



Waitaha | Canterbury
HOSPITAL

Interdepartmental Simulation: Code Crimson and Massive Haemorrhage Pathway (MHP)

LEONA ROBERTSON ED NURSE EDUCATOR
LYN PUGH ED CONSULTANT
EMERGENCY DEPARTMENT WAITAHA, CANTERBURY, TE WHATU ORA

Background

- ❑ Christchurch ED -Interdepartmental sim programme since 2017
- ❑ 6-7 interdepartmental in-situ sims/year
- ❑ Specialties involved :
 - Ambulance
 - ED medical, nursing, radiology,
 - Social work
 - Anaesthetics, ICU ,
 - Surgery and Trauma
 - Paediatrics
 - O + G, Maternity, Neonatal
 - Blood Bank
 - Operators + Orderlies



Aim:

To test systems, processes
and environment
and make improvements

Sim process

- ❑ Pre -sim meeting with sim team
- ❑ Sim pre-brief emailed to participants
ED staff briefed also on day
- ❑ Scenario high fidelity with Hartwell Simulator
use all our normal monitors
use equipment, consumables, drugs
- ❑ Debrief – facilitated
- ❑ Evaluation + Report



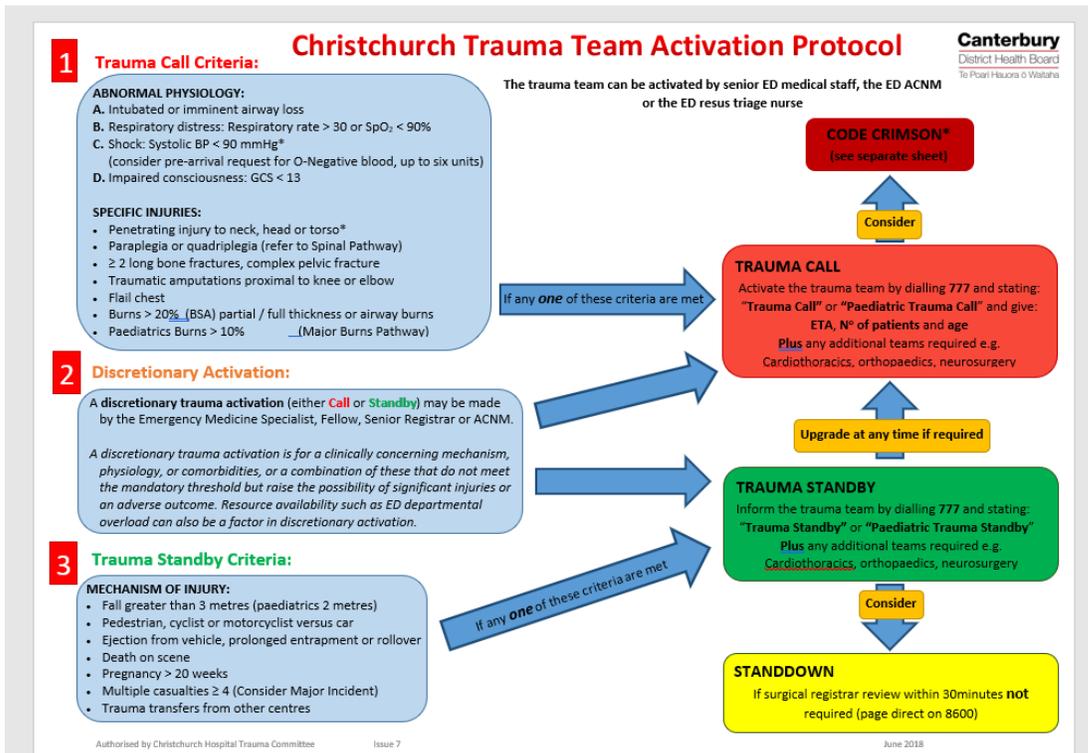
[Hartwell Simulation - YouTube](#)

