

EVALUATOR TRAINING
LEVEL II SKILL STATIONS

**INSTRUCTIONS TO THE EVALUATOR
VENTILATORY MANAGEMENT
APNEIC PATIENT USING BAG-VALVE-MASK AND
BLINDLY INSERTED AIRWAY DEVICE (BIAD)**

This skill is designed to evaluate the candidate's ability to effectively initiate and continue ventilation of an apneic patient using a bag-valve-mask device and a blind insertion airway device of choice and approved by the state of KY. The station was developed to simulate a realistic situation that an EMT-FR or EMT-Basic might face in the field. The candidate will enter the station and find an apneic patient with a palpable carotid pulse. There are no bystanders and artificial ventilation has not been initiated. The candidate must immediately open the patient's airway and initiate ventilations using a bag-valve-mask. After establishing a patent airway and ventilating the patient for 30 seconds or longer, the candidate must integrate supplemental high flow oxygen into the procedure. If the candidate chooses to set up high flow oxygen prior to establishing a patent airway and ventilation, he/she has failed to immediately ventilate an apneic patient.

When ventilating, the candidate must provide sufficient ventilations as verified by evaluator visualization of adequate rise and fall of the chest.

As the candidate enters the station, they are required to immediately open the patient's airway and ventilate the patient using the bag-valve-mask device. If the candidate begins ventilation using a mouth-to-mask technique, the evaluator should advise candidate that they are required to use a bag-valve-mask device for ventilations during this portion of this station. After the candidate completes the initial 30 seconds of ventilation, the evaluator should advise them that the patient is being ventilated properly. The evaluator should observe the candidate ventilating the manikin during these 30 seconds, paying close attention to volumes. If one or less ventilation error in 30 seconds is observed, one point should be awarded. After successfully demonstrating single rescuer use of the BVM, the evaluator will inform the candidate that a second rescuer is present. The second rescuer will be instructed to ventilate the patient while the candidate assembles the oxygen tank and regulator. It is acceptable to insert a simple airway adjunct prior to ventilating the patient with either room air or supplemental oxygen. The evaluator will inform the candidate that no gag reflex is present when the oropharyngeal airway is inserted.

The candidate is then required to check and assemble an oxygen tank and a regulator. The candidate must then prefill the BVM reservoir and adjust the liter flow to 12- 15 liters per minute. The candidate must then instruct the assistant to resume oxygenated ventilations at the proper volume per breath. Ideally, these volumes should be sufficient to cause the chest wall excursion and air movement in and out of the lungs.

While the assistant is pre-oxygenating the apneic patient for a minimum of thirty (30) seconds, the evaluator will auscultate breath sounds and inform the candidate that breath sounds are present and equal bilaterally and medical control has ordered placement of a blind insertion airway device.

When using the KY Station 4 Ventilatory Management Apneic Patient Using Bag-Valve-Mask and Blindly Inserted Airway Device (BIAD) Skill Sheets, the evaluator must be sure to document the specific lumen airway device chosen by the candidate.

The trained assistant pre-oxygenates the patient while the candidate chooses the appropriate size airway device. The candidate should then prepare and check the blind insertion airway device equipment prior to insertion.

When the candidate is prepared to insert the (BIAD) and instructs the assistant to move, the assistant must also remove the oropharyngeal airway. The candidate has only three (3) attempts to successfully place the (BIAD). An attempt for this examination is defined as introduction of the airway device into the manikin's mouth. Throughout these attempts, ventilation may **not** be interrupted for more than thirty (30) seconds. The candidate must recognize the need for re-oxygenation of the patient and order the assistant to re-oxygenate the patient. At this point, the assistant may only ventilate the patient upon the candidate's command and interruption in ventilation for more than thirty (30) seconds must be documented under "Critical Criteria" on the evaluation form. The evaluator must not stop the candidate's performance if they exceed this 30 second maximum time limit on any attempt but is required to document the ventilation delay as required.

Proper evaluation requires that the skill evaluator be fluent in the proper use of each piece of equipment that could be used in this skill station. The Combitube® and The King LT-D® are the two Blind Insertion Airway Devices (BIAD) approved by The Kentucky Board of EMS. Due to the likelihood that the skill examiner may be more knowledgeable in the use of one of the Blind Airway Insertion Devices (BIAD's) than the other, we have included a more detailed review than customary in the following guidelines.

