6305.05 PEDIATRIC AIRWAY MANAGEMENT

INTRODUCTION

Respiratory compromise requiring intervention is rare in children and is encountered in only 1.5% of pediatric EMS transports.[1] Despite this, it remains the most common underlying cause of witnessed pediatric cardiac arrest.[2]

Successful airway management consists of uninterrupted oxygenation and ventilation which can be achieved through several methods. Competent decision-making, sound procedural skills and the paramedic's awareness of their scope and proficiency, as well as awareness of time to more advanced resources, are required when selecting the most appropriate strategy for the child.

PEDIATRIC VS ADULT AIRWAY ANATOMY AND PHYSIOLOGY

The underlying principles of airway assessment and management are similar in both pediatric and adult patients, but certain anatomic and physiologic differences must be considered.[3] These differences are most marked in the first 2 years of life but generally transition to adult anatomy by age 8.[4]

Key anatomic differences (Figure 1)[3]

- The occiput is relatively larger in infants, which leads to a higher degree of neck flexion in the supine position.
- The tongue, tonsils and adenoids are relatively large compared to jaw size which leads to loss of upper airway space with sedatives or altered level of consciousness.
- The airway has a small diameter and can easily be obstructed by secretions or foreign bodies.
- The larynx is small and located more anterior and cephalad in the neck.
- The infant esophagus, when distorted by a laryngoscope blade, can look remarkably like a larynx (the pseudo-larynx deception)
- The epiglottis is floppy, and omega shaped.
- The narrowest part of the airway is below the cords at the subglottic cricoid ring in children.
- The trachea is shorter, softer and is made up of more pliable tissue. Bronchial intubation is therefore more likely.

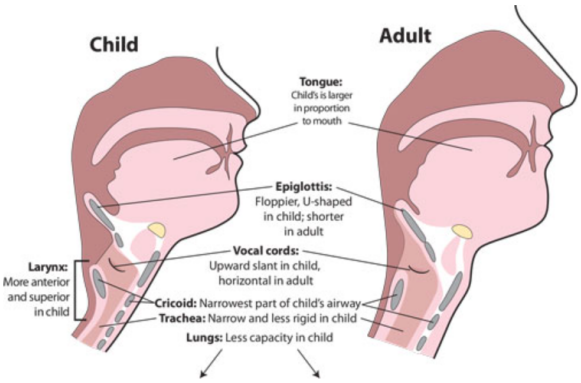

Figure 1. Key anatomic differences between pediatric and adult airway anatomy
Taken from jems.com

Important physiologic differences

- Low functional residual capacity (reduced oxygen reserve in the lung)
- High oxygen metabolism and oxygen consumption

This combination leads to more rapid onset of desaturation if the patient is apneic or making poor respiratory effort.[3]

These anatomic and physiologic differences mean that positioning and airway adjuncts can be very helpful.

Useful airway adjuncts include:

- Jaw thrust and head tilt-chin lift
- Oropharyngeal airway, particularly useful for relieving obstruction from the large tongue
- Suctioning of nares to relieve obstruction from discharge/secretions
- Shoulder rolls for infants and toddlers to ensure alignment of the airway and prevent flexion of the neck from misaligning the airway
- Supplemental oxygen as children have a high oxygen metabolism and low functional residual capacity

SAFETY

Aerosol generating medical procedures (AGMPs) are procedures that can generate aerosols when a patient's airway is manipulated. This increases infectious risks to the paramedic because a larger number of infectious particles are released and/or spread over longer distances. Currently, at the time

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of writing of this CPG, interventions such as advanced airway placement, bag mask ventilation, suctioning, CPAP, medication nebulization and high flow oxygen are considered potential AGMPs.

Paramedics must carefully apply personal protective equipment (PPE) such as an N95 respirator, eye protection, gown, and gloves to reduce exposure to aerosolized particles for every airway manipulation. The same care should be taken when doffing PPE. As research findings change, PPE required for various procedures may change, so it is important to always follow the most recent version of the Infectious Agents & Control Reference Manual.

