

Trauma Tertiary Survey for clinicians during COVID-19

Background

The initial trauma team assessments in the emergency department prioritise diagnosis and treatment of life-threatening and severe injuries. They are effective at identifying most other injuries, however they may occasionally miss a few. The trauma tertiary survey is designed to identify missed injuries and should be performed within 24 hours of admission to hospital. The tertiary survey comprises a full systems examination together with review of all imaging and laboratory test results. Any newly identified injuries require investigation and follow-up with the relevant sub-specialty. Patients with limited capacity (e.g. due to intubation, severe TBI) should have a repeat tertiary survey once capacity is regained.

Purpose

During the COVID-19 pandemic, trauma patients who would normally be managed by the MTC Trauma Services may be cared for at local trauma units, or by non-trauma trained clinical teams. It may be necessary for staff working in these areas to perform assessments that are normally undertaken by the trauma service.

Aims

The aims of this guidance is to:

- 1) Provide clinicians working at trauma units or on non-trauma wards with a template for performing a trauma tertiary survey
- 2) Describe whom to contact if a specific injury is identified

Tertiary Survey Examination Template

General Principles:

Inspect all areas for lacerations, bruising, deformity, swelling
Palpate all joints/bones and check range of movement

Systems Examination:

Neurologic Status

GCS – E V M
Pupil size and reactivity

Head

Inspect – Skull depression/boggy swelling
Palpate - Bony or scalp tenderness
Cranial nerve exam

Face

Palpate – bony tenderness/deformity – orbits, maxilla, mandible
Ears – bleeding
Nose – deformity, bleeding
Mouth – check tongue, lips and teeth

Neck

Palpate – Midline c-spine tenderness
Range of movement

Spine

Palpate – Midline tenderness

Chest

Inspect – expansion

Palpate – crepitus, surgical emphysema, bony tenderness
Auscultate – air entry; heart sounds

Abdomen

Inspect – distension, bruising
Palpate – tenderness
Auscultate – bowel sounds

Pelvis

Inspect – Bruising, symmetry
Palpate – Tenderness, stability

Perineum and external genitalia (if indicated, e.g. pelvic injury, multiple stabbing)

Inspect – laceration, bruising, swelling
Note blood at the urethral meatus

PR (if indicated, e.g. pelvic injury, spinal injury)

Perianal sensation, anal tone, bleeding

Upper Limb

Inspect - symmetry
Palpate – bony tenderness – include clavicles, radial snuffbox
Range of movement
Neurovascular exam – Power and sensation (central and peripheral), tone, pulses

Lower Limb

Inspect - symmetry
Palpate – bony tenderness
Range of movement
Neurovascular exam - Power and sensation (central and peripheral), tone, pulses

Review of all lab results, operations, and radiology:

Note any addenda added to radiology reports since initial reporting

Trauma Tertiary Survey Documentation Template

Mechanism of Injury:

GCS: E V M Total /15

Pupils (size and reactivity): R L

Head

Neck

Spine

Chest

Abdomen

Pelvis

Upper Limb

Tenderness

Tone

Power

Sensation

Pulses

Lower Limb

Tenderness

Tone

Power

Sensation

Pulses

Perineum and genitalia (if required)

Rectal examination (if required)

All Radiology review:

CT Head

CT C-spine

CT Chest Abdo Pelvis

Is the CT C-spine clear?

Is there a collar proforma in place?

DVT Prophylaxis:

Known Injuries:

New injuries/ Tertiary Survey Findings:

Plan:

Tertiary survey completed by:

Bleep:

Specialty to Contact

Upper Limb

- Musculoskeletal
 - Fractures: Orthopaedics (Plastics is an alternative for injuries distal to the carpus)
 - Tendon injury beyond distal biceps tendon insertion: Plastics
 - Skin, muscle and nerve Injury: Plastics
 - All other conditions: Orthopaedics
- Vascular Injury
 - Proximal injuries - brachial/axillary arteries: Vascular or Trauma
 - Distal injuries - radial/ulnar arteries: Plastics
- Infection and Foreign Body Penetration
 - Osteomyelitis: Orthopaedics (Plastics is an alternative if distal to the metacarpals)
 - Axilla: Trauma/General Surgery
 - All other conditions: Plastics

Lower Limb

- Musculoskeletal
 - Pre-tibial lacerations: Plastics
 - Skin or soft tissue loss: Plastics
 - Nerve injury: Plastics
 - All other: Orthopaedics
- Vascular Injury: Vascular
- Infection and Foreign Body Penetration
 - Buttock and groin: Trauma/General Surgery
 - All other: Orthopaedics

Torso

- Bone and Joint Injury
 - Spinal Column: Neurosurgery
 - Cardiothoracic: Cardiothoracic or Trauma Service
 - All other conditions: Orthopaedics
- Skin and Muscle Injury
 - Genitalia: Urology/Gynaecology
 - All others: Trauma/General Surgery
- Vascular Injury: Trauma/Vascular
- Visceral Injury: Trauma/General Surgery
- Infection and Foreign Body Penetration
 - Spinal Cord: Spinal surgery
 - Urogenital System: Urology/Gynaecology
 - All other conditions: Trauma/General Surgery

Head and Neck

- Bone and joint injury
 - Skull fractures: Neurosurgery
 - C-Spine Injury: Neurosurgery
 - Facial Fracture: OMFS
 - Airway injury: ENT
 - Auditory: ENT
- Skin and Muscle
 - Scalp – Trauma/General Surgery
 - Face – OMFS/Plastic Surgery
 - Neck – ENT
- Vascular Injury
 - Carotid sheath injury: Vascular/Trauma
 - Carotid or vertebral artery dissection: Neurosurgery
- Infection and foreign body penetration
 - Intracranial: Neurosurgery
 - Orbital/Visual: Ophthalmology
 - Intra-oral: OMFS
 - Auditory: ENT

Special patient groups requiring specialty review/opinion from:

- Obstetrics
- Paediatrics
- Elderly

For any queries, please contact the Trauma Service (if you are located within an MTC) or contact the trauma lead/specialty lead at your network MTC.