



NORSOCOM
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RDCR-MAKING WB
AVAILABLE





Background

- Blood is an organ
- Transfusion of blood is an organ transplantation
- History of economic concerns outweighing patient risk - treatment of hemophiliacs in the 70s and 80s led to infection of HIV virus - once the HIV virus was identified the industry lulled down the risk and this resulted in HIV infection of many innocent patients. People went to prison for this and it resulted in an 0% risk profile in transfusion medicine.
- The in-house environment are not used to the idea that this could be done by not health care providers.....be aware...you will meet resistance...





Fulfilling

ZERO RISK!

- Selected donors - only volunteers
- Screen and test after recruitment
- Thorough interview before every donation
- Screening the donated blood
- Filtrating the blood for leucocytes
- Testing the receiver for incompatibility
- Storing under strictly controlled environment for the different products





Methods listed from lowest to highest risk

- Receive blood from the blood bank
- Pre draw blood from your established walking blood bank
- Buddy transfusion on scene from preestablished (in unit) donors
- Unknown donor pool





Blood from the blood bank

- Logistical challenge
- Not a regular inventory
- Dependent on pre-planning and preparing your blood bank that a request may come



The true risk:

- **ABO mismatch!**
- **Might kill the patient...this must be avoided!**
- Virus diseases are not good, but when the alternative is to die, the choice is not difficult. Alive with Hep C or dead... The risk/benefit analysis is easy...
- Two strategies;
 - Only O-
 - Will reduce the potential of human error - cuts down on resources...
 - A to A, 0 to the rest
 - Potential of human error - allows more potential donors.
- Marking the bag is the most vulnerable step in the process. Double check, double check, double check...





“Buddy transfusion” / Warm fresh whole blood

- Personnel on the scene draw one unit of blood from a fellow soldier and subsequently administer it to the wounded soldier. Blood should be transfused as soon as possible after collection (within 6 hours) as WFWB or, if possible, stored at 2-6 degrees Celsius as CWB if not used within this timeframe.





Cold-chain

- If the blood is not utilized immediately, store at room temperature (22-26°C) for a maximum of 6 hours then store at 2-6°C. Following this procedure the blood can be used for up to 21 days, but is preferably used within 10 days. (Pre-mission donated blood).
- It can be stored at room temperature for up to 24 hours (22°C) but should be discarded thereafter.





Buddy Transfusion

■ ABO mismatch

- Keep records of all blood types - do not trust welcro marking or memory. Keep one copy with medic and one in TOC, use this for double checking.
- Double check with rapid tests once deployed - only under ideal circumstances. We are only human and we make mistakes. Do not try to rapid test under NODS and trust the results.
- Stress the importance of marking the bag properly with double and triple checking

■ TTD's

- Pre screen donors - include like any other blood bank
- Vaccinate donors
- Interview donors before donation
- Rapid test on scene/after deployment
- Awareness and education on the topic





Pre-mission donated blood/ Field Blood Bank

- An established walking blood bank at the mission launch site donates whole blood. This blood is then preferably leukoreduced with a platelet-sparing filter and stored refrigerated at (2-6 degrees Celsius).
- The combatant unit then brings stored whole blood on specific missions in Golden Hour Boxes or equivalent containers to ensure temperature stability.
- With an unbroken cold chain, leukoreduced whole blood(in CPD) can be stored for 21 days.
- Whole blood storage temperature should be monitored continuously. If the cold chain has been compromised there is increased risk of bacterial contamination.
 - The use of these CWB units should not be used unless there are no other options for a casualty at immediate risk of death.





