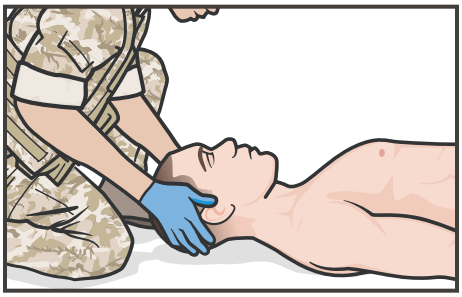
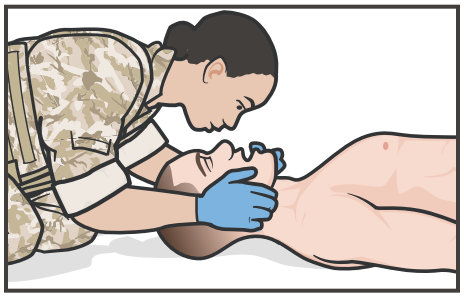
DIRECT LARYNGOSCOPY ENDOTRACHEAL INTUBATION

(Bougie)

CONSIDER body substance isolation.
NOTE: If a Combat Lifesaver or Combat Medic/Corpsman is available, direct them to assist.

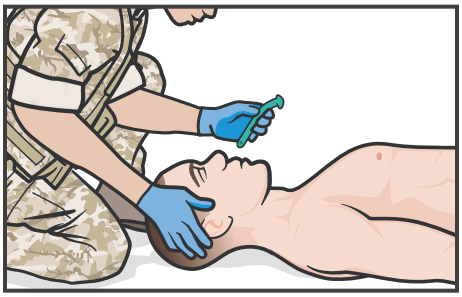


01 **ROLL** the casualty onto their back, if necessary, and place them on a hard, flat surface.

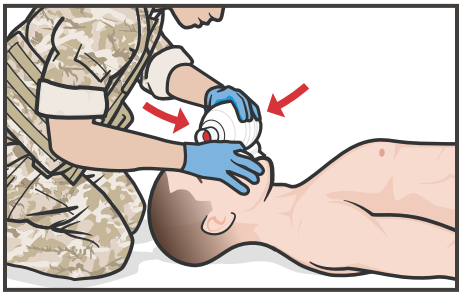


02 **OPEN** the mouth and look for visible airway obstructions (e.g., lacerations, obstructions, broken teeth, burns, or swelling or other debris, such as vomit).

NOTE: If foreign material or vomit is in the mouth, remove it as quickly as possible.
NOTE: Do not perform a blind finger sweep.

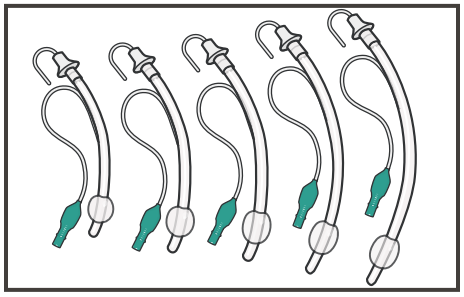


03 If available and tolerated **INSERT** airway adjunct. Nasopharyngeal (NPA) or oropharyngeal airway (OPA).



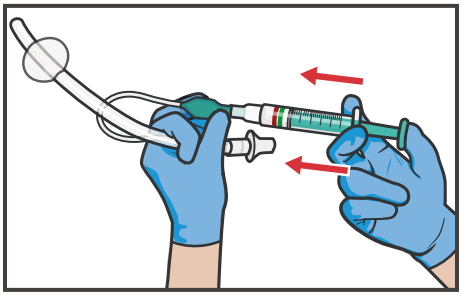
04 **VENTILATE** casualty with a bag-valve-mask device.

CAUTION: Do not deprive the casualty of oxygen for longer than 20 seconds at any time during the procedure. Suction, as needed, not to exceed 10 seconds.
NOTE: Monitor oxygen saturation with pulse oximetry device and attempt to maintain O2 SAT at 94%.



05 **SELECT** the appropriate size of ETT for the casualty and open the proximal end keeping the ETT in the packaging.

NOTE: Average adult male (7.5-9.0cm); average adult female (7.0-8.0cm)

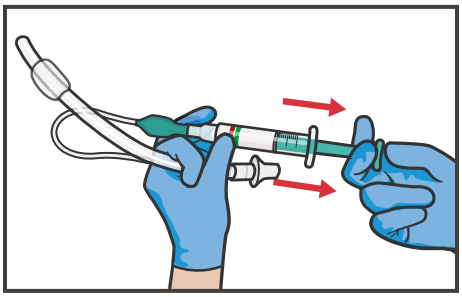


06 **FILL** the 10mL syringe with air and attach the syringe to the ETT cuff valve (pilot balloon), inflate the cuff, and inspect for leaks.

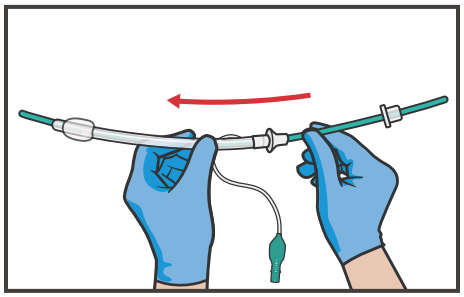
NOTE: If you detect a leak, discard ETT and get a new one.