ASSESSMENT

The premise of airway management is to optimize oxygenation and ventilation while minimizing risk of harm to the patient. A few factors must be considered when selecting when and how to intervene with airway management.

Etiology

Consider '*reversible causes*' requiring emergent management such as: foreign body causing airway obstruction, hypoglycemia, dysrhythmia, overdose, etc. If appropriately identified and treated, these may limit the need for further airway intervention.

Level of Consciousness / Agitation

Crying and respiratory distress increase the velocity of gas flow, generating negative pressure inside the airway. Since the infant's airway is soft, they can become narrower. The resulting dynamic obstruction significantly reduces airflow through large airways and increases work of breathing. Allowing a calm parent to hold and provide comfort to the patient may decrease their agitation and allow a conscious child with partial obstruction (e.g., epiglottitis, severe croup, or foreign body) to breathe more effectively through their narrowed airway. Children will generally assume the position that provides the most comfort and ease of breathing (e.g., sitting upright in the case of epiglottitis).

Urgency of Intervention

Consider whether the patient requires an immediate intervention to obtain or protect an airway and if not, whether the disease process is expected to deteriorate rapidly or worsen over the transport time.

AIRWAY MANAGEMENT DECISION PRINCIPLES

When making decisions, recognize the broader physiological status of the patient (e.g., hemodynamic stability as well as any associated comorbidities or acute illness). This is critical as hemodynamically unstable patients with tachycardia, poor perfusion and low blood pressure may suddenly decompensate after the vagal stimulation of intubation.

EMS literature supports bag-valve-mask ventilation (**PEP 1 Neutral**) over endotracheal intubation in **pediatric patients** in the prehospital environment. Intubation of pediatric patients in the field has no advantage in terms of survival or neurological outcome[5] but may be appropriate in certain specific circumstances (**PEP 1 Neutral**) when BVM ventilation has been ineffective.

Bag Valve Mask (BVM) Ventilation

BVM ventilation is generally much easier in children than adults. However, care should be taken to avoid undue pressure on the neck during bag valve mask ventilation, given the pliable and nearly collapsible nature of the pediatric airway. Predictable difficulties for BVM ventilation are uncommon in pediatrics but are typically related to hypoplasia of the mandible where the chin is recessed compared to the rest of the facial plane (due to congenital facial deformities), cervical spine instability (e.g., in Down Syndrome) or obstruction of the airway.[6] Major facial trauma can also interfere with mask seal. If cervical spine injury is suspected, efforts should be made to minimize neck movement but maintaining oxygenation and ventilation is of higher priority.

The assessment mnemonic BOOTS is primarily targeted at anticipating difficulty in the adult airway but may be applicable for patients older than 8 as their anatomy is similar. A detailed explanation of the mnemonic can be found in the Adult Airway Management CPG.

Supraglottic devices

The i-gel® is a supraglottic airway available for patients over 5 kg (roughly over 3 months of age). This should be used in the setting of cardiac or respiratory arrest, and as an advanced airway option (**PEP 1 Neutral**). The i-gel® is soft and easy to insert and provides acceptable airway sealing. This is preferred over endotracheal intubation for any children who require airway management with either active infection or unknown infectious status.

Endotracheal intubation by direct laryngoscopy
During out of hospital cardiac arrest, if you can adequately oxygenate/ventilate your patient with a bag-valve mask, this results in the same resuscitation outcomes as advanced airway management in children.[7]

If it remains impossible to attain and maintain oxygen saturations >90% after optimizing BVM technique or the i-gel® is ineffective, intubation may be attempted. If the patient's condition is deteriorating such that an upper airway obstruction is evolving (e.g., airway burn, anaphylaxis or foreign body obstruction), early intubation may be warranted. Select other circumstances for endotracheal intubation exist and consideration must be given to the experience and proficiency of the provider, transport time and competing priorities.

Endotracheal intubation must only be undertaken if necessary and with the highest chance of success. This means avoiding awake intubations, ensuring that experienced personnel are involved and that equipment such as video laryngoscopy is used wherever possible. However, if there is a requirement to undertake **endotracheal intubation, the number of attempts should be limited to two, and the patient should be preoxygenated with nasal prongs and BVM prior to each attempt.** If endotracheal intubation is unsuccessful, BVM ventilation should be resumed with a focus on oxygenation (**PEP 1 Neutral**).

