CMC
TCCC

COMBAT MEDIC/CORPSMAN
TACTICAL COMBAT CASUALTY CARE
MODULE 07:
AIRWAY MANAGEMENT IN TACTICAL FIELD CARE
SKILL INSTRUCTIONS

20 SEPT 2021

Committee on Tactical Combat Casualty Care (CoTCCC)

SKILL INSTRUCTIONS

HEAD-TILT/CHIN-LIFT INSTRUCTION

TASK:	Open an airway using the head-tilt/chin-lift maneuver
CONDITION:	Given a Tactical Field Care scenario where a casualty and responder are in combat gear and the casualty is unconscious without a patent airway
STANDARD:	Effectively open the airway by performing the head-tilt/chin-lift maneuver following all steps and measures correctly without causing further harm to the casualty
EQUIPMENT:	N/A

PERFORMANCE MEASURES: step-by-step instructions

NOTE: **Do not** use if a spinal or neck injury is suspected.

NOTE: Consider body substance isolation.

NOTE: If a Combat Lifesaver is available, direct them to assist.

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

02 Kneel at the level of the casualty's shoulders. Position yourself at the side of the casualty.

03 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.

04 Place one hand on the casualty's forehead and apply firm, backward pressure with the palm to tilt the head back.

05 Place the fingertips of the other hand under the bony part of the lower jaw and lift, bringing the chin forward.
NOTE: **Do not** use the thumb to lift the chin.

06 While maintaining the open airway position, place an ear over the casualty's mouth and nose, looking toward the chest and stomach.

07 Look for the chest to rise and fall.

08 Listen for air escaping during exhalation.

09 Feel for the flow of air on the side of your face.

10 Measure the respiratory rate (see Respiratory Rate Measurement Instruction).

11 Document all findings and treatments on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.

JAW-THRUST MANEUVER INSTRUCTION

TASK:	Open an airway using the jaw-thrust maneuver
CONDITION:	Given a Tactical Field Care scenario where a casualty and responder are in combat gear and the casualty is unconscious without a patent airway
STANDARD:	Effectively open the airway by performing the jaw-thrust maneuver following all steps and measures correctly without causing further harm to the casualty
EQUIPMENT:	N/A

PERFORMANCE MEASURES: step-by-step instructions

NOTE: Use this maneuver if a neck or spine injury is suspected.
CAUTION: Neck and/or spine injuries are suspected in obvious head or neck trauma and in blast injuries or motor vehicle accidents.

NOTE: Consider body substance isolation.

NOTE: If a Combat Lifesaver is available, direct them to assist.

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

02 Kneel above the casualty's head (looking toward the casualty's feet).

03 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.

04 Rest your elbows on the ground or floor.

05 Place one hand on each side of the casualty's lower jaw at the angle of the jaw, below the ears.

06 Stabilize the casualty's head with your forearms.
NOTE: **Do not** tilt or rotate the casualty's head.

07 Use the index fingers to pull the jaw up while using the thumbs to push the casualty's chin forward.
NOTE: If the casualty's lips are still closed after the jaw has been moved forward, use your thumbs to retract the lower lip and allow air to enter the casualty's mouth.

08 While maintaining the open airway position, place an ear over the casualty's mouth and nose, looking toward the chest and stomach.
NOTE: Avoid gross manipulation of the head and neck if tactically feasible. A second rescuer may be needed to maintain the jaw-thrust maneuver (if time and tactics dictate) as the primary rescuer continues to assess and treat the casualty.

09 Look for the chest to rise and fall.

10 Listen for air escaping during exhalation.

11 Feel for the flow of air on the side of your face.

12 Measure the respiratory rate (see Respiratory Rate Measurement Instruction).

13 Document all findings and treatments on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.

NASOPHARYNGEAL AIRWAY (NPA) INSERTION INSTRUCTION

TASK:	Insert an NPA
CONDITION:	Given a Tactical Field Care scenario in a combat environment where casualty and responder are in combat gear and an unconscious or semiconscious casualty has a need for a patent airway and the necessary materials to treat the casualty
STANDARD:	Insert an NPA following all steps and meeting performance measures without causing further injury to the casualty
EQUIPMENT:	Joint First Aid Kit (JFAK), NPA, and sterile water-based lubricating jelly

PERFORMANCE MEASURES: step-by-step instructions

NOTE: Consider body substance isolation.
NOTE: If a Combat Lifesaver is available, direct them to assist.

