Clinical Training and Resources to support Major Incident preparation

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Available Resources and Future Developments

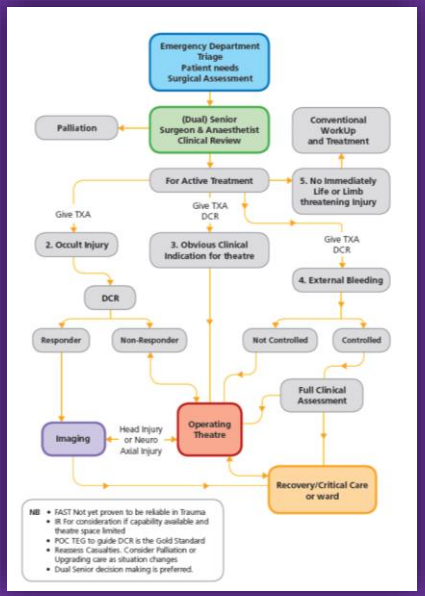
- www.4Trauma.org.uk
  - Capturing the lessons learned from caring for military casualties at QEHB/RCDM
- EPRR: Trauma Nov 2015 and March 2016
  - NHS England Director of Trauma Prof. Moran
- Clinical Guidelines for use in a Major Incident
  - Update on progress
- Major Incident Surgical & Trauma Teams training course
  - www.mistt.co.uk
  - 21st-24th November 2017

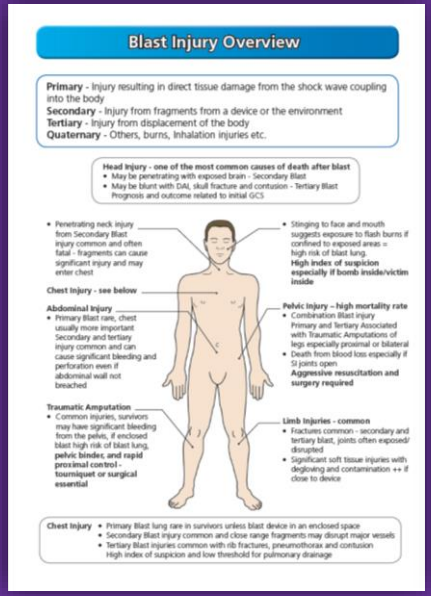
Clinical Guidelines for Major Incidents and Mass Casualties Workshop 25 April 2017

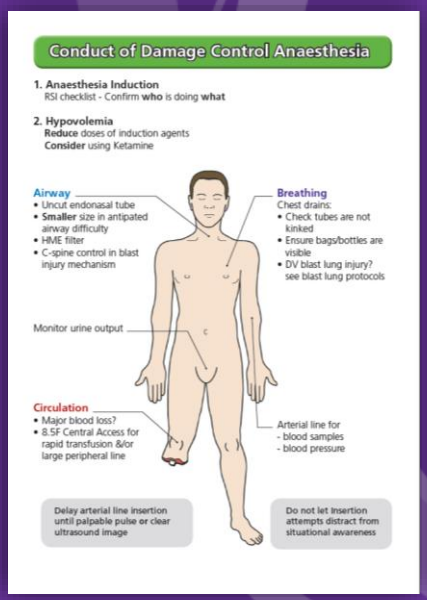
Chapters in Progress

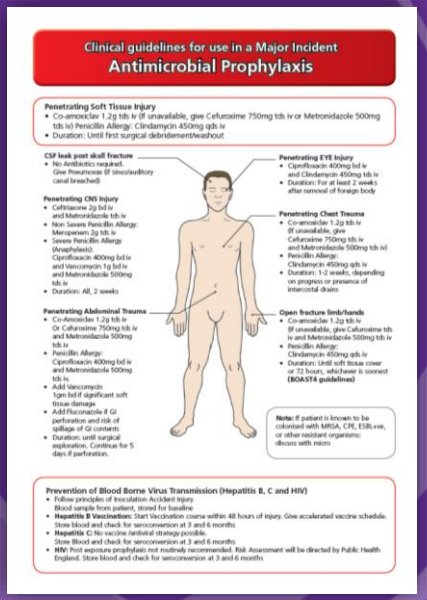
- Major Incident Awareness
- Major Incident Standby
- Major Incident Declared
- Co-ordination in a Major Incident
- Forensic Awareness
- Ballistic Injury
- Burns
- Blast Injury
- Crush Injuries
- CBRN (Chemical, Biological, Radiation, Nuclear)
- Emergency Department Triage
- Surgical Triage
- Radiology (CT Traumagram)
- The Trauma Team response
- Hyperacute Rehabilitation
- Bereavement
- Damage Control Anaesthesia
- Analgesia
- Blood Bank/Haematology
- Microbiology
- Damage Control Orthopaedics
- Chest Injuries (Cardiothoracics)
- Blast Lung
- Abdominal and Vascular Injuries
- Soft Tissue Injuries
- Pregnancy and Trauma
- Major Trauma in Children
- Brain and Spinal Injuries
- Head and Neck (OMFS and ENT)
- Eye Injuries
- Blast Ear and Hearing Loss
- Staff Resilience and Counselling

