EMERGENCY AIRWAYS

EMERGENCY AIRWAYS

1. MANAGEMENT:

- Emergency airway management usually involves a combination of reasons and factors that will dictate how the airway should be handled.
- A few of these factors are:
  - *Respiratory and ventilatory compromise*
    - *Deteriorating clinical situation*
      - Impaired oxygenation
        - Non-cooperative patient
          - Secretions, blood, or vomitus in airway

EMERGENCY AIRWAYS

- King LT
- I-Gel

- Endotracheal intubation
- Nasotracheal intubation
- Needle cricothyrotomy
- Surgical cricothyrotomy

BLS

ALS

EMERGENCY AIRWAYS

KING LT

KING LT

- The King is a single-use supraglottic airway
- It uses two cuffs to create a supraglottic ventilation seal.
- The top cuff is an oropharyngeal cuff, with the bottom cuff being an esophageal cuff.
- The ventilation holes are located between these two cuffs.
- Although it may be possible to initially insert the tip of the tube in the trachea, it is unlikely due to the overall shorter length of the tube.

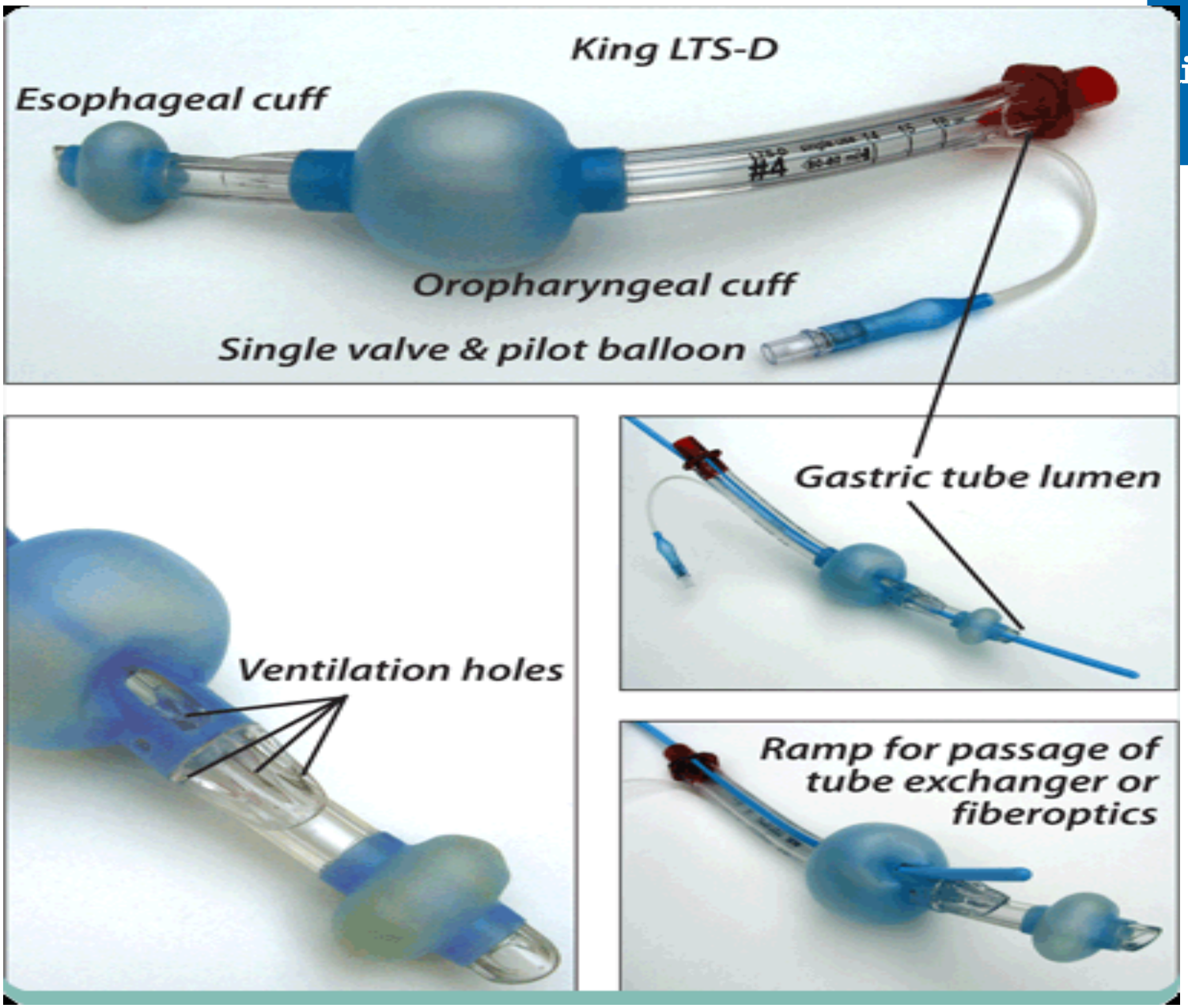
KING LT

- The King LT is manufactured in 5 different application sizes: 3 of which are mainly used for EMS
  - #3: 4-5 feet
  - #4: 5-6 feet
  - #5: >6 feet

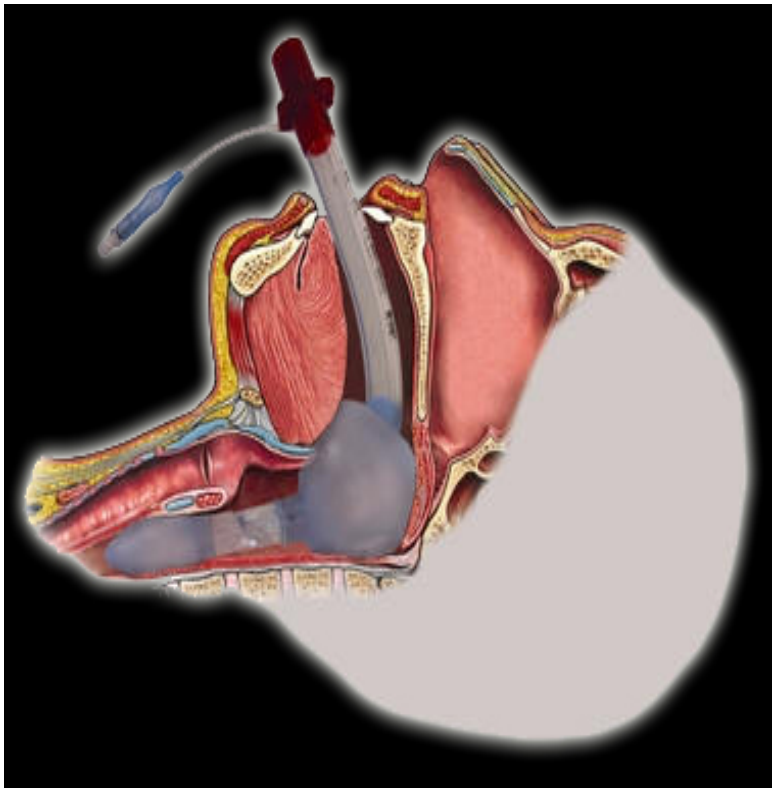
KING LT

- The King LT works well in both the tactical (prehospital) and the hospital setting.
- The effectiveness of the ventilations should always be monitored and verified by clinical improvement, along with end-tidal CO2 detection and O2 oximetry.

- FOR PROPER INSERTION PROCEDURE, SEE PAGE 26 OF 2013 RIVERVIEW EMS PROTOCOLS


King LTS-D
Esophageal cuff
#4
Oropharyngeal cuff
Single valve & pilot balloon
Gastric tube lumen
Ventilation holes
Ramp for passage of tube exchanger or fiberoptics

- Diagram to right shows proper placement of tube.
- Note cuffs upper seal location.



