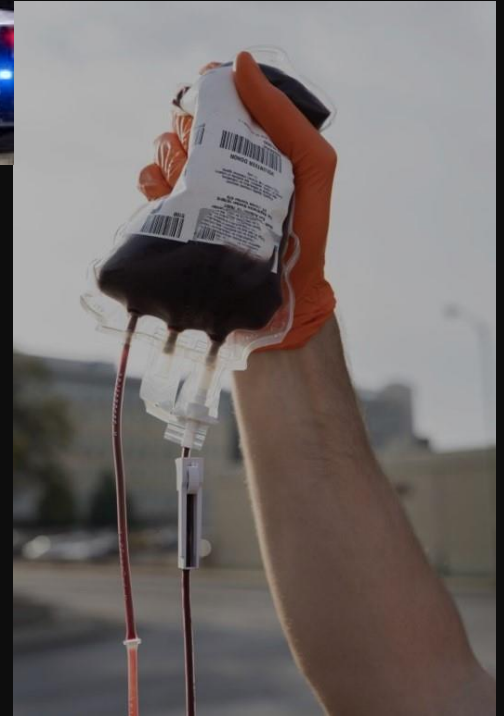


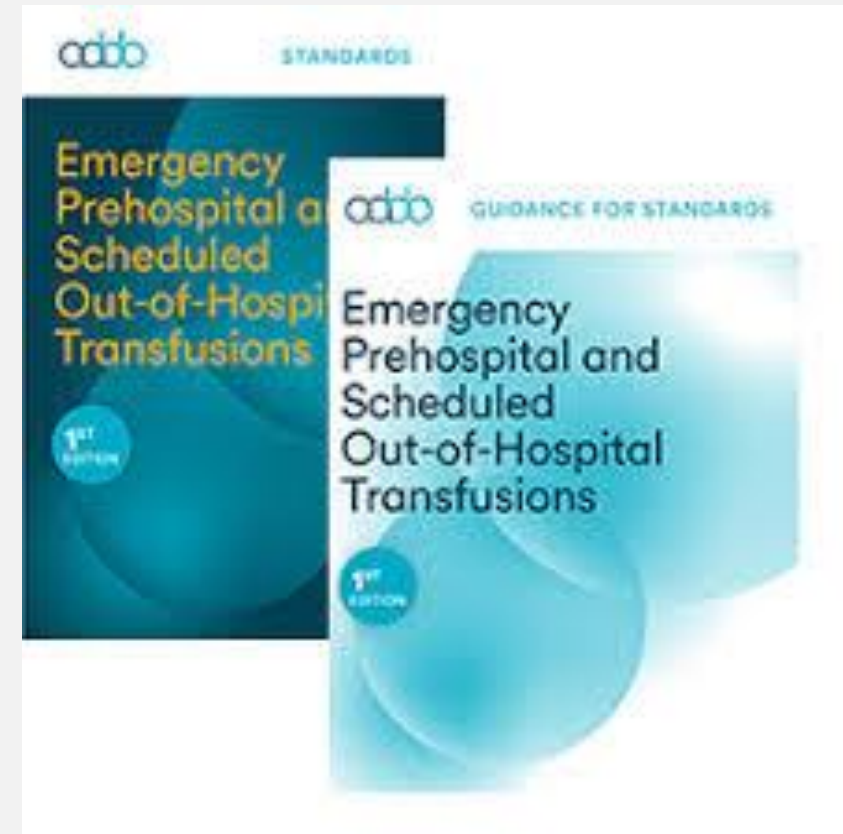
EMS Operations Prehospital Whole Blood Program

Expanding emergency healthcare
through innovation & collaboration



Transfusion Administration Service (TAS) Organization Overview

- EMS Medical Director serves as Executive Management for Transfusion Administration Service.
- The organization shall have established policies, processes, and procedures for program execution in accordance with the AABB Prehospital Standards.
- All personnel shall be aware they have the option to communicate any concerns to either their organization's executive management, the AABB, or both.



Program Equipment

- All equipment maintained and monitored according to manufacturers instructions for both use and traceability.
- Process shall be established to investigate equipment malfunctions, failure or adverse affects.
- Storage and transport devices shall have the capacity and design to ensure proper temperature is maintained.
- Blood warming systems must be equipped with temperature sensing devices and warning system to detect malfunction.



