

S.A.V.E.S.

SOMERSET ACCIDENT VOLUNTARY EMERGENCY SERVICE

Affiliated to the British Association for Immediate Care

Standard Operating Procedure 006

THORACOSTOMY

Training

Members should have been trained in the procedure; either as a stand-alone procedure or as the initial process of chest drain insertion. Training is included as part of the Advanced PHEC course. Training is usually performed on a sheep's rib cage. Members should maintain their familiarity with the procedure by regular revision.

Indications

Thoracostomy may be used as an alternative to needle thoracocentesis in unconscious, ventilated patients where a tension pneumothorax is suspected.

In patients with cardiac arrest, which may be secondary to tension pneumothorax, bilateral thoracostomies may be appropriate.

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

Symptoms and Signs of Tension Pneumothorax:

- 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.
- 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.
- Reduced ipsilateral in chest wall movement, which may progress to ipsilateral hyperinflation.

Equipment

- Skin cleanser
- Swabs
- Scalpel and Blade
- Forceps

The Procedure

- Identify 4th or 5th space, midaxillary line
- Clean skin
- Make a 3 to 5cm skin incision parallel to ribs
- Blunt dissect through into pleural cavity using forceps – should feel “pop” as pleura is breached.
- Insert finger to enlarge thoracostomy and perform finger sweep to assess for pneumothorax
- Reassess ABC
- If conditions are dirty consider intravenous broad spectrum antibiotics
- Document procedure
- If prolonged transfer or significant bleeding, consider insertion of a chest drain through the thoracostomy