Right Angle Pull Syringe Aspiration Technique (RAPSAT)
Esophageal Intubation Detection Device

The RAPSAT EDD is a syringe-like device that is used to confirm placement on an ET Tube or double lumen airway. The RAPSAT EDD is capable of creating a vacuum in the endotracheal tube that enables the user to differentiate between the esophagus and the trachea.

The esophagus and the trachea have major physiological differences; the trachea is a rigid, cartilaginous structure while the esophagus is soft and muscular structure. The esophagus will collapse around the end of the tube when suction is applied to it, indicating an esophageal intubation. The trachea, on the other hand, will maintain it's rigid structure and give the user a free and easy pull.

The greatest advantage of the RAPSAT EDD is the placement of ears, or handles, at the end of the device nearest to the endotracheal tube. These ears allow the user to maintain positive control of the connection to the endotracheal tube as well as the tube itself. The user can hold the endotracheal tube and the RAPSAT EDD in one hand while the other pulls the syringe plunger out, creating a vacuum.

The RAPSAT EDD includes a 90° adapter to change the direction of pull. By pulling to the side, instead of straight in-line, we try to reduce the movement of the ET tube once it's been placed. Once the intubation is confirmed twisting the barrel and pulling it off the 90° adapter will remove the RAPSAT. Attach any BVM and ventilate the patient.

Instructions

1. After intubating the patient, place the RAPSAT EDD on the ET tube adapter.
2. Firmly grasp the RAPSAT EDD, the 90º elbow and the ET tube in the palm of your hand.
3. You can use either one finger as in Diagram #1 or two fingers as in Diagram #2.
4. With your free hand, grasp the ring of the plunger and pull back over 2-3 seconds.
5. After confirming tube placement, remove the RAPSAT EDD by twisting the syringe barrel and pulling back as shown in Diagram #3.

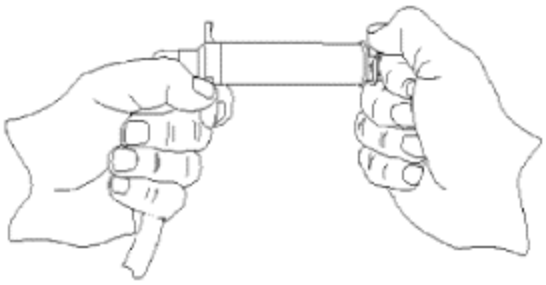

Diagram #1

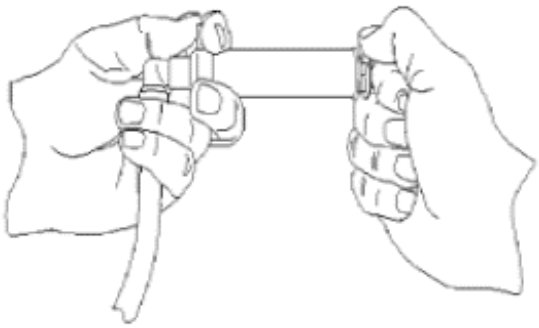

Diagram #2

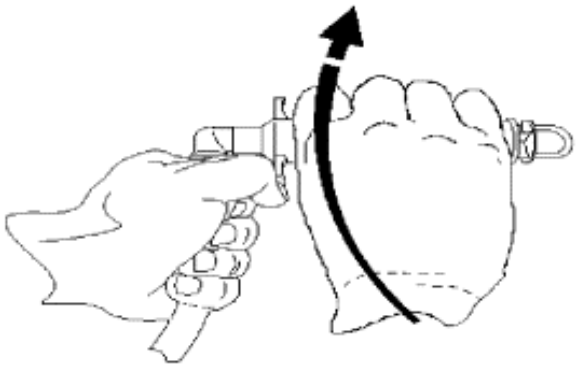

Diagram #3

Positive Findings

- The plunger pulls back freely
- Plunger does not snap back when released

When There are Positive Findings

- While still holding the ET Tube and 90º Elbow twist and pull back on the syringe barrel as in Diagram #3
- Attach BVM or Respirator
- Confirm with auscultation or ETCO2

Negative Findings

- Air does not fill the syringe immediately
- The plunger attempts to snap back into position
- Vomitus is aspirated

When There are Negative Findings

- Confirm by visualization or auscultation
- Re-intubate per SOP's