Clinical Guidelines for use in a Major Incident/Mass Casualty Event



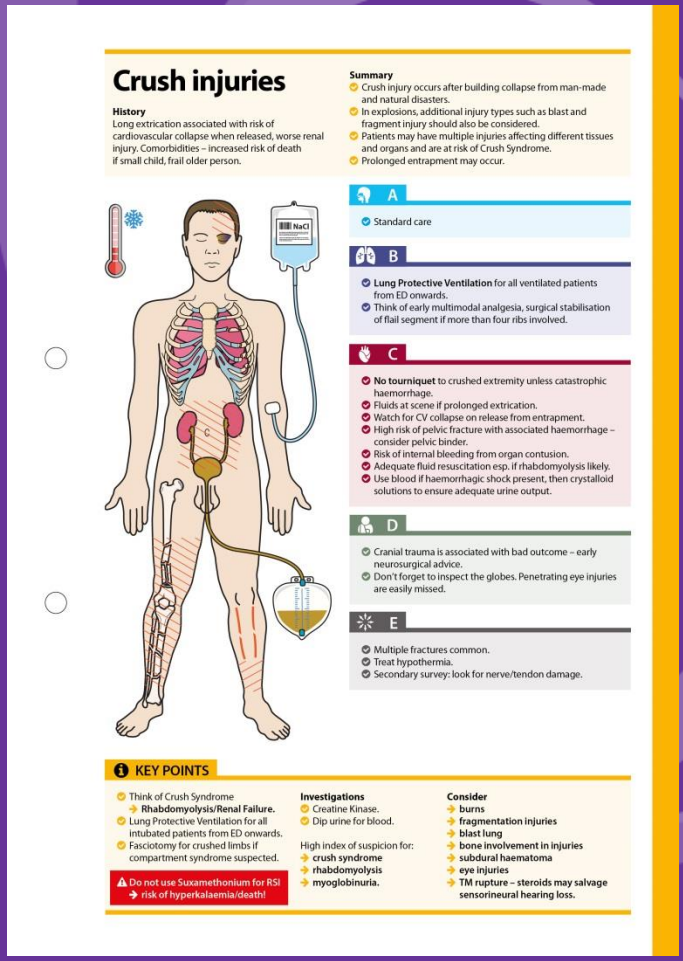






Clinical Guidelines for use in a Major Incident/Mass Casualty Event

- 40+ Guidelines
- Created by CWG but reviewed by clinicians recently involved in terror attacks
- Available in all UK EDs
- Content aimed at TU's
- Alternative strategies and aide memoires when resources are sub-optimal



Crush injuries

History
Long extrication associated with risk of cardiovascular collapse when released, worse renal injury. Comorbidities – increased risk of death if small child, frail older person.

Summary
- Crush injury occurs after building collapse from man-made and natural disasters.
- In explosions, additional injury types such as blast and fragment injury should also be considered.
- Patients may have multiple injuries affecting different tissues and organs and are at risk of Crush Syndrome.
- Prolonged entrapment may occur.

A
- Standard care

B
- **Lung Protective Ventilation** for all ventilated patients from ED onwards.
- Think of early multimodal analgesia, surgical stabilisation of flail segment if more than four ribs involved.

C
- **No tourniquet** to crushed extremity unless catastrophic haemorrhage.
- Fluids at scene if prolonged extrication.
- Watch for CV collapse on release from entrapment.
- High risk of pelvic fracture with associated haemorrhage – consider pelvic binder.
- Risk of internal bleeding from organ contusion.
- Adequate fluid resuscitation esp. if rhabdomyolysis likely.
- Use blood if haemorrhagic shock present, then crystalloid solutions to ensure adequate urine output.

D
- Cranial trauma is associated with bad outcome – early neurosurgical advice.
- Don't forget to inspect the globes. Penetrating eye injuries are easily missed.

E
- Multiple fractures common.
- Treat hypothermia.
- Secondary survey: look for nerve/tendon damage.

KEY POINTS
- Think of Crush Syndrome → **Rhabdomyolysis/Renal Failure.**
- Lung Protective Ventilation for all intubated patients from ED onwards.
- Fasciotomy for crushed limbs if compartment syndrome suspected.

⚠ Do not use Suxamethonium for RSI → risk of hyperkalaemia/death!

Investigations
- Creatine Kinase.
- Dip urine for blood.

High index of suspicion for:
- **crush syndrome**
- **rhabdomyolysis**
- **myoglobinuria.**

Consider
- **burns**
- **fragmentation injuries**
- **blast lung**
- **bone involvement in injuries**
- **subdural haematoma**
- **eye injuries**
- **TM rupture – steroids may salvage sensorineural hearing loss.**

www.MISTT.co.uk

Day 1:

- MI Awareness
- NHS England/Network Response
- Hospital Co-ordination

Day 2&3:

- Cadaveric training sessions for trauma teams

Day 4:

- After Day One
  - Surgical Tail
  - Supporting Specialities (Blood Transfusion, Complex Pain Management, Radiology, Forensics, Microbiology)
  - Manchester and London Experiences and lessons learned

Future Developments

- Major Incident Surgical & Trauma Teams training course

www.mistt.co.uk

  - 21st-24th November 2017
  - 2 more courses planned (May and Nov 2018)
- Clinical Guidelines for use in a Major Incident
  - in your ED soon

- Special edition of TRAUMA journal
  - short explanatory articles on CGMI subjects

- E-learning packages for all trauma personnel via HEE