Blood Unit Acquisition Process

- Physically inspect blood unit, label, and all accompanying documentation
- Complete all associated system processes and paperwork for unit receipt



South Texas Blood & Tissue Center
A subsidiary of Redcross of Texas

SHIPPED FROM: STBCTC Headquarters, 25711 on 10th Street, San Antonio, TX 78221, (210) 731-0500

SHIPPED TO: San Antonio Fire Department, 1415 S. Santa Rosa Ave., 78201, (210) 731-0500

RECEIVED BY: PABLO VIEGAS

Product Code: 00000 VBS, Q-Pole: 200000 2014

Signature Total: \$410.00

STRAC

Action

SAFD MOF 4

Administer to Patient

Inventory Management

Initial Receipt

Inventory Check

Return to STBT

Inventory Transfer

Unusable

Whole Blood Daily Check-off Form

SAFD Storage and Possession 14 Day Cycle / Transport Period

SAFD Unit	SAFD Storage Possession	Date	Signature	Time
	Day 1			
	Day 2			
	Day 3			
	Day 4			
	Day 5			
	Day 6			
	Day 7			
	Day 8			
	Day 9			
	Day 10			
	Day 11			
	Day 12			
	Day 13			
	Day 14			

Comments -

Transparency & Accountability

- Transfusion administration service shall ensure fidelity over blood transport process.
- Immediately before transfusion the transfusion administration service shall verify that the unit has remained in compliance with temperature requirements.



Transfusion Information

- Patient meets appropriate agency standards for transfusion
- Blood unit appearance meets visual inspection criteria and is not expired.
- Blood unit has remained in compliance with temperature requirements during storage/transport.
- Consent for transfusion is obtained; informed or implied
- Patient vital signs shall be monitored before, during and after transfusion
- Patient should be continuously monitored for potential adverse transfusion reaction.
- Equipment shall be monitored and maintained in accordance with the manufacturer's written instructions.
- Blood shall be transfused using a filtered line and no drugs shall be added.



Transfusion Considerations

- Transfusion through IV or IO access possible
- Ensure any flow reducing adjuncts are managed
- Establish practice for transfusion to pediatric patients
- Retain blood bag and segments if transfusion is complete prior to arrival at ER
- Hand off blood bag and segments to receiving facility
- Inform receiving hospital of transfusion details
- Complete required documentation of transfusion



Transfusion Recording & Logistics

- Records shall be maintained by transfusing agency
- Process shall be established to investigate any occurrences in which an adverse event with transfusion or equipment surfaced
- Transfusing agency shall provide appropriate training for all individuals related to transfusion program
- Transfusing agency shall have an ongoing process for program Quality Assurance/Improvement
- Transfusing agency shall have an established emergency operations plan (internal & external)

 Southwest Texas Regional Advisory Council					
Prehospital Blood Product Transfusion Record					
Patient Name:		Transporting Agency Run / Case #:		Receiving Facility Medical Record #:	
Product Unit Number (Affix sticker below, or write unit number)	Product Type (Check One)	Transfusion Date & Start Time	Transfusion Complete* (Check One)	Transfusion Reaction** (Check One)	Transporting Medic/RN Initials
1. Affix Sticker Here or Write Unit #	☐ PRBC ☐ Plasma ☐ LTOWB		☐ Yes ☐ Ongoing	☐ Yes ☐ No	
2. Affix Sticker Here or Write Unit #	☐ PRBC ☐ Plasma ☐ LTOWB		☐ Yes ☐ Ongoing	☐ Yes ☐ No	
3. Affix Sticker Here or Write Unit #	☐ PRBC ☐ Plasma ☐ LTOWB		☐ Yes ☐ Ongoing	☐ Yes ☐ No	
Name of Air Medical/Ground Agency and Aircraft ID/Medic Unit #		Receiving Facility (Check One): ☐ University Hospital ☐ Brooke Army Med Center ☐ Other: _____		Type of Call (Check One): ☐ Scene Call ☐ Interfacility Transfer	
Reason for Transfusion: ☐ Trauma ☐ OB/GYN ☐ GI Bleed ☐ Other		Comments:			

*If blood product transfusion is ongoing at time of patient transfer to hospital, document "Ongoing."
**Document actions taken in 'Comments' Section at the time of patient drop-off at receiving hospital.