KING LT

EMERGENCY AIRWAYS

NASOTRACHEAL INTUBATION

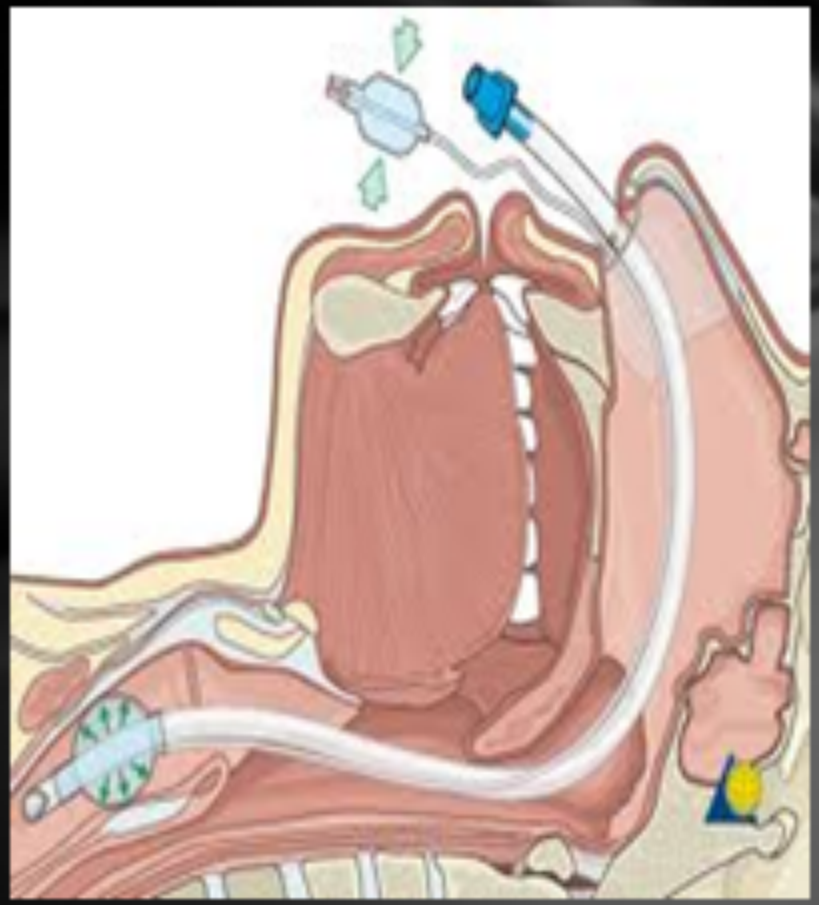
NASOTRACHEAL INTUBATION

1. WHO?
   - EMS - Paramedic

1. WITH?
   - Proper equipment
   - Additional crew members for assistance
   - Competency of skill

NASOTRACHEAL INTUBATION

- Nasotracheal intubation is performed on those patients that have spontaneous respirations, but are in need of intubation.
- The patients airway can be properly maintained for adequate oxygenation and ventilation



EMERGENCY AIRWAYS

ENDOTRACHEAL INTUBATION

ENDOTRACHEAL INTUBATION

- Endotracheal intubation is a procedure in which a tube is placed through the mouth and inserted into the trachea.
- This serves as an open passage though the upper airway for ventilation of the lungs.
- This procedure is practiced to accommodate those conscious patients who have difficulty maintaining their airway or for the unconscious patient who is unable to maintain an airway.

ENDOTRACHEAL INTUBATION

- Endotracheal tubes can be attached to a ventilator that provides artificial respirations.
- This is frequently used for those critically ill patients who cannot maintain adequate respiratory function to meet their life needs.

ENDOTRACHEAL INTUBATION

1. COMPLICATIONS:
   - *Pneumonia – usually resulting from aspiration of stomach contents*
   - *ARDS – aspiration also*
   - *Pneumothorax – if placement of tube is too deep, thus resulting in only one lung being ventilated*

   ➢ *DAMAGES:*
   - *Teeth*
   - *Vocal cords*
   - *Soft tissues in the back of the throat*

1. WITH?

- Proper equipment
- Additional crew members for assistance
- Competency of skills

