East Midlands Ambulance Service NHS Trust

AIRWAY MANAGEMENT POLICY

Links

The following documents are closely associated with this policy:

- Surgical Airway SOP
- Pharmacologically Assisted Laryngeal Mask Procedure
- Implementation of National Guidance and Information Policy
- Community First Responder Policy
- Medical First Responder SOP
- Untoward Incident Reporting Procedure

Document Owner :	**Medical Director**
Document Lead:	**Consultant Paramedic**
Document Type:	**Policy**
For use by:	**Operations staff**

Equality Impact Assessment	February 2018

This document has been published on the:	
Name	**Date**
Library (EMAS Public Drive)	25 April 2018
Intranet	25 April 2018

Version Control	**Document Location** If using a printed version of this document ensure it is the latest published version. The latest version can be found on the Trust's Intranet site.

Version	Date Approved	Publication Date	Approved By	Summary of Changes
1.0	16 March 2016	12 April 2016	Clinical Governance Group	New policy for EMAS Trust
2.0	21 February 2018	25 April 2018	Clinical Governance Group	Document review and update - Addition of urgent care assistants - Mandating waveform capnography (clarification) - Updated job roles

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1. Introduction

1.1. Airway management is a primary clinical function of all operational staff and is inextricably linked with mortality and morbidity. Failure to manage and maintain the airway can lead to neurological dysfunction and even death within minutes.

1.2. Airway management is defined as the provision of a free and clear passageway for airflow. Obstruction of the airway may be partial or complete and occur at any level from the nose to the trachea.

1.3. Airway management procedures range from basic manoeuvres to advanced interventions, each with potential positive and negative impacts upon patient outcome.

1.4. Airway management in prehospital care is a complex and highly debated topic due to a limited evidence base, unknown impact of interventions and a lack of standard practice.

2. Objectives

2.1. The objectives of this policy are to:

- Ensure an evidence based approach to airway management is used by all operational staff within the Trust.
- To ensure that standardized, safe and effective methods of airway management are used for all patients who require airway support or intervention.
- To ensure compliance with clinical safety standards and best practice.
- To ensure that the Trust review current best practice to provide appropriate airway intervention and support, through education, equipment and care delivery.

3. Scope

3.1. This policy outlines the overarching framework for airway management in all patients attended to by East Midlands Ambulance Service NHS Trust.

3.2. This policy applies to all clinical staff including community first responders, Emergency Care Assistants, Urgent Care Assistants, Emergency Medical Technicians/Associate ambulance practitioners, Paramedics, Emergency Care Practitioners and other registered healthcare practitioners utilised for clinical intervention in the course of EMAS operational duties. Where EMAS hold governance it will also apply to registered medical practitioners.

3.3. This policy will not set the explicit educational and assessment criteria but sets the timeframes for these activities and a framework for completion.

4. Definitions

4.1. **Airway Management** is defined as the provision of a free and clear passageway for airflow. Obstruction of the airway may be partial or complete and occur at any level from the nose to the trachea.

4.1.1. **Basic Airway Management** consists in simple manual airway manoeuvres and basic adjuncts such as oropharyngeal airways, suction and nasopharyngeal airways.

4.1.2. **Advanced Airway Management** consists of more invasive interventions including; supraglottic airway devices, tracheal intubation and cricothyroidotomy.

5. Responsibilities

5.1. **The Medical Director** is responsible for ensuring**:**

5.1.1. This policy is developed, monitored and reviewed in line with current clinical guidance on an annual basis.

5.1.2. That related Performance Indicators and subsequent action plans are regularly reviewed by the clinical team in collaboration with the Divisions and reported back to the appropriate forum.

