Trauma Teams
Standard Operating Procedure

V11.2

November 2018

Summary

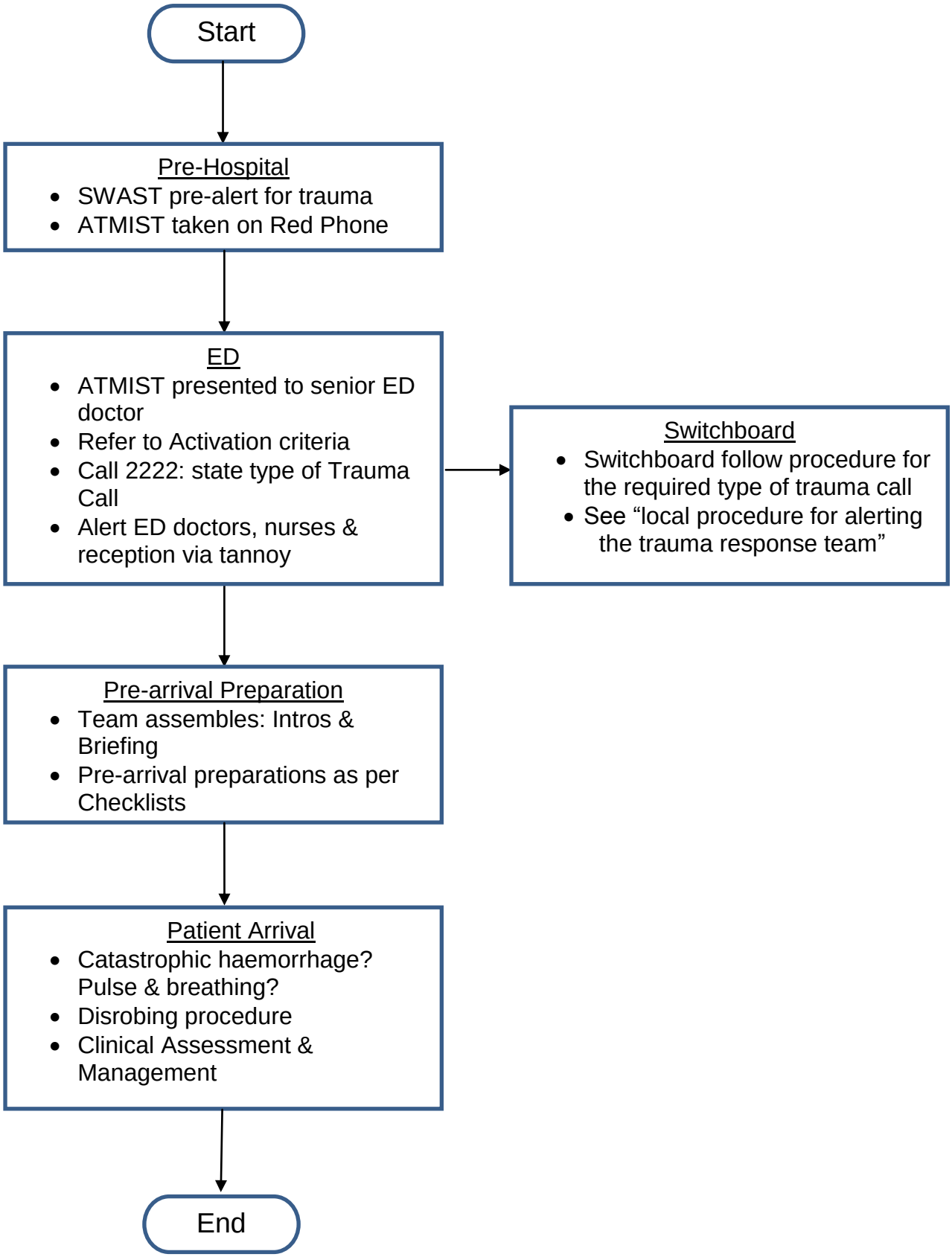
Start
Pre-Hospital
SWAST pre-alert for trauma
ATMIST taken on Red Phone
ED
ATMIST presented to senior ED doctor
Refer to Activation criteria
Call 2222: state type of Trauma Call
Alert ED doctors, nurses & reception via tannoy
Switchboard
Switchboard follow procedure for the required type of trauma call
See "local procedure for alerting the trauma response team"
Pre-arrival Preparation
Team assembles: Intros & Briefing
Pre-arrival preparations as per Checklists
Patient Arrival
Catastrophic haemorrhage? Pulse & breathing?
Disrobing procedure
Clinical Assessment & Management
End

Table of Contents

Introduction

1.1. This standard operating procedure covers the activation of Major Trauma Teams.

1.2. This version supersedes any previous versions of this document.

2. Purpose of this Standard Operating Procedure

2.1. To ensure that the Major Trauma Patient is met in the ED resus room by senior clinicians able to rapidly decide on and institute appropriate emergency care and effect emergency transfers to tertiary care providers when required.
2.2. To ensure appropriate senior backup and resource provision for those attending Hospital Trauma Team calls.
2.3. To ensure that the Major Trauma Patient is dealt with expeditiously and admitted to a care environment appropriate to the level of care required.
2.4. To ensure that those involved in the ongoing care of the Major Trauma Patient are made aware of them from the point of admission.

