

# H08: Pelvic Trauma

Rob Evans

Updated: June 02, 2021

Reviewed: March 01, 2021

## Introduction

Pelvic trauma represents a serious injury and can be associated with high mortality, being the third most common cause of death in blunt trauma after head and chest injuries. The pelvis is formed by the articulation of the ilium, ischium, pubic bones, and sacrum. The pelvis can be fractured by several different mechanisms. Pelvic fractures are often associated with other major traumatic injuries; careful examination and urgent conveyance are key principles of management in these patients.

Paramedic and EMR/FR management of pelvic trauma includes: early recognition; early application of a pelvic binder; rapid conveyance; and treatment of other associated traumatic injuries.

## Essentials

- Pelvic binding is not indicated for an isolated neck of femur (NOF) fracture (aka: hip fracture).
- Paramedics and EMRs/FRs should be highly suspicious of pelvic fractures in all patients who have sustained trauma from a high-energy mechanism.
- Apply a pelvic binder early – pelvic splinting should be considered a hemorrhage control intervention.
- Handle the patient gently. Avoid log rolling if possible and convey using a clamshell.
- Examine the abdomen and pelvis gently. Do not rock pelvis to check stability.

## Additional Treatment Information

- Pelvic binders are most beneficial in anterior-posterior pelvic fractures (e.g., open book fractures).
- Tranexamic acid should be considered in all patients with suspected pelvic fractures.

## Referral Information

- Triage according to the [Pre-hospital Triage and Transport Guidelines for Adult and Pediatric Major Trauma](#) decision tool, including Physiological Criteria, Anatomical Criteria, Mechanism of Injury Criteria, and Special Considerations.
- All patients with pelvic trauma should be conveyed to the closest appropriate trauma receiving hospital as per local trauma destination guidelines or clinical pathway.

## General Information

- The pelvis is typically fractured through one of three primary mechanisms:
  - Anterior-posterior fractures, or open book fractures, occur when force is applied anteriorly to the iliac crests, as might happen in a motorcycle accident where the patient strikes the handlebars
  - Lateral compression fractures occur when force is applied to the sides of the pelvis; side-impact motor vehicle collisions, or pedestrians struck by vehicles, can cause these kinds of forces
  - Vertical shear fractures occur when a patient falls from height and force is transmitted to the pelvis from the lower extremities
- All mechanisms of pelvic fractures can be associated with injury to major blood vessels, viscera, and nerves.

## Interventions

### First Responder

- Keep the patient warm and prevent further heat loss
- Supplemental oxygen as required

- [→ A07: Oxygen Administration](#)
- Maintain a high index of suspicion for pelvic trauma in patients who have sustained a high mechanism of injury
  - [→ H01: Principles of Major Trauma](#)
- Bind pelvis if indicated using a commercial or improvised pelvic binder
  - [→ PR02: Pelvic Binders](#)

#### Emergency Medical Responder – All FR interventions, plus:

- Convey urgently in accordance with provincial triage and clinical pathway guidelines
- Consider intercept with additional resources

#### Primary Care Paramedic – All FR and EMR interventions, plus:

- Consider vascular access
  - [→ D03: Vascular Access](#)
- Consider antifibrinolytics
  - [Tranexamic acid](#)

#### Critical Care Paramedic – All FR, EMR, PCP, and ACP interventions, plus:

- Consider administration of [blood products](#) if available

## Evidence Based Practice

Pelvic Trauma

### Supportive

- [Circumferential Sheet](#)
- [Corsette Style Compression Device \(e.g. T-Pod\)](#)
- [External Mechanical Compression Device](#)

### Neutral

- [MAST](#)

### Against

## References

1. Ambulance Victoria. Clinical Practice Guidelines: Ambulance and MICA Paramedics. 2018. [\[Link\]](#)
2. Alberta Health Services. AHS Medical Control Protocols. 2020. [\[Link\]](#)
3. Campbell JE et al. International trauma life support for emergency care providers. 8th ed. 2016.

