

Monterey County EMS System Policy



Policy Number: 4506
Effective Date: 7/1/2025
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NEEDLE CRICOTHYROTOMY

I. PURPOSE

- A. To define the indications and procedure for the use of needle cricothyrotomy.

II. POLICY

- A. Needle cricothyrotomy for patients with complete airway obstruction that cannot be resolved by using less invasive techniques is a standing order for both adult and pediatric patients.
- B. Needle cricothyrotomy shall be performed using the Quicktrach II for adults. For this skill, adults are considered to be age 9 years and older.
- C. Needle cricothyrotomy shall be performed using the Quicktrach I Child (2 mm internal diameter cannula) for pediatric patients 1 – 8 years of age.
- D. Needle cricothyrotomy shall not be attempted on a pediatric patient younger than 1 year of age.
- E. Needle cricothyrotomy is contraindicated if the patient can either breathe spontaneously or can be adequately ventilated.
- F. All other reasonable methods of opening and maintaining an airway shall be attempted prior to attempting needle cricothyrotomy.
- G. No more than three (3) attempts at device placement for an adult and two (2) placement attempts for a child shall be performed.
- H. Any attempt or performance of this skill shall be reported by the paramedic to their employer immediately upon completion of the call. The case shall be reported by the employer to the EMS Agency within 24 hours after receiving notification by the employee.
- I. Needle cricothyrotomy is an Optional Scope of Practice skill for ALS service providers. ALS service providers who elect to make this skill available to their ALS providers shall:
 - 1. Notify the EMS Agency of their intention to make the skill part of the Scope of Practice for their ALS providers.
 - 2. Ensure that all of their ALS providers practice and demonstrate the skill correctly at least two times each calendar year as part of the ALS Skills Maintenance Verification requirement (Policy #6090).
 - 3. Quicktrach I and Quicktrach II demonstration videos shall be viewed by ALS providers at least once quarterly (every 3 months) on the manufacturer's website (<https://www.vbm-medical.de/en/products/airway-management/cricothyrotomy/quicktrach/>).

4. Training, skills demonstration, and viewing of the videos shall be documented on the ALS Skills Maintenance Verification Form (#6091)

III. INDICATIONS

- A. Adult (9 years or older) and pediatric patients (age 1-8 years) with **complete obstruction of the upper airway** (at or above the proximal trachea) that **cannot be resolved by other less invasive methods**, such as:
 1. Unable to relieve upper airway obstruction by suctioning, abdominal thrusts, Magill forceps, etc.
 2. Unable to ventilate patient using a bag-valve-mask
 3. Unable to perform endotracheal intubation due to upper airway obstruction
 4. Unable to place and ventilate through a supraglottic airway due to upper airway obstruction

IV. CONTRAINDICATIONS

- A. Child less than 1 year of age
- B. Injury to the larynx with known damage to cricoid cartilage
- C. Laryngeal fracture
- D. Anterior neck masses or swelling that markedly obscure anatomical landmarks

V. PROCEDURE

- A. Adult (age 9 years and older)
 1. Attempt all other appropriate methods of airway management for the patient.
 2. Identify indications for performing a needle cricothyrotomy.
 3. Confirm that there are no contraindications for needle cricothyrotomy.
 4. Don personal protective equipment (PPE).
 5. Gather all necessary supplies and equipment:
 - a. Quicktrach II kit
 - b. Oxygen source
 - c. Bag-valve-mask
 - d. Antiseptic wipes
 - e. Sharps container
 6. Place the patient in a supine position with head and neck extended. (Placement of folded blankets beneath the shoulders may help maintain proper head and neck extension during the procedure.)
 7. Open the Quicktrach II package.
 8. Clean the skin of the anterior neck with iodine, chlorhexidine, or alcohol swabs.

