30. Trauma Management Pathway

This clinical pathway is intended to supplement, rather than substitute for, professional judgment and may be changed depending upon a patient's individual needs. Failure to comply with this pathway does not represent a breach of the standard of care.

SAMPLE HISTORY

Signs and **S**ymptoms
Allergies
Medication
Past Medical History/**P**regnancy
Last meal/Last Tetanus Injection/Last Medication/Drug/Alcohol intake
Events preceding presentation

Primary Survey (C-ABCDE)

C-Spine – Cleared Clinically (**see 31. C-Spine Clearance Algorithm**)? Perform **Manual In-Line Stabilization (MILS)** then apply **Head Blocks or Blanket Rolls** taped to the patient's head and trolley. **DO NOT APPLY A C-COLLAR**
Airway – Open? Maintainable? Intubate?
Breathing – Rate? SPO_2? Air Entry Bilaterally? Pneumothorax? Haemothorax? Flail Chest? Open sucking chest wound?
Circulation – Active Bleeding Control? BP? Pulse? CPR? Signs of Shock?
Disability – GCS? Pupils? **RBS?**
Expose patient

Resuscitation (C-ABCDE)

CONSULT A SURGEON IMMEDIATELY AS YOU BEGIN RESUSCITATION OF ANY POLYTRAUMA PATIENT WITH:
- **Hypotension**
- **GCS < 15**

C - If suspected trauma and not cleared clinically, **Head Blocks** or **Blanket Rolls** strapped to the patient's head and trolley?
A - Rapid Sequence Intubation?
B
- Supplementary Oxygenation? – Non-Rebreather mask
- Needle Decompression for Tension Pneumothorax with subsequent immediate Intercostal Chest Drain Insertion?
- Emergency Intercostal Chest Drain for Massive Haemothorax
- For an open sucking chest wound, **SEAL THREE SIDES** of with impermeable material?

C
- Control Active Bleeding including;
  - **Apply a Pelvic wrap to an Open Book Pelvic Fracture**
  - **Apply a Traction splint for Femur Fractures**
- Insert 2 large bore IV lines and give appropriate fluid resuscitation (NS/RL/whole blood). Adult trauma patients with, or at risk of, significant bleeding should be given **Tranexamic acid loading dose 15mg/kg over 10 min then infusion of 15mg/kg over 8 h.**
- **FHG, UEC, GXM** and request adequate supplementary blood and blood products

D
- Correct Hypoglycaemia – 50mls 50% Dextrose IV
- **Give appropriate analgesia e.g. Fentanyl 1µg/kg IV (see Analgesia Chart and 39. PAIN MANAGEMENT ALGORITHM for Regional Anaesthesia)**
- **Give IV Phenytoin (20mg/kg) for Severe Head Injury (GCS ≤ 8)**

E
- Check temperature and provide warmth to the patient

Secondary Survey (Head-to-Toe Survey)

CNS – Lacerations? Fractures? Signs of Base of Skull Fractures – Racoon Eyes, Battle Sign, Otorrhea, Rhinorrhoea? Focal Neurology?
Chest – Lacerations? Rib Fractures?
Abdomen – Lacerations? Distension? Tenderness? **EFAST**?
Limbs – Lacerations? Fractures? Distal Pulses and Neurology?
Log roll patient – Lacerations? Spine tenderness?
Do not forget to clean all open wounds with running tap water for at least 10 minutes and give **Tetanus Toxoid**. **Give ANTIBIOTICS within 1 hour of injury for ALL COMPOUND FRACTURES**. Therapeutic doses of cefazolin, clindamycin, for 48 hrs are appropriate; with contamination, consider anaerobic antibiotics (penicillins, clindamycin, metronidazole); **NO ANTIBIOTICS** are required for soft tissue injuries unless there is evidence of an infection.

Radiological Investigations

- **Extended Focussed Assessment with Sonography in Trauma (EFAST) – ONLY** for;
  - Penetrating chest trauma – Pneumothorax? Haemothorax? Pericardial Effusion?
  - **Unstable** blunt chest and abdominal trauma – Haemothorax? Hemoperitoneum?
  - Unexplained hypotension - ? Free fluid in pleural, pericardial or peritoneal cavity
- **CT-Abdomen –** For the **haemodynamically stable** patient with suspected blunt abdominal trauma
- **CT Head – ONLY** for;
  - GCS <15 (for GCS 15 – **see 32. Mild Traumatic Brain Injury Algorithm**)
  - Skull fractures including Base of Skull Fractures (**DO NOT ORDER SKULL X-Rays**)
- **C-Spine X-rays** (AP, Lateral AND Open Mouth) – **see 31. C-Spine Clearance Algorithm**. If doing a CT head, do CT Spine instead of C-spine X-rays if indicated. **C-spine** is **NOT** cleared on X-rays/CT **BUT on resolution of patient symptoms**
- **CXR – ONLY** for patients with chest trauma - Pneumothorax? Haemothorax? Lung Contusion? Widened Mediastinum? Rib fractures? Follow-up with **CT-Chest plus angiogram** for Lung Contusion? Widened Mediastinum?
- **Pelvic X-ray – ONLY** for patients with;
  - lower abdominal pain,
  - lower back pain,
  - Femur fractures
  - Clinically tender pelvis
  - Patients unable to mobilize

Where a reliable clinical assessment is not possible **ALL** the investigations should be done.