



Queensland
Trauma Education

PELVIC TRAUMA

Haemodynamically unstable pelvic trauma

Immersive scenario

Participant resource kit



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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

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About this training resource kit

This resource kit provides healthcare workers with the knowledge and skills to manage a patient with an open book pelvic injury who is haemodynamically unstable following a traumatic incident.

National Safety and Quality Health Service (NSQHS) Standards



Learning objectives

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

- perform a focussed clinical examination to assess a patient with a major pelvic injury
- identify types of pelvic injury that are associated with vascular injury and bleeding
- perform bedside interventions to aid haemorrhage management
- demonstrate early targeted management (may include retrieval services).

Supporting resources

- Structured assessment in trauma.
- Specific management.

Overview of pelvic trauma

The care of patients with major pelvic trauma is focussed on the identification of both mechanical and physiological instability and directing management towards the stabilisation of both. Different classification systems exist for pelvic injury, some on anatomical patterns and others based on mechanism of injury and need for operative management.

Pelvic injury occurs in 3% of skeletal injury, with the patients often being young with significant multisystem injury.

Overall, the clinical care is targeted towards the haemodynamic status, the anatomical impairment of pelvic ring function and the associated injuries. This often requires a multidisciplinary approach to manage the resuscitation, control the bleeding and stabilise the bony injury.

Further reading

WSES classification and guidelines	
Publication	World Journal of Emergency Surgery
Link	https://doi.org/10.1186/s13017-017-0117-6

Current management of hemorrhage from severe pelvic fractures: Results of an American Association for the Surgery of Trauma multi-institutional trial	
Publication	The Journal of Trauma and Acute Care Surgery
Link	https://doi.org/10.1097/TA.0000000000001034

Pelvic ring injuries: Emergency assessment and management	
Publication	Journal of Clinical Orthopaedics and Trauma
Link	https://doi.org/10.1016/j.jcot.2015.08.002

Effect of Early Pelvic Binder Use in the Emergency Management of Suspected Pelvic Trauma: A Retrospective Cohort Study	
Publication	International Journal of Environmental Research and Public Health
Link	https://doi.org/10.3390/ijerph14101217

Primary Clinical Care Manual 10th edition, Fractured Pelvis, p. 190	
Organisation	Queensland Health
Link	https://qheps.health.qld.gov.au/_data/assets/pdf_file/0027/2354850/PCCM-10th-Edition.pdf

PRIMARY SURVEY

Structured assessment in trauma

C

Catastrophic haemorrhage

Rapidly assess, control haemorrhage

Immediate management: Application of direct pressure, consider tourniquet application, do not remove penetrating foreign objects, initiate large bore IV access and rapid fluid resuscitation.

Life threats: Exsanguinating external haemorrhage, blunt/penetrating thoracic and/or abdominal injury.

A

Airway/C-spine

Rapidly assess, maintain or secure airway and C-spine

Life threats: Airway obstruction, blunt/penetrating neck injury.

B

Breathing/ventilation

Rapidly assess, support ventilation/oxygenation

Life threats: Tension pneumothorax, massive haemothorax, open pneumothorax, flail chest, ruptured diaphragm.

C

Circulation with haemorrhage control

Rapidly control, assess and support haemodynamics

Life threats: Exsanguinating external haemorrhage, cardiac tamponade, penetrating cardiac injury.

D

Disability

Rapidly assess and protect neurological status

Life threats: Catastrophic cerebral haemorrhage.

E

Exposure

Expose patient, assess for further injuries, maintain normothermia

Specific management

- Recognition of open book pelvic injury.
- Application of pelvic binder.
- Haemostatic resuscitation.
- Identification of potential arterial bleeding and management options.

Acronyms and abbreviations

Term	Definition
CTA	computed tomography arterial
IR	interventional radiology
OT	operating theatre
VHA	viscoelastic haemostatic assays
EFAST	extended focused assessment with sonography in trauma
UA	urinalysis
ECG	electrocardiogram
NAD	no abnormality detected

References

1. Coccolini, F., Stahel, P. F., Montori, G., Biffl, W., Horer, T. M., Catena, F., Kluger, Y., Moore, E. E., Peitzman, A. B., Ivatury, R., Coimbra, R., Fraga, G. P., Pereira, B., Rizoli, S., Kirkpatrick, A., Leppaniemi, A., Manfredi, R., Magnone, S., Chiara, O., Solaini, L., ... Ansaloni, L. (2017). Pelvic trauma: WSES classification and guidelines. *World journal of emergency surgery : WJES*, 12, 5. <https://doi.org/10.1186/s13017-017-0117-6>
2. Costantini, T. W., Coimbra, R., Holcomb, J. B., Podbielski, J. M., Catalano, R., Blackburn, A., Scalea, T. M., Stein, D. M., Williams, L., Conflitti, J., Keeney, S., Suleiman, G., Zhou, T., Sperry, J., Skiada, D., Inaba, K., Williams, B. H., Minei, J. P., Privette, A., Mackersie, R. C., ... AAST Pelvic Fracture Study Group (2016). Current management of hemorrhage from severe pelvic fractures: Results of an American Association for the Surgery of Trauma multi-institutional trial. *The journal of trauma and acute care surgery*, 80(5), 717–725. <https://doi.org/10.1097/TA.0000000000001034>
3. Halawi M. J. (2015). Pelvic ring injuries: Emergency assessment and management. *Journal of clinical orthopaedics and trauma*, 6(4), 252–258. <https://doi.org/10.1016/j.jcot.2015.08.002>
4. Hsu, S. D., Chen, C. J., Chou, Y. C., Wang, S. H., & Chan, D. C. (2017). Effect of Early Pelvic Binder Use in the Emergency Management of Suspected Pelvic Trauma: A Retrospective Cohort Study. *International journal of environmental research and public health*, 14(10), 1217. <https://doi.org/10.3390/ijerph14101217>

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