3. Scope

Applies to the Emergency Department at Royal Cornwall Hospital.

4. Definitions / Glossary

In this document “Trauma” refers to “Major Trauma”, not to general orthopaedic trauma.

5. Ownership and Responsibilities

This Standard Operating Procedure should be used by ED staff activating the Trauma Team, all staff participating in the Trauma Team, Switchboard staff responding to a Trauma Team activation and the Major Trauma Governance Staff monitoring compliance.

6. Standards and Practice

6.1. Procedure for Trauma Team Activation

6.1.1 How is major trauma identified?

All patients meeting the SWAST pre-alert criteria (Appendix 3) should have a call to the ED red phone.

This pre-alert should follow the ATMIST standard structure (Appendix 4). If information is not complete in all boxes of ATMIST, ED staff should request the missing information.

6.1.2. In the event of multiple casualties

The SWAST incident commander should ensure that information about the number of casualties and likely injuries is telephoned to the ED red phone. This may be in the form of a METHANE report (Appendix 5) even if Major Incident is not for Standby or Declared.

Each crew leaving the scene should telephone an ATMIST pre-alert to the ED red phone.

6.1.3. What response to a trauma pre-alert?

Appendix 6 shows the Hospital Full Trauma Team Activation Criteria. These are used when a telephone pre-alert is received regarding a trauma incident. The full ATMIST information is taken by the ED staff to allow accurate recognition of when a call is and is not appropriate.

The Hospital Trauma Team is activated by a single 2222 call to switchboard stating “Hospital Trauma Team to ED Resus”.
The Paediatric Trauma Team is activated by a single 2222 call to switchboard stating “Paediatric Trauma Team to ED Resus”.
The Code Red Trauma Team is activated by a single 2222 call to switchboard stating “Code Red Trauma Team to ED Resus”.

If a patient has a significant mechanism of injury without anatomical or physiological criteria then an ED Trauma Team should be activated (Appendix 7). Again, the ED staff should inform switchboard 2222 “ED Trauma Team to Resus”: This enables logging of the call and informs the Scribe to attend.

In the event of a patient arriving in ED for whom a Hospital Trauma Team call is appropriate but has not yet been activated, the ED staff must activate the call as per the Criteria in Appendix 6.

In the event of a patient in ED not initially meeting Hospital Trauma Team Activation Criteria deteriorating to a point where they do meet the Criteria, the patient MUST be moved to ED Resus, the ED Consultant MUST be informed and a decision made whether or not to activate the Hospital Trauma Team belatedly. The risk of not activating the Team is that the patient receives inadequate seniority of care and decisions are inappropriately delayed.

The use of the Activation Criteria will be audited annually or more frequently as required. The audit results will be presented to the Major Trauma Review Group.

6.1.4. Code Red Trauma Team

The Code Red (Appendix 7) call is a response to the patient with potential massive haemorrhage. The activation is a single 2222 call to switchboard stating “Code Red Trauma Team to ED Resus”.

Activation Criteria:

- Request by pre-hospital physician
- Evidence of shock: consider shock index >0.9
- ED Clinician’s discretion: consider severe mechanism

6.2 Trauma Call Membership

During ED Consultant Hours (Monday-Friday: 08:00-20:30, Saturday-Sunday: 08:00-17:00)
Core Hospital Trauma Team Membership ED Consultant (Shopfloor 1 consultant) 2x ED Nursing staff ED Middle grade and / or Junior doctor Orthopaedic Middle grade on-call Surgical Middle grade on-call ICU Middle grade on-call Radiographer
Additional Membership when available ICU outreach specialist nurse / ODP (Airway Assistant) Medical student Scribe (when available) Alternative Scribe (any other member of medical or nursing staff) Orthopaedic Junior doctor Surgical Junior doctor Transfusion practitioner
Paediatric Trauma Team Membership Same as Hospital Trauma Team PLUS Paediatric Emergency Response (PERT) Team
ED Trauma Team Membership ED Consultant (Shopfloor 1 consultant) and / or ED Middle-grade 2x ED Nursing staff ED Junior doctor allocated to Resus (Radiographer at the discretion of the Team Leader)
Speciality Support Radiology consultant available in reporting room ext 5182, or via CT ext 5196. Maxillo-facial surgery, ENT and Obstetric middle-grade doctors are available during working hours via switchboard. Consultants for these specialties also available via switchboard. Vascular Surgery middle-grade and consultant available via switchboard. Interventional Radiology available via general radiologist. Pelvic Surgery consultant available via on-call orthopaedic team.

Code Red Trauma Team Membership

As for Hospital Trauma Team PLUS:
Consultant general surgeon
Consultant vascular surgeon
Consultant orthopaedic surgeon
Consultant interventional radiologist
These consultants will be called by switchboard and may choose to telephone in or attend directly depending on circumstances.

Additional Support

Some expert major trauma specialists have offered to provide additional support when able and will also receive a PrimeText message to their designated mobile phone.

