

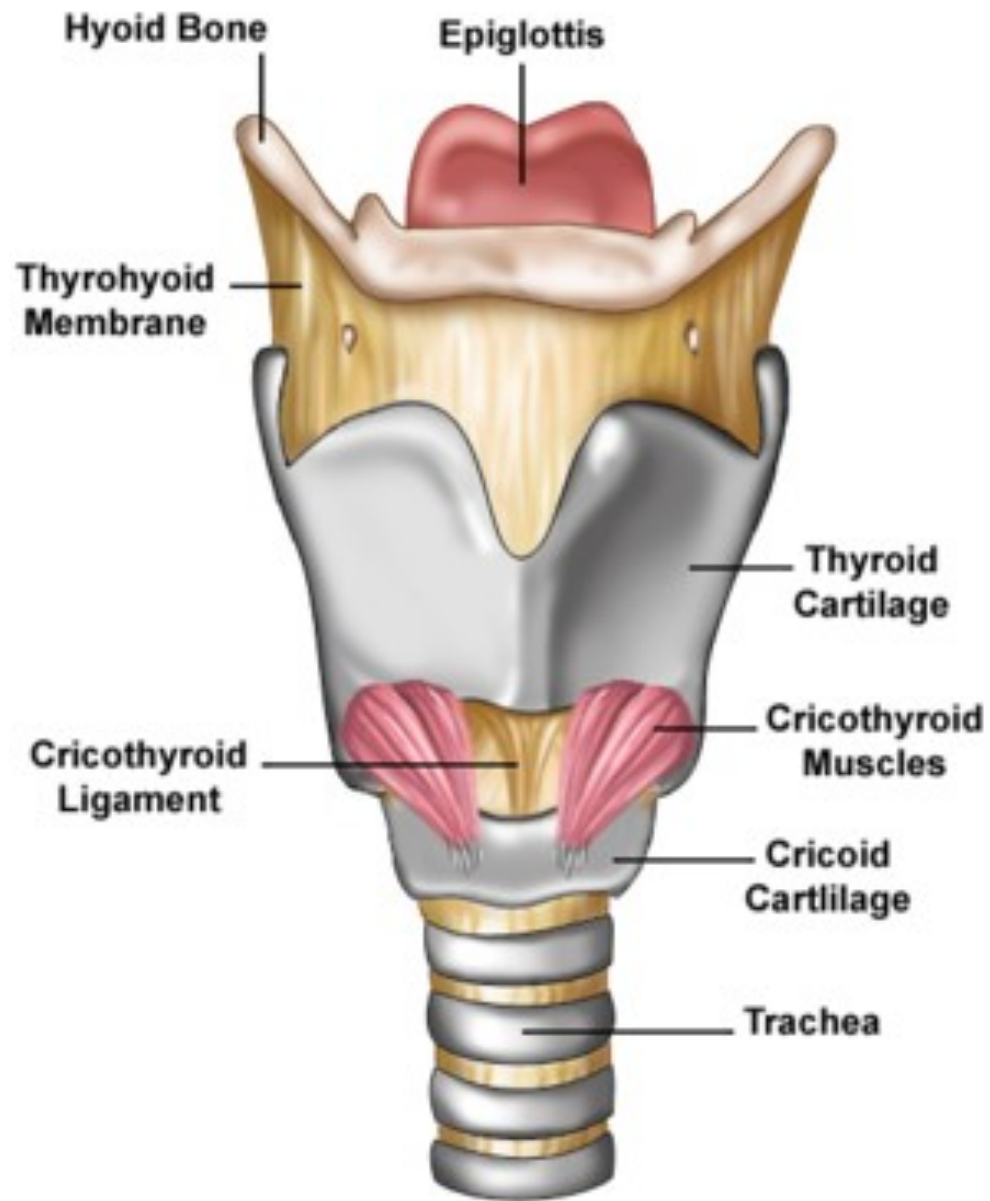
Front of Neck Access

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 **INSELSPITAL**
UNIVERSITÄTSSPITAL BERN
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BERN UNIVERSITY HOSPITAL



<http://vocals-on-stage.com/role>

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Domestic techniques

Emerg Med J. 2010 Apr;27(4):317-20. doi: 10.1136/emj.2008.069294.

Airflow efficacy of ballpoint pen tubes: a consideration for use in bystander cricothyrotomy.

Dwens D¹, Greenwood B, Galley A, Tomkinson A, Woolley S.