The assessment mnemonic MMAP is primarily targeted at anticipating difficulty in the adult airway but may be applicable in patients older than 8 as their anatomy is similar. A detailed explanation of the mnemonic can be found in the Adult Airway Management CPG. Children under 1 year of age and some children with congenital anomalies (e.g., larger tongue in children with Down's Syndrome) can be predicted to have a difficult airway.[8]

Several factors must be considered when selecting whether to intervene with airway management as well as the method (BVM vs. supraglottic vs. ETI). These factors can be assessed by performing a **CAT analysis** which looks at **clinical**, **anatomical** and **time** factors. To determine if there is a clinical need, consider if there is a need to obtain and/or maintain a patent airway, correct oxygenation/ventilation, protect the airway from secretions (e.g., blood, saliva, vomit, etc.) or if the patient's condition is predicted to require advanced airway management. Anatomical features that may make airway management difficult must be assessed and considered. And finally, the appropriate time to perform airway interventions must be considered. This includes considering transport time and time to additional resources or personnel. A detailed explanation of a CAT analysis can be found in the Adult Airway Management CPG.

FOREIGN BODY OBSTRUCTION

- If the patient is awake and able to cough, they may attempt to expel or clear the obstruction on their own.
- If the patient is awake but unable to cough, they should be assisted with either abdominal thrusts (**PEP 3 Neutral**) or chest thrusts/back blows (**PEP 3 Neutral**) for infants/smaller children.
- If the patient becomes unconscious, chest compressions should be started, as this may help dislodge the foreign body. For ALS providers, the airway should also be inspected using a laryngoscope and Magill forceps used to remove a foreign body if identified. If the patient remains unresponsive, attempt to ventilate with BMV, as ventilations may be possible if the obstruction is partial or if the foreign body is somewhat mobile. If the patient cannot be adequately ventilated, intubation may be attempted. The ETT may bypass an object lodged in the supraglottic portion of the airway.

TEAM PREPARATION PEARLS

The **Broselow tape** will provide information on the appropriately sized equipment and medications.

Regardless of experience, the paramedic must approach every patient in anticipation of a difficult airway until the procedure is complete. Success is dependent upon adequate preparation of the team, patient, and equipment prior to any intervention. Always anticipate your next steps ahead of time and make a plan.

Communicate the airway management strategy with your team. All people involved in patient care should be aware of their individual role as well as the steps that will be taken if difficulty is encountered.

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BAG MASK VENTILATION PEARLS

- The most appropriate person to perform BVM ventilation in the prehospital environment is a paramedic, typically the most experienced/advanced practitioner on scene.
- Jaw thrust is the most effective method to open the airway and relieve functional airway obstruction.
- Ventilation volume should produce a small amount of chest rise. Excessive volume or pressure results in gastric distention and barotrauma in pediatrics.
- Squeeze the BVM steadily over one full second.
- Respiratory rates will vary in the pediatric patient depending on age. For pediatric patients in respiratory arrest, target a rate between 20-30 ventilations a minute (every 2-3 seconds).[7] If the patient is in cardiac arrest, follow the pediatric cardiac arrest algorithm.
- Application of a PEEP valve will help prevent atelectasis and improve oxygenation.
- Using a BVM smaller than 450 mL may not deliver adequate tidal volume even in infants.[4] A larger BVM may be used, but the clinician must be cautious to avoid excessive airway pressures.
- Even in obstruction, positive pressure from BVM can often stent open the more pliable pediatric airways allowing significantly improved airflow around the narrowing compared to the patient's spontaneous negative-pressure breaths.[6]
- A properly sized mask should cover the mouth and nose but should not extend over the eyes or beyond the chin (Figure 2).
- Be aware that excessive bag mask ventilation can easily distend an infant or child's stomach, which can potentially lead to difficulties with ventilation.