01 Place the casualty supine with their head in a neutral position.

02 Inspect the nose and nasal passages for any obstructions that would prevent insertion of an NPA.

03 Open the NPA package provided in the casualty's JFAK.
NOTE: The standard NPA (size 32 Fr) that comes in most first aid kits fits an average-size Service ember.

04 Lubricate the end of the NPA device with the sterile water-based lubricating jelly found in the JFAK or with water.
NOTE: **Do not** use the casualty's blood, petroleum-based, or non-water-based substances to lubricate the device. The casualty's saliva can be used (but not your saliva) if the proper lubricant is not available.

05 Expose the opening of the casualty's **right** nostril by gently pushing the tip of the nose upward.

06 Position the tube so that the bevel of the device faces toward the septum.

07 Insert the NPA device into the right nostril (at a 90-degree angle to the casualty's face) with the beveled tip pointed toward the middle of the nose. Advance the NPA until the flange is flush with the nostril using a fluid movement pushing toward the ground, and not toward the top of the head.
CAUTION: Never force the NPA into the casualty's nostril. If resistance is met, attempt a slight twisting motion, and try to gently reinsert. If successful, but the casualty begins to gag or choke, pull the NPA out slightly and leave it in place. If unsuccessful, pull out the NPA completely and attempt to insert it into the **left** nostril. If inserting in the left nostril, you will need to rotate the NPA after it is approximately 2 inches into the casualty's nose, so the curve of the NPA is oriented downward.

08 With the NPA inserted, reassess breathing and respiration by using the look, listen, and feel technique to assess for air movement.

09 Position the casualty. Place a casualty who is awake in a sitting or recovery position (whichever is more comfortable). Place an ***unconscious*** casualty in the recovery position to prevent aspiration of blood, mucus, or vomit.

10 Document all findings and treatments on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.

RECOVERY POSITION INSTRUCTION

TASK:	Position a casualty in the recovery position
CONDITION:	Given a Tactical Field Care scenario in which the casualty and responder are in combat gear and the casualty is unconscious or cannot sit up on their own
STANDARD:	Position the casualty in the recovery position following all steps and meeting the performance measures without causing further injury to the casualty
EQUIPMENT:	N/A

PERFORMANCE MEASURES: step-by-step instructions

NOTE: Consider body substance isolation.
NOTE: If a Combat Lifesaver is available, direct them to assist.

01 Position the casualty supine without causing any further injuries.

02 Gently pick up the casualty's arm (nearer to you) and place it at a right angle to the casualty's body, bent at the elbow with the hand pointing upward.

03 Using your hand closer to the casualty's head, grasp the casualty's other arm and place the back of their hand against the opposite cheek (for example, against the left cheek if it is the casualty's right hand).

04 Keep your hand there to guide and support the casualty's head as you roll them over.

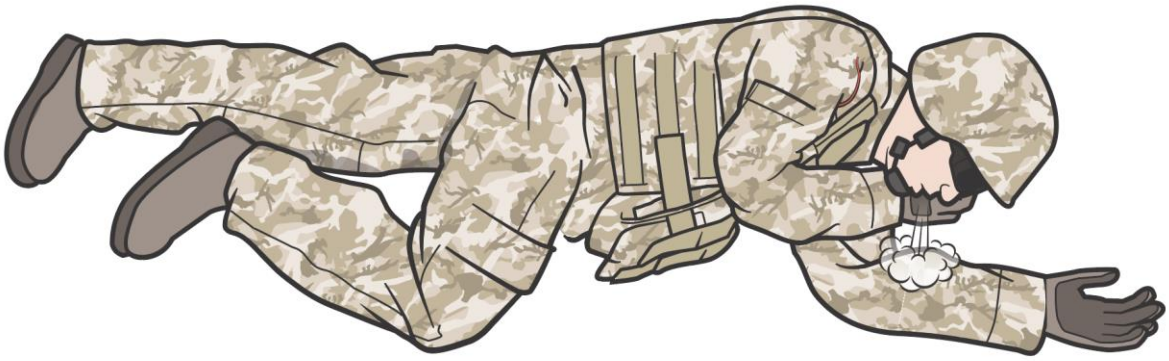
05 Use your other arm to reach across to the casualty's knee that is further from you, and pull it up so that the casualty's leg is bent and the foot rests on its side.