5.1.3. Advice is provided to the Director of People and Engagement on the requirements of training for all staff.

5.1.4. Advice is provided to the Operational Management Teams on the requirements for equipment.

5.2. **The nominated Consultant Paramedic** is responsible for:

5.2.1. Ensuring that the policy is based upon current best evidence and informing the Medical Director as required.

5.2.2. Promoting and leading appropriate airway management interventions.

5.2.3. Developing and challenging airway management provision based upon best evidence.

5.3. **The Clinical Governance Group** are responsible for ensuring**:**

5.3.1. That airway management procedures are evidence based and best practice through evidence review.

5.3.2. That any new evidence or proposed change is escalated to the Clinical Governance Group to inform policy/procedure development as appropriate.

5.4. **Locality Management teams** are responsible for ensuring**:**

5.4.1. The provision of suitable and sufficient equipment as per equipment inventory requirements.

5.4.2. Staff within their area of responsibility attend training/education on airway management in line with the approved Education Training plan.

5.4.3. Key performance Indicators and compliance are monitored with subsequent actions taken for non-compliance.

5.4.4. Ensuring the local management and clinical facilitation teams provide airway management assessment and review with allocated staff as per the airway management education plan.

5.5. **Director of Human Resources and Organisational Development** is responsible for**:**

5.5.1. The provision of suitable and sufficient airway management education training and simulation equipment for all staff through our education teams.

5.5.2. The production of regular reports on training to include both attendance and non-attendance in relation to airway management standards.

5.4 **Operational Staff** are responsible for:

5.4.1 Complying with this policy and the associated procedures and raising concerns, near misses and adverse incidents are per incident reporting policy.

5.4.2 Ensuring that they remain up to date in their knowledge and skills and apply these when appropriate.

5.4.3 Completion of educational requirements of the airway management education plan to include completion of required airway management logs [Appendix 2].

6. Evidence Based Airway Intervention

6.1. The Trust recognises the need to ensure that procedures and interventions are evidence based and in line with best practice.

6.2. The Trust will seek to continuously review airway management care through the use of current National guidance and wider evidence base. This will be monitored by the Clinical Effectiveness Group as identified by the Implementation of National Guidance and Information Policy.

7. Levels of Intervention

7.1. The Trust recognises that each clinical grade of staff will have a specific scope of practice that will guide their clinical practice and agreed level of intervention.

7.2. It is essential that each clinical grade within the organization and associated lay responder has an awareness of their scope of practice / limitations of scope and that this is adhered to. This is detailed in table 1 below and is stated within each individual scope of practice document for clinical grade.

7.3. The clinical grade of staff member will set the expected level of performance and competence related to that grade. Failure to adhere to this or demonstrate competence to that grade will be managed under EMAS Disciplinary Policy or Capability Policy.

	Community First Responder	Urgent Care Assistant	Emergency Care Assistant	Ambulance Technician/AAP	Paramedic and Specialist Paramedic roles	Nurse (subject to role requirements and training needs analysis)
Head-Tilt-chin lift	X	X	X	X	X	X
Jaw thrust	Subject to educational level	X	X	X	X	X
Oropharyngeal airway	X	X	X	X	X	X
Nasopharyngeal airway			X	X	X	X
Supraglottic airway device (iGel/LMA)			X	X	X	X
Tracheal intubation (>8 yrs of age)					X (subject to TNA on appointment)	Enhanced skill only
Tracheal intubation (<8 yrs of age)					Enhanced skill only	
Needle cricothyroidotomy					X	Enhanced skill only
Surgical cricothyroidotomy					Enhanced skill only	Enhanced skill only

Table 1: Clinical grade and permitted airway management techniques.

Key: X = within scope of practice

Enhanced skills only = skill may be practice only following Trust approved competence pathway and agreement from Medical Director.

8. A step-wise approach to airway management

8.1. Appropriate airway management should involve a stepwise process progressing from the least invasive to the most invasive technique is adopted. A clinician may choose to miss out certain steps based upon patient need but a risk-benefit analysis should be undertaken to ensure the most appropriate intervention is used.

