ROLES AND RESPONSIBILITIES OF THE TRAUMA TEAM
On assessment in ED

A – If Middle Grade ED doctor deems it necessary/sister in charge of department

B – Physiological Triggers for adults and children after trauma
   Airway compromise
   Clinical evidence of hypovolaemia
   GCS < 13

   Physiological triggers for adults only
   Systolic BP < 90mm Hg
   RR < 10/min or > 29/min

C - Anatomical Triggers

   Flail Chest
   Two or more long bone fractures (humerus, femur, tibia)
   Amputations proximal to wrist or ankle
   Penetrating trauma to head, neck, chest, abdomen and groin
   Limb paralysis/Spinal cord injury
   Suspected significant pelvic fracture
   Significant burn with history of additional trauma or enclosure

D - Mechanism of Injury Triggers

   Significant Intrusion
   Fall > 10 feet or fall more than twice the estimated height of the child
   Death of another occupant of vehicle
   Ejection
   Other significant Mechanism of Injury

E - Multiple Trauma Victims

Pre hospital activation
By Physician attended Call Out Team or by ED staff on reception of reliable information from ambulance service as per above protocol.
TRAUMA TEAM COMPOSITION

DOCTOR 1
NURSE 1
NURSE 2
DOCTOR 2
ODP
ANAESTHETIST
TEAM LEADER
SCRIBE
RADIOGRAPHER
PARA-MEDICS
SPECIALISTS
NURSE 3
LEAD NURSE
EDA
TRAUMA BLEEP HOLDERS as of November 2010

- Emergency Department Registrar
- Emergency Department Assistant
- Surgical registrar
- Surgical SHO
- Orthopaedic registrar
- Orthopaedic SHO
- 1st on call Anaesthetist
- 3rd on call Anaesthetist
- ODP
- Theatre Coordinator
- ITU Coordinator

The Nurse in Charge of Area 1 notifies ED consultant on call.

Currently the following personnel are on individual bleeps:

Radiographer
Radiology registrar for head CT
Radiology registrar for neck (MSK) CT
Radiology registrar for body CT
CT radiographer for availability / timing of scanner
Blood bank / massive transfusion activation
Labs
Speciality consultants as needed.
TRAUMA TEAM LEADER

- Commands the resuscitation coordinating staff and resources
- Makes decisions in conjunction with specialists
- Prioritises investigations and treatments
- Ensures team wear personal protective equipment including lead and tabards, allocated roles are clear and personal introductions made

Consider: check list overleaf

- Early calls to notify CT, interventional radiology, cardiac surgeon, specialist Consultants on call eg Consultant General Surgeon if SBP<90
- Massive transfusion bleep 784 1342
- Tranexamic acid 1g over 10 mins if SBP<110 or HR>110
- Get to CT quickly but safely, ensure lines secure and imminent life threatening conditions treated
- Antibiotics, urinary catheter, arterial lines, tetanus all need early consideration but can be delayed to theatres if emergency surgery required. Resuscitation is a continuum not dependent on geographical location.
- It will be relevant for trauma team to move to CT with patient, take blood products and airway kit.
- It may be relevant for trauma team members to escort the patient to theatres. Send someone ahead to hold the lift.

Handover to anaesthetist so clear on drugs given, blood products and fluids transfused, key allergies, PMH and diagnoses made.

Inform blood bank of patient location and new clinical lead for massive transfusion protocol when patient is transferred, or stand down as appropriate.

Speak to relatives

Debrief team

Documentation to include checking trauma observation chart for completeness and clicked trauma team under EDIS ‘consultations’.
TRAUMA TEAM LEADER CHECKLIST

PRE-ARRIVAL CHECKLIST

- Trauma team activated – 2222
- Protective equipment including lead worn by all key personnel
- General Surgical Consultant informed if pre-hospital SBP<90
- Warmed fluid run through and occasionally Level One infuser primed
- CT notified (and occasionally blood bank, theatres)
- X-ray cassettes in place under trolley ready
- Introductions done and team roles assigned
- Paediatric calculations done on the board
- MIST on the board
- Team members ‘book in’ with scribe

