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# Code Crimson simulation training checklist

**This document is for staff who manage critically bleeding trauma patients in tertiary trauma centres and smaller secondary hospitals. It is one of four resources to support the implementation of guidelines and standardise the management of critical bleeding. The resources are** [**available online in editable or print formats here**](https://www.hqsc.govt.nz/our-programmes/national-trauma-network/publications-and-resources/publication/4398)**.**

## Purpose

Simulation training creates an opportunity to understand and support system and process change, while considering site-specific challenges and human factors that can influence how the national best-practice [critical haemorrhage bundle of care](https://www.hqsc.govt.nz/our-programmes/national-trauma-network/publications-and-resources/publication/4177/) guidelines are applied within an organisation.

This checklist is intended to be used as a guide for running an in-situ simulation of a critically haemorrhaging trauma patient in an emergency department (ED). Some criteria may not be relevant at every locality depending on infrastructure.

## Scenario

This simulation checklist reflects a trauma patient who is recognised either pre-hospital or on arrival to the ED as having life-threatening critical haemorrhage and the Code Crimson/local equivalent accelerated treatment pathway is activated.

|  |  |
| --- | --- |
| **Traumatic critical haemorrhage simulation checklist** | **Comments** |
| **Activation and preparation** |
| Are pre-hospital ‘Code Crimson’ criteria met on ambulance pre-arrival notification?* ABC Score greater than 2
* HR ≥ 120 bpm
* Systolic BP ≤ 90mmHg
* Penetrating injury (thoracic, abdominal or junctional)
* E-FAST scan positive

**or*** Received pre-hospital blood products
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| ED charge nurse or designated staff member activates trauma call and/or accelerated treatment pathway (‘Code Crimson’ or local equivalent) | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Trauma team roles are allocated before patient arrives (as follows) | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| **Team leader:*** Ensures the following teams are contacted with ETA if not already notified:
* Anaesthetist
* Operating room nurse coordinator
* Blood bank
* Radiology registrar
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| **Airway doctor:*** Makes airway management plan
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| **Airway nurse/anaesthetic technician:*** Sets up airway equipment
* Checks suction
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| **Procedure doctor:*** Ultrasound machine at bedside
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| **Procedure nurse:*** Venous access and blood sampling supplies prepared for trauma bloods
* Fluid warmer primed and ready for use
* Rapid infuser primed and ready for use or pressure bags available at bedside
* Pelvic binder on trauma bed
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Surgical registrar:* Contacts on-call surgical consultant if not already notified in trauma call
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| ED charge nurse or ED registrar:* Contacts on-call ED consultant if not already on site
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| ICU registrar:* Contacts on-call ICU consultant
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Staff:* Don appropriate PPE
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| **STOP*** **Team briefing of roles and responsibilities**
* **Review airway checklist**
* **All team members aware goal is to move patient from ED to site of definitive haemorrhage control within 30 minutes**
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| **Time of ED arrival:** Click or tap here to enter text. |
| Take handover from ambulance personnel | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Confirm if TXA has been administered pre-hospital | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Confirm estimated blood loss volume | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Initiate primary survey | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Activate Code Crimson/accelerated treatment pathway if the patient meets criteria and it has not already been activated | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Blood bank notified of need for emergency blood units  | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Obtain at least two points of IV access | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Take initial bloods for:* Full blood count including platelet count
* Coagulation screen
* Dilute thrombin clotting time (dTCT) if on a direct oral anticoagulant
* Arterial or venous blood gas for lactate
* Crossmatch sample
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Initiate secondary survey | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Perform bedside E-FAST | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Temperature measured within 15 minutes of arrival | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Actively warm the patient | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Actively warm IV fluids/blood products | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| * Give 2 g dose of TXA within 3 hours of injury
* If 1 g TXA given pre-hospital, consider additional 1 g IV bolus
 | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Emergency blood units arrive at the bedside within 10 minutes | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Pre-transfusion bedside patient and product identification check is performed before administration of any component | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Team leader/designated staff member (‘MTP guardian’) rings blood bank and states they are activating the MTP | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Team leader or designated staff member/MTP guardian calls for each box as required | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Limit or stop crystalloid fluids | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Consider reversal of anticoagulant drugs if indicated | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Senior surgeon confirms plan for destination of definitive haemorrhage control | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Interventional radiologist consulted for options if IR service available | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Senior anaesthetist/intensivist communicates plan for operating room availability and transfer | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| ED charge nurse or primary nurse provides brief handover to operating room nursing staff | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |
| Patient begins movement from ED to area for definitive haemorrhage control within 30 minutes | Y [ ]  | N [ ]  | N/A [ ]  | Click or tap here to enter text. |

Abbreviations: ABC = assessment of blood consumption; BP = blood pressure; bpm = beats per minute; dTCT = dilute thrombin clotting time; ED = emergency department; E-FAST = extended focused assessment with sonography for trauma; ETA = estimated time of arrival; HR = heart rate; ICU = intensive care unit; IR = interventional radiology; IV = intravenous; MTP = massive transfusion protocol; PPE = personal protective equipment; TXA = tranexamic acid.

Providers are free to edit and adapt this document as needed, including addition of provider logo.

If you have any suggested changes or areas for improvement you would like considered for inclusion in the national best practice critical bleeding bundle of care, please email help@majortrauma.nz.

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