“Contrary to popular belief, the majority of ballpoint pens appear unsuitable for use as a substitute tracheostomy tube.”



By Carlos Delgado, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=197473>

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Front Of Neck Access

Arrow-bore cannula
over needle
(ID \leq 2mm)



<https://www.tri-anim.com/> VBM

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Wide-bore cannula
with/ without
Seldinger (ID \geq 4mm)



<https://www.cookmedical.com/>

Surgical/ Scalpel-
Bougie technique



Scalpel Cric, VBM

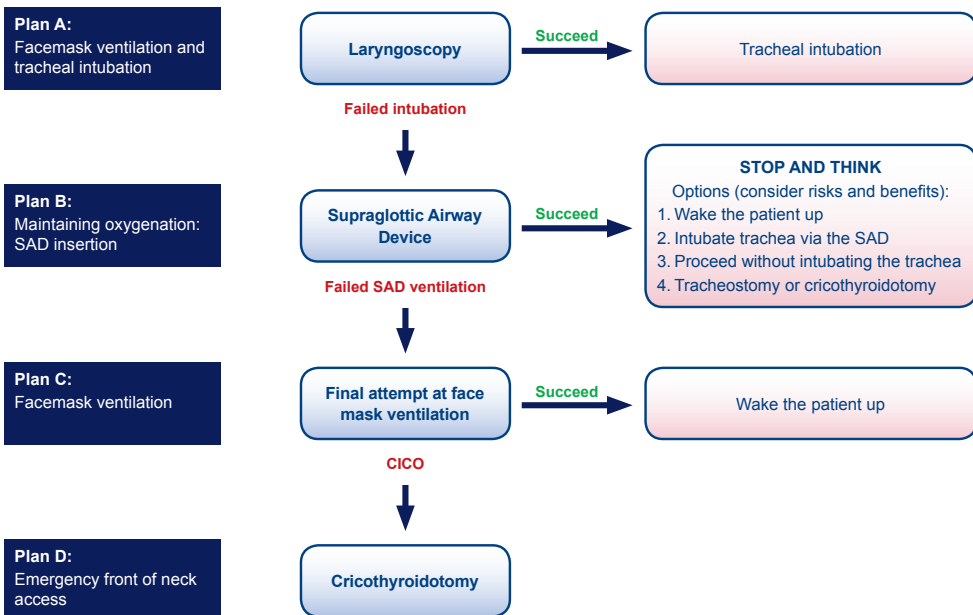
Airway guidelines

British

vs.

American

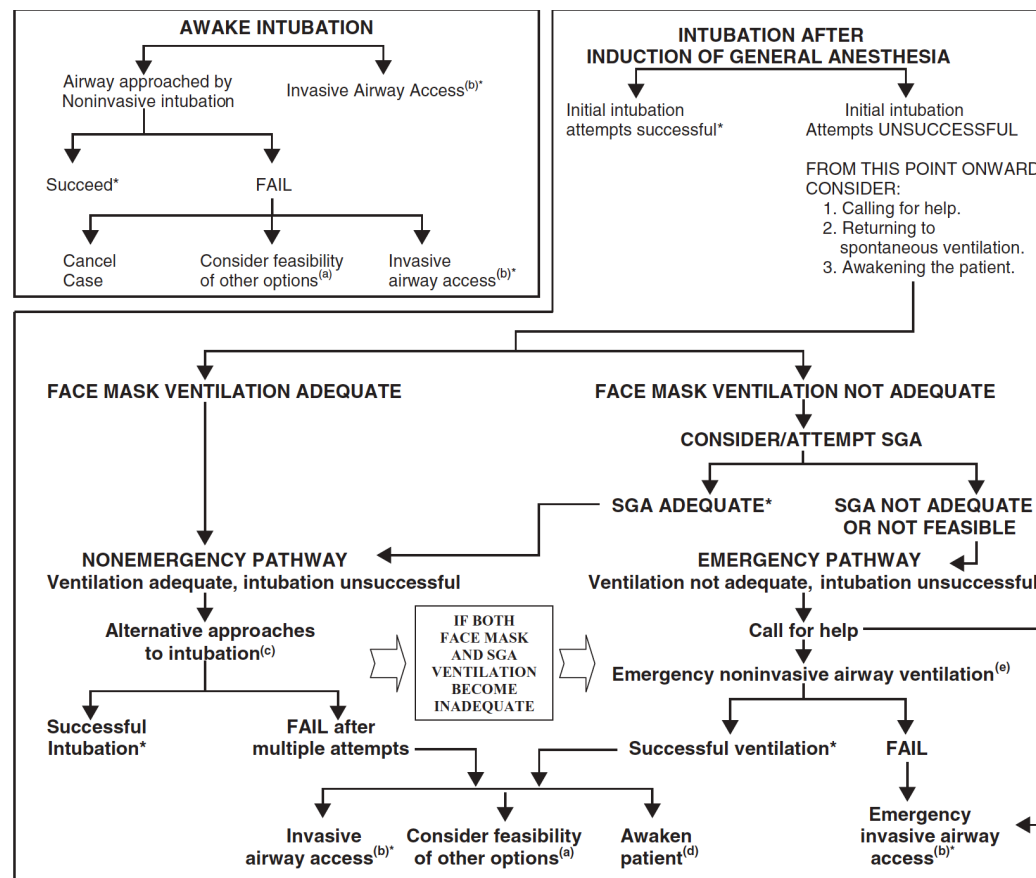
DAS Difficult intubation guidelines – overview



