Trauma Reception & Resuscitation at Morriston Hospital

Standard Operating Procedure

Trauma team roles & responsibilities

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<th>Date:</th>
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<tr>
<td>Distribution:</td>
<td>Trauma leads and all members of trauma team</td>
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| Related documents: | Emergency department trauma document  
|                  | Shock trauma protocol  
|                  | ABMU massive haemorrhage policy |
| Further information: | As given |
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| Approved by:     | Current version approved by the Major trauma centre project group  
|                  | Previously approved by the Combined Trauma Committee |

Members of trauma team

ED consultant – Trauma team leader in hours
ED doctor – Survey doctor or Procedure doctor role in hrs / ED registrar trauma team leader out of hours
Procedure Nurse
Airway Nurse/Anaesthetic Assistant
Anaesthetics/ICU (2 required)
Surgery (on call team) – Survey Doctor role
T&O (on call team) – Procedure Doctor role
Orthopaedic nurse practitioner – Scribe (till 8pm)
Health care assistant – Scribe (overnight)
Radiographer
(Porters)

NOTE: cardiothoracic's, plastics/burns, maxillofacial and vascular teams are not on the trauma call, but should be asked to attend if requested by the trauma team.
Although the above roles are also defined similarly for paediatric trauma, the paediatric on call team have an important role to play in vascular access, calculating doses and contributing to the case discussion in conjunction with the trauma lead.

**Initial positioning of team on reception of patient**

- Anaesthetics/ICU
- Monitoring
- Airway trolley
- USS
- Airway Nurse/Anaesthetic Assistant
- Survey Doctor
- Procedure Nurse
- Procedure Doctor
- White board – details of case
- Trauma trolley
- Trauma team leader
- Scribe

Other side of trauma line – 2nd Anaesthetic/ICU doctor (if not immediately required), additional surgical/T&O doctors/porters/radiographers

**Introduction**

The ethos is that this team manages the initial reception, resuscitation, imaging and coordination of disposal to theatre, ITU, ward or another hospital. Each team member will have generic roles within this structure, as well as, providing individual expertise. The aim is that a consistent and predictable trauma team response is provided to each trauma, where roles and responsibilities are well defined and adhered to by each member of the team.

**Trauma team activation**

**Pre-hospital alert call** – Take and review call. Any member of the ED medical or nursing staff can activate a trauma call (based on the criteria in the shock trauma protocol). If doubt exists this should be discussed with ED consultant (in hours), ED registrar on call (out of hours) or the shift coordinator (overnight). The trauma team lead needs to be informed immediately that a trauma call has been activated.
This is in the responsibility of the shift coordinator. Security need to be informed if patient arriving by air.

**In-hospital alert call** – Can be initiated by any member of the ED medical or nursing staff at any time for a patient within the ED (based on the criteria in the shock trauma protocol).

The decision to activate the trauma team is based on the expectation that the alerted team members **will be present** to receive the patient. There is no requirement for team members to ring the ED to discuss the case prior to the patient’s arrival.

All team members are expected to alert their respective specialty teams of the incoming trauma.

**It is expected that at least one member of each specialty should remain with the patient during transfer to CT or theatre.** Any CT findings relevant to their specialty should be communicated to their respective consultant. If you intend to leave the trauma team environment this **must** be discussed and agreed by the trauma team leader.

**Trauma team leader (decision maker)**

This will be the most senior physician on any given shift. In hours this should be the ED consultant looking after resus and majors. Out of hours and overnight this should be the ED registrar on call. In the initial absence of the ED registrar the T&O or surgical registrar should assume this role, until arrival of the ED registrar. Upon receiving a trauma page the ED consultant on call should make an individual decision as to whether they will attend. If they arrive prior to the patient’s arrival they should assume trauma team lead.

The trauma team lead should have the necessary skills to lead, instruct, command and control trauma reception and resuscitation.

