



Queensland
Trauma Education

ABDOMINAL TRAUMA

Blunt abdominal and orthopaedic trauma

Immersive scenario

Facilitator resource kit

CSDS



Clinical Skills Development Service



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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

Abdominal Trauma - Blunt abdominal and orthopaedic trauma: Immersive scenario – Facilitator resource kit
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About this training resource kit

This resource kit provides a framework for the assessment and management of a patient with blunt abdominal and orthopaedic trauma.

National Safety and Quality Health Service (NSQHS) Standards



Target audience

Emergency department medical and nursing clinicians in a rural setting.

Duration

45-60 minutes

Group size

Suited to small group participation.

Learning objectives

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

- Perform a primary assessment of a trauma patient
- Recognise signs and symptoms of shock and hypovolaemia
- Control external haemorrhage
- Identify intraperitoneal bleeding
- Consider strategies for haemodynamic resuscitation.

Facilitation guide

Immersive scenario delivered as standard format or pause and discuss based on participant level and learning needs.

Supporting resources (in Printable Resources tab)

The following supporting documents are provided for this case discussion:

1. Pre-simulation briefing poster
2. iStat Chem8
3. iStat CG4+

4. EFAST – positive RUQ
5. CXR
6. Pelvic XR
7. L femoral fracture Xray

Simulation event

This section contains the following:

1. Immersive scenario
2. Resource requirements
3. Handover card
4. Scenario progression
 - a. State 1 – Initial Nurse assessment
 - b. State 2 – Medical Officer attendance
5. Debriefing guide

Immersive scenario

Type	Immersive scenario
Target audience	Emergency Department Medical and Nursing Clinicians
Overview	Regional/Rural environment. Male patient crushed by metal beam sustaining blunt injury to abdomen and leg. Hypovolaemic shock resulting from intraperitoneal haemorrhage and active bleeding from L leg wound.
Learning objectives	<ul style="list-style-type: none"> • Perform a primary assessment of a trauma patient • Recognise signs and symptoms of shock and hypovolaemia • Control external haemorrhage • Identify intraperitoneal bleeding • Consider strategies for haemodynamic resuscitation • Engage local referral pathways
Duration	45 minutes, including debrief

Resource requirements

Physical resources

Room setup	Resus bay
Simulator/s	3G / ALS manikin
Simulator set up	<ul style="list-style-type: none"> • Stock hand work clothes • Sitting 45 deg on trolley • Bandage around L leg (moulage leg wound with bleeding)
Clinical equipment	<ul style="list-style-type: none"> • Standard resuscitation equipment for resus bay • Resus medications • Tourniquet, bandage, splints (cervical, pelvic, CT6 or other femoral splint) • Fluids • TXA, calcium
Access	<ul style="list-style-type: none"> • 2x simulated IV access with 2 'No IV' sticker attached • No PIVC initially

Human resources

Faculty	2x facilitators (Dr and Nurse with debriefing experience) to take on roles of scenario commander and primary debrief
Simulation coordinators	Can be performed by primary facilitator if no dedicated Simulation Coordinator
Confederates	Co-worker for handover or ambulance (depending on location)

Handover card

Handover card from ambulance officer/friend

John: This is Greg Smith; he is 18 years old. He works as a stock hand at our local property. Today he was getting the cows ready for milking when a metal bar holding the gate open came loose, swinging back and hit him. The bar pinned him against the fencing. Other guys on scene reckon the bar weighs 200kg. He was pinned for about 15 minutes until he was found. His boss was going to let Greg's mum know what has happened.

He couldn't walk as his L leg was hurt in the accident. I just put that bandage around it, but it looks broken.

Greg: My leg hurts!

When asked: No medical history, no medications, no allergies.

Greg: I do smoke cigarettes and drink alcohol on weekends.

