Clinical Practice Guidelines: Trauma/Chest injuries

<table>
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<tr>
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<th>CPG_TR_CHI_0119</th>
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<tr>
<td>Date</td>
<td>January, 2019</td>
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<td>Purpose</td>
<td>To ensure a consistent approach to the management of a patient with chest injuries.</td>
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<td>Scope</td>
<td>Applies to Queensland Ambulance Service (QAS) clinical staff.</td>
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<td>Health care setting</td>
<td>Pre-hospital assessment and treatment.</td>
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<tr>
<td>Population</td>
<td>Applies to all ages unless stated otherwise.</td>
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<tr>
<td>Source of funding</td>
<td>Internal – 100%</td>
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Clinical features

- Injuries sustained depends on mechanisms and forces
- Penetrating trauma:
  - entry and exit wound
  - external bleeding may be evident
  - internal bleeding may be occult.
- Blunt trauma:
  - contusion/abrasion
  - haematoma
  - obvious rib fracture AND/OR clavicular fracture.

Life threatening injuries may not be initially apparent and the mechanism of injury is important in guiding further investigation (e.g. rib fractures suggest significant force with possible underlying organ damage). Lack of obvious fractures doesn’t exclude injury especially in a paediatric patient.

Clinical features (cont.)

- Unequal air entry and/or crackles
- Asymmetrical or paradoxical chest wall movement
- Surgical emphysema
- Chest hypomobility
- Bubbling or sucking wounds
- Extreme tachypnoea
- Tracheal shift
- Hypotension
- Altered conscious state
- Jugular venous distension
- Muffled heart sounds
- Cardiac dysrhythmias.
Complications

- Over-zealous IPPV may precipitate a tension pneumothorax, especially in an intubated patient.[3]
- Chest pain in trauma can be due to myocardial ischaemia, but blunt trauma to the heart can precipitate ECG changes as seen in myocardial contusion.[4]
- Consider the possibility of cardiac arrest after trauma.
- Penetrating trauma to the thorax may appear minor, but life-threatening injury can be sustained (e.g. aortic or ventricular laceration, pneumo or haemothorax). All wounds are treated as life-threatening regardless of the size or perceived depth.

Additional information

Common features:
- pleuritic pain, shallow respirations and postural splinting
- reduced or absent breath sounds (pneumothorax), crepitus/subcutaneous emphysema
- hypoxia, tachypnoea

Transport to hospital
Pre-notify as appropriate

Administer:
- Emergency chest decompression

Shock?
- Y: Stabilise mechanical injuries
- N: Manage as per:
  - CPG: Hypovolaemic shock

Signs of tension pneumothorax?
- Y: Emergency chest decompression
- N: Stabilise mechanical injuries

Manage as per:
- Oxygen
- IV access
- Analgesia
- IV fluid
- FAST

Note: Clinicians are only to perform procedures for which they have received specific training and authorisation by the QAS.