DIRECT LARYNGOSCOPY ENDOTRACHEAL INTUBATION

...continued

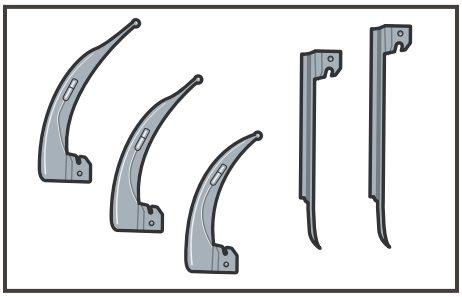


07 **DEFLATE** cuff by pulling back on the plunger until all the air is removed.

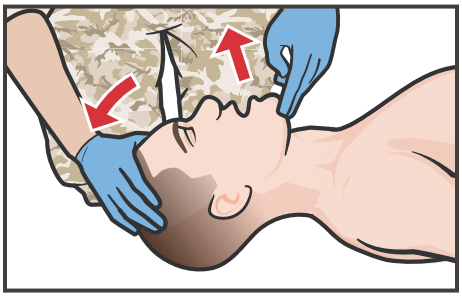


08 **OPEN** bougie/tube introducer

CONSIDERATION: Placement of the ETT on the proximal end of bougie for insertion is an option, if training and/or resources permit.

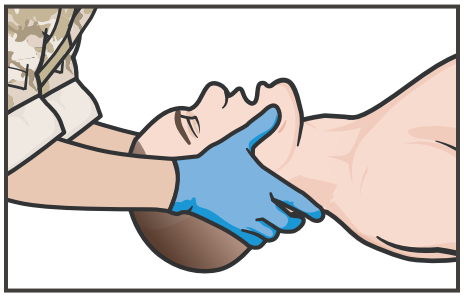


09 **SELECT** the appropriate laryngoscope blade, attach to the handle and verify the light is functioning.

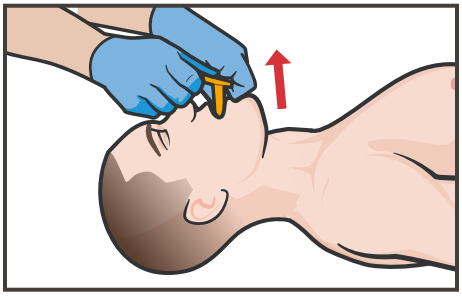


10 **POSITION** the casualty's head by hyperextending the neck.

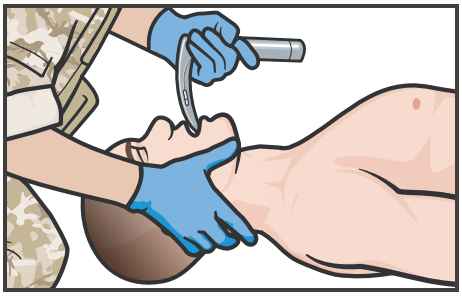
NOTE: Hyperextension of the neck will allow for visualization of the vocal cords.



11 **OPEN** the casualty's mouth and hold it open by pushing down on the jaw.



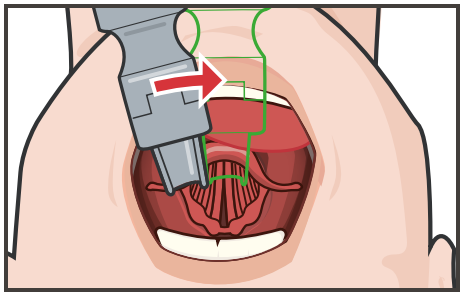
12 **REMOVE** OPA, if in place.



13 **POSITION** yourself at the top of the casualty's head.

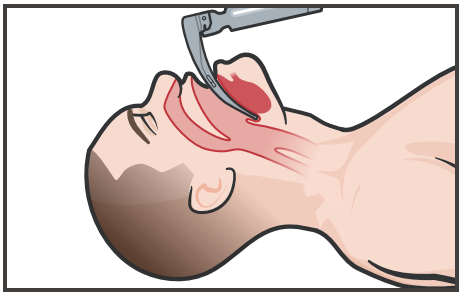
(a) Hold the laryngoscope with your left hand.

(b) Open and lock the selected blade at a 90-degree angle.



(c) Place the blade into the right side of the casualty's mouth.

(d) Move the laryngoscope to the center of the mouth by sliding the laryngoscope to the left side of the mouth; this will in turn move the casualty's tongue out of the way.

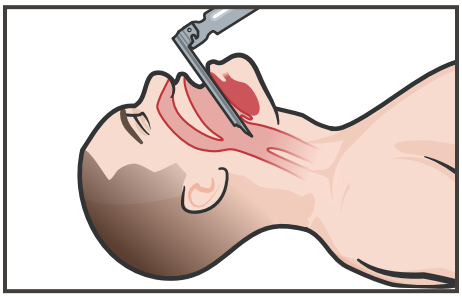


(e) Insert the laryngoscope blade into the posterior pharynx and visualize vocal cords.