Scenario progression

STATE 1: INITIAL ASSESSMENT – Nurse				
Vital signs		Script	Details	Expected actions
ECG	ST	Greg: “My leg hurts.”	<p>Primary assessment</p> <p>A: patent, nil cervical spine tenderness, anterior neck NAD</p> <p>B: equal BS, no chest wall tenderness, nil crepitus/subcutaneous emphysema</p> <p>C: peripherally cool, pale, HS dual. Bruise across abdomen, tender upper abdomen, no wounds.</p> <p>D: GCS 15, pearl 3mm</p> <p>E: L leg wound, actively bleeding when dressing removed</p> <p>Doctor will be delayed.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Perform primary survey <input type="checkbox"/> Identify features of shock <input type="checkbox"/> Identify abdominal tenderness and bruising <input type="checkbox"/> Manage active blood loss from leg injury +/- apply tourniquet <input type="checkbox"/> Gain IV access <input type="checkbox"/> Perform initial investigations <input type="checkbox"/> Administer pain relief <input type="checkbox"/> Call for help
HR	110			
SpO₂	99%RA			
BP	100/80mmHg			
RR	22			
Temp	37			
BGL	12			
GCS	15			

STATE 2: ONGOING MANAGEMENT/SECONDARY ASSESSMENT – MO attendance				
Vital signs		Script	Details	Expected actions
ECG	ST	Greg: “My leg hurts. My belly hurts. I feel faint.”	<ul style="list-style-type: none"> Recognise hypovolaemia Haemorrhage from leg wound and intraperitoneal free fluid <p>Secondary assessment results</p> <ul style="list-style-type: none"> CXR - NAD Pelvic Xray - normal EFAST- positive free fluid RUQ L leg- compound distal femoral fracture, bleeding from wound 	<p>RN performs clinical handover</p> <ul style="list-style-type: none"> <input type="checkbox"/> Review primary survey <input type="checkbox"/> Ensure adequate analgesia <input type="checkbox"/> Give fluid bolus (crystalloid or blood as per local resources) <input type="checkbox"/> Consider TXA <input type="checkbox"/> Ensure external site bleeding is controlled <p>Initiate following investigations:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Blood tests <input type="checkbox"/> CXR and Pelvic Xray <input type="checkbox"/> +/- L leg Xray <input type="checkbox"/> EFAST (RUQ only provided) <p>Engage RSQ for retrieval</p>
HR	110			
SpO₂	99% RA			
BP	90/50mmHg			
RR	24			
Temp	37			
BGL	12			
GCS	15			

Debriefing guide

Scenario objectives

- Primary assessment of trauma patient
- Recognition of shock and hypovolaemia
- Control of external haemorrhage
- Consideration of intraperitoneal bleeding
- Strategy for haemodynamic resuscitation

Example questions

Exploring diagnosis

- What was your approach to the initial assessment of this trauma patient?
- What features on examination identified injury location?
- What investigations were available/chosen in this scenario?
- How did the investigations aid in the diagnosis of injury?

Discussing management

- What were the management priorities for this patient?
- What resuscitation strategy was used for this patient?
- What is the role of adjuncts (calcium/TXA)?
- What fluid replacement is used in bleeding trauma patients?
- How was the haemorrhage from leg wound controlled?

Discussing teamwork / crisis resource management

- How was the trauma team leader role assigned?
- What elements of clinical handover were most useful?
- What roles did the team members perform?
- When additional tasks were required to be performed, how did the team decide on the role allocation?
- What additional team members are available? Does it depend on timing/day? How are they contacted? (Local process discussion)

Key moments

- Recognise circulation as primary problem
 - Focus on control of external haemorrhage and identification of intraabdominal pathology
6. Team approach to manage hypovolaemia

Acronyms and abbreviations

Term	Definition
RUQ	Right upper quadrant
CXR	Chest xray
TXA	Tranexamic acid
PIVC	Peripheral intravenous cannula
EFAST	Extended focused assessment with sonography in trauma
RSQ	Retrieval services queensland
NAD	Nil abnormality detected

References

1. Queensland Health, Royal Flying Doctor Service (Queensland Section). (2022). *Primary Clinical Care Manual. 11th ed.* Queensland Government.
2. Trauma Victoria. (2021). *Abdominal trauma.* Victorian Department of Health.
<https://trauma.reach.vic.gov.au/guidelines/abdominal-trauma/introduction>
3. The Committee on Trauma and American College of Surgeons. (2018). *ATLS Advanced trauma life support student course manual 10th ed.* American College of Surgeons.
https://www.academia.edu/39781997/Student_Course_Manual_ATLS_Advanced_Trauma_Life_Support

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