, what were the reasons for this?

- Tube blocked  Tube displaced  
 Unknown  Other (Please specify)

**14.** If PLANNED, how many trained/skilled members of staff were present for the tube change?   Unknown

**15a.** What type of tracheostomy tube was used to replace? (Please answer all)

- i)  Cuffed  Uncuffed  Unknown  
 ii)  Non-fenestrated  Fenestrated  Unknown  
 iii)  Inner tube  No inner tube  Unknown  
 iv)  Sub glottic aspiration port  No sub glottic aspiration port  Unknown  
 v)  Standard length  Adjustable flange tube  Unknown  
 vi)  Minitracheostomy  
 vii)  Other (please specify)

**15b.** Please give details as to why this tube was used:

**15c.** What size tracheostomy was used?  6  7  8  9  Unknown  
 Other

*SECOND CHANGE*

**16a.** Please specify the date of the second change:     Unknown  
 d d m m y y y y

**16b.** Time of second change:   (24 hour clock)  Unknown  
 h h m m

**17a.** Was this:  Planned  Unplanned  Unknown

**17b.** If UNPLANNED, what were the reasons for this?

- Tube blocked  Tube displaced  
 Unknown  Other (Please specify)

**18.** If PLANNED, how many trained/skilled members of staff were present for the tube change?   Unknown





19a. What type of tracheostomy tube was used to replace? (Please answer all)

- |      |  |   |                                  |
|------|--|---|----------------------------------|
| i)   | <input type="checkbox"/> Cuffed                      | <input type="checkbox"/> Uncuffed                       | <input type="checkbox"/> Unknown |
| ii)  | <input type="checkbox"/> Non-fenestrated             | <input type="checkbox"/> Fenestrated                    | <input type="checkbox"/> Unknown |
| iii) | <input type="checkbox"/> Inner tube                  | <input type="checkbox"/> No inner tube                  | <input type="checkbox"/> Unknown |
| iv)  | <input type="checkbox"/> Sub glottic aspiration port | <input type="checkbox"/> No sub glottic aspiration port | <input type="checkbox"/> Unknown |
| v)   | <input type="checkbox"/> Standard length             | <input type="checkbox"/> Adjustable flange tube         | <input type="checkbox"/> Unknown |
| vi)  | <input type="checkbox"/> Minitracheostomy            |   |                                  |
| vii) | <input type="checkbox"/> Other (please specify)      | <input type="text"/>                                    |                                  |

19b. Please give details as to why this tube was used:

19c. What size tracheostomy was used?  6  7  8  9  Unknown  
 Other

20. Was a Trust or ward guideline for changing the tracheostomy tube followed for this patient?  Yes  No  Unknown

21a. Were there more than two tracheostomy tube changes since insertion?  Yes  No  Unknown

21b. If YES, how often thereafter was this patients tracheostomy tube changed as a planned procedure?  
 Weekly  More than once weekly  
 No fixed policy  Other (Please specify)   
 Unknown

## E. CUFF PRESSURE MONITORING

22a. Do you have the equipment to measure cuff pressure?  Yes  No  Unknown

22b. Was cuff pressure monitored?  Yes  No  Unknown

Not applicable - equipment not available  
**Please go to question 22c**

Not applicable - cuffed tube not used  
**Please go to question 26**

22c. Was the cuff continuously inflated?  Yes  No  Unknown

22d. If NO, how often was the cuff deflated? (Please specify)





- 23a.** Was a daily assessment made of the need for cuff deflation?  Yes  No  Unknown
- 23b.** Was a daily assessment made on the outcome of deflation whilst a cuffed tube was in used?  Yes  No  Unknown
- 24.** How often does the protocol/guideline (if present) suggest that cuff monitoring should be undertaken?
- |  |  |
|--|--|
| <input type="checkbox"/> No protocol/guideline | <input type="checkbox"/> Continuous monitoring                       |
| <input type="checkbox"/> Once every shift      | <input type="checkbox"/> More than once a shift but not continuously |
| <input type="checkbox"/> Unknown               | <input type="checkbox"/> Other (Please specify) <input type="text"/> |
- 25.** How often was cuff pressure monitored and recorded?
- |  |  |
|--|--|
| <input type="checkbox"/> Continuous monitoring                       | <input type="checkbox"/> Once every shift                            |
| <input type="checkbox"/> More than once a shift but not continuously | <input type="checkbox"/> Cuff pressure not monitored                 |
| <input type="checkbox"/> Unknown                                     | <input type="checkbox"/> Other (Please specify) <input type="text"/> |

