Royal Cornwall Hospitals
NHS Trust

Avoidance of Foreign Body Aspiration During Intubation, Advanced Airway Management or Ventilation Clinical Guideline

V2.0

April 2025

Summary

When preparing for advanced airway management care must be taken to avoid inadvertent insertion of a foreign body into the airway.

Airway Equipment must:

- Be prepared on a **dedicated** trolley free from other items.
- Be stored in original packaging or covered with a drape.
- Not include any untethered ports or port caps.
- Be safe from loose items: breathing circuits must be attached to circuit mount or capped off when not in use.
- Be free from fragments of paper or plastic.
- Be checked thoroughly before and in-between patients for obstructing items.

In areas where advanced airway management takes place:

Monitoring electrodes must be:

- Backed with large sheets that must **not be cut** into smaller pieces **OR**
- Backed with coloured or patterned sheets.

Care must be taken when preparing other equipment:

- Intravenous (IV) access, Intra-arterial (IA) access, Central Venous (CV) access.
- Sets can include small caps and bungs. Store well away from airway trolley or put directly into a bin.
- Miscellaneous Items:
- Syringe caps, bungs, tympanic thermometer covers, drug ampoule caps, and other small items must be kept well away from the airway trolley or put directly into a bin.

Place anaesthetic breathing circuits onto the circuit mount on the anaesthetic machine when not connected to a patient. Alternatively, they may be capped with the supplied bespoke cap.

1. Aim/Purpose of this Guideline

1.1. This guideline is designed to advise on measures to prevent foreign body aspiration during advanced airway management, with guidance for when foreign body aspiration is suspected.

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

Data Protection Act 2018 (UK General Data Protection Regulation – GDPR) Legislation.

The Trust has a duty under the Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed, and documented. We cannot rely on opt out, it must be opt in.

Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 please see the Information Use Framework Policy or contact the Information Governance Team.

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2. The Guidance

2.1. A National Patient Safety Alert (1) was released in September 2020 following a number of incidents where a foreign body (FB) was inadvertently introduced into the airway during airway management (foreign body aspiration). This led to unnecessary complications and harm to the patients involved. Unrecognized foreign body aspiration can lead to immediate partial or total airway obstruction which can be fatal if not rectified. It can also lead to more insidious post-operative breathing problems which may be misdiagnosed as asthma, COPD, recurrent pneumonia.

2.2. In a recent six year period, five incidents have been reported where a FB was aspirated, and a further four incidents where the FB was identified during intubation and removed. The most common items involved were transparent backing from ECG electrodes and plastic caps of uncertain origin.

2.3. It is possible that foreign bodies end up in airway equipment both accidentally and by malicious intent. It is the responsibility of all staff caring for these patients to ensure equipment is safe and ready to use prior to commencing any airway intervention.

This pathway relates to the following staff who may be involved in the care of patients who are undergoing or recovering from advanced airway management.

- Anaesthetists or medical staff in ICU/ED.

- ODP or nurses working in theatres or recovery.

- Nurses working in ICU or outreach.

2.4. Role of the Managers

Line managers are responsible for ensuring this guideline is disseminated to the appropriate staff and reviewed in an appropriate timeframe.

2.5. Role of the ACCT Review Group

The ACCT Group is responsible for reviewing the guideline and monitoring its implementation.

2.6. Role of Individual Staff

All staff members are responsible for ensuring they have read this guideline and refer to it when undertaking advanced airway management or the complication of foreign body aspiration.

2.7. Airway Equipment

- Airway equipment must be stored in a dedicated trolley and when laid out in preparation for an airway procedure should be on a trolley surface free from any other items (e.g. monitoring or infusion equipment).

- All airway equipment must be kept safe from miscellaneous items falling into or onto it. Where possible, keep airway equipment in its original packaging (this can be opened for lubrication to be applied if needed), or if this is not possible, cover airway trolleys with a suitable protective covering (e.g. inco-pad or sterile drape).

- Beware when opening items that small fragments of torn plastic or paper packaging can become adherent to face masks / lubricated airway devices. These small fragments must be removed from the clinical area and discarded.

- All anaesthetic breathing circuits need to be kept either attached to the anaesthetic machine at the circuit mount or capped off using the supplied cap when not in use.