8.2. To ensure a stepwise approach to airway management these processes are set out within Airway Management Procedure contained in **Appendix 2.**

9. Equipment

9.1. In order to provide equitable, safe and effective airway management all operational vehicles will have provided a standardised airway equipment inventory.

9.2. This inventory will be based upon current best practice as indicated by the JRCALC/AACE, National Association of Medical Directors and clinical guidance as identified by the Implementation of National Guidance and Information Policy.

9.3. The equipment inventory will be agreed by the Clinical Governance Group and Supplies and Equipment Working Group and clearly inventoried.

9.4. Any defective or missing equipment should be identified as part of the vehicle equipment check as identified within the Safer Ambulance Check Standard Operating Procedure. This should be rectified immediately or raised with a line manager and via normal Trust incident reporting procedures.

10. Paediatric Airway Management

10.1. The advanced management of a paediatric patient can be complex and infrequently experienced.

10.2. The requirement for specialized equipment and education means that advanced methods are potentially subject to significant skill decay.

10.3. Basic airway management intervention and rapid conveyance should be the primary function in an airway compromised paediatric patient wherever possible.

10.4. Emphasis should be placed upon simple methods well performed as opposed to complex methods poorly performed.

10.5. The Trust do not advocate the use of endotracheal intubation in patients under 8 years of age due to limited evidence of benefit and the need for specialist knowledge / skill. These patients should be managed using basic methods or supraglottic airway devices as appropriate. Only those with an agreed extended scope of practice will provide endotracheal intubation in those under 8 years of age.

10.6. Laryngoscopy will still be permitted and advocated for ALL paramedics (and appropriately trained technicians) as this allows for the assessment and management of the choking child / airway obstruction – this does not mean endotracheal intubation.

11. Capnography and End Tidal CO2 [ETC02]

11.1. Waveform ETCO2 MUST be used and recorded on all endotracheal intubations; in the event that ETCO2 is not available **endotracheal intubation must not be used** and a suitable supraglottic airway device inserted.

11.2. In the event that ETCO2 is not available this must be raised to a line manager and via normal Trust incident reporting processes.

11.3. Due to the risk of endotracheal tube displacement the correct placement of a tracheal tube or Supraglottic Airway Device must be checked and recorded following all patient movements or significant events in the care episode.

11.4. Failure to assess and record ETC02 will be managed under the relevant conduct or capability procedure.

12. Documentation

12.1. All episodes of airway management MUST have clearly documented checks for the efficacy of actions placed on the patient record.

12.2. All endotracheal intubation placements MUST have ETCO2 documented. This is a MANDATORY field. Other confirmation checks may also be recorded as they complement this but must NEVER replace the use and recording of ETCO2.

12.3. ETCO2 should also be recorded on all supraglottic airway device insertions where available.

13. Extended Scope of Practice in Airway Management

13.1. The Trust acknowledges that certain roles within the Trust may have additional airway management skills within the defined scope of practice.

13.2. Such extended interventions will be controlled by specific standard operating procedures which will detail the level of education, competence assessment, equipment requirements.

13.3. Any extended scope of practice will be subject to the governance processes of The Clinical Governance Group and agreement of the Medical Director.

14. Education, Training and Assessment

14.1. All staff must ensure that they are competent and skilled in the airway management skills required for their job role as specified in table 1. Any areas of skill deficiency must be raised with their line manager or clinical lead as a priority and an action plan implemented via a supportive process.

14.2. The management of the patient airway will be assessed on an **annual basis** through a range of mechanisms coordinated through the Organisational Learning Team .Assessments may be carried out by a clinical team mentor or other appropriate and agreed role within the Trust. This will be assessed using a standardised template to ensure equity and objectivity.

14.3. All staff must complete an annual airway management logbook [Appendix 2] . This log will be assessed by either a clinical tutor, clinical team mentor or other appropriate and agreed role within the Trust. This logbook MUST be reviewed and recorded annually during the annual education process OR appraisal process. Failure to adhere to this or demonstrate competence to that grade will be managed under EMAS Disciplinary Policy or Capability Policy.

