AV SETUP

RGB
Red Green Blue
INTRODUCTION
Cypress Creek EMS - Assistant Executive Director
Waller County Sheriff's Office - Reserve Lt. Former SWAT Commander
International Public Safety Association - Board Member
US Homeland Security ESSCC - Vice Chair
International Police Mountain Bike Association - President
TEXAS EMTF6-TACTICAL Coordinator
National Stop the Bleed Month - Texas Coordinator

CREDITS
Thank you to:
Levon Vartanian, John Holcomb, Andrew Fisher, Eric Bank, Elizabeth Waltman, and Samuel Kordik for their contributions

CYPRESS CREEK
EMS
Non-profit, 911 Provider
HARRIS COUNTY, TX
4.7M

CYPRESS CREEK EMS
650,00

DEPLOYMENT
17 MICU
4 Supervisors
3 Full-time Tactical Medics
CYPRESS CREEK EMS

42,000

CYPRESS CREEK EMS

88,000

COMPONENT PROGRAM
Fresh Plasma and Group O Neg PRBCs

2016
COMPONENT PROGRAM
Fresh Plasma and Group O Neg PRBCs

THE ROAD TO LTOWB

DEVELOPMENT STEPS
Leadership Buy-in
Secure a Vendor
Education
Logistics
Quality Improvement
LEADERSHIP BUY-IN

Evidence Based Medicine

GUIDELINES

Amended to include Whole Blood

OUR VENDOR

Current vendor and largest in the region
SECURE A BLOOD BANK
Contract, regulations, cost, and fees

FEES AND PRICING
Disproportionate O Neg Use Fee

SPECIALIZED PRODUCT
Not enough users
EDUCATION & COMMUNICATION
Staff and Partners

STAFF
EDUCATION
Mandatory for Supervisors

INFO BULLETIN
Hospitals and Agency Partners
**ER COMMUNICATION**
ID bracelet and signature required in ePCR

**LOGISTICS AND EQUIPMENT**
Storage and Cooling

- Warmers

- POC Testing

- Exchange

**STORAGE AND COOLING**
Two Helmer refrigerators for station storage
INVENTORY
Four units LTOWB (+)
2 for Tactical Team
2 for restock

PORTABLE STORAGE
Stored at 1-8°C for 48 hours

THE CUBE
Six removable panels
CUBE CONTENTS
Two blood kits - one unit each

PORTABLE STORAGE
Combat Medical System Blood Box

PORTABLE STORAGE
Blood Bank Cooler
QINFLOW
WARRIOR
200 ml/min at temperature

WARRIOR
Approved for frozen products

WARRIOR LITE
Compact disposable circuit
WARRIOR LITE
Compact design with >150 ml/min

POC H&H METER
Clia Waived Hemoglobin and Hematocrit Testing

Supply Chain
LEARNING CURVE
Initial production failure

SUPPLY DELIVERY
Delivery on order
4

SUPPLY DELIVERY
Delivery on order
72+
EXCHANGE ROTATION
Product is with EMS
Moved to Memorial Herman

QUALITY IMPROVEMENT
Documentation, Data, and Research

REGULAR MEETINGS
Involving all stakeholders
OUR CLINICAL DATA
Outcome data is the limiting factor
Not current standard of care
Logistically and financially challenging
No automated testing platform or standard for antigen titer...yet!
If the blood center provides it, will it be used?
What will be the outdate rate?
REASONS NOT TO DO LTOWB

• Logistical concerns such as transport, storage, chain of custody?
• How will training occur, who is going to do it?
• Who is going to get it?
• Will there be enough, should it become standard of care?

Providing LTOWB is different…

Challenge Current State With LTOWB

Donor Base Management
Large to HUGE depending on blood center and region served
Starting from scratch to identify, test and maintain

(Much like SDP donors)

Recruitment and Collection
Standardized campaigns, very little individualized marketing
Can adjust to excess and shortfall
Can donate anywhere

Very individualized, extended time to educate and recruit

Challenge for JIT collection
Specified donation sites

Donor Qualification
Standardized based on regulatory requirements
Same as current state + NO anti-thrombotic meds

Donor Testing
Standardized and automated based on regulatory requirements
Same as current state + antigen titer testing

No commercially available automated test

Product Manufacturing
Mass production based on customer/regional average. Can share inventories with other blood centers (shortages and excess)
While manufacturing time is reduced, it isn’t much
No centralization and expression
Not much to share/few providers

Storage and Transportation
Based on current regulations, validated shipping, all shipping types
Same as current state + new devices and monitoring at first responder bases

Expiration
42 days <2% 21 or 35 days ~8% to 10%

Opportunity Cost
2 to 4 products per whole blood collection 1 product
Overall increase in COGS
COGS recovered within revenue from 2 to 4 products (average 3.2/WB)
Increased COGS must be recovered from revenue of one product

Customers
Mature market with many customers New market, few customers and with new customer types

ROI
Recoverable (kind of) Hopefully…

Drop your ego at the door!

ALL PARTIES WANT THIS TO SUCCEED

• Large network of LTOWB throughout South Texas
• 35 day expiration
• Methodical roll out
  • Stored at helicopter bases for 14 days
  • EMS for 7 days – resupply at University Med
  • Blood is rotated to our Level 1 centers
TACTICAL MEDICS
Deploy with 2 units on every event

TACTICAL MEDICS
Emergency Medical Task Force - TACTICAL

TEXAS EMFT REGIONS
EMFT-16 TACTICAL Coordinator
MCI RESPONSE
LE Aviation deployment of MTP Cooler

NEXT STEPS
Develop a sustainable supply of Low Titer Group O (+) Whole Blood

SHORT-TERM
Identify and schedule male Group O + donors
LONG-TERM
Automate titer testing process

NEXT STEPS
Prove system wide savings for reimbursement

NEXT STEPS
Mutual-Aid and Disaster Response Plan
LIFE FLIGHT USE
Transfused two units LTOWB to Officer Barnes

SURVIVOR MEETING
Officer John Barnes meets crews that saved his life

WHOLE BLOOD