KAISER PERMANENTE®

Kaiser Permanente Medical Center, San Francisco
Northern California Region
********** **********

Work Instruction

Title: TS-Urgent requirements for Blood and Components		**WI Number** SFOWI-0113 **Revision:** 13
Department: Immunohematology **Area:** 2425 Geary Blvd SFO Hospital Lab	***Approved & Released Work Instruction***	**Implementation Date:** 08/10/2016
Type of Document: Work Instruction		**Review Period -** 340 **Days**

PURPOSE

To provide blood and components prior to completion of all required tests when a delay in transfusion could be detrimental to the patient. During an emergency, the patient's physician must weigh the risks of transfusing uncrossmatched or infectious disease / bacterial contamination untested blood against waiting for the testing to be completed. When blood is released before testing is completed, the records must contain a statement of the requesting physician indicating that the clinical situation was sufficiently urgent to require emergency release of blood. **Such a statement does not absolve the Transfusion Service from its responsibility to dispense properly labeled donor blood of an ABO group compatible with the patient. In extreme emergencies, the MD signed form can be obtained after the emergency is resolved.**

EQUIPMENT

A. 'Uncrossmatched' stickers.
B. Transfusion Service 'Emergency Release of Donor Blood' form. This authorizes the release of uncrossmatched blood and compatibility testing using the patient blood sample.
C. Cooler and temperature indicator.
D. Two sets of two units of uncrossmatched 'O Neg' PRBCs (with two segments from each unit in plastic tubes attached to their respective unit) in the Emergency bin on the O Negative blood refrigerator shelf.

SPECIMEN and REQUISITION

A. Two 7 ml EDTA lavender top or two 6 ml pink top tubes drawn separately (preferably by

venipuncture) for Type & Crossmatch and for DBCK. A 10 ml plain red top tube (clot) is acceptable. Under emergency conditions, **ONLY** may an unspun red SST tube be used. The identity of the phlebotomist, draw date and time are required on the specimen label.

B. The specimen must be accompanied by a Transfusion Service requisition or printed Health Connect order that includes phlebotomist's information, draw date and time that matches the tube. Time Stamp the requisitions upon receipt. **EXCEPTION:** Because compatibility testing must be performed and resulted as quickly as possible, **DO NOT WAIT** for the requisition to be signed or corrected for missing/erroneous draw date or time, if the specimen is acceptable and properly labeled. Start processing the sample i.e. centrifuge and perform testing, while waiting for the corrected requisition.

C. **Refer to 'Blood Bank Specimen and Requisition' and 'Double Check' SOPs for more details.**

CONTROLS

A. **Follow-up on all unsigned 'Transfusion Service 'Emergency Release of Donor Blood' form should be completed before the end of shift.**

B. Follow-up on the return of Blood Bank coolers should be done before the end of shift.

C. Supervisory review of all Emergency released units will take place as soon as possible and documented on the Emergency Release Review Log.

PROCEDURE

A. **Two sets of two units of O Negative RBCs are set up in advance for emergency release.**

1. Save two segments in a 12 x 75 mm tube labeled with the unit number, check digit and the component code. Attach the tube to the unit segments using a rubber band.

2. Attach a temperature indicator on the back of each unit of RBC. Attach an 'Uncrossmatched' sticker on the front of each unit.

3. Use a Transfusion Service 'Emergency Release of Donor Blood' form for each set of two units.
   a. Write the unit number including **check digit**, **component code**, unit ABO/Rh and expiration date.
   b. Attach the completed form to the set with a rubber band.

4. Store on O Neg RBC shelf in the Emergency Release bin.

B. **Initiate emergency release process** when a phone call is received from ER, OR department or nursing unit. **Inquire the patient's name and MR#, and the number of RBC units needed.**

1. **Remind the caller to send the following:**
   i) a signed 'Emergency Release of Donor Blood' form which can be used as both the requisition and pickup form **OR**
   ii) any piece of paper with patient's full name and MR# **AND**
   iii) pre-transfusion specimens accompanied by requisitions as soon as

possible.