14.4. Any identified areas of clinical practice or competency concern / deficiency will be managed as per guidance set out within the EMAS Supporting Capability Policy.

15. Audit and Incident Reporting

15.1. The management of advanced airway procedures (SAD/endotracheal Intubation/Needle cricothyroidotomy/surgical airway) will be subject to regular monthly audit. These will primarily focus upon the use of ETCO2 monitoring however

management quality and decision making will also be reviewed as a part of the clinical supervision process.

15.2. The audit process will inform future developments of the airway management process and be fed back via the Clinical Governance Committee.

15.3. Any failure of equipment, missing equipment of untoward incident must be reported as per the untoward incident reporting policy.

16. Consultation

16.1. This policy has been shared with the appropriate clinical leads with the Trust.

17. References

- Joint Royal Colleges Ambulance Liaison Committee / AACE (2016/7) UK Ambulance Service Clinical Practice Guidelines.
- European Resuscitation Council (2015) European Resuscitation Guidelines. *Resuscitation*. 81. 1219-1286.
- National Ambulance Service Medical Directors (2014) Paediatric Minimum Equipment Standards. NASMeD, London.
- College of Paramedics (2018) Consensus statement upon intubation (Draft)

18. Monitoring Compliance and Effectiveness of the Policy

18.1. The management of advanced airway procedures (SAD/ Intubation/ Needle cricothyroidotomy/ surgical airway) will be subject to regular monthly audit. These will primarily focus upon the use of ETCO2 monitoring however management quality and decision making will also be reviewed as a part of the clinical supervision process.

Appendix 1:

Plan for Dissemination of Procedural Document

Title of document:	**Airway management policy**		
Version Number:	**2.0**	**Dissemination lead: Print name, title and contact details**	**Ian Mursell**
Previous document already being used?	**No**		
Who does the document need to be disseminated to?	**All clinical staff (Paramedic, Nurse, ECP, Technician, Paramedic, CFR, EMICS, Bank clinicians, Urgent care assistants)**		
Proposed methods of dissemination: **Including who will disseminate and when** Some examples of methods of disseminating information on procedural documents include: *Information cascade by managers* *Communication via Management/ Departmental/Team meetings* *Notice board administration* *Articles in bulletins* *Briefing roadshows* *Posting on the Intranet*	**Green bulletin** **ENEWS article** **Workshops – divisional** **Circulated via CFR leads / EMICs leads** **EMAS comms direct email** **PDR/ IPR process**		

Note: Following approval of procedural documents it is imperative that all employees or other stakeholders who will be affected by the document are proactively informed and made aware of any changes in practice that will result.

Appendix 2:

Airway Management Stepwise Procedure

1. Standard Precautions / Infection Prevention and Control

1.1. No situation is so urgent that Standard Precautions for infection control are not required.

1.2. As a minimum gloves must be worn for all contact that involves (or potentially involves) invasive procedures or exposure to body fluids.

1.3. Basic hand hygiene is an essential component of healthcare. Hands should be washed with soap and water whenever possible. Detergent wipes or alcohol gel should be used when soap and water are not available.