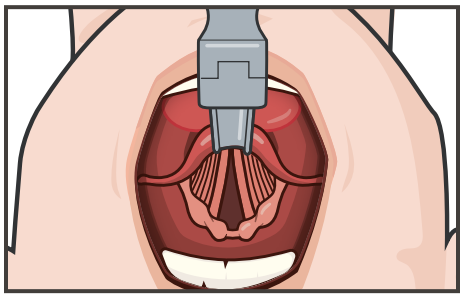
(i) If using a Macintosh blade (curved), apply anterior pressure to the vallecula with the tip of the laryngoscope blade. This will fold back the epiglottis and expose the vocal cords.

DIRECT LARYNGOSCOPY ENDOTRACHEAL INTUBATION

...continued



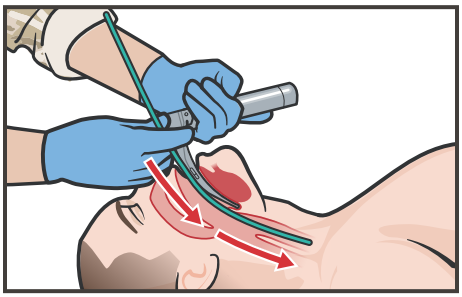
(ii) If using a Miller blade (straight), hook the blade tip under the epiglottis and pull up to fold back the epiglottis to expose the vocal cords.



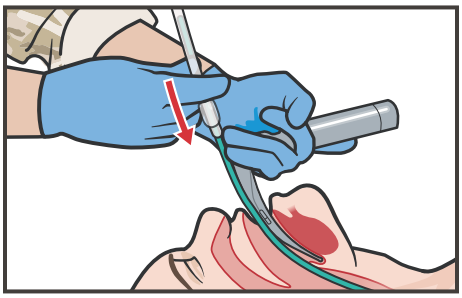
(f) Advance the blade a short distance to observe the epiglottis.

(g) Retract the epiglottis and observe the vocal cords.

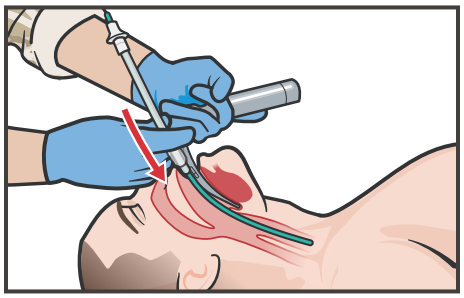
CAUTION: Exert upward traction on the handle to expose the glottic opening. **NEVER** use the handle with a prying motion. **DO NOT** use the casualty's teeth as a fulcrum.



14 When the vocal cords are visualized, **INSERT** the bougie into the trachea with the coude tip facing anteriorly.
(a) The CPP should feel the bougie "vibrate" as the tip moves against the cricoid rings.

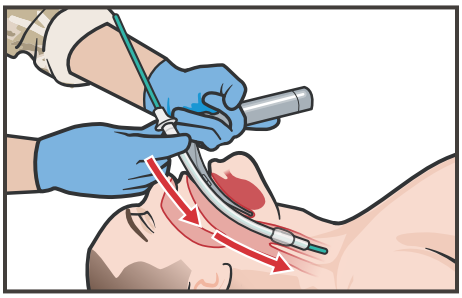


(b) While stabilizing the laryngoscope with your left hand, grasp the bougie from your right hand with the fingers from your left hand and hold against the laryngoscope handle.

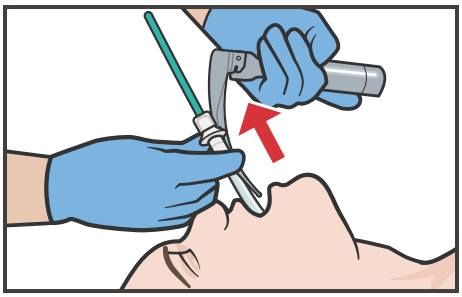


(c) Grasp the ETT with your right hand and place over the proximal end of the bougie.

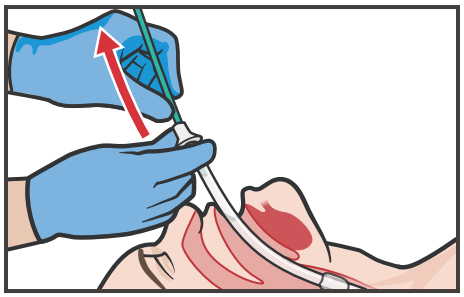
NOTE: If not previously placed on the proximal end of the bougie, this can be done independently or with assistance.



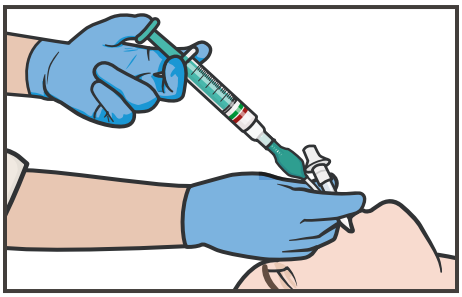
(d) Carefully guide the tip of the tube between the vocal cords until the cuff is just below the level of the vocal cords.



15 **REMOVE** the laryngoscope from the airway.



