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The Primary Conference

Pelvic Injuries Workshop

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- What is the most important function of the pelvis? Bearing weight (Marieb, 2015)
- How much blood can the true pelvis hold in an adult patient? 1.5L (Suzuki et al, 2008)
- What are the two most significant types of pelvic fractures? Anterior/Posterior and Lateral Shear (Marieb, 2015)

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- Two thirds of pelvic injuries are due to? RTCs (Chesters, 2017)
- True ‘open book’ pelvic injuries have a mortality rate up to? 50% (Gerecht, Larrimore & Steuerwald 2014).
- Why should we not log roll trauma patients? (Moss et al, 2013)
  To avoid aggravation of pelvic Injuries and dislodging clots
- Should clinicians ‘spring’ a pelvis to assess for a injury? NO! (AACE, 2016; AACE, 2017)

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Anatomy and Physiology

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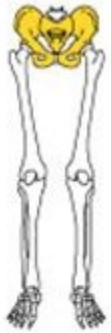

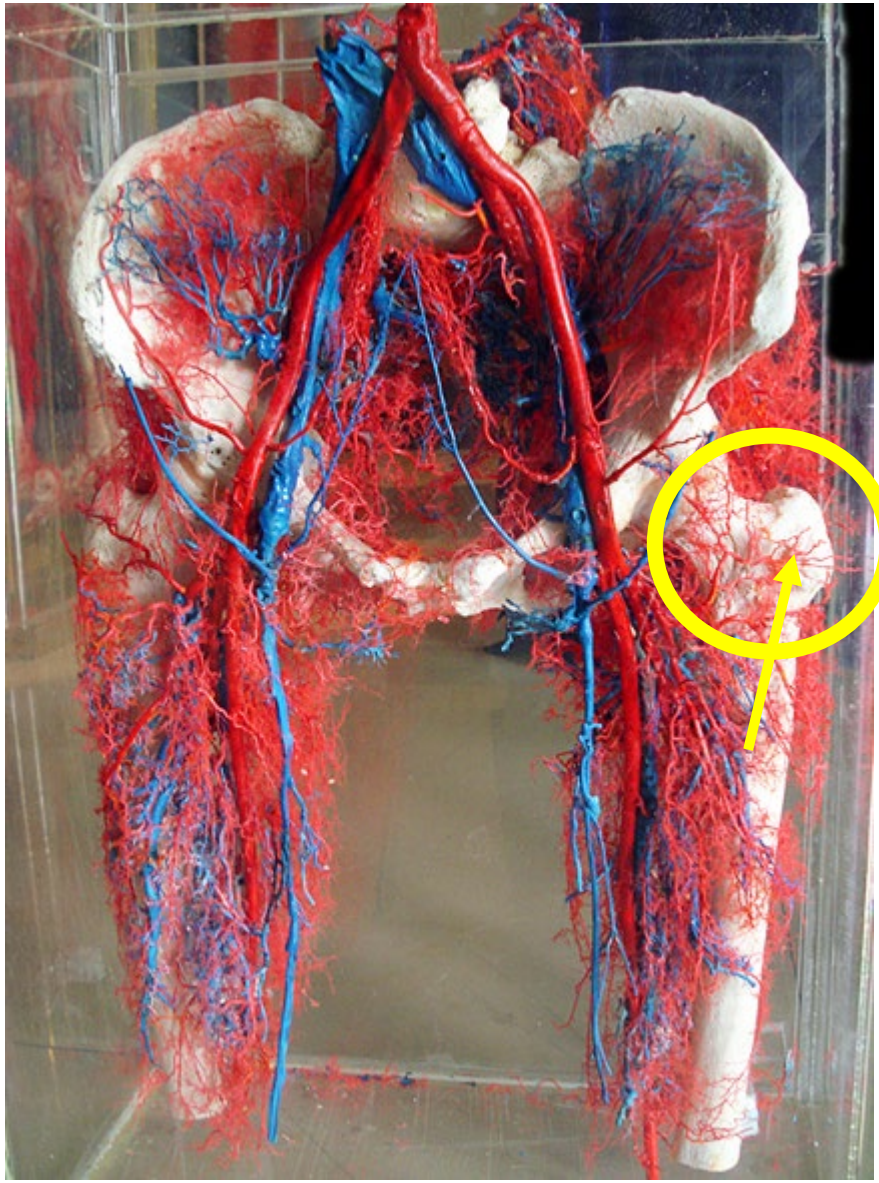

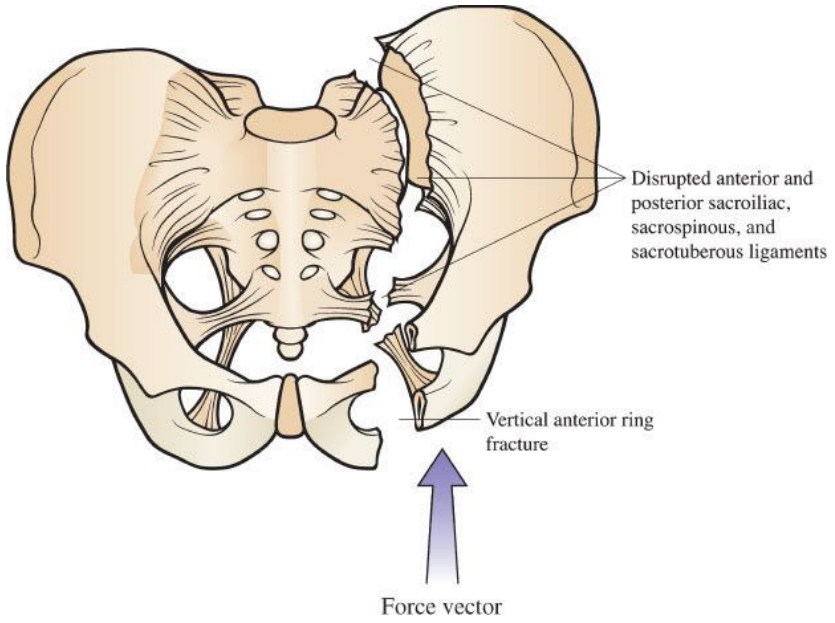

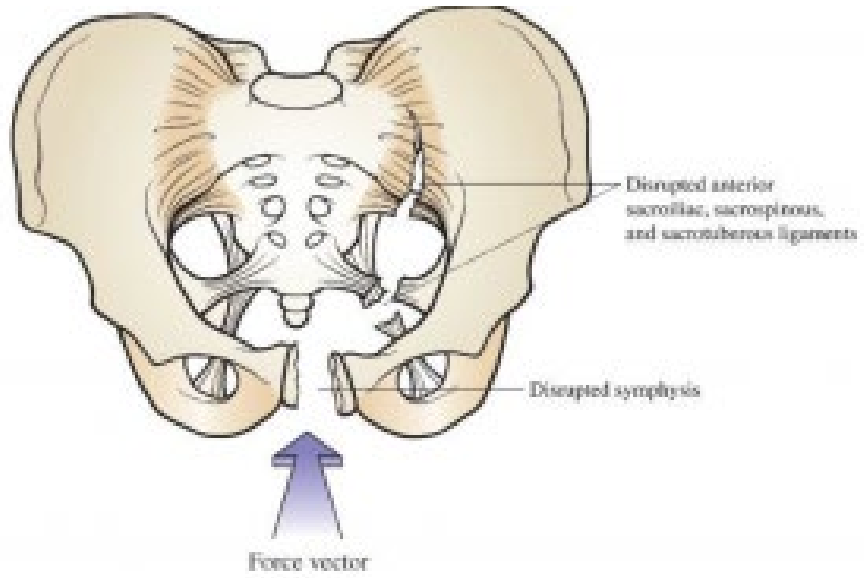

Figure 5. AP Compression Fracture[6]

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Assessment and Management

When to consider a Pelvic Injury?

