



West Midlands Ambulance Service



STANDARD OPERATING PROCEDURE

PELVIC INJURY AND SPLINTAGE

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1 Introduction

- 1.1 Early suspicion, identification and management of a pelvic fracture in the pre-hospital environment are essential to reduce blood loss and the risk of hypovolaemic shock. Pelvic fractures are a hallmark of significant injury and are frequently associated with major intra-abdominal and vascular injuries.
- 1.2 Early external pelvic splintage, whilst clotting factors are still functional, will reduce bleeding by apposition of the fracture site and reducing movement of the bone ends which could disrupt established clot.

2 Prehospital assessment

- 2.1 Consider mechanism of injury:
 - RTC, particularly front seat occupants in head on collisions and patients sitting on side of impact with intrusion
 - Pedestrians
 - Motorcyclists
 - Fall from height
 - Crush injury
 - Simple falls in the elderly
- 2.2 Look for signs of shock, and the presence of pain in the pelvic area including the lower back, groin and hips.
- 2.3 Additional indicators of pelvic injury include:
 - Obvious deformity
 - Bruising and swelling over the bony prominences, pubis, perineum and scrotum
 - Leg length discrepancy or rotational deformity of a lower limb (without fracture in that extremity)
 - Wounds over the pelvis or bleeding from the patient's rectum, vagina or urethra if detected indicate an open pelvic fracture.
- 2.4 THE PELVIS SHOULD NOT BE 'SPRUNG' TO TEST FOR TENDERNESS OR INSTABILITY. This risks disturbing clot and has also been shown to be unreliable in detecting pelvic injuries.
- 2.5 If trapped within a vehicle whilst suspicion exists of pelvic injury (side impact, mid shaft femoral fracture), the patient should wherever possible be extricated rearwards onto a spinal board following roof removal. Rotating the patient or rolling the patient sideways should NOT be attempted unless there is an immediate threat to life as this may convert a simple fracture into a major vascular injury.

3 Prehospital management

- 3.1 Indications for splintage

3.1.1 *Alert and Orientated Patients without Distracting Injury:*

Pelvic Splintage should be applied to all patients who have had a mechanism of injury likely to result in pelvic fracture who have signs consistent with pelvic fracture on inspection, or have pain in the pelvic area.

3.1.2 *Trauma Patients with Reduced Conscious Level and/or Distracting Injury:*

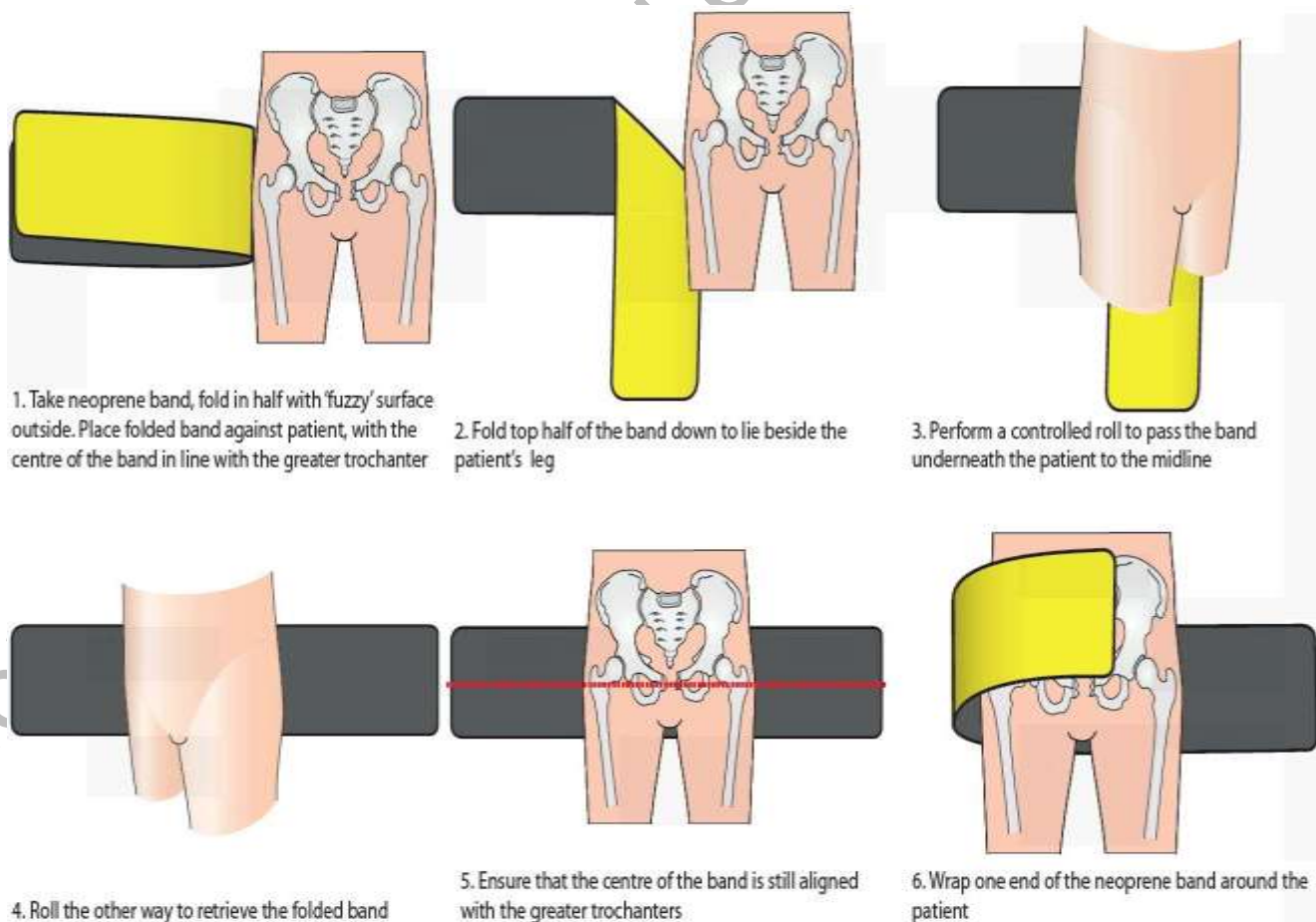
Pelvic Splintage should be applied to all patients who have had a mechanism of injury likely to result in pelvic fracture

