



Queensland  
Trauma Education

**WARD TRAUMA CARE**

# Deterioration in chest trauma Immersive scenario

Facilitator resource kit

**CSDS**



Clinical Skills Development Service



## 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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### Queensland Trauma Education

**Ward trauma care – Deterioration in chest trauma: Immersive scenario – Facilitator resource kit**

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## About this training resource kit

This resource kit provides participants with the knowledge and skill to manage a patient who has respiratory deterioration in the setting of chest trauma on the ward.

### National Safety and Quality Health Service (NSQHS) Standards



### Target audience

Ward medical and nursing clinicians

### Duration

45 minutes

### Group size

Suited to small group participation

### Learning objectives

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

- Recognise clinical deterioration following chest trauma
- Perform a structured assessment in the assessment of a patient with chest trauma

### Facilitation guide

1. Facilitator to use immersive scenario guide to lead simulation event
2. Debrief guide

### Supporting resources

- Immersive scenario including CXR

# Overview of the assessment and management of a patient with respiratory deterioration following blunt chest injury

Respiratory deterioration can occur following blunt chest trauma for a variety of reasons. A structured assessment to focus further investigations and management is warranted to provide appropriate management.

## Further reading

<b>Blunt Chest Trauma Guideline</b>	
Publication	Clinical Practice Guideline, Clinical Excellence
Link	<a href="https://bit.ly/3RjqlHR">https://bit.ly/3RjqlHR</a>

<b>Chest Wall Trauma Guideline</b>	
Organisation	The Royal Melbourne Hospital
Link	<a href="https://bit.ly/3AJFwTq">https://bit.ly/3AJFwTq</a>

## Simulation event

### **This section contains the following:**

1. Pre-simulation briefing poster
2. Immersive scenario
3. Resource requirements
4. Handover card
5. Scenario progression
  - a. State 1
  - b. State 2
  - c. State 3
6. Supporting documents
7. Debriefing guide

# Pre-simulation briefing

## Establishing a safe container for learning in simulation



# 1

### Clarify objectives, roles and expectations

- Introductions
- Learning objectives
- Assessment (formative vs summative)
- Facilitators and learners' roles
- Active participants vs observers

# 2

### Maintain confidentiality and respect

- Transparency on who will observe
- Individual performances
- Maintain curiosity



# 3

### Establish a fiction contract

Seek a voluntary commitment between the learner and facilitator:

- Ask for buy-in
- Acknowledge limitations

# 4

### Conduct a familiarisation

- Manikin/simulated patient
- Simulated environment
- Calling for help

# 5

### Address simulation safety

Identify risks:

- Medications and equipment
- Electrical or physical hazards
- Simulated and real patients

Note: Adjust the pre-simulation briefing to match the demands of the simulation event, contexts or the changing of participant composition.

## Immersive scenario

<b>Type</b>	Immersive scenario
<b>Target audience</b>	Ward medical and nursing clinicians
<b>Overview</b>	<p>Admission to the ward for ongoing management of a pneumothorax following stabbing injury to chest.</p> <p>Patient is on the ward for four hours when he complains of increasing pain and difficulty breathing.</p> <p>A systematic assessment is required to recognise that pain is causing respiratory dysfunction.</p>
<b>Learning objectives</b>	<ul style="list-style-type: none"><li>• Recognise clinical deterioration following chest trauma</li><li>• Perform a structured assessment in the assessment of a patient with chest trauma</li></ul>
<b>Duration</b>	45 minutes, including debrief.

## Resource requirements

### Physical resources

<b>Room setup</b>	Ward patient room, manikin in bed with ICC and UWSD insitu
<b>Simulator/s</b>	ALS Simulator
<b>Simulator set up</b>	<ul style="list-style-type: none"> <li>• Lying flat in hospital bed</li> <li>• Hospital gown</li> <li>• ICC and UWSD connected with suction applied</li> </ul>
<b>Clinical equipment</b>	<ul style="list-style-type: none"> <li>• ICC</li> <li>• UWSD</li> <li>• CXR</li> </ul>
<b>Access</b>	2 x PIVC setups with 1 x 'No IV' sticker attached
<b>Other</b>	Bedside paper chart

### Human resources

<b>Faculty</b>	Facilitator
<b>Simulation coordinators</b>	Facilitator can run scenario via sim-pad
<b>Confederates</b>	Bedside nurse
<b>Other</b>	Clinical support team as per clinical environment

## Handover card

Handover from bedside nurse

Thank you for coming to see John with me. He was admitted from ED after being stabbed by an assailant in the side of his chest. He had a pneumothorax diagnosed in ED and has had an ICC placed to treat this. He has been up on the ward now for 4 hours and I have just done a repeat set of observations and found his respiratory rate to be 22 and his saturations 95% on room air.