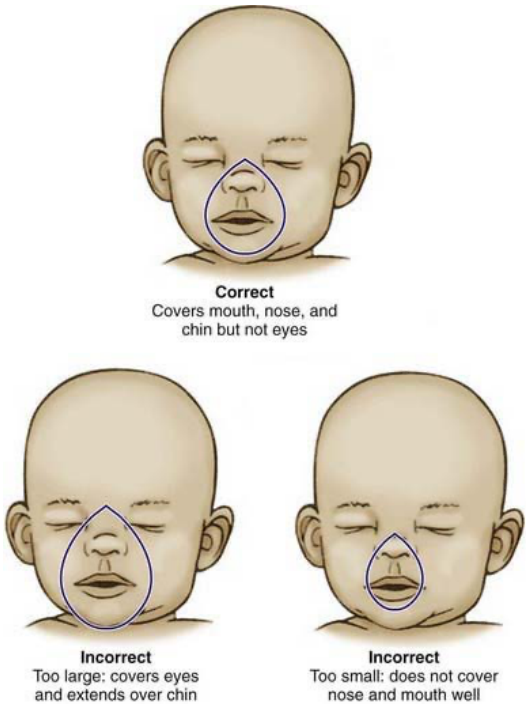

Figure 2. Sizing a mask[9]

Taken from the American Academy of Pediatrics and the American Heart Association; Short J, editor: Textbook of neonatal resuscitation, ed 5, Elk Grove, IL, American Academy of Pediatrics, 2006, pp 3–16

Response to difficult BVM ventilation

- Insert an airway adjunct (OPA/NPA).
- Reposition: the head (*unless contraindicated*), the patient (e.g., ramping the infant's shoulders), the clinician, and/or the mask.
- Perform a two-person technique.
- Change mask size.
- Consider foreign body obstruction.

ENDOTRACHEAL INTUBATION

The necessary equipment and techniques to improve visualization are similar to adult intubation and are outlined in the Adult Airway Management CPG. **Only the pediatric-specific aspects will be detailed here.**

Equipment

When selecting equipment size, length-based tapes (e.g., Broselow tape) are less error-prone than mental calculations. The formula (Age / 4) + 4 can also be used as an estimate for ETT size. Refer to the Broselow tape for specifics on blade size as well as ETT type (e.g., cuffed vs uncuffed) and size, and

familiarize yourself with the equipment available in your pediatric airway kit. Note that cuffed tubes are the standard of care for pre-hospital and emergency department pediatric intubations.

Every airway should be approached with the anticipation of difficulty and the following tools should be available. Magill forceps should be at hand if there is the possibility of foreign body aspiration. For patients who can use a 5.5 mm ETT (or larger), a Bougie can be used during intubation (**PEP White**).

Positioning for Intubation

Place the patient in the "sniffing position" by aligning the ear lobe to the sternum. Young infants have relatively large heads and may need a towel rolled under the shoulders (Figure 3). The toddler and young child (to approximately age 6) will be well positioned with the head merely flat on the table. For patients older than 6, positioning with the usual towel or folded blanket under the occiput will be helpful.

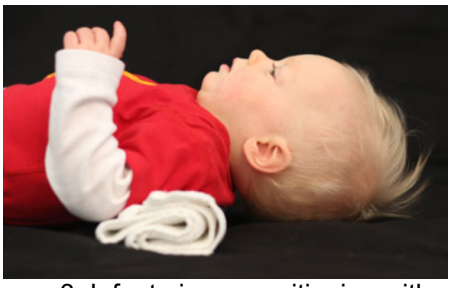

Figure 3. Infant airway positioning with a towel under the shoulders
Taken from jems.com

Preoxygenation

Infants and children consume more oxygen per kilogram of body weight than adults and are more likely to experience rapid desaturation. Attempts to place an airway device in a patient with oxygen saturation below 90% will lead to critical hypoxemia within seconds. The goal in the EMS environment is to bring oxygen saturation as close to 100% as possible before attempting invasive airway procedures. Several methods can be utilized to adequately pre-oxygenate the patient based on their level of consciousness.

