Paediatric Airway Management:
A few tips and tricks

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Disclosures

1) I am not an airway wizard.

2) Airway management in children can be scary.

3) There are no secrets or magical pieces of equipment

4) Airway training is an ongoing process. Skill acquisition and retention requires dedicated whole day workshops
Consultant anaesthetists have airway complications

Not because of a lack of skills, but because of human factors

- Poor assessment
- Poor planning
- Poor decision making
- Fibreoptic intubation not done when indicated
- Fixation error
Children vs Adults: The Good

• True difficult **laryngoscopy** is rare (1.3%)
Children vs Adults: The Bad

• But,
  • Can’t intubate awake
  • Often induce with IV access
Children vs Adults: The Ugly

• Also, when do you bail out?
What is a difficult “airway”?

Predicting Difficult Laryngoscopy in kids

- Age below 1 year
- Low BMI
- Mallampatti*
- ASA
- Faciomaxillary and cardiac surgery

Scenario 1: Chubby Infant

- No IV access during a gas induction is tricky
- If either the IV access, or the anaesthetic, are hard: have 2 experienced pairs of hands
Scenario 2: The art of the gas induction
Scenario 3: Laryngospasm

• Very common cause of hypoxia
• Spectrum of severity
• Best if nipped in the bud
Laryngospasm Risk Factors

- PHx of laryngospasm, asthma, smoking, GORD
- Recent URTI
- Secretions/Blood in airway
- Multiple attempts at airway instrumentation
- Stimulation during the “in between” phase
- ENT and airway surgery
- Inexperienced (paediatric) anaesthetist

Laryngospasm

- Prevention
- Cancel case
- Avoid irritant volatiles
- Opioids and propofol use

- Management
  - CPAP
  - Propofol
  - Suxamethonium
Laryngospasm controversies

• ETT vs LMA
• Deep vs Light
• IV lignocaine prophylaxis and treatment
Scenario 4: Planning

- Elaine Bromiley
Unanticipated difficult emergency intubation

**Direct Laryngoscopy** ➔ Any Problem at Any Time ➔ Call for Help

**Preparation**
- Assess, check, help, plan, optimise

**Plan A:** Initial tracheal intubation plan
- Direct laryngoscopy
- Verify tracheal intubation
- Failed intubation ➔ Successful oxygenation

**Plan B:** Secondary tracheal intubation plan
- Insert laryngeal mask
- Re-oxygenate
- Get anaesthetist
- Intubate with GlideScope or flexible intubating bronchoscope

**Plan C:** Maintain oxygenation
- Cease intubation attempts
- Wake patient if possible or call ENT urgently

**Plan D:** Rescue cricothyroidotomy/tracheostomy
- Cannula or scalpel cricothyroidotomy or tracheostomy

Anaesthesia, PICU, NICU, and Emergency

Anaesthetist ext 52000
Operating Theatre ext 52001
PICU ext 52327
NICU ext 52211
Ed ext 52169
Met ext 777
Example Plan for a neonate

• Plan A:
  • 3.5 ETT ready, size 1 Macintosh laryngoscope blade
  • Small orange Bougie (pre bent), have a size 1 Miller blade available
  • Have a shoulder roll ready, but I won’t put it in place
  • Have a white guedel airway available if I am having difficulty with ventilation
  • If that doesn’t work I will do the 2 person technique
  • We will ventilate the patient between attempts, and I only want to spend about 5 minutes on Plan A before moving to Plan B

• Plan B
  • Size 1.5 laryngeal mask, call in charge anaesthetist on x52000
  • Use Glidescope

• Plan C
  • Maintain oxygenation, get ENT for a tracheostomy

• Plan D
  • Open CICO pack, and perform cannula cricothyroidotomy
Scenario 5: GlideScope

- Don’t get too close
- Relax the lifting force
- Parker or “bullet tipped” ETTs
- Rotating ETT
- Introducer shy of the tip and a warmed tube helps
- Similarities to nasal intubation: lifting the head, rotating ETT
GlideScope

- Prepare the ETT with stylet
  - Proprietary stylet only fits a 6 ETT
- Mouth - Screen - Mouth - Screen
- “Seeing is not believing”
- Documentation
What we haven’t talked about today

• Flexible intubating bronchoscopy (fibreoptic)
• Management of the CICO scenario
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