The Demand for Blood and the Challenge to Manage It: A Conundrum

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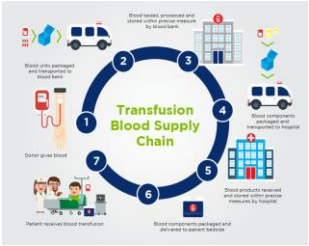
The Life Cycle of a Blood Product



Key Points

- Red blood cells and blood products are a precious resource, so minimizing blood unit wastage is crucial
- Red blood cell and blood product wastage can happen when clinical staff request more units than they need on a 'just-in-case' basis
- Clinicians do not understand the difference between emergency release and massive transfusion protocol
- Most clinicians are not aware of how much they transfuse
- There is a significant lack of basic transfusion medicine training interns and residents.

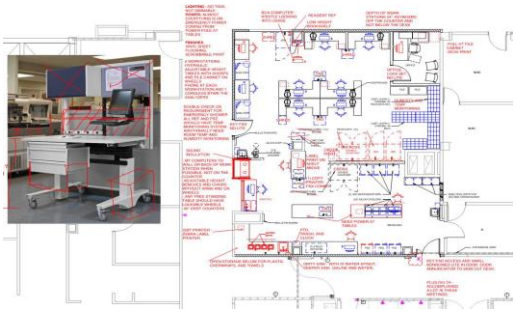
What are the contributing factors to wastage

Identifying key contributory factors to unnecessary wastage will be a high priority, with specific proposals to be developed to address (where possible), systemic issues:

- Blood Management program
  - Maximum Surgical Blood Ordering Schedule (MSBOS)
- Key Performance Indicators
- Crossmatch to Transfusion Ratio
- Cold Chain Management
- Inventory management
  - In the Blood Bank
  - After it leaves the Blood Bank
- Amount of blood ordered and incorrect ordering
- Education

Blood Product Transport Containers

Blood Product Storage and Dispensing



Emergency Release or Massive Transfusion?

Emergency Release of Blood

- Emergency Release of Blood refers to the rapid release of uncrossmatched, O-negative red cells to a patient who needs blood immediately, before compatibility testing can be completed.

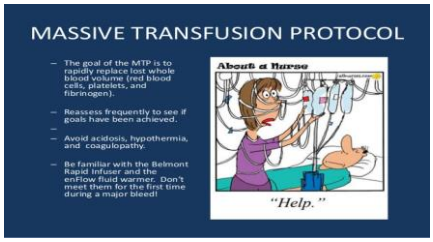
Massive Transfusion

- The infusion, in a 24-hour period, of a blood volume that approaches or exceeds the recipient's calculated blood volume. Massive transfusions are administered in medical or surgical emergencies, or operations involving major blood loss.

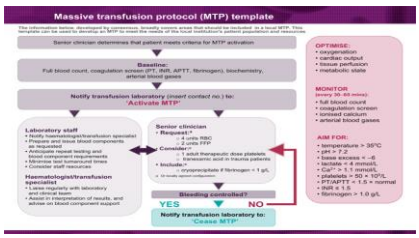
- **AABB Definition**
  - Replacement of one blood volume (equivalent to 10 units of blood) in any 24 hour period, or half of The blood volume (5 units of blood) in any four hour period

Massive Transfusion Protocol

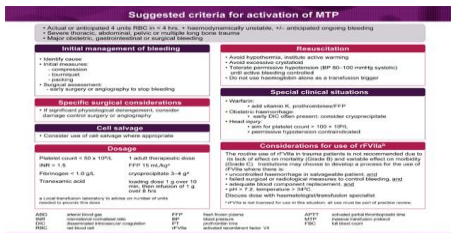
Massive Transfusion Protocol



Example of an MTP algorithm



Activating an MTP – or should I order Emergency Release?



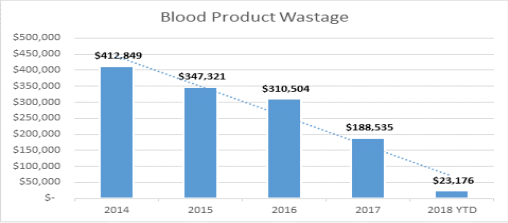
Recommendations to reduce wastage of blood units

- Set clear, achievable, measurable aims
- Involve the whole team, including the blood bank manager and quality management team, clinical staff and transfusion practitioners
- Start small and build from there
- Use 'plan, do, check, act' (also known as PDCA) cycles to establish whether change is achievable and effective
- Gain the support of staff by emphasizing the benefits to patients
- Continue monitoring and circulating data

Recommendations to reduce wastage of blood units

- Single-unit transfusions, recommended in stable, non-bleeding patients, reduce the risk of transfusion reactions and complications
- Ongoing training and good teamwork with blood bank staff, nurses and doctors across specialties can help reduce blood wastage

Blood Product Wastage at Piedmont Atlanta



What can you do to meet the demand for blood and the challenge to manage it?

- Addressing systemic issues
- Education and Training
  - Use of algorithms
  - Over and over and over again
- Enhanced Collaboration
  - Meet regularly
  - Share the data
- Selecting the appropriate blood transport container
- Promotional campaigns
- Celebrate the improvement

Donate Blood

- https://www.bing.com/videos/search?q=why+I+donate+blood+videos&adlt=strict&view=detail&mid=ED8A80D748E7F73B3128ED8A80D748E7F73B3128&rvsmid=B0EFCBFE2B48D12ADD88B0EFCBFE2B48D12ADD88&FORM=VDRVRV
- https://www.bing.com/videos/search?q=why+I+donate+blood+videos&adlt=strict&view=detail&mid=816C3474E1E24C4F7E77816C3474E1E24C4F7E77&&FORM=VDRVRV

THANK YOU