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TECHNICAL MANUAL

ARMED SERVICES BLOOD PROGRAM

JOINT BLOOD PROGRAM HANDBOOK

Approved for public release; distribution is unlimited

**HEADQUARTERS, DEPARTMENTS OF THE ARMY,
THE NAVY, AND THE AIR FORCE
January 1998**

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WASHINGTON, DC, *21 January 1998*

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You can help improve this manual. If you find any mistakes or if you know a way to improve procedures, please let us know. Mail your memorandum or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to the Armed Services Blood Program Office (ASBPO), 5109 Leesburg Pike, Room 698, Falls Church, VA 22041-3258.

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PREFACE

This Joint Blood Program Handbook outlines the functions and responsibilities of the operating elements of the Armed Services Blood Program (ASBP) that could be required to ensure the management and distribution of Class VIII B (Blood) during a contingency operation. Use of the information contained in this handbook is for those in the Military Health System (MHS) areas, who manage and assist in any way with blood and blood products distribution.

Upon activation, or "Stand-up," of the Joint Blood Program Office (JBPO) during a domestic emergency or operational contingency, the Unified Command JBPO and/or the Chief, Joint Task Force (CJTF), JBPO will issue a message indicating "WHO'S WHO IN CLASS VIIIB MANAGEMENT" for the joint area of operations (JAO). During a "stand-up," make sure that you place the information from that message into this booklet and carry it with you when you deploy for easy reference when you arrive at the assigned duty station within the JAO. If there are any questions of a technical or organizational nature regarding the Joint Blood Program in your JAO, get answers for those questions by going directly to the JBPO. Do not guess, know what you should be doing

CHAPTER 1
INTRODUCTION

1-1. Interacting With The Blood Distribution System

a. Anyone working with blood and blood products in a military environment, whether collecting (drawing from donors), testing and packaging, transporting and storing, and/or transfusing final products, must understand and become knowledgeable about the Armed Services Blood Program (ASBP) blood distribution system. It is important to note that blood and blood products have been used in each and every military operation since World War II. The keystone of the entire blood program is the planning, coordinating, and training of all personnel involved in the blood mission to make things work as they should once the blood needs for an operation have been identified by the unified command.

b. The medical team at the field medical treatment facility (MTF), forward medical company, forward surgical team, or ships afloat, must be aware that blood products will not just suddenly appear at their facility. The Joint Task Force's (JTF's) medical planning team must plan for and request blood products through the communications and coordination channels for the system to work. (Tables 1-1 and 1-2 contain lists of available blood products.) This paragraph will address: (1) WHO should the medical team talk with when blood products are required? (2) HOW does the medical team communicate blood product requirements (WHAT products, how much, where required, when required)? (3) HOW does the medical team receive blood products? (4) WHEN can the medical team get blood products from the ASBP?

Table 1-1. Blood Products (Class VIII B)

PRODUCT	UNIT OF ISSUE	SHELF LIFE FOR: STORAGE	SHELF LIFE FOR: TRANSFUSION	ECHELON AVAILABLE	DISTRIBUTION +/- O	A	B	AB
LIQUID RED BLOOD CELLS	APPROX. 250 mL	35 DAYS (CPDA-1) 42 DAYS (ADSOL)	35 DAYS (CPDA-1) 42 DAYS (ADSOL)	ECHELON II ECHELONS III & IV	100% 50%	- 40%	- 10%	- -
FROZEN/DEGLYCER-OLIZED RED BLOOD CELLS	APPROX. 250 mL	10 YEARS	3 DAYS (POST-WASH)	ECHELONS III & IV	100%	-	-	-
FRESH FROZEN PLASMA	APPROX. 250 mL	1 YEAR	24 HOURS (POST-THAW)	ECHELONS III & IV	-	50%	25%	25%
PLATELET CONCENTRATE	APPROX. 60 mL	5 DAYS	5 DAYS	ECHELONS III & IV	50%	50%	-	-

Table 1-2. Blood Bank Procedures By Echelons

ECHELON	BLOOD PRODUCT	ABO & Rh GROUP	TRANSFUSION SERVICE	STORAGE CAPACITY	BLOOD SUPPLY
ECHELON I	NONE	NONE	NONE	NONE	NONE
ECHELON II	RED BLOOD CELLS (RBCs)	O Rh+/-	ABO GROUP DONOR RBCs*	50 UNITS RBC/ FLD REFRIG	ECHELON III BSU
ECHELON III	RED BLOOD CELLS	O,A,B Rh+/-	ABO AND Rh GROUP** MAJOR SIDE IMMED SPIN CROSSMATCH	480 UNITS LIQUID RBCs	ECHELON III BSU
	FROZEN/ DEGLYCEROLIZED RBC	O Rh+/-	SAME	475 UNITS FROZEN	ECHELON III BSU
	FRESH FROZEN PLASMA	A,B, AB	NONE	20 UNITS	ECHELON III BSU
	PLATELET CON-CENTRATE	O,A Rh+/-	NONE	5 UNITS	ECHELON III BSU
ECHELON IV	SAME AS ECHELON III	SAME AS ECHELON IIII	SAME AS ECHELON III	SAME AS ECHELON III	ECHELON IV BSU

* Not available at every MTF ** Not necessary if ASWBPL has verified the ABO Group

(1) Who should the medical team talk with when blood products are required?

(a) The commander may have a surgeon's staff. In those situations, he or she should appoint or designate a person to be the blood program officer. One example can be found at each unified command surgeon's office where there is a Joint Blood Program Officer (JBPO). The JBPO is usually a laboratory officer who is a specialist in blood banking and is trained within the blood distribution system. These JBPOs are involved with the planning of the blood distribution system for operations within their unified command.

(b) In a unified command, depending on its size or based on the military operation, the commander may designate Area Joint Blood Program Officers (AJBPOs). These officers may be assigned to the JTF and work for the JTF surgeon. They plan, coordinate, and communicate the same way as the JBPO does, only within a more defined geographical area. They are laboratory officers knowledgeable in blood banking procedures and a good source for answering any blood distribution questions. They coordinate deliveries of blood products to area facilities and then report to the JBPO as well as their respective command element. The AJBPO is responsible for making sure the blood distribution program for the operation is working. The AJBPO is also responsible for monitoring Blood Supply Units (BSUs) and Blood Transshipment Centers (BTCs) who provide storage of blood products for further transport to MTFs.

(c) The BSU is designated in the operation plans. It can be an Army blood platoon, a fixed MTF, a casualty receiving ship, or a field MTF. The BSU is given missions based on capabilities. The BSU is trained to store and distribute blood products to MTFs. It is usually the MTF's and doctor's point of contact (POC) to the distribution system. Medical teams need to know

what BSU they are being supported by and obtain a POC and phone number from the AJBPO/JBPO/JTF staff. Personnel in the blood distribution system should communicate with one another.

(2) How does a medical team communicate with the BSU?

(a) Once the medical team knows who their BSU POC is, how does the medical team communicate their blood requirements? The Department of Defense (DOD) has standardized message formats so each Service can communicate with other Service organizations. Two standardized messages are the Blood Report (BLDREP) and the Blood Shipment Report (BLDSHIPREP). Each MTF is required to submit a daily BLDREP to its blood product supplier. This can be by telephone, courier, or radio, or satellite communications may be used. Reports can be sent by a message center near the MTF. The means by which a report is sent is dictated by communications capabilities and the supporting network.