EMS – Paramedic

- WHO?
- EMS - Paramedic

ENDOTRACHEAL INTUBATION

ENDOTRACHEAL INTUBATION

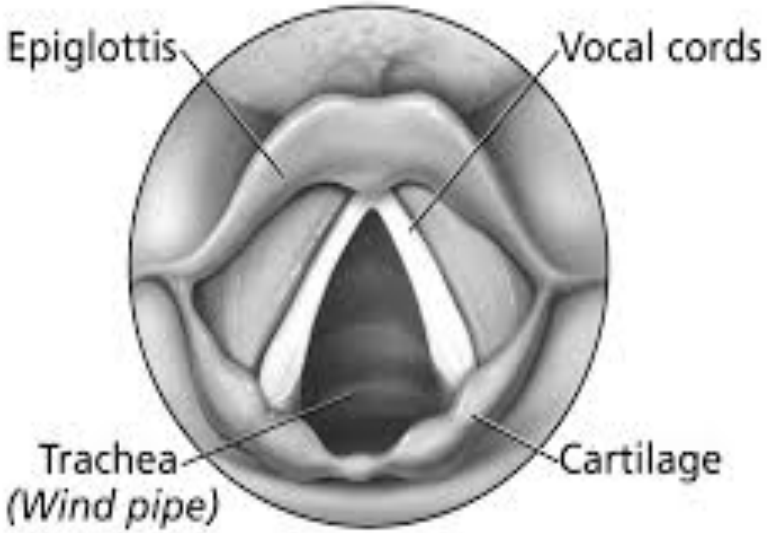


Figure 5: The tube passes through the vocal cords

Textbook View of Cords

Camera View of Cords

ENDO AND NASO TRACHEAL

- After tube placement, confirm with end-tidal CO2 monitoring and document findings in patient chart.
- Document tube size, time of procedure, and success or failure (including number of attempts).
- List all other methods used to confirm tube placement.
- Document any clinical change in patient after tube placement.
- ALWAYS recheck tube placement after moving patient.

EMERGENCY AIRWAYS

NEEDLE CRICOTHYROTOMY

NEEDLE CRICOTHYROTOMY

- Needle cricothyrotomy is an emergency procedure that is done to provide an airway when other, more common procedures fail or are contraindicated.
- Situations where it could be appropriate:
  - *Trauma to the oral, pharyngeal, or nasal area*
  - *Laryngospasm*
  - *Congenital deformities*
  - *Clenched teeth*
  - *Cancer or tumor placement*
  - *Can be applied to both adult and pediatric patients*

NEEDLE CRICOTHYROTOMY

- CONTRAINDICATIONS:
  - *About the only true contraindication is due to age.*
  - *There is discussion as to what age is the appropriate limit for allowability, but for the purposes of this presentation, it will be the age of 12 years.*
    - *Those patients **12 years and younger** should receive needle cricothyrotomy emergency airway procedures.*
    - *Children 12 years and up, as well as adults, may receive surgical cricothyrotomies or needle cricothyrotomies. These particular patients of greater age have a larger cricothyroid membrane which would make the surgical option available.*

1.

NEEDLE CRICOTHYROTOMY

- Needle cricothyrotomy can be sufficiently used for some where in the 40 minute range. After this time, CO2 tends to accumulate and this could be detrimental to a good patient outcome.
- Success rate of needle cricothyrotomies has been evaluated as being in the 90% - 100% range, but their occurrence is 1% or less.

