BY ORDER OF THE COMMANDER
59TH MEDICAL WING

59TH MEDICAL WING INSTRUCTION
44-107

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Medical

BLOOD PRODUCTS

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This instruction adopts in part Air Force Policy Directive 44-1, *Medical Operations*. This medical wing instruction (MDWI) establishes policies, procedures, and responsibilities for the operation of the 59th Medical Wing (MDW) Limited Transfusion Services and all clinical areas that may require transfusion support at Wilford Hall Ambulatory Surgical Center. This instruction applies to all Military Medical Treatment Facilities (MTFs) and Clinics under the Authority, Direction, and Control of the Director, Wilford Hall Ambulatory Surgical Center, to include the 59th Medical Wing (MDW) medical staff while performing Defense Health Agency duties. However, this does not apply to 959th Medical Group personnel when using Brooke Army Medical Center. This instruction does not apply to the Air National Guard or Air Force Reserve. This instruction does not apply to the 559th Medical Group and the 59th Training Group. **Note:** This publication requires the collection and maintenance of information protected by the Privacy Act of 1974. Privacy Act System of Record Notices F044 AF SG D, *Automated Medical/Dental Record System*, F044 SG E, *Medical Record System*, and F044 AF SG J, *Air Force Blood Program*, apply. Collected information is "For Official Use Only." Request to release Privacy Act information to staff members or agencies outside DoD must be in accordance with (IAW) DoDM 5400.07, *DoD Freedom of Information Act (FOIA) Program*, and DoDM 6025.18, *Implementation of the Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule in DoD Health Care Programs*. Refer recommended changes and questions about this publication to the Office of Primary Responsibility using the DAF Form 847, *Recommendation for Change of Publication*. Requests for waivers must be submitted to the OPR listed above for consideration and approval. Ensure that all records created as a result of processes prescribed in this publication adhere to

Defense Health Agency Administrative Instruction 5015.01, *Records Management Program,* and disposed of IAW OSD Records Disposition Schedule (RDS).

SUMMARY OF CHANGES

This publication has been revised and must be reviewed. Major changes reflected in this rewrite of 59 MDWI 44-107 include: Deleted 59 MDW Form 2982, *Blood Bank Testing and Component Request;* 59 MDW Form 3232, *Blood Component Crossmatch/Transfusion Record;* and 59 MDW Form 3588, *Emergency Blood Product Release.* Added 59 MDW Form 72, *Emergency Release Pickup* and 59 MDW Form 73, *Unit Tag*. Updated procedures and processes with the integration of MHS GENESIS.

1. Program Responsibilities.

1.1. The 59 MDW, Transfusion Services, 59MDTS/SGSLP is registered with the Food and Drug Administration (FDA), registration number 3012374081, and is accredited by the Association for the Advancement of Blood & Biotherapies (AABB), College of American Pathologists, The Joint Commission, Armed Services Blood Program (ASBP), and Department of Defense Clinical Laboratory Improvement Program (AFIP Pamphlet 1; No. 40-24). The 59 MDW registration and accreditation governs not only Transfusion Services activities, but also the personnel ordering and administering blood products to patients. All operational procedures and requests for blood products will comply with regulatory requirements, standards, and Current Good Manufacturing Practices.

1.2. A review of transfusion practices is conducted to ensure all applicable standards are being met. This review is performed by the laboratory Medical Director and is presented at the Executive Committee of the Medical Staff. The Blood Utilization Function includes review of processing, ordering and administering of blood products to include chart reviews.

1.3. The Department of Pathology as part of the laboratory process improvement program evaluates adverse usage trends and if a quality-of-care patient safety concern is identified in any aspect of organization performance, a referral is made to one or more of the appropriate oversight committees IAW 59 MDWI 41-102, *Medical Committees and Functional Reviews*.

1.4. The responsibilities of the Transfusion Services Medical Director may be covered by an on-call pathologist or other qualified physician designated by the Medical Director.

2. Product and Services Availability.

2.1. Allogeneic packed red blood cells (pRBC) is the only product available through Transfusion Services.

2.2. The Transfusion Service maintains a routine inventory of 6 pRBC units: 2 O Negative and 4 O Positive units which will be maintained for emergency release use only.

2.3. Emergency Release will be available 24/7 for the Family Emergency Center and the Wilford Hall Ambulatory Surgical Center (WHASC) Operating Room/Post-Anesthesia Care Unit surgical cases only.