9. Grasp and stabilize the trachea between the thumb and middle finger of your non-dominant hand. Locate the cricothyroid membrane with the index finger of your non-dominant hand by palpating the depression between the inferior aspect of the thyroid cartilage and the superior aspect of the cricoid cartilage. This is the location of the cricothyroid membrane.
 10. Puncture the cricothyroid membrane with the Quicktrach II needle tip and catheter while positioning the needle and catheter at a 90-degree angle to the plane of the skin.
 11. Once the needle tip has punctured the cricothyroid membrane, change the angle of insertion of the needle and catheter to a 45-degree angle and advance the catheter caudally (toward the patient's feet) until the red stopper is against the patient's skin.
 12. Aspirate air with the attached syringe to confirm that the needle tip and catheter are within the trachea. If you cannot aspirate air through the attached syringe, reposition the catheter and try again. If you still cannot aspirate air, remove the catheter and try again, repeating the steps above. If air cannot be aspirated following two additional attempts (3 total attempts), remove the device, continue attempted ventilation with a BVM, and transport.
 13. Once air can be aspirated with the attached syringe, remove the red stopper and advance the plastic cannula over the needle until the green safety clip audibly clicks into position.
 14. Continue to advance the device until the plastic flange is flush with the skin.
 15. Stabilize the plastic flange with your non-dominant hand, remove the metal needle from the cannula, and dispose of the needle in the sharps container.
 16. Inflate the distal cuff with air using the prepared syringe in the Quicktrach II kit.
 17. Continue to stabilize the plastic flange with the fingers of one hand to ensure that it does not become dislodged.
 18. Attach a BVM to the device either directly or via the included connecting tube.
 19. Ventilate the patient at 6-10 breaths/minute, allowing adequate time for exhalation.
 20. Secure the plastic cannula with the foam neck tape.
 21. Auscultate lung sounds while ventilating the patient.
 22. Monitor for hyperinflation of the chest. If the chest becomes hyperinflated or if it becomes increasingly difficult to ventilate the patient, remove the BVM from the plastic flange to allow full exhalation for 10 seconds. Re-connect the BVM to the plastic flange and resume ventilating the patient at a slower rate.
- B. Pediatric (age 1 - 8 years)
1. Attempt all other appropriate methods of airway management for the patient.
 2. Identify indications for performing a needle cricothyrotomy.
 3. Confirm that there are no contraindications for needle cricothyrotomy.

4. Don personal protective equipment (PPE).
5. Gather all necessary supplies and equipment:
 - a. Quicktrach I kit
 - b. Oxygen source
 - c. Bag-valve-mask
 - d. Antiseptic wipes
 - e. Sharps container
6. Place the patient in a supine position with head and neck extended. (Place folded blankets beneath the shoulders to help maintain proper head and neck extension during the procedure.)
7. Open the Quicktrach I package.
8. Clean the skin of the anterior neck with iodine, chlorhexidine, or alcohol swabs.
9. Grasp and stabilize the trachea between the thumb and middle finger of your non-dominant hand. Locate the cricothyroid membrane with the index finger of your non-dominant hand by palpating the depression between the inferior aspect of the thyroid cartilage and the superior aspect of the cricoid cartilage. This is the location of the cricothyroid membrane.
10. Puncture the cricothyroid membrane with the Quicktrach I needle tip and catheter while positioning the needle and catheter at a 90-degree angle to the plane of the skin.
11. Once the needle tip has punctured the cricothyroid membrane, change the angle of insertion of the needle and catheter to a 45-degree angle and advance the catheter caudally (toward the patient's feet) until the red stopper is against the patient's skin.
12. Aspirate air with the attached syringe to confirm that the needle tip and catheter are within the trachea. If you cannot aspirate air through the attached syringe, reposition the catheter and try again. If you still cannot aspirate air, remove the catheter and try again, repeating the steps above. If air cannot be aspirated following one additional attempt (2 total attempts), remove the device, continue attempted ventilation with a BVM, and transport.
13. Once air can be aspirated with the attached syringe, remove the red stopper and advance the plastic cannula over the needle until the plastic flange is flush with the skin. (Caution: The metal needle serves as a guide and must not be inserted further.)
14. Stabilize the plastic flange with your non-dominant hand, remove the metal needle from the cannula, and dispose of the needle in the sharps container.
15. Continue to stabilize the plastic flange with the fingers of one hand to ensure that it does not become dislodged.
16. Attach a BVM to the device either directly or via the included connecting tube.

17. Ventilate the patient at 6-10 breaths/minute, allowing adequate time for exhalation.
18. Secure the plastic cannula with the foam neck tape.
19. Auscultate lung sounds while ventilating the patient.
20. Monitor for hyperinflation of the chest. If the chest becomes hyperinflated or if it becomes increasingly difficult to ventilate the patient, remove the BVM from the plastic flange to allow full exhalation for 10 seconds. Re-connect the BVM to the plastic flange and resume ventilating the patient at a slower rate.

END OF POLICY