



Defense Health Board





DEFENSE HEALTH BOARD

Question to the Board

DoD Policy on Emergency Blood Transfusions in Combat Theaters and Impact on HIV Testing Policy



Emergency Blood Transfusions

- OIF and OEF combat operations have resulted in instances of blood collection under emergency protocol and transfusion without complete FDA-approved testing.
- The Board was asked to:
 - Review the issues associated with collection and transfusion of blood products under emergency conditions in a combat environment
 - Provide comments and recommendations regarding optimal strategies to minimize risk.



Emergency Blood Transfusions

■ Background

- Majority of transfusions employ FDA-licensed blood products received in theater through a single Blood Trans-shipment Center.
 - The Center is control point for providing blood and blood products to medical treatment facilities of all levels within the AOR.
 - Twice-weekly scheduled shipments of over 1,000 units to medical facilities throughout the AOR
 - Meet routine needs.
- In excess of 5,000 instances of emergency blood transfusions
 - Limited blood screening under emergency protocol
 - HIV using rapid testing – Not an FDA-approved test for blood donation
 - Donors are “Prescreened” in some cases
 - Samples sent to US for testing before blood products are given₄



Emergency Blood Transfusions

- Background
 - Service members submit serum specimen before deploying (Public Law and DoD Requirement)
 - No testing required, but majority of specimens are HIV tested
 - Sample collected within 1 year of deployment
 - Members are routinely tested for HIV every 2 years
 - No routine test for HCV
 - HBV screening and immunization of new military accessions by DoD policy



Emergency Blood Transfusions

- Two scenarios where emergency transfusions occur
 - Mass casualty events
 - Local blood and blood product supply is exhausted
 - Massive severe trauma
 - Patients requiring large number of transfusions
 - Provider preference of fresh whole blood and platelets
 - Limited field evidence of enhanced survival



Emergency Blood Transfusions

- Dilemma
 - DoD must provide a safe blood supply
 - Combat operations/mass casualties create situations where "safe" is not attainable
 - While blood transfusion risks can be reduced, does not = "safe"
 - DoD must provide the best trauma care available
 - Combat poses unique trauma challenges
 - Historical precedence for advances in trauma care from combat
 - Data collection in combat is difficult or impossible
 - Valid evidence of benefit is required before subjecting patients to untested blood products' risks



Emergency Blood Transfusions

Recommendations

The Department should engage in these concurrently

- Limit emergency blood transfusion protocols to instances, such as mass casualty events, where the available supply of FDA-licensed blood and blood products are exhausted.
- Pre-deployment HCV testing to reduce the risk of blood transfusion-related infections.
 - Can reduce the HCV risk in emergency transfusion cases
 - Carefully consider the second and third order implications of such policy
 - Impact of Reserve Component retention
 - Impact of new accession (existed prior to service)



Emergency Blood Transfusions

Recommendations

The Department should engage in these concurrently

- Review the current AOR blood supply logistic system. A more agile system is required, able to meet mass casualty event needs.
- Further investigate establishing blood collection and processing capability forward in theater.
- Review the current HIV interval and pre-deployment testing policy
 - AFEB recommendations of every two years based on an assumption of rare use of a walking blood bank.
 - Assumption is no longer valid
 - Board recommends HIV interval testing every two years
 - Pre-deployment HIV testing yearly



Emergency Blood Transfusions

Recommendations

The Department should engage in these concurrently

- Repeat the DoD HCV Sero-incidence Study
 - (*Am J of Epidemiol* 2001) showing sero-prevalence.
- Partner with industry to develop new FDA-licensed rapid testing methods for blood collection
 - HIV rapid test with acceptable sensitivity and specificity but not FDA approved for blood collection
 - Effective rapid HCV/HBV tests needed
 - Issue of national interest during domestic mass casualty events
- Ensure a comprehensive “Look Back” program



Emergency Blood Transfusions

Recommendations

The Department should engage in these concurrently

- The use of untested fresh whole blood and blood products outside of established, human subjects protected trauma protocols should be discontinued.
 - Novel trauma treatment approaches should be conducted under protocol, even in a combat environment.
 - Joint Theater Trauma Team should lead the effort to improve data collection and evidence for novel trauma methods, particularly relating to the use of fresh whole blood and platelets.