- High MOI
- Bruising
- Bleeding
- Deformity
- Urge to urinate
- Pain when mobilising
- Tachycardia
- Unable to raise legs
- Iliac crest symmetry
- Swelling
- Shortening of limb
- <90 SBP (+MOI)
- Pain – pelvis, groin, hip, lower back
- Inability to mobilise
- ‘Splaid’Legs
- # Femur

(NAEMT, 2014; AACE, 2016; AACE, 2017; Bolt et al, 2017; Russel et al 2018)

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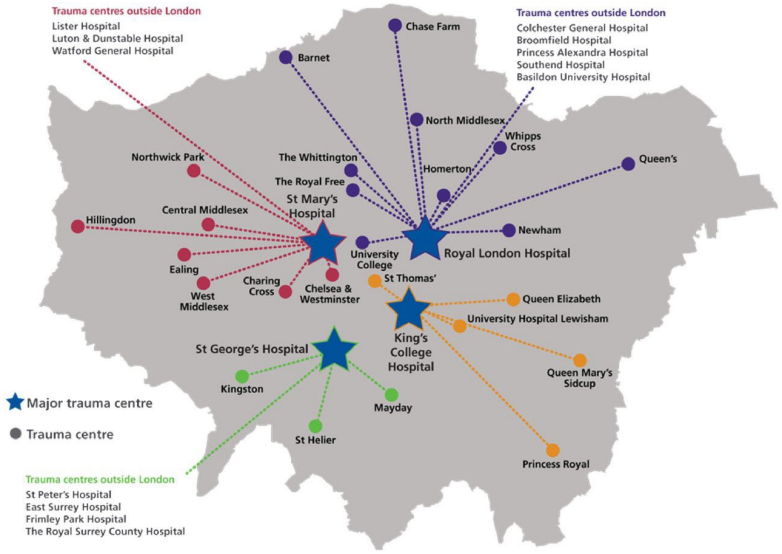

- Establish MOI – Poly-Trauma?
- Time critical! – Hypovolemia!!
- Advanced Teams Early (REBOA/Blood)
- Oxygen if hypoxic*
- Splint the pelvis on scene
- An improvised splint (binder) can be used if the purpose made splint does not fit
- IV/IO Tranexamic acid
- Pain relief – IV/IO Paracetamol -> **Morphine** -> Ketamine
- Fluids?
- Major Trauma Centre

(AACE, 2016; AACE, 2017)

PELVIC
Splints/Slings/Binders

- Low-friction
- Auto buckle
- Allows access to abdomen/groin
- X-Ray & CT
- 3 sizes

(SAM Medical, 2018)

- One size fits all
- Cut to size
- Allows access to abdomen/groin
- Soft material

(Prometheus Medical, 2018)

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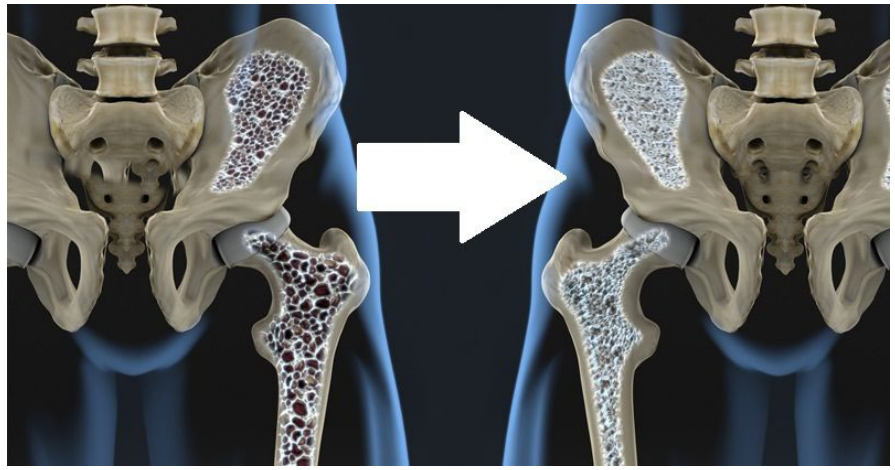
Practical Demonstration

High Risk Patients?