Background



March 2022 Code Crimson launched Waipapa ED Christchurch

CENZ CONFERENCE 2023
19-20 October 2023 | Christchurch



Canterbury
District Health Board
Te Pōari Hauora o Waitaha

Emergency Department Adult Code Crimson Activation Criteria

For Trauma only

Massive bleeding (ABC score ≥ 2/4)

Penetrating injury	1 pt
SBP ≤ 90	1 pt
Pulse ≥ 120	1 pt
Positive E-FAST scan	1 pt

OR

Received >2 units of blood in ED for resuscitation

OR

2 attending Clinicians (Registrar and above) agree that activation is appropriate

Activate Code Crimson

Code Crimson Sim Learning outcomes

1. Test the system and process for CODE Crimson.
2. Demonstrate a structured approach to managing the trauma patient.
3. Identify life threatening injuries and treat promptly
4. Initiate and follow the process for MTP (now MHP)
5. Demonstrate clear communication and team work.



Scenario: Code Crimson

Bradley Jackson 35 yrs

DOB 03.04.87 NHI BJJ3535

Scenario Description:

MOI: cyclist v car

Injuries – Rigid abdomen, # Femur

Vitals BP 70/50 HR 130 RR 30 Sats 95

on O2 GCS 13 3,4,6

TX –O2 No IV access

ETA given as 2 minutes radio call

0845



Simulation

Scenario Progression Part 1

08.45 Radio call

08.48 Code Crimson call to operator

08.55 Patient arrives

Emergency O neg -ED Blood Fridge x 3 units

09.03 MTP (now MHP) activated

09.17 MTP Box 1 arrives

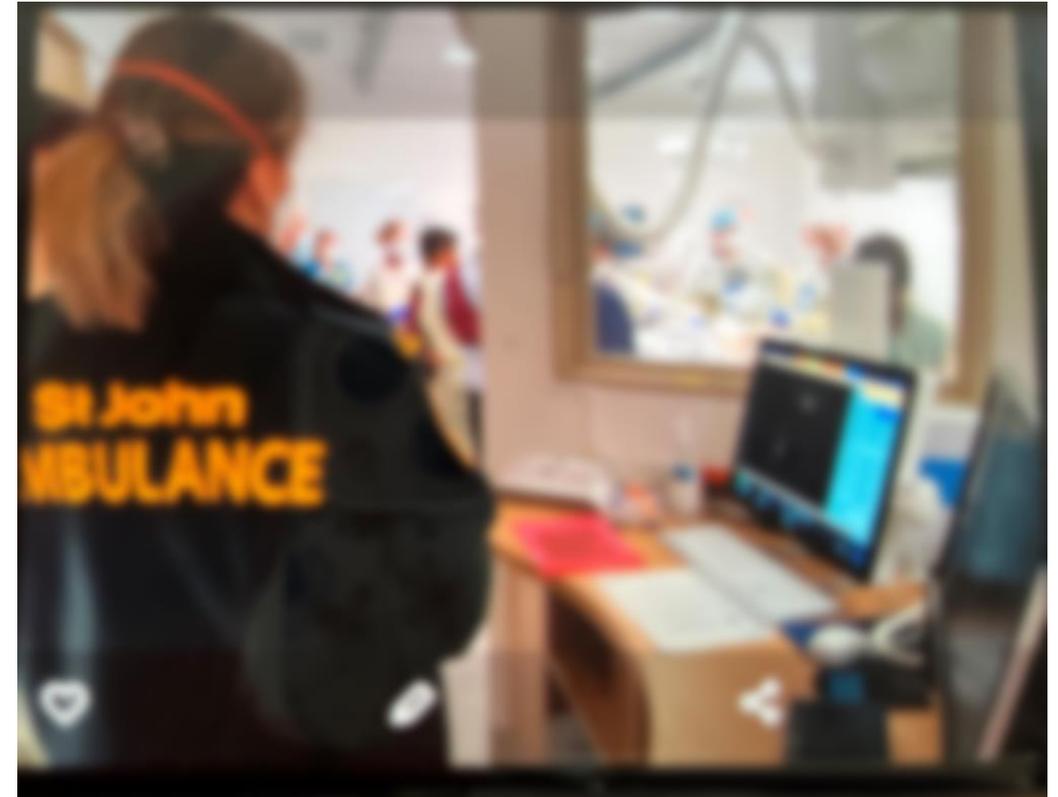
Decision to go to OT

09.20 Scenario ended at OT lift

09.25 MTP Box 2 left Blood Bank

09.30 MTP Box 2 arrives in OT

Scenario part 2 commenced at ED OT Lift next day – same time





- Different room
- Facilitated - Lead debriefer
 - Co-debriefers
- Structured approach
- Advocacy + inquiry

REACTIONS	Reactions Phase
DESCRIPTION	Description Phase
ANALYSIS	Select strategy based on learning objectives and time available
SUMMARY	Application / Summary



Results – Discovery moments
What did we learn?



Calls and Communication



Results – Discovery moments what did we learn?



Preparation

Canterbury
District Health Board
Christchurch Hospital

**EMERGENCY DEPARTMENT
ADULT CODE CRIMSON CHECKLIST**

- o Ensure Code Crimson has been activated (ideally 15 mins before arrival)
- o If after hours – ED ACMN/Reg to contact ED SMO
- o Check Covid status

Staff

- o PPE: - Lead aprons, protective gowns, goggles, masks
- o Role Labels
- o Team member introductions