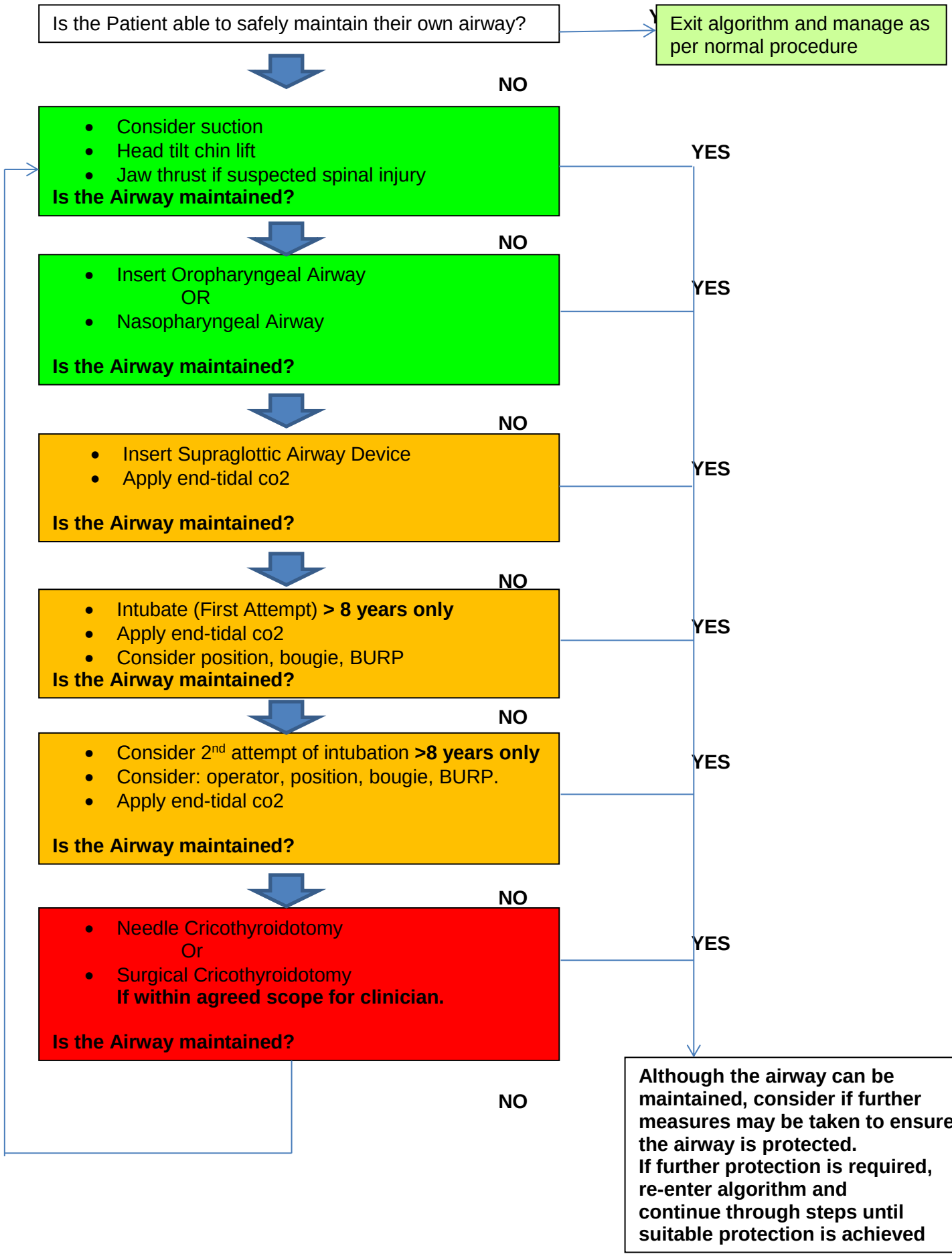
1.4. At the incident, before putting on gloves and after removing them, alcohol gel should then be applied to visibly clean hands.

1.5. The use of protective goggles is strongly advised especially when there is an identified risk of blood splash or other bodily fluids.

1.6. It is essential that all relevant IPC procedures are adhered to in the performance of airway management procedures.

2. A Stepwise Approach to Airway Management

2.1. Appropriate airway management should involve a stepwise process progressing from the least invasive to the most invasive technique is adopted. A clinician may choose to miss out certain steps based upon patient need but a risk benefit analysis should be undertaken to ensure the most appropriate intervention is used. This is shown in figure 1 below.


