Royal Cornwall Hospitals
NHS Trust

LocSSIP Guideline for:
Percutaneous Tracheostomy

V2.0

August 2025

Summary

This guideline outlines the process to be followed for procedures involving tracheostomies in a Critical Care setting.

It applies to all patients undergoing the following procedures: Tracheostomies.

The guideline has been written as a result of LocSSIPs (Local Safety Standards for Invasive Procedures) requirement.

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1. Introduction

1.1. The Royal Cornwall Hospital Trust (RCHT) is committed to providing high quality patient centred care and a safe environment for all patients undergoing a tracheostomy in Critical Care.

1.2. This version supersedes any previous versions of this document.

2. Background

This guideline is intended to build on the principles outlined in the existing RCHT Standard Operating Procedure for percutaneous tracheostomy, alongside the Faculty of Intensive Care Medicine and Intensive Care Society percutaneous tracheostomy safety checklist. It will provide evidence of what additional requirements are needed i.e., training and education to fit with local working practices and staffing. This will enhance the National Safety Standards for Invasive Procedures (NatSIPPs), and mitigate risk of never events, serious incidents or near misses. It will also provide a process for analysis or learning.

3. Definitions

A **Tracheostomy** is an opening created at the front of the neck so a tube can be inserted into the trachea to help a person to breathe. The tube can then be connected to an oxygen supply and ventilator if required. A tracheostomy can be created with an open surgical or a percutaneous dilation technique. The open surgical technique involves dissection of the anterior pre-tracheal tissue and insertion of a tracheostomy tube under direct visualisation, in an operating theatre. The percutaneous technique can be performed promptly and safely at the bedside in an intensive care environment, using a modified Seldinger technique under bronchoscopic guidance. This LocSSIP is intended to cover the percutaneous tracheostomy technique used in the intensive care unit (ICU), including the joint Ear, Nose and Throat (ENT) /ICU percutaneous tracheostomy plus procedures which may be performed in more challenging patients.

4. Governance and Audit

4.1. The Anaesthetics, Theatres and Critical Care (ACCT) governance group will monitor the implementation of this guideline and commission a bi-annual audit of adherence. See appendix 1 and Section 16.

4.2. This document incorporates the process undertaken as part of the WHO safer surgery checklist.

4.2.1. Patients must be assessed prior to the procedure and informed consent gained.

4.2.2. The procedure will be documented within the patient’s medical record on CareVue.

4.2.3. Significant morbidity events will be followed up via the Critical Care departmental morbidity and mortality process.

5. Workforce

5.1. Percutaneous tracheostomy insertion requires a minimum of 3 medical personnel. This includes the senior airway doctor (and bronchoscopist), the senior procedural doctor and the assistant.

5.2. All staff without appropriate competency should be supervised.

5.3. It is the responsibility of each member of staff to comply with these set of standards and escalate any concerns regarding competence. Incidents, near misses must be reported in the Datix system. All staff will communicate and work as a team and speak out if they have any concerns underpinned by undertaking annual training i.e. WHO, Patient Safety (human factors) Freedom to Speak up on ESR.

5.4. Training - Clinicians performing the intervention should have sound knowledge and experience of advanced airway management and airway anatomy. They should also be able to demonstrate their understanding of the difficult airway algorithm, and know how to manage a 'can't intubate, can't ventilate' situation. They should also be prepared for potential complications, e.g. bleeding and how to rectify these, and also where further senior help can be sought in an emergency. If a difficult percutaneous tracheostomy is anticipated, there needs to be 2 consultant anaesthetists present and ENT involvement.

5.5. It is the responsibility of each member of staff, i.e. doctors/nurses involved in the procedure outlined, to work within their scope of competence under the terms of their professional body i.e. the General Medical Council 'Good Medical Practice' or the Nursing and Midwifery Council Code of Professional Standards for Conduct'.

6. Scheduling and List Management

COVID. Percutaneous tracheostomy insertion is an airway generating procedure (AGP). It is therefore necessary to follow current national and trust guidance in regard to AGPs.

7. Handovers and Information Transfer

7.1. The whole team is responsible for the safety of the patient. Insertion should proceed in a WHO safety checklist style as detailed on the ICU LocSSIP checklist: Percutaneous Tracheostomy.

7.2. **Prior to the procedure:**

7.2.1. Team members should confirm that the patient's identity is correct (with wristband and notes). If the patient has capacity, their identity will also be confirmed with them, and it will be re-confirmed that they understand the nature of the procedure to be performed.