- o Trauma team leader ensure shared mental model and allocates roles
- o Team members registered on trauma sheet

Equipment

- o EtCO2 monitor checked and working
- o Suction checked and working
- o REEP valve and BVM working
- o Airway equipment ready
- o CICO kit ready
- o Rapid intubate/rot line primed and ready to use.
- o 2 x Pressure bags with blood giving sets ready
- o 1l saline with anti-reflux line as drug line
- o 2x Large bore IV / IO ready
- o 2 syringe drivers plus appropriate syringes and tubing.
- o Pelvic binder on trauma bed
- o Ultrasound machine with probe cover, charged and switched on.
- o Self-heating warming blanket opened and primed.
- o 2x Chest drain kit opened if anticipated to be required
- o ED Thoracotomy kit opened if anticipated to be required

Drugs	Fluids
o Tranexamic acid 2g IV	o Consider early use of ED Emergency Blood
o RSI medications ready	o Minimise Crystalloid administration
o Appropriate IV analgesia ready	
o IV Antiemetics	



Results – Discovery moments What did we learn?



Equipment



anaesthetic IV lines not in trolley
Similarity in packaging –not easy to identify
Reported as possible hospital wide issue /requires clear labelling

Results – Discovery moments

What did we learn?

Equipment



Level 1 Rapid Infuser



Belmont Rapid Infuser

Level 1 Rapid Infuser vs Belmont

ED use Level 1

No battery for transfer so need to stop and use pressure bags

OT staff not familiar with Level 1 now

OT use Belmont

review and discussion re standardisation of equipment

Results – Discovery moments

What did we learn?



Blood

Emergency Blood Fridge



impacted decision making in regards to keep Emergency Blood in ED

Canterbury
Health Services
Emergency Services

Emergency Blood Fridge: O Negative Tracking Log
Remove and log every 4 hours

Emergency Blood Fridge: O Negative Tracking Log
Removals of O Negative Blood from the Emergency Blood Fridge must be recorded on this form to assist with tracking of blood usage

Date	Time	Patient Details: After patient taken record NMI as a minimum	Blood Unit Number Log out of	Print name of person collecting the blood	Signature
		Other Labels or Comments (Date) _____ NMI _____ YES _____ NO _____			
		Other Labels or Comments (Date) _____ NMI _____ YES _____ NO _____			
		Other Labels or Comments (Date) _____ NMI _____ YES _____ NO _____			
		Other Labels or Comments (Date) _____ NMI _____ YES _____ NO _____			

