1. **Objective:**

Trauma Code Crimson may be called in any clinical trauma situation that requires urgent surgical intervention and/or angiography.

Injuries requiring Trauma Code Crimson may include: uncontrollable haemorrhage, penetrating injuries, major hypotensive blunt chest / abdominal/pelvic trauma, massive maxillofacial trauma or major airway injury.

All trauma patients requiring urgent surgical intervention will be expedited to operating theatres or to angiography suite.

The activation of a Code Crimson page will also apply to patients with ruptured Aortic Abdominal/Thoracic Aneurysm.

2. **Principles:**

- Injuries requiring trauma Code Crimson may include:
  - Uncontrollable haemorrhage
  - Penetrating injuries
  - Major hypotensive blunt chest / abdominal/pelvic trauma
  - Massive maxillofacial trauma
  - Major airway injury
- The decision to call a trauma Code Crimson is made after consultation by the two most senior medical officers one of whom should be surgical.
- Patients meeting criteria for Trauma Code Crimson may have received prior major trauma page activation.
Procedures in the Emergency Department are to be minimised to avoid delays. Prior to transfer, the patient must have a patent airway, intravenous access secured and a chest X-Ray performed.

3. Definitions:

<table>
<thead>
<tr>
<th>MOS</th>
<th>Medical Officer System – Daily Medical Roster for St Vincents Hospital.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angiography</td>
<td>Angiography is the imaging of blood vessels after a contrast medium has been injected into the bloodstream that shows up on live X-ray pictures</td>
</tr>
</tbody>
</table>

4. Roles and Responsibilities:

**General SurgicalRegistrar**

- It is the responsibility of the attending general surgical/trauma registrar to notify the surgical consultant on call of the imminent arrival of a hypotensive trauma patient (systolic < 80mmHg in the pre-hospital setting).
- It is also the responsibility of the attending general surgical registrar or delegate to contact:
  - Operating Suite Nurse Unit Manager; or their delegate on pager 6142 and/or Mob 0459 805 501 to facilitate operating room preparation.
  - Anaesthetics registrar, (if not in attendance) to notify of imminent patient transfer.
  - Interventional Radiologist (IR), should they be required for angiography and intervention. After Hours the IR will be contacted via switch (the Clinical Web MOS system will identify the IR on call (see appendix 2).
  - In the event of a hemodynamically unstable trauma patient, the on-call trauma surgeon and/or the on-call IR must be contacted within 15mins. If contact cannot occur within this time frame, the on-call vascular surgery consultant is to be notified.
  - If there are associated significant head / orthopaedic/ chest injuries, it is the responsibility of the Surgical Registrar to notify the Neurosurgical / Orthopaedic/ Cardiothoracic registrar as soon as is practical.

**Emergency Department Consultant**

- The Emergency Department Consultant, when on duty, will ensure that the Trauma Team leader is clinically supported to ensure safe, effective and timely decisions on trauma patient management.
- The clinical decision of the ED Consultant on the trauma patient management plan will guide all trauma team members.
- If there is disagreement surrounding the proposed trauma management plan a reasoned discussion between consultants (i.e. surgical/IR and ED Consultant) will determine the correct priority of management.
• After hours, if there is no ED Consultant in the ED, the ED Registrar must notify the ED Consultant on-call of the code crimson patient.

On Call Interventional Radiologist

• The Interventional Radiologist, once contacted by the surgical registrar or Trauma Team Leader, will contact the on-duty radiographer, who will then contact the on-call IR Team.

On Call Vascular Surgeon

• The on call vascular surgeon will be the second line of contact in the unlikely event of contact not occurring with the on call trauma surgical consultant and/or the interventional radiologist within 15 minutes.

Anaesthetics Registrar

• It is the responsibility of the Anaesthetics registrar to contact the on call Anaesthetics consultant.

Intensive Care Registrar

• Will provide medical escort, of the haemodynamically unstable trauma patient to the Operating Theatres or Interventional Radiography suite. (see appendix 3)
• Will notify ICU Consultant if patient will require admission to the unit.