## F. INNER CANNULA CLEANING

- 26.** Was an inner cannula used for this patient at any stage whilst on this ward?  Yes  No  Unknown

If NO, go to question 28

If YES:

- 27a.** How often does the protocol/guideline (if present) suggest that the inner cannula inspection and cleaning (if required) should be undertaken?
- |  |  |
|--|--|
| <input type="checkbox"/> No protocol/guideline | <input type="checkbox"/> Hourly                                      |
| <input type="checkbox"/> Two hourly            | <input type="checkbox"/> Four hourly                                 |
| <input type="checkbox"/> Eight hourly          | <input type="checkbox"/> Once every shift                            |
| <input type="checkbox"/> Patient specific      | <input type="checkbox"/> Other (Please specify) <input type="text"/> |
| <input type="checkbox"/> Unknown               |  |
- 27b.** How often is it documented that the inner cannula was inspected and cleaned (if required) for this patient?
- |   |  |
|---|--|
| <input type="checkbox"/> Hourly           | <input type="checkbox"/> Two hourly                                  |
| <input type="checkbox"/> Four hourly      | <input type="checkbox"/> Eight hourly                                |
| <input type="checkbox"/> Once every shift | <input type="checkbox"/> Other (Please specify) <input type="text"/> |
| <input type="checkbox"/> Unknown          |  |





## G. MULTIDISCIPLINARY TEAM

28. Please indicate whether the following teams were available on site whilst this patient was being cared for on your ward, and whether there was any delay in accessing the service?

| Service                                       | Availability  | Was there a delay in accessing the service?              | If YES, how long was the delay?<br>HH:MM  |
|---|---|--|---|
| Physiotherapy                                 | <input type="checkbox"/> Yes 24/7 <input type="checkbox"/> Yes <24/7 <input type="checkbox"/> No <input type="checkbox"/> Unknown | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input style="width: 30px; height: 20px;" type="text"/> : <input style="width: 30px; height: 20px;" type="text"/> |
|   | If there was a delay, did this impact on the patient?   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown                         |
| Critical care outreach                        | <input type="checkbox"/> Yes 24/7 <input type="checkbox"/> Yes <24/7 <input type="checkbox"/> No <input type="checkbox"/> Unknown | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input style="width: 30px; height: 20px;" type="text"/> : <input style="width: 30px; height: 20px;" type="text"/> |
|   | If there was a delay, did this impact on the patient?   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown                         |
| Service                                       | Availability  | Was there a delay in accessing the service?              | If YES, how long was the delay?<br>DAYS   |
| Speech & Language therapy                     | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown   | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input style="width: 30px; height: 20px;" type="text"/>   |
|   | If there was a delay, did this impact on the patient?   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown                         |
| Dietetics                                     | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown   | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input style="width: 30px; height: 20px;" type="text"/>   |
|   | If there was a delay, did this impact on the patient?   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown                         |
| Head & Neck/<br>Specialist tracheostomy nurse | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown   | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input style="width: 30px; height: 20px;" type="text"/>   |
|   | If there was a delay, did this impact on the patient?   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown                         |

29a. Post insertion of tracheostomy, was this patient discussed at an MDT meeting?       Yes    No    Unknown

29b. If YES, in addition to the ward clinical teams, which teams participated in the MDT meeting?

- |                              |                              |                             |                                  |   |
|------------------------------|------------------------------|-----------------------------|----------------------------------|---|
| Physiotherapy                | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown | <input type="checkbox"/> NA - not available |
| Critical Care Outreach       | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown | <input type="checkbox"/> NA - not available |
| Speech & Language therapist  | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown | <input type="checkbox"/> NA - not available |
| Dietetics                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown | <input type="checkbox"/> NA - not available |
| Head & Neck specialist nurse | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown | <input type="checkbox"/> NA - not available |





**30a.** At what point did this patient see a physiotherapist after ward admission?

- <12 hours     
  Between 12 - 24 hours     
  >24 hours     
  Unknown  
 Other (please specify)      
  NA - did not see physiotherapist

**30b.** Thereafter how often did this patient see a physiotherapist?

- Daily     
  2 - 3 times a week     
  Weekly     
  Unknown  
 Less often (please specify)      
  NA - did not see physiotherapist

**30c.** Was this appropriate to the needs of this patient?

- Yes   
  No   
  Unknown

**30d.** If NO, please give further details

**31a.** At what point was this patient referred to Speech & Language therapy (SALT) following the tracheostomy insertion?