- No ventilatory equipment should have untethered ports or caps. If any equipment is found or still in use with untethered ports or caps this should be immediately removed from the clinical area and a manager notified.

- Before and in-between every case/ patient, breathing and ventilatory equipment should be checked. Confirm that the breathing circuit can be pressurised and that gas is able to flow freely through all components. Particular care should be taken to examine angle pieces and HME filters for patency and foreign bodies, and any other part of the circuit that could become occluded by a foreign body.

2.8. Monitoring Equipment

- All monitoring equipment should be prepared on a different trolley to airway equipment.
- All Electrocardiogram(ECG) / ECT/ Nerve monitoring electrodes must have either large sheet backing for multiple electrodes or fully coloured or patterned individual backing in all areas where intubation or advanced airway management regularly occurs.
- Any large sheet backing for electrodes must not be cut into smaller or individual pieces.

2.9. Intravenous Infusions, Extensions, Three-Way-Taps and Arterial and Central Venous Monitoring

- All intravenous lines, extensions and pressure monitoring sets should be prepared on a separate surface to airway equipment.
- Where loose or extra items exist in these sets please discard them immediately into an appropriate bin and do not leave them on any surface, trolley, or tray which could come into contact with any airway equipment.

2.10. Miscellaneous Items

- All intravenous lines, extensions and pressure monitoring sets should be prepared on a separate surface to airway equipment.
- Where loose or extra items exist in these sets please discard them immediately into an appropriate bin and do not leave them on any surface, trolley, or tray which could come into contact with any airway equipment.

2.11. When Foreign Body Aspiration is Suspected

- If foreign body aspiration is suspected (or in unexpected airway obstruction where the patient has received an airway intervention).

    1) Apply 100% oxygen (turn up flow and increase $Fi0_2$ to 1.0)
    2) Call for senior help
    3) Assess the flow of gas from the wall to the patient.
        a. Is there an obvious obstruction in the breathing circuit?
        b. Is there an obvious obstruction to the patients' airway?
    4) If cause is uncertain replace breathing circuit with an alternative means of oxygenation (e.g. checked Ambu-bag or Water's circuit), while the patency of the breathing circuit is confirmed.

5) Once circuit patency is confirmed continue to deliver 100% oxygen to the patient (with assisted breaths as needed) and continue to assess the patient for the cause of the airway obstruction. Listen to their chest to check for wheeze or stridor, unequal or absent breath sounds. Check for bilateral chest movement.

6) Check the airway device being used is patent (airway adjunct, LMA, ETT), replace if needed.

7) Continue to deliver anaesthesia by an alternative means if indicated.

8) Treat any medical cause for airway obstruction such as asthma, bronchospasm, anaphylaxis.

9) If foreign body is still suspected consider further appropriate investigations as indicated and laryngoscopy if trained to do so, or fibreoptic or rigid bronchoscopy by an appropriate team.

10) Be wary of excessive positive pressure whilst ventilating the patient before removal of a foreign body as partial airway obstruction may be converted to complete airway obstruction.

11) After removal of the foreign body take care to assess the airway and respiratory tract for injury/ swelling/ infection and treat carefully. If excessive swelling or trauma to the airway consider admission to ICU for delayed extubation. Monitor the patient in a safe environment with airway trained personnel until well enough to return to ward based care.

3. Monitoring compliance and effectiveness

Information Category	Detail of process and methodology for monitoring compliance
Element to be monitored	Compliance with procurement of appropriate monitoring equipment. Adherence to best practice in airway kit preparation. Compliance with intubation safety checklists.
Lead	Kelly O'Toole (Anaesthetic Practitioners). Mark Lambert (Anaesthetists). Local leads will be responsible for maintaining standards in their own areas (e.g. ED, Mental Health, Radiology, Neonatal).
Tool	Datix tool to collect any adverse incidents. Compliance with safety checklists.
Frequency	Annually
Reporting arrangements	Anaesthetic Leads and Governance Committee. Local leads will be responsible for reporting standards in their own areas (e.g. ED, Mental Health, Radiology, Neonatal).
Acting on recommendations and Lead(s)	Anaesthetic Leads and Governance Committee. Local leads will be responsible for acting on deficiencies in their own areas (e.g. ED, Mental Health, Radiology, Neonatal).