Mandatory Blood Product & Blood Form Tracking:

☐ Transporting crew keep **White Copy**; give the yellow and pink copies AND the blood bag to the Emergency/Trauma Team.

☐ Emergency Department keep **Yellow Copy**; give the **Pink Copy** AND the blood bag to the Blood Bank/Transfusion Services.

☐ **Transporting Crew:** Using the Whole Blood App, select "Administer to Patient" → Scan the bag → Take a picture of Blood Form → click submit.
OR
Send a copy of Blood Form to **MEDCOM** via text image to (210) 417-7016, or email MEDCOM@strac.org, or FAX: (210) 233-5825

Actions to take for suspected transfusion reaction:

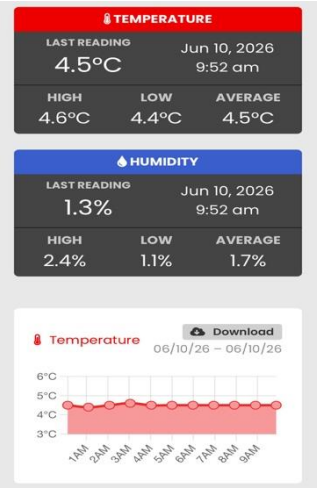
- ✓ STOP TRANSFUSION
- ✓ Disconnect tubing from infusion site; flush site with normal saline
- ✓ Keep line open with normal saline
- ✓ Re-initiate new transfusion if deemed clinically essential
- ✓ Document actions taken in 'Comments' section

Blood Bag & Form given to: _____
PRINTED NAME SIGNATURE

Version JAN 2023; FINAL

Operations at Shift Personnel Exchange

- Verify proper operation of APRU Unit and unit temperature
- Verify blood unit is not compromised and within proper date range and complete blood unit traceability tasks



STRAC

Action SAFD MOF 4

Administer to Patient

Inventory Management

- Initial Receipt
- Inventory Check
- Return to STBT
- Inventory Transfer
- Unusable

Whole Blood Daily Check-off Form

BIO No. Date Received from STBT

Exp. Date on Blood Date Returned to STBT

Date Administered to Patient

SAFD Storage and Possession 14 Day Cycle / Transport Period

SAFD Unit	SAFD Storage Possession	Date	Signature	Time
	Day 1			
	Day 2			
	Day 3			
	Day 4			
	Day 5			
	Day 6			
	Day 7			
	Day 8			
	Day 9			
	Day 10			
	Day 11			
	Day 12			
	Day 13			
	Day 14			

Comments:

Cooler Exchange



1

Remove Empty TIC Box from Freezer



- At designated time, remove empty TIC box from small station freezer.



2

Let Temperature Control Insert Sit at Room Temp until Frost has Dissipated



- Let Temperature Control Insert sit at room temperature until frost has dissipated to achieve optimal temperature for transport.



3

Remove Other Temperature Control Insert from Cooler in Truck



- After frost has dissipated, remove other Temperature Control Insert from cooler in truck.



4

Remove Blood from Temperature Control Insert inside Cooler



- Remove blood from Temperature Control Insert inside cooler which had been on the truck.



5

Inspect Blood & Check Temp Dot



- Initiate visual inspection of blood unit.
- Check temp dot on rear of blood bag.



6

Scan Barcode with STRAC Blood App



- Scan the bar code of the blood bag with STRAC blood App for centralized real time temperature monitoring.



7

Place Blood Unit & Tempstick in Conditioned Temperature Control Insert



- Place blood unit and Tempstick in Temperature Control Insert that had previously been in the freezer for 24 hours and is now conditioned.



8

Place "New" Temperature Control Insert in Cooler & Return to Truck



- Place "new" Temperature Control Insert in cooler and place cooler back in truck.



9

Place Empty Temperature Control Insert in Freezer



- Place empty Temperature Control Insert in freezer, sitting upright and with the lid NOT on top.