- <24 hours     
  Between 24 - 48 hours     
  >48 hours     
  Unknown  
 Other (please specify)      
  NA - not referred to SALT  
**(Please go to Q32a)**

**31b.** How long following referral did it take to be assessed by a Speech & Language therapist?

- <24 hours     
  Between 24 - 48 hours     
  >48 hours     
  Unknown  
 Other (please specify)

**31c.** Thereafter how often did this patient see a Speech and Language therapist?

- Daily     
  2 - 3 times a week     
  Weekly     
  Unknown  
 Less often (please specify)

**31d.** Was this appropriate to the needs of this patient?

- Yes   
  No   
  Unknown

**31e.** If NO, please give further details

**32a.** Were attempts made to facilitate communication?

- Yes   
  No   
  Unknown

**32b.** If YES, what methods were used to facilitate communication?

- Fenestrated tube     
  Other insufflation devices  
 Picture/alphabet chart     
  Pen/paper  
 Speaking valve     
  Other electronic device  
 Other (please specify)





32c. Was the use of a speaking valve considered?  Yes  No  Unknown

32d. Please give further details:

33. Was advice sought from Speech & Language therapy regarding communication assessment or needs for this patient?  Yes  No  Unknown

34a. Was the patient allowed to drink?  Yes  No  Unknown  Not applicable

34b. IF YES to 34a, was this with cuff deflation?  Yes  No  Unknown  Not applicable

34c. If YES to 34b, was this:

Before Speech & Language Therapy assessment  After Speech & Language Therapy assessment  Unknown

Other assessment (please specify)

34d. IF YES to 34a, was this with cuff inflation?  Yes  No  Unknown  Not applicable

34e. If YES to 34d, was this:

Before Speech & Language therapy assessment  After Speech & Language therapy assessment  Unknown

Other assessment (please specify)

35. Did this patient have ongoing swallowing difficulties?  Yes  No  Unknown

36a. At what point was this patient referred to a dietitian following the tracheostomy insertion?

<24 hours  Between 24 - 48 hours  >48 hours  Unknown

Other (please specify)   NA - not referred to dietician

**(Please go to Q37)**

36b. How long following referral did it take to be assessed by a dietitian?

<24 hours  Between 24 - 48 hours  >48 hours  Unknown

Other (please specify)

36c. Thereafter how often did this patient see a dietitian?

Daily  2 - 3 times a week  Weekly  Unknown

Less often (please specify)

36d. Was this appropriate to the needs of this patient?  Yes  No  Unknown

36e. If NO, please give further details

37. Did the patient require on-going artificial hydration and nutrition e.g. NGT, PEG?  Yes  No  Unknown

38. Was a guideline for feeding/nutritional support followed for this patient?  Yes  No  Unknown



## H. COMPLICATIONS ON THE WARD

39. Did the patient have any of the following complications on the ward, and if so, please note the number of days post insertion that these occurred for the first time, whether they happened more than once, and how these complications were managed (answers may be multiple)

None

Please go to question 41

| Complication (significant enough amount to cause clinical concern or need an intervention) |  | If YES, number of days post insertion of the first occurrence: | Did this reoccur   | How were these complications managed? Please use the following codes and give further details where appropriate:<br>A = Readmission to critical care<br>B = Reventilation<br>C = Antibiotics<br>D = Emergency theatre attendance<br>E = Other (please specify) |
|--|--|--|--|--|
| a) Surgical emphysema  | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| b) Pneumo-mediastinum  | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| c) Pneumothorax  | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| d) Accidental de-cannulation/ displacement   | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| e) Obstruction   | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| f) Bleeding - minor  | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| g) Bleeding - major  | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| h) Infection - local   | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| i) Infection - mediastinitis   | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| j) Infection - respiratory   | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| k) Aspiration  | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| l) Fistula formation - trache-oesophageal  | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| m) Fistula formation - trache-arterial   | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> <input type="text"/> Days                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |



39. Continued...

| Complication (significant amount to cause clinical concern or need an intervention) |  | If YES, number of days post insertion of the first occurrence: | Did this reoccur   | How were these complications managed? Please use the following codes and give further details where appropriate:<br>A = Readmission to critical care<br>B = Reventilation<br>C = Antibiotics<br>D = Emergency theatre attendance<br>E = Other (please specify) |
|---|--|--|--|--|
| n) Tracheal damage - to tracheal ring/necrosis                                      | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> Days                                      | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| o) Dysphagia  | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> Days                                      | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| <b>Other</b> (please specify) If multiple please list the most important            |  |  |  |  |
| p)  | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> Days                                      | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| q)  | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> Days                                      | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |
| r)  | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="text"/> Days                                      | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |

40. If the patient experienced one of the following MAJOR complications, please give details of the most senior members of medical staff present during the first hour of their management.

| Complication   | Grade   | Specialty   |
|--|---|---|
| a) Bleeding - major<br><input type="checkbox"/> NA - did not experience complication | <input type="text"/> Grade <input type="checkbox"/> Unknown | <input type="text"/> Specialty <input type="checkbox"/> Unknown |
|  | <input type="text"/> Grade <input type="checkbox"/> Unknown | <input type="text"/> Specialty <input type="checkbox"/> Unknown |
|  | <input type="text"/> Grade <input type="checkbox"/> Unknown | <input type="text"/> Specialty <input type="checkbox"/> Unknown |
|  | <input type="text"/> Grade <input type="checkbox"/> Unknown | <input type="text"/> Specialty <input type="checkbox"/> Unknown |
| b) Pneumothorax<br><input type="checkbox"/> NA - did not experience complication     | <input type="text"/> Grade <input type="checkbox"/> Unknown | <input type="text"/> Specialty <input type="checkbox"/> Unknown |
|  | <input type="text"/> Grade <input type="checkbox"/> Unknown | <input type="text"/> Specialty <input type="checkbox"/> Unknown |
|  | <input type="text"/> Grade <input type="checkbox"/> Unknown | <input type="text"/> Specialty <input type="checkbox"/> Unknown |
|  | <input type="text"/> Grade <input type="checkbox"/> Unknown | <input type="text"/> Specialty <input type="checkbox"/> Unknown |



40. Continued...

| Complication   | Grade  | Specialty  |
|--|--|--|
| c) Accidental decannulation/<br>displacement<br><br><input type="checkbox"/> NA - did not experience<br>complication | <input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown | <input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown |
| d) Obstruction<br><br><input type="checkbox"/> NA - did not experience<br>complication                               | <input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown | <input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown |
| <b>Other (please specify) If multiple please list the most important</b>   |  |  |
| e) _____<br><br><br>   | <input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown | <input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown |
| f) _____<br><br><br>   | <input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown | <input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown |
| g) _____<br><br><br>   | <input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown<br><input type="checkbox"/> Grade <input type="checkbox"/> Unknown | <input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown<br><input type="checkbox"/> Specialty <input type="checkbox"/> Unknown |



# I. ADVERSE EVENTS RELATING TO THE TRACHEOSTOMY

**41a.** Was there evidence of clinical hypoxia (e.g. confusion or cyanosis) in this patient during this ward stay?  Yes  No  Unknown

**41b.** If YES, was this as a result of a tracheostomy related complication?  Yes  No  Unknown

**41c.** If YES, please give details for each episode:

**41d.** If YES, was this confirmed by SaO2 monitoring?  Yes  No  Unknown

**41e.** What was the lowest recorded:

SaO<sub>2</sub>         %  Unknown

PaO<sub>2</sub>        .   KPa      **OR**         mmHg  Unknown

**41f.** How long was the patients oxygen saturation at this level?  Unknown

        (24 hour clock)  
                   h h            m m

**41g.** Do you think this episode of clinical hypoxia caused the patient harm?  Yes  No

**42a.** Did the patient have a cardiac arrest at any point during the ward care period?  Yes  No  Unknown

**42b.** If YES, was this as a result of a tracheostomy complication?  Yes  No  Unknown

**42c.** If YES, what was the cause of this complication? (Please tick all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> Tube blockage | <input type="checkbox"/> Tube displacement      |
| <input type="checkbox"/> Haemorrhage   | <input type="checkbox"/> Other (Please specify) |
| <input type="checkbox"/> Unknown       |   |