2. The signature of the physician including the 5-digit physician provider# can be obtained before or after the release of blood products.

3. **If time permits**, check CIPS and RILIS Millennium for the following:
   i) a current Type and Screen and DBCK
   ii) if there is any blood products already set up or reserved for the patient
   iii) patient's transfusion history for atypical antibodies and special requirements.

4. If it is discovered that the patient has a history of antibody or positive antibody screen, notify physician immediately that the uncrossmatched RBCs are antigen untested. Document the notification by writing on the Emergency Release form, 'History of Positive Antibody Screen' and the date / time and physician contacted. Also notify the pathologist as soon as possible. **NOTE: Do not delay the emergency release due to notification. It is assumed that the patient is exsanguinating whenever a physician initiates the emergency release of blood.**

5. Time Stamp the pick up form upon receipt. **The emergency release of blood products should be completed as quickly as possible (within 5 minutes).**

6. If there is **no current Type and Screen or no DBCK**, dispense the set of **O Negative uncrossmatched PRBC**. Do not use previous records or computer history alone to determine patient's ABORh.

7. If there is **no blood type within the current admission or no DBCK**, dispense **AB plasma**.

Blood Components	1st choice	Alternatively (In case of shortage)
PRBCs	O NEG	O POS for male or female more than 50 years of age. Notify physician and pathology if switching Rh. Type specific only if there is a current ABORh and a DBCK.
FFP	AB	Type compatible only if there is a current admission ABORh and a DBCK.

8. Immediately go to the O Negative shelf of refrigerator #1 to get the set of O Neg uncrossmatched blood.

9. **Remove the segment tube** from the unit for subsequent crossmatch.

10. Prepare a cooler if necessary.

11. Remove the 'Emergency Release of Donor Blood' form and write the following:
    a. Patient’s full name
    b. MR#
    c. Location
    d. Doctor's name and provider's number.

12. The **CLS will mark** one of the following on the 'Emergency Release of Donor Blood' form:
    a. O NEG GIVEN-BLOOD SAMPLE NOT SUBMITTED (be sure blood is drawn before transfusion).
    b. O NEG GIVEN-BLOOD SAMPLE RECEIVED NOT TYPED (Even though patient has historical blood type in file.
    c. GROUP COMPATIBLE GIVEN-BLOOD SAMPLE TYPED (with historical ABORh or double check done, antibody screen incomplete and unknown compatibility units are issued)
    d. GROUP COMPATIBLE GIVEN-T&S COMPLETED (ABORh done on current sample and double check done, antibody identification or unit antigen screen incomplete or unknown compatibility or incompatible units are issued).
    e. Write appropriate comments if none of the above is applicable or matches the situation.

13. If Massive Transfusion Protocol is initiated by MD or RN designee, refer to the MTP SOP, SFOWI-0110.

14. **Low O Neg RBC inventory or Shortage of O Neg blood supply**
    a. If the continuation of emergency transfusion is expected to deplete the available inventory/supply of O Neg blood (i.e. in situations where the pre-transfusion sample is not received or not typed yet), evaluate switching to O Pos blood if the patient is:
        i) Female more than 50 years old **OR**
        ii) Male
    b. Notify the attending physician immediately and the pathologist of the need to switch and document on the 'Emergency Release of Donor Blood' form.
    c. Follow up with BCP as necessary to get updates as to when the O Neg RBC inventory can be replenish.

C. **Dispense uncrossmatched units**

1. **Any** of the following with complete patient’s identification (emergency identification e.g. Doe, John/Jane is acceptable) can be used as blood products pick-up form:
    a. Last, First name and MR# of the patient on the Blood Bank Product Pickup form.
    b. Last, First name and MR# on a piece of paper.
    c. Last, First name and MR# on the 'Emergency Release of Donor Blood'

form.

d. Last, First name and MR# on the HealthConnect form.

2. CLS performs a **visual inspection** of the units. Document on the 'Emergency Release of Donor Blood' form and the Crossmatch Report.