This flowchart forms part of the DAS Guidelines for unanticipated difficult intubation in adults 2015 and should be used in conjunction with the text.

Br J Anaesth. 2015 Dec;115(6):827-48

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Anesthesiology. 2013 Feb;118(2):291-307

Front of Neck Access

British

vs.

American

CALL FOR HELP

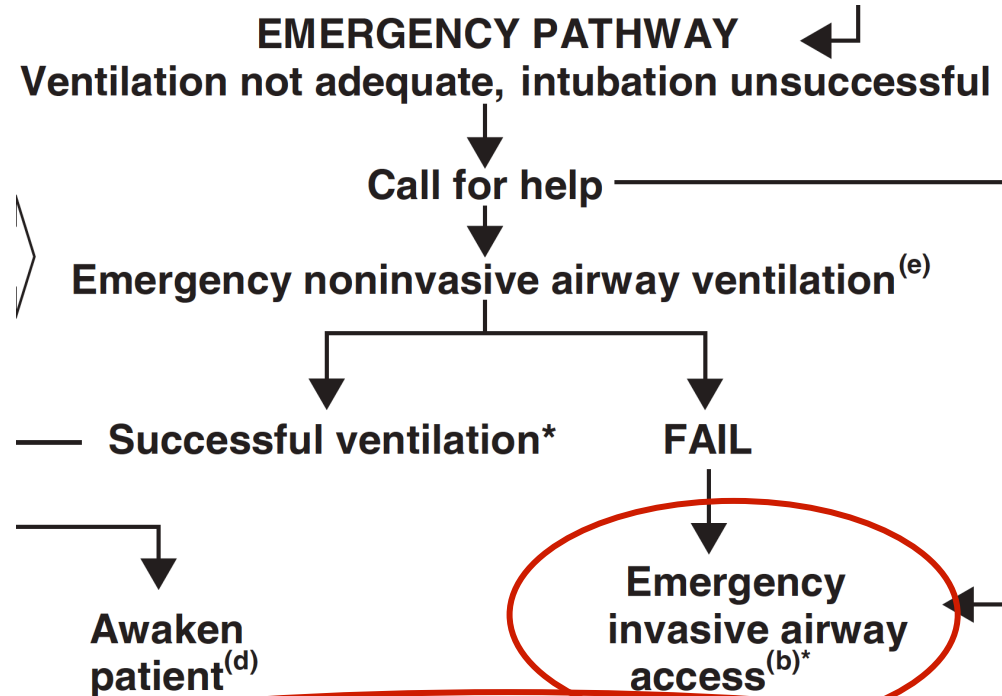


Continue 100% O₂
Declare CICO

Plan D: Emergency front of neck access

Continue to give oxygen via upper airway
Ensure neuromuscular blockade
Position patient to extend neck

Scalpel cricothyroidotomy



b. Invasive airway access includes surgical or percutaneous airway, jet ventilation, and retrograde intubation.

Front Of Neck Access – the evidence

Langvad *et al.* *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine* 2013, **21**:43
<http://www.sjtrem.com/content/21/1/43>



REVIEW

Open Access

Emergency cricothyrotomy – a systematic review

Sofie Langvad¹, Per Kristian Hyldmo^{2,3}, Anders Rostrup Nakstad⁴, Gunn Elisabeth Vist⁵ and Marten Sandberg^{1,4*}

Conclusions: The large majority of the studies were too small to demonstrate statistically significant differences and the limited available evidence was of low or very low quality. That none of the techniques in these studies demonstrated better results than the others does not necessarily indicate that each is equally good, and the conclusions will likely change as new evidence becomes available.