06 Gently pull the casualty's knee toward you so the casualty rolls over onto their side, facing you.
NOTE: The casualty's body weight should help them roll over easily.

07 Move the bent leg that is nearer to you, in front of the casualty's body so that it is resting on the floor.
NOTE: This position will help to balance the casualty.

08 Gently raise the casualty's chin to tilt their head back slightly.
NOTE: This will open up their airway and help the casualty to breathe.

09 Document all findings and treatments provided on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.



ONE-PERSON BAG VALVE MASK (BVM) INSTRUCTION

TASK:	Perform effective one-person BVM ventilation
CONDITION:	Given a Tactical Field Care scenario where casualty and responder are in combat gear and the casualty is unconscious, unresponsive, and not breathing but has radial pulses and you have a BVM
STANDARD:	Perform effective one-person BVM ventilation following all steps and performance measures
EQUIPMENT:	BVM, nasopharyngeal airway (NPA) from casualty's Joint First Aid Kit

PERFORMANCE MEASURES: step-by-step instructions

NOTE: Consider body substance isolation.
NOTE: If a Combat Lifesaver is available, direct them to assist.

01 Position yourself at the top of the patient's head.

02 Insert an NPA.

03 Assemble the BVM (connect the mask to the port on the bag).

04 Perform an "EC" technique to hold the mask in place over the patient's mouth by:

(a) Forming the "C" by placing your thumb over the part of the mask covering the bridge of the nose and your index finger over the part covering the cleft of the chin.

(b) Sealing the mask firmly on the face by pushing down with the thumb and index finger, while pulling up on the mandible, form the "E" with the other three fingers, opening the airway by performing the head-tilt/chin-lift maneuver.

NOTE: The EC hand position technique is performed using one hand.

05 Maintain a leakproof mask seal with one hand by using firm pressure to hold the mask in position and seal over the patient's mouth.

06 Squeeze the bag with your other hand for 1–2 seconds while observing the chest rise to make certain lungs are inflating effectively.
NOTE: Alternatively, the bag may be compressed against your leg or forearm to deliver a greater tidal volume to the patient or help with hand fatigue.

07 Continue squeezing the bag once every 5–6 seconds (10–12 breaths/minute).
NOTE: For pediatric patients, the rate would be 20–30 breaths/minute.

08 Continue ventilation, observe for spontaneous respirations, and periodically check the pulse.

09 Document all findings and treatments on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.

TWO-PERSON BAG VALVE MASK (BVM) INSTRUCTION

TASK:	Perform effective two-person BVM ventilation
CONDITION:	Given a Tactical Field Care scenario where the casualty and responder are in combat gear and the casualty is unconscious, unresponsive, not breathing, but has radial pulses and given a BVM device and a second rescuer to assist with ventilation
STANDARD:	Perform effective two-person BVM ventilation following all steps and performance measures without further injuring the casualty
EQUIPMENT:	BVM and nasopharyngeal airway (NPA) from casualty's Joint First Aid Kit

PERFORMANCE MEASURES: step-by-step instructions

NOTE: Consider body substance isolation.
NOTE: If a Combat Lifesaver is available, direct them to assist.

01 Position yourself at the top of the casualty's head, and your partner to the side of the casualty's head.
02 Insert an NPA.
03 Assemble the BVM (connect the mask to port on the bag).
04 Place the mask over the casualty's mouth and nose.
05 Place your little, ring, and middle fingers along the mandible.
06 Place your thumb on the upper portion of the mask above the valve connection.
07 Place your index finger on the lower portion of the mask under the valve connection.
08 With your other hand, duplicate the above steps on the other side (mirror image).
09 Hold the mask in place with both hands to achieve a leakproof seal.
10 The second rescuer slowly squeezes the BVM with two hands for 1–2 seconds until the chest rises.
11 Observe for rise and fall of the patient's chest.
- (a) If the chest does not rise, reposition the mask to ensure a good seal. Tilt the head and lift the chin to open the airway.
- (b) If the chest rises and falls, continue with step 12.