(b) A standard BLDREP will provide the facility's current blood inventory, the amount of blood products required within the next 12 to 48 hours, the amount of blood expiring in the next 7 days, and the estimated blood products required in the next 7 days. It may give the location of the MTF and it has a narrative section to address any problems and provide any other information required by higher commands. For example, transfusions may be addressed giving blood unit donor number matched to the patient transfused by the patient's social security number (SSN).

(c) A standard BLDSHIPREP will provide the receiver of blood products with a heads up as to when a blood shipment will be arriving. It will provide the number of products being shipped by ABO group and Rh type. If the shipment is arriving by air, the report will usually have a mission number and transportation control number to specify which plane the blood products will be arriving on. It will give the shipper's address and the POC. Examples of BLDREPs and BLDSHIPREPs with codes for using these reports are explained in FM 8-55 and TM 8-227-11/NAVMED P-5123/AFI 44-118. It is imperative that medical teams requiring blood products for their facilities make sure their staffs are trained on how to submit these reports. Examples are found in appendix B.

(3) How does the medical team receive their blood products?

(a) The most important element in the blood distribution system rests with the transportation capabilities that DOD has available during a mission. Those resources can quickly become limited. Therefore, communication of requirements and coordination of transportation assets is very important. Fortunately, blood distribution is used on a daily basis for peacetime transportation of blood products around the world. Thus, personnel involved, especially with the strategic lift capabilities, are always ready to implement contingency capabilities. Because strategic lift is limited, coordination of blood requirements with sufficient advanced notice is required. MTFs need to coordinate blood transportation directly with their supplying BSU. Any shortfalls should be brought to the attention of the AJBPO/JBPO.

(b) Tactical transportation capabilities must be flexible to meet requirements of the mission. The MTF may have blood products shipped directly to their unit (unit distribution) or they

may have to go to a specific location to receive their blood products (point distribution). In these routine instances, usually organic wheeled-vehicle assets are used. Problems arise when distance, terrain, security, and time become factors.

(c) When wheeled-vehicles are not available or the MTF's location is not open to wheeled transport, helicopters may be used. Air evacuation helicopters have a secondary mission to ship blood products forward to MTFs. Helicopter support to casualty receiving ships requires advanced coordination. Helicopters have the capability to sling load blood products when more blood is required than can be held within the helicopter. When helicopter capability is limited due to security, distance, and increased demands, tactical airlift, such as C-130s, can airland or airdrop blood products. Such requirements must be well coordinated. The JBPOs and AJBPOs should have knowledge of these capabilities and are responsible for coordinating these capabilities for the MTFs. See appendix C, appendix D, and appendix E.

(4) When can the medical team get blood products from the ASBP?

The military is involved in many different types of contingency operations, each one unique from all of the others. The medical team may find itself involved in a forward surgical element which is being deployed as part of the first wave of assault troops. In that situation, the medical team will need to deploy with blood products. In other cases, the medical team may be deploying with an MTF in a second wave of troop movements and will not have to take on casualties until days after entering the theater. In this particular situation, the medical team would not deploy with blood products, but would request them prior to accepting patients. In all cases, the medical team needs to ask the questions, "When are blood and blood products required?" And, "When can we get them?" The

blood distribution system can accommodate the MTFs as long as there has been coordination and advanced notice.

1-2. Blood Distribution System

a. The ASBP blood distribution system (see fig 1-1) is a highly organized and repeatedly exercised system for the continental United States (CONUS) collection of blood products, (left side of diagram), and flows following the solid lines to the deployed theater MTFs (right side of diagram). Blood requests flow following the dotted lines from MTFs to the left.

(1) CONUS military Blood Donor Centers (BDCs) collect and ship blood products to resupply designated Armed Services Whole Blood Processing Laboratories (ASWBPLs) as directed by the respective Service Blood Program Office (SBPO). Contracts with civilian blood agencies are activated if ASBP shortfalls are experienced.

(2) Each ASWBPL ships blood products to the designated BTC or Transportable Blood Transshipment Center (TBTC) as directed by the Armed Services Blood Program Office (ASBPO).

(3) Each BTC or TBTC issues blood products to designated BSUs based on daily allocations established by the AJBPO or JBPO. Each BTC/TBTC submits a daily BLDREP to their AJBPO.

(4) Pre-positioned frozen blood products stored in unified command Armed Services Blood Product Depots (BPDs) are issued to BTCs/TBTCs and/or BSUs as directed by the JBPO.

(5) Located in Echelon III or IV medical support, BSUs supply blood products to service

MTFs and submit daily BLDREPs to the designated AJBPO.

(6) Each AJBPO cross-levels blood products between BSUs and submits a daily BLDREP to the JBPO.

(7) Each MTF or element, including a naval vessel, that requires blood must submit a daily BLDREP to its designated BSU.

(8) The JBPO cross-levels products within the unified command and submits a daily BLDREP to the ASBPO.

(9) JBPOs provide information on program status to the command surgeons, who coordinate with the Joint Staff.

(10) ASBPO is chartered to ensure implementation of ASBP policies and to coordinate provision of blood products to the unified commands in concert with the Joint Staff.

b. Blood product requirements are preplanned and established in each unified command's OPLANs. The BLDREP activates the execution of plans. The BLDREP includes a request for blood products and inventory status. Information copies of BLDREPs and BLDSHIPREPs are provided in accordance with OPLANs (app B).

1-3. Blood Tracking System

The JBPO tracks the inventory of blood products through disposition and transfusion reports. See appendix F for formats and examples.

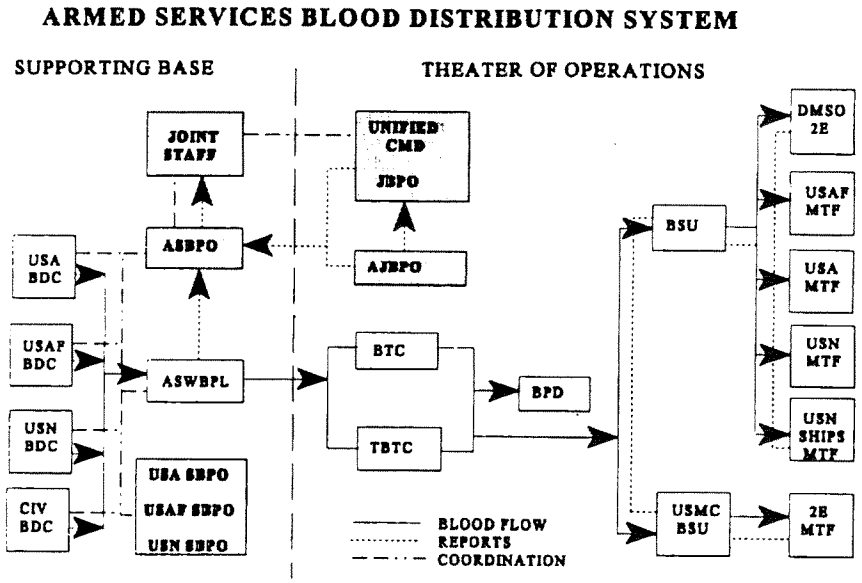


Figure 1-1. ASBP Blood Distribution System

CHAPTER 2
BLOOD PROGRAM OFFICES

2-1. Armed Services Blood Program Office

The ASBPO manages the blood program for the DOD. The ASBPO was established by DOD in 1952 as a joint field operating agency. The ASBPO is subject to the authority, direction and control of the Secretary of Defense through Health Affairs and operational control of the Joint Chiefs of Staff.