Outside ED Consultant Hours
Core Hospital Trauma Team Membership There is no change to the core membership of the Hospital Trauma Team at night. The initial Team Leader is the ED Middle grade until arrival of the ED Consultant. The ED Consultant is on-call from home (netpaged and available within 30mins). All other team members are on site within the hospital.
ED Trauma Team Membership ED Middle grade. 2x ED Nursing staff ED Junior doctor allocated to Resus (ED Consultant available on call from home at discretion of ED Middle grade) (Radiographer at discretion of the Team Leader)
Senior Support at night ICU, Orthopaedic and Surgical Consultants are on-call from home. Contact via switchboard.
Speciality Support at night Radiology Middle grade available on site via switchboard. Radiology Consultant available on-call from home. Default is that all Trauma CT reports given by Middle grade at night will be checked on Consultant arrival the following morning. Maxillo-facial, ENT and Obstetric Middle grades are on-call from home. Vascular Surgery Consultant available on shared rota with Derriford: contact via switchboard. Interventional Radiology available on 3 in 4 nights via Radiology Middle-grade. Pelvic Surgery Consultant available via on-call Orthopaedic Consultant.
Code Red Trauma Team Membership There is no change to the core membership of the Code Red trauma Team during the night.

Seniority of Specialty Middle Grades on the Trauma Team

It is imperative that patients with multi-system trauma are met in the ED resus room by senior clinicians able to rapidly decide on and institute appropriate emergency care and effect emergency transfers to tertiary care providers when required.

Although the Team Leader will be the ED Consultant, the importance of having senior general surgical and orthopaedic clinicians at the bedside to support the decision-making, particularly in the haemodynamically compromised patient, cannot be underestimated.
To this end, all anaesthetic, general surgery and trauma & orthopaedics middle-grades who are on rota to attend as members of the Trauma Team need to satisfy their specialty trauma leads that they have the required skills and experience to do so without direct supervision. Where a specialty middle grade is deemed too junior or unskilled in trauma care, they are instructed to call their Consultant for ALL trauma calls until they are confirmed competent to attend without direct or indirect supervision.

The specialty leads will provide a list of middle grades to the Major Trauma Review Group, updated throughout the year to show the seniority and ATLS status of each member and whether or not they are judged competent to attend alone.

The Team Leader has explicit authority to call, or require the specialty middle grade to call, anaesthetic, orthopaedic and general surgical Consultants as required for cases needing their specialist knowledge, experience and skills.

6.3 Switchboard Procedure for Hospital Trauma Team Call

[This is taken from "LOCAL PROCEDURE FOR ALERTING THE TRAUMA RESPONSE TEAM" and is included here for completeness. Please see the most up to date version of that policy.]

Requests for Trauma Team response should come via the Emergency 2222 phone in switchboard. Answer the 2222 phone "2222 Emergency". All trauma calls should originate from ED.

Note the time and the ED call maker. Repeat the message back to the caller so they can confirm then hang up.

Initiate the correct response which will also involve using Primetext SMS notification:
http://www.primetext.co.uk/
Organisation: rchtsw
Username: 01872250000
Password: sw1tch.
Select new message, then the correct messaging group in the "To" section. Type in the message in the "text" section and then send.

Actions for the Trauma Response Request:

6.3.1. ED Trauma Call

- Primetext the "ED Trauma Call" Group

6.3.2. ED Trauma Call and Anaesthetist

- Fast Bleep the Senior Anaesthetic Trainee (SAT)
- Primetext "ED Trauma & Anaes" Group

6.3.3. Hospital Trauma Call

- Bleep the Hospital Trauma Group
  To do this use the Multitone Bleep Console and press **RED 37# RED**. The Multitone Bleep Box will make a series of beeps. After the last longer beep, hold down the yellow button and say clearly into the microphone "Hospital Trauma call to ED, clinical details and mechanism of injury if given and then ETA or now" then repeat. Release the yellow button and press ** to end.
- Call the ED Consultant (if out of hours)
- Primetext the "Hospital Trauma" Group

6.3.4. Code RED Trauma Call

- Bleep the Hospital Trauma Group
  To do this use the Multitone Bleep Console and press **RED 37# RED**. The Multitone Bleep Box will make a series of beeps. After the last longer beep, hold down the yellow button and say clearly into the microphone "Code RED Trauma call to ED, clinical details and mechanism of injury if given and then ETA or now", then repeat again. Release the yellow button and press ** to end.
- Primetext the "Code RED Trauma" Group
- Call the On Call Consultants for ED, Vascular Surgery, Critical Care, Anaesthetics, Orthopaedics and General Surgery

6.3.5. Paediatric Trauma Call

- Bleep the Hospital Trauma Group
  To do this use the Multitone Bleep Console and press **RED 37# RED**. The Multitone Bleep Box will make a series of beeps. After the last longer beep, hold down the yellow button and say clearly into the microphone "Paediatric Trauma, call to ED, clinical details and mechanism of injury if given and then ETA or now", then repeat again. Release the yellow button and press ** to end.
- Bleep the Paediatric Bleep Group
  To do this use the Multitone Bleep Console and press **RED 36# RED**. The Multitone Bleep Box will make a series of beeps. After the last longer beep, hold down the yellow button and say clearly into the microphone "Paediatric Trauma, call to ED, clinical details and mechanism of injury if given and then ETA or now", then repeat again. Release the yellow button and press ** to end
- Primetext the "Paediatric Trauma" Group

Record the details of the call on the spreadsheet "Cardiac, Paeds, Trauma, 2222 log" in the shared drive, under the "Trauma" tab. Also record the details of this call in the 2222 Records Book, located on the shelf above Console 2002.

