2.0 Airway Management

Airway

Apply Supplemental Oxygen
Assess SpO2, Respiratory Rate
Apply C Collar

Threatened

Open Mouth - Jaw Thrust or Chin Lift

Secretions/Blood Clot/Foreign Body

Do Suction

Prepare for Definitive Airway

Endotracheal Intubation with Manual In Line Stabilisation

Failed after 3 attempts

Call for expert Help Prepare for Cricothyroidotomy

Patent

Continue Oxygen Supplementation

Proceed for Breathing Evaluation
3.0 Breathing

Breathing

Assess

Normal

Proceed for Circulation Assessment

Hypotension absent, Diminished Air Entry, Hyperresonant note

Simple Pneumothorax

Chest Tube Insertion

Hypotension, Neck Veins Distended, Absent Air entry, Hyperresonant Note

Tension Pneumothorax

Chest Decompression

Hypotension, Neck Veins Distended, Muffled or Absent Heart Sounds,

Cardiac Tamponade

Pericardiocentesis and if needed Thoracic Surgery

Hypotension, Diminished Air Entry, Dull note on Percussion

Hemothorax

Chest Tube Insertion followed by Continuous output monitoring

Consider Thoracotomy if initial output >1500 ml or if persistent blood loss of >250 ml per hour over more than 4 hours
4.0 Circulation - Part I

Circulation

Assess for Shock

Shock Present

Secure Two Large bore peripheral IV access, Draw blood for samples

Hemorrhagic Shock

Initiate 1 to 2 liters of Prewarmed Normal Saline or Ringers lactate

Search for the site of bleeding and evaluate need for blood and blood products

External, Thorax, Abdomen, Pelvis, Long Bones

Shock Absent

Continue Primary Survey, Move to Disability

Non Hemorrhagic Shock

Identify the cause and treat accordingly

Tension Pneumothorax, Cardiac Tamponade, Neurogenic, Cardiogenic, Septic shock
5.0 Circulation - Part II

Hemorrhagic Shock

Resuscitate

Thorax

1 to 2 liters of Crystalloid Fluid Bolus

External

Abdomen

Pelvis

Long Bones

Apply Pelvic Binder, If shock persist consider preperitoneal pelvic packing

If Arterial or Venous - Control the bleed Apply Splint

See Breathing flow chart

Apply direct pressure

Fast +

FAST - Likely Source of bleeding - Thorax, Pelvis, Long Bones

Responder

Transient Responder

Non Responder

Continue Primary Survey

Operating room for Exploratory Laprotomy

Operating room for Exploratory Laprotomy
6.0 Disability

Determine GCS, Assess Pupils

- GCS 13-15
  - Mild head injury
    - GCS <15 at 2 hours
      - Suspected open or depressed skull fracture,
        Battlesign, Raccoon Eyes,
        Vomiting >2 episodes, Age>65 years, Amnesia
        Dangerous Mechanism
      - Haemodynamically stable
        - If yes, recommend CT Scan Brain and other
          relevant areas
          - Neurosurgical consultation
        - If no, continue Primary survey for cause of shock

- GCS 9-12
  - Moderate head injury
  - Continue Primary Survey

- GCS 3-8
  - Severe head injury
    - Intubate [if not already done]
Criteria to activate:
1) Actual/Anticipated 4 units RBC in <4 hours + hemodynamically unstable +/- anticipated ongoing bleeding
2) Severe thoracic, abdominal, pelvic or multiple long bone trauma

Trauma team leader determines if the patient meets the criteria for MTP activation

Baselines investigations sent:
Full blood count (Hb, haemocrit and platelets) PT/INR, APTT (if available), (Fibrinogen if available), Creatinine, Calcium, Arterial Blood gases (if available)

Activate MTP:
Notify the Blood bank /transfusion laboratory, Haematologist /Blood bank in charge, Surgeon, Operation theatres, Anaesthetists, Radiologist, Concerned nursing staff, ward boys services to ensure collaboration

Trauma team requests for the fixed dose ratio of plasma (FFP): platelets : Red blood cells (1:1:1) i.e., 4 units of each

Correct hypothermia/ keep patient warm
Surgical measures to stop bleeding

Repeat Full blood count, Coagulation profile and Arterial blood gases if available (usually in 30-60min)

Bleeding Controlled

NO
Transfusion guided by the laboratory coagulation results

YES
Notify to cease MTP protocol
Management algorithm for traumatic cardiac arrest

Traumatic Cardiac Arrest

- Initiate Cardiopulmonary resuscitation

Penetrating Injury to the chest

- Emergency Thoracotomy
- No

Treat the reversible causes:
- Hypovolemia
- Hypoxia (Airway obstruction, esophageal intubation)
- Tension pneumothorax
- Tamponade (cardiac)

Spontaneous circulation

- Yes
  - Shift to definitive care
- No
  - Continue CPR

Consider termination of CPR