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OPERATIONAL PROCEDURES FOR MILITARY BLOOD DONOR CENTERS, ARMED SERVICES WHOLE BLOOD PROCESSING LABORATORIES, AND BLOOD TRANSSHIPMENT CENTERS

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CHAPTER 1

INTRODUCTION

1-1. General

The instructions contained in this manual are intended as a guide for the collecting, processing, storage, and shipment of blood for the Armed Services. With the Army, Navy, and Air Force operating their blood donor centers, Armed Services whole blood processing laboratories (ASWBPLs), and blood transshipment centers (BTCs) under a uniform code, free exchange of blood and personnel can be accomplished with confidence.

1-2. Procedure standardization

In the operation of the blood donor centers, there must be thorough standardization of procedures for the collection of whole blood. With the acceptance and publication of the Standards for Blood Banks and Transfusion Services (FM 8-70/NAVMED P-5120/AFR 160-24) and the Technical Manual of the American Association of Blood Banks (TM 8-227-3/NAVMED P-5101/AFM 160-50), the military services have established a strong basis for accomplishment of this goal. The prescribed measures and techniques must be adhered to and every effort must be made to provide adequate blood products for local use, for shipments to other military facilities and commercial processing laboratories, and for interchange with local civilian blood banks as the occasion warrants.

1-3. Standards origin

The Armed Services have accepted the minimum standards of the Bureau of Biologics, Food and Drug Administration (FDA) for blood donor centers. The American Association of Blood Banks (AABB) Standards and Technical Manual have been adopted as Armed Services manuals. Technical guidance for minimal operating standards will be obtained from current copies of the listed FDA and AABB publications.

1-4. Purpose of laboratories

The Armed Services whole blood processing laboratories are essential to an integrated, triservice blood program because these activities provide a technical review point for donor center products prior to their shipment to operational units. The ASWBPLs and BTCs also serve as a vital link in the transportation chain, providing a product to the consumer in a timely manner and in usable condition, particularly during contingency operations.

CHAPTER 2

ADMINISTRATIVE PROCEDURES FOR MILITARY BLOOD DONOR CENTERS

2-1. General instructions

Operation of each blood donor center is the responsibility of the military medical commander at the installation where the blood donor center is located. It is the commander's responsibility to insure that proper medical care is given to all blood donors; that persons are deferred as donors who do not meet the requirements established in the Standards for Blood Banks and Transfusion Services or who are disqualified for other reasons; and that technical operation of the blood donor center will be carried out by qualified personnel.

2-2. Operating instructions

The following forms will be used in the blood program. They may be requisitioned through normal publications channels. The use and disposition of each form is described below.

a. All records will be maintained to meet FDA standards.

b. DD Form 572 (DOD Military Blood Program—Blood Donor Record). One form will be initiated for each potential donor examined and will be used for subsequent processing by a military blood donor center. Corresponding identification numbers will be affixed to both the donor record and the blood collection container prior to actual donation. All handwritten entries on the form will be made in ink. The donor, the screening technician, and, as appropriate, the phlebotomist must sign the form. This permanent record must be maintained on file by the processing donor center.

c. DD Form 573 (Shipping Inventory of Blood Products).

(1) One form will be completed by the shipping facility for each container in a shipment. The contents of the shipping container will be verified against the information entered on the DD Form 573 by the section officer in charge (OIC) or a designee. This verification will be indicated by the individual's signature in the certification block. The shipping facility will retain the third carbon copy of the completed form. The first carbon will be submitted to the DOD Military Blood Program Office (MBPO). Remaining copies will be placed in a watertight plastic envelope and secured to the inside of the inside leaf of the appropriate shipping container.

(2) Upon receipt, the contents of the container will be compared to the information on the enclosed DD Form 573. Unfavorable conditions, including those which render the blood product unusable, will be itemized on the forms. The receiver will retain the original copy of the completed form. The second carbon copy will be returned to the shipper who will retain it on file. Significant or repeated deficiences noted in blood shipments will be identified by the receiver to the section OIC of the shipping facility and the Service Blood Program Manager.

d. Additional documentation must be prepared for each blood shipment made using a contract carrier. Donor center personnel will work closely with their Traffic Management Office (TMO) to insure correct completion of the following forms:

(1) *DD Form 1384 (Transportation Control and Movement Document).* This form will be prepared in duplicate and delivered to the TMO. A carbon copy will be retained with the donor center file copy of DD Form 573's for the shipment.

(2) *DD Form 1348-1 (DOD Single Line Item Release/Receipt Document).* This form will be prepared in four copies. Two copies will be delivered to the TMO, one copy is attached to the DD Form 1384, and the remaining copy is secured in a packing envelope and attached to the side of the shipping container.

(3) *DD Form 1387-2 (Special Handling Data/Certification).* This form will be prepared in sufficient copies so that three copies are forwarded to the TMO for each shipment, one copy is attached to the side of each shipping container, and one copy is retained with the donor center file copy of DD Form 573's for the shipment.

