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SECRETARY OF THE AIR FORCE**

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AND PROCEDURES 3-42.711**

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***Tactical Doctrine***

**BLOOD SUPPORT OPERATIONS**



**THIS PUBLICATION IS NON-DIRECTIVE**

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The Air Force Tactics, Techniques, and Procedures (AFTTP) 3-42 series of publications is the primary reference for expeditionary medical support capability. AFTTP 3-42.711 provides the tactics, techniques, and procedures for the Blood Donor Center (BDC), Armed Services Whole Blood Processing Laboratories (ASWBPLs), Expeditionary Blood Transshipment Center (EBTC), Expeditionary Blood Support Center (EBSC), and Expeditionary Frozen Blood Product Team. The doctrine in this document is authoritative but not directive. This publication applies to all civilian employees and uniformed members of the Regular Air Force, the Air Force Reserve, and the Air National Guard (ANG). This publication does not apply to the United States Space Force. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication*. Route DAF 847 through the appropriate functional chain of command and parent major command. Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and are disposed of in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

**SUMMARY OF CHANGES**

This document has been revised and should be completely reviewed. Key changes include updated background information on the use of blood components in combat casualty trauma care based on

current Food and Drug Administration (FDA) and clinical practice guidelines; addition of low titer O whole blood (LTOWB) as an available blood component; revised throughput and processing capabilities of the EBTC, EBSC, and Frozen Blood Product Team based on revisions to their allowance standards; updated information on the blood management system used in deployed environments; and revised guidance on blood UTC training programs.

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## Chapter 1

### INTRODUCTION

**1.1. Purpose.** This publication provides general operational and planning guidance for Air Force expeditionary medical blood support capabilities to include the Blood Donor Center (BDC), Armed Services Whole Blood Processing Laboratories (ASWBPLs), Expeditionary Blood Transshipment Center (EBTC), Expeditionary Blood Support Center (EBSC), and the Frozen Blood Product Team. It can be used as a source document for developing standardized policies, operating procedures, training programs, and allowance standards. Operation plans and regional guidance provide mission-specific details that amplify and tailor the guidance contained in this publication.

**1.2. Background.** Blood component therapy is the recognized standard of medical care in the continental United States (CONUS) and Department of Defense (DOD) medical treatment facilities. It plays a significant role in combat-casualty trauma care. The availability of blood components at deployed medical facilities depends on several factors, including the CONUS blood supply, logistical support (such as blood transshipment and air frame availability), and the component utilization rate.

1.2.1. Blood components supplied through CONUS collections are Food and Drug Administration (FDA)-approved, licensed blood products, which may include packed red blood cells (pRBCs), fresh frozen plasma (FFP), plasma frozen within 24 hours of phlebotomy (PF24), liquid plasma, cryoprecipitate (CRYO), and low titer O whole blood (LTOWB). Blood components collected in a theater or area of operation are not FDA-approved blood products and are used only for emergency, life-saving resuscitations. These include fresh whole blood (FWB) and cold stored apheresis platelets (APLTs). The collection, storage, and use of non-FDA approved blood components is in accordance with Joint Trauma System Clinical Practice Guideline (CPG), *Whole Blood Transfusion (CPG ID: 21)*.

1.2.2. Red blood cells are frozen at designated DOD sites in CONUS in a cryoprotective agent (typically glycerol) to be stockpiled for use in forward deployed settings to support the full range of military operations. Frozen red blood cells (FRBCs) can be stored for 10 years from the time of collection. These frozen units must be thawed and deglycerolized before transfusion. Deglycerolization is the process used to remove the residual glycerol concentration from the FRBC unit to a level of less than 1 percent and replace it with isotonic solution (saline) before the blood is transfused. The shelf-life for deglycerolized blood is 14 days, post thaw.

## Chapter 2

### BLOOD SUPPORT CAPABILITIES AND FORCE PACKAGING

**2.1. Blood Donor Center (BDC).** BDCs collect, manufacture, store, and ship pRBCs, FFP, PF24, CRYO, LTOWB, and FRBCs. BDCs are fixed CONUS facilities co-located with a medical treatment facility. Their primary mission is to collect blood products to support combatant command wartime blood needs, DOD blood requirements outside the continental United States (OCONUS), CONUS contingencies, and to supplement DOD blood inventory at CONUS medical centers.

**2.2. Armed Services Whole Blood Processing Laboratory (ASWBPL).** The ASWBPLs serve as the central receiving and shipment points in CONUS for blood shipments from the BDCs. The ASWBPLs accept, inspect, and store blood and blood products from the BDCs and ship them to the EBTCs, Army Medical Detachments, Blood Support (MDBS), and other blood-related contingency operations. There are two ASWBPLs (one on each coast) to facilitate global blood shipments: ASWBPL-East at Joint Base McGuire-Dix-Lakehurst, New Jersey, and ASWBPL-West at Travis Air Base, California. The ASWBPLs are staffed with tri-service medical laboratory technicians and an Air Force officer in accordance with TM 8-227-11/NAVMED P-5123/AFI 44-118, *Operational Procedures for the Armed Services Blood Program Elements* (referenced hereafter as AFI 44-118). These positions are service-managed, special-duty assignments and are not covered by a unit type code (UTC). In the event of a contingency where quota requirements exceed 1,500 units per week, additional manpower might be required from the services or an EBTC module can be employed.

2.2.1. ASWBPL-West is the Air Force's centralized freezing and deglycerolization center for FRBCs. It can accept pRBCs for manufacture (glycerolization) into FRBCs for storage or shipment and thaw and deglycerolize FRBCs for redistribution. It can store and process up to 1,000 pRBCs or LTOWB, 1,000 FFP/PF24, 500 CRYO, and 500 FRBCs per week. It can store an additional 1,000 FFP/PF24 and 2,000 FRBCs in reserve for contingencies. ASWBPL-West is equipped with freezers and refrigerators with 24-hour temperature monitoring and remote alarms and sufficient storage capacity for up to 6,500 units of frozen products and 2,000 units of refrigerated products. Re-icing operations allow production and storage of 2,400 pounds of wet ice every 24 hours for shipment of refrigerated products.

2.2.2. ASWBPL-East can process up to 1,000 pRBCs or LTOWB, 1,000 FFP/PF24, 500 CRYO, and 500 FRBCs per week. ASWBPL-East is equipped with freezers and refrigerators with 24-hour temperature monitoring and remote alarms and sufficient storage capacity for up to 20,000 units of frozen products and 9,000 units of refrigerated products. Re-icing operations allow production and storage of 2,400 pounds of wet ice every 24 hours for shipment of refrigerated products.

**2.3. Expeditionary Blood Transshipment Center (EBTC).** The EBTC serves as the central receiving and shipment point in an operation area for shipments from the ASWBPLs. They are normally located at major airfields with one or more EBTCs located in a theater or area of responsibility. EBTC personnel packages are modular and can be scaled to the size of the operation to increase throughput capability and support 24-hour operations. These teams can also be used to support other blood movement components such as an ASWBPL.

2.3.1. FFBP1, EBTC Module 1, provides the initial personnel for EBTC operations. The team is responsible for receiving, inventory management, re-icing, holding, and distribution of liquid and frozen blood products, including pRBCs, FFP, CRYO, PF24, and FRBCs. The team can process up to 1,000 units of liquid and frozen blood products per week. Team members are responsible for setting up and maintaining EBTC equipment. [Table 2.1](#) lists the personnel details.

