

EMET ED Airway  
Management  
Direct Laryngoscopy

# Learning Objectives

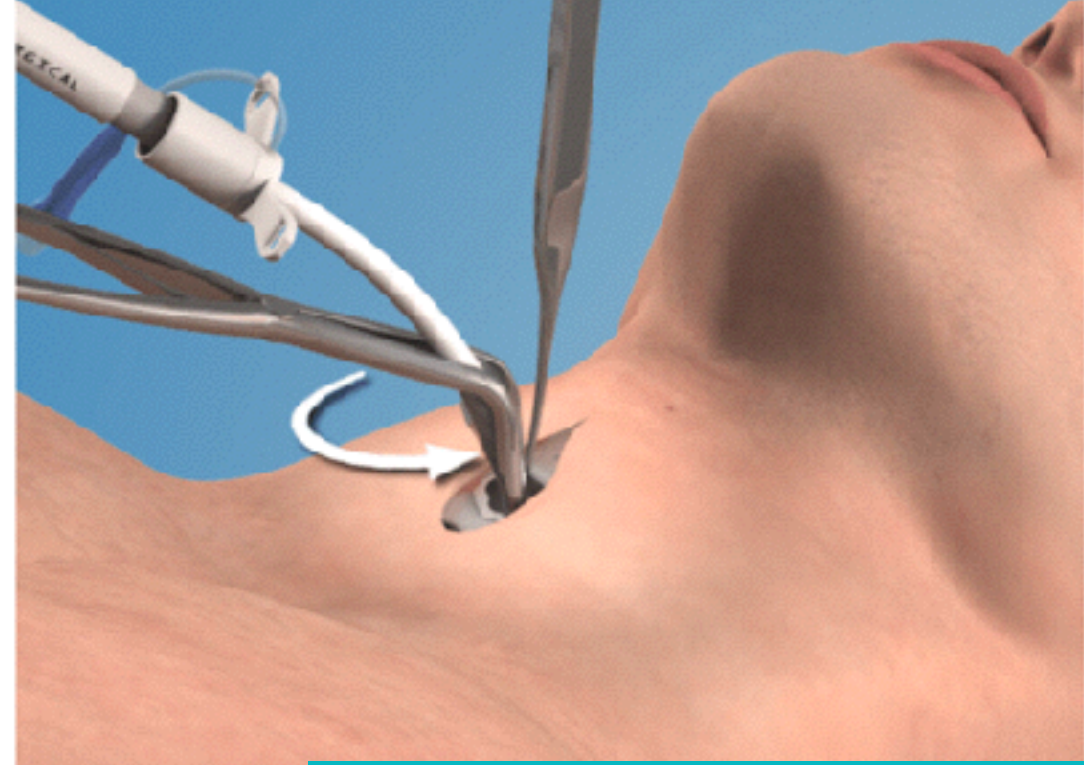
1. You will know that direct laryngoscopy/RSI is Plan A for most airways with indications for active airway management.
2. You will understand that difficult airways should be anticipated in all airway interventions and backup plans must be prepared.
3. You will understand that proper positioning of the patient and intubator is essential to “best look laryngoscopy”.
4. You will understand the procedure for optimising direct laryngoscopy and delivery of the endotracheal tube into the trachea.

# Direct Laryngoscopy Preparation

- Direct laryngoscopy (DL) remains the procedural standard for emergency tracheal intubation. Direct laryngoscopy is so named because it results ideally in direct line-of-sight of the glottis.
- The patient should be optimally pre-oxygenated.
- Large bore IV access should be obtained and a fluid bolus delivered, when appropriate.
- Appropriate personnel, equipment, and drugs should be ensured before the attempt at DL.