NEEDLE CRICOTHYROTOTMY

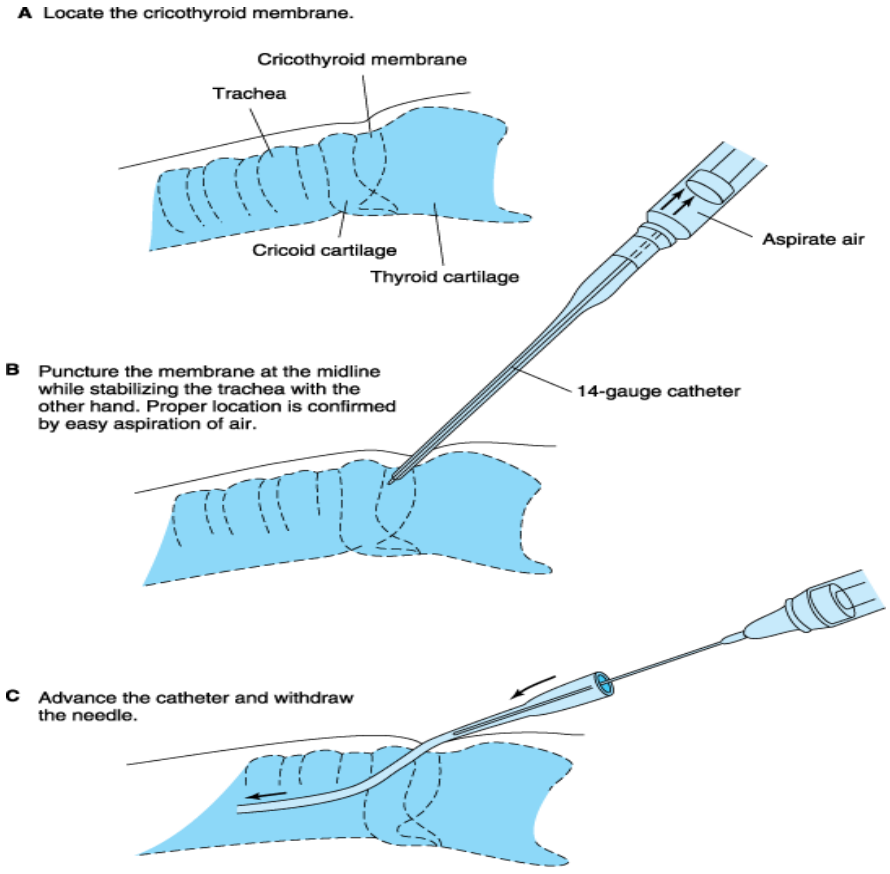
- WHO?
- EMS - Paramedic

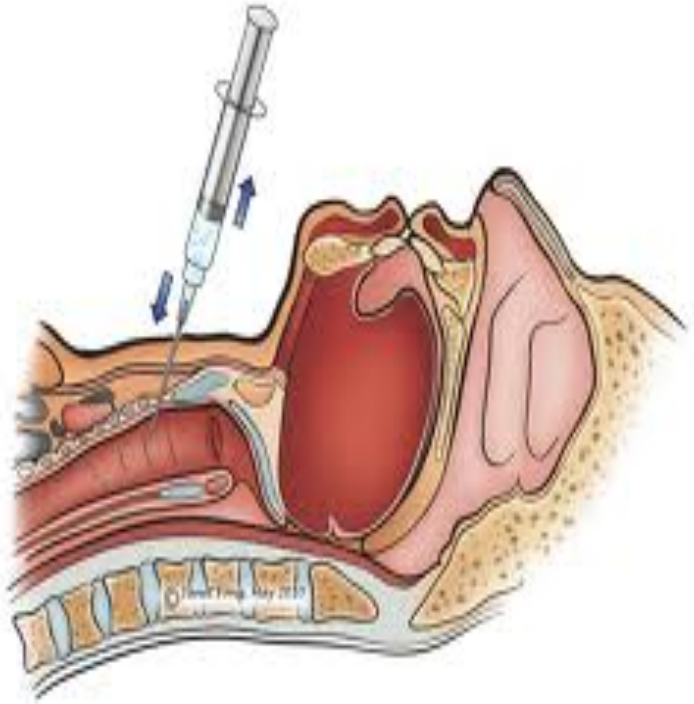
1. WITH?
   - Proper equipment
   - Additional crew members for assistance
   - Competency of skill

NEEDLE CRICOTHYROTOMY

Various kits available

NEEDLE CRICOTHYROTOMY





EMERGENCY AIRWAYS

SURGICAL CRICOTHYROTOMY

SURGICAL CRICOTHYROTOMY

- This advanced airway management technique has been the traditional end of the line option for that difficult failed airway management patient.
- The more widespread acceptance of pharmacological adjuncts (RSI) has caused a sharp decline in the number of these procedures.
- With the number of optional rescue ventilation devices being offered today, the frequency of use in the emergency setting will more than likely decline.

SURGICAL CRICOTHYROTOMY

1. PROBLEMS WITH SURGICAL AIRWAYS:
   - *High complication rates*
   - *Very difficult skill acquisition and maintenance*
   - *Usually long time before ventilation, resulting in potential hypoxic brain injuries.*