**Table 2.1. EBTC Module 1 Composition.**

Title	AFSC	SEI	Grade	Quantity
Biomedical Laboratory Officer	043T3A		04	1
Medical Materiel Craftsman	4A171			1
Medical Laboratory Craftsman	4T071			1
Medical Laboratory Journeyman	4T051			1
<b>Total Personnel</b>				<b>4</b>
<b>Note:</b> Air Force Specialty Code (AFSC), grade, and skill-level substitutions are in accordance with the <i>War and Mobilization Plan, Volume 1 (WMP-1), Enclosure F, Air Force Medical Service (AFMS) Supplement</i> , and AFI 10-403, <i>Deployment Planning and Execution</i> , unless specified otherwise in the mission capability statement.				

2.3.2. FFBP2, EBTC Module 2, provides laboratory support personnel to increase throughput at an EBTC. The team can process 1,000 units of liquid and frozen blood products per week. The team typically supports EBTC Module 1. An EBTC with Modules 1 and 2 can process up to 2,000 units of liquid and frozen blood products per week. [Table 2.2](#) lists the personnel details.

**Table 2.2. EBTC Module 2 Composition.**

Title	AFSC	SEI	Grade	Quantity
Medical Laboratory Craftsman	4T071			1
Medical Laboratory Journeyman	4T051			1
<b>Total Personnel</b>				<b>2</b>
<b>Note:</b> Air Force Specialty Code (AFSC), grade, and skill-level substitutions are in accordance with the <i>War and Mobilization Plan, Volume 1 (WMP-1), Enclosure F, Air Force Medical Service (AFMS) Supplement</i> , and AFI 10-403, <i>Deployment Planning and Execution</i> , unless specified otherwise in the mission capability statement.				

2.3.3. FFBP3, EBTC Module 3, provides laboratory and logistics support personnel to increase throughput at an EBTC. The team can process 1,000 units of liquid and frozen blood products per week. The team typically supports EBTC Modules 1 and 2. An EBTC with Modules 1-3 can process up to 3,000 units of liquid and frozen blood products per week. [Table 2.3](#) lists the personnel details.

**Table 2.3. EBTC Module 3 Composition.**

Title	AFSC	SEI	Grade	Quantity
Medical Materiel Journeyman	4A151			1
Medical Laboratory Journeyman	4T051			2
<b>Total Personnel</b>				<b>3</b>

Title	AFSC	SEI	Grade	Quantity
<b>Note:</b> Air Force Specialty Code (AFSC), grade, and skill-level substitutions are in accordance with the <i>War and Mobilization Plan, Volume 1 (WMP-1)</i> , <i>Enclosure F, Air Force Medical Service (AFMS) Supplement</i> , and AFI 10-403, <i>Deployment Planning and Execution</i> , unless specified otherwise in the mission capability statement.				

2.3.4. FFBE1, EBTC Equipment, provides equipment and supplies for EBTC operations. This package supports the EBTC personnel modules (FFBP1-3). It includes the following equipment:

2.3.4.1. Freezers with 24-hour temperature monitoring and alarms and storage capacity for up to 2,000 units of frozen products

2.3.4.2. Refrigerators with 24-hour temperature monitoring and alarms and storage capacity for up to 1,000 pRBCs

2.3.4.3. Ice machine capable of producing and storing 2,400 pounds of wet ice every 24 hours for re-icing pRBCs (**Note:** Dry ice for shipment of frozen products is obtained on a contract basis.)

2.3.4.4. Workplace shelter with environmental controls

**2.4. Expeditionary Blood Support Center (EBSC).** The EBSC is a deployable laboratory team that provides advanced capabilities in the collection and preparation of blood components to expand blood support capabilities in theater and improve transfusion treatment outcomes. EBSCs collect and prepare blood components for transfusion to support emergency trauma situations. EBSCs are not standalone and should be co-located with a Role 3 or greater medical treatment facility. EBSC staff rely on the medical facility for basic hematology, chemistry analysis, and microbiology support.

2.4.1. FFLBB, EBSC Team, provides medical laboratory personnel to collect cold stored blood platelets through apheresis and FWB at a deployed medical treatment facility. The team can collect a maximum of 10 cold stored platelet units or 50 units of FWB within a 12-hour duty day. [Table 2.4](#) lists the personnel details.

**Table 2.4. EBSC Composition.**

Title	AFSC	SEI	Grade	Quantity
Biomedical Laboratory Officer – Blood Bank	043T3E			1
Medical Laboratory Craftsman	4T071			2
Medical Laboratory Journeyman	4T051			3
<b>Total Personnel</b>				<b>6</b>
<b>Note:</b> Air Force Specialty Code (AFSC), grade, and skill-level substitutions are in accordance with the <i>War and Mobilization Plan, Volume 1 (WMP-1)</i> , <i>Enclosure F, Air Force Medical Service (AFMS) Supplement</i> , and AFI 10-403, <i>Deployment Planning and Execution</i> , unless specified otherwise in the mission capability statement.				

2.4.2. FFLB1, EBSC Equipment, provides equipment and supplies to support EBSC operations. This package supports the EBSC team (FFLBB). It includes the following equipment:



2.4.2.1. Refrigerator with 24-hour temperature monitoring and alarms with sufficient capacity to store 30 cold stored platelets.

2.4.2.2. Apheresis kits (approximately 250) and whole blood bags (approximately 200)

2.4.2.3. Workspace shelter with environmental controls

**2.5. FFBD1, Expeditionary Frozen Blood Product Team.** The Frozen Blood Product Team provides support and sustainment to in-place frozen blood sites. The team is responsible for receiving, thawing, washing, deglycerolizing, re-icing, managing, and distributing pre-positioned frozen blood stocks. When liquid red blood cells are unavailable or fall below minimum advisable inventory levels, the team deglycerolizes FRBCs stockpiled for mass casualty situations to remove the cryoprotectant. The team can deglycerolize up to 18 units of FRBCs per 12-hour shift. This average is based on one unit per hour with two machines operating. (**Note:** The first two units take approximately 1.5 hours to process due to the initial thaw cycle.) Once prepared, these products are viable up to 14 days and provide the initial liquid blood units needed to sustain the medical facility until the blood distribution pipeline is fully operational. The frozen blood product allowance standard (AS 893F) provides the team's equipment and supplies. **Table 2.5** lists the personnel composition.

**Table 2.5. Frozen Blood Product Team Composition.**

Title	AFSC	SEI	Grade	Quantity
Health Service Management Journeyman	4A051			2
Medical Materiel Journeyman	4A151			1
Medical Laboratory Craftsman	4T071			1
Medical Laboratory Journeyman	4T051			3
<b>Total Personnel</b>				<b>7</b>
<b>Note:</b> Air Force Specialty Code (AFSC), grade, and skill-level substitutions are in accordance with the <i>War and Mobilization Plan, Volume 1 (WMP-1)</i> , <i>Enclosure F, Air Force Medical Service (AFMS) Supplement</i> , and <i>AFI 10-403, Deployment Planning and Execution</i> , unless specified otherwise in the mission capability statement.				