**Pre-arrival** –

- Allocate resuscitation bay for patient, ideally resus 1 for adult trauma and resus 5 for paediatric trauma, in conjunction with shift coordinator.
- Add alert criteria details to the trauma board and update trauma team.
- Ensure personal introductions by team members and confirm roles. Identify level of skill/competency of trauma team.
- Ensure team is wearing tabards and personal protective equipment.
- Coordinate preparation of equipment for procedures which may be required based on pre-hospital information.
- Consider early notification of other specialties (not routinely on trauma call) inc. cardiothoracic’s, burns/plastics, maxillofacial, vascular and urology as required.
- Activation of massive haemorrhage policy based in pre-hospital information. Blood products should be returned to blood bank within 30 minutes if not required to avoid wastage.
Patient reception –
- Ensure timer is started on monitor.
- Coordinate handover from pre-hospital team and transfer to resus trolley.
- Manage trauma team response utilising the shock trauma protocol and following the principles of damage control resuscitation.
- Avoid direct involvement in procedures themselves.
- Makes decisions in conjunction with team members and relevant specialties.
- Prioritise and coordinate interventions.
- Ensure imminent life threatening conditions are treated and direct rapid transfer to CT or theatre. Make decision on transfer to CT vs. theatre in conjunction with team.
- Ensure that nursing staff are appropriately used.
- Promote an environment of open communication with review of ongoing management priorities and plans, ensuring involvement of all team members.
- **Aim for CT within 20-30 minutes unless reasons prevent this.**
- **CONSIDER** – CT in lieu of primary survey x-rays in some cases, early activation of massive haemorrhage policy and use of tranexamic acid, combat application tourniquet and pelvic binder. FAST scan if this will enhance and not delay ongoing patient care. Ensure blood returned to blood bank if not used within 30 minutes. Ensure x-ray have been stood down if not required.

Patient transfer -
- Transfer patient to CT or theatre. Trauma team members may be required to remain with the patient during transfer to CT or theatre. If a team member needs to leave the trauma team environment this must be discussed and agreed by the trauma team leader. Trauma team leaders should decide which trauma team members (medical and nursing) should stay with the patient. Trauma team members should be “stood down” if not required as soon as possible.

- Antibiotics, urinary catheter, arterial lines, tetanus and pregnancy testing need early consideration but can be delayed if transfer to theatre for emergency surgery is required. Outstanding tasks and investigations should be documented in the trauma document.

**Handover** -
- The trauma team leader determines the specialty to lead ongoing inpatient care.

**Inform blood bank** -
- Where patient transferred to and likely ongoing blood product requirements.

**Communication** -
- Family/friend/carer/police in conduction with shift coordinator.

**Documentation** -
- Review and complete relevant sections on trauma document.
- Complete hot debrief form.
Leads debrief -
- For significant cases.

Shift coordinator (ED nurse in charge)

Pre-arrival –
- Communicates with individual taking pre-alert. Inform security if patient arriving by air.
- Assists in activating trauma call (according to shock trauma protocol).
- Immediately informs trauma team leader that a trauma call has been activated without delay. In hours this will be the ED consultant looking after resus and majors. Out of hours and overnight this will be the ED registrar on call.
- Out of hours may need to notify other relevant specialties and activate massive haemorrhage policy prior to the patient’s arrival, whilst trauma team leader in en route to ED.
- Informs nursing staff in resus of nature of call. Allocate resuscitation bay for patient, ideally resus 1 for adult trauma and resus 5 for paediatric trauma, in conjunction with trauma team leader.
- Add alert criteria details to the trauma board out of hours.
- Ensures that airway nurse and procedure nurse are allocated to the trauma call. Additional nursing resources (e.g. HCA) may need to be temporarily deployed to resus in order to manage trauma call or other patients. Provide ongoing support to nursing staff.
- Escalate capacity issues to bed management and hospital manager.

Patient reception –
- Liaise with Ambulance Triage Coordinator, to plan patient arrival.
- Ensure relatives, carer’s, friends and police are directed an appropriate area maintaining open lines of communication.
- Ensure patient flow is not compromised in other areas, or delegate task appropriately.
- Support the trauma team leader in speaking to relatives, breaking bad news and providing an update to the police.

Anaesthetics/ITU (maximum of 2 personnel required)

Key roles:

  Ensure airway patency, adequate oxygenation and ventilation

  Conduct intubation according to criteria in primary survey section of the trauma document, after discussion with the trauma team leader

  Ensure safe patient transfer to CT, theatre, ICU or another hospital

Pre-arrival –
- Liaise with airway nurse or anaesthetic assistant to ensure anaesthetic drugs are drawn up and airway equipment is laid out on airway template.
- Communicates roles and responsibilities during intubation in conjunction with trauma team leader.

