King Airway Insertion

Advanced Airway Management in the Perfusing Patient

- Topic is about “airway”, a passage for air from the nares to the alveoli
- Not a topic about air movement (ventilation)
- Not a topic about oxygenation (saturation)

Airway Management, Ventilation and Oxygenation

- Airway management is establishing a conduit for air passage
- Ventilation is a mechanical process for moving air into and out of the alveoli
- Oxygenation is the saturation of hemoglobin with oxygen

Gastric Contents

- One ounce of aspirated gastric juice is a LETHAL dose!

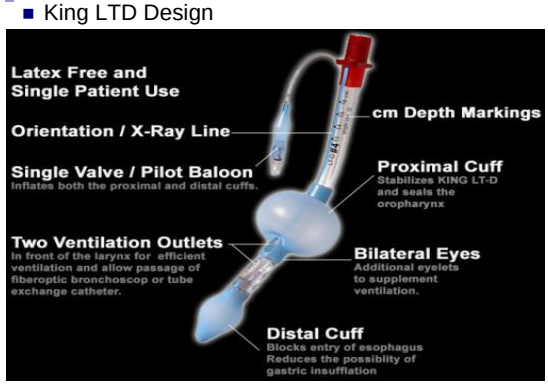
If it can digest a hamburger, imagine what it does to your lungs!!

King Airway

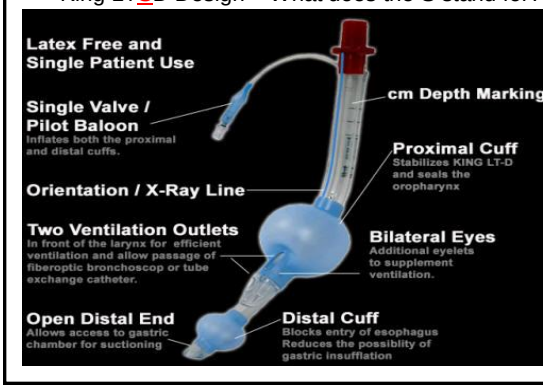
King® Airway

- Disposable Supralaryngeal Airway
- Single Lumen
- Must be an EMT (State or NR) to practice
- Designed to be placed at top of esophagus, not tracheal placement
- Need a physician preceptor

- King LTD Design



- King LTSD Design – What does the S stand for?



What Size of King Airway Should be Used?

King LT Inflation Volumes					
Size	#2	#2.5	#3	#4	#5
COLOUR	Green	Orange	Yellow	Red	Purple
CUFF VOLUME	25-35 ml	30-40 ml	45-60 ml	60-80 mL	70-90 mL
HEIGHT	35-45 in 90-115 cm	41-51 in 105-130 cm	4-5 ft 122-155 cm	5-6 ft 155-180 cm	> 6 ft > 180 cm

If cuff pressure gauge is used 60 cm H2O is recommended

King Airway

- Indications for use:
- Adult patients in respiratory arrest
- Adult patients in cardiac arrest

Contraindications

- Known esophageal disease
- Injested caustic substances
- An allergy to latex

Advantages

- Does not require visualization of the glottis
- Initial training and maintenance of skills are easier
- Chest compressions do not need to be interrupted to insert
- Minimal equipment required for insertion

Disadvantages

- Unrecognized improper placement can occur
- Regurgitation which can lead to aspiration

Precautions

- Take appropriate universal precautions
- May be used in trauma patient taking extreme caution not to move neck
- When facial trauma has resulted in sharp broken teeth use extreme caution when passing the King Airway into the mouth.
- If the patient has dentures, remove them.

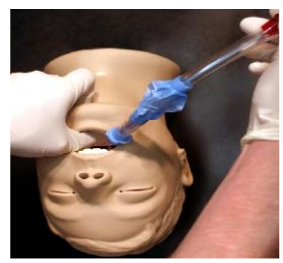
Insertion Procedure - Preparation

- Choose the correct size based on patient's height
- Test cuff inflation system for air leak
- Apply water-soluble lubricant to the distal tip

https://www.youtube.com/watch?v=lFHDH0HxGyg

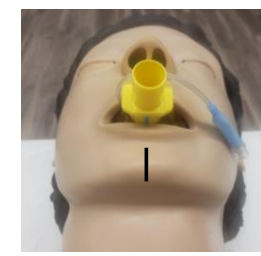
Insertion Guide

- Hold the King Airway at the connector with dominant hand
- With non-dominant hand, hold mouth open and apply chin lift.
- Using lateral approach, introduce tip into mouth



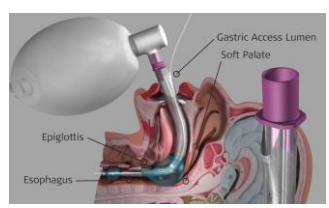
Insertion Guide

- Advance the tip behind the base of the tongue while rotating tube back to midline
- Blue orientation line should align with the chin of the patient.



Insertion Guide

Without exerting excessive force, advance tube until base of connector is aligned with teeth or gums.