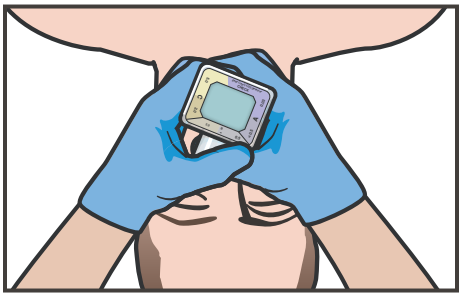
16 **REMOVE** the bougie from the ET tube.



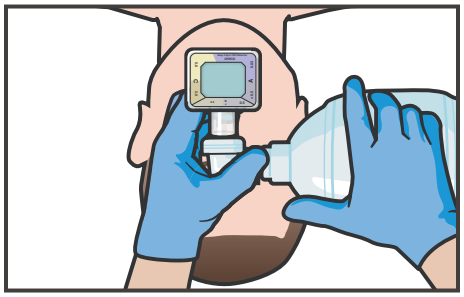
17 **INFLATE** the cuff of the ETT by injecting the required amount of air (5-10mL) to create a seal by pressing the plunger of the syringe.

DIRECT LARYNGOSCOPY ENDOTRACHEAL INTUBATION

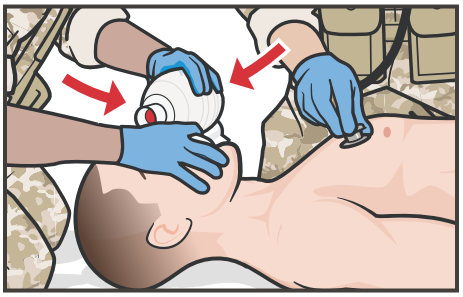
...continued



18 **ATTACH** EtCO2 device between the ETT and BVM, if available. If not available, connect the BVM to the ETT.

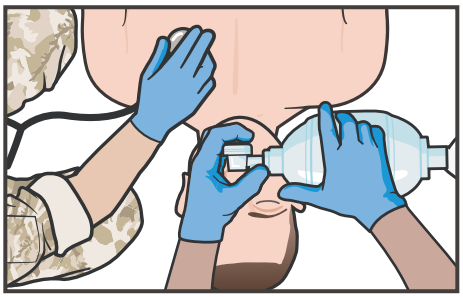


19 **CHECK** placement of the ET tube by connecting BVM.



(a) Instruct assistant to ventilate with BVM while you auscultate the casualty's epigastric area first, followed by lung fields while you manually ventilate the casualty.

(b) If a rushing sound is heard over the epigastric area, and breath sounds are not heard, deflate the cuff, withdraw the ET tube completely, reoxygenate the casualty, and repeat the procedure.

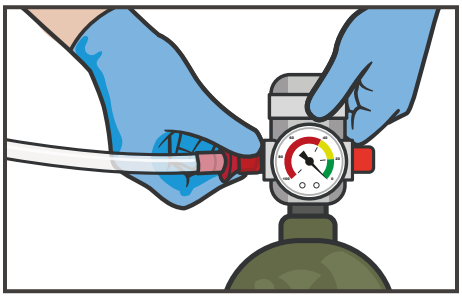


(c) If casualty has strong bilateral breath sounds and no sounds of air movement are heard over the epigastric area, proceed to step 17.

(d) If sound is heard over one lung field only you may have a right main stem intubation and you must partially deflate the cuff, withdraw the ETT slightly, reinflate the cuff, and listen again.

20 **SECURE** the ET tube with 1/2-inch adhesive tape, ETT tie or commercial ETT securing device.

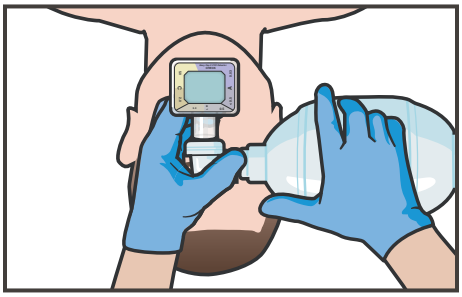
CAUTION: Maintain manual control of the ETT until the ETT is properly secured.



21 **MANUALLY VENTILATE** casualty every 5-6 seconds.
CONSIDER: If available attach oxygen reservoir to bag-valve-mask device and/or connect to high-flow regulator (12-15 lpm).

DIRECT LARYNGOSCOPY ENDOTRACHEAL INTUBATION

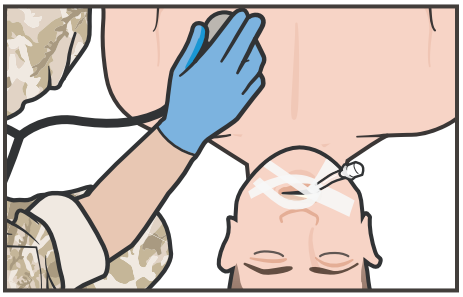
...continued



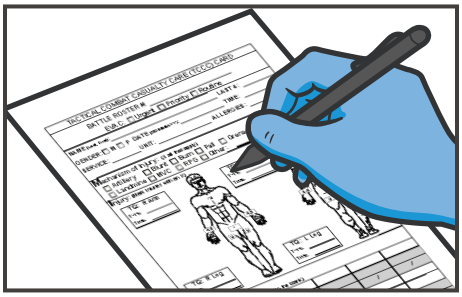
22 **ATTACH** EtCO2 device between the ETT and BVM, if available. If not available, connect the BVM to the ETT.