2-2. Joint Blood Program Office

a. The JBPO is responsible for the joint blood program management in a theater of operations. The JBPO functions as part of the unified command surgeon's office but may establish an AJBPO for regional blood management. (See fig 2-1.) The functions of the JBPO are to—

(1) Support the unified command surgeon or augment the Commander, Joint Task Force (CJTF) surgeon's staff.

(2) Be the central point of contact to ASBPO.

(3) Coordinate joint blood products requirements and capabilities in the theater of operations. **The major assessment areas for a JBPO are manpower, training levels, and supplies.**

(4) Coordinate requirements, distribution, and facilities. It is the JBPO's responsibility to be sure blood is where its needed. This means finding out early how to get blood to forward units and Navy ships as well as MTFs.

(5) Monitor shortfalls for blood products and supplies for blood collection, deglycerolization, and transfusion.

(6) Ensure readiness through distribution system exercises and training. Other theater staff (AJBPO, BSU, and MTF officers) may need extra training on: coordination with medical planners or transportation officers to anticipate blood/supply needs; making transportation arrangements; or the use of liquid/frozen products.

(7) Ensure compliance with ASBP policies, Food and Drug Administration regulations, and American Association of Blood Banks standards in peacetime, during contingencies, and during wartime.

(8) Perform as the unified command subject matter expert in determining blood requirements based upon Joint Staff casualty projections and maintaining blood in medical sustainment analysis.

(9) Provide the joint blood concept, coordinate with logistics, transportation and, communication personnel on the Joint Staff for the unified command and prepare appendix 2 to Annex Q of Joint Pub 5-03.2.

b. Figure 2-2 is provided as a worksheet. Use it to note information on the JBPO.

2-3. Area Joint Blood Program Office

a. An AJBPO, when established by the JBPO, coordinates requirements and distribution of all blood products to support the BSU and MTFs in a specific area, regardless of the Service component. Not all operations will require the establishment of an AJBPO. AJBPO personnel may not be blood bank specialists but they will have most of the same responsibilities as the JBPO, so they may need training and additional guidance from the JBPO.

b. Figure 2-3 is provided as a worksheet. Use it to note information on the AJBPO.

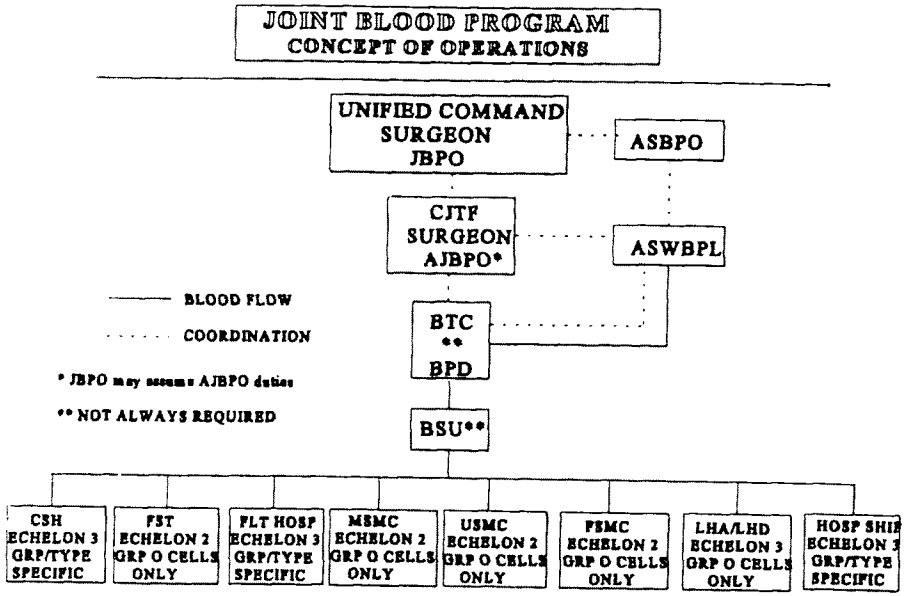


Figure 2-1. Joint Blood Program Theater Operations

JBPO IS:_____ LOCATION:_____

COMM:_____ DSN:_____

INMARSAT/E-MAIL:_____

SECURE VOICE:_____ SECURE FAX:_____

TACFAX:_____ COMM FAX:_____

ROUTING INDICATOR:_____

PLAD:_____

REPORTING REQUIREMENTS:

1. Consolidated BLDREP to ASBPO.
2. Disposition of all blood products in AOR.
   a. Expired units.
   b. Transfused units.
   c. Deglycerolized units.
   d. Units reprocessed (frozen).

Figure 2-2. Joint Blood Program Office Worksheet

AJBPO IS:_____ LOCATION:_____

COMM:_____ DSN:_____

INMARSAT/E-MAIL:_____

SECURE VOICE:_____ SECURE FAX:_____

TACFAX:_____ COMM FAX:_____

ROUTING INDICATOR:_____

PLAD:_____

REPORTING REQUIREMENTS: Daily BLDREP and Blood Disposition Report.

Figure 2-3. Area Joint Blood Program Office Worksheet

CHAPTER 3
BLOOD PROGRAM FACILITIES

3-1. Armed Services Whole Blood Processing Laboratory

a. An ASWBPL is a U.S. Air Force managed, Tri-Service staffed central repository for blood required in contingencies/wartime. An ASWBPL releases blood to unified commands upon approval by the ASBPO. Theater MTFs may NOT go directly to the ASWBPL for blood. Functions of the ASWBPL are to—

(1) Retype blood for ABO and Rh only.

(2) Pack, ice, and prepare blood for shipment to the theater.

(3) Maintain a peacetime inventory of 250 units of liquid blood for use as a rapid response requirement.

b. Figure 3-1 is provided as a worksheet. Use it to note information on the ASWBPL.

3-2. Blood Transshipment Center

a. A BTC serves as the central receiving point in theater for blood shipments from the ASWBPL and for issue to the BSUs. A BTC can store and process up to 7,200 units of blood daily. It is usually operated by U.S. Air Force personnel located at a major airhead. Theater BTC blood products are managed by the JBPO or AJBPO. The functions of the BTC are to—

(1) Inspect blood received from the ASWBPL or other blood agencies BPDs or other BTCs.

(2) Store, ice, and reice blood and perform quality control.

(3) Issue blood to BSUs or other theater blood users.

b. Figure 3-2 is provided as a worksheet. Use it to note information on the BTC.

3-3. Blood Product Depot

a. BPDs are located in the unified command (Pacific Command—3; European Command—1; Central Command —1) to maintain pre-positioned frozen blood stocks which are intended to absorb initial wartime blood requirements until mobilization can catch up to demand. BPDs are Service operated and managed by the JBPO via the AJBPO; however, the blood products are for use by all components. Not all unified commands need a BPD. Functions of the BPD are to—

(1) Store frozen blood products until required.