## Chapter 3

### OPERATIONS

**3.1. UTC Posturing.** Deployable blood support UTCs are postured against units in the Unit Type Code Availability database and Medical Resource Letter. Blood support equipment and infrastructure UTCs may be pre-positioned in theater based on requirements from the combatant commander and the Commander, Air Force Forces (COMAFFOR).

**3.2. Deployment Planning.** Planners consider many factors, such as operational environment, pre-positioned materiel, host nation support agreements, contingency contracts, and acquisition cross-service agreements, in planning deployments and tailoring unit-level personnel and equipment requirements. Time-phased force deployment data is built by the air component and flowed through the major commands to the wing plans and operations centers for action. Blood support capabilities, to include shipment, receipt, and distribution of blood products, should be included in deliberate planning and operation plans.

**3.3. Pre-Deployment Preparations.** Team members should work closely with the medical readiness office, emergency management, and theater medical personnel to prepare for deployment. They should review operation plans, reporting instructions, threat and vulnerability assessments, intelligence reports, and other pertinent deployment data and follow the pre-deployment requirements in AFI 10-403 and AFI 41-106, *Air Force Medical Readiness Program*.

**3.4. Preparation of Equipment and Cargo.** UTC team chiefs should assess the deployability of assigned equipment UTCs with medical logistics personnel and identify shortfalls. Deploying team chiefs should ensure an adequate number of personnel are qualified in pallet build-up and cargo handling procedures (to include hazardous, protected, and classified cargo) during deployment and redeployment in accordance with AFI 10-403.

3.4.1. Hazardous cargo is subject to Defense Transportation Regulation (DTR) 4500.9-R Part III, *Mobility*, Air Force Manual (AFMAN) 24-604, *Preparing Hazardous Materials for Military Air Shipments*, and host nation requirements.

3.4.2. Protected cargo includes controlled substances, items vulnerable to theft, and weapons and ammunition. A controlled medical item custodian should witness and verify the packaging of medically controlled items. At the deployed location, controlled items should be stored in locked rooms or containers and managed in accordance with AFMAN 41-209, *Medical Logistics Support*. Units are responsible for assigning primary and alternate weapons and ammunition couriers to ensure security and accountability during transit in accordance with Department of the Air Force Instruction (DAFI) 31-101, *Integrated Defense*, and Department of the Air Force Manual (DAFMAN) 21-201, *Munitions Management*.

3.4.3. Classified material should be packaged, marked, safeguarded, and transported in accordance with DAFI 24-602, Volume 2, *Cargo Movement*. Units are responsible for assigning appropriately cleared and trained couriers to accompany classified material.

**3.5. BDC Operations.** BDCs provide blood and blood products in support of contingency operations. They ship the required quota of blood and blood components to the ASWBPLs on a weekly basis. The weekly blood quota is set by the Air Force Blood Program Office (AFBPO) in coordination with the Armed Services Blood Program Division (ASBPD), Combatant Command Joint Blood Program Office (JBPO), and Area Joint Blood Program Office (AJBPO). BDCs

follow the blood storage and shipping requirements specified in AFI 44-118. BDC operational tasks include the following.

- 3.5.1. Schedule and conduct blood drives to maximize the military donor base available to the Armed Services Blood Program.
- 3.5.2. Screen donors in accordance with the donor criteria specified in AFMAN 41-111, *Standard for Blood Banks and Transfusion Services*, FDA guidance, and supplemental guidance from the ASBPD.
- 3.5.3. Process blood donations and coordinate serologic testing in accordance with current regulatory agency guidelines.
- 3.5.4. Store liquid red blood cells, FFP, and CRYO in accordance with current regulatory agency guidelines. Refrigerators and freezers used for storage have audible alarms, an emergency power source, and a continuous temperature recording system.
- 3.5.5. Distribute liquid red blood cells, FFP, PF24, and CRYO in accordance with current regulatory agency guidelines.
- 3.5.6. Maintain containers and a sufficient amount of cubed wet ice and absorbent materials to ship liquid red blood cells and maintain proper temperatures for 48 hours.
- 3.5.7. Maintain containers and a sufficient supply of pelletized dry ice to ship up to 15 units of FFP and PF24 or 30 units of CRYO and maintain a frozen state and proper temperature for 48 hours.

**3.6. ASWBPL Operations.** The ASWBPLs provide intermediate storage and shipment of blood products as designated by the ASBPD. They are located near major military air terminals to facilitate blood shipments worldwide and are operationally controlled by the AFBPO. ASWBPL operational tasks include the following:

- 3.6.1. Maintain a contingency reserve of blood products and act as a central repository for forward shipment of blood products to operational units.
- 3.6.2. Test liquid red blood cells to confirm that ABO and Rh blood type are correct.
- 3.6.3. Provide daily inventory reports and weekly compliance reports to the Air Force Blood Program Office in accordance with AFI 44-105, *The Air Force Blood Program*.

**3.7. EBTC Operations.** EBTCs are normally located at strategic air hubs to facilitate receipt and shipment of blood products. EBTCs receive blood supplies from the ASWBPLs, blood product depots, or other EBTCs. They ensure proper rotation of blood components and real-time blood inventory management. They issue blood products to designated blood support detachments based on daily allocations established by the JBPO or AJBPO and in response to emergency requests from area blood support detachments.

- 3.7.1. The EBTC equipment package includes a shelter system. The EBTC shelter should ideally be situated on a 100 by 100 square foot graded pad near the supported medical facility. Team members are responsible for assembly and tear-down.
- 3.7.2. The EBTC can reach initial operational capability within 8 hours of arrival at the operational site and full operational capability within 12 hours. These timelines assume availability of expeditionary combat support/base operating support (ECS/BOS). See [Chapter](#)

**6, INTEGRATION AND INTEROPERABILITY**, for more information on ECS/BOS requirements.

**3.8. EBSC Operations.** EBSCs provide specialized skills in the collection and preparation of blood components for use in emergency trauma situations. They typically deploy to Role 3 or greater medical treatment facilities. The EBSC equipment package includes a shelter system with space for donor screening, blood collection, and processing. The EBSC team is equipped with hematology and pH analyzers to perform quality control measures on blood platelets and required ABO/Rh testing of collected whole blood.

3.8.1. The EBSC shelter should ideally be situated on a 100 by 100 square foot graded pad near the supported medical facility. Team members are responsible for assembly and tear-down.

3.8.2. The EBSC can reach initial operational capability within 8 hours of arrival at the operational site and full operational capability within 12 hours. These timelines assume access to the hospital's lab and availability of ECS/BOS. See **Chapter 6, INTEGRATION AND INTEROPERABILITY**, for more information on ECS/BOS requirements.

3.8.3. EBSC personnel screen all potential donors in accordance with theater guidelines for blood donor collection. To the maximum extent possible, blood collection testing and product management comply with FDA, Association of the Advancement of Blood and Biotherapies (AABB), and College of American Pathologists (CAP) regulations and standards.

3.8.4. The EBSC equipment package provides apheresis instruments for the selective removal of blood platelets from donated blood. Before collection occurs, potential platelet donors are first tested using the full panel of FDA-licensed donor infectious disease tests and must be found negative for all tests. Once donor prescreening is complete, EBSC personnel collect the platelets following the equipment manufacturer's protocol. EBSC personnel perform quality control measures (platelet count, pH, and culture) in the hospital's lab to ensure product quality.