3. If time permits, the CLS and the courier will **crosscheck** the following:
   a. The name and MRN on the pink pickup form or the properly filled out 'Emergency Release Of Donor Blood' form matched against the 'Emergency Release of Donor Blood' form.
   b. Compare the unit number, component, ABORh and expiration dates on the units with the information on the 'Emergency Release of Donor Blood' form.

   NOTE: Crosscheck can be omitted if necessary but the CLS must ensure that all identifying information and paperwork are accurate and complete.

4. Courier and CLS sign, date and time the 'Emergency Release of Donor Blood' form.

5. Place the units in the cooler if using.

6. Place a white tape or a label on the cooler and write the following, **'Cooler Expired at _____ (4 hours from dispense time)'.**

7. Keep the top copy of the 'Emergency Release of Donor Blood' form if MD signed the form. Otherwise, give two copies of the Transfusion Service generated 'Emergency Release of Donor Blood' form to the courier for MD to sign. Remind courier to return one signed copy. The other signed copy is documentation for the patient's medical record.

8. File the 'Emergency Release of Donor Blood' form on the front counter as a reminder to follow-up the return of the cooler or the MD signed copy of the form. If the cooler is not returned on the same shift, ask the next shift to follow up.

D. **Dispense in the computer ASAP**

1. If the patient is not in the RILIS Millennium database, use **EMERGENCY DISPENSE** to issue the blood products and link the units to the patient later. Refer to Computer SOP.

2. If accurate demographics information is unavailable (i.e. John or Jane DOE), **EMERGENCY DISPENSE** the blood products and link the units to the patient later. Refer to Computer SOP.

3. Crossmatch Reports will be generated by Millennium at completion of dispense. It is NOT necessary for these Crossmatch Reports to accompany the dispensed

blood products.

E. **Obtaining the patient specimen**

1. Obtain patient samples as quickly as possible following the emergency release by calling the ordering department. If patient specimens are not received after **15 minutes** following the emergency release, solicit assistance to escalate the request as follows:
   i) notify supervisor if on site otherwise
   ii) call the Operator and ask to page the House Nursing Supervisor STAT. Inform House Supervisor of the Emergency Release and communicate the urgent need for patient specimen to be sent STAT to Transfusion Service lab.

2. Document all calls on Emergency Release of Donor Blood form.

3. If DBCK is needed, dispatch a laboratory phlebotomist if possible to collect a second specimen.

4. Time Stamp all requisitions upon receipt.

F. **Testing**

1. Immediately (**within 15 minutes** of specimen receipt) begin **Type and Crossmatch** testing by **manual methods**. **DO NOT WAIT for the signed requisition/order if the specimen is acceptable and labeled properly.**

2. Check patient's transfusion history in RILIS and CIPS and document history check on the requisition or the Emergency Release form. **If it is discovered that the patient has a history of antibody or positive antibody screen, notify physician immediately and document readback on the Emergency Release form.** Refer to **Critical Values** section below.

3. Perform ABORh testing by tube method. **DO NOT** use previous records or computer history alone to determine the patient's ABORh.

4. If ABORh on the pre-transfusion specimen is complete and double checked either historically or with another specimen drawn separately, type specific blood can be issued.

5. If ABORh discrepancy is observed, continue to dispense O Neg RBCs if it does not deplete the inventory/supply. Refer to section about Low O Neg RBCs supply.

6. Perform antibody screen by manual gel method. **While antibody screen is in process, commence extended crossmatch using Provue of the dispensed units and additional 2-4 units. Commence antigen typing of the dispensed units**

and additional 2-4 units if the patient has a history of clinically significant alloantibody(ies).

7. At the conclusion of the antibody screen, if the patient is determined to qualify for electronic crossmatch (refer to Compatibility Testing SOP), discontinue the extended crossmatch and perform electronic crossmatch. Otherwise, complete the extended crossmatch.

8. Perform antibody identification if the antibody screen is positive. Refer to section for **Critical Values** below for positive antibody screen.