(2) Thaw and deglycerolize red cells and distribute to BSUs.

b. Figure 3-3 is provided as a worksheet. Use it to note information on the BDC.

3-4. Blood Supply Unit

a. A BSU is responsible for receiving, storing and distributing blood within the theater of operations. It is required to provide a 5-day storage supply of blood products based on MTF proposed requirements and blood reports. The BSU can be identified to provide support in a specific geographical area regardless of Service components. It can support up to 12 MTFs as designated by

the JBPO. The following units/facilities can serve as a BSU: Army Blood Platoon, Navy Fleet Hospital, Naval amphibious vessels, hospital ships, MTFs, and BPDs when designated. BSU functions are to—

(1) Receive, store, and distribute blood to supported MTFs.

(2) Provide a 5-day supply of blood and blood products based on requirements to the theater.

(3) Provide storage capabilities that maintain temperature requirements for liquid blood.

(4) Have the capability to produce ice for shipping and re-icing of blood in theater.

(5) Have the capability to store frozen blood products including fresh frozen plasma (FFP) and frozen red cells.

(6) Have the means to ship FFP to Echelon III MTFs including the ability to obtain/store dry ice.

(7) Supply blood and blood products to MTFs based on the following authorized blood usage:

(a) Echelon I: No blood use is authorized. Examples of Echelon I facilities are the battalion aid stations.

(b) Echelon II: Group O cells only (Rh Pos/Neg); no FFP. Examples of Echelon II facilities are the forward support medical companies (FSMCs), forward surgical teams (FSTs), main support medical companies (MSMCs), casualty receiving and treatment ships (CRTS), and collecting

and clearing companies.

(c) Echelon III: Group and type specific cells and FFP. Echelon III facilities are hospital ships, fleet hospitals, combat support hospitals (CSHs), air transportable hospitals (ATHs), and mobile surgical hospitals (MASHs).

(8) BSUs have the capability to collect blood in emergencies, but this is not encouraged due to the lack of capability to perform testing for infectious diseases. Refer to appendix G for protocols regarding blood drawn in theater.

(9) MTFs to be supported by the BSU and the number of BSUs are designated/determined by the JBPO.

b. Figure 3-4 is provided as a worksheet. Use it to note information on the BSU.

3-5. Medical Treatment Facilities in the Area of Responsibility (AOR)

Figure 3-5 is provided as worksheet. Use it to note information on MTFs within the AOR. Make additional copies as necessary.

ASWBPL LOCATION:_____ POC:_____

COMM:_____ DSN:_____

FAX:_____

SECURE VOICE:_____ SECURE FAX:_____

ROUTING INDICATOR:_____

PLAD:_____

REPORTING REQUIREMENTS: BLDSHIPREP to shipped-to facility, JBPO, ASBPO, and ASWBPLSITREP.

Figure 3-1. Armed Services Whole Blood Processing Laboratory Worksheet

BTC UNIT IS:_____ POC:_____ LOCATION:_____

COMM:_____ DSN:_____

INMARSAT/E-MAIL:_____

SECURE VOICE:_____ SECURE FAX:_____

TACFAX:_____ COMM FAX:_____

ROUTING INDICATOR:_____

PLAD:_____

REPORTING REQUIREMENTS: Daily BLDREP to JBPO and BLDSHIPREP to shipped-to facilities, JBPO.

Figure 3-2. Blood Transshipment Center Worksheet

BPD UNIT IS:_____ POC:_____ LOCATION:_____

COMM:_____ DSN:_____

INMARSAT/E-MAIL:_____

SECURE VOICE:_____ SECURE FAX:_____

TACFAX:_____ COMM FAX:_____

ROUTING INDICATOR:_____

PLAD:_____

REPORTING REQUIREMENTS: Daily BLDREP to the JBPO.

Figure 3-3. Blood Product Depot Worksheet

BSU UNIT:_____ POC:_____ LOCATION:_____

COMM:_____ DSN:_____

INMARSAT/E-MAIL:_____

SECURE VOICE:_____ SECURE FAX:_____

TACFAX:_____ COMM FAX:_____

ROUTING INDICATOR:_____

PLAD:_____

REPORTING REQUIREMENTS:

1. Consolidated daily BLDREP to JBPO or AJBPO.
2. BLDSHIPREP to MTFs with blood shipments.
3. Blood disposition report.

Figure 3-4. Blood Supply Unit Worksheet

MEDICAL FACILITY:_____

BRANCH OF SERVICE:_____

TOTAL PERSONNEL:_____

PHYSICIANS:_____ SURGEONS:_____

LAB OFFICERS:_____ LAB TECHS:_____

NUMBER OF BEDS:_____ COTS:_____

ORS:_____ OPERATIONS/DAY:_____

BLOOD STORAGE CAPABILITY:_____

Figure 3-5. Medical Treatment Facilities in AOR Worksheet
(1 of 2)

TYPE OF STORAGE:_____

POC:_____

LOCATION:_____

COMM:_____ DSN:_____

INMARSAT:_____

SECURE PHONE:_____ SECURE FAX:_____

TACFAX:_____ COMM FAX:_____

ROUTING INDICATOR:_____

PLAD:_____

BLOOD PRODUCTS AUTHORIZED:_____

Figure 3-5. Medical Treatment Facilities in AOR Worksheet
(2 of 2)

CHAPTER 4
BLOOD PRODUCT USAGE

4-1. Transfusion Indications

a. Red blood cells: Red blood cell (RBC) transfusions increase oxygen-carrying capacity in anemic patients. One unit of RBCs will usually increase hemoglobin by 1 g/dL and hematocrit by 2 to 3 percent. In deciding to transfuse, the physician should consider age; the etiology, degree, and time course of the anemia; hemodynamic stability; and coexisting cardiac, pulmonary, or vascular conditions. There is no across-the-board threshold or "trigger." If volume expanders are indicated, fluids, crystalloids or non-blood colloids, should be administered. DO NOT TRANSFUSE RBCS—

(1) For volume expansion only.

(2) To enhance wound healing or to improve general well-being.

b. Red blood cells, frozen: Frozen red cells, group O only, are stocked in BPDs for use during the initial stages of a contingency operation before liquid blood can be shipped from the CONUS donor centers and the ASWBPL. Frozen, deglyerolized red cells are excellent cellular products which have been washed free of other plasma proteins and maintain a high level of oxygen transport. They can be used anytime red cell transfusions are indicated.

(1) Frozen red cells should be used during peacetime to train transfusing physicians and laboratory technicians.

(2) One technician using three cell washing machines can deglyerolize 36 units in 12 hours.

(3) Thawed frozen red cells MUST BE DEGLYCEROLIZED BEFORE TRANSFUSION—glycerol is toxic.

(4) Deglycerolized red cells have a 24-hour expiration; 72 hours during wartime.

c. Fresh frozen plasma: FFP should be administered only to increase the level of clotting factors in patients with a demonstrated deficiency. Laboratory tests should be used to monitor patients with a suspected clotting disorder. If prothrombin time (PT) and partial thromboplastin time (PTT) are <1.5 times normal, FFP transfusion is rarely indicated. Patients with thrombotic thrombocytopenia purpura (TTP) or hemolytic uremic syndrome (HUS) may benefit from FFP transfusion. DO NOT TRANSFUSE FRESH FROZEN PLASMA—

(1) For volume expansion only.