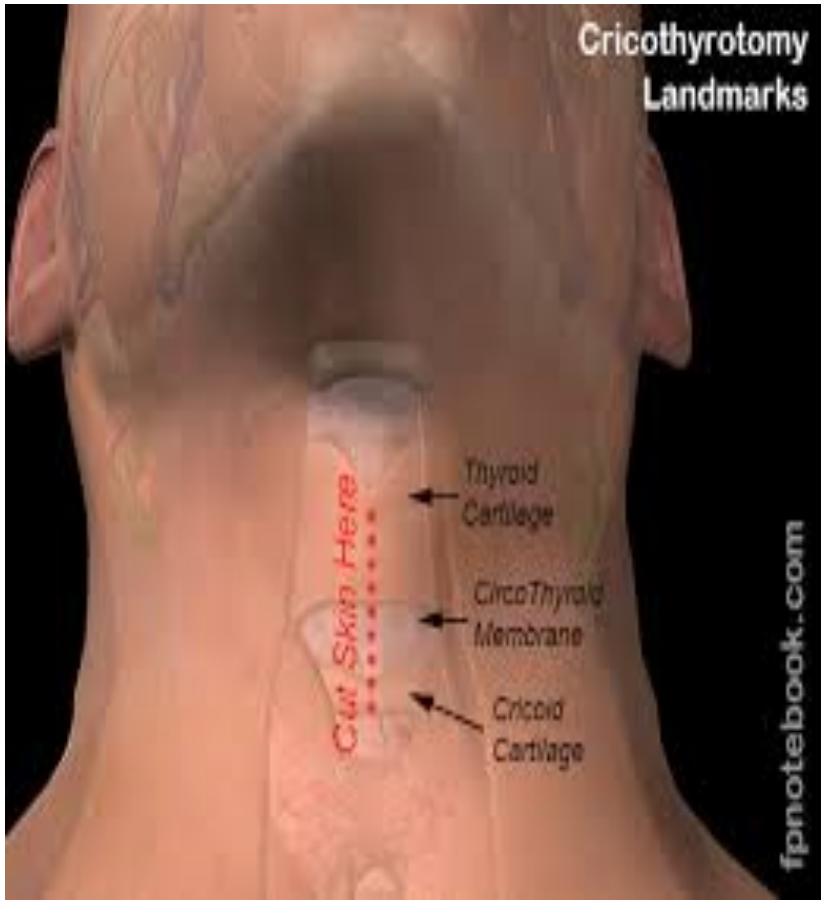
1. WITH?
   - Proper equipment
   - Additional crew members for assistance
   - Competency of skill

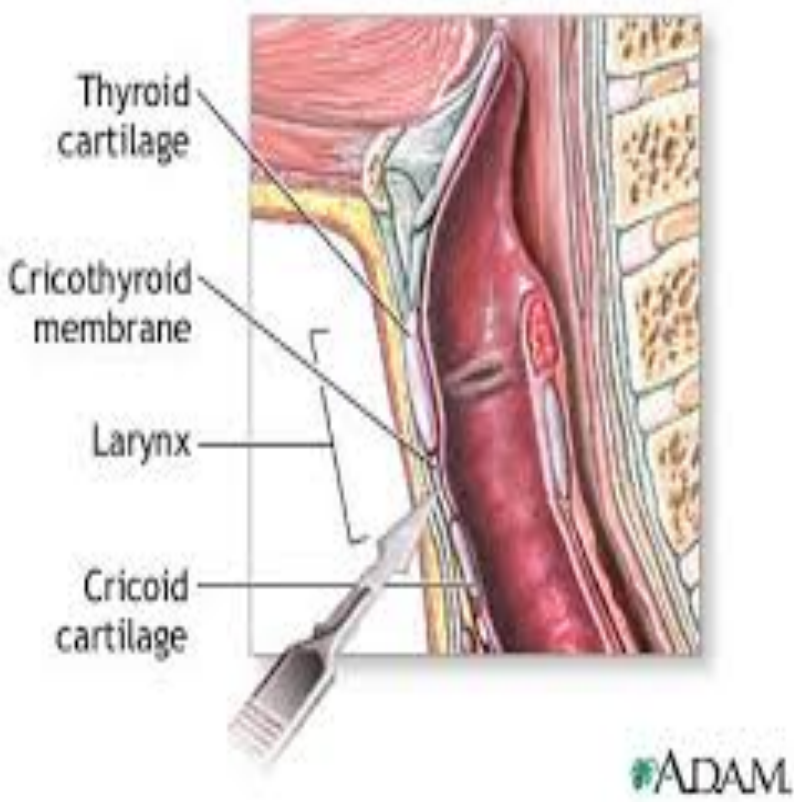
SURGICAL CRICOTHYROTOMY

WHO?

- EMS - Paramedic

SURGICAL CRICOTHYROTOMY





SURGICAL CRICOTHYROTOMY

- This is a skill that MUST be practiced and refreshed routinely, before any attempt in the field is performed.
- Remember, this is usually a " last ditch effort" to gain control of a difficult airway.
- DO NOT let complacency get in the way of proper patient care. Stay current and train.

QUESTIONS FOR CREDIT

Riverview HEALTH

1. What is the name of the BLS supraglottic airway mentioned in this article and what status type of patient is it recommended for?
2. How can effectiveness of placement be monitored using this type of airway adjunct?
3. Name three reasons or factors that will determine the need to manually manage an airway.
4. Identify three possible advanced practices of managing airways.
5. Name the “last ditch effort” airway procedure for children and can it be used on adults?