



TRACHEOSTOMY CARE STUDY

National Confidential Enquiry into Patient Outcome and Death (NCEPOD)

INSERTION QUESTIONNAIRE

CONFIDENTIAL

Hospital number: NHS number:

Who completed this questionnaire?

Name: _____ Position: _____

Hospital: _____ Trust: _____

To be completed on all patients who undergo the insertion of a tracheostomy tube, as soon after the insertion as possible.

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

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



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: TO BE COMPLETED ON ALL PATIENTS

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
3. Height cm Estimated height Actual height
4. Weight kg Estimated weight Actual weight
5. BMI Estimated Actual

6a. What was the principal diagnosis leading to the admission of this patient? (Please specify)

6b. What was the principal diagnosis leading to the need for tracheostomy? (Please specify)

7. What was the patient's ASA Grade immediately prior to tracheostomy insertion?

- ASA 1: A normal healthy patient
- ASA 2: A patient with a mild systemic disease; no limitations
- ASA 3: A patient with a severe systemic disease; limitations
- ASA 4: A patient with a severe systemic disease that is a constant threat to life
- ASA 5: A moribund patient who is not expected to survive the operation
- Unknown

B. ADMISSION

- 8a. Date of hospital admission (to the ward): Unknown
d d m m y y y y
- 8b. Time of hospital admission (to the ward): (24 hour clock) Unknown
h h m m
9. What was the urgency of the admission? Elective Emergency
10. What was the primary specialty of the clinician the patient was admitted under? (Please use specialty codes on page 2) Unknown





11a. Please state the patient's location immediately following admission: (please see definitions on page 2)

- | | |
|----------------------------------|--|
| <input type="checkbox"/> Level 0 | <input type="checkbox"/> Level 1 |
| <input type="checkbox"/> Level 2 | <input type="checkbox"/> Level 3 |
| <input type="checkbox"/> Unknown | <input type="checkbox"/> Other (Please specify) <input style="width: 150px;" type="text"/> |

11b. Please state the patient's location in hospital immediately prior to tracheostomy: (please see definitions on page 2)

- | | |
|--|----------------------------------|
| <input type="checkbox"/> Level 0 | <input type="checkbox"/> Level 1 |
| <input type="checkbox"/> Level 2 | <input type="checkbox"/> Level 3 |
| <input type="checkbox"/> Emergency Department | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Other (Please specify) <input style="width: 150px;" type="text"/> | |

C. TRACHEOSTOMY INSERTION DETAILS

12a. Date of tracheostomy insertion: Unknown
d d m m y y y y

12b. Time of tracheostomy insertion: (24 hour clock) Unknown
h h m m

13. What was the urgency of the procedure?

- Immediate** Immediate life, limb or organ-saving intervention; resuscitation simultaneous with intervention. Normally within minutes of decision to operate.
- Urgent** Acute onset or deterioration of potentially life threatening conditions; for those conditions that may threaten the survival of limb or organ; for fixation of many fractures; and for relief of pain or other distressing symptoms. Normally within hours of decision to operate.
- Expedited** Patient requiring early treatment where the condition is not an immediate threat to life, limb or organ survival. Normally within days of decision to operate.
- Elective** Intervention planned or booked in advance of routine admission to hospital. Timing to suit patient, hospital and staff.

14. Date of last tracheal intubation prior to tracheostomy insertion (if it does not coincide with insertion) Unknown
d d m m y y y y

Not applicable

15a. Did the patient have a trial of extubation prior to tracheostomy? Yes No Unknown
 Not applicable

15b. If YES, how many trials of extubation? 1 2 3 4 5 Unknown





16. What was the indication for tracheostomy? (Please tick all that apply)

- To facilitate the removal of pulmonary secretions
- To protect the airway as the patient was at high risk of aspiration
- Laryngectomy
- To enable long-term mechanical ventilation
- To facilitate weaning from mechanical ventilation
- Upper airway obstruction
- Other (Please specify)
- Unknown

17. Was the neck considered potentially difficult for tracheostomy before starting, e.g. big veins, short neck, bleeding tendency, deep stoma? (Please give any additional comment on page 3)

- Yes No Unknown

18a. Did the patient have a bleeding disorder?