3.8.5. EBSC personnel perform whole blood collection when fresh, warm, whole blood is required for emergency transfusions related to traumatic coagulopathy, in the absence of component therapy, or when whole blood is deemed clinically necessary to save life or limb. FWB is not FDA approved and is not intended for routine use. The decision to use FWB is a medical decision made by a physician with full knowledge of the clinical situation and availability of compatible blood components. (See CPG ID: 21, *Whole Blood Transfusion*, for guidance.)

3.8.5.1. EBSC personnel test the collected whole blood to confirm ABO/Rh and to minimize the risk of transferring infection. Once testing is complete, the labeled unit will be issued for transfusion.

3.8.5.2. Unused FWB can be retained for future use in accordance with the CPG and locally established policy.

3.8.6. The EBSC is not staffed to concurrently perform APLT and FWB collection. Apheresis collection is suspended during FWB blood collection.

3.8.7. EBSC personnel report the number, sources, and types of blood components collected and tested, as well as potential mission implications, to the senior laboratory officer, attending physician, and other appropriate agencies.

**3.9. Frozen Blood Product Team Employment.** The Frozen Blood Product Team provides support and sustainment to in-place frozen blood sites. The team is only assigned to units that have the 893F allowance standard in place. The team is able to reach full operational capability upon arrival.

**3.10. Quality Assurance Procedures.** Quality measures should be in place to ensure blood products remain viable. Deployable blood support teams should develop operating instructions to ensure compliance with AFI 44-118, JBPO/AJBPO, and local requirements. Operating instructions should cover the receipt, storage, inventory, and shipment of blood and blood products and the collection and first release of platelets and whole blood.

**3.11. Operational Reports and Records.** Team chiefs submit required operational reports in accordance with AFMAN 10-206, *Operational Reporting (OPREP)*, and specific combatant commander, joint force commander, and commander, Air Force forces requirements. After-action reports and lessons learned are submitted in accordance with AFI 10-204, *Air Force Service Exercise Program and Support to Joint and National Exercise Program*, and AFI 10-1302, *Air Force Lessons Learned Program*. Records associated with blood support operations are maintained and disposed of in accordance with AFI 33-322, *Records Management and Information Governance Program*.

## Chapter 4

### COMMAND AND CONTROL RELATIONSHIPS

**4.1. Command and Control of Expeditionary Ground Medical Teams.** Command and control for expeditionary medical units is through line of the Air Force commanders. Air Force elements deployed into a theater are typically aligned under the command of the COMAFFOR. Expeditionary medical teams normally operate under the local direction of the deployed expeditionary unit commander. Deploying personnel should receive a chain of command briefing to ensure a clear understanding of the command structure.

4.1.1. The ASWBPLs are operationally controlled by the AFBPO.

4.1.2. The combatant command JBPO/AJBPO has operational control over the EBTC mission.

4.1.3. The BDC, EBSC, and Frozen Blood Product Team are typically under the operational control of the commander of the medical treatment facility where they are assigned.

4.1.4. During day-to-day operations, EBTC, EBSC, and Frozen Blood Product Team personnel are typically organized under the biomedical laboratory function's chain of command.

**4.2. Joint and Multinational Operations.** Blood support units deployed to support joint, multinational, or United Nations operations operate under the command structure established by the air expeditionary task force or joint task force to which they are assigned. Command and control relationships vary depending on the assignment and are usually defined in the warning, execution, operations, or task order.

**4.3. Air Combat Command Surgeon (ACC/SG) Responsibility.** ACC/SG is the Manpower and Equipment Force Packaging (MEFPAK) Responsible Agency (MRA) for medical ground-based UTCs. ACC/SG has overall responsibility for ground medical tactical doctrine, serves as the medical consultant for ground medical UTC operations, and provides technical guidance and planning.

**4.4. UTC Team Chiefs.** UTC team chiefs supervise daily operations and ensure that all assigned personnel are thoroughly familiar with their responsibilities and adequately trained to perform their missions. The biomedical laboratory officer (043T3A) on FFBP1 is the EBTC team chief. The blood bank officer (043T3E) on FFLBB is the EBSC team chief. The senior medical laboratory technician (4T071) on FFBD1 is the Frozen Blood Product Team chief. Each team chief is responsible for the following duties:

4.4.1. Ensure team members accomplish all required training.

4.4.2. Directly supervise the team's operations.

4.4.3. Identify and communicate personnel and equipment shortfalls and other limiting factors to the deployed medical commander.

4.4.4. Secure ECS/BOS as needed.

4.4.5. Prepare and submit operational reports to the supported command and the JBPO/AJBPO.

**4.5. Theater Blood Reporting Requirements.** The JBPO has standardized blood reporting requirements to effectively manage blood and blood products, project blood requirements, request blood, report blood inventories, and provide information on the overall blood element operations of all the service components. The JBPO determines the format, reporting frequency, and transmission methods for these reports. See Joint Publication (JP) 4-02, *Health Service Support*, for more information and report samples.

## Chapter 5

### COMMUNICATIONS AND INFORMATION SYSTEMS

**5.1. Communications Requirements.** The blood support teams deploy with DOD-approved computer systems. The teams are not equipped with the communications infrastructure needed for independent operation and rely on host base communication units. The teams require access to the Defense Switched Network (DSN), secure voice communication, Non-classified Internet Protocol Router Network (NIPRNET), and Secret Internet Protocol Router Network (SIPRNET) for data collection, reporting, and reachback purposes. See [Attachment 2, EXPEDITIONARY COMBAT SUPPORT REQUIREMENTS](#), for more information on communication requirements.

**5.2. Computer Systems.** Computers issued to the deployable blood support teams include the DOD Standard Desktop Configuration and Theater Medical Information Program (TMIP). TMIP is a suite of DOD standard medical information systems for theater health service support operations. It includes applications for medical command and control, health care delivery, patient tracking, occupational and environmental health exposure tracking and surveillance, medical logistics, and blood management. TMIP applications are provided through the Joint Operational Medical Information Systems (JOMIS) Program Management Office.

**5.3. Blood Management System.** The Theater Medical Data Store (TMDS) Blood Management Module within TMIP is the DOD Military Health System approved application for blood supply management. The blood management module collects, processes, and tracks blood product inventory, provides automated support for remote blood collection, and regulates blood product safety transfusion practices.

5.3.1. In deployed settings, the blood TMDS Blood Management Module links the EBTC, EBSC, and Frozen Blood Product Team with the worldwide distribution network. Team chiefs should ensure operating instructions are in place that provide the procedures to follow when access to this system is not available.

5.3.2. Access to the TMDS Blood Management Module requires an active TMDS user account. Users should register for this account at least 30 days before deployment to ensure sufficient time for account creation and validation. For assistance, email the TMDS helpdesk at [dha.tmds-help@mail.mil](mailto:dha.tmds-help@mail.mil) or call 1-800-600-9332.

**5.4. Information Assurance Policy.** Blood support personnel should understand and follow information assurance procedures, to include communications and computer security, in accordance with AFI 17-130, *Cybersecurity Program Management*, DAFMAN 17-1301, *Computer Security (COMPUSEC)*, and associated Air Force information assurance guidance.