NOTE: If colorimetric was previously utilized during bag-valve-mask ventilation, replace with new colorimetric or transition to capnography, if available.

NOTE: Colorimetric can be used in both the TFC and PCC environments but if the equipment is available Capnography is the gold standard and will be utilized.



23 **CONTINUE MONITORING** the casualty to ensure correct tube placement is maintained by auscultating the lungs and epigastric area.

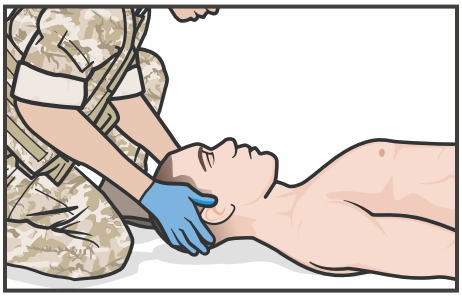


24 **DOCUMENT** all findings and treatments on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.

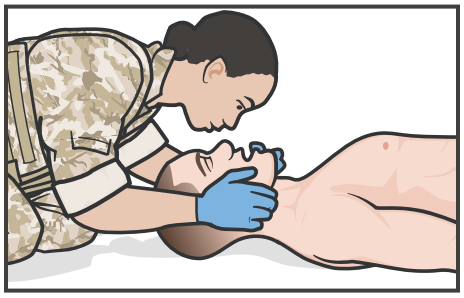
DIRECT LARYNGOSCOPY ENDOTRACHEAL INTUBATION

(ETT Tube Introducer)

CONSIDER body substance isolation.
NOTE: If a Combat Lifesaver or Combat Medic/Corpsman is available, direct them to assist.

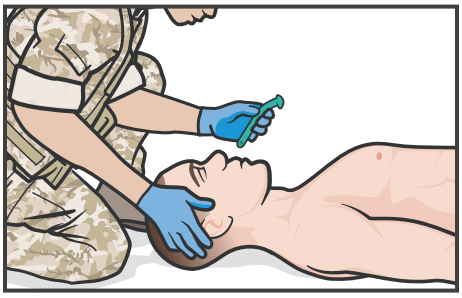


01 **ROLL** the casualty onto their back, if necessary, and place them on a hard, flat surface.

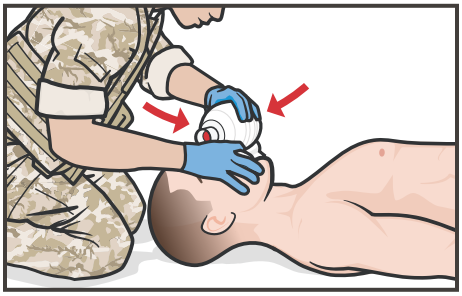


02 **OPEN** the mouth and look for visible airway obstructions (e.g., lacerations, obstructions, broken teeth, burns, or swelling or other debris, such as vomit).

NOTE: If foreign material or vomit is in the mouth, remove it as quickly as possible.
NOTE: Do not perform a blind finger sweep.

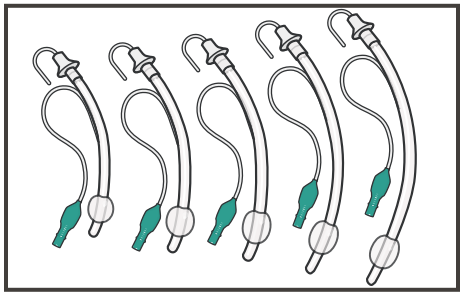


03 If available and tolerated **INSERT** airway adjunct. Nasopharyngeal (NPA) or oropharyngeal airway (OPA).



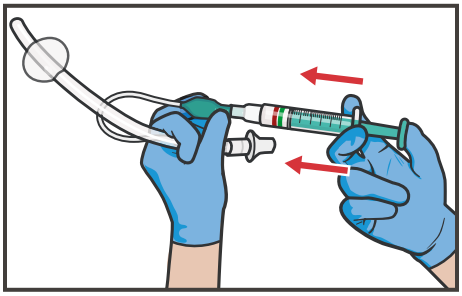
04 **VENTILATE** casualty with a bag-valve-mask device.

CAUTION: Do not deprive the casualty of oxygen for longer than 20 seconds at any time during the procedure. Suction, as needed, not to exceed 10 seconds.
NOTE: Monitor oxygen saturation with pulse oximetry device and attempt to maintain O2 SAT at 94%.



05 **SELECT** the appropriate size of ETT for the casualty and open the proximal end keeping the ETT in the packaging.

NOTE: Average adult male (7.5-9.0cm); average adult female (7.0-8.0cm)

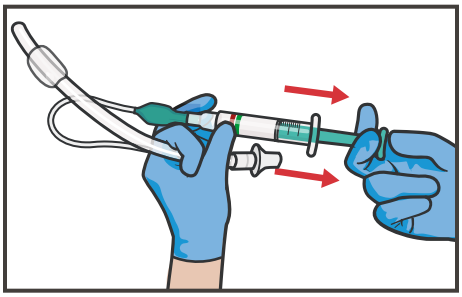


06 **FILL** the 10mL syringe with air and attach the syringe to the ETT cuff valve (pilot balloon), inflate the cuff, and inspect for leaks.

