Midlands Critical Care, Trauma and Burns Networks
Midlands Trauma Networks
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Document purpose: This document is limited to providing guidance for the management of patients with suspected penetrating cardiac injury
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1. Purpose. To provide overarching principles of practice and governance to all acute receiving hospitals in the Midlands Trauma Networks.

2. Scope of document. Limited to providing guidance for the management of patients with suspected penetrating cardiac injury.

3. Introduction. Despite the improvement in trauma care, penetrating injuries to the heart continue to be a source of significant mortality, as these injuries require urgent intervention to prevent death. A rapid diagnosis and surgical intervention can resuscitate patients who would otherwise die, and healthcare providers with a duty of care to these patients including ED TTL's, general surgeons and some prehospital emergency medicine doctors should be capable of recognising these injuries and intervening even if a cardiothoracic surgeon is not immediately available. Remember that sometimes serious cardiac injury may manifest only subtle or occult signs or symptoms. There is a separate document describing management by prehospital emergency medicine teams which should be referred to as required and is overseen by the WMAS Immediate Care Governance Group.

4. Principles

Penetrating cardiac injury has two main modes of presentation:

- cardiac tamponade
- hypovolaemia

A patient may display features of both tamponade and hypovolaemia.

- All hospitals must ensure that an emergency thoracotomy set is available in the resuscitation room.
- An emergent thoracotomy (in ED or in theatres) should be performed if the patient:

– has a cardiac arrest in ED / Theatres
– is peri-arrest
– lost their vital signs within 15 minutes prior to arriving in ED (if effective BLS has been delivered)

• The decision to perform a thoracotomy should be made by the trauma team leader, in conjunction with relevant specialist if available.

5. Emergency thoracotomy

Emergent thoracotomy is used to gain rapid access to the thoracic cavity to facilitate immediate intervention in resuscitation. It is sometimes referred to as resuscitative thoracotomy.

Emergent thoracotomy is often aimed solely at managing those patients with a simple cardiac wound leading to tamponade and cardiac arrest. The clamshell technique is recommended.

6. Recommendations

Access to cadaveric training.

Provide cascade/scenario-based training in house.

References

ED thoracotomy – network guideline, October 2017. www.mcctn.org.uk

TEMPO: Trauma East Manual of Procedures and Operations, edition 2, 2014