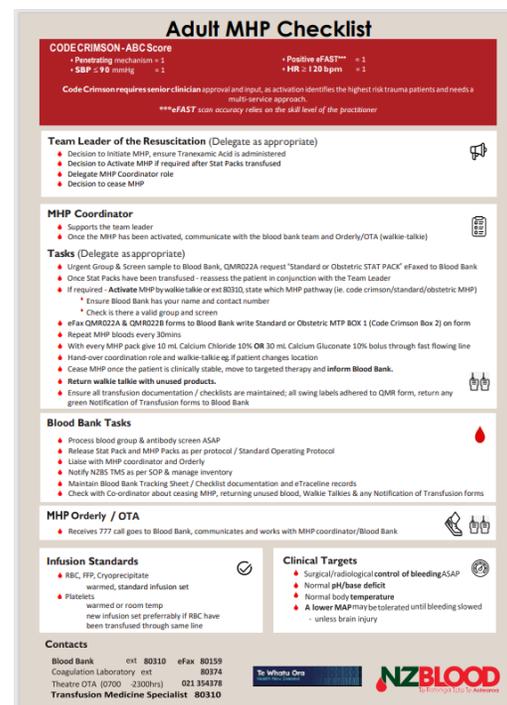
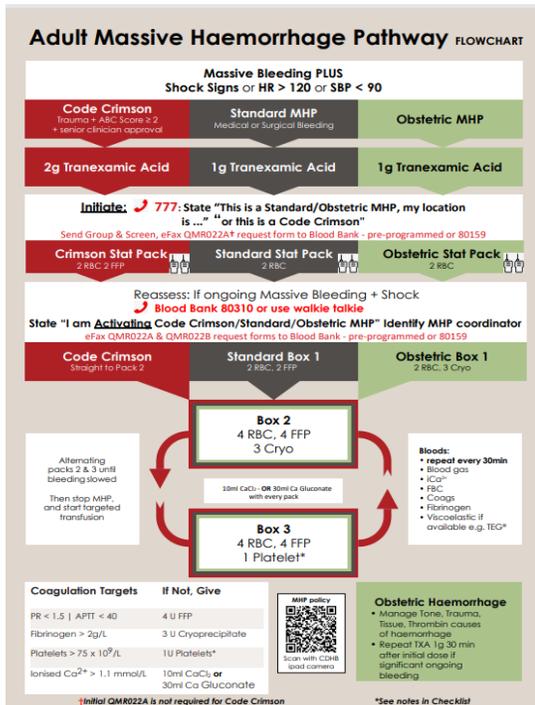
Local: South Harbour, Hospital & Support Services
Author: Chris Currey Transfusion Medicine Committee

EMERGENCY SERVICES
Page 1 of 2

14/09/22
Issue Date: January 2023

Results – Discovery moments What did we learn?

MTP → MHP



1st Code Crimson sim –MTP

2nd + 3rd Code Crimson sim:
– able to test the new MHP pathway

Understand language
and fine tune processes

Results – Discovery moments What did we learn?