(2) Where specific factor replacements are available.

(3) Automatically with massive blood transfusion.

d. Platelets: Platelet transfusions are administered to control bleeding associated with deficiencies in platelet number or function. One platelet concentrate increases the platelet count by 5,000 platelets/uL. Prophylactic platelet transfusion may be indicated to prevent bleeding in patients with severe thrombocytopenia. For stable patients with normal platelet function, platelet transfusions may be indicated for platelet counts of 10,000-20,000/uL. A patient undergoing an invasive procedure is unlikely to benefit from platelet transfusions if the count is 50,000/uL. Platelet transfusions at higher counts may be required with bleeding and for patients at a higher risk of bleeding because of coagulation defects, sepsis, medication, or disease. DO NOT TRANSFUSE PLATELETS—

(1) For idiopathic thrombocytopenia purpura or TTP, unless there is significant bleeding.

(2) Automatically with massive blood transfusion.

4-2. Transfusion Risks

Infection and alloimmunization are the major complications associated with transfusion of blood components. There is a relationship between risks and the number of donor exposures.

a. HEPATITIS C VIRUS (HCV) can be transmitted by blood transfusion. With the introduction of screening tests to detect HCV antibodies in donated blood, the risk of transfusion-related HCV has been substantially decreased.

b. HUMAN IMMUNODEFICIENCY VIRUS(ES) (HIV) pose(s) a relatively small hazard. The wide range of estimated risk reflects geographic variance. HIV-1 antigen testing has further reduced the exposure window period.

c. OTHER INFECTIOUS DISEASES OR AGENTS may be transmitted via transfusion (for example, hepatitis B, HTLV-I/II, cytomegalovirus, and those causing malaria and other rare diseases).

d. FATAL HEMOLYTIC TRANSFUSION REACTIONS can occur. They are caused by an ABO incompatibility primarily due to errors in patient identification at the bedside.

e. **ALLOIMMUNIZATION** may occur. Recipients of any blood component may produce antibodies against donor antigens, alloimmunization. This condition can result in inadequate response to transfusion.

f. **ALLERGIC REACTIONS, FEBRILE REACTIONS, AND CIRCULATORY OVERLOAD** may also occur.

APPENDIX A
REFERENCES

A-1. Publications.

Accreditation Requirements Manual of the American Association of Blood Banks, 3rd Edition, 1990.

Code of Federal Regulations, Title 21, Parts 600-799.

DODD 6000.12, Health Services Operations and Readiness.

FM 8-55, Planning for Health Service Support.

FM 8-70/NAVMED P-5120/AFMAN 41-111, Standards for Blood Banks and Transfusion Services.

Joint Pub 4-02, Doctrine for Health Service Support in Joint Operations.

Joint Pub 5-03.2, Joint Operation Planning and Execution System, Vol II: Planning and Execution Formats and Guidance.

Joint Pub 6-04 (S), U.S. Message Text Formatting Program (U).

Message Text Format (MTF) Editor, version 4.0.

TM 8-227-3/NAVMED P-5101/AFMAN 41-119, Technical Manual of the American Association of Blood Banks.

TM 8-227-11/NAMED P-5123/AFI 44-118, Operational Procedures for the Armed Forces Blood Program Elements.

TRANSFUSION ALERT, Indications for the Use of Red Blood Cells, Platelets, and Fresh Frozen Plasma, NIH Publication No. 93-2974a, Revised August 1993.

Unified Command Joint Blood Program Regulations.

Unified Command Operation Plan.

A-2. Forms.

DD Form 1502, Frozen Medical Material Shipment—Perishable-Keep Frozen.

APPENDIX B
REQUIRED MESSAGE FORMATS

B-1. Blood Report (BLDREP).

a. Purpose: The BLDREP is a standardized report used in the worldwide ASBP to report blood inventories, request blood, and project requirements.

b. Originator: MTF, BSU, BTC, BPD, AJBPO, JBPO.

c. Method of transmission: Message traffic is the primary mode of transmission; however, use of the voice template is an acceptable alternative. (See figs B-1, B-2, and B-3.) Communications capabilities of the originator and addressee, as well as the urgency of the message subject and text material, determines method of transmission.

d. Frequency of transmission/update: Frequency required is as follows, unless otherwise directed.

(1) MTF to BSU: Daily as of 2359Z; report required no later than 0200Z.

(2) BTC to AJBPO/JBPO: Daily as of 2359Z; report required no later than 0400Z.

(3) BPD to AJBPO/JBPO: Daily as of 2359Z; report required no later than 0400Z.

(4) BSU to AJBPO/JBPO: Daily as of 2359Z; report required no later than 0400Z.

(5) AJBPO to JBPO: Daily as of 0400Z; report required no later than 0800Z.

(6) JBPO to ASBPO: Daily as of 0800Z; report required no later than 1200Z.

e. Completion procedures:

(1) Information copies should be minimized and be specifically required by the OPLAN.

(2) JBPO may assign codes for blood program activities. Locations are reported only on the first report or relocation. Naval vessels can disregard the location requirement. General codes are listed in table B-1.

(3) Use these examples with the Message Text Format Editor and those available in TM 8-227-11/NAVMED P-5123/AFI 44-118.

B-2. Blood Shipment Report (BLDSHIPREP).

a. Purpose: The BLDSHIPREP is a standardized report used in the worldwide ASBP to report blood shipments. The BLDSHIPREP should be used by any medical facility to notify the receiving facility that blood has been shipped.

b. Originator: ASWBPL, BPD, BSU, BTC.

c. Method of transmission: Message traffic is the primary means of transmission; however, use of the voice template is an acceptable alternative. (See figs B-4, B-5, and B-6.) Communications capabilities of the originator and addressee, as well as the urgency of the message subject or text material, should determine the method used.

d. Frequency of transmission/update: Frequency is as required or directed to provide information on blood shipments.

e. Procedures:

(1) Information copies should be minimized and be specifically required by the respective OPLAN.

(2) The responsible JBPO may assign codes for activities. Locations of activities will be reported on the first report or upon relocation. Naval vessels can disregard the location requirement. General use codes are listed in table B-1.

(3) ASWBPL may ship direct to a BSU if no BTC is established.

(4) Use these examples in conjunction with the Message Text Format Editor and those available in TM 8-227-11/NAVMED P-5123/AFI 44-118.