12 Squeeze once every 5–6 seconds (10–12 breaths/minute).
NOTE: For pediatric patients, the rate would be 20–30 breaths/minute.
13 Continue ventilations, observe for spontaneous respirations, and periodically check the pulse.
14 Document all findings and treatments on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.

MANUAL AIRWAY SUCTIONING INSTRUCTION

TASK:	Perform manual airway suctioning
CONDITION:	Given a Tactical Field Care scenario, where you have a casualty with accumulated secretions, blood, and/or vomit in the mouth and airway
STANDARD:	Clear and establish a patent airway using manual suction; clear airway debris/secretions without causing further injury
EQUIPMENT:	Manual suction unit

PERFORMANCE MEASURES: step-by-step instructions

NOTE: Consider body substance isolation.
NOTE: If a Combat Lifesaver is available, direct them to assist.

01 Assess the casualty's airway (see Head-tilt/Chin-lift and/or Jaw-Thrust Maneuver Instructions).

02 Gather, assemble, and test all necessary equipment.

03 Position the casualty:
(a) Conscious: recovery or upright position.
(b) Unconscious: supine

04 Remove visible debris from the mouth (if possible).
NOTE: **Do not** perform a blind finger sweep.

05 Preoxygenate the casualty before suction (if possible) for a minimum of 30 seconds.
NOTE: If oxygen is available, use it.

06 Open the mouth using the crossed- or scissors-finger technique.

07 Squeeze the handle of the suction device to provide suction.
NOTE: Do this before inserting into the casualty's mouth.

08 Insert the manual airway suctioning tube.
NOTE: Insert only to the base of the tongue.
CAUTION: Insert the suction catheter no further than you can visualize, or you may stimulate a gag reflex.

09 Suction as you retract the tube from the mouth using a sweeping motion.
CAUTION: **Do not** suction more than 10 seconds, which could cause:
(a) Hypoxia
(b) Reflex bradycardia
(c) Damage to the oropharyngeal tissue

10 Reoxygenate the casualty and reassess for the need for additional suctioning.
NOTE: **Repeat** steps 5–9 as needed.

11 Document all findings and treatments on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.

MECHANICAL AIRWAY SUCTIONING INSTRUCTION

TASK:	Perform mechanical airway suctioning
CONDITION:	Given a Tactical Field Care scenario where you have a casualty with accumulated secretions, blood, and/or vomit in the mouth and airway
STANDARD:	Clear and establish a patent airway by using manual suctioning to clear airway debris/secretions without causing further injury
EQUIPMENT:	Mechanical suction unit

PERFORMANCE MEASURES: step-by-step instructions

NOTE: Consider body substance isolation.
NOTE: If a Combat Lifesaver is available, direct them to assist.

01 Assess the casualty's airway (see Head-tilt/Chin-lift and/or Jaw-Thrust Maneuver Instructions).

02 Gather, assemble, and test all necessary equipment.

03 Position the casualty:
(a) Conscious: recovery or upright position
(b) Unconscious: supine

04 Remove visible debris from the mouth (if possible).
NOTE: **Do not** perform a blind finger sweep.

05 Preoxygenate the casualty before suctioning (if possible) for a minimum of 30 seconds.
NOTE: If oxygen is available, use it.

06 Open the mouth using the crossed- or scissors-finger technique.

07 Temporarily stop suction during insertion **or** if your unit type tube can be kinked to stop suction, continue to use that method.
NOTE: Alternatively, you could turn the mechanical suction unit off and on to temporarily suspend suctioning during insertion.

08 Insert the suction tip without suction.
NOTE: Insert only to the base of the casualty's tongue.
CAUTION: Insert the suction catheter no further than you can visualize, or you may stimulate a gag reflex.

09 Apply suction as you retract the tube from the casualty's mouth using a sweeping motion.
CAUTION: **Do not** suction more than 10 seconds, which could cause:
(a) Hypoxia
(b) Reflex bradycardia
(c) Damage to the oropharyngeal tissue

10 Reoxygenate the casualty and reassess for the need for additional suctioning.
NOTE: **Repeat** steps 5–9 as needed.

11 Document all findings and treatments on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.

EXTRAGLOTTIC AIRWAY (EGA) INSTRUCTION

TASK:	Insert an EGA airway
CONDITION:	Given a Tactical Field Care scenario where you have a deeply unconscious casualty with an airway obstruction or impending airway obstruction, and any life-threatening bleeding has been controlled
STANDARD:	Insert a Committee on Tactical Combat Casualty Care (CoTCCC)-recommended (EGA) without causing further injury to the casualty
EQUIPMENT:	CoTCCC-recommended size 3–5 EGA and a bag valve mask (BVM)

PERFORMANCE MEASURES: step-by-step instructions

NOTE: Consider body substance isolation.
NOTE: If a Combat Lifesaver is available, direct them to assist.