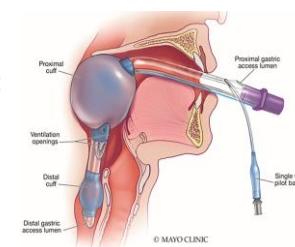
Insertion Guide

Inflate the King Airway with the appropriate volume:

Size 3 = 50ml

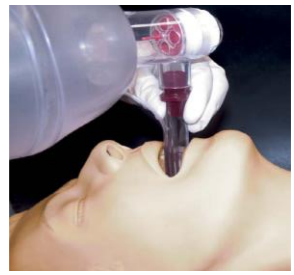
Size 4 = 70 ml

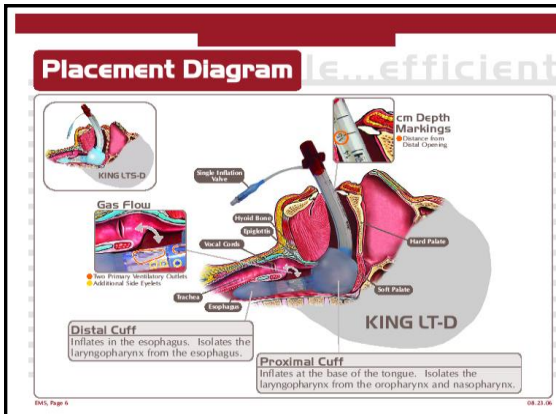
Size 5 = 80 ml



Insertion Guide

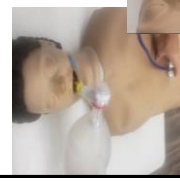
- Attach the resuscitator bag to the airway
- While bagging the patient, gently withdraw the tube until ventilation becomes easy and free flowing (large tidal volume with minimal airway pressure.
- Adjust cuff inflation if necessary to obtain a seal of the airway at the peak ventilatory pressure employed.





Tube Placement Confirmation

- Observation of adequate chest rise
- Listen for bilateral breath sounds
- Listen for no sounds over the epigastrum
- Confirm placement with end-tidal capnography



SECURE THE TUBE!

Pitfalls of the King Airway

- Requires constant practice to stay proficient at insertion.
- Must be monitored constantly.
- Blue orientation line must be kept midline at ALL TIMES.
- Patient **MUST NOT** have a gag reflex
- Don't forget your basic airway practices!

Best Practices

- Not getting an adequate chest rise – more air in the cuff may be required
- Patient difficult to ventilate – pull back slightly on the device
- Patient wakes up – Deflate and Remove!
- Emesis – suction in and around device
- Presumed cardiac – AED
- Presumed respiratory - King

Fast Facts on the King Airway

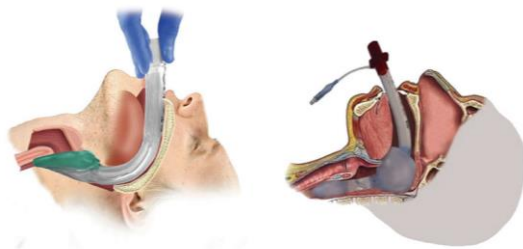
- Single-use only
- Do not overinflate the cuff. This may cause damage to patient's airway.
- If airway needs to be removed, deflate both cuffs completely prior to removal.
- May be left in place for up to 8 hours
- Rare to place in the trachea – remove & retry
- Optimal head position – sniffing position
- Safe for your latex-sensitive patients

i-gel Airway Insertion

i-gel versus the King Airway

A: i-gel™ Laryngeal mask airway

B: King LT - D



https://www.youtube.com/watch?v=kuu7A_Zmn3s

Contraindications

- 1. Non-fasted patients for routine and emergency anaesthetic procedures.
- 2. Trismus, limited mouth opening, pharyngo-perilaryngeal abscess, trauma or mass.
- 3. Do not use excessive force to insert the device or nasogastric tube.
- 4. Do not leave the device in for more than four hours.
- 5. Do not reuse or attempt to reprocess the **i-gel**.
- 6. Patients with any condition which may increase the risk of a full stomach e.g. hiatus hernia, sepsis, morbid obesity, pregnancy or a history of upper gastro-intestinal surgery etc.
- 7. Use on a conscious/semi-conscious patient in an emergency setting.

i-gel Best Practices

- i-gel must be lubricated before insertion
- Maintain sterility of device
- Optimal position is the "sniffing position"
- Leading edge of the i-gel's tip must follow the curvature of the patient's hard palate
- i-gel should be taped down maxilla-to-maxilla
- Excessive air leak is often sub-optimal depth of i-gel insertion
- Remove dentures prior to insertion

Correct Sizing of the i-gel

Select the appropriate size **i-gel** by assessing the patient's anatomy. The **i-gel's** cuff may look smaller than traditional supraglottic devices with an inflatable cuff of the same numerical size.

i-gel size	Patient Size	Patient weight guidance (kg)
1	Neonate	2-5kg
1.5	Infant	5-12kg
2	Small paediatric	10-25kg
2.5	Large paediatric	25-35kg
3	Small adult	30-60kg
4	Medium adult	50-90kg
5	Large adult	90+kg

i-gel Insertion Steps

- Maintain PPE
- Inspect all packaging
- Remove device from package and lubricate (back, sides, and front)
- Place back in package (maintain sterility)
- Grasp i-gel firmly along bite block, position towards patient chin
- With the head in sniffing position and chin gently pressed down, insert device
- Glide device downwards and backwards along hard palate until resistance is felt
- Tape down i-gel once in place

https://www.youtube.com/watch?v=amwT8g6nddo

Questions

- Skill demonstration of the King Airway and i-gel device
- Written exam