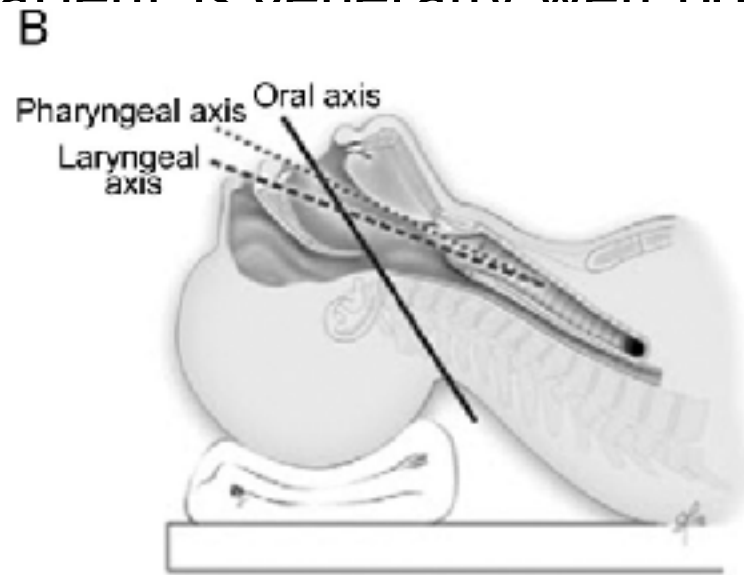
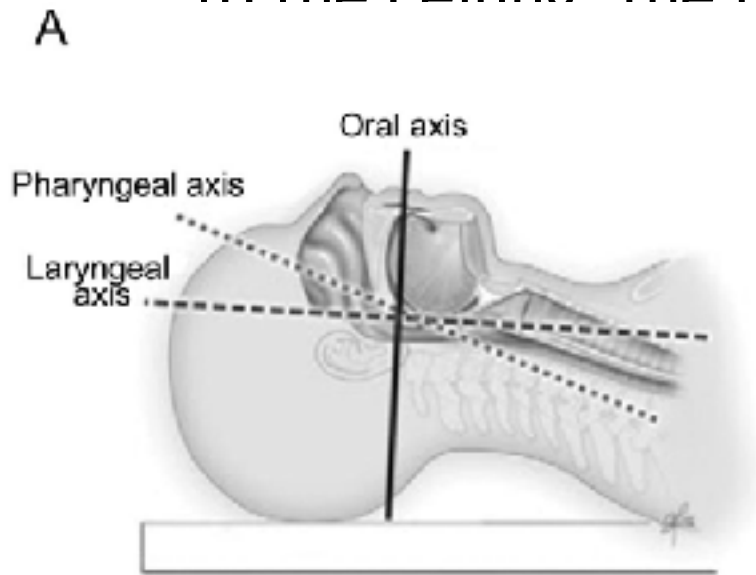
# Plan A, B and C

- The clinician should always prepare for a difficult airway and should communicate the plan to the team.



# Patient Positioning

- When not contraindicated by c-spine precautions, the airway axes can be partially aligned before laryngoscopy by placing folded blankets under the patient's head.
- Observing the patient from the side, when the external auditory meatus is aligned horizontally with the sternal notch and the patient's face is parallel to the ceiling, the patient is generally well positioned for laryngoscopy.



# Patient Positioning

- Head elevation, always higher than the stomach, is important for pre-oxygenation, alveolar patency, lessening risk of regurgitation, and improving conditions for laryngoscopy.
- In the trauma patient, tilt the bed feet down if the collar cannot be removed.



# Laryngoscopist's Positioning

- The center of the patient's head should align with the laryngoscopist's umbilicus.
- The laryngoscopist's elbow should be flexed and resting on their side during laryngoscopy.
- The laryngoscope should be held near the base of the blade.



# Open the mouth

- The mouth should be opened with a “scissors” technique.





# Place the laryngoscope in the mouth

- Insert the laryngoscope one inch into the mouth in the midline.
- If the chest is in the way of the laryngoscope handle (e.g. morbidly obese or pregnant patient) turn laryngoscope handle 90 degrees to the right side of the mouth, before inserting the blade tip one inch into the mouth and then turn the handle 90 degrees counterclockwise.



# Epiglottoscopy

- The first target of laryngoscopy should be the epiglottis.
- Gently inch down the center of the tongue until a sliver of epiglottis is seen. Do not apply any force as this advance is made.
- Use suction to clear secretions that pool in the posterior pharynx, obscuring the epiglottis
- Sweep the tongue out of the way.