(4) *DD Form 1387 (Military Shipment Label).* One copy will be prepared and attached to the side of each box in the shipment.

(5) *DD Form 1502-1 (Chilled Medical Material Shipment).* One copy will be prepared and attached to the side of each box in the shipment. DD Form 1502 (Frozen Medical Material Shipment) will be used instead of DD Form 1502-1, when appropriate.

e. The shipping facility will transmit to

ASWBPL by telephone certain information (identified in app A) relating to each shipment as it is made. Under selected circumstances, higher headquarters may direct the use of a message (format, app A) to forward this data in lieu of a telephone conversation. Required information may be presented as numbers only (without the narrative item description).

CHAPTER 3

TECHNICAL PROCEDURES FOR MILITARY BLOOD DONOR CENTERS

3-1. Donor procedures

a. Scheduling of prospective donors.

(1) Scheduling of prospective donors of all services for the purpose of blood donations will be coordinated with the commanding officers concerned or their designated representative.

(2) Certain duty assignments such as pilots, aircrew members and other special categories may preclude individuals from donating blood. The respective military department regulations and policies must be followed in these cases.

b. Donor criteria. Donor criteria will be those specified in the Standards for Blood Banks and Transfusion Services and the Technical Manual.

c. Nourishment after blood donation. Donor nourishments are medically indicated and will be provided. Also, the appearance of the recovery-refreshment area of the donor center should be planned to promote good will and encourage future blood donations.

d. Reactions.

(1) All donors should be allowed to rest under observation for 10 to 15 minutes following donation to prevent or reduce possible reactions.

(2) Although the withdrawal of blood is not usually accompanied with any untoward reaction, a small percentage of donors may show some reactions before, during, or following the phlebotomy. Slight reactions are not accompanied by syncope (fainting); moderate reactions consist of syncope; while severe reactions are those in which syncope is accompanied by convulsion or tetany.

(3) Blood withdrawal should be discontinued at the first sign of a reaction, and a medical officer notified immediately. Donors must never be left unattended. A report of each donor reaction, treatment and disposition must be recorded on DD Form 572 and the form placed in a permanent file.

(4) Recovery beds must be available at each blood donor center. A medical kit for the treatment of severe reactions must be available at all times. The materials recommended for inclusion in such kits are listed in the Technical Manual, chapter 1. Actual kit inventory is the responsibility of the medical officer in charge.

e. Special problems concerning donor criteria. A prospective donor may be deferred by the medical officer if the donor is deemed a poor risk. In all cases of doubt, the donor should be deferred. Members of the technical staff must be certain that staff aides or volunteers making appointments and recruiting donors are fully cognizant of the primary restrictions governing the acceptance of donors. Careful attention must be given to the required time interval between donations. All active duty military personnel are considered to be adults for the purpose of meeting minimum age requirements.

3-2. Processing and storage procedures

a. Processing of blood. Blood products will be processed and labeled to meet FDA standards.

b. Storage of blood.

(1) Uniform temperature is of the utmost importance for the proper preservation of blood. Blood will be placed in storage at a temperature of 1° to 6° Centigrade (C). Blood must not be permitted to freeze. Refrigerators used for the storage of blood for transfusion will have a tamper proof audible alarm system and a temperature recording system. A daily inspection procedure for manually check and documenting refrigerator temperatures will be instituted at each blood storage facility.

(2) Similar considerations apply to the maintenace of frozen blood products. Routine storage conditions are specified in the Standards for Blood Banks and Transfusion Services. A local method will be developed to insure detection of unexpected thawing of frozen blood products.

(3) A standby emergency power source is considered essential in case of electrical prower failure to the refrigeration system. The emergency power source need not be part of the blood bank facility equipment but must be immediately available on the installation. It should be of adequate size to insure continued refrigeration for blood products. In case of a complete power failure, including the emergency source, the proper temperature range can be maintained by placing block wet ice in the refrigerators. Emergency storage for liquid products can also be provided by packing the units in blood shipping containers with the proper

amount of cubed wet ice. For frozen products, this storage can be attained using dry ice.

3-3. Blood product labels (to be published)

3-4. Preparation of blood products for shipment

a. Shipping container. Blood products processed for shipment will be packed in stock listed container (NSN 8115-00-935-9761). These boxes are reusable. They should be returned or used for subsequent shipments. The appropriate capacities of this container for blood products/equipment are listed in appendix B.

b. Preparation of the shipping container. The container should be precooled. One of the following methods may be used:

(1) Place the entire shipping container with the lid opened in a walk-in refrigerator where the temperature is from 1° to 6° centigrade for at least 2 hours prior to packing for shipment.

(2) Place the refrigerant intended for use with the shipment into the closed shipping container at least 1 hour before the blood products are packed.

c. Procedure for shipping blood products.

(1) Transportation via the most expedient means must be arranged with the TMO as far in advance of anticipated shipment as possible. Required data for preparation of shipping documents (para. 2-2) will be developed. These documents must be completed prior to packing. Transportation scheduling will determine the timing for final packing of the shipment.