2.4. Only emergency release pRBC units will be available. See section 4.1. for guidance.

3. Blood Product Recognized by the Transfusion Service.

3.1. Emergency-release of Red Blood Cells will be the only request permitted by the blood bank. These units are maintained in the Blood Bank and have been fully tested for blood type (ABO) group, Rh type, antibody screens, and all required viral markers. The use of these Emergency Release units will be limited to patients from the Family Emergency Center and Operating Room/Post-Anesthesia Care Unit who may require a blood transfusion immediately.

3.2. Emergency released, uncrossmatched group O pRBC units are the ***ONLY*** products available for transfusion at the Wilford Hall Ambulatory Surgical Center. All pRBC units received into the WHASC blood inventory are Leukoreduced. Other blood components such as platelets, plasma, cryoprecipitate and whole blood are **NOT AVAILABLE**. Requests for pRBCs with special modifications (such as irradiated, CMV negative, Hgb S negative, or washed, units) cannot be accommodated.

4. Emergency Release of Blood Products. Request for Un-Crossmatched Blood.

4.1. In an emergency, such as in the Family Emergency Center or the Operating Room/Post-Anesthesia Care Unit, the patient's physician may request blood to be released immediately before standard crossmatch testing is completed. In these situations, physicians digitally sign the emergency release order through the Laboratory Information System (LIS) or during a downtime period, print and sign the *pRBC* 59 MDW Form 73 (under the Electronic System Downtime section), to document the urgency and acknowledge that the units are not fully crossmatched at the time of issue for transfusion. **Note: During downtime or when LIS is not available, the requesting physician MUST sign the 59 MDW Form 73 (under the Electronic System Downtime section) before it is returned to the blood bank department within 24 hours.** The patient's full name, unique patient identification number [Department of Defense Identification (DOD ID #)] and date of birth (DOB) are required when requesting emergency blood products. Direct communication by calling the following laboratory numbers, 292-5466 or 292-5467, is highly recommended to expedite the issue of emergency release units. If the patient is a female and of child-bearing potential, please inform the laboratory technician in order to select the appropriate pRBC unit set. The emergency release forms should be completed and returned to the blood bank within 24 hours.

4.1.1. The Transfusion Service maintains a routine inventory of ***6 pRBC units: 2 O Negative and 4 O positive units which are available for immediate transfusion.*** No other blood components are available in the inventory.

4.1.2. When a patient requires immediate transfusion with emergency-released group O pRBC, TWO properly labeled patient sample tubes drawn into PREFERABLY an Ethylene Diaminetetraacetic Acid [K2 Ethylene Diaminetetraacetic Acid (EDTA) PINK TOP] or ALTERNATELY a red top clot tube must be collected BEFORE starting the transfusion to enable the blood bank to determine the patient's ABO and Rh and perform compatibility testing. **Note: *If the samples are ordered in MHS Genesis, ensure the order was processed utilizing Positive Patient Identification and Positive Accession Identification* (*PPID/PAID)*.**

4.1.3. As soon as possible, submit to the blood bank: the patient's pre-transfusion blood sample properly collected and labeled and accompanied by a properly completed *59 MDW Form 72, Emergency Release Pickup* with the full name, unique patient identification number [DOD ID #], and DOB for positive identification of the patient. The staff member who draws the blood sample must positively identify the patient and label the blood sample prior to leaving the patient's side.

4.1.4. Label the blood specimen tubes with a firmly attached label bearing the following minimum acceptable information: Patient’s full Name; DOB; DOD ID #; Date and time*; Initials of person drawing sample. Imprinted labels may be used provided the information on the label and 59 MDW Form 72 is identical. Compare, item by item, the information on the tube label against information on the patient’s wristband and 59 MDW Form 72. The individual collecting the blood sample and a second staff member (Verifier) will sign 59 MDW Form 72 in the appropriate spaces (two different signatures). The Verifier must view the sample collection. See **Attachment 2.** Procedure for Emergency Blood Products Release.

4.1.4.1. Documentation with the patient's full name, unique patent identification number (DOD ID #), and DOB is required at time of pick-up.

4.2. The 59 MDW's blood resources are limited to only 6 units of group O pRBC; immediate arrangements should be made to transfer the patient to Brooke Army Medical Center (BAMC) or other facility with full Blood Bank capabilities. After all emergency-released blood group O pRBC are issued there will be a ***substantial delay, possibly several days,*** before replenishment of the inventory.