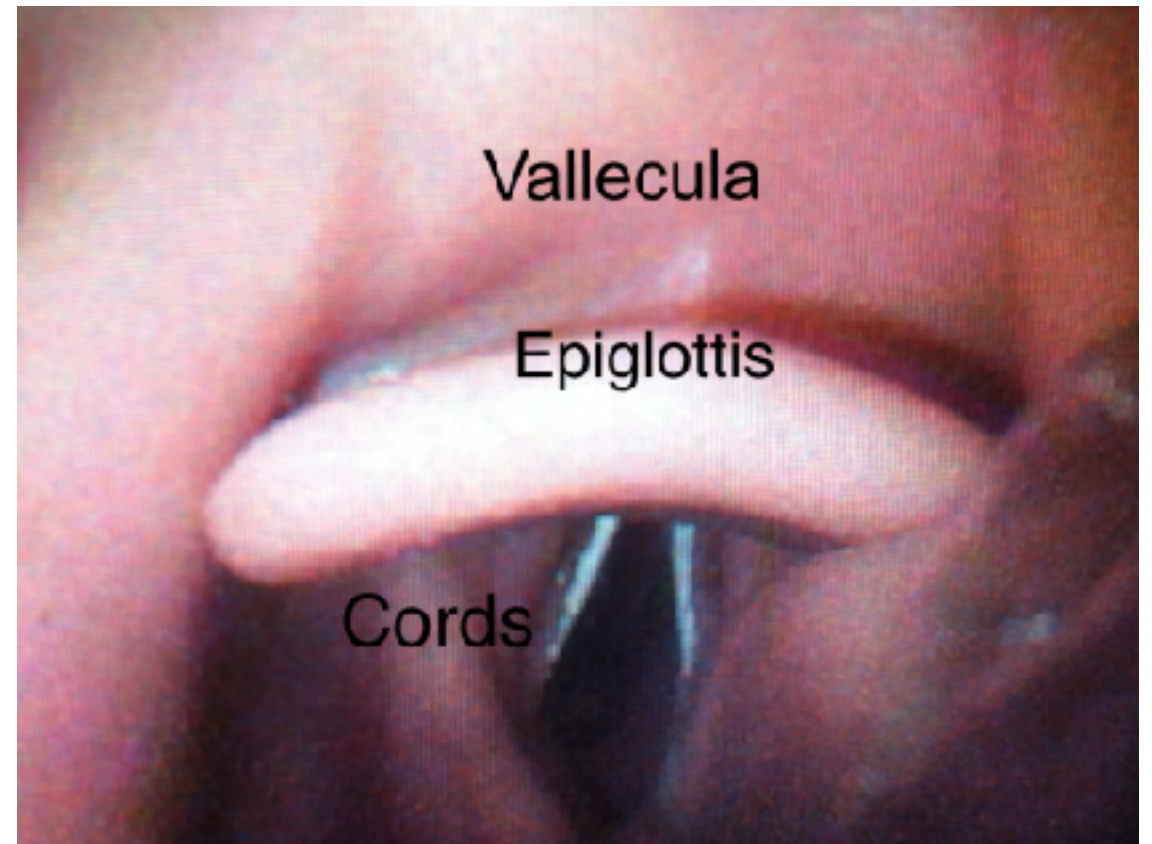
# Valleculoscopy

- During direct laryngoscopy, attempts to lift the tongue before the hyoepiglottic ligament is engaged, often results in an inadequate view of the glottic inlet.



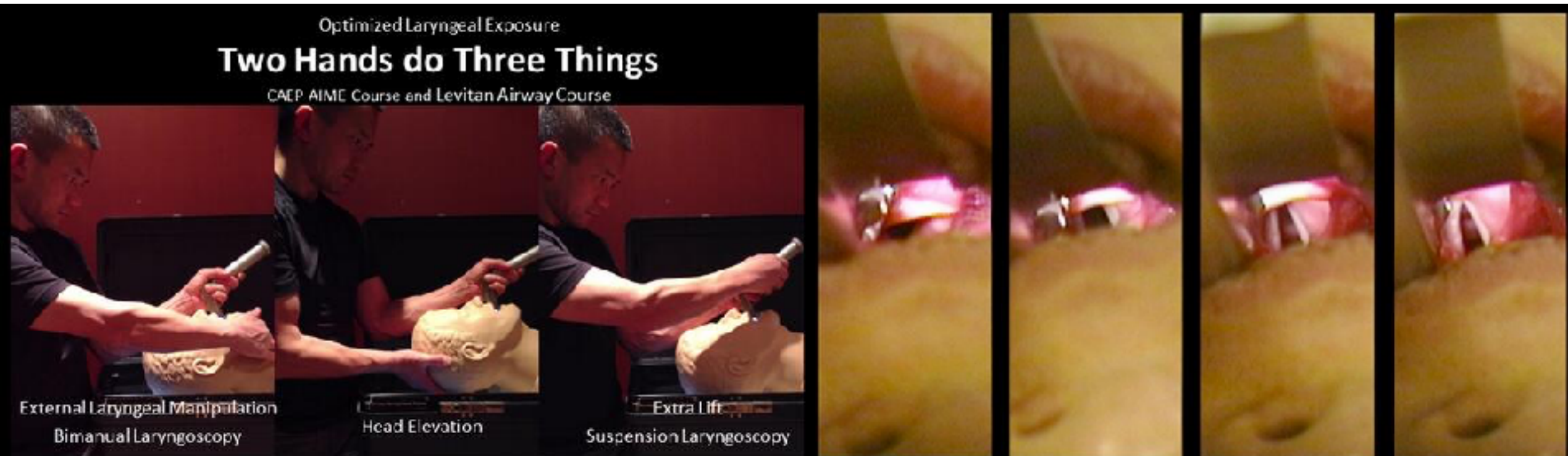
# Lift the tongue

- Visualization of the glottis by line of sight is then achieved using the laryngoscope blade to anteriorly lift the mandible and displace the tongue.