If you receive a follow up call advising that the Team have not responded, broadcast the message again and then record the details again.

The Hospital Trauma Bleep Call Group is to be tested weekly, on a Tuesday, to ensure that the bleeps are working and that the relevant personnel are carrying them. There is no requirement to test the Primetext SMS function or carrying out any other part of the procedure as part of the weekly test.

6.4 Trauma Team Roles and Responsibilities (adapted from Nottingham University Hospital)

6.4.1. Trauma Team Leader (ED Consultant)

- 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 aprons
- Ensures allocated roles are clear and personal introductions are made

6.4.2. Consider

- Pre-arrival & on arrival checklists
- Early calls to notify CT, interventional radiology, specialist Consultants on call (e.g. general surgeon if SBP<90), extra specialties (e.g MaxFax/ENT/ Paediatrics)
- Massive transfusion & Tranexamic acid protocol
- Aim for plain films within 15 minutes where airway compromise is not a limiting factor.
- Aim to leave resus for CT within 30 minutes.

- Antibiotics, urinary catheter, arterial lines, tetanus all need early consideration but can be delayed to theatre if emergency surgery required. Resuscitation is a continuum not dependent on geographical location.
- Trauma Team accompany patient to CT taking blood products and airway kit. Ensure resuscitation can continue in CT.
- It may be relevant for Trauma Team members to escort the patient to theatres. Request porters or send someone ahead to hold the lift.
- **Handover** to anaesthetist so clear on drugs given, blood products and fluids transfused, key allergies, PMHx 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 major trauma proforma for completeness.

6.5 Switchboard Procedure for Hospital Trauma Team Call

Attendance in the ED Resus room immediately after receiving the Hospital Trauma Team Call is mandatory for key personnel.

It is to be remembered that Team members are chosen for their ability to make decisions about emergency care, not just to provide a pair of hands. When it is likely that a member of the Team will be unable to attend ED resus immediately, for example if they are going to theatre, a deputy should be nominated in advance. For a Registrar in anaesthesia, surgery or orthopaedics, the deputy should be someone of Registrar equivalent or greater seniority. Filling a Registrar's role with a more junior doctor means that they are unlikely to have the required decision-making ability and therefore this role is essentially unfilled.

The Trauma Team Leader should ensure that specialists are stood down when it is clear that their services are no longer required – usually after the primary survey in the less injured patient.

Attendance at Hospital Trauma Team calls is audited annually or more frequently as required. The results of the audit are presented to the Major Trauma Review Group.

7. Dissemination and Implementation

7.1. The Standard Operating Procedure will be made available on the document library. It has already been in place for some years.

8. Monitoring Compliance and Effectiveness

Element to be monitored	1 Attendance at trauma calls 2 Appropriateness of level of response activated
Lead	ED Major Trauma Lead Consultant
Tool	Audit
Frequency	Annual
Reporting arrangements	Via Major Trauma Review Group
Acting on recommendations and Lead(s)	Via Major Trauma Review Group
Change in practice and lessons to be shared	Via Major Trauma Review Group

9. Updating and Review

9.1 This Standard Operating Procedure will be updated, as a minimum, every three years.

10. Equality and Diversity

10.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Diversity & Human Rights Policy' or the Equality and Diversity website.

10.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Document Title	Trauma Teams Standard Operating Procedure V11.2			
Date Issued/Approved:	19 July 2018			
Date Valid From:	November 2018			
Date Valid To:	November 2021			
Directorate / Department responsible (author/owner):	Mark Jadav			
Contact details:	01872 252452			
Brief summary of contents	Major Trauma Team Activation and Performance			
Suggested Keywords:	Major Trauma, Trauma Team, Code Red			
Target Audience	RCHT	CPFT	KCCG	
	✓			
Executive Director responsible for Policy:	Medical Director			
Date revised:				
This document replaces (exact title of previous version):	New Document			
Approval route (names of committees)/consultation:	ED Governance Meeting, Major Trauma Review Group			
Divisional Manager confirming approval processes	Debra Shields			
Name and Post Title of additional signatories	None Required			
Name and Signature of Divisional/Directorate Governance Lead confirming approval by specialty and divisional management meetings	{Original Copy Signed}			
	Name: Owen McCormack			
Signature of Executive Director giving approval	{Original Copy Signed}			
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet & Intranet	✓	Intranet Only	
Document Library Folder/Sub Folder	Major Trauma			

Links to key external standards	National Major Trauma Standards, NICE NG39, NICE NG40
Related Documents:	LOCAL PROCEDURE FOR ALERTING THE TRAUMA RESPONSE TEAM
Training Need Identified?	No

Version Control Table

Date	Version No	Summary of Changes	Changes Made by *(Name and Job Title)*
01/03/2013	**V6**	**Added "Check O2 cylinder full" to nurse 2 checklist**	**Mark Jadav**
29/10/13	**V7**	**Added "Ultrasound machine on" to Team Leader checklist. Added massive haemorrhage protocol to doctor2 sampling. Added to nurse 1 preparations.**	**Mark Jadav**
15/12/13	**V8**	**Changed "warm fluid" to "hotline" in team leader list.** **Moved FAST to doctor 1.** **Moved "order xrays / CT" to pre-arrival**	**Mark Jadav**
23/02/15	**V9**	**Amalgamated the SOP for receipt of trauma patient.** **Redefined policy to cover all trauma teams (ie. ED team and Hospital team)**	**Mark Jadav**
19/09/17	**V10**	**Added Code Red Team, Updated TTL checklist, Added Scribe checklist.**	**Mark Jadav**
23/01/18	**V11**	**Added Disrobing procedure & included initial questions on TTL card**	**Mark Jadav**
24/05/18	**V11.1**	**Changed all 4444 numbers to 2222. All trauma teams called via switch. Clarified memberships. Updated ATMIST (still needs further update when next ATMIST produced)**	**Mark Jadav**
13/09/18	**V11.2**	**Added summary flowchart**	**Mark Jadav**