10

Complete Documentation & Repeat as Needed

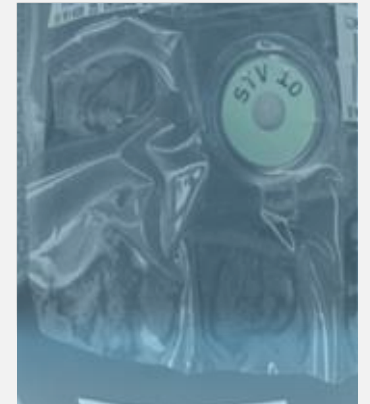
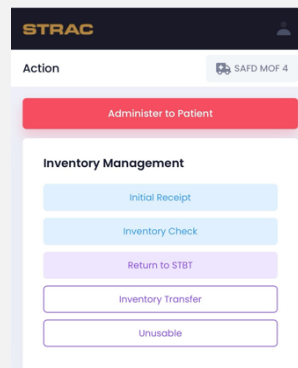


- Complete any other system documentation.
- Repeat blood transport medium exchange if temperature deviations are noted and perform follow up accountability duties.



Follow AABB & Transport Medium Manufacturer Instructions

1. At designated time, remove empty TIC box from small station freezer.
2. Let green insert sit at room temp for 10-15 minutes (bench time) to achieve optimal temperature for transport.
3. After the 15 minute bench time has passed, remove other green insert from cooler in truck.
4. Remove blood from green insert inside cooler which had been on the truck.
5. Initiate visual inspection of blood unit and check temp dot on rear of blood bag.
5. Scan the bar code of the blood bag with STRAC blood App for centralized real time temperature monitoring.
6. Place blood unit and Tempstick in green insert that had previously been in freezer for 24 hours and is now conditioned.
7. Place “new” green insert which now contains blood unit inside cooler and place cooler back in truck.
8. Place empty green insert in freezer
9. Complete any other system documentation
10. Repeat blood transport medium exchange if temperature deviations are noted and preform follow up accountability duties.



Two Cooler Exchange Systems

- Ambient temperatures will affect conditioning time
- Having a third frozen TIC can assist with unforeseen events when a recently exchanged TIC is compromised
- Agencies must ensure that transport medium is validated and replaced at appropriate time intervals



Data Collection & Quality Assurance

Establish a process for quality assurance:

- Chart review
- Case discussion with medics
- Research & Publications
- Conference Presentations
- Regional program meetings and Q/I

G	H	I	J	K	L	M
Initial Nature of Call	Destination	Request for info Sent	Scene Time (mins)	Time of Day	Day of Week	M-Medical / T-Trauma
Traumatic Injury	SAMMC	Y	0:26	10:34	Sunday	T
Shooting / Gun Shot Wound	UH	Y	0:09	19:45	Sunday	T
Stabbing	UH	Y	0:10	22:52	Sunday	T
Stabbing	SAMMC	Y	0:08	0:36	Monday	T
Shooting / Gun Shot Wound	UH	Y	0:07	22:44	Tuesday	T
Shooting / Gun Shot Wound	UH	Y	0:15	0:27	Wednesday	T
Hemorrhage/Laceration	SLB	Y	0:07	23:30	Wednesday	M
Shooting / Gun Shot Wound	SAMMC	Y	0:26	3:23	Thursday	T
Shooting / Gun Shot Wound	SAMMC	Y	0:09	14:00	Thursday	T
Stabbing	SAMMC	Y	0:07	1:30	Monday	T
Shooting / Gun Shot Wound	SAMMC	Y	0:10	15:47	Monday	T
Shooting / Gun Shot Wound	SAMMC	Y	0:12	15:47	Monday	T
Cardiac Arrest	SAMMC	Y	0:25	17:49	Monday	T
Train vs Pedestrian	SAMMC	Y	0:17	5:29	Tuesday	T
Weakness/Lethargic	NEM	N	0:39	16:50	Thursday	M
Motor Vehicle vs Pedestrian	SAMMC	Y	0:10	21:29	Monday	T
Hemorrhage/Laceration	MSO	Y	0:35	1:45	Tuesday	M
Shooting / Gun Shot Wound	UH	Y	0:17	17:12	Tuesday	T
MVC Pinned	SAMMC	Y	0:10	15:28	Thursday	T
Hemorrhage/Laceration	UH	Y	0:20	5:05	Saturday	M
Shooting / Gun Shot Wound	UH	Y	0:07	16:44	Saturday	T
Stabbing	SAMMC	Y	0:08	22:15	Saturday	T
Shooting / Gun Shot Wound	UH	Y	0:07	23:48	Friday	T
Fall	MTB	Y	0:09	21:12	Saturday	M
Traumatic Injury	UH	Y	0:17	15:42	Monday	T