ON PATIENT ARRIVAL

- Start the clock (delegate to ODP or Nurse 1)
- All listen for concise 30 sec handover from Paramedics before transferring patient to trolley
- Keep on scoop stretcher if any chance of pelvic fracture as will speed up transfer to CT shortly
- Ensure paramedics complete MIST board with details and handover pre-hospital information to scribe
- Pelvic binder if SBP<110 in blunt trauma and avoid logroll
- Tranexamic acid if bleeding, SBP<110 or HR>110
- Massive Transfusion bleep 784-1342
- Stay calm and ensure team know your plan and next step, discuss and involve team in decisions
- Aim for CT within 20 minutes unless reasons prevent this. Consider CT in lieu of primary survey x-rays in some cases
Start the clock when patient arrives in Bay 1 (shared role with Nurse 1).

**Ensure patient oxygenated and ventilated with no airway obstruction. Intubate when appropriate in discussion with the Team leader.**

Communicate airway patency and issues to team leader / scribe.
Assess respiratory rate and inform team leader / scribe
Ensure cervical spine immobilisation.

It is usually appropriate for the anaesthetist to talk to the patient and provide ongoing assessment of GCS. Reassure patient on arrival, set the scene of what is happening and take AMPLEx history:

A Allergies
M Medications
P Past medical history
L Last meal
E Everything else relevant

This role may be shared with Doctor 1. Inform outcome to team leader/scribe.

- Anaesthetists usually control log roll
- Consider need for endogastric tube
- Arterial lines may be indicated, to avoid delay to CT this can usually be done after CT or in the operating theatre. It should not delay either.
- Communication with theatres role is shared with surgeon
- Anaesthetist may have role of lead for massive transfusion protocol in ED, once in theatre this is almost certain and blood bank must be informed of any changes to contact name and telephone number.

- ODP may assist with removing patient clothes, have scissors to hand.
- ODP should be familiar with ED before being part of trauma team.
- The ODP is responsible for assisting set up of Ranger fluid warmer if Level One transfuser not used.
- ODP / Anaesthetist takes emergency airway equipment / drugs to CT and re-stocks key equipment
Usually ED doctor, may be specialist doctor

Undertakes primary survey <C>ABC
Clearly state findings to team leader and scribe
Take AMPLE history if anaesthetist busy, reassure patient on arrival, set the scene of what is happening.

A Allergies
M Medications
P Past medical history
L Last meal
E Everything else relevant

Performs procedures depending on skill level and training. Confirm skill levels with team leader prior to patient arriving.

Undertakes secondary survey include tympanic membranes.
This will guide CT eg the need to include facial views or tibial plateau scans or detailed spinal imaging.

Neurology exam needed before paralysing anaesthetic agents used

General surgeon should assess the abdomen and PR exam
Orthopaedic surgeon should assess pelvis and limbs

May activate massive transfusion protocol after discussion with team leader

FAST scan if accredited and not delay CT

Order bloods, xrays and CTs on Notis in discussion with team leader (Notis Major Trauma order sets).

Administer drugs eg analgesia, antibiotics

Ensure patient kept warm.
DOCTOR 2

Usually general surgeon or T&O junior, may be ED doctor

Two peripheral lines taking 20 mls of blood at same time
NOTIS order set guides bloods needed but will usually include:
  - Fbc
  - U&E
  - LFT
  - Pregnancy test
  - XM 6 units (or G&S occasionally)
  - Glu
  - coag

  Venous gas (will include glucose and lactate)

Ensure bloods sent – EDA / runner may be available.

Order xrays and CTs on Notis in discussion with team leader (Trauma order sets) if not already done.

FAST scan if accredited and not delay CT

**Arterial** Blood gas

Performs procedures depending on skill level and training and as guided by team leader. Confirm skill levels with team leader prior to patient arriving.

Administer drugs eg analgesia, antibiotics

Keep patient warm.
Prepare for the trauma call with level one run through when indicated, warmed iv fluids run through, chest drain sets out if suggested, scoop stretcher and pelvic binder to hand.

Start clock when patient arrives in Bay 1 (shared role with ODP).

Have scissors ready - Remove all clothing including underwear and store securely.