Is the Patient able to safely maintain their own airway?
Exit algorithm and manage as per normal procedure
NO
YES
Consider suction
Head tilt chin lift
Jaw thrust if suspected spinal injury
Is the Airway maintained?
NO
YES
Insert Oropharyngeal Airway
OR
Nasopharyngeal Airway
Is the Airway maintained?
NO
YES
Insert Supraglottic Airway Device
Apply end-tidal co2
Is the Airway maintained?
NO
YES
Intubate (First Attempt) > 8 years only
Apply end-tidal co2
Consider position, bougie, BURP
Is the Airway maintained?
NO
YES
Consider 2nd attempt of intubation >8 years only
Consider: operator, position, bougie, BURP.
Apply end-tidal co2
Is the Airway maintained?
NO
YES
Needle Cricothyroidotomy
Or
Surgical Cricothyroidotomy
If within agreed scope for clinician.
Is the Airway maintained?
NO
Although the airway can be maintained, consider if further measures may be taken to ensure the airway is protected.
If further protection is required, re-enter algorithm and continue through steps until suitable protection is achieved

3. Basic Airway Management in Paediatric Patients

3.1. There are a number of key principles that must be considered when applying airway management to paediatric patients. These are highlighted in table 2 below:

Positioning	Self positioning in the conscious child is often the most suitable position Head down, body supported to allow back blows / chest thrust in upper airway obstruction
Manual Manoeuvres	Head Tilt, Chin Lift: Bring the child‟s head to a neutral position, taking care not to hyper extend the neck. Padding may be required beneath the shoulders. Jaw Thrust: Be sure not to have the tips of your fingers on the soft tissues under the neck
Suction	Use an appropriately sized suction catheter if available. An adult yankaeur catheter can be used, but the tip must be in sight. Aggressive suctioning can lead to bradycardia
Suction with a Laryngoscope	In young children a straight-bladed laryngoscope will generally create a better view of the lower airway The structures of the mouth are extremely delicate, and can be damaged during repeated airway manoeuvres
OP Airway	Ensure that you have the correct size, measured from the level of the incisors to the angle of the jaw OP airways should be placed under direct vision, with the aid of a tongue depressor or laryngoscope blade, rather than inserted upside down and then turned over. This avoids damage to the hard and soft palate
NP Airway	Because the nose is so narrow NP tubes are not generally used in paediatric prehospital care. The likelihood of success is reduced in a paediatric patient and the risk of harm elevated in the paediatric patient.
Bag valve mask ventilation (BVM)	Be sure to use an appropriately sized mask for the child's face. The mask should cover the mouth and nose, but not extend over the eyes Pull the face into the mask, taking care not to put pressure on the soft tissues under the mouth (causes airway obstruction) and the eyes (causes reflex bradycardia) Ventilation should be gentle, ensuring that there is just enough chest rise and fall to be obvious. Aggressive ventilation will lead to inflation of the stomach, which will increase pressure on the diaphragm and increase the risk of regurgitation and aspiration

Table 2: Paediatric Airway Management Principles

4. High Risk Airways

4.1. High risk patients include (but are not limited to) third trimester pregnancy, bariatric patients, airway burns, potential anaphylaxis, high level stroke patients and recent meals. This is due an increased risk of airway occlusion through foreign bodies or physiological responses to an insult (i.e. swelling).

4.2. It is important to note that airway procedures can also worsen a high risk airway therefore careful consideration is required.

4.3. The presence of these high risk factors should lower the threshold for advanced airway intervention through a risk: benefit analysis. Consideration should include:

4.4.

- Likelihood of airway risk
- Transport / conveyance time/distance
- Skillset and confidence of clinician
- Resources (team) at scene
- Likelihood of success of procedure

5. Documentation

5.1. All episodes of airway management MUST have clearly documented checks for the efficacy of actions placed on the patient record.

5.2. End tidal carbon dioxide monitoring is not mandated in basic airway management but can provide additional clinical information. If gained this should be recorded.

5.3. All endotracheal intubations must have a recorded ETCo2 and evidence on ongoing assessments of correct placement i.e. following patient movement.