

COUNTY OF VENTURA EMERGENCY MEDICAL SERVICES		HEALTH CARE AGENCY POLICIES AND PROCEDURES	
Policy Title: Needle Thoracostomy		Policy Number: 715	
APPROVED: Administration: Steven L. Carroll, Paramedic		Date: July 1, 2022	
APPROVED: Medical Director Daniel Shepherd, M.D.		Date: July 1, 2022	
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- I. Purpose: To define the indications, procedure and documentation for needle thoracostomy use by paramedics.
- II. Authority: Health and Safety Code, Sections 1797.220 and 1798. California Code of Regulations, Title 22, Sections 100145 and 100169.
- III. Policy: Paramedics may perform needle thoracostomy on patients with a suspected tension pneumothorax in accordance with this policy.
- IV. Procedure:
 - A. Indications
 1. Patients with **ALL** of the following:
 - a. Clinical suspicion of pneumothorax (e.g., trauma, dyspnea, chest pain),
 - b. Signs of hypoperfusion **and/or** systolic blood pressure less than 90 mmHg (adults) or below minimum systolic for respective age in Handtevy (pediatrics).
 - c. Absent or significantly decreased breath sounds on the affected side.
 2. Patients in traumatic cardiac arrest:
 - a. Bilateral needle thoracostomy should be performed when patients meet criteria for resuscitation per policy 606 and have known or suspected torso trauma.
 - B. Contraindications: None in this setting
 - C. Equipment
 1. Antiseptic solution
 2. 10 ml syringe
 3. Adults and pediatric patients over 40kg: 3-3.75 inch (8.0-8.5 cm), 10 to 14 gauge over-the-needle catheter
Peds under 40kg: 1.25-inch (3cm), 14 to 16 gauge over-the-needle catheter
 4. Connection tubing
 5. Heimlich valve
 6. Tape

D. Placement

1. Attach the syringe to the needle/catheter.
2. Identify and prep the site with antiseptic solution:

Preferred Adult Site:

- The lateral placement is the preferred method which is the fourth intercostal space in the anterior-axillary line (lateral to nipple).

Preferred Adult *Alternative* Site and Preferred Pediatric Site:

- If unable to access lateral placement due to patient size, position, or failed attempt, locate the second intercostal space in the mid-clavicular line.

3. Insert the needle/catheter perpendicular to the skin over the rib and direct it just over the top of the rib into the intercostal space.
4. After inserting the needle under the skin, maintain negative pressure in the syringe.
5. Advance the needle/catheter through the parietal pleura until a “pop” is felt and/or air or blood enters the syringe, then advance **ONLY** the catheter (not the syringe/needle) until the catheter hub is against the skin.

CAUTION: Do not reinsert needle into cannula due to danger of shearing cannula.

6. Hold the catheter in place and remove and discard the syringe and needle.
7. Attach tubing and Heimlich valve.
8. Secure the catheter hub to the chest wall with dressings and tape.
9. Reevaluate the patient (VS, lung sounds).

E. Documentation

1. All needle thoracostomy attempts must be documented in the Ventura County Electronic Patient Care Reporting System (VCePCR).
2. Documentation will include location, size of equipment, number of attempts, success, complications, patient response and any applicable comments.