- Yes No Unknown

18b. If YES, please give details

18c. If YES, had this been fully corrected/controlled prior to tracheostomy insertion?

- Yes No Unknown

19. How was the tracheostomy performed?

- Percutaneously (**Please complete SECTION 2, Page 7**)
- Surgically (**Please complete SECTION 3, Page 11**)



SECTION 2: PERCUTANEOUS TRACHEOSTOMY INSERTION

- 1a. Date of critical care admission (episode during which the tracheostomy was performed): Unknown
d d m m y y y y
- Not applicable (please go to question 2)
- 1b. Time of critical care admission: (24 hour clock) Unknown
h h m m

A. OPERATION DETAILS

STAFFING

2. What was the grade of practitioner who managed the upper airway and/or anaesthetic during the tracheostomy insertion? (Please use grade codes on page 2) Unknown
3. What was the grade of doctor who performed the tracheostomy? (Please use grade codes on page 2) Unknown
4. What was the specialty of doctor who performed the tracheostomy? (Please use specialty codes on page 2) Unknown
5. Was this a different doctor/practitioner to the one who managed the airway? Yes No Unknown
- 6a. Were there any deficiencies in staffing that hindered the procedure? Yes No Unknown
- 6b. If YES, please give details

CONSENT

7. Was a consent form completed? Yes No Unknown
- 8a. If YES, what was the grade of clinician taking consent? (Please use grade codes on page 2) Unknown
- 8b. If YES, were the benefits and risks of the tracheostomy procedure stated on the consent form? Yes No Unknown

EQUIPMENT AND MONITORING

- 9a. Was a Surgical Safety Checklist used during this procedure? Yes No Unknown
- 9b. If YES, was this:
 Original WHO checklist Modified WHO checklist Other
- 10a. Were there any deficiencies in equipment that hindered the procedure? Yes No Unknown
- 10b. If YES, please give details





11. How was the patient monitored during the tracheostomy insertion? (please tick all that apply)

- | | |
|--|--|
| <input type="checkbox"/> ECG | <input type="checkbox"/> SpO ₂ |
| <input type="checkbox"/> Level 2 (HDU) | <input type="checkbox"/> Level 3 (ICU) |
| <input type="checkbox"/> Unknown | <input type="checkbox"/> Other (Please specify) <input style="width: 150px; height: 15px;" type="text"/> |

12a. What were the results of the last blood gas taken prior to tracheostomy insertion?

- | | | | | |
|-------------------|---|----------------------------------|---|----------------------------------|
| FiO ₂ | <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> | <input type="checkbox"/> Unknown | | |
| PaO ₂ | <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> KPa | OR | <input type="text"/> <input type="text"/> <input type="text"/> mmHg | <input type="checkbox"/> Unknown |
| PEEP | <input type="text"/> <input type="text"/> <input type="text"/> cmH ₂ O | <input type="checkbox"/> Unknown | | |
| PaCO ₂ | <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> KPa | OR | <input type="text"/> <input type="text"/> <input type="text"/> mmHg | <input type="checkbox"/> Unknown |

13. Was ultrasound used to assess the neck prior to percutaneous tracheostomy? Yes No Unknown

14. Were there any predicted difficulties associated with the procedure? Yes No Unknown

15. Was the upper airway considered difficult to reintubate? Yes No Unknown

16. How was the patient's airway managed during tracheostomy insertion?
 Endotracheal tube Supraglottic airway device Unknown

17a. Was an upper airway endoscopy undertaken during tracheostomy insertion? Yes No Unknown