Spontaneously breathing patients with an adequate respiratory effort and a patent airway can be oxygenated by placing a non-rebreather (NRB) mask with the oxygen set as high as possible. If available, nasal prongs may be used in conjunction with the NRB to provide high flow oxygen from a second source. Patients should receive pre-oxygenation for about 3 minutes, with maximal inhalation and exhalation. It is relatively rare that a spontaneously breathing awake pediatric patient will require intubation. However, this scenario may occur with an impending upper airway obstruction due to angioedema, epiglottis, or an airway burn for example.

Pediatric patients with an altered LOC or lack of airway protection, apnea, or inadequate respiratory effort should be pre-oxygenated using BVM ventilation. Nasal prongs can also be applied to provide high flow oxygen from a second source simultaneously with BVM ventilation. This helps to create a concentrated reservoir of oxygen in the pharynx that will be delivered to the lungs during ventilation. Creating an oxygen gradient between the oropharynx and the lungs will also allow passive oxygenation to continue in the apneic patient during attempts to place an airway device.

Sedation and Premedication

Most cases of prehospital pediatric airway management will not require medication administration, rather circumstances will reflect a "crash" intubation of a deeply unconscious patient.

Doing an awake/alert intubation has a high failure rate and increased risks, therefore is not recommended.

In rare circumstances, for patients who are awake and cooperative, adequate topical airway anesthesia with lidocaine and a light dose of benzodiazepine can produce conditions that allow for controlled intubation. While this approach may take additional time (i.e., 5-10 minutes) it provides a much safer alternative to deep sedation.

Deep sedation using high dose benzodiazepines and/or opiates is contraindicated as it will not eliminate unwanted airway reflexes such as gag/vomiting or laryngospasm. Deep sedation does not in fact optimize intubating conditions, rather it increases the risk of complications. The risks of this approach include reduced respiratory drive, reduced airway protective reflexes, and hemodynamic compromise.

Bradycardia commonly occurs during emergency pediatric intubations because of vagal stimulation, hypoxia or medications administered. The routine premedication of all patients with atropine has not

been shown to improve outcomes and is no longer recommended.[9] If bradycardia occurs and does not quickly resolve, focus on resolving any degree of hypoxia if present, then consider administering atropine.

ENDOTRACHEAL INTUBATION PEARLS

- Pediatric intubation is high risk and should only be attempted when BVM/i-gel® has failed or under special circumstances (e.g., anaphylaxis, burns and foreign body obstruction).
- Contact MCCP for further guidance if decision support is required.
- Having endotracheal tubes one size smaller and larger, out of their package and ready for use will minimize delay should a different size be necessary once the glottis is visualized.
- The floppy pediatric epiglottis may not evert upwards even when the vallecula is properly engaged. It may be necessary to pick up the epiglottis with the tip of either a curved or straight blade to displace it and see the glottis.[3]
- Due to the shorter trachea, right mainstem intubation is common.[3] Use visual confirmation by noting the cord marker on the ETT before removing the laryngoscope blade. Mainstem intubation in pediatrics is very difficult to identify by auscultation. Refer to the Broselow tape for recommended ETT insertion depth.
- The smaller pediatric thorax can transmit breath sounds bilaterally despite mainstem intubation or pneumothorax. Use clinical indicators (e.g., symmetrical chest rise, SpO_2) in addition to auscultation when evaluating air entry.

ENDOTRACHEAL INTUBATION CONFIRMATION

Confirmation of proper placement of an ETT is vital. Unrecognized esophageal intubations carry significant complications up to and including death. In addition to visualization of passage through the glottic opening, the clinician must assess other objective signs of tracheal placement including:

- Continuous $EtCO_2$ monitoring
- No air heard over epigastrium
- Air entry heard in the lungs
- Symmetric rise and fall of chest
- Clinical indicators present (improved SpO_2 and color)

If in doubt of whether tracheal placement has been achieved: relook with direct laryngoscopy. If still unable to confirm tracheal placement, it is essential that the clinician err on the side of caution by removing the tube and optimizing oxygenation and ventilation through BVM or supraglottic devices (**PEP 1 Neutral**).

POST INTUBATION

Securing the Airway Device

After confirming placement of the device, secure with twill tape. Consider other ways to limit device movement such as using a c-collar, removing the BVM from the device prior to lifting the patient, and having someone maintain control of the head and device during patient movement.

