Surgical Airways
A Last Resort

Richard Morris
Department of Anaesthesia
St. George Hospital

www.simcentral.com.au
The Goals

• In order of importance are:

• Oxygenation

• Ventilation

• Airway Protection
The Options

• **Plan A**
  Transtracheal jet ventilation by cannula

• **Plan B**
  Percutaneous Seldinger Minitracheostomy

• **Plan C**
  Surgical Cricothyroidostomy
The Complications

• Damage to larynx & trachea
• Damage to surrounding structures
• Subcutaneous emphysema
• Barotrauma & pneumothorax
• High incidence of 5 - 30%
The Anatomy

THYROID CARTILAGE

SUPERIOR THYROID ARTERY

CRICOTHYROID ARTERY

CRICOTHYROID MEMBRANE

CRICOID

THYROID GLAND
Plan A - The Cannula

- Insert angling it towards the feet.
- Check position by aspirating.
- Monitor carefully for kinking and extravasation.
- Use rigid low compliance tubing with a vent. [Enk or giving set + green tubing]
- Do not use anaesthetic circuit or self inflating bag.
Plan B - The Seldinger Trach

• Seldinger guide wire technique.

• A small cuffed or uncuffed tracheotomy tube with a dilator.

• Lay out components to get organised.

• Can attach a normal breathing circuit.
Plan C - Cricothryoidotomy

- Horizontal incision in cricothyroid membrane.
- Dilate and pass small cuffed ETT over a bougie.
- Connect a normal circuit
Making a Decision

• Consider the priorities for this patient.
  Immediate
  Medium term

• Assess your skills and resources

• Get on with it. Time is not on your side!