

QUICK STEP GUIDE

Aim

Align

Position T-Pod Belt

Application

Supporting Information

Aim:

To reduce a pelvic fracture, provide mechanical stability to pelvis & reduce blood loss.

Indication

All trauma patients with any of following

- **primary survey positive to “C” circulation – haemodynamically unstable and / or hypovolemic shock**
- signs of a pelvic fracture including pain in pelvis, hip, groin or lower back
- suspicious mechanism of injury, even if currently haemodynamically stable

Application of pelvic binding has negligible adverse effects on patients subsequently found not to have sustained a pelvic fracture.

High risk groups include:

- Motor vehicle crashes, especially with patient side impact
- Vehicle v pedestrian / cyclist
- Motor bike crash
- Crush or compressive force
- Patients > 65 years of age
- Fall from height > 3meters or twice the child's height for paediatrics
- Fallen from, trampled or crushed by livestock

Have an increased index of suspicion with:

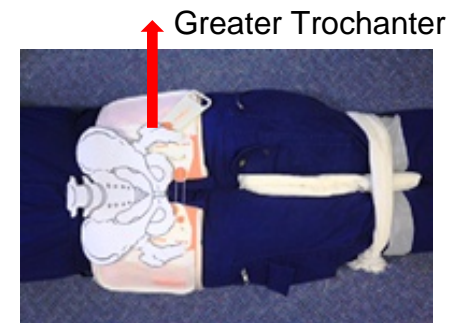
- Patients with decreased level of consciousness and/ or history of loss of consciousness
- Drug or alcohol affected
- Significant distracting injury

Pelvis MUST NOT be sprung or compressed, however pelvis should be gently palpated as part of patient assessment

ALWAYS apply pelvic binding when indicated, even in urgent transport situations.

Blood loss from pelvic fracture can exceed 2 litres - this needs to be mitigated as the highest priority to prevent worsening shock.

Method	Procedure	Comments
Align	<ul style="list-style-type: none"> Remove clothing, especially in major trauma Bring legs together Place padding between ankles and knees, to prevent pressure areas Secure legs with triangular bandages 	<ul style="list-style-type: none"> If clothes are left on, ensure all objects are removed from pockets, belt etc. Protect patients modesty
Position T-Pod belt	<ul style="list-style-type: none"> Place T-Pod belt orange side down Gently manoeuvre belt under patients pelvis Position "greater trochanters" to middle of belt to ensure correct placement 	<ul style="list-style-type: none"> If patient is haemodynamically unstable consider inserting belt under curve of back just above sacrum or patients knees if no leg fractures
Application	<ul style="list-style-type: none"> Bring T-Pod belt up over patients pelvis Fold each side of T-Pod belt, allowing for a 15 to 20cm space between the two edges Attach tension applicator to both sides of T-Pod belt, press velcro together Slowly apply tension on "pull tab", creating simultaneous circumferential compression on pelvis Secure chord to hooks & attach "pull tab" handle to belt 	<ul style="list-style-type: none"> Smaller patients -T-Pod belt may be cut down to size & adjust placement of binder depending on child's size Ensure "exterior XRD tab" (refer supporting information) is attached to tension applicator, on same side where history is recorded Record information of application on history label Periodically re-check tension Consider using two belts for obese patients. Two belts may be affixed together, using one tension applicator as an extender & other as tension device



SUPPORTING INFORMATION

CONTROVERSIES

Concurrent splinting of pelvis and femur

- No evidence found in literature that supports or contradicts application of concurrent splints
- Expert opinion from ITIM suggests that **concurrent splints should be applied if indicated**
- Paramedics should apply T-Pod pelvic binder alone and not apply a traction splint where patient's primary survey is positive to "C" circulation – haemodynamically unstable and/or patient has a deteriorating airway requiring time critical transport
- Should patient experience an increase in pain during application of the T-Pod binder, reconsider pain management and application

Further assessment to determine if there is a possibility of a pelvic injury or fracture may include but not be limited to:

- Abrasions and contusions around the pelvic area
- Superficial haematoma above inguinal ligament, scrotum and thigh
- Limb length discrepancy and deformity
- Examination of the rectal and vaginal areas for bleeding.

Concurrent Pelvic & Femur splinting procedure

1. Apply T-Pod binder as per skill
2. Apply CT-6
3. Position ischial strap as low and horizontal to leg as practical to avoid disrupting pelvic fracture.