4.3. It is Wilford Hall Ambulatory Surgical Center's policy to issue units in packs of 2 pRBC when emergency release blood is required***. For a female of childbearing potential with negative or unknown Rh type, pack 1 will consist of two O Negative pRBC units; while pack 2 and pack 3 will each consist of two O Positive pRBC units. For all other patients (female patients not of childbearing potential, females of childbearing potential with known positive Rh type, and male patients) the first pack will consist of two O Positive pRBC units.***

Table 1. RBCs selection for 1st emergency release pack.

Female of child-bearing potential	**Yes**	**Yes, *with known positive Rh type***	**No**
RBCs selected	2 Units O NEG	2 Units O POS	2 Units O POS

4.4. This policy has been approved by the Board of Directors and the Medical Director. pRBC units issued will accompany the patient during transport to BAMC or other facility with full Blood Bank capabilities.

5. Issue of Blood.

5.1. Only the Family Emergency Center and the Operating Room/Post-Anesthesia Care Unit personnel are authorized to pick up blood components from the blood bank. Such personnel must provide the blood bank with the patient's full name, unique patient identification number (DOD ID #), and DOB for positive identification. The blood bank technician will verify the patient's name and unique patient identification number on each of the 59 MDW Form 73s and ensure it matches the patient's name and identification on the 59 MDW Form 72 or pickup slip provided by the individual assuming custody of the pRBC units.

5.1.1. The blood bank technician will document the expiration date, verify the color and appearance of all pRBC units are acceptable, and document "*Inspection At Time Of Issue*" on the Emergency Issue Log.

5.1.2. Prior to the person taking custody of the pRBC units, the blood bank technician will read the unit number, and verify the patient's name and identifier (DOD ID #, and DOB) for each unit from the Emergency Issue Log. The person taking custody of the pRBC units will read back unit number, unit blood type and expiration date, from the unit being dispensed. The person taking custody will verify the patient's name and identifier (DOB and DOD ID #) for each unit from the 59 MDW Form 73.

5.1.3. The person picking up the units will print and sign their name on the 59 MDW Form 72; the blood bank technician will then sign in the "*BB Staff Issuing* Blood" box, along with the date/time issued.

Table 2. Summary of steps to perform at the time of issuing units.

Verify at issue (Blood Bank Staff):	Verify at issue (Person Picking Up):
Uses Emergency Issue Log	Uses 59 MDW Form 73, *Unit Tag*
Patient full name	Read back Patient full name
Date of Birth	Read back Date of Birth
DOD ID #	Read back DOD ID #
Unit Number	Read back Unit Number
Donor Blood Type	Read back Donor Blood Type
Expiration Date	Read back Expiration Date
Sign 59 MDW Form 72	Sign 59 MDW Form 72
Check Physical appearance	

5.2. The Family Emergency Center and the Operating Room/ Post-Anesthesia Care Unit personnel obtaining the pRBC units from the Blood Bank are responsible for the products until their final disposition (cradle-to-grave). ***The units for Emergency Release will be issued into a validated cooler to accompany the patient during transport to BAMC or other facility with full Blood Bank capabilities.*** **NOTE:** ***Each pRBC unit will be labeled with a red tie tag containing patient and donor information and must NOT be removed from the unit.***

5.2.1. Once packed red blood cells have been issued, the transfusion should begin within 30 minutes. Products will always be issued in a validated cooler. **Caution:** pRBC units that are returned after 4 hours cannot be reissued and must be destroyed by the blood bank. **NOTE:** ***DO NOT place pRBC units into refrigerators or coolers that are not authorized for blood storage.***

5.2.2. There ***are no refrigerators in the 59 MDW authorized for storage of blood products outside of the blood bank.***

6. Administration of Blood Components.

6.1. Only Normal Saline (0.9% Sodium Chloride) can be added to blood. Other solutions may have deleterious and potentially fatal effects (e.g., 5% Dextrose solutions: may induce RBC aggregation or hemolysis; lactated Ringer's contains calcium that may induce clot formation in the blood bag or administration set).

6.1.1. Dilution of Packed Red Blood Cells. To decrease viscosity of packed cells, 0.9% Sodium Chloride for Injection, United States Pharmacopoeia may be used as a reference (as ordered by a physician). The increased volume can increase the overall transfusion time.

6.2. Drugs and medications should **NEVER** be added to blood or run through intravenous (IV) lines that contain blood or will subsequently be used for a blood transfusion without thoroughly rinsing/purging the line of the medication.