01 Inspect the upper airway for visible obstruction.
02 Position the casualty's head in the sniffing position.
NOTE: Alternate position is the neutral position.
03 Open the airway.
04 Hyperventilate the casualty for a minimum of 30 seconds using a BVM and oxygen, if available.
05 Select the appropriately sized EGA based on the casualty's weight. Size 4 fits most military populations.
(a) Size 3 (yellow): Small adult (30–60 kg, or 66–132 lbs)
(b) Size 4 (green): Medium adult (50–90 kg, or 110–199 lbs)
(c) Size 5 (orange): Large adult (90+kg, or 199+lbs)
06 Inspect and test equipment.
07 Lubricate the distal end of the EGA with sterile water-based lubricating jelly.
08 Firmly grasp the EGA with the dominant hand, along the integrated bite block.
09 Position the EGA so that the cuff outlet is facing toward the chin.
10 Open the mouth with a crossed- or scissors-finger technique.
11 Introduce the leading soft tip into the mouth directed toward the hard palate.
12 Glide the device downward and backward along the hard palate with a continuous but gentle push until a definitive resistance is felt.
NOTE: If early resistance is encountered during insertion, remove and perform the maneuver to open the airway.
CAUTION: Do not apply excessive force on the device during insertion.
At this point, the tip of the airway should be located in the upper esophageal opening and the cuff should be located against the laryngeal framework.
NOTE: It is correctly positioned when the incisors are in line with the horizontal line at the middle of the integral bite block.
13 To avoid the possibility of the device moving out of position before being secured in place, hold the EGA in the correct position until fully secured.
14 Attach the BVM to the EGA and ventilate the casualty.
15 Assess ventilation.
(a) Auscultate lung fields (if possible).
(b) Watch for rise and fall of the chest.
(c) Auscultate the abdomen (if possible).
16 Secure the device to the casualty.
NOTE: Tape from "maxilla to maxilla".

17	Document all findings and treatments on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.

CRICOTHYROIDOTOMY INSTRUCTION (OPEN SURGICAL)

TASK:	Perform a cricothyroidotomy using an open surgical technique
CONDITION:	Given a Tactical Field Care scenario where you encounter a casualty with an upper airway obstruction, impending airway obstruction, or maxillofacial injuries, and the casualty's airway cannot be maintained using manual methods, nasopharyngeal, or extraglottic airways
STANDARD:	Establish an effective airway using the open surgical cricothyroidotomy technique in 4 minutes or less
EQUIPMENT:	Alcohol or povidone-iodine, scalpel, tracheostomy tube or endotracheal tube, tracheal hook, Kelly Hemostat, sharps container, and tape

PERFORMANCE MEASURES: step-by-step instructions

NOTE: Consider body substance isolation.
NOTE: If a Combat Lifesaver (CLS) is available, direct them to assist.