Front Of Neck Access – the evidence



The Royal College
of Anaesthetists



The Difficult
Airway Society

NAP4

4th National Audit Project of
The Royal College of Anaesthetists and The Difficult Airway Society

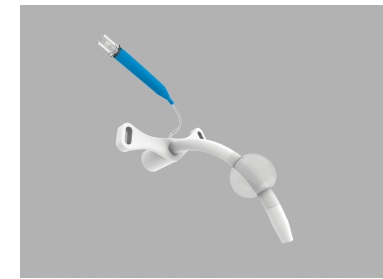
Major complications of airway management in the United Kingdom



- Anaesthesia – 58 cases
 - FONA by surgeon 33 cases
 - FONA by anaesthetist 25 cases, only 9 successful
- Emergency Department – 12 cases
 - 6/ 6 surgical cases successful
 - 4/4 cannula cases failed



- Narrow bore cannula and jet ventilation
 - 12/ 19 attempts failed (63%)
 - 7 rescued by urgent surgical tracheostomy
- Wide bore cannula
 - 3/ 7 attempts failed (43%)
- Surgical access
 - 1 attempt failed



Continue to give oxygen via upper airway
Ensure neuromuscular blockade
Position patient to extend neck

Scalpel cricothyroidotomy

Equipment: 1. Scalpel (number 10 blade)
2. Bougie
3. Tube (cuffed 6.0mm ID)

Laryngeal handshake to identify cricothyroid membrane

Palpable cricothyroid membrane

Transverse stab incision through cricothyroid membrane
Turn blade through 90° (sharp edge caudally)
Slide coude tip of bougie along blade into trachea
Railroad lubricated 6.0mm cuffed tracheal tube into trachea
Ventilate, inflate cuff and confirm position with capnography
Secure tube

Impalpable cricothyroid membrane

Make an 8-10cm vertical skin incision, caudad to cephalad
Use blunt dissection with fingers of both hands to separate tissues
Identify and stabilise the larynx
Proceed with technique for palpable cricothyroid membrane as above

Br J Anaesth. 2015 Dec;115(6):

Scalpel cricothyroidotomy



Video of the Difficult Airway Society

<https://www.youtube.com/watch?v=7iCK9gachIM>

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Conclusions

- Human factors play crucial role
- Best technique still under debate
- Practice and training is important
- Continue oxygenation, optimal positioning, paralysis
- Current DAS recommendation: Scalpel Bougie Technique



Learning objectives



Station 8A: Front of Neck Access

- 1. Identify anatomy**
- 2. Practice Needle Cricothyroidotomy**
- 3. Practice Scalpel Cricothyroidotomy**
- 4. Criteria for selected technique**

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Anaesthesiology

ESA



Ross Hofmeyr, MMed, FCA, FAWM

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Perioperative Medicine

University of Cape Town
South Africa

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**Station 8: Front of Neck Access,
Jet ventilation, EVA**

Special interests:

Airway & Thoracic Anaesthesia; Interventional airway endoscopy and tracheal dilatation; Wilderness, prehospital, trauma and emergency medicine; Extreme physiology.



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Anaesthesiology

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Station 8: Front of Neck Access, Jetventilation, EVA

Special interests:

**Airway management training and simulation,
supraglottic airways, videolaryngoscopy and stylets,
Paediatric and adult cardiac anaesthesia**

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Learning objectives



Station 8B: Front of Neck Access Jet ventilation, EVA

- 1. Manual jet ventilation (Manujet)**
- 2. Flow-controlled ventilation with passive expiration (Oxygen Flow Modulator)**
- 3. Flow-controlled ventilation with active expiration (Ventrain)**
- 4. Practice of small lumen ventilation**

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ESA



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**Station 8B: Front of Neck Access
Jet ventilation, EVA**

Special interests:

**Pediatric airway management, small lumen ventilation,
lung protection, innovative techniques, education**

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Anaesthesiology

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Pedro Charco-Mora MD, PhD

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Station 8: Front of Neck Access, Jet Ventilation, EVA

Special interests:

**Videoflexible endoscopy, Airway Management Education,
Learning curves, Simulation&Research**

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Seldinger cricothyroidotomy technique: summary