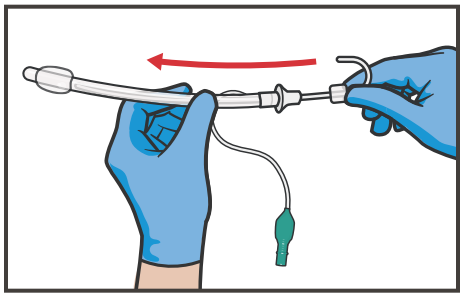
NOTE: If you detect a leak, discard ETT and get a new one.

DIRECT LARYNGOSCOPY ENDOTRACHEAL INTUBATION

...continued

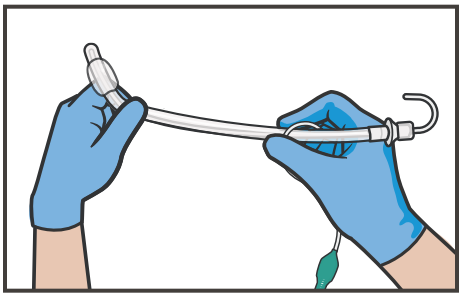


07 **DEFLATE** cuff by pulling back on the plunger until all the air is removed.

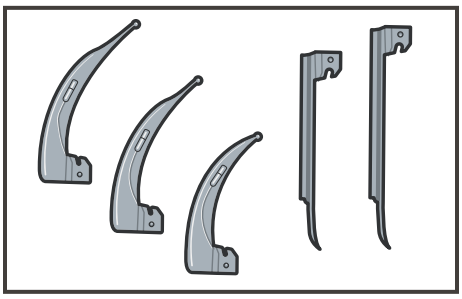


08 **INSERT** stylet into ETT.

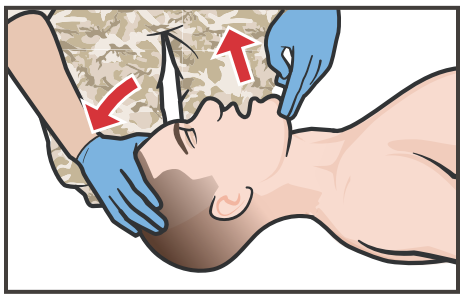
(a) The stylet should be inserted into the ETT so the tip of the stylet is recessed ½ inch from the tip of the ETT.



(b) Bend the other end of the stylet at a 90-degree angle to prevent it from going further into the ET tube.

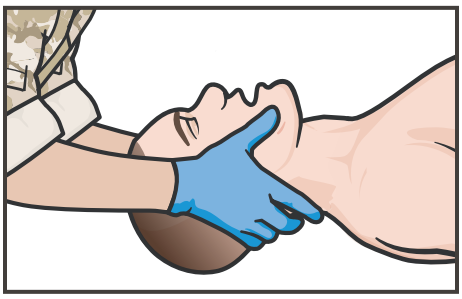


09 **SELECT** appropriate laryngoscope blade, attach to the handle and verify the light is functioning.

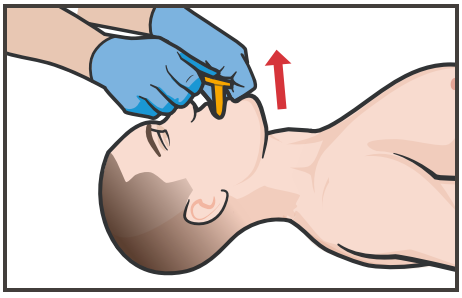


10 **POSITION** the casualty's head by hyperextending the neck.

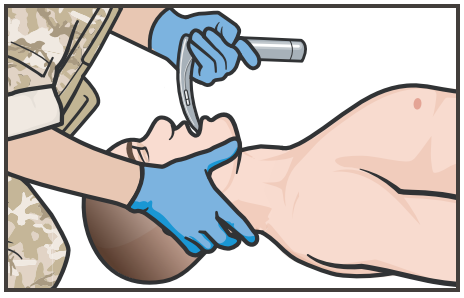
NOTE: Hyperextension of the neck will allow for visualization of the vocal cords.



11 **OPEN** the casualty's mouth and hold it open by pushing down on the jaw.



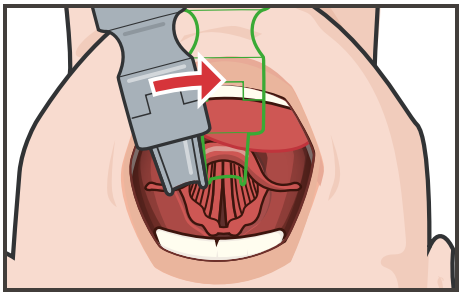
12 **REMOVE** OPA, if in place.



13 **POSITION** yourself at the top of the casualty's head.

(a) Hold the laryngoscope with your left hand.

(b) Open and lock the selected blade at a 90-degree angle.