Appendix 2. Initial Equality Impact Assessment Form

<table>
<tr><td colspan="6">Name of the strategy / policy /proposal / service function to be assessed:
Trauma Teams Standard Operating Procedure V11.2</td></tr>
<tr><td colspan="3">Directorate and service area:
ED</td><td colspan="3">Is this a new or existing Policy?
Existing</td></tr>
<tr><td colspan="3">Name of individual completing assessment:
Mark Jadav</td><td colspan="3">Telephone:
01872252452</td></tr>
<tr><td>1. Policy Aim*

Who is the strategy / policy / proposal / service function aimed at?</td><td colspan="5">• To ensure that the Major Trauma Patient is met in the ED resus room by senior clinicians able to rapidly decide on and institute appropriate emergency care and effect emergency transfers to tertiary care providers when required.
• To ensure appropriate senior backup and resource provision for those attending Hospital Trauma Team calls.
• To ensure that the Major Trauma Patient is dealt with expeditiously and admitted to a care environment appropriate to the level of care required.
• To ensure that those involved in the ongoing care of the Major Trauma Patient are made aware of them from the point of admission.</td></tr>
<tr><td>2. Policy Objectives*</td><td colspan="5"></td></tr>
<tr><td>3. Policy – intended Outcomes*</td><td colspan="5">Correct major trauma response given for the individual patient
Full attendance at major trauma teams</td></tr>
<tr><td>4. *How will you measure the outcome?</td><td colspan="5">Annual audit</td></tr>
<tr><td>5. Who is intended to benefit from the policy?</td><td colspan="5">Major trauma patients</td></tr>
<tr><td rowspan="3">6a Who did you consult with

b). Please identify the groups who have been consulted about this procedure.</td><td>Workforce</td><td>Patients</td><td>Local groups</td><td>External organisations</td><td>Other</td></tr>
<tr><td>Y</td><td></td><td></td><td>Y</td><td></td></tr>
<tr><td colspan="5">ED Staff
Major Trauma Review Group
Peninsula Major Trauma Network</td></tr>
<tr><td>What was the outcome of the consultation?</td><td colspan="5">This policy version</td></tr>
</table>

7. The Impact
Please complete the following table. **If you are unsure/don't know if there is a negative impact you need to repeat the consultation step**.

Are there concerns that the policy **could** have differential impact on:

Equality Strands:	Yes	No	Unsure	Rationale for Assessment / Existing Evidence
Age		**N**		It is well recognised that the elderly major trauma patient receives a lower response to their injury. This has been the focus of national and regional scrutiny. Our trauma team activation policy specifically states a lower threshold for activating a hospital trauma team for the elderly patient in order to attempt to reduce this.
Sex (male, female, trans-gender / gender reassignment)		**N**		
Race / Ethnic communities /groups		**N**		
Disability - Learning disability, physical impairment, sensory impairment, mental health conditions and some long term health conditions.		**N**		
Religion / other beliefs		**N**		
Marriage and Civil partnership		**N**		
Pregnancy and maternity		**N**		
Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian		**N**		

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:

- You have ticked "Yes" in any column above and
- No consultation or evidence of there being consultation- this excludes any *policies* which have been identified as not requiring consultation**. or**
- Major this relates to service redesign or development

8. Please indicate if a full equality analysis is recommended.			**No**	

9. If you are **not** recommending a Full Impact assessment please explain why.

The policy does not discriminate between the equality strands.

Signature of policy developer / lead manager / director	Date of completion and submission
Mark Jadav	19 July 2018

Names and signatures of members carrying out the Screening Assessment	1. Mark Jadav 2. Human Rights, Equality & Inclusion Lead	

Keep one copy and send a copy to the Human Rights, Equality and Inclusion Lead

c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Knowledge Spa, Truro, Cornwall, TR1 3HD

This EIA will not be uploaded to the Trust website without the signature of the Human Rights, Equality & Inclusion Lead.
A summary of the results will be published on the Trust's web site.