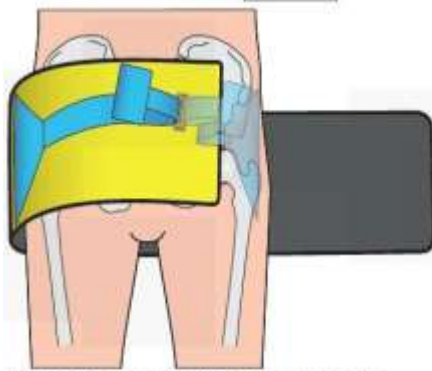
3.3 Minimise movement of the patient and avoid log rolling as this is likely to precipitate further bleeding.

3.4 Apply a pelvic splint.

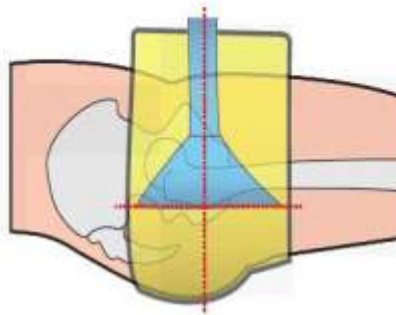
3.5 The splint can be applied on top of clothes. However consider removing clothing prior to application to reduce the need for further rolling once in hospital. Obvious wounds in relation to the pelvis should be dressed.

3.6 Application

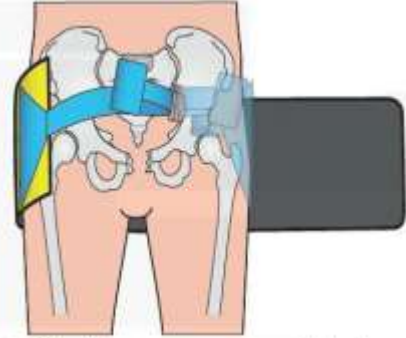




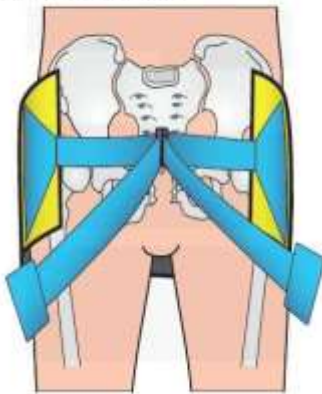
7. Attach the blue triangular anchor to the outer surface of the neoprene band



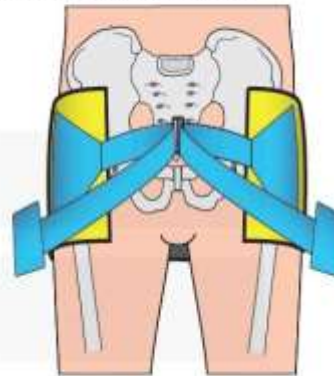
8. Ensure that the centre of the edge of the triangle is directly over the greater trochanter



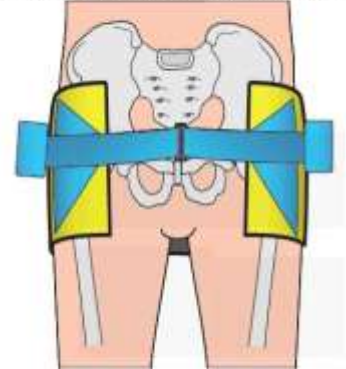
9. Optionally, cut excess neoprene at the level indicated on the triangular anchor. This will allow greater access to the inguinal region



10. Repeat steps 6-9 on the other side



11. Ensure buckle is central and apply tension to the two blue tapes until sufficient force has been applied



12. Secure blue tapes to the neoprene band to maintain desired tension. Record time of splint application.

3.7 Once the splint has been applied, use a scoop stretcher (with maximal tilt of 15°) to lift the patient directly onto stretcher/spinal board or vacuum mattress for transportation. Consider transporting on scoop.

4 Additional information

- 4.1** Hospital teams should be encouraged to leave the pelvic splint in situ until definitive care can be initiated.
- 4.2** The splint should only be removed after a full radiological study excludes instability (images should be performed through the splint or when other means of stabilisation have been initiated). Hospital personnel should be advised that reduction of a pelvic fracture with a splint can make it difficult to see the fracture on x-ray and if the index of suspicion is high, consideration should be given to relaxing tension on the splint and repeat x-ray.
- 4.3** Consider transfer to a Major Trauma Centre with facilities for pelvic fracture surgical management.
- Coventry (UHCW)
 - Queen Elizabeth Hospital Birmingham
 - UHNS, Stoke
 - Birmingham Children's Hospital

5 References

- 5.1** Lee C, Porter K. The prehospital management of pelvic fractures. Emerg Med J 2007; 24: 130-133.
JRCALC. Major Pelvic Trauma Guideline. April 2009.