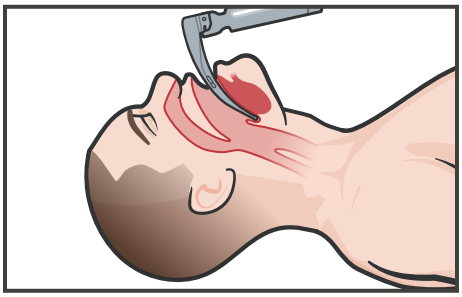


(c) Place the blade into the right side of the casualty's mouth.

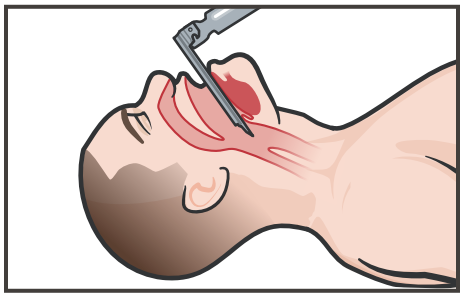
(d) Move the laryngoscope to the center of the mouth by sliding the laryngoscope to the left side of the mouth; this will in turn move the casualty's tongue out of the way.

DIRECT LARYNGOSCOPY ENDOTRACHEAL INTUBATION

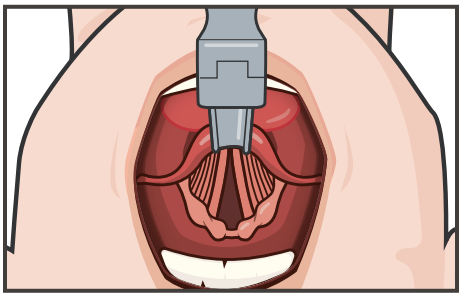
...continued



(e) Insert the laryngoscope blade into the posterior pharynx and visualize vocal cords.
(i) If using a Macintosh blade (curved), apply anterior pressure to the vallecula with the tip of the laryngoscope blade. This will fold back the epiglottis and expose the vocal cords.



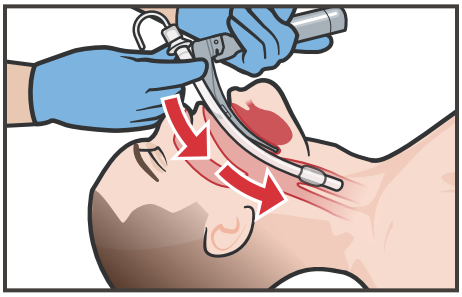
(ii) If using a Miller blade (straight), hook the blade tip under the epiglottis and pull up to fold back the epiglottis to expose the vocal cords.



(f) Advance the blade a short distance to observe the epiglottis.

(g) Retract the epiglottis and observe the vocal cords.

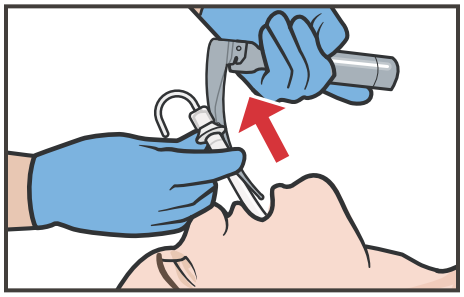
CAUTION: Exert upward traction on the handle to expose the glottic opening. **NEVER** use the handle with a prying motion. **DO NOT** use the casualty's teeth as a fulcrum.



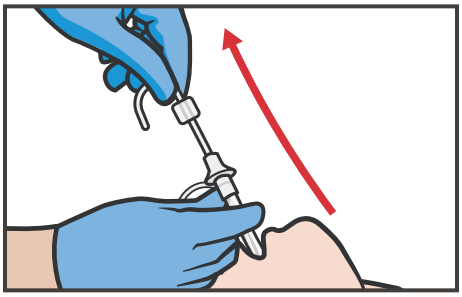
14 When the vocal cords are visualized:

(a) Grasp the ETT with your right hand.

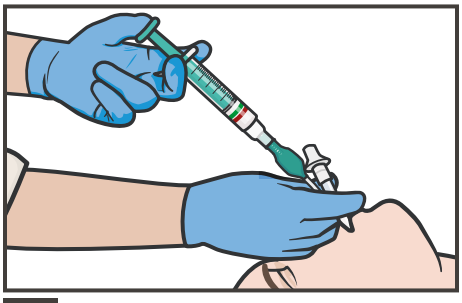
(b) Carefully guide the tip of the tube between the vocal cords until the cuff is just below the level of the vocal cords.



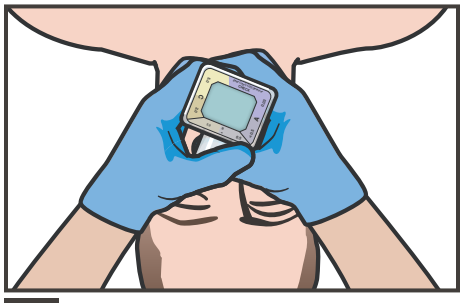
15 **REMOVE** the laryngoscope from the airway.