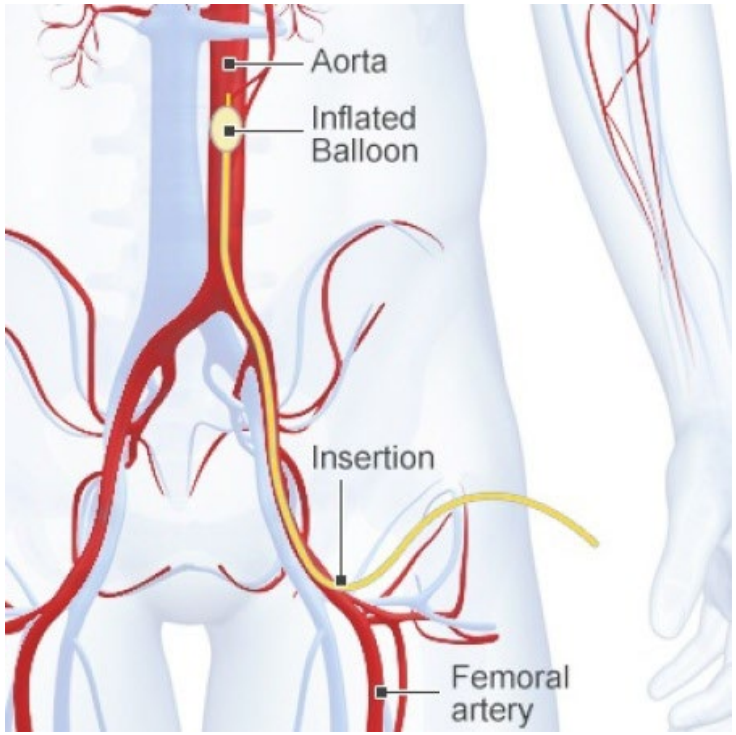
- Over 60 years of age
- Chemotherapy
- Long term steroid use
- Osteoporosis
- Paediatrics? – Lower Incidence



(NAEMT, 2014; NICE, 2016; AACE, 2016; AACE, 2017)

PELVIS

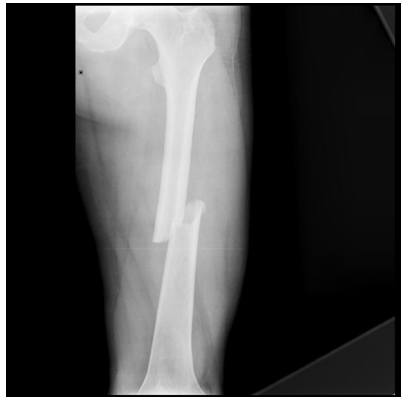
- Resuscitative Endovascular Balloon Occlusion of the Aorta **(REBOA)**