17b. If YES to 17a, was the endoscope controlled/performed by the practitioner managing the airway? Yes No Unknown

- 17c. If YES to 17a, was the endoscopy performed to:
- Confirm tracheal puncture?
 - Monitor tracheal dilation?
 - Monitor tracheostomy tube insertion from above?
 - Confirm tracheostomy tube placement (visualisation of trachea through tracheostomy tube)

18. Was ventilation confirmed by capnography? Yes No Unknown

- 19a. What type of tracheostomy tube was used? (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 |





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

20. How was the tracheostomy tube secured? (answers may be multiple)
 Sutures Neck tapes
 Unknown Other (Please specify)

21a. Was a chest x-ray performed after the insertion of the tracheostomy? Yes No Unknown

21b. If YES, what was the date of the first chest x-ray post procedure? Unknown
d d m m y y y y

21c. If YES, what was the time of the first chest x-ray post procedure? (24 hour clock) Unknown
h h m m

22a. Did the patient experience any immediate complications? (within 4 hours of tracheostomy insertion) Yes No Unknown

22b. If YES, did these include: (please tick all that apply)
 Haemorrhage (severe - requiring surgical operative intervention) Malplacement of tube - within tissues around trachea or to main bronchus
 Haemorrhage (minor - managed conservatively in critical care) Pneumothorax
 Surgical emphysema Tube occlusion
 Death Loss of airway
 Unknown Other (Please specify)

23a. Was cuff pressure measured immediately after tracheostomy tube placement? Yes No Unknown

23b. If YES to 23a, please state the measured pressure (cm H2O or other)

23c. If NO to 23a, why not?

24. What were the results of the first blood gas taken after tracheostomy?
FiO₂ . Unknown
PaO₂ . KPa **OR** mmHg Unknown
PEEP cmH₂O Unknown
PaCO₂ . KPa **OR** mmHg Unknown

Thank you for taking the time to complete this questionnaire



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SECTION 3: SURGICAL TRACHEOSTOMY INSERTION

A. PRE-OPERATIVE CARE

1. Was this a standalone tracheostomy procedure? Yes No Unknown
- 2a. Was this part of a larger head & neck procedure? Yes No Unknown
- 2b. If YES, what was this procedure? (Please specify)
-
3. Was the tracheostomy considered to be palliative or part of a curative procedure?
- Curative Palliative Unknown

CAUTIONS AND CONTRAINDICATIONS

- 4a. Was a pre-operative assessment of the airway undertaken? Yes No Unknown
- 4b. If YES, was this undertaken by a:
- Surgeon Anaesthetist Surgeon & anaesthetist Unknown
- 4c. If YES to 4a, how was this undertaken?
- Clinical/External only CT
- MRI Nasoendoscopy
- Indirect laryngoscopy Unknown
- Other (Please specify)
5. Was there evidence of stridor? Yes No Unknown
- 6a. Was a pre-operative Mallampati assessment or other assessment of intubation difficulty recorded in the case notes? Yes No Unknown
- 6b. If YES, what was the result? I II III IV Unknown
- Other
7. Was the upper airway considered difficult to reintubate? Yes No Unknown

CONSENT

8. Was a consent form completed? Yes No Unknown
- 9a. If YES, what was the grade of clinician taking consent? (Please use grade codes on page 2) Unknown
- 9b. If YES, were the benefits and risks of the tracheostomy procedure stated on the consent form? Yes No Unknown
10. What was the patient's condition immediately prior to anaesthesia for the procedure?
- Awake Not awake Comatose Unknown



C. INSERTION OF THE TRACHEOSTOMY/THE OPERATION

21. Where was the operation undertaken?

- Critical care Head & Neck specialist theatre
 Emergency ('CEPOD') theatre General theatre
 Other (Please specify)

22. What incision was used to access the tracheal lumen?

- Vertical incision Björk flap
 Window Rescue/stay sutures
 Unknown Other (Please specify)

23a. What type of tracheostomy tube was used? (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

23b. What size tracheostomy was used?