01 Assess the casualty's airway (see Head-tilt/Chin-lift and/or Jaw-Thrust Maneuver Instructions).
02 Gather, assemble, and test all necessary equipment.
03 Position the casualty in a supine position, with the neck placed in the "neutral position".
NOTE: If you are right-handed, position yourself on the right side of the casualty; left-handed, to the left side.
04 Identify the cricothyroid membrane between the cricoid and thyroid cartilages.
NOTE: The cricothyroid membrane is in the hollow, or V, between the two cartilages.
05 Clean the site with alcohol or povidone-iodine (if time permits).
06 Stabilize the larynx with the nondominant hand.
07 Confirm landmarks with the dominant index finger.
08 Make a 1-inch vertical incision through the skin over the cricothyroid membrane.
09 Reconfirm cricothyroid membrane with the index finger.
10 Turn the scalpel horizontally and poke through the cricothyroid membrane, making a 1/2-inch incision.
NOTE: A rush of air may be heard or felt through the opening.
CAUTION: **Do not** make the incision more than 1/2-inch deep from the surface of the skin or you may perforate the esophagus.
11 If a Kelly Hemostat is available, use it to open the incision.
12 Insert tracheal hook through cricothyroid membrane, gently lift cricoid cartilage, withdraw the scalpel, and place it in a sharps container.
13 Insert the tracheostomy tube and direct it toward the lungs.
14 Angle the tracheal hook toward the shoulder and gently remove it.
15 Remove the stylet (if applicable), leaving the tube in place.
NOTE: If using an endotracheal (ET) tube, insert 1/4 to 1 inch beyond the cuff.
16 Inflate the cuff with 10 ml of air.
NOTE: Look for misting in the tube.
17 Direct the CLS to ventilate the casualty with a bag valve mask (BVM) when appropriate.
18 Auscultate the right and left lungs, listening for breath sounds while watching for equal rise and fall of the chest to confirm tube placement.
NOTE: If using an ET tube, auscultate the epigastric region if tactically feasible.
NOTE: If breath sounds are absent on the left side only, the tube has been inserted down the right mainstem bronchus; deflate the cuff and pull the tube back a few centimeters, then reinflate the cuff.
19 Assess the casualty for spontaneous respirations (must count for 10 seconds at a minimum) and attach

the pulse oximeter to the casualty (if available).

20 If respirations are <8 or >30 or the pulse oximeter reading is <90%, ventilate the casualty with a BVM.

21 Apply a dressing around the tube.

22 Secure the tube around the casualty's neck with a strap or tape.

23 Continually assess and monitor the casualty.

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

CRICOTHYROIDOTOMY INSTRUCTION (CRIC-KEY™)

TASK:	Perform a cricothyroidotomy using a Cric-Key
CONDITION:	Given a Tactical Field Care scenario where you encounter a casualty with an upper airway obstruction, impending airway obstruction, or maxillofacial injuries, and the casualty's airway cannot be maintained using manual methods, nasopharyngeal, or extraglottic airways
STANDARD:	Establish an effective surgical airway in 4 minutes or less using a Cric-Key
EQUIPMENT:	Cric-Knife™, Cric-Key endotracheal device, tape, and sharps container

PERFORMANCE MEASURES: step-by-step instructions

NOTE: Consider body substance isolation.
NOTE: If a Combat Lifesaver (CLS) is available, direct them to assist.

01 Assess the casualty's airway (see Head-tilt/Chin-lift and/or Jaw-Thrust Maneuver Instructions).
02 Gather, assemble, and test all necessary equipment.
03 Position the casualty in a supine position, with the neck placed in the “neutral position”.
NOTE: If you are right-handed, position yourself on the right side of the casualty; left-handed, to the left side.
04 Identify the cricothyroid membrane between the cricoid and thyroid cartilages.
NOTE: The cricothyroid membrane is in the hollow, or V, between the two cartilages.
05 Clean the site with alcohol or povidone-iodine (if time permits).
06 Stabilize the larynx with the nondominant hand.
07 Confirm landmarks with the dominant index finger.
08 Make a 1-inch vertical incision through the skin over the cricothyroid membrane.
09 Reconfirm the cricothyroid membrane with the index finger.
10 Turn the Cric-Knife horizontally (ensure integrated tracheal hook is facing inferiorly) and poke through the cricothyroid membrane, making a 1/2-inch incision.
NOTE: A rush of air may be heard or felt through the opening.
CAUTION: **Do not** make the incision more than 1/2-inch deep from the surface of the skin or you may perforate the esophagus.
11 Slide the integrated tracheal hook down the handle with your thumb until it enters the trachea and disengages from the handle.
12 Gently lift thyroid cartilage, withdraw the scalpel, and place it in a sharps container.
13 Insert the Cric-Key with the endotracheal airway into the trachea, directed towards the lungs, until the flange contacts the skin of the neck.
NOTE: You should feel the tracheal rings of the trachea with the tip of the Cric-Key during the insertion.
14 Angle the tracheal hook toward the shoulder and gently remove it.
15 Remove the stylet, leaving the tube in place.
16 Inflate the cuff with 10 ml of air.
NOTE: Look for misting in the tube.
17 Direct CLS to ventilate the casualty with a bag valve mask (BVM) when appropriate.
18 Auscultate the right and left lungs, listening for breath sounds while watching for equal rise and fall of the chest to confirm tube placement.
19 Assess the casualty for spontaneous respirations (must count for 10 seconds at a minimum) and attach the pulse oximeter to the casualty (if available).