## Chapter 6

### INTEGRATION AND INTEROPERABILITY

**6.1. Integration and Interoperability with Other Systems.** Deployed medical personnel in a theater or area of operation may support elements of an air expeditionary force, components of the en route continuum of care system, joint medical counterparts, Special Operations Forces medical components, and other federal and civilian agencies. In some instances, theater planners may request medical support for bed-down locations not associated with a typical air expeditionary force or ECS/BOS infrastructure.

**6.2. Expeditionary Combat Support/Base Operating Support (ECS/BOS) Requirements.** The EBTC and EBSC deploy with limited organic capability and require ECS/BOS. ECS/BOS requirements include (but are not limited to) civil engineering support for shelter and equipment siting and setup, billeting, messing and other consumable materials, power, water, ice, latrines, showers, laundry, waste management, exterior lighting, transportation, fuels, vehicle maintenance, equipment maintenance, general supplies, contracting, information and communications systems support, and security. ECS/BOS services are provided through the host base's capabilities, deployable base systems, and contracted civilian support. See [Attachment 2, EXPEDITIONARY COMBAT SUPPORT REQUIREMENTS](#), for quantified estimates on required support.

6.2.1. Blood product, hazardous waste, and biomedical waste disposal services are normally obtained on a contract basis or as part of other base waste disposal services.

6.2.2. Dry ice for shipping frozen blood products is obtained on a contract basis.

**6.3. Medical Facility Integration.** The EBTC, EBSC, and Frozen Blood Product Team are designed to support the existing capabilities within a medical facility and are not stand-alone. They should be attached to fixed or field medical facilities that have biomedical laboratory capabilities with basic hematology, chemistry analysis, and microbiology support. The EBTC and EBSC deploy with an initial 30 days of supplies, but for sustained deployments, they rely on the medical facility's logistics system for resupply. See [Chapter 9, LOGISTICS](#), for more information on logistics support.

## Chapter 7

### SECURITY AND FORCE PROTECTION

**7.1. Security Roles and Responsibilities.** Medical personnel and equipment are non-combatant assets and have protected status under the Geneva Conventions and the broader Law of War. Arming requirements for deploying ground medical personnel are mission and operating location specific and are provided in reporting instructions and theater guidance. Current threat assessments provided by the combatant commander and local threat conditions established by the joint task force, air expeditionary wing, or air expeditionary group commander dictate local security measures. Blood support personnel are responsible for following the personal protection measures outlined in DAFI 31-101, area of responsibility security briefings, established force protection requirements, and local guidance.

**7.2. Physical Security.** Security forces guard medical facilities only if deemed necessary as part of the Integrated Defense Plan. If the threat changes, security forces may appoint an augmented detail to provide force protection and entry control (for example, a mass casualty event).

**7.3. Operations Security.** Blood support personnel are responsible for protecting mission-critical information (to include medical or casualty information) in accordance with theater policy and AFI 10-701, *Operations Security (OPSEC)*. Classified information should be transmitted by secure means and protected in accordance with Department of Defense Manual (DODM) 5200.01, Volume 3\_DAFMAN 16-1404, Volume 3, *Information Security Program: Protection of Classified Information*. Situation reports, medical surveillance, site locations, and compiled patient data are examples of information that may be classified and require protection.

**7.4. Security of Weapons and Ammunition.** Weapons and ammunition should be secured in accordance with DAFI 31-101 and local procedures. Normally, base security forces provide weapons handling guidance and an armory. If access to an armory is not available, blood support personnel are responsible for the safe storage of weapons and ammunition until the armory or donor's unit can assume responsibility.

## Chapter 8

### TRAINING

**8.1. Medical Readiness Training Requirements.** Personnel assigned to the blood support UTCs must complete the Comprehensive Medical Readiness Program (CMRP) training requirements specified in AFI 41-106 and the CMRP Category III Training Guide. Additional training that might be required to meet operational or theater specific requirements is identified in deployment reporting instructions or tasking line remarks.

**8.2. EBTC and Frozen Blood Product Team Training.** The formal training courses for EBTC (FFBP1-3) and Frozen Blood Product Team (FFBD1) members are conducted at ASWBPL-West, Travis Air Force Base. Members should complete this training upon initial assignment to the UTC and every two years to maintain consistency.

8.2.1. The FFBP1-3 course covers all aspects of EBTC responsibilities to include blood shipment, receipt, storage, inventory management, theater blood reporting, and pallet building.

8.2.2. The FFBD1 course covers all aspects of the team's capabilities to include blood thawing and deglycerolization, blood product storage, labeling, and inventory management.

**8.3. EBSC Training.** EBSC training is conducted at the Armed Services Blood Bank Center – San Antonio (ASBBC-SA) at Joint Base San Antonio-Lackland, TX. Training includes all aspects of EBSC responsibilities to include apheresis and whole blood collection, blood product storage, labeling, and inventory management. Team members should complete this training when tasked to deploy on the FFLBB UTC in accordance with line remarks.

**8.4. UTC Sustainment Training.** UTC sustainment training occurs between formal course attendance cycles to maintain the skills and knowledge the team needs to fulfill its mission essential tasks. UTC sustainment training credit may be granted for participation in mission essential task-driven exercises, operational readiness exercises, local exercises, and joint exercises. Contact the ACC Exercise and Training Branch for information on approved sustainment training exercises.

**8.5. Recommended Team and Skills-Related Training.** Personnel assigned to a blood support UTC should have a broad theoretical and operational understanding of the blood support mission and their core mission essential tasks. Before deployment, the team should receive refresher training at an Air Force-designated training center. Team integrity should be maintained to the extent possible. Training topics include (but are not limited to) the following areas:

8.5.1. Apheresis collection, whole blood collection, and FRBC deglycerolization

8.5.2. Technical, operational, troubleshooting, maintenance, assembly and reassembly of collection and deglycerolization equipment

8.5.3. Allogeneic donor selection and blood collection

8.5.4. Blood receipt (product-specific temperature, appearance, and condition requirements)

8.5.5. Blood product re-icing procedures

8.5.6. Quality control

8.5.7. Computer-based training on proper blood shipments, the TMDS Blood Management Module, and expeditionary medical logistics support capabilities and processes as needed

8.5.8. Current AFBPO, ASBPD, JPBO, and AJBPO training materials, policies, and procedures

8.5.9. Acquisition, preparation, review, and submission of required documentation, reports, and forms (for example, Department of Defense [DD] Form 1502, *Frozen Medical Materiel Shipment*; DD Form 1502-1, *Chilled Medical Materiel Shipment*; DD Form 573, *Shipping Inventory of Blood Products*; blood inventory reports)

**8.6. Vehicle Operation Training.** Operators of government motor vehicles and material handling equipment must have a government driver's license and appropriate certification in accordance with AFI 24-301, *Ground Transportation*.

**8.7. Weapons Training.** Blood support personnel follow the weapons qualification training requirements outlined in AFI 36-2654, *Combat Arms Program*, and DAFMAN 36-2655, *USAF Small Arms and Light Weapons Qualification Programs*, for Arming Group C. Theater combatant commands may impose additional or more stringent requirements, which are generally specified in the operation's execution order or reporting instructions. See the AFMS Arming Requirements document (also known as the Weapons and Munitions Forecasting Table) for weapons authorizations for the blood support UTCs. This document is available on the ACC/SG MEFPK Playbook (<https://usaf.dps.mil/sites/12173/SitePages/Playbooks.aspx>) or by request from the ACC Ground Medical UTC Management Branch.