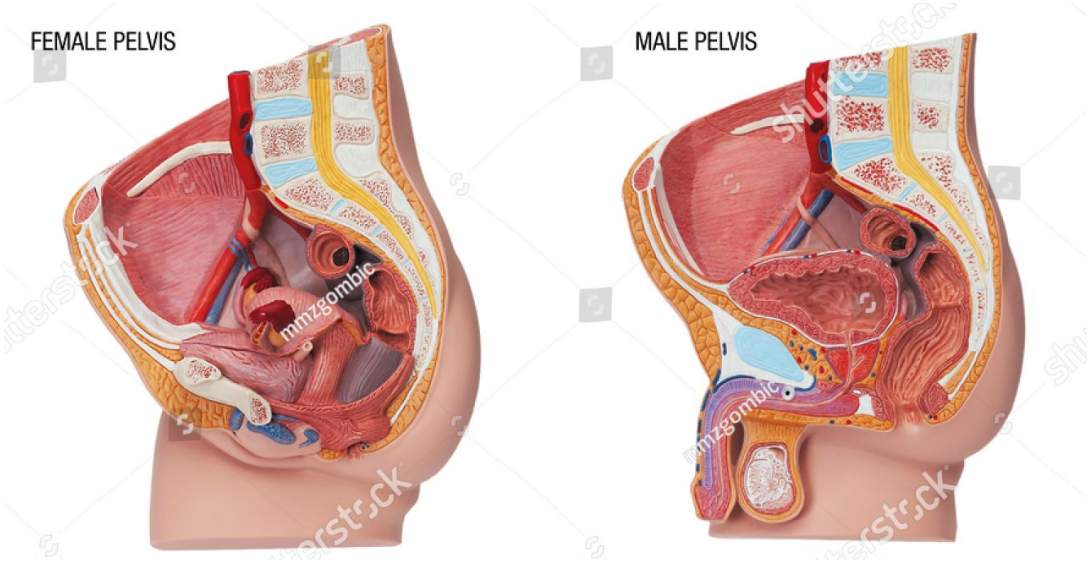


(LAA, 2014)

Associated Injuries

- Often associated with polytrauma (Thoracic/Abdo/Femur)
- Vaginal lacerations
- Injuries to Anus, Cervix, Uterus and Ovaries are rare
- Bladder rupture occurs in 10% of pelvic fractures





(AACE, 2017; AACE, 2016)

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Any Questions?

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References

- Association of Ambulance Chief Executives (2016) UK Ambulance Services Clinical Practice Guidelines. Class Professional Publishing.
- Association of Ambulance Chief Executives (2017) Clinical Practice Supplementary Guidelines. Class Professional Publishing.
- Bolt, C et al (2017) Straight Leg Elevation to Rule Out Pelvic Injury. *Injury*, 49 (2)
- Chesters, A. (2017) Pelvic Injury. Assessment, Management and Discussion of Cases. University of Cambridge Pre-hospital Care Programme – lecture. Available at: https://www.facebook.com/CamPreHosp/videos/1492241627501096/ (19th June 2017)
- Gerecht, R., Larrimore, A. & Steuerwald, M, (2014) Critical Management of Deadly Pelvic Injuries. *Journal of Emergency Medical Services*. 39 (12)
- London's Air Ambulance (2014) REBOA. Available at: https://londonsairambulance.co.uk/our-service/news/2014/06/we-perform-worlds-first-pre-hospital-reboa
- Marieb, E. (2015) Essentials of Anatomy and Physiology. Essex: Pearson
- Moss, R., Porter, K. & Greaves, I.; consensus group; National Library of Medicine (2013) Minimal patient handling: a faculty of pre-hospital care consensus statement. *Emergency Medicine Journal*. 30 (12)
- National Association of Emergency Medical Technicians (2014) *Pre-hospital Trauma Life Support 8th Ed.* Burlington: Jones and Bartlett.
- National Institute for Health and Care Excellence. (2016) Major Trauma Guidance. Available at: https://www.nice.org.uk/guidance/ng39 (11th May 2018)
- Prometheus Medical (2018) Prometheus Pelvic Splint. Available at: https://www.prometheusmedical.co.uk/equipment/splintage-immobilisation-prometheus-equipment/prometheus-pelvic-splint (11th May 2018)
- Russell, G. & Jarrett, C (2018) Pelvic Fractures Clinical Presentation. *Medscape*.
- SAM Medical (2018) Sam Pelvic Sling II Training. Available at: https://www.sammedical.com/training/sam-pelvic-sling-training (11th May 2018)
- Suzuki T., Smith WR. & Moore EE. (2008) Pelvic Packing or Angiography: Competitive or Complementary? *Injury*, 40(4)

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CHANGE STARTS HERE

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