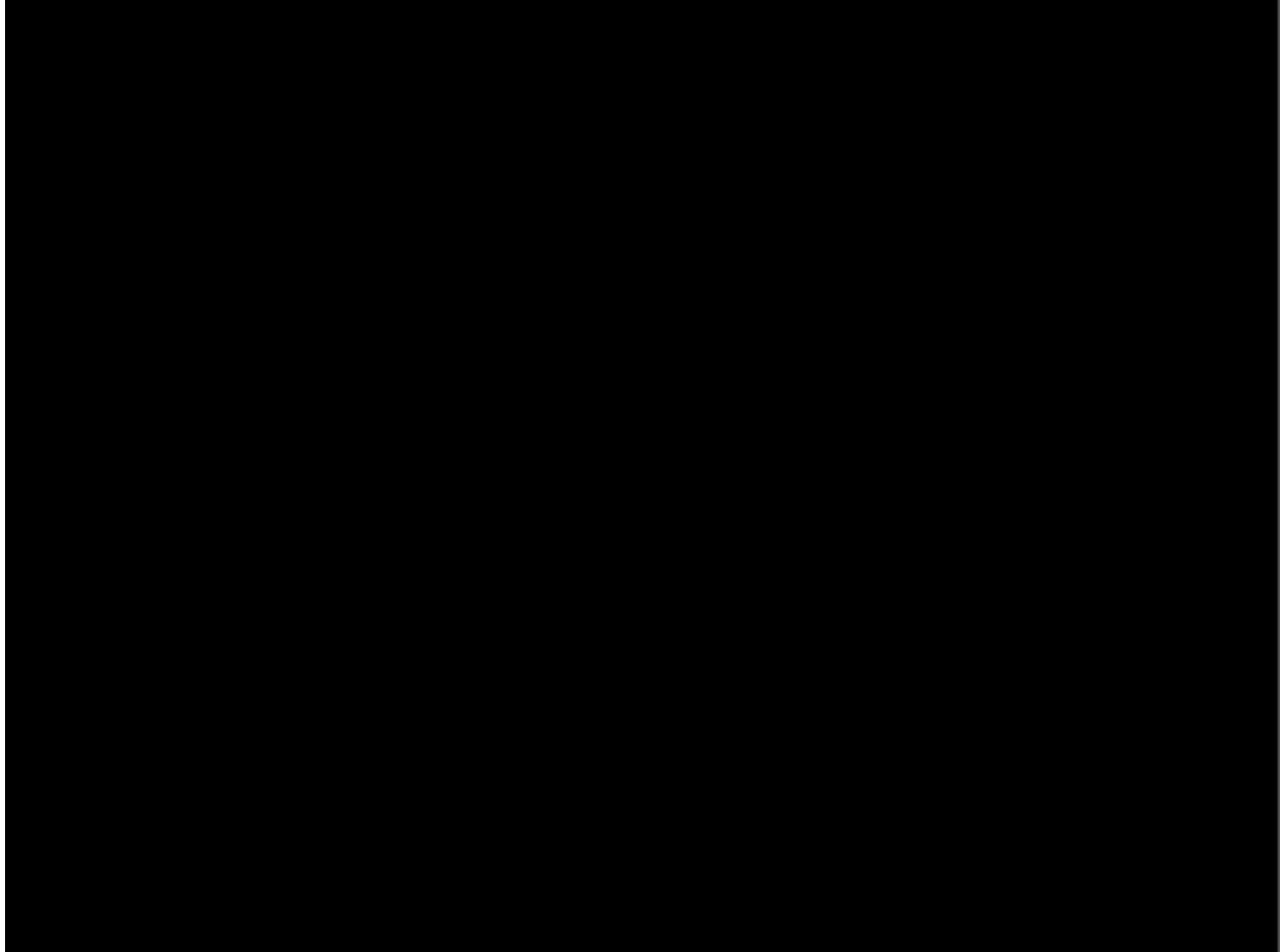


# Improving the view of the glottis

- Head lift, two handed laryngoscopy and external laryngeal manipulation (ELM) represent may improve views of the glottis.

