



Queensland Trauma Education

TRAUMA TEAMS

Trauma resuscitation

Immersive scenario

Facilitator resource kit

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

Trauma Teams – Trauma resuscitation: Immersive scenario – Facilitator resource kit Version 1.0

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About this training resource kit

This resource kit highlights the assessment and initial management of a patient with intraabdominal haemorrhage post trauma.

National Safety and Quality Health Service (NSQHS) Standards



Target audience

Emergency department medical and nursing clinicians.

Duration

45-60 minutes, including debrief.

Group size

Suited to small group participation.

Learning objectives

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

- Perform a focussed assessment of a patient who is hemodynamically unstable
- Prioritise management for a patient with ongoing trauma haemorrhage
- Utilise team members to concurrently manage the trauma patient

Facilitation guide

1. Facilitator to use facilitator resource kit and printable resources to deliver immersive scenario to participants.

Supporting resources (in Printable resources)

1. Pre-simulation briefing poster
2. CXR - NAD
3. PXR - NAD
4. EFAST- positive LUQ (splenorenal), other views negative
5. Venous Blood Gas - NAD

Simulation event

This section contains the following:

1. Immersive scenario
2. Resource requirements
3. Handover card
4. Scenario progression
 - a. State 1
 - b. State 2
 - c. State 3
 - d. State 4
5. Debriefing guide

Immersive scenario

| | |
|----------------------------|---|
| Type | Immersive scenario |
| Target audience | Emergency Department medical and nursing clinicians |
| Overview | 32-year-old female is brought to ED via ambulance following falling off her e-scooter at 40km/hr. She has significant LUQ and L flank pain with progressively worsening vital signs on arrival to ED. She requires haemostatic resuscitation which results in stabilisation of vital signs allowing for CT imaging. |
| Learning objectives | <ul style="list-style-type: none"> • Perform a focussed assessment of a patient who is hemodynamically unstable • Prioritise management for a patient with ongoing trauma haemorrhage • Utilise team members to concurrently manage the trauma patient |
| Duration | 45-60 minutes, including debrief. |

Resource requirements

Physical resources

| | |
|---------------------------|---|
| Room setup | Resuscitation bay |
| Simulator/s | 3G Sim Manikin |
| Simulator set up | <ul style="list-style-type: none"> • Bruising to L UQ/flank • Street clothes |
| Clinical equipment | <ul style="list-style-type: none"> • Cervical collar • Resuscitation medications • Blood/ blood products (FFP) • TXA • Ca²⁺ |
| Access | 1 x PIVC |
| Other | Emergency Department documentation |

Human resources

| | |
|--------------------------------|---|
| Faculty | Medical and nursing lead and co-debrief |
| Simulation coordinators | x 1 to run manikin and tech |
| Confederates | In room confederate |
| Other | Ambulance officer for handover |

Handover card

Handover from ambulance officer

This is Rose, a 32-year-old otherwise well female.

30 minutes ago, she lost control of her e-scooter going downhill at ~40km/h. She was wearing a helmet and came off with her L) flank impacting the curb.

She was GCS 15 at scene, minimal damage to helmet with full recollection. She is mostly complaining of abdominal pain with significant bruising to LUQ. Vitals were normal at scene, but she has had increasing pain and tachycardia despite 10mg Morphine and 200microg Fentanyl IV.

Any further questions?

Scenario progression

| STATE 1: INITIAL ASSESSMENT | | | | |
|-----------------------------|-----------|--|--|---|
| Vital signs | | Script | Details | Expected actions |
| ECG | ST | Rose I am in so much pain, the medication hasn't worked. | Primary Survey: A Patent, nil anterior neck injury B Nil crepitus, subcut emphysema, tender L lower chest C Cool peripherally but pink D GCS 15, moving all limbs E Back NAD, long bones NAD, pelvis aligned, abdo tender LUQ and L flank, bruising and abrasions | <input type="checkbox"/> Complete primary survey <input type="checkbox"/> Identify abdomen as area of concern <input type="checkbox"/> Initiate analgesia <input type="checkbox"/> Arrange further investigations including bedside radiology and laboratory studies |
| HR | 100 | | | |
| SpO₂ | 98% RA | | | |
| BP/ART | 120/60 | | | |
| RR | 24 | | | |
| Temp | 37 | | | |
| BGL | 5 | | | |
| GCS | 15 | | | |
| Pupils | PEARL | | | |