9. Enter results and interpretations in the computer as the tests are being read. **Enter all Critical Values notification and readback as Result Comments at the appropriate interpretation fields.** Refer to section for Critical Values below.

G. **Follow-up testing:**

1. The attending physician and Transfusion Service Medical Director must be informed immediately if
   a) patient has a history of antibody or positive antibody screen.
   b) positive results are seen in the pre-transfusion antibody screen or compatibility testing
   c) a report of a positive infectious maker test in a unit that was released prior to completion of testing.

2. **CRITICAL VALUES: Notification must be completed within 15 minutes of discovery.**
   a. History of Positive Antibody Screen or Antibody following emergency release of uncrossmatched blood.
      i) If patient has a clinically significant antibody on history check, <u>immediately notify the physician</u> and inform also that a transfusion reaction is possible so that the blood should be transfused cautiously (in vivo crossmatch). <u>Notify the pathologist</u>.
      ii) Communicate to the physician that there will be a time delay in order to provide fully tested units and ask if the physician wants to wait. If additional units must be released without the completed antibody ID and antigen screening, label such units as 'antigen testing incomplete'.
      iii) Document on the Emergency Release form, 'History of Positive Antibody Screen' and the date / time and physician / nurse to whom the results were given and readback was obtained.
      iv) **Enter all Critical Values notification and readback as Result Comments in RILIS Millennium at the ABSC interpretation field.**
   b. Positive Antibody Screen following emergency release of uncrossmatched blood.

i) If the antibody screen is positive after emergency release of RBC, immediately notify the physician that the antibody screen is positive and that a transfusion reaction is possible so that the blood should be transfused cautiously (in vivo crossmatch). Notify the pathologist.

ii) Communicate to the physician that there will be a time delay in order to provide fully tested units and ask if the physician wants to wait. If additional units must be released without the completed antibody ID and antigen screening, label such units as 'antigen testing incomplete'.

iii) Document on the 'Emergency Release of Donor Blood' form and/or Result Comments at ABSC Interpretation, the date, time and name of the physician / nurse to whom the results were given and readback was obtained.

iv) **Enter all Critical Values notification and readback as Result Comments in RILIS Millennium at the ABSC interpretation field.**

c. Incompatible crossmatch of unit issued during emergency release.

i) If the extended crossmatch is incompatible with any issued uncrossmatched unit, immediately notify the physician and advise to stop transfusion of that unit. Notify the pathologist. Document on the 'Emergency Release of Donor Blood' form the date, time and name of the physician / nurse to whom the results were given and readback was obtained.

ii) Initiate transfusion reaction work up and request for post transfusion specimens.

iii) **Enter all Critical Values notification and readback as Result Comments in RILIS Millennium at the Crossmatch interpretation field.**

d. Emergency released unit is antigen positive for the patient's antibody either historically or newly identified.

i) If any issued unit tests positive for the antigen corresponding to the identified antibody, immediately notify the physician and advise to stop transfusion of that unit. Notify the pathologist. Document on the 'Emergency Release of Donor Blood' form the date, time and name of the physician / nurse to whom the results were given and readback was obtained.

ii) Initiate a transfusion reaction work up and request for post transfusion specimens.

iii) Antigen screen available inventory and crossmatch donor units found to be antigen negative. Order blood from Blood Center of the Pacific if needed.

iv) **Enter all Critical Values notification and readback as Result Comments in RILIS Millennium at the Crossmatch interpretation fields or ABID interpretation field(s).**

3. Consider administering appropriate dose of Rh immune globulin if Rh positive Platelets was transfused to female < 50 years of age. Request that pathologist consult with the attending physician. Refer to SFOWI-0078 Platelet Transfusion SOP.

H. **Record Retention**

1. Staple together the bottom page of the emergency release form, the signed requisition / Health Connect order, and printouts of the test results including typing, antibody screen, and crossmatch.
2. File in the Emergency Release binder in the Transfusion Service. Retain the physician's signature for approval of emergency release units for a minimum of 10 years.