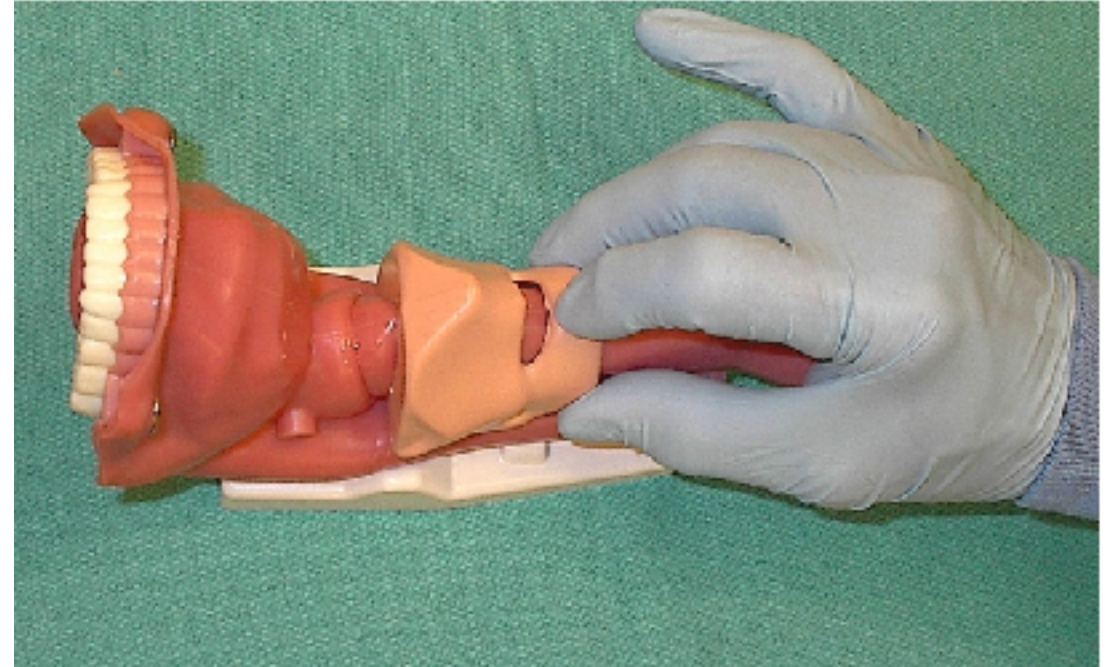


# Bimanual Laryngoscopy



# Sellick's Maneuver

- Cricoid pressure as the potential to impair the view at laryngoscopy, trigger vomiting, cause obstruction to BMV, and impair extraglottic device placement.



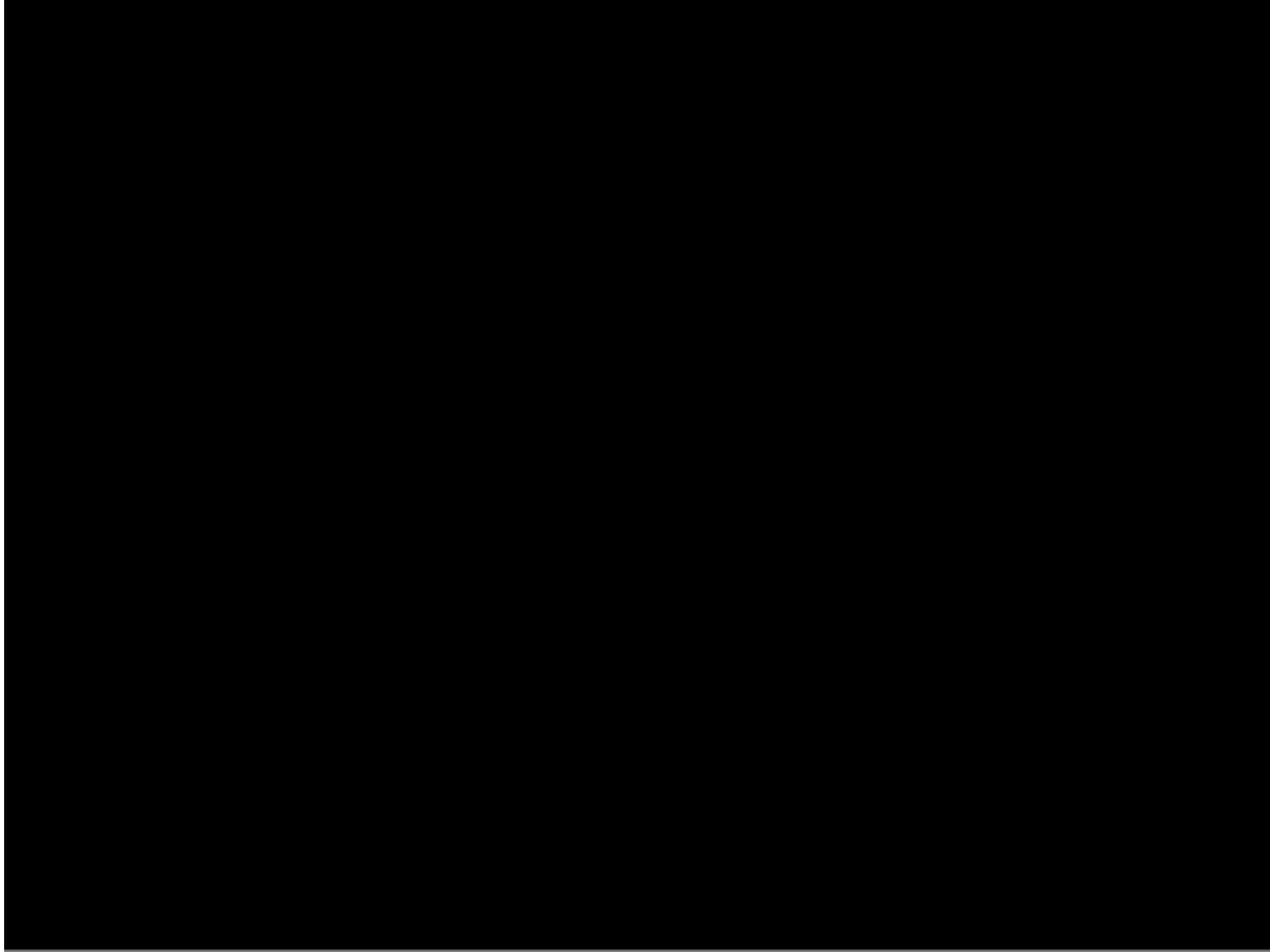
# Stylet the ETT!