The Combitube® is a dual lumen device that is blindly inserted so the tip of the tube becomes placed in either the esophagus or trachea outside of the operator's control. The tube contains two separate lumens, one of which is used for ventilation if the tip becomes placed in the esophagus and the other if in the trachea.

The Combitube® contains two inflatable cuffs which surround the tube. Once the device has been inserted to the proper depth, the proximal cuff is positioned so it is inflated in the pharynx to seal the mouth and nose, thereby replacing the need for a mask and maintenance of a mask seal. The second cuff provides a seal around the distal end of the tube and isolates either the esophagus or trachea depending on where the distal tip has become placed. The tip should be lubricated with a water soluble lubricant prior to insertion in a patient (silicone spray is used with manikins).

Placement in the midline and to the proper depth is a critical factor with the insertion of the Combitube®. Proper depth is determined when the ring printed on the tube is at the level of the teeth or gum line in toothless patients. Once the Combitube® has been inserted to the proper depth, it is manually held in place until the pharyngeal and distal cuffs are separately inflated using the two differently sized syringes provided by the manufacturer.

- The pharyngeal cuff is inflated by connecting the 140 ml syringe to the one-way-valve on the blue pilot bulb and injecting 100 ml of air
- The distal cuff is inflated by connecting the smaller syringe to the one-way-valve on the white pilot bulb and injecting 15 ml of air. If the candidate does not immediately remove either syringe after inflating the cuff, the skill evaluator must check and document this action in the "Critical Criteria" section of the evaluation form.

After the cuffs have been inflated, it is critical that the patient be ventilated to determine which lumen should be used to deliver ventilation. For the purposes of evaluation, the skill evaluator must always respond with clinical signs that indicate ventilation is not occurring when the candidate directs you to ventilate through the initial lumen. The evaluator's response should be:

"There appears to be no chest rise when the patient is ventilated."

Then if/as each is auscultated or verbalized, the evaluator should respond as follows:

- Air and gurgling sounds are heard over the epigastrium.
- No sounds are heard over either lung.

The candidate should then instruct the assistant to remove the BVM from the adaptor on the initial lumen (esophageal placement), attach it to the adaptor on the second lumen (endotracheal placement), and ventilate the patient. Once the candidate has re-instituted ventilation through the second lumen (endotracheal placement), it is critical that he/she determines if the correct lumen is being used to ventilate the patient. The evaluator should now respond with clinical signs that indicate ventilation is now occurring by stating:

- No air and gurgling sounds are heard over the epigastrium.
- Good and equal breath sounds are heard over each lung.

Should auscultation either over the epigastrium or lungs bilaterally be omitted, the candidate has failed to confirm that the proper lumen is being used. If the candidate meets all other critical criteria and successfully works through the sequence until the alternate lumen is confirmed as the appropriate route to provide ventilation of the patient, it is not critical if the candidate directs ventilation attempts to occur in an order different from that which the manufacturer recommends.

King LT-D® is a Blind Insertion Airway Device. The candidate should choose the correct size device and test cuffs for leaks.

The candidate should lubricate the tip of the King LT-D® with a water soluble lubricant prior to insertion and instruct the assistant to remove the BVM from the patient. Grasp the patients tongue and jaw with a gloved hand and pull forward.

Insertion of the King LT-D® should done by rotating the device laterally at 45-90 degrees such that the blue orientation line is touching the corner of the mouth, introducing the tip into the mouth and advancing behind the base of the tongue. As the tube tip passes under the tongue the tube should be rotated back to midline (blue orientation line faces the chin). The tube should be advanced until the base of the connector is aligned at the level of the teeth.

The candidate will then inflate the pharyngeal cuff with the proper volume and removes the syringe:

Size	Height (ft)	Cuff Volume (ml)
3	4-5	50
4	5-6	70
5	6 +	80

The candidate should connect the King LT-D® to the BVM to ventilate the patient. The candidate should be aware of resistance to ventilation and should withdraw the tube until rise and fall of the chest is evident.

While the assistant is asked to continue ventilation via BVM assessment for adequate placement by auscultation of the chest and over the epigastrium should be confirmed by the candidate.

Last, the candidate should secure the Combitube® or the King LT-D® with a commercial strap or tape. The evaluator may dismiss the candidate from this skill and disconnect all equipment to reset the room.