Deployment of Low Titer O Positive Whole Blood (LTOWB) within a regional trauma system

Presented by:
Randall M Schaefer, MSN, RN, ACNS-BC, CEN
Division Director, Research
Southwest Texas Regional Advisory Council
Very happy member of the Army Blue Card Club

Disclosures

• No financial disclosure

• I am very biased in that I think this is a really cool project

Acknowledgements
Background

- Resurgence in the use of whole blood-based resuscitation has captured the attention of trauma systems around the world.

- The deployment process, particularly in the prehospital environment has multiple challenges: cost, limited and inconsistent supply, and the logistics of cold chain management.

- The purpose of this study was to assess the systematic deployment of LTOWB across the continuum of care within a regional trauma system.
Methods

A systematic approach

Prehospital

Regional Advisory Council

Blood Centers

Hospital

• Four Phased Deployment Approach:
  • Regional helicopter emergency medical services
  • Two adult Level I trauma centers (one county-based and one military)
  • Ground EMS (Urban, Suburban, and Rural)
  • Level III and Level IV trauma centers

• Allows for maximal geographic coverage in the continuum of care & places the LTOWB at locations most likely to use it.
Results

- 1st units of LTOWB collected and delivered to HEMS bases
  January 2018
  - 18 helicopters in the region participating
  - 2 units each of LTOWB
  - County Level I trauma center
  - University Hospital
- October 2018:
  - 7 San Antonio Fire Department vehicles
  - 5 medical officers vehicles cover the city of 1.5+ million people
  - 2 medical special operations unit ambulances
  - 1 unit of LTOWB

- February‐April 2019
  - LTOWB placed in rural and suburban EMS agencies and a rural Level IV trauma center
  - 1 unit each
- To date, over 200 patients have received prehospital LTOWB
  - Administered to trauma, medical, and non-trauma surgical hemorrhaging patients w/ no reported complications
  - Pediatric patients and women of childbearing age are included
- Blood product wastage due to expiration does not exceed national average of 15%

Conclusion

- A robust LTOWB program requires the integration and collaboration of an interdisciplinary stakeholder team to ensure:
  - Clinical education
  - Administrative education
  - Distribution and cold chain management of product
  - Donor sustainability
  - Minimize wastage due to expiration
  - Keep costs down, especially for smaller EMS agencies
  - Research of efforts
Thank you for all you do!

Questions?
Transfusion Criteria con’t

- Pediatric patients >5 y/o included
  - Safety limit due to large volume in bag; can give younger

- Women of child bearing age NOT excluded
  - Rh isoimmunization risk versus bleeding to death
  - Pregnant trauma patients receive Low Titer O Positive Whole Blood too