(2) Products will be carefully packed in the shipping containers to prevent damage to the units and their labels. Packing of the precooled containers should take place inside a walk-in refrigerator or air conditioned room. The proper type and amount of refrigerant (app B) will be added before the container is closed. For liquid blood products, double bagged cubed wet ice must be used. Each of the polyethylene bags (NSN 8105-00-200-0195) must be individually secured. This can be done by twisting the ice containing bag closed, folding over the twisted part, and applying filament tape or an electrical tie down strap (NSN 5975-00-074-2072) around the twisted portion that has been folded over. The sealed bag is then placed within a second bag and similarly secured.

(3) Required documentation will be placed in and on the shipping container as described in paragraph 2-2.

(4) Shipping containers will be sealed before they are released to the shipping agent. Filament reinforced pressure sensitive tape, 1 inch or more in width, will be used to seal the containers.

(5) Recipient sets will be included with blood shipments only upon special request.

(6) Sealed containers and documentation will be delivered to the shipping agent.

(7) Blood products packaged in accordance with appendix B will maintain required temperature for 48 hours.

3-5. Transportation instructions

The blood donor center OIC will inform the TMO of the following procedures.

a. If the scheduled train, bus, or plane departure is delayed after the blood has been released to the carrier, the blood donor center OIC will be contacted by the transportation officer for disposition of the blood product shipment.

b. Blood containers should never be exposed to extreme temperatures below 1° C or over 27° C. Blood will not be placed in the belly compartment of planes or any place where the ambient temperature falls below 1° C.

c. If there is an enroute delay of more than 48 hours, the carrier must be instructed to break the container seals to re-ice the blood products. When this is done, the carrier agent must annotate and sign the DD Form 1502-1 or 1502. Wet cubed ice only will be used for liquid blood products. The ice should have wet, glistening surfaces, indicative of melting (2° C to 3° C), and should not be supercooled in a low temperature freezer before using. Dry ice will be used for frozen blood products.

Note. Dry ice, salted wet ice, water frozen in polyethlene bags, supercooled canned ice and commercial "Blue Ice" containers will *not* be used for re-icing liquid blood product shipments.

d. The receiver will not accept a container of blood with a broken seal unless the DD Form 1502 or 1502-1 is properly annotated.

e. Blood will be transported as expeditiously as possible.

f. Every attempt will be made to have blood in the receiving laboratory within 24 hours after shipment. Blood shipped to an ASWBPL will be received no later than 5 days after the blood was collected.

g. ASWBPL's will receive blood shipments 24 hours a day; therefore, containers of blood should not be held overnight by the local carrier for delivery the next day.

CHAPTER 4

ADMINISTRATIVE PROCEDURES FOR ARMED SERVICES WHOLE BLOOD PROCESSING LABORATORIES

4-1. General instructions

a. Responsibilities.

(1) The Secretary of the Air Force, or designee, will:

(a) Establish ASWBPLs at air terminals located in the continental United States (CONUS).

(b) Coordinate the joint staffing of these designated ASWBPLs by medical personnel of the Army, Navy, and Air Force in accordance with the staffing criteria concurred in by the providing services (app C).

(c) Provide administrative support for the designated ASWBPLs.

(d) Program, budget, and finance all costs of maintenance and operations of the ASWBPLs at CONUS air terminals, except the pay, allowances, and PCS travel, of the military personnel assigned to the laboratories.

(e) Maintain the ASWBPLs in a standby status, if not activated to support operations, to insure that laboratories will be capable of activation and functional operating within 7 days upon request by the MBPO.

(f) Obtain concurrence of the Assistant Secretary of Defense for Health Affairs (ASD (HA)) through the MBPO prior to closing or deactivating an ASWBPL.

(g) Transporting blood from an ASWBPL to the destination designated by the MBPO.

(2) The Secretaries of the Army, Navy, and Air Force, or their designees, shall provide medical personnel, as specified in appendix C, to staff the ASWBPLs.

(3) The Secretary of the Army, or designee, shall fund for blood procurement from civilian sources, including the costs of transportation to the appropriate ASWBPL, when overall military requirements exceed the capability of the military services. However, this does not preclude a service from obtaining blood locally when required, in support of day-to-day operations.

(4) The MBPO shall provide coordination and technical guidance for the ASWBPLs.

b. ASWBPL personnel. The ASWBPLs shall be staffed by military personnel as agreed upon by the providing military services and published as appendix C of this manual. The Air Force shall appoint an officer in charge who is specially trained in blood banking and carries the 9156G AFSC.

4-2. Administrative data

a. Reporting periods.

(1) The weekly reporting period shall begin at 0001 on Monday and terminate at 2400 the following Sunday.

(2) The monthly reporting period shall begin at 0001 on the first day of the month and terminate at 2400 on the last day of the month.

(3) The quarterly reporting periods shall begin at 0001 on the first day of January, April, July, and October and shall terminate at 2400 on the last day of March, June, September, and December.

