



Prepare Patient



Prepare Equipment/Drugs



Prepare Team

1. **Assess for difficult intubation:**
 - Co-morbidities
 - History of documented difficult intubation or airway alert
 - Previous grade of intubation
 - Previous size ETT used
 - Most recent chest x-ray reviewed
 - Loose teeth
 - Fasting status

(if assessed as difficult - d/w KIDSNTS consultant)
2. **Clinical status consideration:**
 - Method of induction (inhalational vs IV)
 - Patient allergies
 - Location (theatre/resus/ward)
 - Haemodynamic stability – if instability:
 - Discuss with KIDSNTS consultant
 - Ensure senior team members present
 - Consider causes including cardiac
 - Consider holding PEEP
 - Acid/Base balance correction
 - Consider peripheral inotropes
 - Fluid boluses available
 - Resus drugs/Defibrillator
 - Consider lower dose induction agents
3. **Position patient:**
 - Manual in-line stabilisation required?
 - Neutral vs Sniffing morning air position
 - Consider roll
4. **Insert and/or aspirate NGT**
5. **Adequate IV access – flush prior**
6. **Pre-oxygenation**

Equipment:

1. **Complete equipment checklist overleaf**
 - Team awareness of pneumothorax risk with bougie use?
2. **Apply monitoring:**
 - ECG
 - SpO2 with QRS volume audible
 - NIBP cycling 1 minute
 - EtCO2 in circuit

Drugs:

1. **Intubation drugs:**
 - Sufficient and multiple doses readily available
 - Ketamine 1-2 mg/kg
 - Thiopentone 2-4 mg/kg – reserved for haemodynamically stable status epilepticus patients
 - Rocuronium 1 mg/kg
2. **Additional drugs:**
 - Consider Atropine 10-20 mcg/kg
 - See KIDS drug calculator
3. **Fluids:**
 - 10 ml/kg crystalloid or colloid


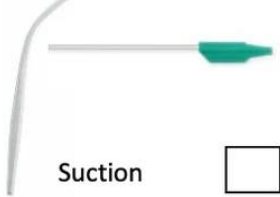














Page 2: Equipment checklist
Pages: 3-5 DAS guidelines

1. **Introductions**
2. **Role allocation:**
 - Team leader – responsible for end of bed awareness and monitoring
 - 1st and 2nd intubator
 - Airway assistant
 - Drugs
 - +/- scribe
3. **Confirm airway plan:**
 - Plan A/B/C/D
 - Escalation plan for more help

Post Intubation Care:

1. **Secure ETT - KIDS tape guideline**
2. **Confirm ETT position:**
 - Capnography – appropriate values and waveform
 - Auscultation
 - Chest X Ray – tip at T2/3 ideal
3. **Sedation infusions:**
 - Morphine 10-40 mcg/kg/hr
 - Midazolam 0.5-3 mcg/kg/min
 - Consider Rocuronium infusion 1mg/kg/hr
4. **Ventilation:**
 - Lung Protective Ventilation strategy with Ti 0.6 – 0.9s



 <p>Oral Airway <input type="checkbox"/></p>	 <p>Suction <input type="checkbox"/></p>	 <p>Oxygen <input type="checkbox"/></p>	 <p>Self-Inflating bag <input type="checkbox"/></p>
 <p>Oxygen mask <input type="checkbox"/></p>	 <p>Fluid & Drugs <input type="checkbox"/></p>	 <p>ET Tubes <input type="checkbox"/></p>	 <p>Stylet & Boogie <input type="checkbox"/></p>
 <p>Laryngoscopes <input type="checkbox"/></p>	 <p>Lubricant Gel <input type="checkbox"/></p>	 <p>Anaesthetic Circuit <input type="checkbox"/></p>	 <p>LMA <input type="checkbox"/></p>
 <p>ETCO₂ <input type="checkbox"/></p>	 <p>Syringe <input type="checkbox"/></p>	 <p>Stethoscope <input type="checkbox"/></p>	 <p>Prepared Tapes <input type="checkbox"/></p>