- A lubricated stylet should be placed in the endotracheal tube (ETT). It should be straight to cuff and then bent to 35 degrees cuff to tip.





Stylet it Right

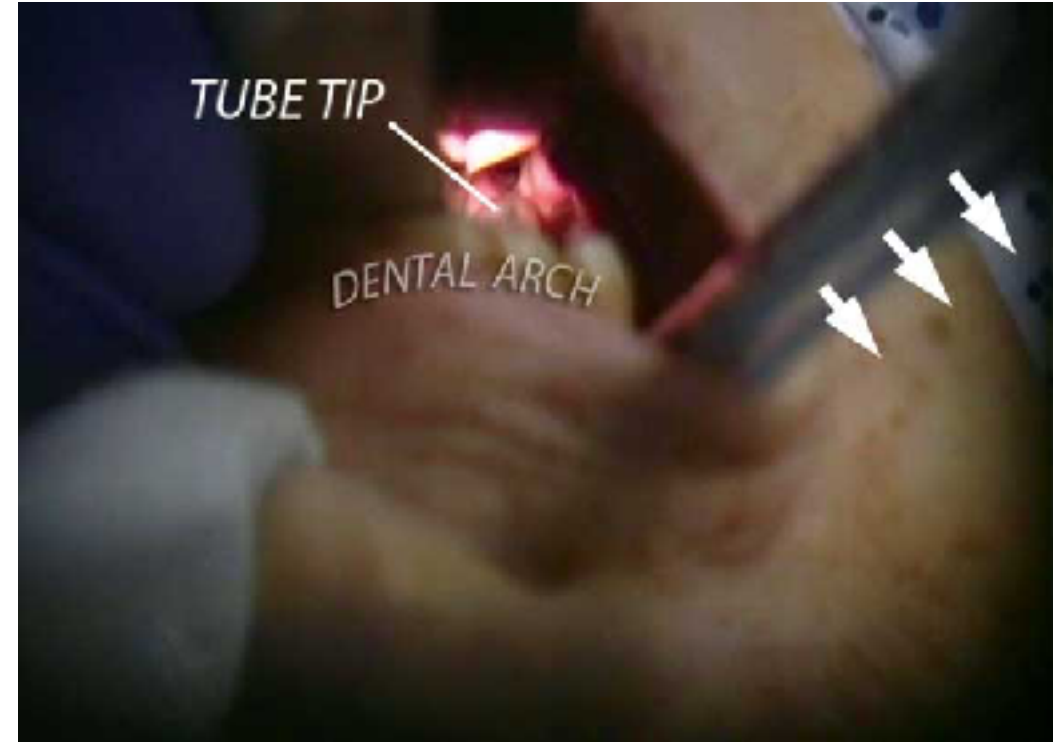


# Advance the ETT

Turn the ETT 90 degrees (horizontal plane) and enter the tip into the mouth at the extreme right side.

This allows control of the tip in both the antero-posterior and horizontal planes while allowing an unobstructed view of the vocal cords.

The same approach should be taken with a bougie, if it is used.



