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Cricothyrotomy

Kayla Enriquez, MD, MPH
Associate Clinical Professor
ZSFGH ED Airway Director
UCSF/ZSFGH
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Financial Disclosures

- None

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Objectives

1. When to cut
2. Understanding the anatomy
3. Common Cric Pitfalls


Main objective is to help you feel comfortable in managing the surgical airway!

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When to cut

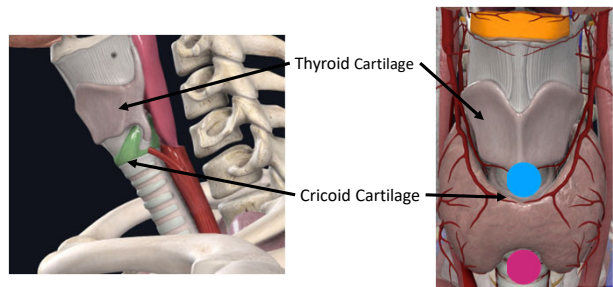
- Can't intubate
 - Can't ventilate/oxygenate
- Contraindications
- Maximize Oxygenation



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Cricothyrotomy vs Tracheostomy



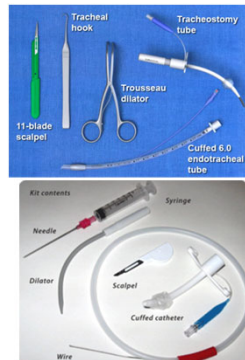
Thyroid Cartilage

Cricoid Cartilage

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Cricothyrotomy

- Surgical Cric
- Bougie assisted surgical Cric
- Needle Cric



11-blade scalpel

Tracheal hook

Tracheostomy tube

Trousseau dilator

Cuffed 6.0 endotracheal tube

Kit contents

Needle

Dilator

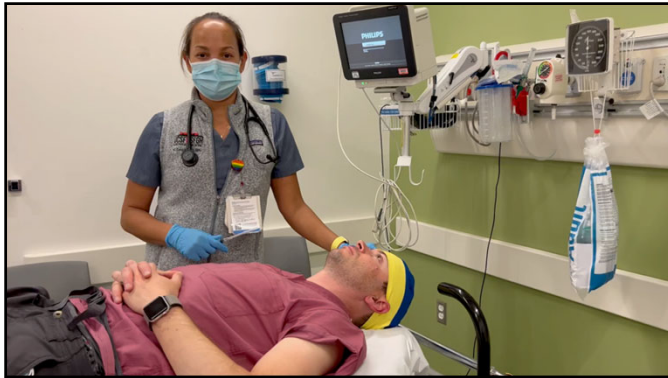
Scalpel

Cuffed catheter

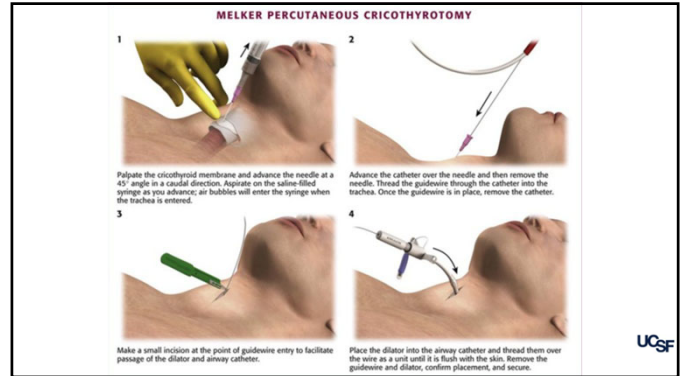
Wire

Syringe

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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*}

- Systematic review of 24 studies
- Overall no significant differences in the success rates
- 5/8 studies comparing Seldinger guidewire technique to open
 - Surgical statistically faster

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Case 1: Severe Facial/Neck Trauma

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23 y.o. M s/p MVC, GCS 5

- Hypotensive, hypoxic, tachycardic
- Agonal breathing, being bagged
- Facial Trauma

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Airway Issues

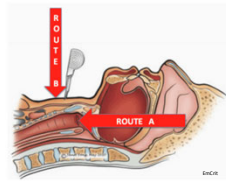
- GCS
- Significant facial trauma
- Blood and secretions
- Other trauma?

WHAT NEXT???

