Pelvic Fracture
Stabilization

Pelvic Wrap
The male and female pelvis have anatomical differences that affect the presentation and pattern of injuries, especially in pregnant patients. Sharp bone fragments caused by fractures may lacerate vessels causing hemorrhage.
Pelvic Ring

- A normal pelvis forms a “pelvic ring” which is supplied blood by a complex network of vasculature. Fractures to the pelvic ring usually occur in two or more places and can cause substantial hemorrhage, especially in the venous plexus.

- Fractures to the Iliac “wings” have high potential for hemorrhage.
Pelvic Anatomy

- Right and left iliac arteries form off of the aorta
- Right and left iliac veins returning from legs
- Organs near the pelvis:
  - Parts of the digestive system such as the colon
  - Reproductive organs
  - Bladder and urethra
  - In males, the prostate
Common Causes

- Pelvic fractures are usually occur from high energy impacts and are largely influenced by co-morbid factors such as age, pre-existing medical conditions, etc. Common causes of pelvic fractures that should raise providers’ suspicion of index include:
  - MVAs (50 – 60%)
  - Motorcycle Accidents (10 – 20%)
  - Pedestrians struck with high velocity objects (10 – 20%)
  - Falls (8 – 10%)
  - Crush Injuries (3 – 6%)
- 40 % of all pelvic fractures are associated with vascular injury and hemorrhage.
Types of Fractures

- The types of pelvic fractures are described by the direction of force that causes a fracture.
  - Lateral Compression Fractures
    - Lateral compression forces to disrupt sacrum ilium. An example might be a "rollover" MVA.
Types of Fractures

- Anterior/Posterior Compression Fractures
  - High energy forces that splay the legs open such as motorcycle accidents. Lower energy forces of this type are common in hockey-related injuries.
Types of Fractures

- Vertical Shear
  - Most commonly seen in victims that fall from great heights.
Types of Fractures

- Combined Mechanical
  - An example of a combined mechanical would be an ejection from a car and landing flat on the ground or against something.
Treatment of Suspected Hip Fracture
Policy 700-A16/P12: Adult/Pediatric Trauma

- Treatment for a suspected hip fracture starts with doing a thorough secondary exam. If a hip fracture is suspected, DO NOT rock the pelvic girdle. Rocking the pelvis has a low sensitivity for finding unstable fractures.

- Keep in mind that a patient with a suspected pelvic fracture meets anatomic criteria for a major trauma victim.

- Policy 605: Trauma Triage Criteria: Section V. Anatomic Criteria

- B. Two (2) or more proximal long bone fractures.
- C. Traumatic paralysis or paresthesia.
- D. Flail or crushed chest.
- E. Amputations proximal to the wrist or ankle.
- F. Suspected pelvic fractures. (See Section VII.)
- G. Central Nervous System (CNS) changes witnessed by prehospital personnel that include the following:
  1. Post traumatic seizure.
  2. Transitory or prolonged loss of consciousness (LOC).
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- Stabilize the hip with a pelvic wrap, which can be made from a bed sheet. See video link below:

  https://www.youtube.com/watch?v=Omg79Ced6s0

  - or -

- Stabilize the hip with a KED, placed upside down under the patient with the lower edge of the device placed approximately three inches above the patient’s iliac crest.

  - The head padding that comes with the KED may be used to pad the injured side of the patient’s hip or as padding between the legs.

  - Tighten the torso straps of the KED around the patient’s hips and upper thighs.

  - Use the head straps to secure the patient’s calves.