

Pelvic Fractures and Emergency Care

Pelvic fractures can occur after both low-energy and high-energy traumatic events. Low-energy pelvic fractures occur most frequently in adolescents and the elderly. In Adolescents, injuries are typically associated with sports related activities. Low-energy pelvic fractures in the elderly frequently result from falls, which most often present as stable fractures of the pelvic ring.

High-energy trauma generally results in an unstable pelvic fracture and is associated with disruption of vascular structures and severe haemorrhaging. Patients with unstable pelvic fractures, who present with shock, may have a mortality rate as high as 50%. In addition, associated injuries to the head, chest and abdomen, which commonly accompany high-energy trauma, may increase mortality to nearly 100%.

The most common source of bleeding in high-energy pelvic injury is from exposed fractures, soft tissue structures and local venous vasculature. Although not as common as venous bleeding, arterial injuries may also provide a life-threatening source of bleeding in unstable pelvic fractures.

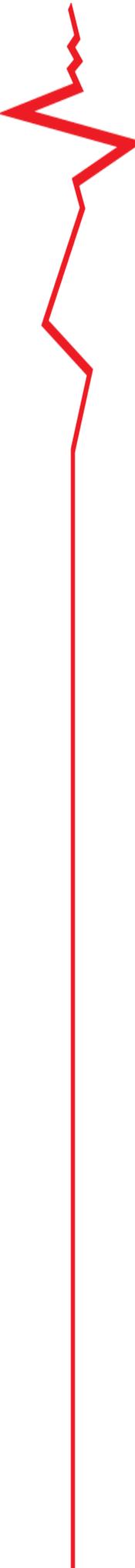
In the acute phase of care, focus should be on stabilisation of the fracture by means of a Pelvic Binder, assessment and management of associated injuries and rapid transfer to a surgical facility for definitive care. Manual manipulation of the Pelvis during physical assessment should be performed very carefully. Attempts to assess for pelvic instability can result in haemodynamic instability as clots are dislodged from local bleeding sites.



Pelvic Binding using a sheet



Pelvic Binding made easy with Pelvigrip



Haemodynamic instability is a good indication that there is an active bleed. Haemodynamic instability is defined as patients who are non-responders to intravenous fluid therapy. This can be assessed by administering small boluses of fluid (of between 250 – 500ml) and assessing against cardiovascular response. Patients should be considered to be actively bleeding if there is only temporary or no improvement in cardiovascular status following small boluses of fluid. Patients who are actively bleeding should be managed with a permissive hypotension approach until haemorrhage control is surgically achieved. Large volumes of crystalloid should be avoided as they cause dilution of blood and clotting factors.

The placement of a Pelvic Binder serves several functions:

- To splint the bony pelvis to reduce haemorrhage from bone ends and venous disruption
- To reduce movement and pain during transfer To provide stabilisation during surgical intervention
- To provide stabilisation until definitive surgical stabilisation can be achieved

What are the qualities of a good Pelvic Binder?

- It should be easy to apply with minimal manipulation of the Pelvis
- It should be manufactured of a soft material to minimise the potential for pressure induced sores.
- It may need to be kept in place for 24 hours or more, until haemorrhage control has been achieved
- It should be available in various sizes to cover a range of patient sizes
- It must allow surgical access to the abdomen without having to be removed

There are several variations of the pelvic binder available on the market. Choice is largely based on personal preference, however the above factors should be considered carefully when evaluating your needs. The concept of ‘one size fits all’ has very little or no value in emergency patient care. You should be considering a product that meets all your patient size needs.

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