**Patient reception –**

- **Intubated patients**
  o Take physical handover of ETT or LMA from pre-hospital team.
  o Ensure capnography confirms placement.
  o Assess effectiveness of ventilation in conjunction with assessment of breathing.
  o Attach to ventilator as soon as feasible, with confirmation of effective bilateral ventilation.

- **Non intubated patients requiring intubation**
  o Intubate when appropriate in discussion with trauma team leader.
  o Prior to intubation assess GCS and pupil responses. Doctor 2 will assess peripheral limb responses.
  o Perform coordinated RSI with nurse 2 (airway nurse) and other trauma team members, ensuring capnography confirms correct placement.
  o Assess effectiveness of ventilation in conjunction with assessment of breathing.
  o Attach to ventilator as soon as feasible, with confirmation of effective bilateral ventilation.

- **Non intubated patients**
  o Communicate airway patency to trauma team leader and scribe
  o Appropriate to patient and provide assessment of GCS and pupil size.
  o Reassure patient on arrival, explain what is happening, take AMPLE history and inform trauma team.

**Other roles & responsibilities -**

Anaesthetic/ITU personnel are also responsible for placement of lines if peripheral access proves to be difficult or in the presence of critical hypovolaemia. The preferred route for **large bore central access** in trauma is the subclavian approach. They must also be familiar with IO access using the EZ-IO drill. Arterial line placement should be avoided if it is going to delay transfer to CT or theatre. Insertion NG tubes/urinary catheters should also be avoided if they are going to delay transfer to CT or theatre.

Provision of analgesia (e.g. Fentanyl) and procedural sedation (e.g. Ketamine) as required.

Any movement of the trauma patient (intubated/non intubated) will be directed by Anaesthetics/ITU from the head end.

Contribute to case discussion with the trauma team leader. Case discussion should address activation of massive haemorrhage policy, ongoing blood product resuscitation in theatre and informing blood bank of any changes.
Once the primary survey and immediate life saving interventions have been achieved, the Anaesthetic/ITU consultant needs to be informed of the likely case progression and disposition of the patient. Ideally after transfer to CT the patient should go straight to theatre or ITU, as appropriate, unless it is anticipated that the patient will be transferred to another hospital (e.g. head injury to UHW).

Communicate any requirements to theatres, roles shared with General Surgery and T&O. Liaise with additional anaesthetist if care to be handed over for theatre etc.

Assist with sending/ordering blood tests and performing procedures as training and ability allows (e.g. finger thoracostomy and chest drain insertion).

**Post trauma call –**
- Review and complete relevant sections on trauma document.
- If you intend to leave the trauma team environment this must be discussed and agreed by the trauma team leader. Trauma team leader will stand you down as soon as possible, so that normal on-call activities are not delayed.

**Survey Doctor**

**Key roles:**

- **Assess breathing and institute critical interventions**
- **Assess circulation**

**Patient reception – roles interchangeable to an extent, ED or surgical doctor**

- **Breathing**
  - Assess RR, symmetry of chest expansion, chest wall examination and air entry to identify significant chest pathology. Report findings to trauma team leader and agree/institute appropriate interventions (e.g. finger thoracostomy and chest drain insertion).

- **Circulation**
  - Check presence or absence of radial pulse, and peripheral perfusion.
  - Conducts abdominal examination.
  - Performs FAST scan if indicated by trauma team leader and communicates findings (usually done by ED doctor).
  - IV access (shared role) as directed by trauma team leader.
  - Confirm patency of existing IV access.
  - Unless the patient has 2 patent IV access sites – gain IV access taking 20ml blood sample for FBC, U&E, LFT’s, amylase, glucose, calcium, coags, cross match, toxicology screen (if indicated), venous gas. B-HCG in all females of childbearing age. **Not expected to place central access, this is the responsibility of the anaesthetic/ICU doctor.**
  - If patient has two patent IV access sites then gain 20ml blood sample from femoral puncture.
Ensure samples are correctly labelled and sent. Inform trauma team leader when this has been done.

Other roles & responsibilities -

Surgical registrar should have discussion with trauma team leader to determine need for immediate surgical intervention in theatre.

Contribute to case discussion with the trauma team leader. Consider need for Vascular or Plastic Surgery if dependant on injury pattern.

Once the primary survey and immediate life saving interventions have been achieved, the surgical registrar must inform the surgical consultant of the likely progression of the case if the patient has a sustained SBP <90mmHg, complex multisystem injury or is likely to need early surgery. This may require the attendance of the consultant to resus or theatre.