Difficult MV



Give 100% oxygen



Call for help

Step A Optimise head position

Consider:

- Adjusting chin lift/jaw thrust
- Inserting shoulder roll if <2 years
- Neutral head position if >2 years
- Adjusting cricoid pressure if used
- Ventilating using two person bag mask technique

Check equipment

Consider changing:

- Circuit
 - Mask
 - Connectors
- If equipment failure is suspected, change to self-inflating bag and isolate from anaesthetic machine promptly

Depth of anaesthesia

- Consider deepening anaesthesia
Use CPAP

Step B Insert oropharyngeal airway

Assess for cause of difficult mask ventilation

- Light anaesthesia
- Laryngospasm
- Gastric distension – pass OG/NG tube

Call for help again if not arrived

- Maintain anaesthesia/CPAP
Deepen anaesthesia (Propofol first line)
- If relaxant given – intubate
 - If intubation not successful, go to unanticipated difficult tracheal intubation algorithm

Step C Second-line: Insert SAD (e.g. LMA™)

- Insert SAD (e.g. LMA™) – **not > 3 attempts**
- Consider nasopharyngeal airway
- Release cricoid pressure

Good airway

Yes

Continue

SpO₂ >80%

- Consider:
- SAD (e.g. LMA™) malposition/blockage
 - Equipment malfunction
 - Bronchospasm
 - Pneumothorax

Wake up patient

No

SpO₂ <80%

- Attempt intubation
- Consider paralysis

Succeed

Proceed

Fail

Go to scenario cannot intubate cannot ventilate (CICV)

SAD = supraglottic airway device

Difficult direct laryngoscopy



Give 100% oxygen and maintain anaesthesia



Call for help

Step A Initial tracheal intubation plan when mask ventilation is satisfactory

Ensure: Oxygenation, anaesthesia, CPAP, management of gastric distension with OG/NG tube

Direct laryngoscopy – **not > 4 attempts**
 Check:
 • Neck flexion and head extension
 • Laryngoscopy technique
 • External laryngeal manipulation – remove or adjust
 • Vocal cords open and immobile (adequate paralysis)
 If poor view – consider bougie, straight blade laryngoscope* and/or smaller ETT

Succeed

Tracheal intubation

Verify ETT position
 • Capnography
 • Visual if possible
 • Auscultation
 If ETT too small consider using throat pack and tie to ETT
If in doubt, take ETT out

Failed intubation with good oxygenation

Step B Secondary tracheal intubation plan

Call for help again if not arrived

• Insert SAD (e.g. LMA™) – **not > 3 attempts**
 • Oxygenate and ventilate
 • Consider increasing size of SAD (e.g. LMA™) once if ventilation inadequate

Succeed

• Consider modifying anaesthesia and surgery plan
 • Assess safety of proceeding with surgery using a SAD (e.g. LMA™)

Unsafe

Safe

Postpone surgery
Wake up patient

Safe

Proceed with surgery

Failed oxygenation e.g. SpO₂ <90% with FiO₂ 1.0

• Consider 1 attempt at FOI via SAD (e.g. LMA™)
 • Verify intubation, leave SAD (e.g. LMA™) in place and proceed with surgery

Succeed

Failed intubation via SAD (e.g. LMA™)

Postpone surgery
Wake up patient

• Convert to face mask
 • Optimise head position
 • Oxygenate and ventilate
 • Ventilate using two person bag mask technique, CPAP and oro/nasopharyngeal airway
 • Manage gastric distension with OG/NG tube
 • Reverse non-depolarising relaxant

Succeed

Failed ventilation and oxygenation

Go to scenario cannot intubate cannot ventilate (CICV)

Following intubation attempts, consider • Trauma to the airway • Extubation in a controlled setting