Trauma Team Leader

It is the responsibility of the Trauma Team Leader (ED Consultant or ED Senior Registrar);
• To activate a Code Crimson page via switch, specifying body region (eg. face, abdomen or chest).
• Notify Blood Bank (Ph ext 9150), consider if the Massive Transfusion protocol should be activated.
• To ensure procedures in the Emergency Department are performed out in a timely manner (eg airway patency, chest x ray taken, IV access obtained).
• To complete the Trauma Response Form.
• To notify the ED Consultant of the patient, this includes after hours notification of the On-Call Consultant.

Resuscitation Nurse

• The Resuscitation Nurse is to ensure the following are ready to facilitate urgent patient transfer: cardiac monitor / defibrillator, portable oxygen, appropriate airway equipment and drugs in the event of a cardiopulmonary arrest in transit.

Trauma Code Crimson – Rapid Transfer to Operating or Angiography Suite, of patients requiring urgent surgical or radiological intervention

Date approved: January 2014

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On Duty Radiographer

- It is the responsibility of the On Duty Radiographer ext 2323 or page 6287 to liaise with the Interventional Radiologist, Interventional Radiology Nurse & On-Call Radiographer to coordinate details and time (must be within 30 minutes) of activating IR suite.

Switchboard Operator

- It is the responsibility of the Switchboard Operator to send out a trauma Code Crimson to the trauma page group – specifying location and body region as per instruction from the Trauma Team Leader or delegate.
- Will contact the on-call Interventional Radiologist as identified by the Web de Lacy MOS system for the Surgical Registrar or Trauma Team Leader.

Emergency Department Operational NUM

- The ED Operational NUM must liaise with the AHNM (After Hours Nurse Manager) to arrange appropriate ED staffing cover, if Emergency Department nursing staff transporting the patient to the angiography suite are required to stay with the patient for a period of >30mins.

After Hours Nurse Manager

- In the event of a Code Crimson patient requiring urgent transfer and treatment in the Operating Theatre and/or the Interventional Radiology suite, the AHNM must ensure adequate staffing cover in the ED, for both nursing and medical staff that remain with the Code Crimson patient.
- This will include ensuring the On-Call ED Consultant has been notified.

5. Process:

5.1. See Algorithm

6. Compliance:

6.1. Compliance is monitored via the Trauma Committee with routine auditing of trauma performance monitoring of key performance indicators.

7. References:

Heetveld, M. 2007 : The Management of Haemodynamically Unstable Patients with a Pelvic Fracture, The Institute of Trauma and Injury Management.

Department of Trauma, 2002 – Westmead Hospital Management of Trauma, Westmead Hospital Guidelines.

- **Supporting Evidence:**
  
  NSW Trauma System: Local Health Network (LHN) Information Package
  
  2011 NSW Institute of Trauma & Injury Management.
  
  Selected Specialty and Statewide Service Plans, 2009: NSW Trauma Services, NSW Department of Health.

- **National Standards:**
  
  - NSWQHS Standard 1: Governance for Safety & Quality in Health Service Organisations

- **Related SVH and SV&MHS Policies & Procedures:**
  
  - Consultant notification of pre-hospital hypotension policy.
  - Massive Transfusion Guideline
  - Interdepartmental Patient Transfer and Escort Protocol
  - Trauma Patients with Multiple Injuries – Admission & Transfer Policy
  - Trauma patients with Multiple Injuries – Admission to Intensive Care Policy
  - Trauma Patients with Multiple Injuries – Admission of Inter-Hospital transfers Direct to Ward Policy
  - Trauma Patients – Tertiary Surveys Policy

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HEAMODYNAMICALLY UNSTABLE TRAUMA PATIENTS REQUIRING INTERVENTIONAL ANGIOGRAPHY

Contact Interventional Radiologist on-call, identify via Clinical Web MOS system

The Interventional Radiologist will contact the IR Nursing staff to prepare angiography suite. Resuscitation staff will accompany the patient to IR suite.

If Interventional Radiology contact is NOT made within 15 mins, contact the Vascular Consultant on call for Trauma, to facilitate Operating Theatre Angiography.

Discussion with Vascular Consultant may also result in definitive operative management.

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