Predraw blood from est. walking blood bank

■ ABO mismatch

- Keep records of all blood types - do not trust welcro marking or memory. Double check records.
- Double check with rapid tests once deployed.
- Stress the importance of marking the bag properly with double and triple checking

■ TTD's

- Pre screen donors - include like any other blood bank
- Vaccinate donors
- Interview donors before donation
- Rapid test on scene/after deployment
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Blood from blood-bank

- Leukoreduced low titer group O blood may be shipped into theatre.
- Cold chain (2-6 degrees celsius)
- Temperature control





Unknown donor pool

- Approaching an unknown donor pool is a last resort...this will be of a much greater risk.
- A tool to reduce the risk has been developed;

Transfusion. 2016 Apr;56 Suppl 2:S119-27. doi: 10.1111/trf.13487.

A proposed field emergency donor panel questionnaire and triage tool.

[Doughty H](#)¹, [Thompson P](#)², [Cap AP](#)³, [Spinella PC](#)⁴, [Glassberg E](#)⁵, [Skogrand Eliassen H](#)⁶,
[De Pasquale M](#)⁷, [Strandenes G](#)⁶.





Two phases

- First phase;
 - Recruitment of voluntary donors
 - Identification of regular donors
 - Identifying risk factors
 - Include or exclude donors

Field Emergency Donor Panel Questionnaire and Triage Tool

- Give blood donor briefing to potential donor group
- Confirm blood group(s) required
- Exclude air crew, HGV drivers and key machinery operators

Primary Triage (Question as a group)

Serial	Question	Yes	No	Action
1	Do you want to give blood?			Disqualify if NO
2	Have you given blood before			If yes - Consider early selection

Secondary Triage (Question individually)

Serial	Question	Yes	No	Action
3	Are you unwell now? New Fever/ Diarrhea / Vomiting Chronic medical condition and not well			Disqualify if YES
4	Are you taking medication for blood pressure; stroke or heart, lung, kidney, cancer or blood conditions?			Disqualify if YES
5	Have you had a blood transfusion or blood products in the last year			Disqualify if YES Accept after 1 year
6	Are you living with HEP B,C / HIV / AIDS – OR living with anyone with these conditions			Disqualify if YES
7	Have you ever been refused as a donor or told not to donate blood (a past history of treated anemia may be acceptable)			Disqualify if YES
8	Male donors only. Have you <u>ever</u> had sex with another male?			Disqualify if YES
9	Have you ever taken illegal drugs with a needle (even steroids)			Disqualify if YES
11	Are you currently pregnant or breast-feeding?			Disqualify if YES
12	Conduct a physical examination Check: Temperature / Rash / Malnutrition, / Pallor / Jaundice / Cyanosis / Shortness of breath / Intoxication from alcohol or drugs / Veins			Disqualify any potentially unwell donor or donors with very difficult veins

- The remaining group form the Emergency Donor Panel (EDP)
- Use the Risk Triage Screen to risk score the potential donors





Phase two

- Risk stratification
- System with points, low score equals to low risk.
- Lowest score possible is 6



Risk Triage (Question Individually)

Score	Questions	Subtotal	Notes
Blood donation history			
1	Regular Donor		Optimum
2	Previous Donor		
3	Non Donor		
Veins and body weight			
1	Good lateral (outer) vein		Optimum
3	Poor or difficult vein		
3	Under 60 kg		Risk of fainting
Infection			
1	> 21 Days Well		Optimum
3	< 21 Days Well		
Travel			
1	No travel in the countries below in the last 6 months		Optimum
2	South America		
4	Asia and Africa		
Life style:			
1	Sex with one partner		Optimum
3	Sex with multiple partners but protected		
-	Sex with a sex worker or in exchange for money/drugs		Avoid for 12 months
Serious medical conditions			
1	None		Optimum
3	Past or present serious medical conditions but managed and well		
3	Untreated current medical conditions but well		
TOTAL			

- Add up score and record: Lowest score = Lowest Risk
- Use Point of Care Test for TTI's – Eliminate and counsel any positives
- Blood type donors and document results





Unknown donor triage tool:

- Create a matrise of potential donors and rate them after risk
- Have a plan for strategy on ABO; Only O, A to A...
- This is a last resort....but can potentially save lives..