6.2.1. As a rule of thumb to help assess how long to purge a line, extrapolation from studies done in saline-primed lines infused with blood indicate the following:

6.2.1.1. **25%** of saline is in the tubing **10 minutes** after the infusion of the blood.

6.2.1.2. **10%** remains **30 minutes** after start of infusion.

6.3. IV Pumps and Pressure Bags:

6.3.1. Mechanical pumps used to control the rate of infusion of blood into selected patients should be checked to ensure they are approved for the transfusion of blood products. Some pumps can be used with standard infusion sets; others require special configurations. Refer to the package inserts for required specifications. Only mechanical pumps that are approved by the **FDA** for blood transfusion will be used.

6.3.2. Pressure bags or their equivalents maybe used in urgent situations requiring rapid infusion of blood products in less than 5 minutes. The pressure should be adjusted so that the drip in the chamber is continuous, usually about 200 mmHg. Pressures >300 mmHg have been associated with RBC lysis and in some instances splitting the blood bag open at the seam. **NOTE:** ***ONLY CLEAR PRESSURE BAGS WILL BE USED***.

6.4. Blood Filters.

6.4.1. All blood products sent from the Armed Service Blood Bank Center -San Antonio (ASBBC-SA) are leukoreduced. ***Wilford Hall Ambulatory Surgical Center therefore maintains only Leukoreduced pRBC units.*** Consequently, Leukoreduction filters are *not required* when the blood product is either leukoreduced following collection from the donor prior to issue or collected using a method that reduces the total white blood cell count to less than 5×10^6.

6.4.2. In the event a unit is received as a ***non-Leukoreduced product then the product must be transfused through an FDA-Approved filter.*** Standard 170–260-micron filters for routine transfusions are presently available for purchase but are not maintained by WHASC Blood Bank section. Some filters can ordinarily be used for two to four units of blood; however, the manufacturer insert must be followed in all cases to ensure the filter is capable of specific multi-unit transfusions. If the initial transfusion requires more than 4 hours, a new filter should be used for subsequent blood products.

6.5. Pre-transfusion verification procedure.

6.5.1. From the 59 MDW Form 73, one staff member will read aloud the following information:

6.5.1.1. Patient’s name and identifier (DOB, and DOD ID #).

6.5.1.2. Unit/Product Number.

6.5.1.3. Donor/Product ABO/Rh.

6.5.1.4. Product Type (only pRBC).

6.5.2. The other staff member will check the patient wristband and blood product label as the information is being read and read back to verify the patient's name and identifier (DOB, and DOD ID #), the unit number, donor ABO/Rh, and component type. For *"Emergency Release" the transfusionist will verify that the 59 MDW Form 73 has been digitally signed by the provider either before or after starting the transfusion. During LIS downtime the section of the 59 MDW Form 73 "Electronic System Downtime will be requiring a wet signature by the Provider.*

Table 3. RBC Compatibility.

RBCs		
Patient's ABO	**RBCs: 1st choice**	**RBCs: 2nd choice**
Unknown	O	None

6.5.3. One staff member will read the product expiration date and time from the blood product label. The other staff member will visually verify the product expiration date and time on the blood product label. ***OUTDATED BLOOD OR BLOOD PRODUCTS ARE NOT TO BE TRANSFUSED.*** Transfusion should be initiated in time to allow complete infusion before the expiration date & time on the component, and no longer than 4 hours after the infusion started. The transfusion must begin within **30 minutes** from the time the product is issued from the blood bank. If an unexpected delay prevents the completion of the transfusion prior to expiration of the component, notify the blood bank immediately.

6.5.4. Both staff members will visually check that the product has normal appearance. The product should not be discolored and should not have clumps or white particulate matter.

6.5.5. Any discrepancies should be immediately addressed with the blood bank. Do not infuse the blood if any of the above items are unacceptable or questionable. Call the blood bank immediately.

6.5.6. After checking all the identifying information, the transfusionist and verifier/witness must sign the 59 MDW Form 73 to indicate that the patient and blood component have been identified.

6.5.6.1. Document who started the transfusion and record the date and time. If the unit cannot be started immediately after the identity check, the entire process must be repeated when the unit can be transfused.

Table 4. Pre-Transfusion Verification Procedure Example.