OT Resources

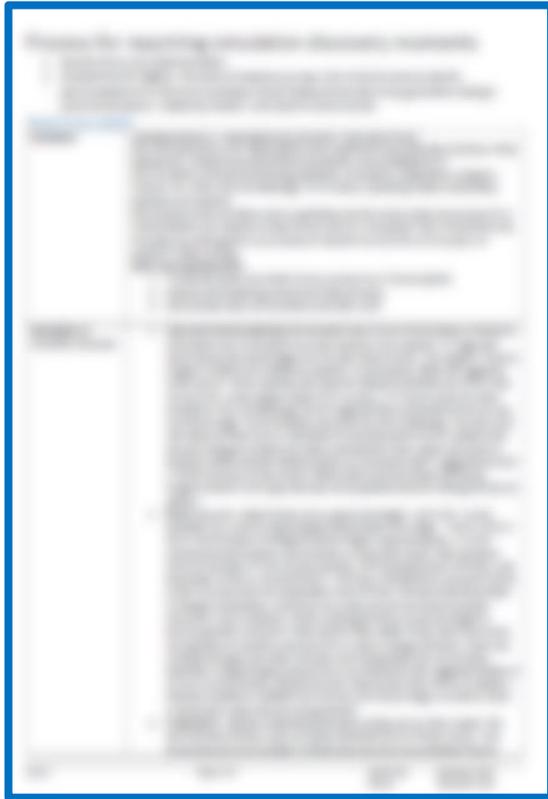
Resources differ out of normal hours
Same staff attend ED then need to set
up in OT



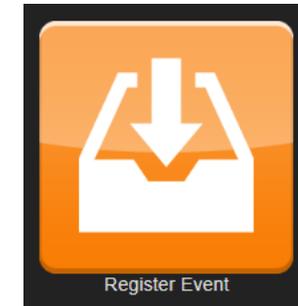
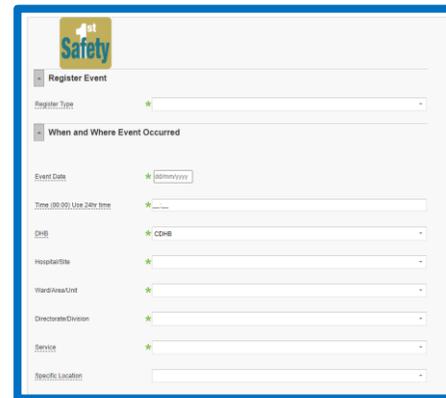
Discussion part 2 of scenario (OT staff)

Follow up and reporting

Discovery report -detailed



Register sim event-safety first – for potential high risk



Send to sim leads involved
Each department liaise with own HOD

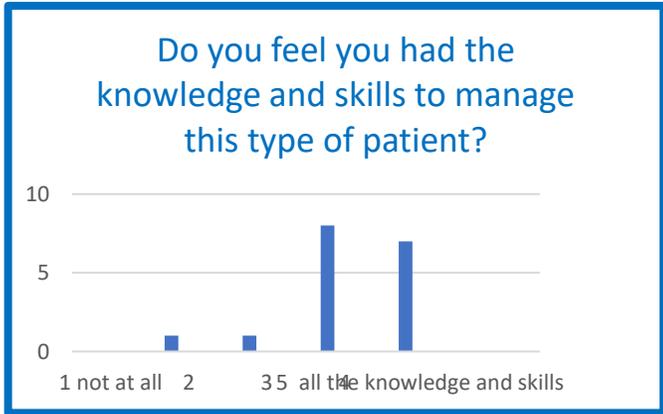
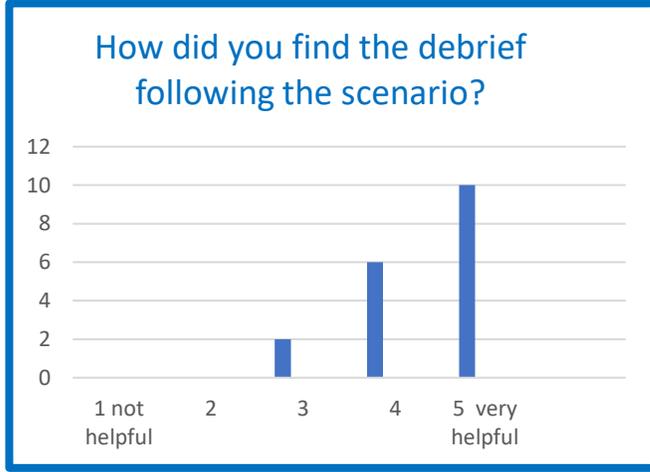
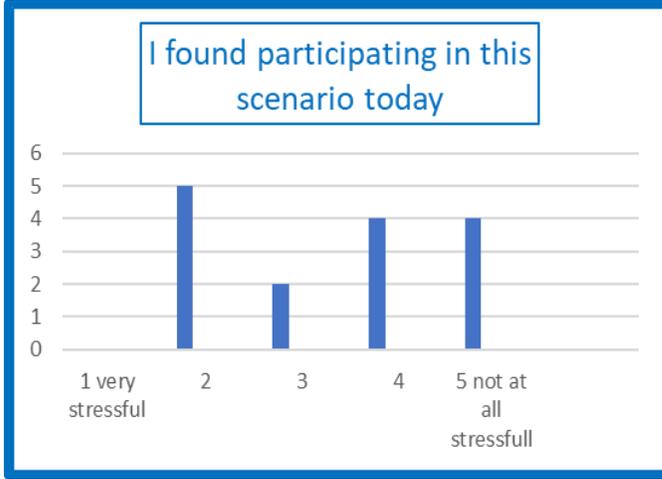
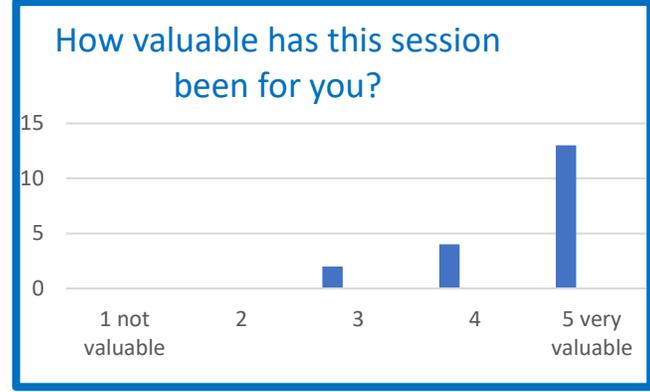