**8.8. Communications and Information Systems Training.** EBTC and EBSC personnel should be trained in the proper use of the communications and information systems included in their equipment packages.

## Chapter 9

### LOGISTICS

**9.1. Expeditionary Medical Logistics (EML) System.** The EML system provides global support and sustainment to air expeditionary force medical forces across the full spectrum of operations. The EML system uses a pull process for resupply and a repair-and-return process for medical equipment maintenance to minimize inventory and airlift requirements. Each combatant command has a supporting Theater Lead Agent for Medical Materiel (TLAMM). The TLAMM serves as a major theater medical distribution node and becomes the deployed unit's primary point of contact for materiel and equipment support in theater. For early phase operations and emergency situations in which a TLAMM is not able to provide support, the Air Force Forces Surgeon (AFFOR/SG) staff in coordination with the Air Force Medical Logistics Operations Center (AFMLOC) usually designate a sustaining base to provide reachback support. Upon notification of activation, the UTC team chief or logistics lead should contact the AFMLOC for guidance on the appropriate theater supply chain and points of contact. See Department of the Air Force Tactics, Techniques, and Procedures (DAFTTP) 3-42.8, *Expeditionary Medical Logistics (EML) System*, for more information on medical logistics support capabilities, infrastructure, and supply chain management.

**9.2. Supplies and Equipment.** Most expeditionary medical equipment based in the continental United States is managed and deployed through designated consolidated storage and deployment centers (CSDCs). Equipment UTCs may also be pre-positioned in theater based on requirements from the combatant commander and the COMAFFOR. UTC team chiefs should be aware of the contents of their equipment packages before deployment and should contact their medical logistics office for assistance with reviewing their allowance standards. At the deployed location, UTC team chiefs coordinate subsequent resupply through their medical logistics function. **Table 9.1** lists the allowance standard for each blood support equipment package.

**Table 9.1. Blood Support Equipment Allowance Standards.**

UTC	Description	Allowance Standard
FFBE1	Medical Expeditionary Blood Transshipment Equipment (Supports FFBP1-3)	893J
FFLB1	Medical Expeditionary Blood Support Center Equipment (Supports FFLBB)	893C
FZNBP	Medical Expeditionary Frozen Blood Program Equipment (Supports FFBD1)	893F

9.2.1. The EBTC, EBSC, and Frozen Blood Product Team equipment packages contain commonly used medical equipment and enough consumable supplies for 30-day operation. Consumable items are, to the extent possible, standard DOD inventory items.

9.2.2. The EBSC and Frozen Blood Product Team equipment packages also contain specially developed medical equipment regulated by the FDA for screening donors, deglycerolizing FRBCs, and collecting platelets and whole blood.

9.2.3. None of the blood support equipment packages contain blood products. The EBTC and Frozen Blood Product Team require initial and ongoing blood product supplies to maintain capability.

**9.3. Blood Labels and Standard Forms.** The blood support equipment packages do not include the forms needed for shipping and storing blood products. Team chiefs hand-carry all required forms to the deployment location. Team chiefs should contact the combatant command JBPO to coordinate the establishment of an International Council for Commonality in Blood Banking Automation (ICCBBA) account to obtain blood labels.

**9.4. Reagent Special Handling Requirements.** The Frozen Blood Product Team and EBSC team chiefs should coordinate with the blood support detachment or EBTC on the shipment and packing of reagents that have special handling requirements (such as frozen storage). The UTC team chiefs should ensure sufficient volume and reagent types are available and should contact the designated reagent repository once mission needs are determined.

**9.5. Medical Equipment Maintenance and Repair.** Biomedical equipment technicians at the deployed medical facility provide routine maintenance and repair of the blood support medical equipment. Equipment repairs and calibrations that cannot be done on site may be provided by an Air Force Medical Equipment Repair Center (MERC).

**9.6. Equipment Upgrades and Modernization.** Changes to the blood support assemblages may result from technology advances and lessons learned feedback. MRAs typically budget and plan for major equipment reviews every five years.

ROBERT I. MILLER, Lieutenant General,  
USAF, MC  
Surgeon General

## Attachment 1

## GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

*References*

AFI 10-403, *Deployment Planning and Execution*, 17 April 2020

AFI 10-701, *Operations Security (OPSEC)*, 24 July 2019

AFI 10-1302, *Air Force Lessons Learned Program*, 30 July 2019

AFI 17-130, *Cybersecurity Program Management*, 13 February 2020

AFI 24-301, *Ground Transportation*, 22 October 2019

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2020

AFI 36-2654, *Combat Arms Program*, 16 April 2020

AFI 41-106, *Air Force Medical Readiness Program*, 29 July 2020

AFI 44-105, *The Air Force Blood Program*, 10 January 2019

AFMAN 10-206, *Operational Reporting (OPREP)*, 18 June 2018

AFMAN 24-604, *Preparing Hazardous Materials for Military Air Shipments*, 09 October 2020

AFMAN 41-111, *Standards for Blood Banks and Transfusion Services*, 01 July 2016

AFMAN 41-209, *Medical Logistics Support*, 04 January 2019

DAFI 24-602V2, *Cargo Movement*, 12 June 2019

DAFI 31-101, *Integrated Defense*, 25 March 2020

DAFMAN 17-1301, *Computer Security (COMPUSEC)*, 12 February 2020

DAFMAN 21-201, *Munitions Management*, 03 May 2022

DAFMAN 36-2655, *USAF Small Arms and Light Weapons Qualification Programs*, 17 April 2020

DAFTTP 3-42.8, *Expeditionary Medical Logistics (EML) System*, 15 June 2021

Defense Transportation Regulation (DTR) 4500.9-R Part III, *Mobility*,

DODM 5200.01V3\_DAFMAN 16-1404V3, *Information Security Program: Protection of Classified Information*, 12 April 2022

Joint Trauma System Clinical Practice Guideline, *Whole Blood Transfusion (CPG ID: 21)*, 15 May 2018

JP 4-02, *Health Service Support*, 28 September 2018

TM 8-227-11/NAVMED P-5123/AFI 44-118, *Operational Procedures for the Armed Services Blood Program Elements*, 1 September 2007

*War and Mobilization Plan, Volume I, (WMP-1), Enclosure F, Air Force Medical Service (AFMS) Supplement*, July 2019