Donor Appreciation

Heroes in Arms Donors

- Show rate of over 80%
- Average 2.1 donations a year
- Responsive to emergencies
- EMS participation valued



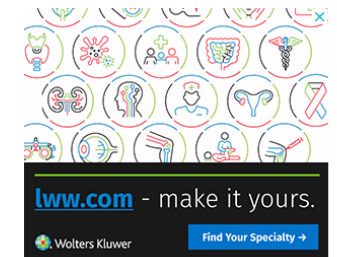
EAST QUICK SHOT 2022

The impact of prehospital whole blood on hemorrhaging trauma patients: A multi-center retrospective study

Braverman, Maxwell A. DO, FACS; Schauer, Steven G. DO, MS; Ciaraglia, Angelo MD; Brigmon, Erika MD; Smith, Alison A. MD, PhD; Barry, Lauran BS; Bynum, James PhD; Cap, Andrew D. MD, PhD; Corral, Hannah MD; Fisher, Andrew D. MD, MPAS; Epley, Eric BS; Jonas, Rachelle B. RN, BSN; Shiels, Michael RN; Waltman, Elizabeth MBA; Winckler, Christopher MD, LP; Eastridge, Brian J. MD, FACS; Stewart, Ronald M. MD, FACS; Nicholson, Susannah E. MD, MS, FACS; Jenkins, Donald H. MD, FACS