*Consider using indirect laryngoscope if experienced in their use

SAD = supraglottic airway device

**Failed intubation
inadequate ventilation**



Give 100% oxygen



Call for help

Step A Continue to attempt oxygenation and ventilation

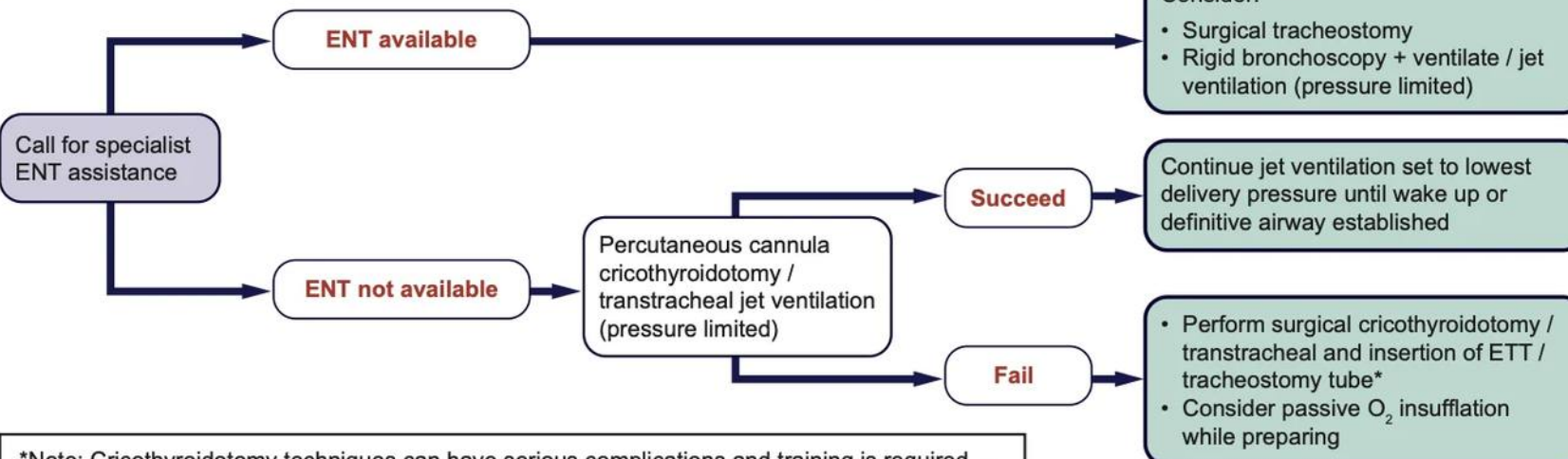
- FiO₂ 1.0
- Optimise head position and chin lift/jaw thrust
- Insert oropharyngeal airway or SAD (e.g. LMA™)
- Ventilate using two person bag mask technique
- Manage gastric distension with an OG/NG tube

Step B Attempt wake up if maintaining SpO₂ >80%

If rocuronium or vecuronium used, consider suggamadex (16mg/kg) for full reversal

Prepare for rescue techniques in case child deteriorates

Step C Airway rescue techniques for CICV (SpO₂ <80% and falling) and/or heart rate decreasing



Call for help again if not arrived

- Cannula cricothyroidotomy**
- Extend the neck (shoulder roll)
 - Stabilise larynx with non-dominant hand
 - Access the cricothyroidotomy membrane with a dedicated 14/16 gauge cannula
 - Aim in a caudad direction
 - Confirm position by air aspiration using a syringe with saline
 - Connect to either:
 - adjustable pressure limiting device, set to lowest delivery pressure
 - or
 - 4Bar O₂ source with a flowmeter (match flow l/min to child's age) and Y connector
 - Cautiously increase inflation pressure/flow rate to achieve adequate chest expansion. Wait for full expiration before next inflation
 - Maintain upper airway patency to aid expiration

*Note: Cricothyroidotomy techniques can have serious complications and training is required – only use in life-threatening situations and convert to a definitive airway as soon as possible

SAD = supraglottic airway device