Table B-1. BLDREP/BLDSHIPREP Message Codes

Category	Code Definition	
MANAGEMENT	A = JBPO	B = AJBPO
FACILITIES	C = ASWBP E = BPD G = BSU I = Navy Vessel	D = BDC F = BTC H = MTF
PRODUCTS	J = RCZ—RED BLOOD CELLS L = RCF—FROZEN RED CELLS N = PC—PLATELETS	K = WBZ—WHOLE BLOOD M = PFF—FRESH FROZEN PLASMA
BLOOD GROUPS	Q = RANDOM GRP/TYPE O,A,B S = RANDOM TYPE O U = RANDOM TYPE B	R = RANDOM GRP/TYPE O,A T = RANDOM TYPE A V = RANDOM TYPE AB
TIME FRAME	W = REQUIRED WITHIN 12 HRS Y = REQUIRED WITHIN 48 HRS	X = REQUIRED WITHIN 24 HRS
MISCELLANEOUS	Z=NOT APPLICABLE OR SEE REMARKS	

PRIORITY: Determined by JBPO/AJBPO
FM: Input sending location (your) Plain Language Address (PLAD)
TO: Input receiving location (BSU, AJBPO) Routing Indicator (RI), if available, and PLAD
INFO: Input information addressee RI and/or PLAD
CLASSIFICATION: Determined by JBPO/AJBPO
OPER: Input operation name
MSGID: Input report type and reporting unit name and ID code
ASOFDTG: Date-time (Zulu) of Message
REPUNIT: Name, designator code, and activity brevity code of unit
BLDINVT: Total of each product on hand by amount and product code
BLDREQ: Total number of each product requested (amount/code)
BLDEXP: Total number of each product expiring in the next 7 days
BLDEST: Estimate total number of each product required for resupply in the next 7 days by amount and product code
CLOSTEXT: Additional comment, remarks, or information
DECL: Message downgrading instructions; mandatory if message is classified

Figure B-1. Definition of BLDREP Elements

PRIORITY ***UNCLASSIFIED***
FM CINCUSACOM NORFOLK VA//JO2M//
TO RUEAUSA/ASBPO WASHINGTON DC
INFO RUEOLIA/ASWBPL MCGUIRE AFB NJ
RULYOGB/RHEVAZZ/CJTF ONE EIGHT ZERO//J4/SURG MAIN/FT BRAGG//
UNCLAS
OPER/UPHOLD DEMOCRACY//
MSGID/BLDREP/CJTF-180 JBPO/BLD/OCT/A//
ASOFDTG/150001OCT94//
REPUNIT/32NDMED BN (LOG) BLDPLT/G/CAMP DEMOCRACY HAITI//
BLDINVT/32NDMED BN (LOG) BLDPLT/G/115JS/31JT/3JU//
BLDREQ/30JQ//
BLDEXP/32NDMED BN (LOG) BLDPLT/G/49JS/24JT//
BLDEST/32NDMED BN (LOG) BLDPLT/G/45JS//
CLOSTEXT/REQUEST 30JQ FOR DELIVERY ON 20OCT AND 2NOV. CHANGE STANDING ORDER TO 45JQ FOR DELIVERY ON 14TH OF EACH MONTH//
UNCLASSIFIED

Figure B-2. Example of a completed BLDREP

(Addressee) This is (Originator) Blood Report. Addressee answers: Originator responds: This is (Originator)

Flash Immediate Priority Routine Top Secret Secret Confidential Unclassified

BLOOD REPORT—"Give the line number and then the required information in ( )."

1. As of _____(Date-time-zone of this report)
2. Unit _____(Reporting unit name/designator)
3. Activity _____(Reporting unit's activity brevity code)
4. Location _____(Location of reporting unit lat/lot for delivery) Naval vessels only (hospital ship)
5. Rendezvous _____(Naval ships only (hospital ships) estimate day, time, month, year-of rendezvous)
6. Arrival _____(Arrival at the projected rendezvous location)
7. Status of _____(Name/code of the unit or activity reporting blood status if other than message originator)
8. Activity _____(Reporting units activity code letter if other than originator)
9. On Hand _____(Number/code each product on hand)
10. Needed _____(Number/code product requested)
11. Expiration _____(Estimate of total number of products by group/type to expire in next 7 days)
12. Resupply _____(Estimate of total number of products by group/type required in next 7 days)
13. Narrative _____
14. Time _____(Day-time-zone when required)
15. Authentication _____ (Message authentication in accordance with JTF procedures)

Figure B-3. BLDREP Voice Template

PRIORITY: Determined by JBPO/AJBPO
FM: Input sending location (your) PLAD
TO: Input receiving location (BSU, AJBPO) RI if available, and PLAD
INFO: Input information addressee RI and/or PLAD
CLASSIFICATION: Determined by JBPO/AJBPO
OPER: Input operation name
SUBJ: BLDSHIPREP
MSGID: Input report type and reporting unit name and ID code
ASOFDTG: Date-time (Zulu) of message
REPUNIT: Name, designator code, and activity brevity code of unit
1SHIPD: Blood product/number by blood type/and total number shipped
BLDSHP: Airbill or Transit Control Number (TCN)#/aircraft or flight #/estimated time of arrival (date and time)
POC: Point of contact (name, rank, phone number and location)
CLOSTEXT: Additional comment, remarks, or information
DECL: Message downgrading instructions mandatory if message is classified

Figure B-4. Definition of BLDSHIPREP Elements

PRIORITY ***UNCLASSIFIED***
O1 02 011813Z NOV 94 RR RR UUUU
FM ASWBPL MCGUIRE AFB NJ//
TO RUERHNA/CDR 44TH MED BDE//28TH CSH//
INFO ASBPO WASHINGTON DC//
CINCUSACOM NORFOLK VA//J02M//
UNCLAS
OPER/UPHOLD DEMOCRACY//
SUBJ/BLOOD SHIPMENT TO CAMP DEMOCRACY, HAITI/PASS TO 28TH CSH//
MSGID/BLDSHIPREP/ASWBPL//
ASOFDTG/3121O0ZOCT94//
REPUNIT/P3//
ISHIPD
/BP/OPOS/ONEG/APOS/ANEG/BPOS/BNEG/ABPOS/ABNEG/TOTCTBP//
/J/ 22/ 5/ 10/ 3/ 3/ 2/ 0/ 0/ 45//
BLDSHP/TON FM4484 4304 9901 XXX/AMC AQZ04P100306/021830ZNOV94/1//
POC/GROSHEL/MAJ/ASWBPL/PRIPHN DSN440-3373/2442//
CLOSTEXT / ICED 311700ZOCT94 / SHIPPED TO CHARLESTON AFB VIA FEDX ON 31OCT1994 / FROM CHARLESTON AFB TO PORT-AU-PRINCE, CARRIED BY AMC MISSION# AQZ04P100 ON 306 DAY//
UNCLASSIFIED

Figure B-5. Example of a completed BLDSHIPREP

(Addressee) This is (Originator) Blood Report. Addressee answers: Originator responds: This is (Originator)

Flash Immediate Priority Routine Top Secret Secret Confidential Unclassified

BLOOD SHIPMENT REPORT—"Give the line number and then the required information in ( )."