- 6 7 8 9 Unknown
 Other

24. How was the tracheostomy tube secured? (answers may be multiple)

- Sutures Neck tapes
 Unknown Other (Please specify)

25a. Were there any unanticipated intra-operative complications?

- Yes No Unknown

25b. If YES, please specify

DELAYS

26a. Were any clinically significant delays encountered between the decision to operate and the operation?

- Yes No Unknown

26b. If YES, how long was the delay?

- (24 hour clock) Unknown
h h m m





26c. If YES, what was the reason for the delay?

Non availability of surgeon

Non availability of anaesthetist

Non availability of critical care/post operative bed

Patient requiring additional treatment/resuscitation

Non availability of theatre

Unknown

Other (Please specify)

EQUIPMENT AND MONITORING

27a. Was a Surgical Safety Checklist used during this procedure?

Yes No Unknown

27b. If YES, was this:

Original WHO checklist

Modified WHO checklist

Other

28a. Were there any deficiencies in equipment that hindered the procedure?

Yes No Unknown

28b. If YES, please specify

29. How was the patient monitored during the tracheostomy insertion? (please tick all that apply)

ECG

Non invasive blood pressure monitoring

SpO₂

Invasive blood pressure monitoring

Capnography

Other (Please specify)

STAFFING

30a. Were there any deficiencies in staffing that hindered the procedure?

Yes No Unknown

30b. If YES, please specify

31. What was the specialty of the operating surgeon? (Please use grade codes on page 2)

Unknown

32. What was the seniority of the operating surgeon? (Please use grade codes on page 2)

Unknown

33a. If the operating surgeon was a consultant, was a trainee present?

Yes No Unknown

33b. If YES, what was their grade? (Please use grade codes on page 2)

Unknown





34. If a trainee was operating, what was the level of supervision?

- Supervised directly by the consultant present Unsupervised - consultant in hospital
 Unsupervised - consultant not in hospital Unknown
 Other (Please specify)

35. What was the grade of the most senior anaesthetist involved in the procedure? (Please use grade codes on page 2)

Unknown

36a. If the most senior anaesthetist was a consultant, was a trainee present?

- Yes No Unknown

36b. If YES, what was their grade? (Please use grade codes on page 2)

Unknown

37. If a trainee was operating, what was the level of supervision?

- Supervised directly by the consultant present Unsupervised - consultant in hospital
 Unsupervised - consultant not in hospital Unknown
 Other (Please specify)

D. IMMEDIATE COMPLICATIONS

38a. Did the patient experience any immediate complications? (within 4 hours of tracheostomy insertion)

- Yes No Unknown

38b. If YES, did these include: (please tick all that apply)

- | | |
|---|---|
| <input type="checkbox"/> Haemorrhage (severe - requiring surgical operative intervention) | <input type="checkbox"/> Malplacement of tube - within tissues around trachea or to main bronchus |
| <input type="checkbox"/> Haemorrhage (minor - managed conservatively in critical care) | <input type="checkbox"/> Pneumothorax |
| <input type="checkbox"/> Surgical emphysema | <input type="checkbox"/> Tube occlusion |
| <input type="checkbox"/> Death | <input type="checkbox"/> Loss of airway |
| <input type="checkbox"/> Unknown | <input type="checkbox"/> Other (Please specify) <input type="text"/> |

DISCHARGE

39. Following the operation where was the patient discharged to?

- Critical care (Levels 2&3)
 Specialist Head & Neck ward (Please specify)
 General ward
 NA - tracheostomy inserted on critical care
 NA - Patient died during the procedure
 Other (Please specify)

Thank you for taking the time to complete this questionnaire



Funding for this study was provided by The Healthcare Quality Improvement Partnership (HQIP) as part of The Clinical Outcome Review Program into medical and surgical care.

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