Cover with Bair Hugger / blankets

Check temperature

Help with getting iv access and sending bloods off if required, set up intraosseus kit (ezi-IO) if no/difficult iv access

Draw up drugs / administer as prescribed

Prepare for transfer to CT ASAP (possibly within 10-20 minutes) and/or theatre

Help with procedures as identified eg catheter, chest drain, arterial line
Prepare for the trauma call with level one run through when indicated, warmed iv fluids run through, chest drain sets out if suggested, scoop stretcher and pelvic binder to hand.

Have scissors ready, remove enough clothing initially to attach monitoring, Nurse 1 will continue to remove clothes while you get first set of observations as a priority.

Clearly state first observations to team leader & scribe as soon as available.

Prepare for transfer to CT ASAP (possibly within 10-20 mins of arrival) and or theatre.

Administer iv infusions.

Draw up drugs.

Dressings and splints, photographs of open fractures / significant wounds. NIC will have access to camera so predict the need and ask for it to be provided.

Assist with procedures including urinary catheter.

Ensure patient kept warm.
This is a complex job but invaluable to the team. Ensure you are being given the information you require and inform the team leader if not.

- Ensure clock is started by Nurse 1 / ODP when patient arrives in Bay 1
- Document team members including speciality and grade eg ST3
- Get handover from paramedics before they leave
- Document vital signs every 5 mins in unstable pt and every 15 mins otherwise. This role continues into CT and until discharged from ED
- Maintain a chronological record of all events eg time of venflon, CXR, FAST, move to CT etc
- Ensure patient wrist labels are secured on the patient
- Inform the team leader if key observations have not been identified eg temperature or GCS
- Inform the team leader every 15 mins that pass, the aim is to be in CT within 20-30 mins when appropriate
- Keep a log of the running total of blood products transfused in a massive haemorrhage situation – this role may be done by a specified nurse member of the level one team.
  - In a massive transfusion this may be relevant every 4-5 units to prompt need for adjuncts such as calcium or insulin / dextrose by the team leader
The EDA on the trauma bleep attends resus and logs onto the computer near bay 1. Their first task is to load patient details from the paramedics onto EDIS to enable immediate electronic ordering of x-rays and blood tests.

Take blood samples to labs for seriously unwell patients

Collect Trauma Pack 1 from blood bank in event of massive haemorrhage and liaise directly with team leader to collect second pack soon afterwards.

Consider cold chain of blood products and if they are NOT being used ask team leader or nurse in charge if they can be returned to the lab.

Be prepared to move the patient to CT within 20 mins of arrival

Help move patient to CT and onto CT trolley with monitoring ongoing then onward transfer either to resus or direct to theatre.

Assistance with procedures and equipment as able is invaluable
Nurse in charge should attend and coordinate staff and resources. They may be in a position to initiate the trauma call if deemed necessary.

Inform ED Consultant of trauma call and give pre-hospital information.

In the event the level one infuser is needed extra nursing staff x3 are likely to be needed for blood checking, running through of the level one and documentation.

Ensure lead jackets are worn by Anaesthetist, ODP, Nurses 1&2, Doctor 1 as minimum.

Support for the team and knowledge of the department

Coordinate with Team Leader early the plan for disposal of patient from ED
May take role of Doctor 1 or 2 in team, otherwise please stay behind red line unless actively assessing / treating patient. Be aware of all findings of the team at all times.

Identify yourself to the team leader and rest of the trauma team. Log your details with the scribe.

Wear personal protective equipment including lead if you are Doctor 1 or 2.

Inform General Surgical Consultant on call if patient has initial SBP <90, has complex multisystem injury or is likely to need early surgery.

Stay with the patient in resus / CT until stood down by the team leader.

Perform abdominal examination and PR exam during the secondary survey. Clearly inform team leader and scribe findings.

Discuss surgical plan / needs / priorities with team leader

Liaise with theatres, anaesthetic colleagues, bed manager and consultant for patients needing theatre and / or admission.

Assist with sending/ordering tests, liaising with specialists or performing procedures as training and ability allows eg chest drains, urinary catheter. Confirm your skill level with the team leader before the patient arrives.