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Securing the Airway: Double Prep Set-up

- Prep for both oral intubation and cricothyrotomy
- Pre-oxygenation
- Optimize and stabilize patient

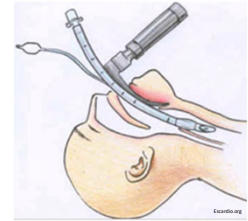


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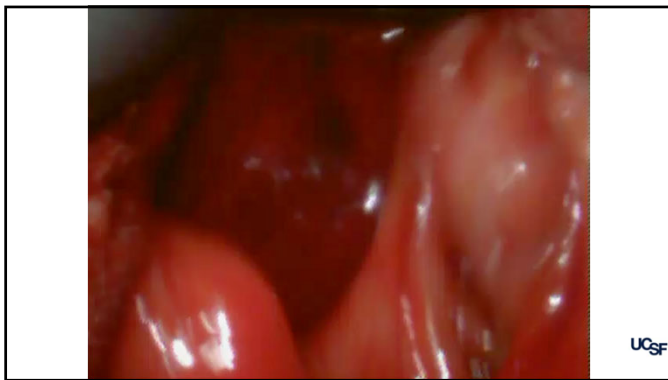
Attempted VL From Above

- Induction/paralytic meds
- VL attempted



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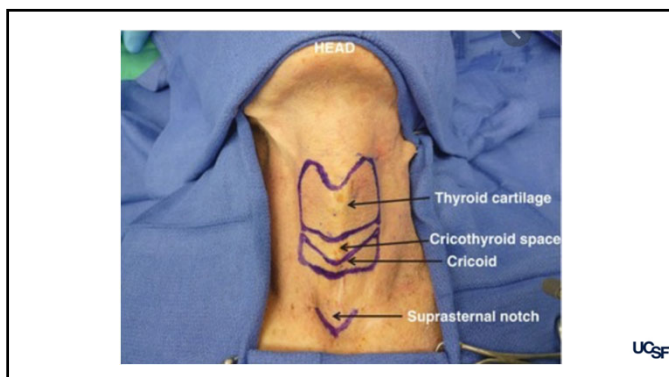
Surgical Cricothyroidotomy

- Crash airway
- Assemble equipment
 - Scalpel, bougie, ETT
 - Optional: +/- lidocaine with epi, tracheal hook, trousseau dilator, 6.0 cuffed tracheostomy tube

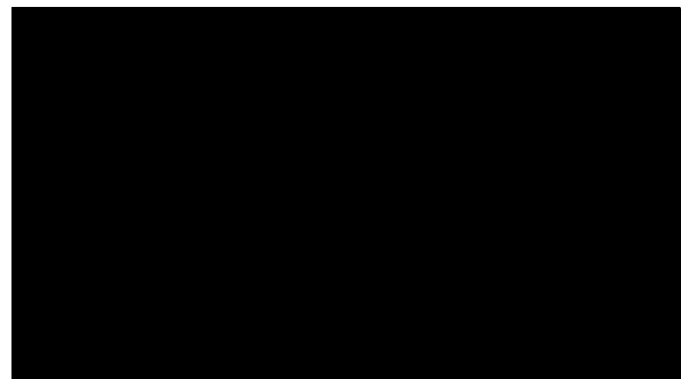


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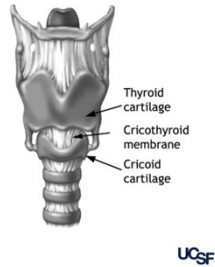
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Back to our case

- Attempt from above unsuccessful
- Open Surgical cric successfully done
- In OR, pt noted to have upper airway injury just below cords that was creating a false passage for the oral ETT



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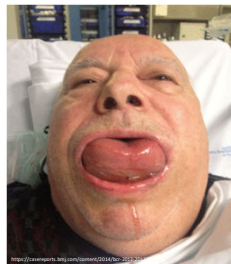
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Case 2: Angioedema vs Anaphylaxis

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69 y.o. p/w lip and tongue swelling

- Hypertensive, normal O2 sat
- Speaking full sentences upon arrival
- Limited exam



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Airway Issues

- Significant lip and tongue swelling
- Time
- Upper vs Lower airway involvement
- Anaphylaxis vs angioedema



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Angioedema vs Anaphylaxis

- Round 1: IM Epi, IV steroids, Albuterol
- Round 2: Albuterol, famotidine, IM epi
- "Pt with SOB and c/o difficulty breathing"
- 20 minutes after arrival pt coded

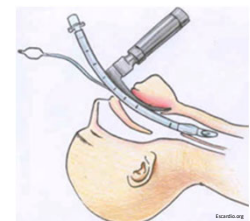


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Attempted VL From Above

- Induction/paralytic meds
- VL attempted
- Cricothyrotomy

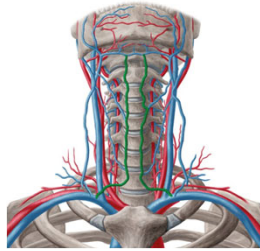


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Operative Report

- Oral intubation done by anesthesia with assistance of retrograde bougie through cric site
- Anterior Juglar Vein had been severed which was causing copious bleeding
- Trauma repaired cricothyroid membrane and performed tracheostomy successfully



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Conclusion

- Consider cricothyrotomy early- BE PREPARED
- Know your anatomy and stay midline with cric
- DON'T BE AFRAID TO CUT
- Call for back-up (if available) early

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Questions?

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