**43.** Did the patient suffer any of the following tracheostomy/airway related adverse outcomes during the critical care period?

a) Respiratory arrest  Yes  No  Unknown

b) Persistent deterioration of cerebral status after airway complication  Yes  No  Unknown

c) Death  Yes  No  Unknown



## SECTION 2: END POINT

PLEASE COMPLETE ONE SECTION ONLY

### J. DECANNULATION

ONLY TO BE COMPLETED ON PATIENTS WHO UNDERWENT SUCCESSFUL DECANNULATION OR REMOVAL ON THE WARD <= 30 DAYS FOLLOWING ADMISSION

44a. Was a successful decannulation/removal attempt made?  Yes  No  Unknown

44b. If YES, what was the date of tracheostomy decannulation/removal?          Unknown  
d d m m y y y y

44c. What was the time of tracheostomy decannulation/removal?     (24 hour clock)  Unknown  
h h m m

45. Was an airway endoscopy performed prior to tracheostomy decannulation/removal?  Yes  No  Unknown

46. What other preparation for decannulation/removal was made? E.g. cuff deflation, speaking valve use etc.

47. What safety measures were in place at decannulation/removal? (Please tick all that apply)

#### *Airway devices*

- A range of tracheal and tracheostomy tubes
- Laryngoscopes, bougies, airway exchange catheters and aids to intubation
- Laryngeal masks
- Ready to access fibre-optic bronchoscope

#### *Equipment*

- A means of oxygen insufflation (e.g. suction catheter or airway exchange catheter)
- A means of ventilatory support (e.g. self inflating bag)
- A means of reopening the stoma (e.g. tracheal dilator forceps)
- Access to a tracheostomy kit
- Effective suction equipment

#### *Monitoring*

- ECG  Pulse oximeter
- Automated BP recordings  Capnograph







47. Continued...

Medications

- Anaesthetic drugs
- Vasopressor agents
- Atropine
- Access to resuscitation equipment (e.g. defibrillator)

48a. What type of tracheostomy tube was removed (Please answer all)

- |      |  |  |                                  |
|------|--|--|----------------------------------|
| i)   | <input type="checkbox"/> Cuffed                      | <input type="checkbox"/> Uncuffed                        | <input type="checkbox"/> Unknown |
| ii)  | <input type="checkbox"/> Non-fenestrated             | <input type="checkbox"/> Fenestrated                     | <input type="checkbox"/> Unknown |
| iii) | <input type="checkbox"/> Inner tube                  | <input type="checkbox"/> No inner tube                   | <input type="checkbox"/> Unknown |
| iv)  | <input type="checkbox"/> Sub glottic aspiration port | <input type="checkbox"/> No sub glottic aspiration port  | <input type="checkbox"/> Unknown |
| v)   | <input type="checkbox"/> Standard length             | <input type="checkbox"/> Adjustable flange tube          | <input type="checkbox"/> Unknown |
| vi)  | <input type="checkbox"/> Minitracheostomy            |  |                                  |
| vii) | <input type="checkbox"/> Other (please specify)      | <input style="width: 460px; height: 20px;" type="text"/> |                                  |

48b. What size tracheostomy was removed?  6  7  8  9  Unknown

Other

49a. What was the grade of clinician undertaking the removal? (Please use grade codes on page 2)   Unknown

49b. What was the specialty of clinician undertaking the removal? (Please use grade codes on page 2)   Unknown

50. Was more than one attempt made at decannulation?  Yes  No  Unknown

51a. Are you aware of any complications arising from a decannulation attempt?  Yes  No  Unknown

51b. If YES, did this result in:

Admission or readmission to critical care  Yes  No  Unknown

Other (please specify)   Yes  No  Unknown

51c. Please give any other further details:



## K. DISCHARGE

ONLY TO BE COMPLETED ON PATIENTS WHO WERE DISCHARGED ALIVE WITH THE TRACHEOSTOMY IN SITU FROM THIS WARD <= 30 DAYS FOLLOWING ADMISSION

52a. What was the date of discharge?          Unknown  
d d m m y y y y

52b. What was the time of discharge?     (24 hour clock)  Unknown  
h h m m

53a. What type of tracheostomy tube was in situ? (Please answer all)

