



State of Maryland

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To: EMS Operational Programs  
EMS Clinicians  
EMS Medical Directors

From: Timothy Chizmar, MD, FACEP  
State EMS Medical Director

Date: February 14, 2020

RE: Protocol Change to Needle Decompression Thoracostomy (ALS) – Pediatric Patients Under 15 Years of Age - Effective Immediately

Effective immediately, the needle decompression site for **pediatric patients under 15 years of age has been changed to the second (2<sup>nd</sup>) intercostal space, at the mid-clavicular line** on the anterior chest wall.

The needle decompression site for patients 15 years and older will remain unchanged, namely the fifth (5<sup>th</sup>) intercostal space at the anterior axillary line (preferred) or second (2<sup>nd</sup>) intercostal space at the mid-clavicular line (backup if the 5<sup>th</sup> intercostal space is not available).

Please find a copy of the revised protocol attached: p. 257, Indications, (3) Allowable site, (b) Children under 15 years of age; this section contains the only change from the prior protocol.

For further information on this matter, please contact the MIEMSS Office of the Medical Director.



## 7. AIRWAY MANAGEMENT: NEEDLE DECOMPRESSION THORACOSTOMY (NDT)

### a) PURPOSE

Needle Decompression Thoracostomy is the procedure of introducing a needle/catheter with a minimum length of 3.25 inches and a minimum diameter of 14 gauge (with optional add-on flutter valve attached) into the pleural space of the chest to provide temporary relief for the patient suffering from a tension pneumothorax.

### b) INDICATIONS

- (1) Patients who are assessed to have a life-threatening tension pneumothorax in extremis with absent lung sounds AND clear evidence of hemodynamic compromise to include hypotension (SBP < 100 mmHg), and/or arrest
- (2) If traumatic arrest is suspected due to multi-system blunt trauma, or due to penetrating neck, chest, or abdominal trauma, bilateral needle decompression should be performed. Once catheters are placed, **do not remove**.
- (3) Allowable site:
  - (a) Adults and children 15 years of age and older:
    - (i) Fifth (5th) intercostal space, anterior axillary line
    - (ii) If fifth (5th) intercostal space site is not available, use second (2nd) intercostal space at the mid-clavicular line on the anterior chest wall
  - (b) Children under 15 years of age:
    - (i) Use the second (2nd) intercostal space, at the mid-clavicular line on anterior chest wall

### c) CONTRAINDICATIONS

Patients whose tension pneumothorax can be relieved by the removal of an occlusive dressing from an open chest wound

### d) POTENTIAL ADVERSE EFFECTS/COMPLICATIONS

- (1) Intercostal vascular or nerve injury
- (2) Pneumo/hemothorax
- (3) Direct damage to the lung
- (4) Pericardial/cardiac injury
- (5) Infection

### e) PRECAUTIONS

- (1) Reassessment of catheter patency
- (2) Second decompression may need to be performed if reaccumulation, catheter occlusion, or dislocation is evident.