Information Category	Detail of process and methodology for monitoring compliance
Change in practice and lessons to be shared	Required changes to practice will be identified and actioned within 6 months. A lead member of the team will be identified to take each change forward where appropriate. Lessons will be shared with all the relevant stakeholders.

4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the Equality Diversity And Inclusion Policy or the Equality and Diversity website.

4.2. Equality Impact Assessment

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

Appendix 1. Governance Information

Information Category	Detailed Information
Document Title:	Avoidance of Foreign Body Aspiration During Intubation, Advanced Airway Management or Ventilation Clinical Guideline V2.0
This document replaces (exact title of previous version):	Avoidance of Foreign Body Aspiration During Intubation, Advanced Airway Management or Ventilation Clinical Guideline V1.0
Date Issued/Approved:	November 2024
Date Valid From:	April 2025
Date Valid To:	April 2028
Directorate/Department responsible (author/owner):	Dr Jack Whiteley, ST4 Anaesthetist. Dr Libby Fontaine, Consultant Anaesthetist. Dr Mark Lambert, Consultant Anaesthetist and Airway Lead.
Contact details:	01872 252792
Brief summary of contents:	Guideline to ensure safety and avoidance of inadvertent foreign body aspiration during airway intervention, intubation and ventilation. Includes guidance on airway equipment preparation and safety checks, and advice regarding other equipment used in these areas.
Suggested Keywords:	Airway, Intubation, Ventilation, Foreign Body, Aspiration.
Target Audience:	**RCHT:** Yes **CFT:** No **CIOS ICB:** No
Executive Director responsible for Policy:	Chief Medical Officer
Approval route for consultation and ratification:	Anaesthetic Dept Governance Meeting
Manager confirming approval processes:	Doug Riley

Information Category	Detailed Information
Name of Governance Lead confirming consultation and ratification:	James Masters
Links to key external standards:	Non required.
Related Documents:	NHS England. National Patient Safety Alert- Foreign Body Aspiration During Intubation, Advanced Airway Management or ventilation. September 2020. Available from: https://www.england.nhs.uk/publication/national-patient-safety-alert-foreign-body-aspiration-during-intubation-advanced-airway-management-or-ventilation/ Kendigelen P. The anaesthetic consideration of tracheobronchial foreign body aspiration in children. Journal of Thoracic Disease. 2016. 8 (12): 3803-3807. Available from: www.ncbi.nlm.nih.gov/pmc/articles/PMC5227208/ Bould MD. Essential notes: the anaesthetic management of inhaled foreign body in a child. BJA Education. 2019. 19 (3): 66-67. Available from: https://bjaed.org/action/showPdf?pii=S2058-5349%2819%2930015-0
Training Need Identified?	Yes. Departmental governance.
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet and Intranet
Document Library Folder/Sub Folder:	Clinical / Anaesthetics

Version Control Table

Date	Version Number	Summary of Changes	Changes Made by
25/04/2021	V1.0	Initial issue	Dr Libby Fontaine (ST7 Anaesthetics)
November 2024	V2.0	Reformat to new Policy and Procedure Template.	Dr Jack Whiteley (ST4 Anaesthetics)

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:	Avoidance of Foreign Body Aspiration During Intubation, Advanced Airway Management or Ventilation Clinical Guideline V2.0
Directorate and service area:	ACCT, Theatres
Is this a new or existing Policy?	Existing
Name of individual completing EIA (Should be completed by an individual with a good understanding of the Service/Policy):	Dr Mark Lambert, Consultant Anaesthetist
Contact details:	01872 252792

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 guide staff in the process of a foreign body aspiration.
2. Policy Objectives	To guide staff through the process Foreign Body Aspiration is Suspected.
3. Policy Intended Outcomes	To guide staff through the process Foreign Body Aspiration is Suspected.
4. How will you measure each outcome?	Monitoring through audit, departmental feedback, and discussion at governance meetings.
5. Who is intended to benefit from the policy?	Patients

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:** Anesthetists via group email and governance meeting.
6c. What was the outcome of the consultation?	Agreed
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: Dr Mark Lambert, , Consultant Anaesthetist and Airway Lead.

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