Queensland Trauma Education

CHEST TRAUMA

Blunt chest trauma management

Case discussion

Facilitator resource kit

Clinical Excellence Queensland
JAMIESON TRAUMA INSTITUTE
CSDS Clinical Skills Development Service
Queensland Government

Queensland Trauma Education

The resources developed for Queensland Trauma Education are designed for use in any Queensland Health facility that cares for patients who have been injured as a result of trauma. Each resource can be modified by the facilitator and scaled to the learners needs as well as the environment in which the education is being delivered, from tertiary to rural and remote facilities.

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Chest Trauma – Blunt chest trauma management: Case discussion – Facilitator resource kit
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About this training resource kit

This resource kit provides the opportunity to discuss the management of patients with blunt chest trauma.

National Safety and Quality Health Service (NSQHS) Standards

Target audience

Emergency department medical and nursing clinicians.

Duration

30 minutes.

Group size

Suited to small group participation.

Learning objectives

By the end of this session the participant will be able to:

- Discuss the initial investigations in a patient with suspected blunt chest wall injury
- Identify use of advanced (CT) imaging for suspected blunt chest injury

Facilitation guide

1. Use case to generate discussion around the initial investigations and escalation in management for a patient with blunt chest injury
2. Utilise opportunity to discuss local procedure and guidelines

Supporting resources (in Printable Resources)

The following supporting documents are provided for this case discussion:

1. CXR- nil overt injury demonstrated
2. CT chest- L rib fracture
3. CT chest- L moderate pneumothorax

Case discussion

Case study

A 59-year-old male is brought to your emergency department after crashing his e-scooter at 25km/hr into a parked car.

He was witnessed to be thrown over the car landing on the ground. His main complaint of pain is to his L shoulder and L chest.

He is given 20mg IV morphine with the ambulance team to help with his pain.

Following this, he desaturates to 92% RA.

Question and answer guide

1. What factors suggest this patient has sustained a blunt chest wall injury?

Mechanism of trauma

Anatomical area of pain

Hypoxia

2. The patient undergoes a chest Xray during his trauma assessment. What is the role of plain imaging (chest and pelvic Xray) in the immediate assessment phase?

These tests are used to identify life threatening pathologies than require urgent intervention. For example, large haemothorax or pneumothorax requiring decompression; open book pelvic injury requiring pelvic binder placement.

3. This CXR is attached. What does it show?

Not much! Despite the patient's hypoxia there is no significant pulmonary or chest wall abnormality.

4. Despite further pain relief with IV morphine the patient still complains of pain in his L chest and difficulty in breathing. What should be done now?

Consider alternate agents

Escalate dose

Apply oxygen

Consider patient positioning

5. The patient undergoes a CT of his chest. What does this demonstrate?

L sided rib fracture and moderate pneumothorax

6. Why is this so different from the CXR?

CXR- screening test, will not demonstrate subtle details (non or minimally displaced rib fractures), performed in the supine position (pneumothorax may be hard to identify).

7. The patient remains breathless and with significant pain in the L chest. What are further options in management?

Escalate analgesia- local procedure for Patient Controlled Analgesia (PCA), Regional blocks, Ketamine infusion, plus oral analgesia.

Consider intercostal drain- controversy remains regarding absolute size of pneumothorax, type of drain (ICC vs pigtail) and size of catheter used.

Support oxygenation.

Acronyms and abbreviations

Term	Definition
CXR	Chest Xray
CT	Computed tomography
ICC	Intercostal catheter

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