Stay with the patient in resus/CT until stood down by the trauma team leader. Liaise with theatres, anaesthetics and consultant for patients needing theatre.

Post trauma call –
- Review and complete relevant sections on trauma document.
- If you intend to leave the trauma team environment this must be discussed and agreed by the trauma team leader. Trauma team leader will stand you down as soon as possible, so that normal on-call activities are not delayed.

Procedure Doctor

Key roles:

- **Catastrophic haemorrhage control**
- **Cervical spine & pelvic stabilisation**
- **Venous access**
- **Performs secondary survey (T&O)**

Patient reception – role interchangeable to an extent, can be ED or T&O doctor

- Direct pressure to control external haemorrhage and use of tourniquets if required
- Ensure c-spine collar correctly sized and placed.
- Ensure pelvic binder correctly sized and placed (according to pelvic trauma guidance), ensuring that legs internally rotated and bolster applied.
- Splint any long bone fractures and ensure adequate vascular supply to limbs. May need to liaise with Vascular or Plastics surgery.
- Perform gross neurological examination prior to intubation.
- **Circulation**
  o IV access (shared role) as directed by trauma team leader.
  o Confirm patency of existing IV access.
  o Unless the patient has 2 patent IV access sites – gain IV access taking 20ml blood sample for FBC, U&E, LFT’s, amylase, glucose, coags, cross match, toxicology screen (if indicated), venous gas. B-HCG in all females of childbearing age. **Not expected to place central access, this is the responsibility of the anaesthetic/ICU doctor.**
  o If patient has two patent IV access sites then gain 20ml blood sample from femoral puncture.
  o Ensure samples are correctly labelled and sent. Inform trauma team leader when this has been done.

- T&O registrar should have discussion with trauma team leader to determine need for immediate surgical intervention in theatre (e.g. for external pelvic fixation).
- T&O registrar should contribute to case discussion with the trauma team leader, especially around prioritisation of injuries and ordering of additional departmental films, which can delay progress of patients to CT or theatre.
- Once the primary survey and immediate life saving interventions have been achieved, the T&O registrar must inform the T&O consultant of the likely progression of the case as appropriate. This may require the attendance of the consultant to resus or theatre.
- Carry out secondary survey when deemed appropriate by the trauma team leader.
- Stay with the patient in resus/CT until stood down by the trauma team leader. Liaise with theatres, anaesthetics and consultant for patients needing theatre.

**Post trauma call –**
- Review and complete relevant sections on trauma document.

- If you intend to leave the trauma team environment this must be discussed and agreed by the trauma team leader. Trauma team leader will stand you down as soon as possible, so that normal on-call activities are not delayed.

**Procedure nurse**

**Pre-arrival –**
- Responsible for supporting trauma team leader
- Activates massive haemorrhage policy (after discussion with trauma team leader) and radio’s porters to collect O- blood.
- Prime transfusion and warming device. Connect blood if already ordered.
- Ensure availability of equipment for gaining IV access and bloods, inc. large bore trauma line (but don’t open unless needed).
- Set up chest drain sets as required. Ensure scoop stretcher, pelvic binder and plaster/splint trolley available.
- Liaise with shift coordinator to determine if additional nursing resources required.
**Patient reception –**
- Ensure clock started when patient arrives in resus.
- Assist in transfer of patient and position yourself to the left side of patient.
- Assists with use of scoop stretcher.
- Remove clothing and apply monitoring, stating OBS as soon as available.
- Place clothing in hospital bags.
- Check temperature and cover with Bair hugger/blankets.
- Assist with IV access inc. large bore trauma lines, set up EX-I0 kit if required.
- Attach and commence warmed blood or IV fluids. Blood products via transfusion and warming device only. Check blood with nurse 2. Keep running log of blood products given. Administer tranexamic acid.
- Assist with practical procedures (e.g. chest drains, splinting), may require additional nurse or HCA.
- Prepare for transfer CT (ideally patient should go to CT within 20-30mins).
- Radio porters and transfer monitoring to bed. Attends CT and/or theatre with patient.
- Informs trauma team leader if requested to conduct additional tasks. Trauma team will then decide appropriate resourcing.
- Liaise with shift coordinator with an update on case progression.

**Post trauma call –**
- Review and complete relevant sections on trauma document.

- **Remain with the patient until appropriate disposition is achieved.** If you intend to leave the trauma team environment this must be discussed and agreed by the trauma team leader.