1. As of _____(Date-time-zone of this report)
2. Unit _____(Reporting unit's name or designator)
3. Activity _____(Reporting unit's activity brevity code)
4. Location _____(Location of reporting unit lat/lot (UMT), Naval vessels only (hospital ship); Project, LAW/LONG, UMT or place name for delivery of products)
5. Rendezvous _____(Hospital ships estimated day, time, month, year-of arrival (Naval ships only))
6. Arrival _____(Projected shipment arrival location)
7. Product _____(Brevity codes of products being shipped)
8. O Positive _____(Number of units)
9. O Negative _____(Number of units)
10. A Positive _____(Number of units)
11. A Negative _____(Number of units)
12. B Positive _____(Number of units)

Figure B-6. BLDSHIPREP Voice Template (1 of 2)

13. B Negative _____(Number of units)
14. AB Positive _____(Number of units)
15. AB Negative _____(Number of units)
16. Total _____(Total number of units of the blood product being shipped)
17. Control _____(Airbill number or transportation control number. Air flight number assigned)
18. Mission _____(Mission number assigned)
19. Arrival _____(Estimated arrival-day, time, time zone, month, of shipment arrival at destination)
20. Boxes _____(Number of boxes in shipment)
21. Contact _____(Name of shipper's POC)
22. Phone _____(24-hour telephone number of shipper's POC)
23. Narrative _____
24. Time _____(Message hour, minutes, time zone required)
25 Authentication _____(Message authentication in accordance with JTF procedure)

Figure B-6. BLDSHIPREP Voice Template (2 of 2)

APPENDIX C
AIRLIFT REQUEST GUIDANCE

The worksheet in figure C-1 contains space for information frequently required when requesting airlift support. For fixed-wing, contact the Air-Head Aerial Port Squadron or the Theater Patient Movement and Regulating Center (TPMRC). For rotary-wing support to forward medical units or Navy ships, go through the Army Medical Logistics Battalion Forward (MEDLOG BN FRW). Their Blood Platoon personnel should be trained in sling-load and other helicopter support.

TIME OF REQUEST:_____ REQUESTOR:_____

FROM (UNIT/LOCATION):_____

TO (UNIT/LOCATION):_____

PRIORITY: IMMEDIATE PRIORITY ROUTINE

DISTANCE (BETWEEN SUPPLIER AND USER):_____

MODE OF TRANSPORTATION: AMBULANCE TRUCK HELO FIXED-WING
TYPE OF DELIVERY: AIR-LAND AIR-DROP OVERLAND

Figure C-1. Airlift Support Worksheet (1 of 2)

RIGGING REQUIRED:_____

NUMBER OF BOXES:_____ WEIGHT OF SHIPMENT (INCLUDING ICE):_____

SIZE OF PACKAGE:_____

ON-LOAD LOCATION (INCLUDE GRID COORDINATE):_____

TIME DELIVERY AVAILABLE:_____

ETD (EST TIME OF DEPARTURE):_____

POC/ON-LOAD LOCATION:_____

OFF-LOAD LOCATION (INCLUDE GRID COORDINATE):_____

ETA (EST TIME OF ARRIVAL):_____

POC/OFF-LOAD LOCATION:_____

SPECIAL HANDLING INSTRUCTIONS (FOR US NAVAL VESSELS, INCLUDE RADIO FREQUENCIES AND REQUEST DECK LANDING TIMES):_____

Figure C-1. Airlift Support Worksheet (2 of 2)

APPENDIX D
BLOOD PROGRAM PLANNING FACTORS

Table D-1. Blood Programming Guide

Programming Factor	Requirement
4 Units PRBCs	Per Wounded in Action (WIA) and Non-Battle Injury (NBI)
0 Units PRBCs	Per Disease Non-Battle Injury (DNBI)
0.08 Units FFP	Per WIA and NBI
0.04 Units Platelets	Per WIA and NBI
18 FFP Units	Frozen Blood Shipping Container
30 Units PRBCs	Per Standard Shipping Container
14 lbs Cubed Ice	Per Standard Shipping Container
120 Shipping Containers	Per 463L Pallet, weight 5394 lbs
3600 Units PRBCs	Per 463L Pallet, size 442 cubic ft
7200 Units PRBCs	Per Blood Transshipment Center/Day
250 Units PRBCs	Contingency Blood at ASWBPL
480 Units PRBCs	Per DEPMEDS D303 ISO
500 Units PRBCs	Per DEPMEDS D404 ISO
1 Unit Thawed/Washed	Per Hour, Per Wash, Per Technician
2 to 3 Washers	1 Technician can operate at a time
1.550 Liters Wash Solution	Per Unit Washed
48 Boxes or 1440 Units	CDS (Containerized Delivery System)
50 Boxes or 1500 Units	UH60 Helicopter (inside)
48 Boxes or 1440 Units	Slingload UH60 Helicopter
40 Boxes or 1200 Units	UH-1 Helicopter Sling

Table D-1. Blood Programming Guide-continued

Programming Factor	Requirement
30 Boxes or 900 Units	UH-1 Helicopter (inside)
1300 Frozen Units, 56 FFP	LHD Amphibious Ship
950 Frozen Units, 40 FFP	LHA Amphibious Ship
2850 Frozen Units, 120 FFP	T-AH (Hospital Ships)
1-6°C	Blood Storage Temperature
1-10°C	Blood Shipment Temperature
-65°C or Below	Frozen Blood Storage or Temp
-40°C or Below	Frozen Blood Shipment Temp
-18°C or Below	FFP Storage/Shipment Temp
20-24°C	Platelet Storage/Shipment Temp

APPENDIX E
SHIPPING INFORMATION

E-1. Collins box: Blood shipping container, NSN 8115-00-935-9761.

a. Capacity: 20 units whole blood, 30 units PRBC, 16 units FFP/RCF.

b. Dimensions of box: 18 inches (L) X 19 inches (W) X 16 inches (H), 3.2 cubic feet.

c. Weight of: empty box—9.5 pounds, wet ice—14 pounds, dry ice—20 pounds.

d. Weight of box+blood+wet ice: 44 pounds.

e. Tonnage: number of boxes X 0.0225.

E-2. 463L Pallet.

a. Dimension: 108 inches X 88 inches X 4 inches.

b. Maximum load height: 96 inches (6 boxes).

c. Pallet with cargo net: 354 pounds.

d. Maximum allowed weight: 8,000 pounds.

E-3. Pallet With Blood Products.

a. Units per box: red cells—30; FFP/RCF—12.

c. Units per pallet: red cells—3,600; FFP/RCF—1,440.

d. Weight per box: red cells—44 pounds; FFP/RCF—39 pounds.

e. Weight of shipment: red cells—5,400 pounds; FFP/RCF—4,680 pounds.

f. Volume of shipment: red cells—442 cubic feet; FFP/RCF—360 cubic feet.

E-4. Shipment Icing and Storage Procedures.

a. Liquid red cells.

(1) Liquid blood storage specifications: store at 1 to 6 °C; ship at 1 to 10 °C.

(2) Repack liquid blood shipments every 48 hours using 14 pounds of wet cubed ice. DO NOT USE BLUE ICE OR CHEMICAL ICE PACKS. If ambient temperature exceeds 90 °F, re-icing will be required every 24 to 30 hours.

(3) Place re-icing instruction labels, DD Form 1502 (Frozen Medical Material Shipment—Perishable-Keep Frozen), on the outside of the Collins box to indicate reicing during transit.

(4) Add a temperature monitoring device to each box to indicate temperature variations in shipping.

(5) If pick-up exceeds 12 hours, maintain blood at 4 °C.

b. Frozen products.

(1) Pack frozen products in Collins boxes and substitute dry ice. Dry ice needs to be replenished every 72 hours.

(2) Dry ice is hazardous material for air transport. Label the outside of the box to indicate that it contains dry ice.