Step	Staff Member 1: 59 MDW Form 73, *Unit Tag*	Staff Member 2: Wristband and Blood Product Label
1	Reads from *59 MDW Form 73*: -Full Name, DOD ID #, & DOB	Reads back from WRISTBAND: -Full Name, DOD ID #, & DOB
2	Reads from 59 MDW Form 73: -Unit Number -Donor ABO/Rh -Component Type	Reads back from Blood Product Label: -Unit Number -Donor ABO/Rh -Component Type
3	Reads from Blood Product Label: -Expiration Date/Time	Visually confirms on Blood Product Label: -Expiration Date/Time
4	Ensure product has normal appearance	Ensure product has normal appearance
5	Sign 59 MDW Form 73	Sign 59 MDW Form 73
***NOTE:** One staff member MUST be the transfusionist. Steps do not have to occur in exact order.		

6.6. Starting a Transfusion.

6.6.1. Obtain and record pre-transfusion vital signs on 59 MDW Form 73. If the patient's vital signs are not within acceptable limits (i.e., temp greater than 101.5°F), re-evaluate the need for immediate transfusion with the requesting physician.

6.6.2. Start infusion slowly. Care must be exercised to observe any side effects and avoid circulatory overload in susceptible patients. Infusion rates will vary according to patient's blood volume, cardiac status and hemodynamic stability. Refer to the physician's instructions and/or the specific department's operating instructions for infusion rates. ***A registered nurse or Anesthesia staff is to remain with the patient during the first* 15 minutes *of infusion for each blood component transfused and provide oversight of the transfusion***.

6.6.3. Obtain and ***record vital signs*** after the ***first 15 minutes*** of infusion (on the 59 MDW Form 73) and ***again every 15 minutes until the unit is completely infused*** (on 59 MDW Form 73).

6.6.4. Blood infusion sets should not be "piggy-backed" into other lines unless absolutely necessary. When this situation cannot be avoided, the injection port closest to the IV line should be selected and the primary IV line closed off. Confirm that this line has been properly rinsed/purged if solutions other than normal saline have been infused. Straight-type sets are primed directly with the blood component. Y-type sets can be primed with blood or normal saline. A new set is typically used for each product transfused. If two units are given consecutively, and they are ABO compatible, one set may be used for both.

6.6.5. If there are no adverse reactions, regulate the infusion rate to complete the transfusion within 4 hours or within the expiration time of the product. Infuse at the rate prescribed by the provider.

6.6.6. Observe for adverse reactions at least one hour after completion of the blood transfusion. Report signs and symptoms of adverse reactions to the patient's physician immediately. Adequate information must be present in the medical record to show that all protocols were followed in the event of a transfusion reaction or associated complication.

6.7. Administration of Rh Immune Globulin (RhIg).

6.7.1. It is imperative that all Rh-negative women receive the maximum protection against Rh alloimmunization. Potential RhIg candidates include Rh-negative patients with: pregnancy termination through delivery, abortion, or miscarriage, amniocentesis, invasive obstetric procedures, and abdominal trauma during pregnancy.

6.7.2. Additionally, other Rh-negative patients (male and female) that receive Rh- positive red cells may be candidates for RhIg.

6.7.3. Both the Family Emergency Center and Operating Room/Post-Anesthesia Care Unit clinics if administering RhIg should ensure that:

6.7.3.1. RhIg is administered to all identified candidates as soon as possible after exposure, but within 72 hours of the alloimmunizing event, whenever possible.

6.7.3.2. That the dose administered is adequate.

6.7.3.3. That women who are pregnant or have recently been pregnant will be considered for RhIg administration when all the following apply: the woman's test for the D antigen is negative, the woman is not actively immunized to the D antigen (does not already have anti-D from a prior alloimmunizing event), and the Rh type of the fetus/infant is unknown, or the fetus/infant is Rh positive.

6.7.3.4. That any Rh-negative patient that is exposed to Rh-positive red cells is evaluated for possible administration of RhIg as long as the patient is not actively immunized to the D antigen (does not already have anti-D from a prior alloimmunizing event).

6.7.3.5. While RhIg is available and distributed from the WHASC Pharmacy, patient RhIg testing is only available at BAMC and not performed at WHASC.

6.8. Time Limits for Infusion.

6.8.1. Most blood components are infused within two hours, although the time limit can extend up to four hours.

6.8.2. Post-transfusion. Immediately after a unit has been infused, the transfusionist must complete the section of the 59 MDW Form 73 the person completing the transfusion, date/time completed, and the amount transfused. If a transfusion reaction occurs, check the appropriate sections of the form.