(4) The annual reporting period (calendar year) shall begin at 0001 on the first day of January and terminate at 2400 on the last day of December.

(5) Annual reports by fiscal year shall begin at 0001 on the first day of October and terminate at 2400 on the last day of September.

b. Operational data relfecting blood received and shipped. This data shall be submitted in duplicate via airmail to the Director, MBPO, every week on Monday, giving the following information on whole blood/red cells/components.

(1) Units on hand.

(2) Units received.

(a) From military donor centers.

(b) From civilian donor centers.

(3) Total received.

(4) Units unsuitable for transfusion, discarded (including breakage).

(5) Units shipped.

(a) Overseas.

(b) Commercial laboratories.

(c) Others.

(6) Units remaining on hand.

(7) Other pertinent data, to provide a clearer understanding of problems and needs, should be included under Remarks.

c. Operational data reflecting blood received from each service or organization blood donor center.

(1) The operational data shall include the—

(a) Military service or nonmilitary

organization which shall be indicated on the heading.

(b) Donor center shipping the products.

(c) Number of units shipped each day and the total for the week.

(d) Total units by blood group.

(e) Total number of unsuitable units, indicating the number of units for each of the various causes, as listed.

(2) The requested data shall be submitted via air mail for products received from each service to the appropriate address below:

(a) Send data reflecting Army participation to:

Commander
US Army Health Services Command
ATTN: HSPA-C
Fort Sam Houston, TX 78234

(b) Send data reflecting Navy participation to:

Chief, Bureau of Medicine and Surgery
ATTN: Code 3113
Department of the Navy
Washington, DC 20372

(c) Send data reflecting Air Force participation to:

The Surgeon General
ATTN: AF/SGHR
Department of the Air Force
Bolling AFB
Washington, DC 20332

(d) Similar data for the Regional American Red Cross Donor Centers that are shipping blood to the ASWBPL will be submitted each week via air mail to the Director, American Red Cross Blood Program, 1730 E Street, N.W., Washington, DC 20006.

(e) Similar data for blood donor centers which are part of any other civilian group or organization and are shipping blood to the ASWBPL will be submitted each week, via air mail, to the proper office.

(f) A second copy of all data will be sent to:

Director, Military Blood Program Office
DASG-MEDB
Washington, DC 20310

4-3. Requests for blood

a. In support of day-to-day operations.

(1) During peacetime day-to-day operations, medical facilities may supplement their blood product needs in accordance with the policies of their respective military departments. Director, ASWBPL, will cooperate with the blood program managers of the three military services to supplement their needs. It is essential that those blood products shipped to ASWBPL be put to practical use and not be allowed to expire on the shelves. Therefore, while the supply of blood products is limited, small outlying medical activities are encouraged to request blood from ASWBPL to support their day-to-day operation. The blood will be distributed on a prorated priority basis.

(2) When requesting blood, with the concurrence of their respective blood management officers, the requesting activity should contact the Director, Armed Services Whole Blood Processing Laboratory, McGuire Air Force Base, NJ 08641, by telephone or message. Provide the following information for each request:

(a) Name of requesting military installation.

(b) Name of individual making the request.

(c) Number of units requested, by ABO and Rh type.

(d) Date blood/components required.

(e) Fund code number (Government Bill of Lading (GBL)) for billing of freight charge if commercial transportation must be used.

(3) ASWBPL will maintain a log of these requests reflecting the following information:

(a) Date and time request received.

(b) Name of requesting military installation.

(c) Name of individual making request.

(d) Name of individual receiving and entering the request in the log.

(e) Number of units requested, by ABO and Rh type.

(f) Upon shipment, the number of units shipped, by ABO and Rh type, will be entered in the log.

b. In support of contingency/mobilization operations.

(1) Blood products may be requisitioned from the ASWBPLs by the commanders of joint, unified, or specified commands, as well as the blood program managers of individual military services when blood product requirements exceed operational capabilities. The requests will be sent to the Director, MBPO (DASG-MEDB, Washington, DC 20310) with an information copy to the appropriate ASWBPL. The MBPO shall process all blood product requests for oversea or emergency shipment. If the quantity of blood products available is not sufficient to the fulfill all requirements, distribution will be prorated on a priority basis. If, for any reason communication with MBPO is disrupted, the ASWBPL will act for the MBPO.

(2) The MBPO will notify the ASWBPL of requirements and will coordinate the response of the military blood program.

(3) The Director, ASWBPL shall respond by

arranging transportation and notifying MBPO of augmentation personnel, supplies, and/or equipment needed to satisfy requirements.

c. Shipment. Shipment will be completed in accordance with chapters 3 and 4 of this publication.

d. Handling enroute.

(1) When an aircraft with blood products on board arrives at an airbase (or airport) enroute, the shipment will be inspected and instructions on the side of the shipping container must be followed.