Document all actions and findings with a clear plan in patient notes.
May take role of Doctor 1 or 2 in team, otherwise please stay behind red line unless actively assessing / treating patient. Be aware of findings of the team at all times.

Identify yourself to the team leader and rest of the trauma team. Log your details with the scribe. Confirm your skill level with the team leader before patient arrives.

Wear personal protective equipment including lead if you are Doctor 1 or 2.

Inform T&O Consultant on call if patient is likely to need early surgery or have complex orthopaedic injuries.

Perform secondary survey of limbs. Clearly inform team leader and scribe.

1. Document all wounds, grazes and degloving.
2. Evaluate each joint and long-bone for dislocation / stability / fracture.
3. Neurovascular examination of all limbs.
4. Record presence or absence of key peripheral pulses & neurological findings.
5. Identify peripheral injuries that need to be included in the CT scan
6. Splint fractures.
7. Repeat neurovascular examination after splinting.
8. Arrange appropriate x-rays.
9. Peripheral x-rays must not delay Trauma CT Scan.
10. In some cases it may be best to delay x-rays until the patient is in theatre and good quality traction x-rays can be obtained.

Discuss T&O plan / needs / priorities with team leader

Stay with the patient in resus / CT until stood down by the team leader.

Liaise with theatres, anaesthetic colleagues, bed manager and consultant for patients needing theatre and / or admission.

Assist with sending/ordering tests, liaising with specialists or performing procedures as training and ability allows eg chest drains, urinary catheter.

Document all actions and findings with a clear plan in patient notes.
It is always preferable for patients to arrive after a pre-alert with secured iv access in place and fully undressed with temperature control measures considered.

- In ED move to the left side of the trolley as approaching from the foot of the bed.

- Unless in absolute dire straits, **stop** all movements and give a concise, clear 30 second handover to the team leader / team **then** transfer patient to ED trolley. Leave scoop in place if used.

- Further detail of the history can then be passed directly to the team leader whilst assessment of the patient starts in ED.

- One EMAS member should give patient identity details to EDA to log patient onto computer **ASAP** after arrival.

- The other team member should ensure scribe has all handover details and update MIST whiteboard if relevant.

- Ensure Team Leader has all information required before leaving the department.

- Handover should follow NUH Trust preferences for SBAR taking into account the MIST content.

**EMAS**

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>Mechanism of injury</th>
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<tbody>
<tr>
<td>I</td>
<td>I</td>
<td>Injuries sustained</td>
</tr>
<tr>
<td>A</td>
<td>S</td>
<td>Symptoms and signs</td>
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<tr>
<td>R</td>
<td>T</td>
<td>Treatments started</td>
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- **S** (Situation): State your name & designation. The problem I am calling about is...
- **B** (Background): State the admission diagnosis & date. Background to current problem. Other relevant co-morbidity. Relevant treatment so far.
- **A** (Assessment): State your assessment of the patient. Include ABCDE / Obs / AVS / GCS.
- **R** (Recommendation): I think the problem is ... State what you would like to see done. Determine timescale. Is there anything else I should do?
Place cassettes under the trolley to speed up initial x-rays. It is likely chest and pelvic x-ray will be needed unless time to CT is fast.

Liaise with Team Leader or Nurse in charge if team members are not wearing lead.

Liaise with team leader if team members are obstructing your chance to x-ray to prioritise actions.

Liaise with team leader if electronic x-ray request is delaying imaging.

When ready to take x-rays countdown clearly:
“X-rays in 3-2-1 XRAY”
This will let the team take their hands out of the way but should not need them to leave the bedside.

Most trauma patients will need early CT, national guidelines are leading us to complete the CT and have the initial report within 30 mins of arrival in ED.

Clear the CT Scanner and communicate with resus when scanner is likely to be available.

CT4 is the scanner of choice, ensure team know which scanner is to be used.

Resus nurse in charge 70404
Resus 66664/5

Attend the trauma call whenever possible as your expertise will be valuable in reviewing x-rays, FAST scanning, early recognition of interventional radiology requirements and planning of paediatric imaging (CT vs US).