What do I do now?

## Scenario progression

STATE 1: INITIAL ASSESSMENT				
Vital signs		Script	Details	Expected actions
<b>ECG</b>	SR	<b>John</b> I'm in a lot of pain and my breathing feels harder than before		<input type="checkbox"/> Confirm new symptoms with the patient <input type="checkbox"/> Review chart for observation trend and current vital signs <input type="checkbox"/> Review clinical documentation for history and management plan
<b>HR</b>	90			
<b>SpO<sub>2</sub></b>	95% RA			
<b>BP</b>	120/85mmHg			
<b>RR</b>	22			
<b>Temp</b>	36.8			
<b>BGL</b>	6			
<b>GCS</b>	15			

STATE 2				
Vital signs		Script	Details	Expected actions
<b>ECG</b>	ST	<p><b>John</b> I am in so much pain</p> <p><b>Confederate nurse</b> What can we do to make his breathing better?</p>	<p>Patient assessment:</p> <ul style="list-style-type: none"> <li>• Airway intact</li> <li>• Equal breath sounds</li> <li>• Taking shallow breaths</li> <li>• Speaking in short sentences</li> <li>• ICC not bubbling, swing present, minimal haemoserous drainage</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Perform primary assessment of the patient</li> <li><input type="checkbox"/> Review the ICC and UWSD- perform systematic review of drain function               <ul style="list-style-type: none"> <li>▪ swing</li> <li>▪ bubble</li> <li>▪ drainage</li> <li>▪ suction</li> <li>▪ presence of leaks at insertion site and connections</li> </ul> </li> </ul>
<b>HR</b>	105			
<b>SpO<sub>2</sub></b>	93% RA			
<b>BP</b>	120/80mmHg			
<b>RR</b>	22			
<b>Temp</b>	36.8			
<b>BGL</b>	6			
<b>GCS</b>	15			