(2) If the shipment is not scheduled to reach the next stop within 48 hours from the time the blood was last iced, the icebags will be removed and the container lids replaced. Water in the bags will be removed and replaced with cubed wet ice to a weight of 14 pounds. Resealed icebags will be returned to the shipping containers. Container lids will be closed and secured. The place, date, and hour of re-icing will be recorded on DD Form 1502-1. Shipments will not be exposed to extremes of temperature during re-icing.

(3) Shipments off loaded at an airbase which is not the final destination will be stored in a refrigerator at temperatures of 1° C to 10° C until such time as continuing transportation is available.

CHAPTER 5

TECHNICAL PROCEDURES FOR ARMED SERVICES WHOLE BLOOD PROCESSING LABORATORIES

5-1. Receipt and storage of blood products

a. Receiving procedures.

(1) Blood products will be unpacked (inside a walk-in refrigerator or cold room) and prepared for inspection. Care will be taken to preserve undamaged containers and polyethylene icebags which can be reused.

(2) Whenever a shipment is received at an ASWBPL, the following actions will be accomplished as soon as possible.

(a) The DD Form 573 will be annotated with the date, the time of receipt and the temperature inside the shipping container. All information recorded on each blood product label will be carefully checked for agreement with its corresponding DD Form 573.

(b) Red cell products will be checked for any evidence of unsuitability (hemolysis, presence of clots, clerical errors in labeling, etc.).

(c) Frozen blood products will be inspected for evidence of thawing.

(d) Discrepancies will be noted on the DD Form 573 and brought to the attention of the OIC immediately.

b. Storage. Blood products pending processing results will be stored under temperature controlled conditions. A locally devised method will be used to preclude shipment prior to the completion of required laboratory tests.

c. Inspection. Blood products under storage will be inspected daily for evidence of abnormalities in color or appearance. The results of this procedure will be documented on a locally devised form. Suspect blood products will be brought to the attention of the Director, ASWBPL for disposition.

5-2. Processing blood products

a. Specimens for testing. Each red blood cell product shipped by an ASWBPL for the intended purpose of administration to a recipient will be tested to verify the ABO blood group and Rh type (if negative) indicated on the product label. Cell testing will be conducted on specimens from segmented integral donor tubing found on each blood unit. Blood units will not be entered to obtain samples for laboratory studies and under no circumstances will a unit of blood be shipped for clinical use that has been entered.

WARNING

Prior to cutting the integral donor tube, make sure that it is tightly sealed on the bag side of the proposed cut.

Segments removed for testing will be adequately identified to insure that they can be traced back to the blood unit from which they were taken. DD Form 573 and corresponding segments will be taken to the laboratory for testing.

b. Testing. A locally devised worksheet will be annotated with the blood unit identification numbers entered in the same sequence as found on the corresponding DD Form 573, the name of the blood donor center, and the date the products were received. Each specimen will be tested using methods which conform to FDA standards. Test results will be recorded on the worksheet as they are determined. Worksheet data will be compared to that on the DD Form 573. Discrepancies will be brought to the attention of the Director, ASWBPL or a designee. Unresolved discrepancies will be noted on the DD Form 573 and will be cause for destruction of the blood product in question.

c. Documentation. The Director, ASWBPL, or designee, will verify entries on the completed DD Form 573 and will sign as the receiving agent. Copies of this form will be distributed per the instructions in paragraph 2-2.

5-3. Shipment of blood products

a. Preparation of the shipping container. The container will be prepared as described in paragraph 3-4.

b. Procedures for shipping blood products.

(1) *Scheduling for air shipment.*

(a) An air priority number 1 "sequence 999" should be obtained for the shipment from the space allocation control officer who has logistic responsibility. The total weight, cube, and number of boxes in the shipment will be required.

(b) The air terminal operations center must be contacted to arrange transportation via the most

expeditious air route. Again, the total weight, cube, and number of boxes in the shipment will be required. In turn, the flight number, aircraft tail number, estimated time of departure and arrival for the shipment can be obtained from the air terminal operations center.

(c) The flight schedule should be verified 3 hours before the anticipated aircraft departure time. If the aircraft is on schedule, the shipment may be packed. In the event of cancellation, the shipment should be rescheduled for the next suitable flight.

(2) *Shipping Documentation.* Forms identified in paragraph 2-2*c* and *d* will be prepared prior to packing the shipment. For a palletized shipment to a single destination, one set of the required forms may be glued to a wooden placard and affixed to the netted pallet.

(3) *Packing the products for shipment.*

(a) Procedures outlined in paragraph 3-4 will be used.

(b) When a shipping box contains products of a single ABO group and Rh type, an appropriate full face label will be attached to the side of the container.

(c) Originating shipment departures delayed for 12 or more hours from the time that the products were packed will be cause to require re-icing all containers. The new icing time will be recorded on all shipping documents.

(4) *Delivery of containers for shipment.*

(a) The traffic space control officer will be contacted to verify the aircraft departure time. The air freight terminal officer will be contacted to prepare a load crew to receive the shipment 1 to 2 hours before the scheduled departure time.

(b) The shipment and required documentation will be delivered to the air freight terminal in accordance with a prearranged schedule.