7.2.2. A consent form (1 or 4 depending on capacity status) must have been completed and be present at the patient's bedside when confirming identity, site and procedure.

7.2.3. All staff members should introduce themselves and their roles and role allocation will take place.

7.2.4. Clinal examination, ultrasound, and ultrasound doppler of the neck is recommended prior to commencing. Not all vessels visualised are clinically significant, but the presence of significant abnormal arterial anatomy should trigger ENT involvement.

7.2.5. Confirm there is a suitable tracheostomy and equipment available. This includes the difficult airway trolley and a bronchoscope with angle piece available.

7.2.6. Consider the size of the patient's endotracheal tube and choice of bronchoscope. A size 8 ET tube (average size for male) will easily fit a medium sized bronchoscope, however a size 7 (average size for female) may require a smaller size in order to ventilate. Also consider the size of the tracheostomy tube in the Tracoe Percutaneous tracheostomy kit. If it is expected the patient will require a significant period of ventilatory support, at least a size 8.0 (for women) or 9.0 (for men). If they are expected to be a shorter respiratory wean, quickly moving to cuff down with no support early on, then a size down would also be appropriate. Consider whether an adjustable flange tracheostomy may be required.

7.2.7. If there is appropriate monitoring available including etC02.

7.2.8. Coagulation status should be checked and a group and save sent. Percutaneous tracheostomy should be avoided in patients with a significant coagulopathy or thrombocytopenia.

- For patients treated with unfractionated heparin, the infusion should be stopped 6 hours prior to the anticipated procedure time.

- If treated with a low molecular weight heparin (LMWH), the procedure should not be performed less than 12 hours following the last dose.

- If a patient is on warfarin, the drug should be decreased or stopped in plenty of time to ensure an INR of ≤ 1.5.

- For patients receiving newer agents (DOACS/ NOACs) such as apixaban or edoxaban, specialist advice should be taken from Haematology.

- Other coagulation disorders may merit correction with, for example, FFP or platelets. Discussion with the haematology consultant on call in more complex cases is advised. It may, for example, be more appropriate to wait for the cause of the coagulopathy to be successfully treated first such as in septic shock.

- Ideally, a platelet count should be above 50x109/l to reduce potential for significant bleeding problems. However, an individual risk assessment needs to be undertaken on a case-by-case basis.

- Consider the utility of recording a Thromboelastogram.

7.2.9. Allergy status confirmed.

7.2.10. Ensure 1% lignocaine with adrenaline 1:100,000 local anaesthesia available for the site.

7.2.11. Fasting status >6 hours. If NG in situ- is it aspirated?

7.3. **Time out:** ‘Prior to incision’ checklist should be completed as detailed on the ICU LocSSIP checklist: Percutaneous Tracheostomy

7.3.1. The patient should be mechanically ventilated with an FiO2 of 1.0 during the procedure and should be paralysed with an appropriate muscle relaxant. The Airway Operator should ensure that the patient is fully anaesthetised prior to administering paralysis and that sufficient maintenance anaesthesia is available. Emergency drugs should also be available.

7.3.2. Patient position should be optimised with the patient supine and straight with the neck extended far as possible by removing the pillow from under the head and placing a sandbag / pillow or similar device between the scapulae to achieve optimum position.

7.3.3. The Airway operator will aspirate the subglottic aspiration port of the endotracheal tube (ETT) if present to reduce the risk of pulmonary aspiration of any secretions and suction above the cuff with a suction device prior to deflation.

7.3.4. Decision needs to be made and verbalised regarding airway management. This could include

- Discuss airway management strategy: grade of intubation, technical challenges, bleeding risk etc. Consider doppler ultrasound of the neck to identify vessels.
- Deflate the ETT cuff and withdraw the ETT under direct vision with a laryngoscope to a suitable position below the cords to ensure that the initial tracheal puncture needle will be unimpeded as it enters the trachea. The most common position for the ETT tube is to visualise the cuff between the vocal cords. The cuff is reinflated to achieve an adequate seal for ventilation – this may require substantially more air than normally used for standard ETT placement.

- If the above fails to achieve adequate oxygenation and ventilation, it may be advisable to remove the ETT altogether and use a supraglottic airway device, such as an Laryngeal Mask Airway (LMA) or i-gel.

7.3.5. The cuff of the tracheostomy tube needs to be checked for integrity. The guidewire is checked, with the J tip made straight using the wire sheath and guide.