6.8.3. Place the original copy of the 59 MDW Form 73 in the patient's chart after all required information regarding the transfusion has been recorded. The 59 MDW Form 73 must be completely filled out after each transfusion. Incomplete 59 MDW Form 73s will be returned to the transfusion site for inclusion of missing information.

6.8.4. Return a copy of the 59 MDW Form 73 to the blood bank within 24 hours. The completed 59 MDW Form 73 provides documentation of the component's transfusion and final disposition.

6.8.5. The empty unit and its attached infusion set are biologically contaminated waste products and should be disposed of according to hospital policy. In the event of a transfusion reaction, the bag and set should be wrapped in plastic and returned to the blood bank for a transfusion reaction workup.

6.9. Deviations from Standard Administration of Blood Products.

6.9.1. Any deviations from the standard administration of blood components must be immediately reported to the Transfusion Services Medical Director.

6.9.2. Occurrences involving administration of blood products that are reported to Risk Management which have not been reported to Transfusion Services should be forwarded to the Transfusion Services Medical Director.

6.9.3. Each deviation is evaluated to determine the extent of the error and/or noncompliance. In some instances, Air Force Blood Program Division notification is required. Findings will be coordinated with Risk Management and the involved service if the scope of the deviation extends beyond Transfusion Services.

7. Transfusion Reactions.

7.1. For all suspected transfusion reactions, IMMEDIATELY stop the transfusion.

7.2. Keep the IV open with normal saline. Do not exceed patient's fluid tolerance in cases of renal and cardiopulmonary disorders, etc.

7.3. Notify the resident/attending physician and the blood bank. The blood bank will contact the Transfusion Services Medical Director. It is the responsibility of the resident/attending physician in consultation with the Transfusion Services Medical Director to determine if the transfusion should be continued.

7.4. If resident/attending physician decides to terminate the transfusion, document amount given, time stopped, and vital signs for the end of the transfusion on the 59 MDW Form 73.

7.5. Submit the following to the Blood Bank for the transfusion reaction investigation.

7.5.1. Air Force Information Management Tool 1224 (AF IMT 1224), *Blood Transfusion Reaction Investigation*, with Sections I and II completed.

7.5.2. Two 7 ml pink top (EDTA), one 3 ml purple top (EDTA), one red top tube (plain) drawn carefully to avoid hemolysis.

7.5.3. The implicated unit of blood, the administration set, and the completed copy of the 59 MDW Form 73. File the original copy of the 59 MDW Form 73 in the patient's chart.

7.5.4. The recipient's first voided urine sample.

7.5.5. If a Hemolytic Transfusion Reaction is suspected after multiple transfusions, submit the blood bags from all transfused units and a completed copy of the 59 MDW Form 73 for each unit transfused.

7.6. In accordance with FDA regulations, a Transfusion Services Medical Director will investigate all suspected transfusion reactions and submit a formal report for the patient's chart and blood bank records.

7.7. Transfusion reactions are medical emergencies until proven otherwise. See **Attachment 3**, **Table A3.1**. Transfusion Reactions for transfusion reaction descriptions. Transfusion reactions and adverse effects of transfusion can include:

7.7.1. Transfusion-transmitted infection (including Bacterial contamination (Septic reaction).

7.7.2. Post-transfusion purpura (PTP).

7.7.3. Transfusion Related Acute Lung Injury (TRALI).

7.7.4. Transfusion Associated Graft versus Host Disease.

7.7.5. Transfusion Associated Circulatory Overload (TACO).

7.7.6. Transfusion Associated Dyspnea.

7.7.7. Hemolytic transfusion reaction (Acute and Delayed).

7.7.8. Delayed serologic transfusion reaction.

7.7.9. Febrile non-hemolytic transfusion reaction.

7.7.10. Allergic reactions (mild and severe/anaphylactic).

7.7.11. Hypotensive transfusion reactions.

7.7.12. Iron overload.

8. Massive Transfusions. The 59 MDW's blood resources are limited to only 6 group O pRBC units; arrangements should be made to transfer the patient as soon as possible.