(c) The Director, ASWBPL, will insure that the transportation officer is knowledgeable in the precautions identified in paragraph 3-5.

(d) The Director, ASWBPL, will send an aircraft load message to all enroute parties concerned with the shipment. This message will identify:

1. The flight number.
2. Aircraft tail number.
3. Flight departure time.
4. Estimated time of arrival.
5. Re-icing or other special instructions.

CHAPTER 6

ADMINISTRATIVE PROCEDURES FOR BLOOD TRANSSHIPMENT CENTERS

6-1. General instructions

a. Blood transshipment centers (BTC's) will be established by the Air Force at airheads outside the CONUS upon request of the DOD MBPO to the Air Force Surgeon General. Funds for staffing, operations and maintenance of these facilities, in a standby or operational status, is the responsibility of the Air Force.

b. Sufficient personnel to operate these facilities will be identified by the Air Force. Annual exercises involving these personnel will be conducted to insure familiarity with administrative and operational procedures.

c. BTC's will be responsive to the theater commander's blood program. They will be operational only during contingencies or other emergencies. An operational status will be assumed not later than 72 hours after the receipt of an activation order from the theater MBPO through normal command channels.

d. Upon activation the theater MBPO will provide coordination and technical guidance for the BTC's.

6-2. Activity documentation

a. Blood inventory report. BTC's, when activated, will submit a daily inventory report by immediate message to the theater MBPO. The reporting period shall begin at 0001 and terminate at 2400 each day. As a minimum, reports will identify:

(1) Number of products by category (whole blood, packed red blood cells, and fresh frozen plasma) on hand at the beginning of the report period.

(2) Number of products by category received during the report period.

(3) Number of unsuitable or expired products by category which were discarded during the report period.

(4) Number of products by category shipped during the report period.

(5) Number of products by category on hand at the end of the report period.

b. DD Form 573. Completed DD Form 573 copies which would normally be returned to a CONUS consignor will instead be forwarded to the theater MBPO.

c. Other data. Other operational reports identified in existing theater blood program directives will be prepared and submitted to appropriate authorities.

CHAPTER 7

TECHNICAL PROCEDURES FOR BLOOD TRANSSHIPMENT CENTERS

7-1. Mission

Blood transshipment centers will be established at airheads which facilitate blood product shipment from ASWBPL,s or other locations designated by the theater MBPO to using activities. Assigned personnel are responsible for receipt of shipments, temporary storage and inspection of products, and preparation for further shipment per paragraph 7-3. Each center must maintain a capability to store up to two pallets of blood and a capability to receive and ship one pallet per day.

7-2. Receipt and storage of blood products

a. Notification. Incoming shipments will be identified by an ASWBPL aircraft load message (para 5-3*b*(4)*(d)*) or the theater MBPO. Unexpected shipment delays will be traced through transportation channels and will be identified to the theater MBPO.

b. Receiving procedures. Guidance provided in paragraph 5-1*a* applies. Discrepancies in the shipment will be annotated on the accompanying DD Form 573s. Completed DD Form 573's will be distributed per paragraph 6-2*b*.

c. Storage. Blood products will be stored under appropriate temperature controlled conditions. Normally, this will be accomplished using a walk-in refrigerator equipped with a tamperproof audible alarm system and temperature recording system. Procedures identified in paragraph 3-2*b*(3) apply to the storage of products under emergency conditions.

d. Inspection. Blood products under storage will be inspected for evidence of abnormalities in color, appearance, or unit integrity. In addition, storage device temperatures will be monitored. Results of these procedures will be documented daily on a locally devised form. Discrepancies will be brought to the attention of the center director for disposition.

e. Inventory control. Personnel will make every effort to conserve stored resources by rotating out the oldest stock first.

7-3. Shipment of blood products

a. Identification of requirements. The director, theater MBPO, will identify shipping requirements to the blood transshipment center director. Guidance will include:

(1) Shipment destination.

(2) Required preparation or delivery date.

(3) Type and amount of products.

(4) Any requirement for transportation planning. One of two transportation schemes will be used.

(a) The shipment will be picked up by the user.

(b) The blood transshipment center will develop transportation arrangements.

b. Procedure for shipping blood products—user pickup.

(1) The shipping container will be prepared per paragraph 3-4 and the products packed per paragraph 3-4*c*(2) within 2 hours of the intended pickup time. If the pickup is delayed for 12 or more hours from the time that the products were packed, all containers in the shipment will be opened and re-iced.

(2) Required documentation includes completed DD Forms 573 (para 2-2*C*), DD Form 1387 (para 2-2*d*(4)), and DD Form 1502 or 1502-1, as appropriate (para 2-2*d*(5)).

c. Procedures for shipping blood products—BTC arranged. Required blood products and transportation documentation will be prepared per the guidance provided in paragraph 3-4. For a palletized shipment to a single destination, one set of forms (DD Forms 1387-2, 1387, and either 1502-1 or 1502) may be glued to a wooden placard and affixed to the netted pallet.