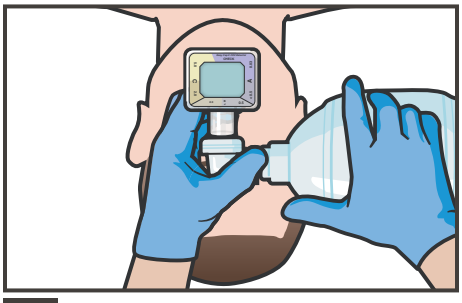
16 **MAINTAIN** positive control of the ETT with your right hand and remove the stylet with your left hand.



17 **INFLATE** the cuff of the ETT by injecting the required amount of air (5-10mL) to create a seal by pressing the plunger of the syringe.



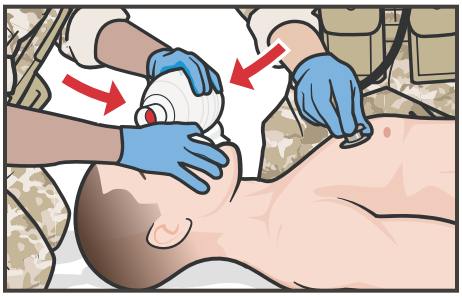
18 **ATTACH** EtCO2 device between the ETT and BVM, if available. If not available, connect the BVM to the ETT.



19 **CHECK** placement of the ET tube by connecting BVM.

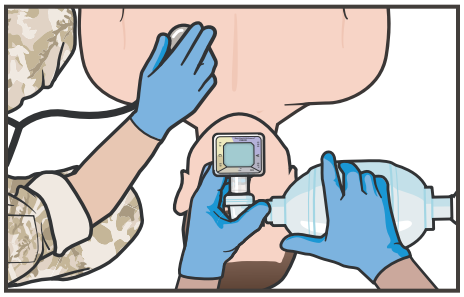
DIRECT LARYNGOSCOPY ENDOTRACHEAL INTUBATION

...continued



(a) Instruct assistant to ventilate with BVM while you auscultate the casualty's epigastric area first, followed by lung fields while you manually ventilate the casualty.

(b) If a rushing sound is heard over the epigastric area, and breath sounds are not heard, deflate the cuff, withdraw the ET tube completely, reoxygenate the casualty, and repeat the procedure.

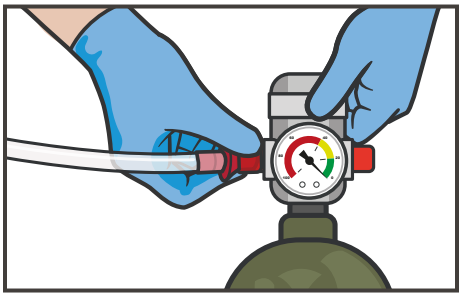


(c) If casualty has strong bilateral breath sounds and no sounds of air movement are heard over the epigastric area, proceed to step 17.

(d) If sound is heard over one lung field only you may have a right main stem intubation and you must partially deflate the cuff, withdraw the ETT slightly, reinflate the cuff, and listen again.

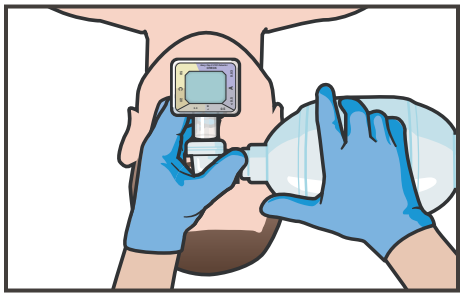
20 **SECURE** the ET tube with 1/2-inch adhesive tape, ETT tie or commercial ETT securing device.

CAUTION: Maintain manual control of the ETT until the ETT is properly secured.



21 **MANUALLY VENTILATE** casualty every 5-6 seconds.

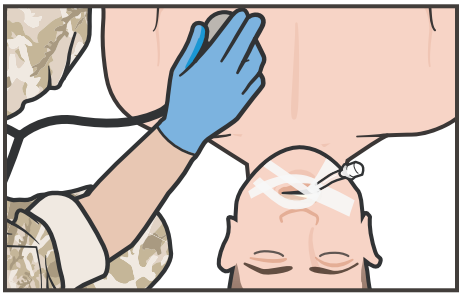
CONSIDER: If available attach oxygen reservoir to bag-valve-mask device and/or connect to high-flow regulator (12-15 lpm).



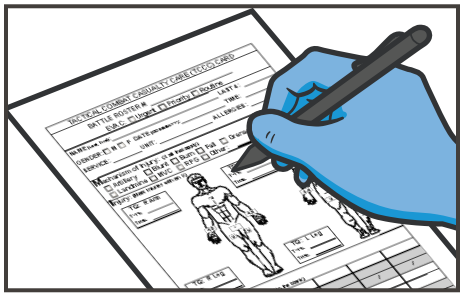
22 **ATTACH** EtCO2 device between the ETT and BVM, if available. If not available, connect the BVM to the ETT.

NOTE: If colorimetric was previously utilized during bag-valve-mask ventilation, replace with new colorimetric or transition to capnography, if available.

NOTE: Colorimetric can be used in both the TFC and PCC environments but if the equipment is available Capnography is the gold standard and will be utilized.



23 **CONTINUE MONITORING** the casualty to ensure correct tube placement is maintained by auscultating the lungs and epigastric area.



24 **DOCUMENT** all findings and treatments on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.