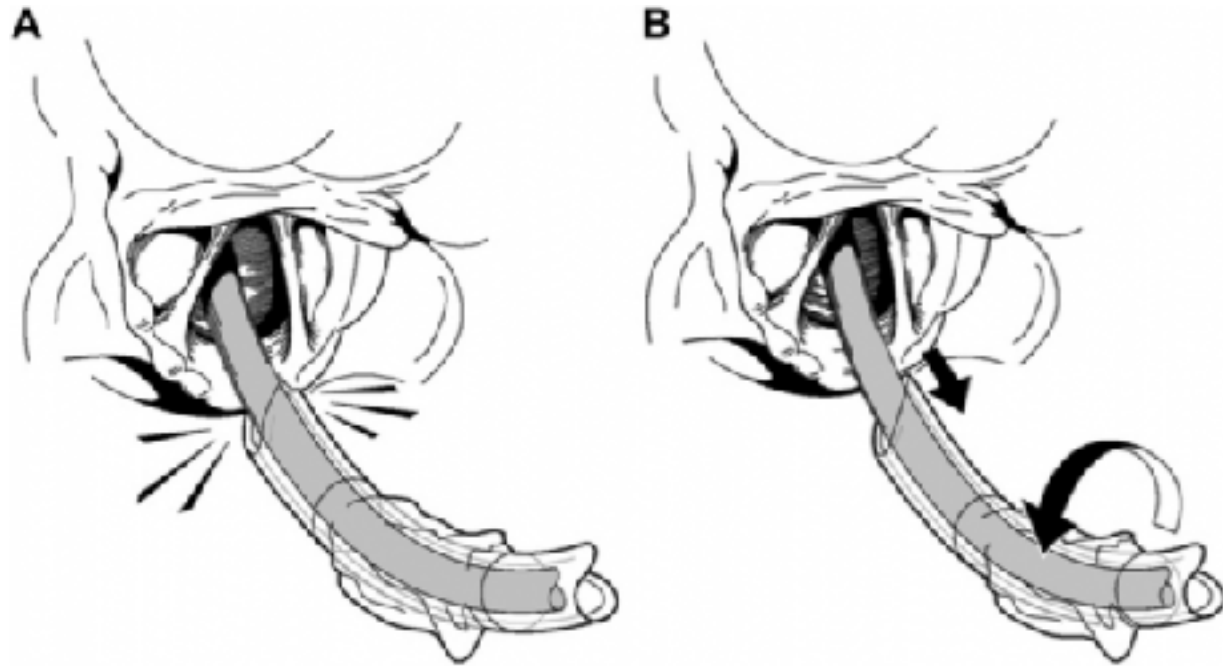
# Bougie

- A tracheal tube introducer (“bougie”) can be used on the first intubation attempt or when “best look” DL has failed to yield an adequate view of the glottis.
- The ETT can be “railroaded” over the bougie when it is in the trachea.



# Bougie

- If the bougie passes through the vocal cords but gets stuck on the anterior tracheal rings, rotate it 180 degrees clockwise.
- If the ETT tube gets hung up at the glottic opening, withdraw the ETT 2 cm and rotate it 90 degrees counterclockwise, before advancing it again.



# Best look laryngoscopy

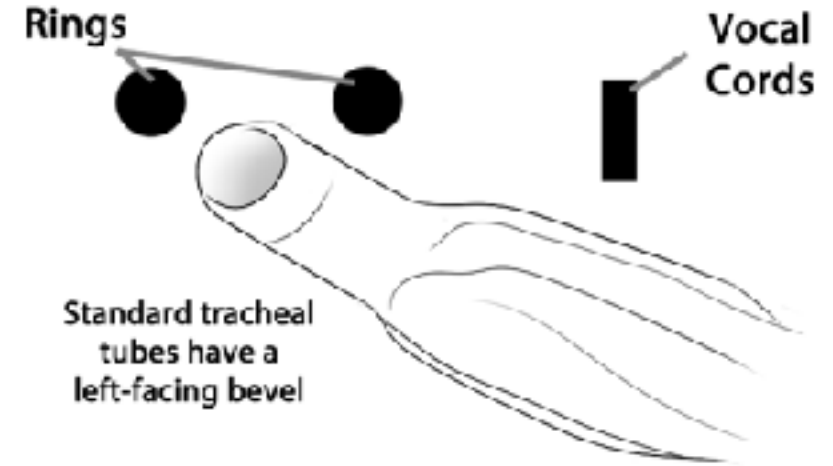
- One of the most important signs of a properly placed tube is to watch it pass through the vocal cords.
- Every effort should be made to intubate the patient on the first attempt as adverse events are correlated with subsequent attempts.



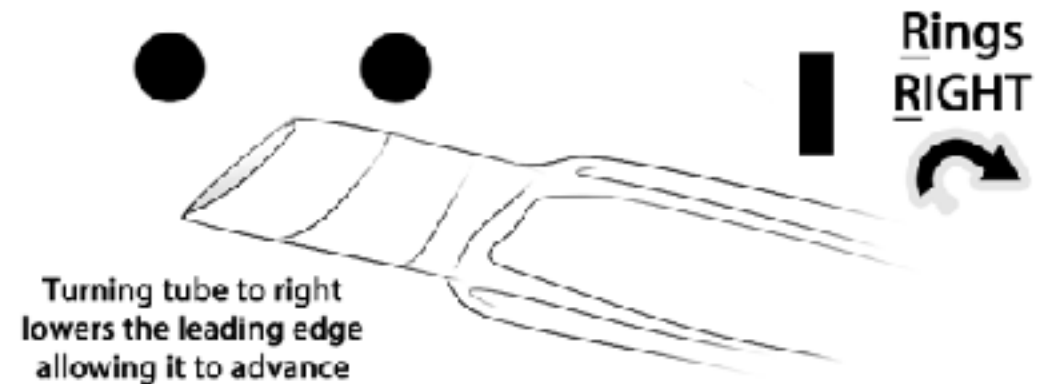
# ETT hang up at the glottis

- Deliver the tracheal tube over the stylet once the cuff is below the cords.
- If there is resistance to tube insertion, a clockwise (rightward) turn will lower the leading edge of the tube (disengaging it from the rings).
- Withdrawing the stylet may also allow tube advancement into the trachea.