APPENDIX A

DONOR CENTER MESSAGE FORMAT

SHIPPING ACTIVITY

RECEIVING ACTIVITY

INFO: OTHER ACTIVITIES AS REQUIRED

BT

CLASSIFICATION LEVEL//APPLICABLE SUBJECT CODE//

SUBJECT: SHIPMENT OF BLOOD PRODUCTS

1. TOTAL NUMBER OF UNITS IN SHIPMENT
2. AIRBILL NUMBER
3. AIRLINE AND FLIGHT NUMBER AT FINAL DESTINATION
4. ESTIMATED TIME OF ARRIVAL AT FINAL DESTINATION
5. NUMBER OF BOXES IN SHIPMENT
6. EARLIEST UNIT EXPIRATION DATE IN SHIPMENT
7. NUMBER OF UNITS OF GROUP O POS/NUMBER OF UNITS OF GROUP O NEG
8. NUMBER OF UNITS OF GROUP A POS/NUMBER OF UNITS OF GROUP A NEG
9. NUMBER OF UNITS OF GROUP B POS/NUMBER OF UNITS OF GROUP B NEG
10. NUMBER OF UNITS OF GROUP AB POS/NUMBER OF UNITS OF GROUP AB NEG
11. REMARKS OR ADDITIONAL DETAILS

APPENDIX B

MAXIMUM CAPACITIES FOR BLOOD PRODUCT SHIPMENTS

1. Pallet: 120 insulated blood containers stacked 4×5×6 high.

2. Insulated blood shipping containers:

a. Nonfrozen red cell products and 14 pounds of cubed and glistening wet water ice.

(1) 20 units of whole blood.
(2) 30 units of packed red blood cells.
(3) 12 units of whole blood plus 12 administration sets.
(4) 20 units of packed red blood cells plus 20 administration sets.

b. Frozen blood products and 20 pounds of coarsely broken dry ice (solid state CO_2).

(1) 24 units of plasma products.
(2) 48 units of cryoprecipitated antihemophilic factor.
(3) 7 units of red blood cells (frozen).

c. Recipient sets only: 56 recipient sets.

APPENDIX C

STAFFING OF THE ARMED SERVICES WHOLE BLOOD PROCESSING LABORATORIES

This Armed Services Whole Blood Processing Laboratories shall be staffed with appropriate personnel from each of the three services on the basis of volume of blood processed.

The personnel requirements will be—

	*Personnel required for-			
	Peace-time	1000 units/day	2000 units/day	3000 units/day
Officer personnel	1	2	3	4
Enlisted personnel	8	25	42	66

*Requirements calculations are made on the following basis:

Duties performed	Peace-time	1000 units/day	2000 units/day	3000 units/day
Officer in charge	1	1	1	1
Asst. officer in charge		1	1	1
Shift officer in charge			1	2
Administration section:				
NCO in charge		1	1	2
Record section	8	2	4	4
Supply section		1	3	4
Blood processing section:				
NCO in charge		1	1	2
Receiving and shipping section		6	12	21
Laboratory section		9	16	26
Night, weekend (24 hr) staffing:		3	5	7
Total:	9	27	45	70

Note: The above table of designated duty requirements is not to be construed as suggesting to any ASWBPL that the personnel should be designated or assigned to this basis. The utilization of the personnel should be the responsibility of the officer in charge. Each service will supply one-third of the personnel requirements. At least 50 percent of the enlisted personnel shall be laboratory technicians designated or capable of being designated as blood bank technicians.

	Personnel Required for—							
	Peacetime		1000 units/day		2000 units/day		3000 units/day	
	No	Grade, MOS	No	Grade, MOS	No	Grade, MOS	No	Grade, MOS
Army			1	O3, 68F8T	1	O3, 68F8T	1	O4, 68F8T
	1	E7, 92B40 or 92B40M4	1	E7, 92B40 or 92B40M4	1	E7, 92B40 or 92B40M4	2	E7, 92B40 or 92B40M4
	1	E5, 92B20 or 92B20M4	1	E6, 92B30 or 92B30M4	2	E6, 92B30 or 92B30M4	3	E6, 92B30 or 92B30M4
	1	E4, 92B10	2	E5, 92B20 or 92B2OM4	2	E5, 92B20 or 92B2OM44	1	E6, 71L30
			3	E4/E3, 92B10	7	E4/E3, 92B10	3	E5, 92B20 or 92B2OM4
			1	E4/E3, 71L20	2	E4/E3, 71L20	1	E5, 71L20
							11	E4/E3, 92B10
							2	E4/E3, 71L20
	No.	Grade, Code	No	Grade, Code	No	Grade, Code	No	Grade, Code
Navy	1	E6, HM-8506	1	E7, HM-8506	1	03, 2300/0866	1	O3, 2300/0866
			1	E6, HM-8506 or HM-8501	1	E7, HM-8506	1	E8-0000
	1	E5, HM-8501	2	E5, HM-8506 or HM-8501	1	E6, HM-8506 or HM-8501	1	E7, HM-8506
	1	E4/E3, HM-0000	4	E-4/E-3, WM-8506 or HM-8501	3	E5, HM-8506 or HM-8501	2	E6, HM-8506 or HM-8501
			1	E4/E3, HM-0000	7	E4/E3, HM-8506, HH-8501	3	E5, HM-8506 or HM-8501
					2	E4/E3, HM-0000	13	E4/E3, HM-8506 or HM-8501
							2	E4/E3 HM-0000
	No	Grade, MOS	No	Grade, MOS	No	Grade, MOS	No	Grade, MOS
Air Force	1	O3, 9156G	1	O4, 9156G	1	O5, 9156G	1	O5, 9156G
	1	E6, 92470	1	E8, 92499	1	E8, 92499	1	O3, 9156A
	1	E5, 92450	1	E7, 92470	1	E7, 92470	1	E8, 92499
			1	E6, 90670	1	E6, 92470	1	E7, 92470
			4	E4/E3 92450	1	E6, 90670	1	E6, 92470
					1	E5, 90650	1	E6, 90670
			1	E4/E3 90650	7	E4/E3, 92450	2	E5, 92450
							1	E5, 90650
					2	E4/E3, 90650	12	E4/E3, 92450
							2	E4/E3, 90650