Pediatric patients (especially under 5 years of age)[10] are prone to ETT displacement due to their shorter trachea.[3] Reassess tube position frequently as well as after any movement of the patient or clinical change.

Assessment

A detailed assessment must be conducted following successful placement of an ETT in an effort to identify any adverse events or changes in patient presentation.

Complications/adverse events that may present with airway management include:

- Airway trauma
- Aspiration – gastric contents / blood
- Hypoxia
- Arrhythmias – brady / tachycardia
- Hypotension

There are several complications that may cause sudden deterioration of an intubated patient. These are often represented using the DOPE mnemonic.

D – Displaced tube
O – Obstructed tube
P – Pneumothorax
E – Equipment failure

While attempting to determine the cause of the deterioration, ensure you support the patient's oxygenation and ventilation. Rapidly do the following:

- Look for chest rise and symmetry and auscultate for breath sounds,
- Monitor SpO_2, $EtCO_2$, and HR
- Suction the tube if you suspect secretions have obstructed it

- Visualize tube placement with laryngoscopy (if you cannot verify that the tube is placed appropriately through other means)

Manage causes as found (e.g., needle decompression if pneumothorax, change equipment if faulty or O_2 supply if tank empty, etc.) If you cannot confirm tube placement or suspect the tube is misplaced, remove it, and begin ventilation with a BVM or i-gel®.

Airway Assessment and Care Goals for the EMR

When managing an airway, the EMR should focus on:

- Ensuring appropriate PPE is used
- Maintaining an open airway with positioning and basic adjuncts
- Ensuring adequate oxygenation
- Assessing adequacy of ventilations (look, listen, feel)
- Knowing when and how to use bag mask ventilation effectively
- Adapting bag mask ventilation technique, if difficulties arise

TRANSFER OF CARE

When transferring care to the emergency department, provide airway management until the receiving facility has gathered the appropriate resources and is prepared to take over the airway and continue to provide support as needed to the hospital team.

Describe any difficulty with airway management or ventilation during prehospital care including any maneuvers that were attempted or that successfully resolved the difficulties.

If the patient is intubated, clearly communicate the size of tube, position at lips, and confirm tracheal placement at time of transfer of care.

CHARTING

Record in detail the factors considered when deciding on an airway strategy. Be sure to record the following accurately:

- Hypoxic events
- Airway interventions applied
- Advanced airway placement
- If intubation attempted, how many attempts
- Any challenges experienced during management.

Ensure the Oxygen Therapy, Basic Airway Adjunct, Ventilation, and/or Advanced Airway tabs of the ePCR are completed in full as appropriate.

Key Points – Pediatric Airway

Basic principles of airway management are the same as adults.

Maximize oxygenation and ventilation while minimizing potential risk or harm.

Bag-valve-mask ventilation is the preferred method of oxygenation for pediatric patients.

i-gel® is the preferred advanced airway.

Assess and prepare for difficulty and anticipate ‘next steps’.

Consider time to more advanced resources in management decisions.

KNOWLEDGE GAPS

Published evidence and resources for prehospital airway management primarily focus on adult populations. The optimal airway management strategy in children treated by EMS remains in question. Patient selection, timing of intervention, device selection and provider training are the subjects of ongoing research.

EDUCATION IMPLICATIONS

Procedural skills involving pediatric airway management are high acuity/low opportunity and require effort to maintain competency. Ongoing practice and simulated management can improve the care provided in pediatrics.

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QUALITY IMPROVEMENT

All charts will be reviewed for which advanced airway management is required for a pediatric patient.

The following minimum elements will be assessed to determine the quality of airway management care: appropriate indication for airway intervention, appropriate oxygen and drug therapy, appropriate progression of airway devices, confirmation of device placement, number of attempts, and success rate (first attempt and per patient).

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http://www.gov.ns.ca/health/ehs/

https://emspep.cdha.nshealth.ca/

https://trekk.ca/

PEP 3x3 TABLES for PEDIATRIC AIRWAY MANAGEMENT

Throughout the EHS Guidelines, you will see notations after clinical interventions (e.g.: **PEP 2 neutral**). PEP stands for: the Canadian **P**rehospital **E**vidence-based **P**ractice Project.