Even after insertion, tube tip can catch on tracheal rings...



If resistance is felt, turn tube CLOCKWISE (right turn)...



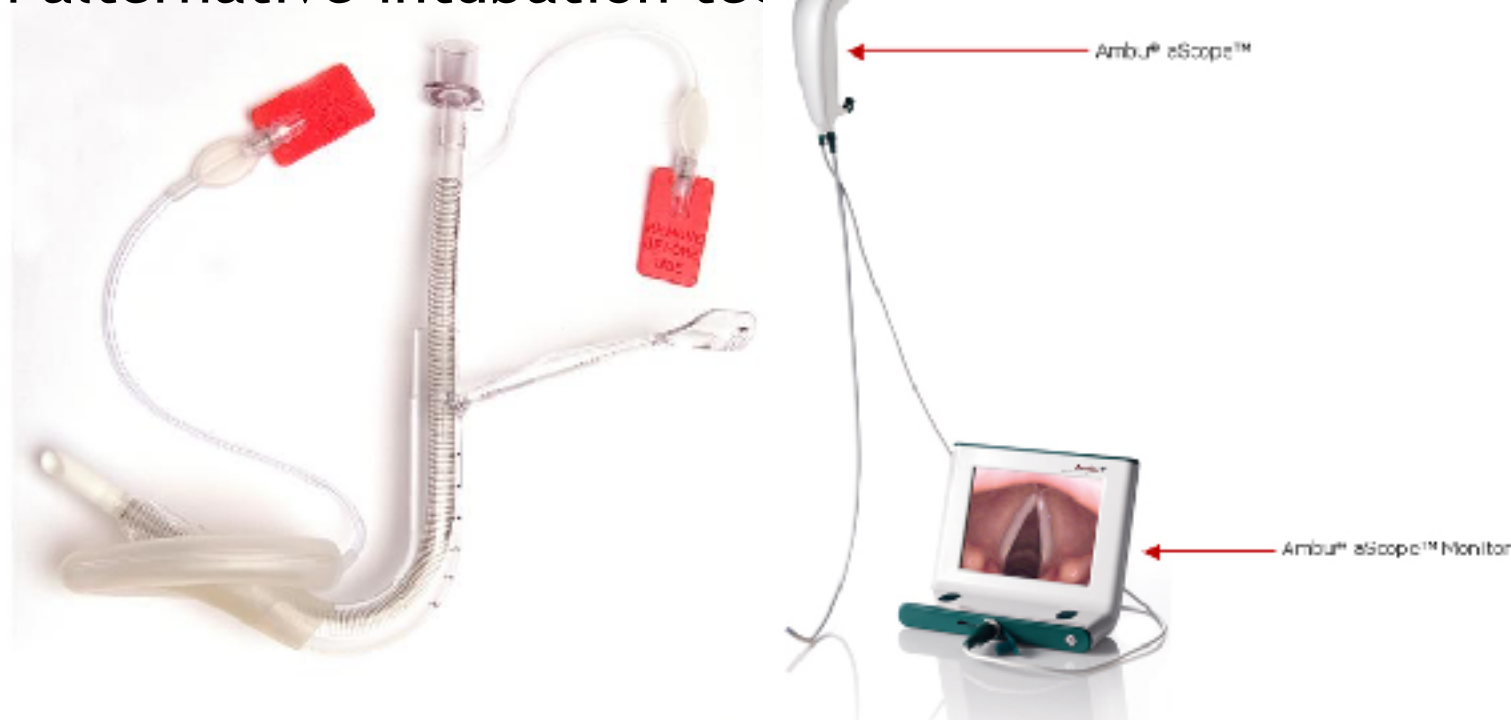
# Repeat Attempt at Intubation

- Abandon the attempt at intubation as the patient's SaO<sub>2</sub> approaches 90%.
- Resume BVM to preoxygenate the patient for a second attempt at intubation.
- For a second attempt at DL consider a change of blade type, length or location.



# Alternative Intubation techniques

- Repeated DL attempts can cause significant upper airway trauma, and may ultimately lead to a situation where mask ventilation may also be difficult or impossible. If “best look” laryngoscopy, including adjunctive use of a tracheal tube introducer, has failed after one or two attempts, it is reasonable to switch to an alternative intubation technique.





# Summary

1. Direct laryngoscopy remains the procedural standard for emergency tracheal intubation.
2. Proper positioning of the patient and intubator are essential to “best look” laryngoscopy.
3. A careful approach to the glottic view will enhance the view.
4. A properly bent, styletted ETT enhances delivery of the tube into the trachea.
5. Bougies are essential.
6. You must have a plan for alternative and rescue airway techniques.