Signed __ Mark Jadav _____
Date ____19 July 2018_____

SWAST Emergency Department pre-alert criteria

TRAUMA

Mechanism of injury:

Fall from height (over 3 metres)

Pedestrian or cyclist vs motor vehicle

MVC with:

- high speed (over 40mph)
- ejection
- death to another occupant
- rollover
- extensive intrusion
- extrication time >20 minutes

Separation of rider from motorbike

Any penetrating injury

Major Crush injury

Burns >20% or potential airway burn

OR

Anatomical / physiological problems:

Airway problem

Obvious thoracic injury
eg Pneumothorax / flail chest

Respiratory distress

Shock

GCS less than 14

Actual spinal cord injury

>1 long bone fracture

TRAUMA

Emergency Department - RCH

Pre-Hospital Alert

A: **Patient details**

First name:_____ Surname:_____ D.O.B:____/____/____ Age:_____

If DOB unknown ask reception to generate unknown PAS record to arrange imaging

T:

Time of incident:	Date and time of call: ____/____/____ ____:____ hrs	Ambulance crew call sign or ambulance control:

M: **Incident details**

Mechanism of injury/medical complaint:
If high energy transfer involved, include details of weight, speed and distance:

I:

Injuries sustained/exam findings:

S: **Vital signs**

RESP:	Sats %: on	Temp:
HR:	BP: /	BM:
GCS: /15	E: /4	V: /5 M: /6

T:

Treatment given:

ETA:	Route: Land / ED Helipad / Main Helipad

Team notified - Circle decision in ALL patients

Standard ED care	ED Trauma Team	ED Trauma Team + anaesthetist **bleep 3513**	Hospital Trauma Team **Call 2222**	Code Red Trauma **Call 2222**	Paediatric Trauma (PERT + Trauma) **Call 2222**

Name of HCP taking call:_____ Signature:_____

Name of senior doctor informed:_____ Signature:_____

One+all | we care

CHA3446 V5 Printed 10/2017

To go with patient to RESUS and be passed to reception with notes. Reception to file with ED CAS card.

Appendix 4

METHANE report

M My call-sign, or name and appointment

Major incident STANDBY or DECLARED

E Exact location

- grid reference, or GPS where available

T Type of incident

H Hazards, present and potential

A Access to scene, and egress route

- helicopter landing site location

N Number and severity of casualties

E Emergency services, present and required

Appendix 5

Activation – Full Trauma Team

Call 2222

Any Significant Mechanism of Injury e.g.

Penetrating Trauma

Gunshot/blast injury

Proximal Stab injury

Blunt Trauma

Fall >5m

Ejection from vehicle

Motorbike/Pedestrian vs car

Fatality within same compartment

Entrapment / crush injury

AND

Anatomical / Physiological

2+ body regions injured

2+ long bones clinically fractured

Spinal Cord injury with neurological deficit

Amputation of limb (proximal to hand / foot)

Proximal (truncal) penetrating injury

Burns >15% BSA adult /10% BSA child / Airway burn

Airway obstruction

BP<90 / PR>120

RR<10/ >30 / Sats<90%

GCS<14 / seizure

Age>70

Pregnant 24/40 with torso injury

…or at the discretion of the senior ED clinician

App 6

Activation – ED Trauma Team

Tannoy – "ED Trauma Team to Resus"

Any Significant Mechanism of Injury WITHOUT Anatomical or Physiological Abnormality	Response	
	ED Consultant or MG ED SHO 2 ED nurses	Consider: Radiographer

Activation – CODE RED Team

CALL 4444

Meets FULL TRAUMA TEAM criteria PLUS REQUEST by Pre-hospital Physician Evidence of Shock : SHOCK INDEX >0.9 DISCRETION of ED Cons: severe mechanism	Response
	FULL TRAUMA TEAM PLUS Consultant general surgeon Consultant vascular surgeon Consultant orthopaedic surgeon Consultant interventional radiologist

Appendix 7

Appendix 8.

RCHT Disrobing Standard Operating Procedure

Pre-arrival

Hand out trauma cards
Consider need for RSI and assemble relevant equipment
Book and alert CT
Place trauma mattress on ED trolley with sheet over top

Arrival of patient

TTL to check:

- Patent airway?
- Massive haemorrhage?
- Cardiac arrest?

1. Transfer scoop to trolley
2. Handover
3. Cut clothes (trousers along seams, top cut from pubic symphysis to neck and sleeve seams)
4. Remove head blocks and apply MILS
5. Split scoop
6. Log roll to ~15○
7. Replace scoop above clothing on each side
8. Lift patient into air and remove all clothes/debris
9. Place pelvic splint on bed if indicated
10. Lower patient onto bed and remove scoops by bracing patient
11. Reapply head blocks

NB if patient arrives on device other than scoop then patient will need to be transferred to a scoop first.

Placement of monitoring equipment

All monitoring lines (ECG leads, BP, etc) to be place on right side of patient.
Ventilator and tubing to left side of patient.

Appendix 9. Trauma Team Leader Checklist

Pre-Arrival Checklist

1. Activation Criteria met : Trauma Team Activated – 2222
2. Is this CODE RED? Shock Index HR/SBP>0.9? Collect Blood Box.
3. Reception proactively gain info to book patient / as unknown
4. Pre-request CXR / Pelvis/Trauma CT if able
5. Alert CT radiologist as soon as criteria confirmed
6. Trauma mattress on trolley
7. Airway interventions prepared
8. Hotline primed with 0.9% Saline & blood giving set
9. Level 1 infuser primed if Code Red
10. X-ray cassette for CXR in place under trolley
11. Scoop stretcher ready
12. Pelvic binder ready to place
13. Paediatric calculations done on the board
14. Ultrasound machine ready to FAST scan
15. Introductions done and team roles assigned / clarified
16. Protective equipment worn by all key personnel
17. Lead aprons worn by core team
18. Team members 'booked in' on documentation
19. Transfer Bridge accessible