Author Information

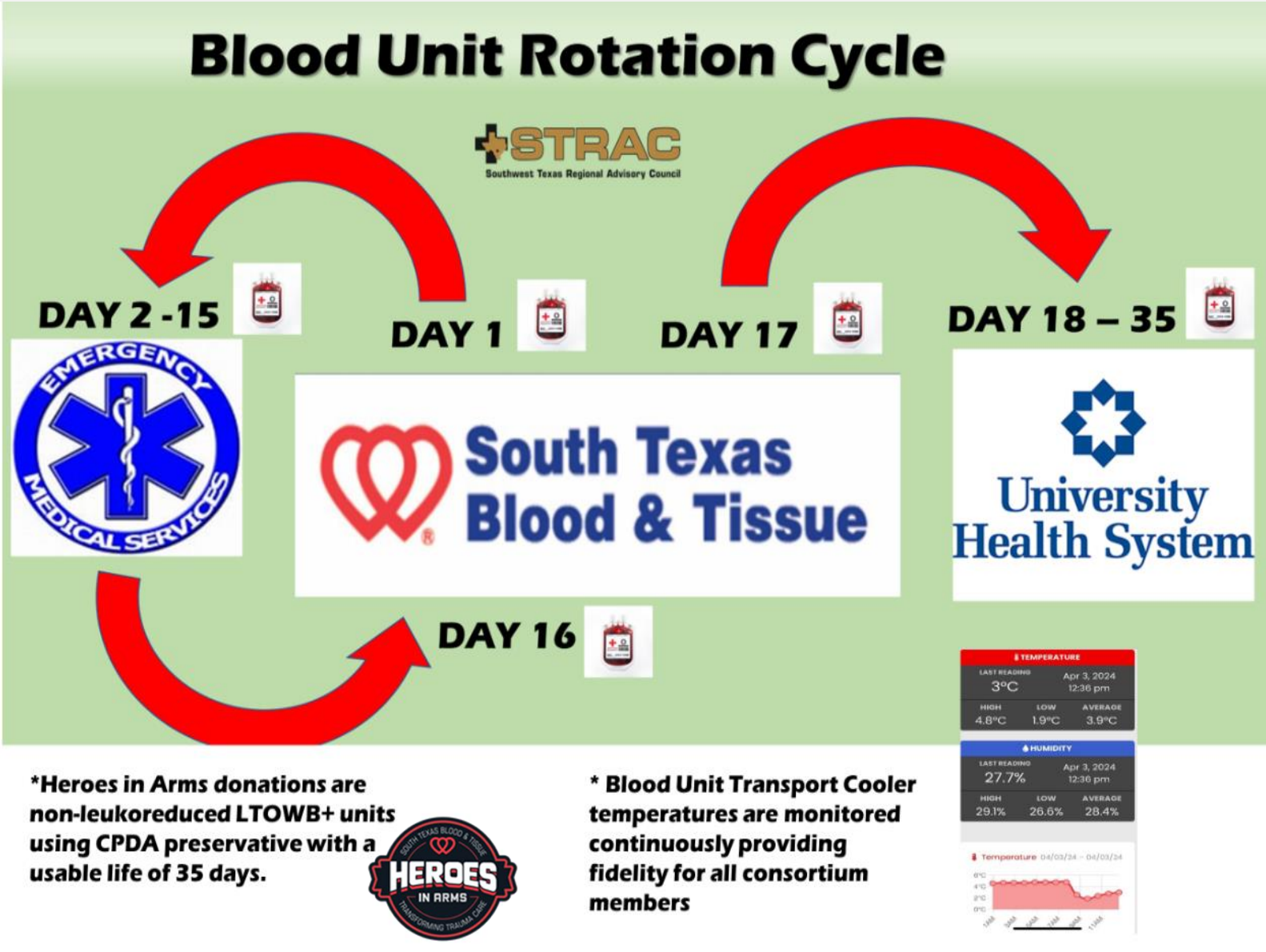
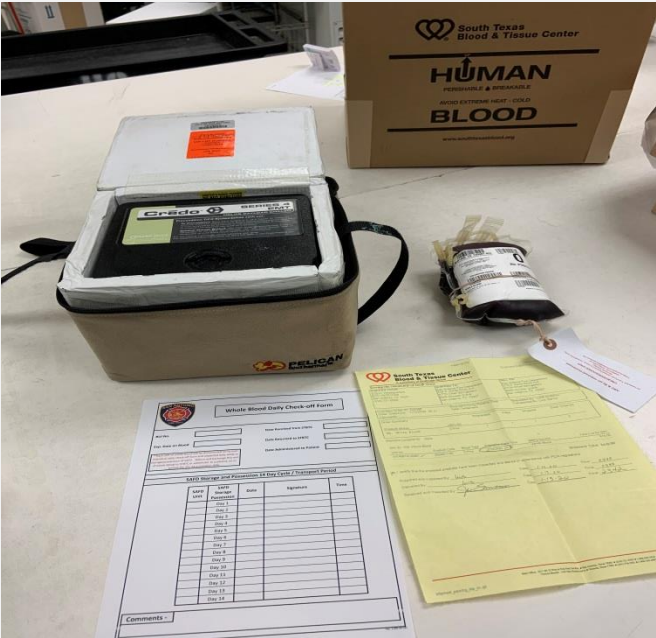
Journal of Trauma and Acute Care Surgery 95(2):p 191-196, August 2023. | DOI: 10.1097/TA.00000000000003908



Related Articles

Blood Stewardship

Process shall be established for the exchange of blood units



Emergency Preparations

Transfusing agency shall have an established emergency operations plan (internal & external)



2025 Final Four

Incident Action Plan (ICS Form 206 Medical Plan)

Total quantity of LTOWB+ prepositioned around city

Locations of prepositioned LTOWB+ units

Check Out & Return Logistics, transport medium, times



STB&T LTOWB STATUS:		
Scheduled Appointments	Inventory	In-Process
18 Tuesday	95	13
15 Wednesday	3 DOS	2 DOS
17 Thursday	60	40
21 Friday	* DOS= Days of Supply	





William Bullock, EMTP, MPA

William.bullock@sanantonio.gov

210-274-9487

William.bullock@southtexasblood.org