JEANNINE M. RYDER
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Director, Wilford Hall Ambulatory Surgical Center

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 44-1, *Medical Operations*, 21 April 2020

AFI 44-102, *Medical Care Management,* 13 July 20022

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

DAFI , *Medical Quality Operations,* 02 Mar 2023

59 MDWI 41-102, *Medical Committees and Functional Reviews,* 12 April 2022

Association for the Advancement of Blood & Biotherapies (AABB) *Blood Transfusion Therapy, A Physician's Handbook,* Current Edition

AABB *Standards for Blood Banks and Transfusion Services,* Current Edition AABB, *Technical Manual,* Current Edition

American Red Cross and AABB *Circular of Information for the Use of Human Blood and Blood Components,* Current Edition

The Joint Commission *Accreditation Handbook,* Current Edition

Lippincott *Manual of Nursing Practice,* Current Edition

Patient Care Standards: *Collaborative Practice Planning Guides*, Current Edition

Prescribed Forms

59MDW Form 72, *Emergency Release Pickup*

59MDW Form 73, *Unit Tag*

Adopted Forms

DAF Form 847, *Recommendation for Change of Publication*

AF IMT1224, *Blood Transfusion Reaction Investigation*

Abbreviations and Acronyms

AABB—Association for the Advancement of Blood & Biotherapies

ABO—Blood Type

BAMC—Brooke Army Medical Center

DOB—Date of Birth

DOD ID—Department of Defense Identification

EDTA—Ethylene Diaminetetraacetic Acid

FDA—Food and Drug Administration

IAW—In Accordance With

IV—Intravenous

LIS—Laboratory Information System

MDW—Medical Wing

MDWI—Medical Wing Instruction

PPID—Positive Patient Identification

PAID—Positive Accession Identification

PRBC—Packed Red Blood Cells

PTP—Post-Transfusion Purpura

RBC—Red Blood Cells

RhIg—Rh Immune Globulin

TACO—Transfusion Associated Circulatory Overload

TRALI—Transfusion Related Acute Lung Injury

WHASC—Wilford Hall Ambulatory Surgical Center

Attachment 2

PROCEDURE FOR EMERGENCY BLOOD PRODUCT RELEASE

A2.1. The following information is provided to further describe requirements outlined in section 4 of this instruction. It is recommended this information be incorporated into a checklist for nursing staff personnel to use for training and competency assessment.

A2.2. Direct communication by calling the following laboratory numbers, 292-5466 or 292-5467, is highly recommended to expedite the issue of emergency release units. Prepare 59 MDW Form 72 from physician's orders. Ensure the following information is provided:

A2.2.1. Priority (The only available priority is "Emergency").

A2.2.2. Patient's full name.

A2.2.3. Patient's unique identification number (DOD ID number, and DOB).

A2.2.4. Date.

A2.2.5. Name of requesting provider.

A2.2.6. Has informed consent been obtained? (Check Yes, No, or Unknown as appropriate).

A2.2.7. Has the patient been transfused or pregnant in the last three months? (Check Yes or No as appropriate).

A2.2.8. The individual verifying the transfusion/pregnancy status of the patient signs the form in the block provided.

A2.3. Two properly labeled patient sample tubes must be. Collected prior to starting the transfusion.

A2.4. Positively identify patient IAW paragraph 4.1.4 of this instruction.

A2.4.1. Prior to initiating specimen collection compare the patient information on 59 MDW Form 72 and the patient's wristband, verify patient name, DOD ID # and DOB; all must match before continuing.

A2.4.2. Identification check must be performed at bedside and if the wristband is missing, do not continue until the patient identification is confirmed or available.

A2.4.3. A second individual will verify the patient identification at bedside.

A2.4.3.1. For all collections, the second individual will be a staff member.

A2.5. Perform the specimen collection using. Positive Patient Identification (PPID) and Positive Accession Identification (PAID) per Department of Health Administration transfusion service standard procedures.

A2.6. Label the specimen while at the patient's bedside. The specimen label must include the following.

A2.6.1. Department of Health Administration Patient's full name.

A2.6.2. Patient's unique identification number (DOD ID #).

A2.6.3. Date of Birth.

A2.6.4. Date and time of specimen collection.

A2.6.5. Initials of phlebotomist.

A2.7. Phlebotomist and verifier will. Compare specimens, 59 MDW Form 72, and patient identification to ensure identification information matches.

A2.8. The phlebotomist . Will sign the 59 MDW Form 72 to document collection and labeling of the specimens.

A2.9. The verifier. Will sign the 59 MDW Form 72 to document verification of the patient identify and proper labeling of the specimens.