On Arrival Checklist

1. Start the clock
2. Ask "Is there catastrophic haemorrhage?" = Apply pressure
3. Ask "Does the patient have a pulse? Are they breathing?"
4. If airway compromised - intervene, otherwise:
5. ATMIST Handover
6. Transfer patient onto trolley
7. KIT OFF procedure
8. Monitoring, Primary survey, IV access, CXR / Pelvis: simultaneous
9. Orthopaedic / general surgeons to assess when appropriate
10. Transfusion sample Llama-labelled and taken by hand to lab.
11. Tranexamic Acid indicated? Bolus AND Infusion.
12. Massive transfusion – IF NOT: STAND MTP DOWN ext 2500/ blp 3220
13. Request CT as soon as criteria confirmed: Aim to leave for CT <30 min
14. Summarise position for your Team
15. Ensure documentation complete
16. Start Transfer arrangements : takes 60mins from starting.

Appendix 10. Anaesthetist (and Airway Assistant if available)

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

Prepare for patient arrival by:
Wear personal protective clothing including lead apron.
Preparing airway equipment.
Drawing up RSI drugs.

On patient arrival:
Listen to ATMIST handover
Communicate airway patency and issues to the team leader.
Ensure cervical spine immobilisation at all times.

Maintain in line stabilisation whilst:
Team cut clothing and remove immobilisation device.
Control log roll 20-30° each way to place scoop under skin
Control lift to allow removal of clothing and oversee replacement of head blocks and tape.

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

A Allergies
M Medications
P Past Medical History
L Last meal
E Events / everything else relevant

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

- Consider need for orogastric 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. Blood bank must be informed of changes to contact name and telephone number.

- **Airway Assistant** may assist with removing patient's clothes, have scissors to hand.
- Should be familiar with ED before being part of the Trauma Team.
- Is responsible for assisting set up of the airway equipment and / or drugs.
- Takes airway equipment and drugs to CT

Appendix 11. Doctor 1

Usually an ED doctor, can be a specialist doctor.

Prepare for patient arrival by:
Wear personal protective clothing including lead apron.
Turn on ultrasound & prepare for FAST scan.
Order x-rays and CT on MAXIMS (shared with Doctor 2)
On patient arrival:
Listen to ATMIST handover
Aid the removal of initial immobilisation device, log-roll patient and perform lift for scoop off clothing.
Lead closure of pelvic binder with Doctor 2.
Aids anaesthetist in difficult Airway management e.g. gives RSI drugs.

Undertakes Primary Survey starting at B (A managed by anaesthetist).
Clearly states findings to the Team Leader and Scribe.
Allows surgical registrar to examine the abdomen and PR exam.
Allows orthopaedic surgeon to assess pelvis and limbs.
FAST scan if accredited and will not delay CT.
Neurology examination needed before paralysing anaesthetic agents used.

Takes AMPLE history if anaesthetist busy, reassure patient on arrival, explain what is happening.

A	Allergies
M	Medications
P	Past Medical History
L	Last meal
E	Events / everything else relevant

Performs procedures depending on skill level and training. Confirm skill levels with team leader prior to patient arriving.
Undertakes Secondary Survey including tympanic membranes. This will guide CT e.g. the need to include facial views.

Ensure patient kept warm.

Appendix 12. Doctor 2

Usually ED junior doctor, may be surgical or orthopaedic junior.

Prepare for patient by:
Wear personal protective clothing including lead apron.
Setting up iv access and sharps bins
Order x-rays and CT on MAXIMS.

On patient arrival:
Listen to handover ATMIST
Aids the removal of initial immobilisation device, log-rolls patient and performs lift for scoop off clothing.
Closure of pelvic binder with Doctor 1.
Aids anaesthetist in difficult airway management e.g MILS for intubation

Insert two peripheral lines, sampling blood for:
(Yellow, Lavender, Pink, Blue & Gas tubes)

- U&E
- LFT
- Pregnancy test (β-HCG)
- Glucose
- FBC
- Cross-Match / "massive haemorrhage protocol" (or occasionally G+S)
- Coag
- Venous gas

Ensure blood samples are sent.

Arterial Blood Gas

Performs procedures depending on skill level and training and as guided by team leader.

Administer drugs eg. Analgesia / antibiotics.
Keep patient warm.

Appendix 13. Nurse 1

Prepare for patient by:
Wear personal protective clothing including lead apron.
Running fluids through HotLine warmer with blood giving set
If SBP<90 or traumatic cardiac arrest:

- Prime Level 1 infuser
- Request extra staff to help run Level 1 infusor
- Place thoracotomy tray onto a dressing trolley

Consider setting out (for patients likely to need secondary transfer):

- Urinary catheter set
- Arterial line set

Scissors and blanket ready
Scoop stretcher to hand
Produce RSI drugs for anaesthetist to draw.

On patient arrival:
Listen to ATMIST handover
Enable patient transfer to trolley
Cut clothing & cover patient with blanket
Log-roll and lift for scoop off clothing
Help with iv access and sending bloods off if required.

Draw up drugs / administer as required e.g. analgesia, antibiotics

Help with procedures e.g chest drain, urinary catheter, arterial line, splintage.