**READY TO RESPOND
KIA MATAARA**

CENNZ CONFERENCE 2023
19-20 October 2023 | Christchurch



Evaluations



ED Interdepartmental Simulation Feedback Evaluation Form

* Required

1. How valuable do you feel this session has been for you? *

1 2 3 4 5

Not valuable at all Extremly valuable

2. The resuscitation and management skills learnt today will improve my clinical practice: *

1 2 3 4 5

Not at all Very much

3. I found participating in this scenario today: *

1 2 3 4 5

Very stressful Not at all stressful

4. Do you feel that you had the knowledge and skills to manage this type of patient? *

1 2 3 4 5

Not at all Yes, I had all the knowledge/skills

5. How did you find the debrief session following the scenario? *

1 2 3 4 5

Not helpful Very helpful

6. What are the 3 most important skills/messages you will take home from this training session? *

Enter your answer

7. How did you find this in-situ simulation compared to the simulation centre? *

Enter your answer

We use QR code - evaluations automatically collated

Conclusion/take home messages



Interdepartmental simulations enable us to test our systems, processes and environment.

They enable us to work collaboratively with the specialties who are part of the wider team caring for trauma patients.

This allows us to improve safety and quality of care .



Acknowledgements

Michael Sheedy+ Bruce Carey-Smith,
Biomedical Engineering

Dylan Hill + Manawa Sim Centre

Jude Gimblett + Frank Haggerty,
St John Ambulance

Ronelle Van Dongen, SCN, ED

Polly Grainger, Clinical Projects ,ED

Dan Hartwell, Anaesthetics

James McKay, Surgery + Trauma

Rachel Lauchlan, Trauma Coordinator

Susan Mercer, CNS Transfusion Medicine

Paul McFarlin, Radiology

Tylie Cridge, Radiology

Participants- Ambulance, ED, Radiology

Anaesthetics/ICU

Trauma + Surgery

Blood Bank /Orderlies

Operators

ED Medical Director and Nurse Manager

– for support of programme

Ngā mihi nui