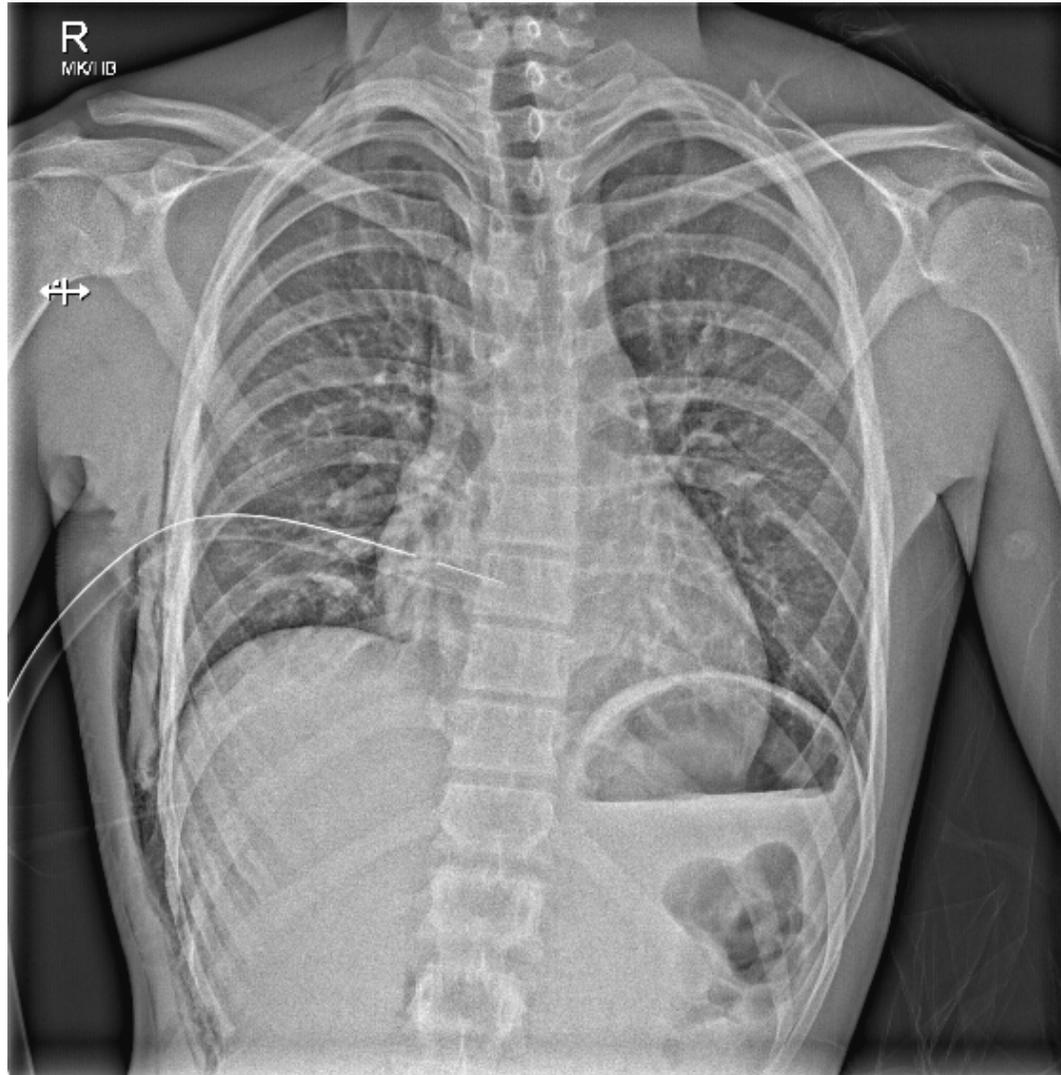
STATE 3				
Vital signs		Script	Details	Expected actions
<b>ECG</b>	ST	<b>John</b> This drain is so uncomfortable		<input type="checkbox"/> Review CXR <input type="checkbox"/> Recognise pain causing respiratory dysfunction <input type="checkbox"/> Review medication chart to administer appropriate pain relief <input type="checkbox"/> Consider review by pain team if inadequate analgesia available (local considerations) <input type="checkbox"/> Request medical officer review
<b>HR</b>	109			
<b>SpO<sub>2</sub></b>	91% RA			
<b>BP</b>	120/80mmHg			
<b>RR</b>	22			
<b>Temp</b>	36.8			
<b>BGL</b>	6			
<b>GCS</b>	15			

## Supporting resources

The following supporting documents are provided for this case discussion:

1. Chest X-Ray

## Chest X-Ray



## Debriefing guide

### Scenario objectives

- Recognise clinical deterioration following chest trauma
- Perform a structured assessment in the assessment of a patient with chest trauma who has an ICC

### Example questions

#### Exploring diagnosis

- What are the causes of respiratory distress in a patient with chest trauma and an ICC?
- What features demonstrated during the clinical exam help identify the problem?
- Where should an ICC be located when reviewing the CXR? What complications can be demonstrated on the CXR in a patient who has an ICC?
- How does an UWSD function? What features would indicate a complication with the set up?

#### Discussing management

- How is pain managed in the ward setting?
- What options are there for improving pain management in a patient?
- How is ICC and USWD dysfunction managed?

#### Discussing teamwork / crisis resource management

- Who is available to help with a deteriorating patient in the ward setting?
- What criteria on patient history, clinical examination or investigations should prompt urgent senior medical review?

### Key moments

- Stepwise assessment of a patient who has an ICC to manage chest trauma

## Acronyms and abbreviations

Term	Definition
CXR	Chest X-Ray
UWSD	Underwater seal drain
ICC	Intercostal catheter
PIVC	Peripheral intravenous cannula
ED	Emergency department
RA	Room air
ST	Sinus tachycardia

## Additional Resources

[Thoracic Trauma-Key Messages | Trauma Victoria \(https://bit.ly/3KQXZID\)](https://bit.ly/3KQXZID)

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