



## BRITISH ORTHOPAEDIC ASSOCIATION AUDIT STANDARDS for TRAUMA

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# The Management of Patients with Pelvic Fractures

### Background and justification

Pelvic fractures must be managed within a trauma system with defined referral pathways. They can be associated with significant haemorrhage, urological injury and other injuries. Specialist units, based at Major Trauma Centres, should have the ability to provide multidisciplinary care for these patients as well as specialist orthogeriatric care for those sustaining fragility fractures.

### Inclusions:

Patients of all ages with fractures of the pelvic ring.

### Exclusions:

Isolated acetabular fractures, isolated low energy pubic rami fractures and pathological fractures.

### Standards for Practice

1. When there is a suspected active bleeding from a pelvic fracture, apply a pelvic binder in the correct position. This should be applied pre-hospital.
2. Patients with suspected pelvic fractures with signs of haemodynamic instability should be transported directly to a Major Trauma Centre in accordance with network guidelines. If received into a trauma unit then resuscitation should be commenced followed by immediate transfer to the Major Trauma Centre for definitive treatment of active bleeding.
3. All patients require IV Tranexamic Acid as soon as possible and ideally within an hour of injury. In the presence of haemodynamic instability, patients should be urgently resuscitated using blood products according to Massive Transfusion Protocols.
4. Patients with suspected pelvic fractures from high-energy trauma should have a CT scan with IV contrast including head, chest, abdomen and pelvis on admission. This should include a head to toe scanogram.
5. All patients with blunt polytrauma undergoing damage control laparotomy should have imaging of the pelvis before surgery (X-ray or CT). All patients should have a pelvic binder in-situ during surgery and this should not be removed for a post binder pelvic X-ray until the patient is haemodynamically stable.
6. Active bleeding from the pelvis in patients who do not respond to resuscitation can be managed by surgical packing of the pelvis or interventional radiology with selective embolization of active arterial bleeding vessels. Major Trauma Centres must have a clear protocol in place for managing this situation.
7. All polytraumatised patients require a post-binder X-ray after resuscitation, even in the presence of a 'negative' CT scan because a well-applied pelvic binder can mask a catastrophic pelvic ring injury.
8. Each trauma network must have a clear protocol for binder removal but, ideally, it should be removed within 24 hours of injury.
9. External fixation should be considered for temporary mechanical stabilisation when early definitive surgery cannot be performed.
10. In displaced vertical shear fractures, traction should be considered when early definitive surgery cannot be performed.
11. Potential injury to the bladder or urethra should be suspected, diagnosed and managed according to The Management of Urological Trauma Associated with Pelvic Fractures BOAST.
12. Open pelvic fractures associated with wounds to the lower abdomen, groin, buttocks, perineum, anus (including sphincters) and rectum require urgent assessment by a consultant general or colorectal surgeon and wound debridement as per the Open Fractures BOAST. Clinically and/or radiologically proven or suspected injuries to the anus and/or rectum may initially require construction of a defunctioning stoma. Nursing care of wounds to the perineum or buttocks may also require a defunctioning stoma, although this is unlikely to be necessary for open pelvic fractures associated with wounds to the groin or lower abdomen alone. Please see over for further guidance.
13. Patients who are admitted to Trauma Units and require surgical stabilisation should be referred and safely transferred to a specialist centre within 24 hours.
14. Reconstruction of the pelvic ring should occur within 72 hours of the stabilisation of the patient's physiological state if associated injuries allow.
15. Patients who suffer displaced low energy fragility fractures of the pelvic ring, who are unable to mobilise due to pain, should be discussed with the specialist centre for consideration of surgical stabilisation.
16. Specialised units should have written local policies for thromboprophylaxis for patients with pelvic fractures, which should be followed and documented in the medical records.
17. Each network should submit appropriate data to the TARN, monitor performance against national standards and audit their outcomes.
18. Patient follow-up should occur in a specialist pelvic trauma unit or rehabilitation clinic, to ensure full advice is available for the pain, physical, psychological, and urological disabilities, which are common adverse outcomes.
19. All patients who may be sexually active should receive written advice on sexual dysfunction in accordance to the guidelines from the British Association of Urological Surgeons. Each hospital should submit data to national databases (NHFD, FLS-DB and TARN) to monitor its performance against national benchmarks and quality standards.

### Evidence base:

Professional Consensus. NICE Complex Trauma Guidelines: [www.nice.org.uk/guidance/ng37](http://www.nice.org.uk/guidance/ng37); The Management of Urological Trauma Associated With Pelvic Fractures BOAST

**Guidance for stoma formation with open pelvic fractures from the Association of Coloproctology of Great Britain and Ireland and the Association of Surgeons of Great Britain and Ireland:**

- Each case should be considered carefully on its merits with regard to both the need for a stoma and optimum timing, as stoma formation is not without morbidity.
- Whenever possible, arrangements should be made to obtain and document informed consent beforehand. Stoma formation is usually not appropriate at initial damage control laparotomy.
- When a defunctioning colostomy is required simply for diversion after distal injury, the stoma may be created laparoscopically, depending upon available surgical expertise.
- A double barrelled, or a loop stoma with the distal end stapled off (to minimise overspill) is acceptable. In either case, the gastrointestinal tract distal to the stoma should be irrigated thoroughly, in order to reduce the risk of contamination resulting from retained stool.
- The position of the stoma should be determined, whenever possible, in conjunction with the orthopaedic surgical team. It should usually be sited in the upper abdomen, to ensure that it is sufficiently remote from the site of potential definitive pelvic surgical fixation.
- Injuries to the colon or rectum associated with open pelvic fractures should be treated, where possible, by resection or repair, defunctioning, irrigation of the distal bowel segment and pelvic drainage.