The number indicates the Strength of cumulative evidence for the intervention:
1 = strong evidence exists, usually from randomized controlled trials;
2 = fair evidence exists, usually from non-randomized studies with a comparison group; and
3 = weak evidence exists, usually from studies without a comparison group, or from simulation or animal studies.

The coloured word indicates the direction of the evidence for the intervention:
Green = the evidence is supportive for the use of the intervention; **Yellow = the evidence is neutral**;
Red = the evidence opposes use of the intervention;
White = there is no evidence available for the intervention, or located evidence is currently under review.

PEP Recommendations for Pediatric Airway Management Interventions, as of 2024/04/15. PEP is continuously updated. See: https://emspep.cdha.nshealth.ca/TOC.aspx for latest recommendations, and for individual appraised articles.

Airway Confirmation

Recommendation		RECOMMENDATION FOR INTERVENTION			
		SUPPORTIVE (Green)	NEUTRAL (Yellow)	AGAINST (Red)	NOT YET GRADED (White)
STRENGTH OF EVIDENCE FOR INTERVENTION	1 (strong evidence exists)				• Oxymetry Monitoring • Quantitative ETCO2 (no circulation) • Quantitative ETCO2 (with circulation)
	2 (fair evidence exists)	• EDD • Qualitative ETCO2 (with circulation)	• Qualitative ETCO2 (no circulation)		
	3 (weak evidence exists)				

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Airway Management (Non-intubation)

Recommendation		RECOMMENDATION FOR INTERVENTION			
		SUPPORTIVE (Green)	NEUTRAL (Yellow)	AGAINST (Red)	NOT YET GRADED (White)
STRENGTH OF EVIDENCE FOR INTERVENTION	1 (strong evidence exists)		• BVM • Laryngeal Tube (without AW reflexes) • LMA (without AW reflexes)		• iGel • Percutaneous Cricothyrotomy • Pharyngeal Tracheal Lumen (PTL)
	2 (fair evidence exists)		• Combitube (without AW reflexes)		
	3 (weak evidence exists)				

Intubation

Recommendation		RECOMMENDATION FOR INTERVENTION			
		SUPPORTIVE (Green)	NEUTRAL (Yellow)	AGAINST (Red)	NOT YET GRADED (White)
STRENGTH OF EVIDENCE FOR INTERVENTION	1 (strong evidence exists)		• Direct Laryngoscopy (No airway reflexes) • Direct Laryngoscopy (with airway reflexes) • ETI via a SGA device	• Lighted Stylet	• Bougie • Cricoid Pressure • Pain Control
	2 (fair evidence exists)	• Optical Laryngoscopes • Video Visualization (e.g. Glidescope)			
	3 (weak evidence exists)		• Laryngeal Manipulation		

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Medication for Airway Management

Recommendation		RECOMMENDATION FOR INTERVENTION			
		SUPPORTIVE (Green)	NEUTRAL (Yellow)	AGAINST (Red)	NOT YET GRADED (White)
STRENGTH OF EVIDENCE FOR INTERVENTION	1 (strong evidence exists)				• Sedation • Sedation (CCT) • Topical anaesthetic
	2 (fair evidence exists)				
	3 (weak evidence exists)	• Rapid Sequence Induction • RSI (CCT)			

Pediatric Foreign Body Obstruction (Partial/Complete)

Recommendation		RECOMMENDATION FOR INTERVENTION			
		SUPPORTIVE (Green)	NEUTRAL (Yellow)	AGAINST (Red)	NOT YET GRADED (White)
STRENGTH OF EVIDENCE FOR INTERVENTION	1 (strong evidence exists)				
	2 (fair evidence exists)				
	3 (weak evidence exists)		• Abdominal Thrusts • Back Blows • Chest Thrusts	• Finger Sweep	

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Program Document Number Management System

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Signature of Program Director 	Signature of Program Document Coordinator *Electronically Signed* *Teena Robinson*	