| STATE 2: DETERIORATION | | | | |
|------------------------|-----------|---|--|--|
| Vital signs | | Script | Details | Expected actions |
| ECG | ST | Rose Moaning, “my pain is getting worse”. | <ul style="list-style-type: none"> • CXR – NAD • PXR – NAD • EFAST – positive splenorenal | <input type="checkbox"/> Administer further analgesia <input type="checkbox"/> Notify surgical team |
| HR | 115 | | | |
| SpO₂ | 98% RA | | | |
| BP/ART | 100/60 | | | |
| RR | 24 | | | |
| Temp | 36.7 | | | |
| BGL | 5 | | | |
| GCS | 15 | | | |
| | | | | |

| STATE 3: RESUSCITATION | | | | |
|------------------------|----------------|--|---------|---|
| Vital signs | | Script | Details | Expected actions |
| ECG | ST | Rose Weakly states “I don’t feel well, what’s going on?” | | <input type="checkbox"/> Reassessment to identify cause of shock <input type="checkbox"/> Recognition of hypovolaemic haemorrhagic shock <input type="checkbox"/> Administration of warmed blood/blood products <input type="checkbox"/> Consideration for TXA/ Ca2+ |
| HR | 130 | | | |
| SpO₂ | 97% RA | | | |
| BP/ART | 70/40 | | | |
| RR | 24 | | | |
| Temp | 36.5 | | | |
| BGL | 5 | | | |
| GCS | 14 (E3V5M6) | | | |
| | | | | |

| STATE 4: STABILISATION | | | | |
|------------------------|--------|--------|--|--|
| Vital signs | | Script | Details | Expected actions |
| ECG | ST | | <ul style="list-style-type: none"> Post blood product administration- haemodynamic parameters normalise | <input type="checkbox"/> Discussion for CT vs OT vs RSQ (location dependant) |
| HR | 100 | | | |
| SpO₂ | 97% RA | | | |
| BP/ART | 100/70 | | | |
| RR | 22 | | | |
| Temp | 36.5 | | | |
| BGL | 5 | | | |
| GCS | 15 | | | |
| | | | | |

Debriefing guide

Scenario objectives

- Perform a focussed assessment of a patient who is hemodynamically unstable
- Prioritise management for a patient with ongoing trauma haemorrhage
- Utilise team members to concurrently manage the trauma patient

Example questions

Exploring diagnosis

- What features on the primary survey helped in the initial management plan for this patient
- When the patient deteriorated, how did the team identify the source of haemorrhage
- What is the role of repeating the primary survey/reassessment

Discussing management

- After the patient deteriorated, how did the team decide to manage the patient
- How can blood/blood products be administered in local work area
- Is there a protocol for when to use TXA/Ca²⁺/Fibrinogen/Cryoprecipitate
- What were the factors that led the team to decide to progress to CT / OT

Discussing teamwork / crisis resource management

- How did the team prioritise the assessment of this patient
- What were the benefits or challenges within the team communication strategy

Key moments

- Primary assessment of the trauma patient
- Recognition of deterioration and identification of haemorrhagic shock
- Early and appropriate transfusion to improve shock state

Acronyms and abbreviations

| Term | Definition |
|-------|--|
| ED | Emergency Department |
| LUQ | Left upper quadrant |
| CT | Computed tomography |
| FFP | Fresh frozen plasma |
| TXA | Tranexamic acid |
| PIVC | Peripheral intravenous cannula |
| NAD | Nil abnormalities detected |
| CXR | Chest Xray |
| PXR | Pelvic Xray |
| EFAST | Extended focussed assessment with sonography in trauma |
| OT | Operating theatre |
| RSQ | Retrieval Services Queensland |

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