More than a ratio: A review on Trauma Transfusion Protocol in Queen Mary Hospital

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Evidence & Local Practice

- **Reduced mortality** of trauma patients by using a protocolized approach, targeting at *standardized ratio* of transfused red cells, platelets & plasma, i.e., 1:1:1, with *early* transfusion of plasma and platelets & correction of trauma-associated coagulopathy (evidence mostly from studies done in battlefields)

- **Five local trauma centers** have standardized protocol for activation of the trauma transfusion protocol using a *clinical scoring system*
QMH Trauma Transfusion Protocol: More than a ratio

- Protocolized approach
- Efficiency of delivery of blood component
- Effective communication
QMH Trauma Transfusion Protocol: More than a ratio

• No enforcement in 1:1:1 package
• Provide alternative activation pathway, i.e., by **clinical decision**

1. Portering system
   • Designated porter (**They are really fast!**)  
   • Lift-holding by security
2. Special blood bank service pledges (**We are committed!**)  

Efficiency of delivery of blood component

Protocolized approach

Effective communication

Central Porter Center designated phoneline: **6666**  
Documenting the handover  
Porter keep updated of the patient’s transfer status
### Activation-to-Type & Screen Completion Time

**T&S completion time (Mean 38 min, range 31-60 min)**

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<tr>
<th>Case number</th>
<th>T&amp;S completion time from TTP activation (minutes)</th>
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**Pledge of T&S completion:** 30 – 45 min

- Case 1 & 8: T&S sample arrived before activation
- Case 11: Failed resuscitation at A&E
- Case 12: Step down 2 minutes after activation
- (All four cases were excluded for time study)
Activation-to-FFP Thawing Completion Time & Activation-to-FFP Issue Time

**Activation-to-FFP thawing completion time** (mean 22 min, range 10-32 min)
**Activation-to-FFP issue time** (mean 25 min, range 5-49 min)

Pledge of FFP thawing is 30 min

B = thawed component already available
C = cancel request
NC = not collected
ID = improper documentation
1. 75% met T&S TAT pledge; 90% met FFP-thawing pledge in current study. Continuous monitoring by Performance Indicators (critical time factors, percentage meeting BB pledges)

2. Allow validation of clinical scoring system with further refinement if necessary

3. Long-term study on patient survival requires large sample size with the need of multi-center collaboration
Transfusion involves multidisciplinary effort

- Acknowledgement
  - Trauma Team
  - Nursing Team
  - Portering Team
  - Blood Bank Team

- Ms. Heidi Wong (Trauma Nursing Coordinator)
- Ms. Alice Chan (Medical Technologist, QMH BB)
- Dr. Clarence Lam (Consultant, QMH Haematology & BB)