7.3.6. Confirm sterility of operating doctor and equipment.

7.3.7. The skin is prepared with a solution of 2% Chlorhexidine in 70% isopropyl alcohol (Chloroprep). This should be applied and allowed to evaporate twice prior to insertion of the initial tracheal puncture needle. A sterile drape with suitable aperture will then be applied to the patient.

7.4. **Sign Out:** The following must be confirmed post procedure.

7.4.1. Tracheostomy position (with bronchoscope) and the distance from the tip of the tracheostomy tube to the carina is recorded. Consider suctioning down the tracheostomy prior to commencing ventilation.

7.4.2. Presence of C02 on capnography.

7.4.3. Appropriate ventilator settings and sedation for patient.

7.4.4. Whether or not there is an inner tube and tracheal dilator at bedside.

7.4.5. A Chest X-Ray should be performed to demonstrate the satisfactory position of the tracheostomy tube and to exclude complications such as pneumothoraces.

8. Procedural Verification and Site Marking

The team involved in the procedure will participate in the combined safety check as per the relevant checklist in the appendices. The following information should be confirmed and agreed by the team with the involvement of the patient where possible. Marking of the site is not normally required for percutaneous tracheostomy.

9. Safety Briefing

If any issues have arisen or problems such as equipment difficulties, a debriefing is to be undertaken and recorded by the responsible practitioner in the patient note, and a Datix completed if appropriate.

10. Sign In

See section 7.1

11. Time Out

See section 7.2

12. Prosthesis Verification

The procedure should be documented in ‘procedures’ on CareVue. Tube size, time inserted and length secured at skin must be documented clearly at patient bedside.

There must also be an inner tube and tracheal dilator at the bedside, and the bronchoscope should remain at the bedside for 2 hours post procedure once cleaned.

13. Prevention of Retained Foreign Objects

Any sharps used during the procedure need to be safely accounted for and/or disposed of by the Anaesthetist/ Intensivist undertaking the procedure. Sharps should be disposed of in accordance with the Trust Sharps Policy.

14. Sign Out

See section 7.4

15. Debriefing

All members of the team must feel comfortable to contribute to the discussion and raise any queries or concerns.

16. Dissemination and Implementation

16.1. The document is available on the document library. Significant updates will be communicated via Trust wide email.

16.2. Implementation of the policy will be via Trust wide communication and supported by appropriate training for the relevant members of staff.

17. Monitoring compliance and effectiveness

Information Category	Detail of process and methodology for monitoring compliance
Element to be monitored	Dr Richard Hunt (Critical Care Consultant)
Lead	Audit CareVue procedure form which acts to review the safety of the procedure. Any emerging trends, areas of failure within this procedure list will be discussed and rectified
Tool	This is monitored for each patient, an automatic report completed on CareVue 3-6 monthly.
Frequency	The report will be shared with the ACCT Governance Huddle
Reporting arrangements	Dr Richard Hunt , Governance lead for Critical Care, in conjunction with Governance service lead and theatre matron/service lead appropriate to the findings.
Acting on recommendations and Lead(s)	Change in Practice will be shared through the Critical Care team and wider Trust if appropriate via Team Brief, Governance Days and email.

Information Category	Detail of process and methodology for monitoring compliance
Change in practice and lessons to be shared	Dr Richard Hunt (Critical Care Consultant)

18. Updating and Review

18.1. The document review process is managed via the document library. Document review will be every three years unless best practice dictates otherwise. The author remains responsible for the policy document review. Should they no longer work in the organisation or in the relevant practice area then an appropriate practitioner will be nominated to undertake the document review by the designed director.

18.2. Revision activity will be recorded in the versions control table to ensure robust document control measures are maintained.

19. Equality and Diversity

19.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Inclusion and Human Rights Policy' or the Equality and Diversity website.

19.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Information Category	Detailed Information
Document Title:	LocSSIP Guideline for: Percutaneous Tracheostomy V2.0
This document replaces (exact title of previous version):	LocSSIP Guideline for: Percutaneous Tracheostomy V1.0
Date Issued/Approved:	5 May 2025
Date Valid From:	August 2025
Date Valid To:	August 2028
Directorate / Department responsible (author/owner):	Kym Vigus, Acting Critical Care Matron
Contact details:	01872 252525
Brief summary of contents:	Process to be followed for insertion of tracheostomies on patients within Critical Care.
Suggested Keywords:	LocSSIP, tracheostomy, safety, invasive.
Target Audience:	**RCHT:** Yes **CFT:** No **CIOS ICB:** No
Executive Director responsible for Policy:	Chief Medical Officer
Approval route for consultation and ratification:	ACCT Care Group Governance Meeting. ACCT Care Group Board.
General Manager confirming approval processes:	Doug Riley
Name of Governance Lead confirming approval by specialty and care group management meetings:	Suzanne Barber Interim
Links to key external standards:	None required
Related Documents:	'Percutaneous Tracheostomy Insertion Checklist'. (CareVue → X-links → Governance→ SOPs → Checklists).
Training Need Identified?	No