**Airway nurse/Aneasthetic assistant**

**Pre-arrival –**
- Responsible for supporting Anaesthetics/ICU.
- Assists in preparing anaesthetic drugs using trauma drug packs and critical care drug list (on door of anaesthetic cupboard). Always cross check drugs with 2nd person.
- Lay airway equipment on airway template inc. ETCO2 connected to BVM. Have difficult/failed intubation trolley near bedside. Check suction working. Set up ventilator.
- Assist nurse 2 in any outstanding tasks especially if intubation not required.

**Patient reception –**
- Assist in transfer of patient and position yourself to the right side of patient.
- Act as the patients advocate and provide psychological support.
- Assist with assessment and management of airway with Anaesthetics/ITU, inc. passing equipment as necessary.
- Prepare additional drugs (e.g. analgesia, sedation), as required.
- Prepare arterial line equipment, although arterial lines should be avoided in major trauma as they delay transfer to CT/theatre and detracts from resuscitation efforts.
- Assist with practical procedures (e.g. chest drains, splinting), especially if intubation not required.
- Informs trauma team leader if requested to conduct additional tasks. Trauma team will then decide appropriate resourcing.

**Post trauma call** –
- Review and complete relevant sections on trauma document.

  - **Remain with the patient until appropriate disposition is achieved.** If you intend to leave the trauma team environment this must be discussed and agreed by the trauma team leader.

**Orthopaedic nurse practitioner (till 8pm only)**

**Pre-arrival** –
- Ensure trauma document is available and trauma trolley used as scribe surface.
- Ensure names and time of arrival of all trauma team members is documented on front page. Ensure tabards are available.
- Complete blood forms (FBC, U&E, LFT’s, amylase, glucose, coags, cross match, toxicology screen (if indicated), B-HCG in all females of childbearing age. X-ray forms if required. Stickers can then be applied on arrival of patient.

**Patient reception** –
- Ensure clock has been started when patient arrives in resus.
- Responsible for documentation of the following (requires familiarity with trauma document following separate instruction sheet):
  - Pre-hospital handover.
  - Primary survey by clinical information being collected by trauma team.
  - Initial OBS and then every 5 minutes in unstable patient and every 15 minutes otherwise. Inform trauma team leader if key OBS have not been taken (e.g. temp or GCS).
  - This role continues to CT and/or theatre.
  - Keep a log of drugs administered (back page of trauma document).

  - **Inform trauma leader every 10 minutes that pass. The aim is to be in CT within 20 minutes. When appropriate ask and document reasons for any delays.**
  - For audit purposes ensure time of transfer to CT etc. is documented on front of trauma document.
  - Assist nurse 1 with plastering and splinting of limbs as required.

**Post trauma call** –
- Review and ensure relevant sections on trauma document.

  - **Remain with the patient until appropriate disposition is achieved.** If you intend to leave the trauma team environment this must be discussed and agreed by the trauma team leader.
Health Care Assistant (HCA)

- Supports nurses in preparation for trauma call.
- Brings ED card and stickers to scribe.
- Runner to stores of additional equipment required. However equipment should ideally be available before patient arrives.
- After 8pm may act as scribe, therefore requires familiarity with trauma document.
- Conveys family to relative’s room and liaises with shift coordinator.
- Conducts ECG/catheterisation as required (but avoid if will delay transfer).
- Assists with restocking bay after trauma call.

Radiographers

- If receive trauma call, contact resus (directly or by phone) requesting ETA and need for x-rays.
- Only be on standby in ED once patient has arrived to ensure ED x-ray continues to function.
- If not required, it is the trauma team leader’s responsibility to ensure radiographers are stood down.

Porters (not on trauma call, contactable by radio)

- Respond to radio call promptly.
- Collect O-blood as indicated and deliver blood samples to lab as required.
- Collect any additional equipment.
- Carry out interdepartmental transfers (2 porters required). Rapidly change oxygen cylinder on trolley as required and collect suction unit from resus store.

ED Administration staff

- Make contact with shift coordinator or nurses in resus to determine ETA of patient, when their trauma bleep is activated.
- When patient arrives, take patient details from pre-hospital team as soon as possible.
- Print ED card and 3 sets of patient identifiable labels. Bring them back to the patient and leave with the scribe.
- ALL trauma patients should be booked in as “TRAUMA” as the presenting complaint for audit purposes