**University Hospitals Birmingham**

**Code Red Protocol**

The Code Red protocol is designed to identify and provide advance notice of the arrival of critically hypovolaemic trauma patients allowing for enhanced care to be planned and delivered. Prior warning will be given of the arrival of a patient in need of resuscitative massive blood transfusion and potentially damage control surgery. This will enable care to be consultant led across multiple specialties, and streamline resuscitation and movement to definite haemorrhage control.

The Code Red protocol consists of:

1. Pre-hospital identification and early notification to UHB of patient arrival
2. Automatic Consultant Call in
3. Emergency Department enhanced response
4. Massive Haemorrhage Protocol activation
5. Theatre Standby

**1 Pre- hospital Code Red Activation**

Code Red is a West Midlands Trauma Network alert term used by the regions advanced pre-hospital teams to notify receiving Major Trauma Centres (MTCs) of the impending arrival of a critically hypovolaemic patient.

The regions advanced pre-hospital teams (MAA/MERIT, TAAS, NSB, MARS, WMCT, CSI) are staffed by senior, often consultant grade, clinicians. The alert term is not for use by wider West Midlands Ambulance Service (WMAS) crews. The pre-hospital team will attempt to give as much notice as possible to enable receiving MTC measures to be in place ready for the patient arrival.

Code Red Patients *should* meet all three inclusion criteria:

* + **Suspected ongoing active haemorrhage**
	+ **Systolic BP<90mmHg or absent radial pulse**
	+ **Transient or no response to volume resuscitation where appropriate**

It is recognised that some patients will continue to compensate and maintain a blood pressure above 90mmHg, despite being critically hypovolaemic, before suddenly deteriorating. **Identification of these patients will rely on the pre-hospital clinician’s judgement**.

Additional requests, such as surgical specialty required to be on standby, should also be passed with the alert message. When identified the prehospital clinician, or if considered required by the Consultant Trauma Team Leader, the Consultant surgeon for that specialty will be contacted as part of the Consultant Call in.

*In-hospital Code Red Activation*

It is recognised that there may be circumstances where activation of the Code Red protocol would be beneficial for patients already in ED. This decision will be made by the Consultant Trauma Team Leader.

**2 Automatic Consultant Call in**

On Code Red activation switchboard will automatically contact in order:

Out of hours (2000-0800)

* Oncall ED Consultant for Major Trauma
* Co-ordinating Trauma Consultant (CTC)
* Oncall Anaesthetic Consultant for Emergency theatres

In hours (0800-2000)

* Co-ordinating Trauma Consultant (CTC)

*The ED Consultant for Trauma will already be in the ED.*

*The Consultant Anaesthetist(s) responsible for emergency theatres will be contacted by the Emergency Theatre Co-ordinator.*

If a required surgical specialty has been identified by the pre-hospital team or the Consultant Trauma Team leader then the oncall consultant and registrar for that specialty will also be contacted by switchboard.

The consultants will be informed of the impending arrival of a Code Red patient, using the term “Code Red”, and the expected patient arrival time. Ideally the consultants will have sufficient notification to enable them to attend ED prior to the patient’s arrival.

**3 Enhanced Emergency Department response**

On receipt of a Code Red alert message ED will look to provide an enhanced response for the patient:

1. ***Code Red Trauma team activation notification to switchboard including any required surgical specialties***
2. ***Receptionist to generate temporary patient number***
3. ***Phone call to Blood Bank requesting Massive Transfusion Pack 1 (using temporary patient number)***
4. ***Phone call to Emergency Theatres Co-ordinator on 13818 to initiate Theatre Standby.***
5. ***Phone call to ED Imaging to prepare CT and mobile X-ray***
6. ***Enhanced ED staffing (Porter, Additional Belmont/ROTEM nurses, Access Doctor (IO/Swan sheath)***
7. ***Additional Equipment (central access, chest drains)***
8. ***Belmont primed (with blood)***
9. ***Larger ‘Trauma bay’ used***

The trauma alert message passed via the pager system to the wider hospital will include the term “Code Red”, an estimated time of arrival, and if identified the surgical specialties required. For example: “Trauma by air, Code Red, Penetrating chest, Cardiothoracics, ETA 15.20”

The trauma team will plan to attend a team brief 10 minutes prior to the given ETA of the patient.

**4 Massive Haemorrhage Protocol activation**

On receipt of a Code Red alert Blood Bank will be informed via Bleep 1376 of the arrival of the patient. MTP 1 should be made ready for the patient’s arrival.

**5 Theatre Standby**

The Emergency Theatres Co-ordinator may initially receive the Code Red trauma via the pager system but in order to confirm response and potentially pass on further clinical details they should be contacted via their Blackberry on 13818

On receipt of Code Red notification they will enact the Code Red Theatre Preparation Checklist. (See appendix) This identifies an appropriate theatre that will be readied to receive the patient if required. Measures also include preparing that theatre with equipment such as appropriate surgical trays, cell saver and Belmont rapid infuser.

The Emergency Theatres Co-ordinator will contact the Consultant Anaesthetist(s) responsible for emergency theatres and liaise with them regarding theatre use and staffing. The Anaesthetic Consultant will attend ED.

The theatre should be made ready to receive the patient by the expected arrival time of the patient at UHB. This will allow for a rapid transit through ED if required. Should this not be achievable then the Theatre Emergency Co-ordinator will need to inform the ED TTL of the time at which the theatre will be ready to receive the patient. Following the initial call to the Theatre Emergency Co-ordinator, it is possible that the patient will arrive in the theatre complex without further notification. A member of the theatre team will be responsible for meeting the team in theatre reception and directing the team to the relevant theatre.

**Stand Down**

In the event of the patient dying prior to arrival at UHB, on receipt of notification from WMAS of the non-arrival of the patient, a “*Code Red Stand-down*” will be broadcast via the trauma pager system. Each link in the system is then responsible for standing down what it would normally activate.

There is no option for the pre-hospital clinicians to ‘downgrade’ a Code Red alert should the clinical situation improve.

**Patient Identifying details**

In order to avoid confusion the patient will continue to be known by their admitting trauma name e.g. Trauma Echo. This will avoid the need for repeat blood sampling and streamline transfusions. Once on the Critical Care Unit the true patient details can be given to the patient.

**Multiple Code Reds**

Multiple Code Reds are likely challenge the system. For multiple Code Reds using their admitting trauma alert names e.g. Trauma Echo, Trauma Foxtrot will be vital for communication.

Calling in of additional Consultant staff is at the discretion of the Lead Consultant for that specialty. Out of hours additional non-resident theatre staff may need to be called in to staff further theatres.

**Piloting**

The Code Red system will be trialled for a period of six months before being subject to review.

**Audit**

The Code Red protocol at UHB will be audited on a rolling basis.