For accounting, pay, and disciplinary purposes, unless otherwise stated, Army and Navy personnel will be assigned (on detached service) as follows:

TO: Director, ASWBPL
McGuire AFB, NJ 08641

Orders will specify "for duty with the Armed Services Whole Blood Processing Laboratory in accordance with the DOD Blood Program." Expenses incident to the transfer of these personnel will be borne by the service transferring the personnel.

Army, Navy, Air Force Staffing Equivalents for the Armed Services Whole Blood Processing Laboratories

Function/duties performed	Rank/ Grade	Army occupational specialty	Army specialty	Navy code	Navy specialty	Air Force specialty code	Air Force specialty
Officer in charge	O5/O4	68F8T	Blood Bank Off	2300/0866	Laboratory Off	9156G	Biomed Lab Off
Assistant OIC	O4	68F8T	Blood Bank Off	2300/0866	Laboratory Off	9156G	Biomed Lab Off
	O3	68F	Clin. Lab Off	2300 0866	Laboratory Off	9156A	Biomed Lab Off
NCOIC	E8	92B5O	Med. Lab. NCO	HM-0000	Gen Service HM	92499	Med. Lab. Sup.
Administrative section							
NCOIC	E6	71L3O	Administrative Specialist	HM-8425	Advanced HM	90670	Med. Admin. Sup.
	E5	71L2O	Admin. Spec.	HM-0000	Gen Service HM	90650	Med. Admin. Spec.
	E4/E3	71L1O	Admin. Spec.	HM-0000	Gen Service HM	90650	Med. Admin. Spec.
Blood processing section							
NCOIC	E7	92B4OM4	Blood Bank NCO	HM-8506	Med Lab Tech, Advanced	92470	Med. Lab. Tech.
	92B4O		Med. Lab. NCO				
Receiving and shipping subsection	E7	92B4OM4	Blood Bank NCO	HM-8506	Med Lab Tech, Advanced	92470	Med. Lab. Tech.
	E6	92B3OM4	Blood Bank Spec.	HM-8506/ HM-8501	Med Lab Tech, Advanced/Basic	92470	Med. Lab. Tech.
	E5	92B2OM4	Blood Bank Spec.	HM-8506/ HM-8501	Med Lab Tech, Advanced/Basic	92450	Med. Lab. Spec.
		92B2O	Med. Lab. Spec.				
	E4/E3	92B1O	Med. Lab. Spec.	HM-8506/ HM-8501	Med Lab Tech, Advanced/Basic	92450	Med. Lab. Spec.
Laboratory subsection	E7	92B4OM4	Blood Bank NCO	HM-8506	Med Lab Tech, Advanced	92470	Med. Lab. Tech.
		92B4O	Med. Lab. NCO				
	E6	92B3OM4	Blood Bank Spec.	HM-8506/ HM-8501	Med Lab Tech, Advanced/Basic	92470	Med. Lab. Tech.
		92B3O	Med. Lab. Spec.				
	E5	92B2OM4	Blood Bank Spec.	HM-8506/ HM-8501	Med Lab Tech, Advanced/Basic	92450	Med. Lab. Spec.
		92B2O	Med. Lab. Spec.				
	E4/E3	92B1O	Med. Lab. Spec.	HM-8506/ HM-8501	Med Lab Tech, Advanced/Basic	92450	Med. Lab. Spec.

The Army office of primary interest in this joint publication is the Office of The Surgeon General. Army users are invited to send comments and suggested improvement on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to HQDA (DASG-PSC), WASH DC 20310. Navy users should send comments and recommendations through normal channels to Department of the Navy, Bureau of Medicine and Surgery, WASH DC 20372. Air Force users should send comments and recommendations through normal channels to HQ USAF/SGHR, Bolling AFB, WASH DC 20332.

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

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