***Adopted Forms***

DAF Form 847, *Recommendation for Change of Publication*

DD Form 573, *Shipping Inventory of Blood Products*

DD Form 1502, *Frozen Medical Materiel Shipment*

DD Form 1502-1, *Chilled Medical Materiel Shipment*

***Abbreviations and Acronyms***

**AABB**—Advancement of Blood and Biotherapies

**ACC**—Air Combat Command

**AFBPO**—Air Force Blood Program Office

**AFFOR**—Air Force Forces

**AFI**—Air Force Instruction

**AFMAN**—Air Force Manual

**AFMLOC**—Air Force Medical Logistics Operations Center

**AFMS**—Air Force Medical Service

**AFSC**—Air Force Specialty Code

**AFTTP**—Air Force Tactics, Techniques, and Procedures

**AJBPO**—Area Joint Blood Program Office

**ANG**—Air National Guard

**APLT**—Apheresis Platelet

**ASBBC-SA**—Armed Services Blood Bank Center – San Antonio

**ASBPD**—Armed Services Blood Program Division

**ASWBPL**—Armed Services Whole Blood Processing Laboratory

**BDC**—Blood Donor Center

**BOS**—Base Operating Support

**CAP**—College of American Pathologists

**CMRP**—Comprehensive Medical Readiness Program

**COMAFFOR**—Commander, Air Force Forces

**COMPUSEC**—Computer Security

**CONUS**—Continental United States

**CPG**—Clinical Practice Guideline

**CRYO**—Cryoprecipitate

**CSDC**—Consolidated Storage and Deployment Center



**DAF**—Department of the Air Force (form)  
**DAFI**—Department of the Air Force Instruction  
**DAFMAN**—Department of the Air Force Manual  
**DAFTTP**—Department of the Air Force Tactics, Techniques, and Procedures  
**DD**—Department of Defense (form)  
**DOD**—Department of Defense  
**DODM**—Department of Defense Manual  
**DSN**—Defense Switched Network  
**DTR**—Defense Transportation Regulation  
**EBSC**—Expeditionary Blood Support Center  
**EBTC**—Expeditionary Blood Transshipment Center  
**ECS**—Expeditionary Combat Support  
**ECU**—Environmental Control Unit  
**EML**—Expeditionary Medical Logistics  
**FDA**—Food and Drug Administration  
**FFP**—Fresh Frozen Plasma  
**FRBC**—Frozen Red Blood Cell  
**FWB**—Fresh Whole Blood  
**ICCBBA**—International Council for Commonality in Blood Banking Automation  
**JBPO**—Joint Blood Program Office  
**JOMIS**—Joint Operational Medical Information Systems  
**JP**—Joint Publication  
**LTOWB**—Low Titer O Whole Blood  
**MDBS**—Army Medical Detachment, Blood Support  
**MEFPAK**—Manpower and Equipment Force Packaging  
**MERC**—Medical Equipment Repair Center  
**MRA**—MEFPAK Responsible Agency  
**NAVMED**—Navy Medical  
**NIPRNET**—Non-classified Internet Protocol Router Network  
**OCONUS**—Outside the Continental United States  
**OPR**—Office of Primary Responsibility  
**OPSEC**—Operations Security

**PF24**—Plasma Frozen within 24 Hours of Phlebotomy

**pRBC**—Packed Red Blood Cell

**SG**—Surgeon General; Surgeon

**SIPRNET**—Secret Internet Protocol Router Network

**STE**—Secure Telephone Equipment

**TLAMM**—Theater Lead Agent for Medical Materiel

**TM**—Technical Manual

**TMDS**—Theater Medical Data Store

**TMIP**—Theater Medical Information Program

**UTC**—Unit Type Code

**WMP**—War and Mobilization Plan

## Attachment 2

## EXPEDITIONARY COMBAT SUPPORT REQUIREMENTS

Table A2.1. ECS/BOS Requirements.

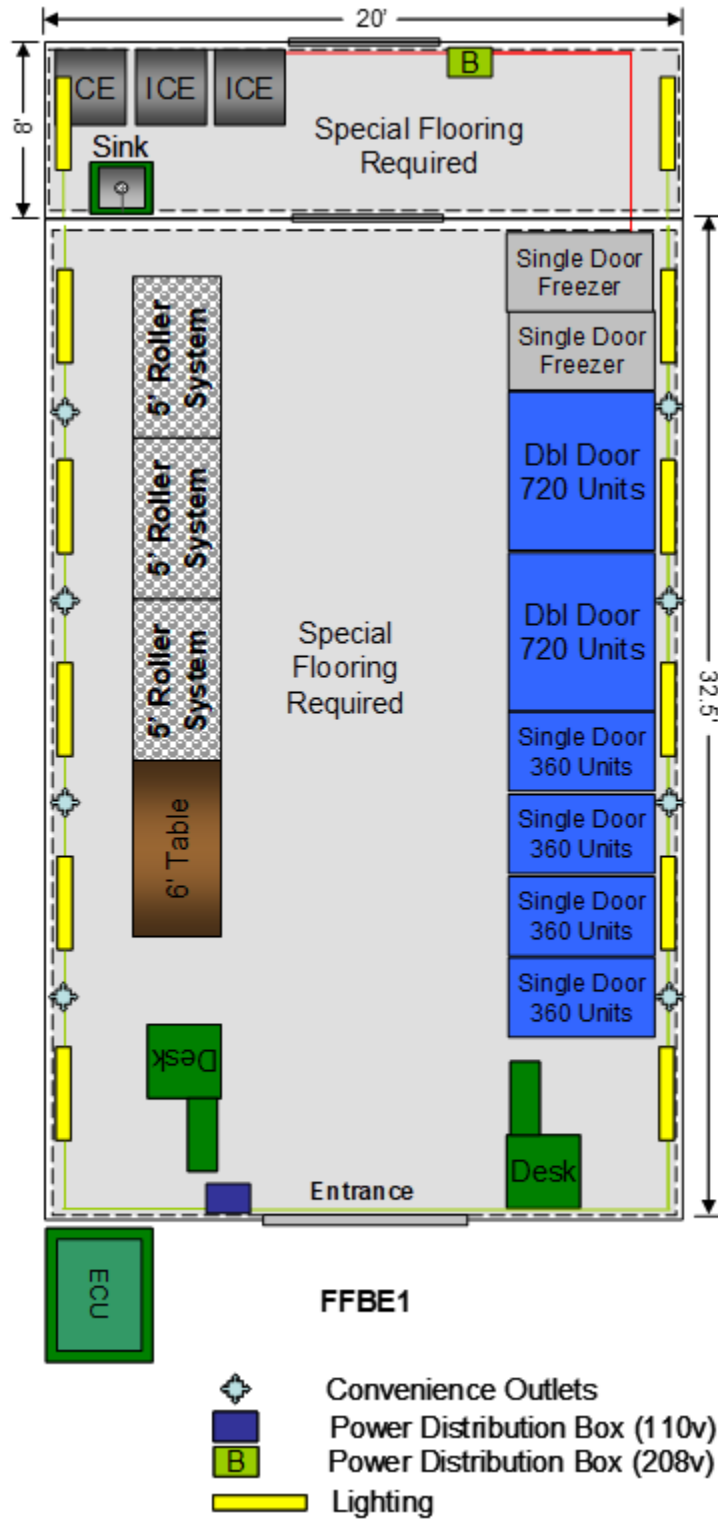
<b>Blood Support Team Expeditionary Combat Support Requirements</b>					
<b>Calculations are in accordance with AFPAM 10-219, Vols 5 &amp; 6, where applicable unless otherwise specified.</b>					
	<b>EBTC Module 1 FFBP1 FFBE1</b>	<b>EBTC Module 2 FFBP2</b>	<b>EBTC Module 3 FFBP3</b>	<b>EBSC FFLBB FFLB1</b>	<b>Frozen Blood Product Team FFBD1 FZNBP</b>
<b>MOVEMENT REQUIREMENTS</b>					
<b>Calculations are in accordance with AFPAM 10-1403 and DTR 4500.9-R Part III.</b>					
Pallets (#)	4			3	
C-130 (# aircraft)	1			1	
C-17 (# aircraft)	1			1	
C-5 (# aircraft)	1			1	
M871 (# flatbed semitrailers)	1			1	
M872 (# flatbed semitrailers)	1			1	
<b>SITE PREPARATION</b>					
Square Footage (slight grade required)	1,000			1,000	
Tents (#)	1			1	
ECUs (# units)	1			1	
<b>Note:</b> Civil engineering maintenance support is required for ECUs and backup generators.					
<b>BASIC EXPEDITIONARY AIRFIELD RESOURCES (BEAR) REQUIREMENTS</b>					
Latrine/Showers (total # people)	4	2	3	6	7
Billeting (# staff)	4	2	3	6	7
Officer (#)	1	0	0	1	0
Enlisted (#)	3	2	3	5	7
Meals (# meals/day, total) (= 3 meals/day)	12	6	9	18	21
Laundry (lbs/week, total) (= 32 lbs/person/week)	128	64	96	192	224
Ice (lbs/day, total) (= 4.4 lbs/person/day)	17.6	8.8	13.2	26.4	30.8
Dry ice (lbs/day)	300				
Potable Water (gal/day) (= # staff x 10 gal/day)	40	20	30	60	70

