

S.A.V.E.S.

SOMERSET ACCIDENT VOLUNTARY EMERGENCY SERVICE

Affiliated to the British Association for Immediate Care

Standard Operating Procedure 005

NEEDLE THORACOCENTESIS

Training

Needle thoracocentesis is a standard pre-hospital procedure and is included in the pre-hospital care course. All active SAVES members should have been trained in needle thoracostomy prior to approval for active membership. Members should maintain their familiarity with the procedure by regular revision.

Indication

Needle thoracocentesis is the first line procedure for suspected tension pneumothorax. Surgical thoracostomy may be used as an alternative in unconscious patients.

Tension pneumothorax is relatively rare occurring in approximately 6% of patients with significant blunt trauma. Needle thoracocentesis carries a significant risk of iatrogenic pneumothorax if carried out on a patient with a fully inflated lung.

Symptoms and Signs of Tension Pneumothorax:

- Chest pain and respiratory distress are universal symptoms in conscious patients.
- Tachycardia and signs reduced air entry are found in 50–75%
- Increased resonance on percussion may be detectable on the affected side but beware bilateral pneumothoraces.
- Changes in chest wall movement are not always obvious. May progress;
 - Ipsilateral hypomobility
 - Contralateral hypermobility
 - Ipsilateral hyperinflation
- Tension pneumothorax is more common in ventilated patients – show rapid deterioration with fall in SaO₂ and BP. 33% have high ventilation pressures, reduced chest wall movement and reduced air entry.

The Procedure

- Administer oxygen with non-rebreathing mask or 100% O₂ via bag-valve mask and optimally manage airway
- Identify 2nd intercostal space, midclavicular line on affected side
- If possible, clean area with alcowipe
- Attach large bore cannula to syringe and draw back the syringe plunger slightly.
- Insert cannula, superior to 3rd rib to avoid neurovascular bundle
- Enter the pleural space and use syringe to ensure aspirating air. It may be necessary to compress the plunger to expel a tissue plug in the needle
- Remove the needle and secure the cannula to ensure does not kink/block
- Reassess airway/breathing
- Repeat procedure if tension redevelops and consider tube thoracostomy
- Document procedure