EXTERIOR XRD Tab (X-ray Detectable Tab)

Exterior XRD Tab must be attached (Velcro) to tension applicator on same side where application history is recorded. XRD tab will appear on x-ray, CT and MRI scans, allowing medical staff to visibly see that a T-Pod is in place on patient



SUPPORTING INFORMATION

PELVIC BINDING AND CERVICAL COLLARS.**Therapeutic partners**

- Pelvic binding and cervical collars are natural partners in treatment of multi-trauma patients
- Many clinical criteria such as compromised vital signs, decreased LOC, affected by drug or alcohol, distracting injuries and mechanism are common to both injuries
- Where a patient has been subjected to significant trauma and you are considering a collar, consider pelvic binding
- If you are applying a pelvic binding consider applying a cervical collar
- For this reason it is recommended the pelvic binding kit be kept in the cervical collar bag
- For convenience the bag can also hold the CT-6 splint

DO NOT REMOVE T-POD BINDING FOR ANOTHER DEVICE

- Allowing a pelvic fracture to open up again by removing binding may lead to a rapid loss of blood pressure
- If pelvic binder becomes loose tension should be readjusted, do NOT remove
- Paramedics should question any decision to remove pelvic sheeting

CONTAINDICATION**Low mechanism of action fractured neck of femur (#nof)**

- Pelvic binding is not designed for use on the classic presentation of a #nof, elderly person fallen at home with affected leg shortening and rotation
- Pelvic binding adducts to close the fracture- closing a #nof fracture with this device will compress the # site which is not helpful

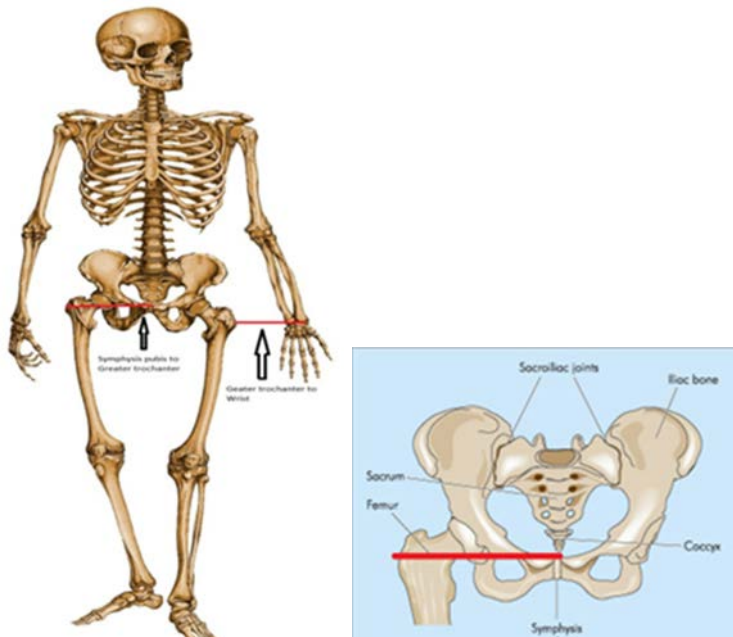
Bariatric Patient

- Pelvic binding can be applied to a bariatric patient by joining two T-Pod devices together

SUPPORTING INFORMATION

The **greater trochanter** can be difficult to locate in many people when they are lying down. The following two methods can be used to confirm the location of the greater trochanters and ensure correct alignment with the middle of the pelvic binder:

1. With the patient lying supine, bring the arms direct down beside the patient (if feasible and patient injuries permit). At the point whereby the wrist lies next to the body will be at the point of the greater trochanters
2. Locate the top of the symphysis pubis. From this point draw a line across the hips, as you come to the outside of the patient it will come over the greater trochanters.



The aim is to achieve stability of the pelvic ring and the middle of the TPod pelvic device should be placed over the greater trochanters, not in line with the iliac crests as this may exacerbate the injury

Children:

- The length of the TPod belt may be cut down depending on child's size.

In smaller children, evidence suggests children do not die of pelvic fracture associated haemorrhage as often as adults.

Massive blood loss in the child occurs most commonly from solid visceral injury rather than from pelvic vascular disruption. *

Therefore, in smaller children where the TPod does not fit improvising with a towel taped into position or a broad triangle bandage should suffice.

*Death from pelvic fracture: Children are different, Naveed Ismail, Jean Francois Bellemare, Daniel L Molitt, Carla DiScala, Brent Koeppel, JJ Tepas.