Information Category	Detailed Information
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet and Intranet
Document Library Folder/Sub Folder:	Clinical / Critical Care and Resuscitation

Version Control Table

Date	Version Number	Summary of Changes	Changes Made by
March 2022	V1.0	Initial issue	Dr Gabriella Clark, ACCS Anaesthetics CT3
May 2025	V2.0	Minor spelling and grammar corrections	Kym Vigus, Acting Critical Care Matron

All or part of this document can be released under the Freedom of Information Act 2000.

All Policies, Strategies and Operating Procedures, including Business Plans, are to be kept for the lifetime of the organisation plus 6 years.

This document is only valid on the day of printing.

Controlled Document.

This document has been created following the Royal Cornwall Hospitals NHS Trust The Policy on Policies (Development and Management of Knowledge Procedural and Web Documents Policy). It should not be altered in any way without the express permission of the author or their Line Manager.

Appendix 2. Equality Impact Assessment

Section 1: Equality Impact Assessment (EIA) Form

The EIA process allows the Trust to identify where a policy or service may have a negative impact on an individual or particular group of people.

For guidance please refer to the Equality Impact Assessment Policy (available from the document library) or contact the Equality, Diversity and Inclusion Team rcht.inclusion@nhs.net

Information Category	Detailed Information
Name of the strategy / policy / proposal / service function to be assessed:	LocSSIP Guideline for: Percutaneous Tracheostomy V2.0
Directorate and service area:	Critical Care, ACCT
Is this a new or existing Policy?	New
Name of individual completing EIA (Should be completed by an individual with a good understanding of the Service/Policy):	Kym Vigus, Acting Critical Care Matron
Contact details:	01872 253152

Information Category	Detailed Information
1. Policy Aim - Who is the Policy aimed at? (The Policy is the Strategy, Policy, Proposal or Service Change to be assessed)	To give safety and process guidance to Critical Care staff performing tracheostomies.
2. Policy Objectives	Process to be followed for tracheostomy within the Critical Care team, ensuring safe and effective use.
3. Policy Intended Outcomes	To ensure all staff are following an accepted safe method of tracheostomy insertion.
4. How will you measure each outcome?	Audit of Carevue, debrief following each patient.
5. Who is intended to benefit from the policy?	Staff, patients, RCHT.

Information Category	Detailed Information
6a. Who did you consult with? (Please select Yes or No for each category)	• Workforce: Yes • Patients/ visitors: No • Local groups/ system partners: Yes • External organisations: No • Other: No
6b. Please list the individuals/groups who have been consulted about this policy.	**Please record specific names of individuals/ groups:** Critical Care Business Meeting. ACCT Governance Huddle.
6c. What was the outcome of the consultation?	Approved.
6d. Have you used any of the following to assist your assessment?	**National or local statistics, audits, activity reports, process maps, complaints, staff or patient surveys:** No.

7. The Impact

Following consultation with key groups, has a negative impact been identified for any protected characteristic? Please note that a rationale is required for each one.

Where a negative impact is identified without rationale, the key groups will need to be consulted again.

Protected Characteristic	(Yes or No)	Rationale
Age	No	
Sex (male or female)	No	
Gender reassignment (Transgender, non-binary, gender fluid etc.)	No	
Race	No	
Disability (e.g. physical or cognitive impairment, mental health, long term conditions etc.)	No	
Religion or belief	No	
Marriage and civil partnership	No	

Protected Characteristic	(Yes or No)	Rationale
Pregnancy and maternity	No	
Sexual orientation (e.g. gay, straight, bisexual, lesbian etc.)	No	

A robust rationale must be in place for all protected characteristics. If a negative impact has been identified, please complete section 2. If no negative impact has been identified and if this is not a major service change, you can end the assessment here.

I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy.

Name of person confirming result of initial impact assessment: Gemma Ball, Acting Critical Care Matron.

If a negative impact has been identified above OR this is a major service change, you will need to complete section 2 of the EIA form available here:
Section 2. Full Equality Analysis