A2.10. Forward the specimens and 59 MDW Form 72 to. The blood bank located in the main laboratory on the garden level of the clinic.

Attachment 3

TRANSFUSION REACTIONS

Table A3.1. Transfusion Reactions.

Type	Signs and Symptoms	Usual Cause	Treatment	Prevention
Acute Hemolytic	Fever/chills, back/flank pain, hemoglobinemia, hemoglobinuria. bleeding, anxiety	Incompatibility due to clerical errors; involves ABO (primarily) or other red cell antigen-antibody incompatibility	Stop transfusion; fluids, pressure and volume support; diuresis, treat shock and DIC	Avoid clerical error; ensure proper sample, unit, and recipient identification
Delayed Hemolytic	Fever, malaise, hyperbilirubinemia, falling hematocrit (usually 3-10 days after transfusion), DAT +	Usually involves recipient anamnestic response to re-exposure to donor red cell antigen	Supportive; as for acute hemolytic if severe	Honor historical antibodies; patient history; patient medic alert tags/cards with historical antibody information
Febrile nonhemolytic	Fever, chills only (>1C/2F)	Cytokines from unit of recipient; HLA antibodies	Stop transfusion; antipyretics	Transfuse leukocyte reduced components
Allergic (mild/ Urticarial)	Urticaria (hives), flushing	Ig-E mediated hypersensitivity to proteins in transfused unit	Stop transfusion; antihistamines	Pre-transfusion antihistamines
Allergic (severe, anaphylactic)	Hypotension, respiratory distress/ bronchospasm, mucocutaneous erythema, oral edema, angioedema, urticaria	Recipient IgA deficiency, haptoglobin deficiency; severe hypersensitivity to transfused proteins	Stop transfusion; Epinephrine, pressure support	Washed RBCs/Platelets; IgA deficient plasma

Transfusion Associated Circulatory Overload (TACO)	Dyspnea, hypoxia, hypertension, pulmonary edema, elevated BNP	Cardiopulmonary disease with too rapid and/or excessive blood transfusion	Stop transfusion; diuretics	Slow transfusion, avoid excessive transfusion, monitor I/Os
Transfusion Associated Lung Injury (TRALI)	Acute lung injury ≤ 6 hours after transfusion, respiratory distress, bilateral chest x-ray infiltrates, hypoxemia, (no evidence of acute lung injury prior to transfusion)	Anti-HLA or anti-leukocyte antibodies in donor (occasionally recipient)	Stop transfusion; respiratory and circulatory support care (may require intubation); approx. 80% transient (resolving in 72 hours), remaining 20% have protracted course or fatal outcome	Defer donor of transfused unit. Mitigation strategies (employed by donor center: collect plasma only from males, never-pregnant females, or females negative for HLA antibodies)
Bacterial Contamination (Septic reaction)	Rapid high fever, rigors, shock, GI symptoms, hypotension, positive gram stain/culture	Bacterial contamination of blood component	Stop transfusion; treatment as for sepsis; pressure support; antibiotics	Sterile blood collection and storage; donor bacterial testing
Post-transfusion Purpura (PTP)	Purpura, decreased platelets +/- bleeding within two weeks after transfusion	Recipient platelet specific alloantibodies against transfused platelet antigen (HPA-1a in 70% of cases)	IVIG, steroids, plasma exchange	Antigen negative platelet transfusion (if needed)
Transfusion Associate Graft versus host disease (TA-GVHD)	Fever, diarrhea, skin rash (7-10 days post transfusion); skin/bone marrow biopsy findings	Cellular immune response of transfused T-lymphocytes against host	Immunosuppressive agents; almost uniformly fatal	Irradiation of cellular blood products to at risk recipients

Attachment 4

BLOOD COMPONENTS

Table A4.1. Blood Components.

Component/Product	Composition	Approx. Volume	Indications
AVAILABLE FOR EMERGENCY RELEASE IN THE BLOOD BANK			
Red Blood Cells, Adenine-Saline Added	RBC (approx. HCT 60%); Leukoreduced; O blood type	330 ml	Increase red cell mass in symptomatic anemia
AVAILABLE FROM PHARMACY			
Rh Immune Globulin	IgG anti-D; preparations for IV and/or IM use	1 ml	Prevention of formation of anti-D alloantibodies; treatment of autoimmune thrombocytopenia (IV preparations only)
NOTE: Rh Immune Globulin is available through the pharmacy. Testing is performed at BAMC and not a test option at WHASC.			