Power (kW)	53			20	17.5
MEDICAL/BIOHAZARD WASTE MANAGEMENT					
Liquid (gal/day), total (= 0.7 x potable water rate)	28	14	21	42	49
Solid (lbs/day, total) (= 4 lbs x # people)	16	8	12	24	28
LOGISTICS REQUIREMENTS					
Petroleum, Oil, Lubricants					
Diesel Fuel Consumption (gal/day) (= 8.33 gal/hr x 24 hrs)					
Unleaded Fuel Consumption (gal/day) (10kW backup generator)	10			10	
Vehicles					
Transportation Requirements	UFMBJ: 4, 4x4 Pickup Trucks			UFMBJ: 4, 4x4 Pickup Trucks	UFMBJ: 4, 4x4 Pickup Trucks
Materiel Handling Equipment	10K forklift Flatbed truck			10K forklift Flatbed truck	10K forklift Flatbed truck
Vehicle Maintenance Support	Required				
COMMUNICATIONS AND INFORMATION SYSTEMS					
Organic Equipment					
Satellite/Telemedicine (#)					
Land Mobile Radios (#)					
Secure Telephone Equipment (STE) (#)					
Laptop (#)				2	
Printers (#)				1	
Server Suite (#)					
Base Communications Support Requirements					
Phone (#)	1			1	1
Controlled Cryptographic Items/STE Cards (#)	1			1	1
NIPRNET Access	1 Cat 6E drop required				
SIPRNET Access	Required				
Computer Configuration					
Operating System/Office Suite	DOD SDC				
RAM/Hard Drive	Enterprise Hardware Standard				
Clinical Applications	TMIP				
Required Port	21/TCP; 443/TCP; 8080/TCP				

Number/Protocol Access (TCP/UDP)	
<b>CHAPLAINCY SERVICE SUPPORT</b>	
	Required for all modules.
<b>SECURITY FORCES SUPPORT</b>	
	Required for all modules not co-located on Air Base.

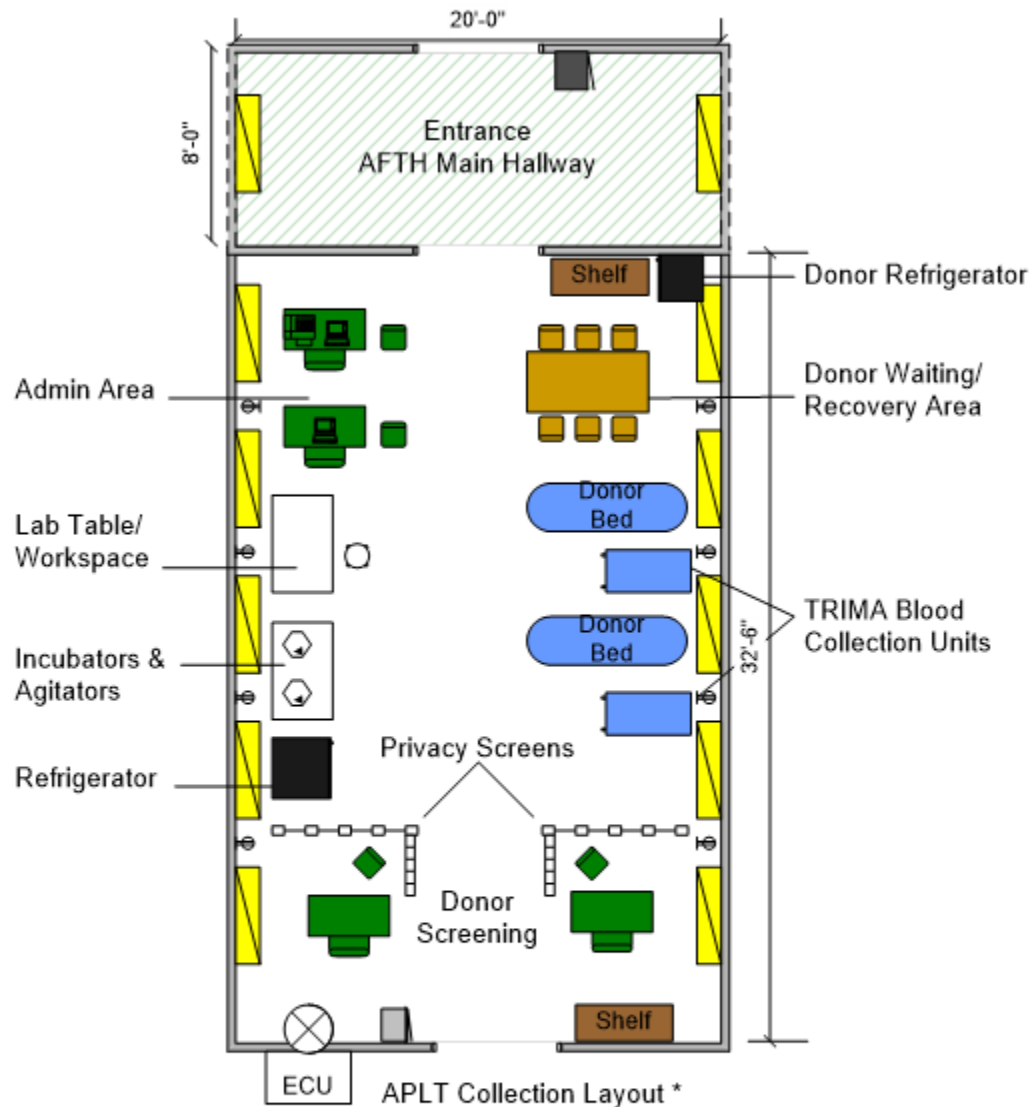
**Attachment 3**  
**EBTC SHELTER LAYOUT**

**Table A3.1. EBTC Shelter Layout Example.**







### Attachment 4 EBSC SHELTER LAYOUT

**Table A4.1. EBSC Shelter Layout Example.**



\* During WB drives, tent layout is reconfigured to accommodate 3 more donor beds. Admin and donor waiting/recovery may be moved to the AFTH hall.

-  Convenience Outlets
-  Power Distribution Box (110v)
-  Power Distribution Box (208v)
-  Lighting