Prepare for transfer to CT, ideally within 30min

Appendix 14. Nurse 2

Prepare for patient by:
Wear personal protective clothing including lead apron.
Ensuring monitor is set up with leads, ETCO2 module and sampling line connected
Oxygen cylinder full (for transfer to CT / theatre)
Scissors and blanket ready
Scoop stretcher and Pelvic binder to hand
Observation chart ready

On patient arrival:
Listen to ATMIST handover
Enable patient transfer to trolley
Cut clothing & cover patient with blanket
Log-roll for scoop off clothing

When patient is lifted:
REMOVE CLOTHES and immobilisation device.
PLACE PELVIC BINDER on canvas roughly at level of greater trochanters.

Attach monitoring and gain first set of observations as priority
Communicate observations clearly to Team Leader.
Continue to **document observations**.

Ensure **wrist labels** are secured on patient.

Help with iv access and sending bloods off if required.

Draw up drugs / administer as required e.g. analgesia, antibiotics
Keep record of infusions given, including blood products.

Help with procedures e.g chest drain, urinary catheter, arterial line, splintage.

Prepare for transfer to CT, ideally within 30min

Appendix 15. Surgical Registrar

Prepare for patient by:
Identifying yourself to the Team Leader and rest of the Trauma Team.
Log your details and time of arrival on the Trauma Proforma.
Wear personal protective clothing.
Inform General Surgical consultant on call if patient has an initial SBP<90, has complex multisystem injury or is likely to need early surgery.

On patient arrival:
Listen to ATMIST handover
Assist with log-roll and deadlift of scoop stretcher to remove clothing.

Perform abdominal examination during Primary Survey and PR exam during the Secondary Survey.
Clearly inform Team Leader of the findings.
Review Chest xray
Discuss surgical plan / needs / priorities with Team Leader.

Stay with patient in resus / CT until stood down in agreement with Team Leader.

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

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

Document all actions and findings with a clear plan in the Trauma Proforma.

Appendix 16. Orthopaedic Registrar

Prepare for patient by:
Identifying yourself to the Team Leader and rest of the Trauma Team.
Log your details and time of arrival on the Trauma Proforma.
Wear personal protective clothing.
Inform Orthopaedic consultant on call if patient has complex multisystem injury or is likely to need early orthopaedic surgery.

On patient arrival:
Listen to ATMIST handover
Assist with log-roll and deadlift of scoop stretcher to remove clothing.
Review pelvis x-ray.

Perform Secondary Survey of limbs.
Clearly inform Team Leader of the findings.

- Document all wounds, grazes and degloving.
- Evaluate each joint and long bone for dislocation / stability / fracture.
- Neurovascular examination of all limbs.
- Record presence / absence of key peripheral pulses & neurological findings.
- Identify peripheral injuries that need to be included in the CT scan or require plain films on way back from CT.
- Splint fractures.
- Repeat neurovascular examination after splinting.
- Arrange appropriate x-rays.
- Peripheral x-rays must not delay CT scan.
- In some cases it may be best to delay x-rays until patient is in theatre and good quality traction x-rays can be obtained.

Discuss T&O plan / needs / priorities with Team Leader.
Stay with patient in resus / CT until stood down in agreement with Team Leader.
Liaise with theatres, anaesthetic colleagues, bed manager and consultant for patients needing theatre and / or admission.
Assist with ordering tests, liaising with specialists or performing procedures as training and ability allows.
Document all actions and findings with a clear plan in the Trauma Proforma.

Appendix 17. Radiographer

Prepare for patient by:
Placing chest x-ray cassette under trolley to speed up initial x-rays.
Bring x-ray gantry into resus.
Wear personal protective clothing including lead apron.
Liaise with Team Leader if team members are not wearing lead aprons.

On patient arrival:
Listen to ATMIST handover.
Assist with log roll and lift to scoop patient off clothes.
Confirm with Team Leader that they wish Chest and Pelvis x-rays to be performed.
Ask if **pregnancy status** is relevant in a woman of apparent childbearing age.
Gain exposures as early as possible: within 15mins where airway compromise does not delay it.

Liaise with Team Leader if team members are obstructing your chance to x-ray.

As soon as the gantry is positioned for the exposure, inform the Team that you are ready:
"Ready to x-ray."
Inform Team Leader if unprotected members remain within 2m.

When ready to take the x-rays countdown clearly:
"Xrays 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.
Bring images up on screen in resus and inform Team Leader of this.

Appendix 18. Scribe

Prepare for patient by:
Identify yourself to the Trauma Team Leader.
Gain appropriate paperwork from the metal drawers in Resus.
Wear lead apron.
Complete the attendance log of all team members responding to the trauma call.
Reset the Clock using the red button.

On patient arrival:
Start the Clock using the green wall button.
Document the handover information and obtain the pre-hospital team's names and job number
Ensure clinical observations are recorded at 5 minute intervals in the initial stages of resuscitation, moving to 10-15 minutes as the observations stabilise
Document the clinical findings from the primary survey.
Log interventions and drug/fluid administrations as they occur.
Ensure the Trauma Team Leader completes the relevant sections of the documentation.
Ensure all investigation requests are correctly completed
Ensure the TTL / other team member prescribes all fluids & drugs on a Trust chart / EPMA – this can be done retrospectively using the times you recorded.
Ensure all necessary documentation is gathered and moves with the patient from Resus to the next destination e.g. CT / theatre, etc.