(3) Shipping containers maintain RCF for 30 hours at -80 °C. Frozen shipments must be kept below -40 °C.

(4) Frozen blood can be stored for 10 to 21 years at -80 °C. Use deglycerolized RBCS within 24 to 72 hours post-thaw.

(5) FFP can be kept for 1 year in frozen storage. Use FFP within 24 hours post-thaw.

APPENDIX F

BLOOD INVENTORY TRACKING OPERATION REPORTS

F-1. Report Formats.

a. The following DISPOSITION and TRANSFUSION reports are in a format that will allow you to track blood products and provide the required information to the JBPO/AJBPO. If theater Defense Blood Standard System (DBSS) is in use, reports will be produced automatically, but the following formats (figs F-1 and F-2) should be used for manual documentation and reporting.

b. Frequency of submission will be determined by JBPO. At the least, the disposition of transfused units must be submitted upon redeployment of the MTF.

F-2. Disposition Report.

a. Facility name: Document the name of your unit/MTF at the top of the report form.

b. Unit number: Input number of blood unit being dispositioned.

c. Expiration date: Input expiration date of blood unit being dispositioned.

d. Product ABO/RH: Input A,B,O/RH of unit being dispositioned.

e. Product type: Input product type (RBC, FFP) of blood unit being dispositioned.

f. Shipping facility: Input name of facility (ASWBPL, BTC, BSU) which supplied the unit.

g. Date received: Input the date you received the unit.

h. Disposition date: Input the date blood was dispositioned (destroyed, shipped, transfused).

i. Reason/method: Enter the reason for disposition and, if destroyed, method of destruction (incinerated).

j. Location: Indicate the location where the blood was dispositioned (MTF, Afloat).

k. Reported to JBPO: JBPO will indicate the date the report is received.

F-3. Transfusion Report.

a. Unit number: Input number of blood unit transfused.

b. Expiration date: Input the expiration date of the blood unit transfused.

c. Product ABO/RH: Input ABO/RH of unit transfused.

d. Product type: Input the product type (RBC, FFP) of the unit transfused.

e. Date transfused: Indicate date of blood transfusion.

f. Patient's name: Input the name of patient transfused.

g. Patient's FMP/SSN: Input the FMP/SSN of patient transfused.

h. Nationality: Indicate patient's nationality, (Haitian, British, Russian), if known.

i. Patient's ABO/RH: Input the patient's ABO/RH.

j. Sex: Input the patient's sex (M/F).

k. Reason: Indicate the reason for the transfusion (for example, gunshot wound).

BLOOD INVENTORY TRACKING OPERATION:

Disposition Report

NAME OF MEDICAL CARE FACILITY

UNIT NO	EXP DATE	PROD ABO/RH	PROD TYPE	SHIPPING FACILITY	DATE RECEIVED	DISPOSITION DATE	REASON/ METHOD	LOCATION	REPORT TO JBPO
4016003	941006	O POS	RBC	ASWBPL	940923	941004	SHIPPED	KEESLER	941010
2237398	941006	O POS	FFP	ASWBPL	940923	941004	TRANSFUSE	HAITI	941010
2237398	941006	O NEG	RBC	ASWBPL	940922	941008	DESTROY	HAITI	941010

Figure F-1. Format for Blood Disposition Report

BLOOD INVENTORY TRACKING OPERATION:

Transfusion Report

NAME OF MEDICAL CARE FACILITY

UNIT NO	EXP DATE	PRODUCT ABO/RH	PRODUC T TYPE	DATE TRANSFUSED	PATIENTS NAME	PATIENTS FMP/SSN	PATIENTS NATIONALITY	PATIENTS ABO/RH	SEX	NOTE
401600	941103	O POS	RBC	941015	TANI, D.	20/837-00-9876	USA	O POS	M	
741217	941103	O POS	RBC	941016	TANI, D.	20/837-00-9876	USA	O POS	M	
223921	941122	A NEG	FFP	941022	DARELL	20/767-98-5362	BRITISH	A NEG	F	
223921	941122	A NEG	RBC	941022	DARELL	20/767-98-5362	BRITISH	A NEG	F	

Figure F-2. Format for Transfusion Report

APPENDIX G
EMERGENCY DONATION PROCEDURES

G-1. Emergency Blood Collections.

The use of emergency blood collections, although sometimes necessary, is not encouraged due to the lack of capability to perform testing for infectious diseases. If emergency blood collections are used, the following procedures must be adhered to:

a. Keep a serum sample from the emergency donation frozen for retrospective infectious disease testing.

b. Notify the AJBPO/JBPO for guidance on follow-up testing.

c. Utilize the donor's SSN as the blood unit number.

d. If the emergency donation is utilized, the attending physician must certify in writing that the use of blood which has not been fully tested is required to sustain the life of the patient.

G-2. Blood Support To Rh Patients.

a. Medical implications.

(1) Females: Transfusing Rh positive red cells to Rh negative females at Echelon II of medical care, where blood grouping and typing capabilities are not available, may result in future complications if the female is of child-bearing age. If this female develops an anti-D antibody and a future fetus is Rh positive, hemolytic disease of the newborn may result. This condition causes increased red cell destruction and increased bilirubin. As a result, the fetus may not compensate for

the decreased oxygen-carrying capability and severe anemia may develop, causing cardiac failure and edema, hydrops fetalis, and possible death in utero. The impact on hospitals in treating these types of conditions is enormous and costly. Once a D antibody is formed, Rh immune globulin is no longer effective. Thus, it is paramount to reduce the transfusion of Rh positive blood to Rh negative females of child-bearing age.

(2) Males: Although the impact of sensitization on males and the health care system is not as great, the proposed changes for transfusions at the Echelon II level of care will help to reduce sensitization to Rh negative males.

b. Procedures.

(1) Rh negative red cells are to be provided to Rh negative females and males at the Echelon II level.

(2) ID tags and cards will be used at the Echelon II level of medical care to determine the patient's Rh factor only.

(3) If there is a shortage of group O, Rh negative cells at the Echelon II levels, priority of Rh negative blood for transfusions will be given to Rh negative females.

(4) In extreme cases where there may not be enough Rh negative blood to meet all the needs of female patients, the use of Rh positive blood becomes an EMERGENCY REQUIREMENT in saving a patient's life.

(5) In those cases where a female patient does not have an ID tag/card and a transfusion at the Echelon II level is required, Rh negative blood will be given.

(6) The medical officer in charge of an Echelon II MTF should have written procedures for using the ID tag/card in providing Rh negative males with Rh negative blood.

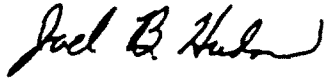
(7) Echelon III MTFs and higher have the capability to group, type, and crossmatch blood with group and Rh type specific red cells and are not authorized to use ID tags and cards, except in emergencies. (Refer to emergency procedures for details.)

NOTES:

By Order of the Secretaries of the Army, Navy, and the Air Force:

DENNIS J. REIMER
General, United States Army
Chief of Staff

Official:



JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army

HAROLD M. KOENIG
Vice Admiral, MC, US Navy
Chief, Bureau of Medicine and Surgery

CHARLES H. ROADMAN, II
Lt. General, USAF,
Surgeon General

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