

Thoracotomy SOP

QPI

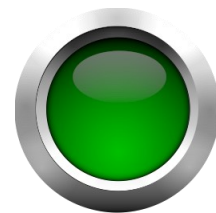
Further reading

<https://emj.bmj.com/content/22/1/22>

<https://phemcast.co.uk/2016/12/12/episode-14-thoracotomy/>

EAST guidelines 2015

FPHC Consensus statement 2016



Related SOPs

Low output state in trauma SOP

Blunt chest injury SOP

Penetrating chest injury SOP

Blood transfusion SOP

Haemostasis SOP

Prehospital clamshell thoracotomy is a **surgical access procedure** that may subsequently allow life-saving interventions to be made:

- Evacuation of a pericardial clot to release cardiac tamponade
- Arrest of intrathoracic or distal haemorrhage

In addition, thoracotomy permits other resuscitative strategies:

- Descending aortic compression
- Internal cardiac massage

Prehospital thoracotomy is reserved for patients with **Low Output State in Trauma (LOST)** and **No Output State in Trauma (NOST)** deemed to be potentially salvageable, and who are otherwise unlikely to reach a major trauma centre with a central pulse.

Thoracotomy SOP

Primary Indication

Patient has LOST/NOST from:

Penetrating torso trauma that may have breached the thoracic cavity (wounds to chest, abdomen or lower neck)

What happened exactly?

Rapid head to toe assessment

Exclude futility*

Perform bilateral open thoracostomies

If no improvement:

Proceed **immediately** to thoracotomy

- Exclude/relieve tamponade and inspect myocardium
- Manage cardiac wounds as required
- Control other intrathoracic bleeding
- Apply pressure to descending aorta
- Internal cardiac massage as required

Delegate all other tasks initially

- Direct the land crew to manage airway (consider iGel), apply monitoring, control scene etc.

* Refer to Low output state in trauma SOP

The FPHC recommend proceeding as long as the patient has had 'vital signs within the last 15 minutes'

In a large case series from London, a third of reported survivors with good outcome had asystole at presentation

Thoracotomy SOP

Possible Indications

LOST/NOST from **blunt trauma with confirmed tamponade on ultrasound**

Early use of cardiac ultrasound is encouraged for blunt trauma patients with low output state. Where a tamponade is confirmed and the patient is still deemed to be salvageable, thoracotomy is indicated.

LOST/NOST from **hypovolaemic blunt trauma**

Where, **usually in the presence of the GNAAS crew**, a patient continues to deteriorate to the point of losing their central pulse despite all other attempts at haemorrhage control and blood transfusion, a thoracotomy may be indicated for intra-thoracic or proximal haemorrhage control.

Discuss this option within the team early. Consider futility. Decide on your triggers and thresholds before they happen. Once a patient has already bled to the point of asystole, this technique will be unsuccessful. Avoid in patients with severe blunt head injury.

LOST/NOST from **hypovolaemic penetrating injury to the groins/buttocks/lower limbs**

Where, **usually in the presence of the GNAAS crew**, a patient continues to deteriorate to the point of losing their central pulse despite all other attempts at haemorrhage control and blood transfusion, a thoracotomy may be indicated for proximal haemorrhage control.

Discuss this option within the team early. Consider futility. Decide on your triggers and thresholds before they happen. Once a patient has already bled to the point of asystole, this technique will be unsuccessful.

Where teams are confident that the thoracotomy is only required for aortic compression (distal haemorrhage control & promotion of cerebral perfusion), a left lateral thoracotomy is an alternative option