20 If respirations are <8 or >30 or the pulse oximeter reading is <90%, ventilate the casualty with a BVM.
21 Apply a dressing around the tube.
22 Secure the device around the casualty's neck with a strap or tape.
23 Continually assess and monitor the casualty.
24 Document all findings and treatments on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.

CRICOTHYROIDOTOMY INSTRUCTION (BOUGIE-AIDED)

TASK:	Perform a bougie-aided cricothyroidotomy
CONDITION:	Given a Tactical Field Care scenario where you encounter a casualty with an upper airway obstruction, impending airway obstruction, or maxillofacial injuries, and the casualty's airway cannot be maintained using manual methods, nasopharyngeal, or extraglottic airways
STANDARD:	Establish an effective surgical airway in 4 minutes or less using a bougie-aided cricothyroidotomy
EQUIPMENT:	Alcohol or povidone-iodine, scalpel, bougie, flanged and cuffed airway cannula of less than 10 mm outer diameter, 6–7 mm internal diameter, and 5–8 cm of intratracheal length, tape, tracheal hook, and sharps container

PERFORMANCE MEASURES: step-by-step instructions

NOTE: Consider body substance isolation.
NOTE: If a Combat Lifesaver (CLS) is available, direct them to assist.

01 Assess the casualty's airway (see Head-tilt/Chin-lift and/or Jaw-Thrust Maneuver Instructions).
02 Gather, assemble, and test all necessary equipment.
03 Position the casualty in a supine position, with the neck placed in the “neutral position”.
NOTE: If you are right-handed, position yourself on the right side of the casualty; left-handed, to the left side.
04 Identify the cricothyroid membrane between the cricoid and thyroid cartilages.
NOTE: The cricothyroid membrane is in the hollow, or V, between the two cartilages.
05 Clean the site with alcohol or povidone-iodine (if time permits).
06 Stabilize the larynx with the nondominant hand.
07 Confirm landmarks with the dominant index finger.
08 Make a 1-inch vertical incision through the skin over the cricothyroid membrane.
09 Reconfirm the cricothyroid membrane with the index finger.
10 Turn the scalpel horizontally and poke through the cricothyroid membrane, making a 1/2-inch incision.
NOTE: A rush of air may be heard or felt through the opening.
CAUTION: **Do not** make the incision more than 1/2-inch deep from the surface of the skin or you may perforate the esophagus.
11 Insert tracheal hook through cricothyroid membrane, gently lift cricoid cartilage, withdraw the scalpel, and place it in a sharps container.
12 Insert the bougie through the cricothyroid membrane opening and direct it toward the lungs.
NOTE: You should feel the rings of the trachea in the bougie as you advance it.
13 Angle the tracheal hook toward the shoulder and gently remove it.
14 Insert the tracheostomy tube over the bougie and advance it into the trachea, at least 1/4 to 1 inch beyond the cuff.
NOTE: If using an endotracheal (ET) tube, insert 1/4 to 1 inch beyond the cuff.
15 Remove the bougie from the tracheostomy tube.
16 Inflate the cuff with 10 ml of air.
NOTE: Look for misting in the tube.
17 Direct the CLS to ventilate the casualty with a bag valve mask (BVM) when appropriate.
18 Auscultate the right and left lungs and watch for equal rise and fall of the chest to confirm tube

placement.

NOTE: If using an ET tube, auscultate the epigastric region if tactically feasible.

NOTE: If breath sounds are absent on the left side only, the tube has been inserted down the right mainstem bronchus; deflate the cuff and pull the tube back a few centimeters, then reinflate the cuff.

19 Assess the casualty for spontaneous respirations (must count for 10 seconds at a minimum) and attach the pulse oximeter to the casualty (if available).

20 If respirations are <8 or >30 or the pulse oximeter reading is <90%, ventilate the casualty with a BVM.

21 Apply a dressing around the tube.

22 Secure the device around the casualty's neck with a strap or tape.

23 Continually assess and monitor the casualty.

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

Developed by the

JOINT TRAUMA SYSTEM

A Combat Support Division of the

DHA

DEFENSE HEALTH AGENCY