- i)  Cuffed  Uncuffed  Unknown
- ii)  Non-fenestrated  Fenestrated  Unknown
- iii)  Inner tube  No inner tube  Unknown
- iv)  Sub glottic aspiration port  No sub glottic aspiration port  Unknown
- v)  Standard length  Adjustable flange tube  Unknown
- vi)  Minitracheostomy
- vii)  Other (please specify)

53b. What size tracheostomy was in situ?  6  7  8  9  Unknown  
 Other

53c. If a cuffed tracheostomy was in situ, was the cuff inflated on discharge?  Yes  No  Unknown

54a. Where was the patient discharged to?

- Critical care unit (different hospital)  Specialist ward (same hospital) - Head & Neck
- General ward (same hospital)  Specialist ward (same hospital) - Other (please use specialty codes on P2)
- Other secondary care facility  Community care (including nursing home, rehabilitation unit or other specialist unit outside of this or another hospital)
- Home  Unknown
- Other (please specify)

54b. If this patient was readmitted to critical care, why was this?

As a result of a tracheostomy/airway related complication?  Yes  No  Unknown

Other (please specify)

54c. Please give any other further details:





55a. Were there any concerns about the location the patient was discharged to with respect to the care of the tracheostomy?  Yes  No  Unknown

55b. If YES, what were the concerns? (Please tick all that apply)

- Ability to provide routine tracheostomy care
- Ability to recognise tracheostomy complications
- Ability to manage tracheostomy complications
- Follow up arrangements for tracheostomy
- Weaning and decannulation plan and practice
- Other (please specify)

56. What support was in place for the patients follow up? (Please specify)

## L. DEATH

**ONLY TO BE COMPLETED ON PATIENTS WHO DIED WITH THE TRACHEOSTOMY IN SITU <= 30 DAYS FOLLOWING ADMISSION**

57a. What was the date of death?        Unknown  
d d m m y y y y

57b. What was the time of death?   (24 hour clock)  Unknown  
h h m m

57c. What was the cause of death as stated on the death certificate?  Unknown

58a. In the event that this patient died, was this:  Expected  Unexpected

58b. Do you believe that this was as a result of a tracheostomy related complication?  Yes  No  Unknown

58c. If YES, please give further details:



## M. ON THE WARD WITH THE TRACHEOSTOMY IN SITU

ONLY TO BE COMPLETED ON PATIENTS WHO ARE STILL ON THE WARD WITH THE TRACHEOSTOMY IN SITU >30 DAYS FOLLOWING WARD ADMISSION. PLEASE COMPLETE AS NEAR AS POSSIBLE TO DAY 30 FOLLOWING WARD ADMISSION.

59a. What type of tracheostomy tube was in situ? (Please answer all)

- |      |  |   |                                  |
|------|--|---|----------------------------------|
| i)   | <input type="checkbox"/> Cuffed                      | <input type="checkbox"/> Uncuffed                       | <input type="checkbox"/> Unknown |
| ii)  | <input type="checkbox"/> Non-fenestrated             | <input type="checkbox"/> Fenestrated                    | <input type="checkbox"/> Unknown |
| iii) | <input type="checkbox"/> Inner tube                  | <input type="checkbox"/> No inner tube                  | <input type="checkbox"/> Unknown |
| iv)  | <input type="checkbox"/> Sub glottic aspiration port | <input type="checkbox"/> No sub glottic aspiration port | <input type="checkbox"/> Unknown |
| v)   | <input type="checkbox"/> Standard length             | <input type="checkbox"/> Adjustable flange tube         | <input type="checkbox"/> Unknown |
| vi)  | <input type="checkbox"/> Minitracheostomy            |   |                                  |
| vii) | <input type="checkbox"/> Other (please specify)      | <input type="text"/>                                    |                                  |

59b. What size tracheostomy was in situ?  6  7  8  9  Unknown  
 Other

60. Why was the patient still on the ward? (answers may be multiple)

- Ongoing need for secondary medical care  
 Difficulties in securing appropriate community care  
 Difficulty in finding a specialist rehabilitation unit  
 Other (please specify)

61a. Is there a plan of discharge for this patient?  Yes  No  Unknown

61b. If NO, why not?

**Thank you for taking the time to complete this questionnaire**

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