TITLE: PELVIC TRAUMA

PURPOSE:

Develop a protocol of care that will insure rapid identification and treatment of these patients

PROCESS:

1. CARE OF PATIENTS WITH PELVIC TRAUMA
   A. Patients in hemorrhagic shock due to pelvic fractures present complex clinical problems. Common errors in the treatment of these patients include:
      1. Failure to wrap/apply a pelvic binder to an open book pelvis
      2. Failure to identify and correct coagulopathy
      3. Failure to rapidly triage patient to the operating room or angiography
      4. Delay in treatment
   B. INDICATIONS FOR AP PELVIS FILMS DURING TRAUMA RESUSCITATION:
      1. Hemodynamic instability
      2. Pelvic pain or tenderness
      3. Instability of pelvis on physical exam
      4. Suspicion of femur fractures
      5. Suspicion of hip dislocation
      6. Perineal trauma
      7. Intubated patients (s/p high mechanism trauma)
Guidelines and Protocols

C. **INDICATIONS FOR PELVIC BINDER PLACEMENT DURING TRAUMA RESUSCITATION:**

1. Any open book pelvic fracture (APC-I, APC-II, APC-III), despite hemodynamic status
2. A patient with a suspected pelvic fracture and hemodynamic instability when pelvic films are not available
3. Pelvic binder should be centered over greater trochanters.
4. If access to groins is necessary, move the binder to mid-thigh or knees and tape feet together.
5. **MAXIMUM DURATION OF PELVIC BINDER ≤24HRS**

D. **DAMAGE CONTROL RESUSCITATION:**

1. See Damage Control Resuscitation Guideline T22

E. **IDENTIFY SOURCE OF BLEEDING:**

1. Chest radiograph to evaluate for Hemi-thorax/tension pneumothorax
2. Pelvic radiograph to evaluate for and identify type of pelvic fracture.
   a. Place binder on patient if found to have an open book pelvis
3. FAST exam:
   a. If negative and patient is hemodynamically unstable: perform diagnostic peritoneal aspiration (DPA). If positive, and patient hemodynamically unstable, proceed to operating room for laparotomy
4. If patient has a sustained response to initial resuscitation, proceed to CT or operating room if indicated by clinical Picture
5. If the patient is thought to have a pelvic fracture, contact orthopedic surgery immediately and consider transfer to a higher level of care.
Guidelines and Protocols

F. **If Patient is a Transient or Non-Responder and Major Pelvic Hemorrhage is Suspected:**

1. Apply pelvic binder if patient has an open book pelvic fracture.

2. Contact Interventional Radiology for angiography. If IR is not immediately available, consider the following:
   a. Transfer to higher level of care if IR mobilizing time is greater than the time to transfer to another facility with an available and ready IR or REBOA²
   b. Pre peritoneal pelvic packing:³
      1. Take patient emergently to operating room.
      2. Vertical midline incision (~8cm) just above pubic tubercle
      3. In a large pelvic hematoma, the pre-peritoneal space should already be developed for you. Additional blunt dissection may be necessary. Pack the pelvis with three laparotomy pads on each side of the bladder.
      4. If the pre-peritoneal dissection is difficult, the patient probably does not have a large pelvic hematoma and another source of hemorrhage should be sought.

G. **If Patient is a Transient or Non-Responder and the Source of Hemorrhage is from Multiple Sources:**

1. Truncal hemorrhage:
   a. Proceed to operating room for control of truncal hemorrhage via laparotomy or thoracotomy;
   b. If patient continues to be hemodynamically unstable, despite control of truncal hemorrhage, perform damage control surgery and proceed to IR for pelvic angiography.
Guidelines and Protocols

c. If patient hemodynamic status stabilizes after IR, return to operating room for definitive closure after correction of coagulopathy and physiologic optimization.

2. Extremity hemorrhage:
   a. If hemorrhage can be controlled with tourniquets and hemostatic packing, continue to IR and then proceed to the operating room after to definitively address the extremity hemorrhage.
   b. If hemorrhage cannot be controlled with tourniquets and hemostatic packing, proceed to operating room to address extremity hemorrhage.
   c. If patient continues to be hemodynamically unstable despite control of extremity hemorrhage, perform damage control surgery (e.g. packing, temporary arterial shunts) and proceed to IR for pelvic angiography.
   d. Consider a return to the operating room for definitive extremity operation after correction of coagulopathy and physiologic optimization.

H. Indications to Consider Emergent External Fixation:
   1. The pelvic binder provides adequate reduction of the pelvic ring in most cases.
   2. If access to the groin, abdomen, genitalia, or perineum is necessary, and closure of the pelvic ring by wrapping the feet and/or moving the pelvic binder lower is unsuccessful, then consult orthopedic surgery for emergent external fixation.
Guidelines and Protocols

I. Indications for Pelvic Angiography in Stable Patients and/or Responders to Resuscitation:
   1. If CT of the abdomen/pelvis shows arterial extravasation, proceed to IR for pelvic angiography.
   2. If patient has not required blood products and has been hemodynamically stable throughout the trauma evaluation, you may consider not performing pelvic angiography for CT identified arterial extravasation.
REFERENCE / BIBLIOGRAPHY:


## Guidelines and Protocols

**OFFICE OF PRIMARY RESPONSIBILITY:**

**LYNDON B. JOHNSON HOSPITAL TRAUMA SERVICES**

### REVIEW / REVISION HISTORY

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