PROCEDURE NOTE(S)

A. To facilitate the release of uncrossmatched blood and enable the physician to remain with the patient, a Transfusion Service 'Emergency Release of Donor Blood' form is available in the ER, OR, L&D, CVICU and CCL (Cardiac Cath Lab).

B. Use Emergency Release form to dispense blood components before infectious disease or bacterial testing are completed. If the transfused unit subsequently has a positive infectious marker, immediately notify the patient's physician and the Transfusion Service Medical Director.

C. Also use the Emergency release form to document physician's approval for dispensing blood and blood products that deviate from established standard operating procedure.

D. If blank Crossmatch Reports are needed, go to Emergency Dispense function in RILIS Millennium and dispense the units to 'Emergency, Release to:', scan the units and save. Crossmatch Reports will print. Return units (units will be automatically released to inventory by RILIS Millennium after the Return). Attach each Crossmatch Report to its corresponding unit.

REFERENCE

A. AABB, Standards for Blood Banks and Transfusion Services, current edition, Bethesda, MD.

Associated Documents:

External Documents:

Associated Quality System Documents - None

Documents Generated:

Document Revision History:

Revision: 13	**Date Created:** 09/22/2005 **Date of Last Revision:** 08/10/2016	**Last Approval Date:** 08/10/2016

Document Author: Cara H Lim	**Document Manager:** Richard Chui

Reason for Change:

Revision:	Sec/Para Changed	Change Made:	Date
1	N/A	Initial Issue of Document	
2	Procedure	Change to RILIS computer system	5/12/07
3	Approver	New Lab Director	7/21/07
4	ProcedureB-5-d	Add provider's 5 digit number	11/30/07
5	Procedure-G	Positive results in pre-transfusion/ compatibility test or a report of a positive infectious maker test in a unit that was released prior to completion of testing.	11/30/.08
6	Procedure A.3. A.12. B. E. F.1. F.2. F.4. F.5. F.8. G.2. G.3 Specimen H. Approver	 Use Emergency Dispense to print Crossmatch Report and then release unit from fake patient. New section for O Neg RBC shortage. Added 'Inquire the number of RBC units needed'. New section for Obtaining patient samples. Added 'within 15 minutes, Type & Crossmatch, manual method, DO NOT Wait...' Added 'tube method'. Added sentence to handle ABORh discrepancy. Added 'manual gel method, commence antigen typing...., using Provue.' New sentence for results entry into computer. Added Critical Values. Added 'Request that pathologist consult with the attending physician.' Added sections A. and B. New section for Record Retention. New Lab Director.	6/1/11
7	Equipment A. B. D. Specimen and Requisition A. B. C. Procedure A.2. B.5. B.6. B.14. B.15.c. C.1. C.1.c. C.1.d. E.1. E.3.	 Changed labels to stickers. Added 'This authorizes the release of uncrossmatched blood and compatibility testing using the patient blood sample.' Added 'Two sets of two units of uncrossmatched 'O Neg' PRBCs (with two segments from each unit in plastic tubes attached to their respective unit) in the Emergency bin on the O Negative blood refrigerator shelf.' Added 'Requisition'. Added 'drawn separately (preferably by venipuncture)'. Added 'Time Stamp the requisitions upon receipt.' Added 'Double Check'. Added 'Attach an 'Uncrossmatched' sticker on the front of each unit.' Added 'Time Stamp the pick up form upon receipt. The emergency release of blood products should be completed as quickly as possible (within 5 minutes).' Added 'Do not use previous records or computer history alone to determine patient's ABORh.' Added 'If Massive Transfusion Protocol is initiated by MD or RN designee, refer to the MTP SOP.' Added 'Follow up with BCP as necessary to get updates as to when the O Neg RBC inventory can be replenish.' Revised to 'Any of the following with complete patient's identification (emergency identification e.g. Doe, John/Jane is acceptable) can be used as blood products pick-up form:' Revised to 'Last, First name and MR#'. Added 'Last, First name and MR# on the HealthConnect form'. Revised to 'Obtain patient samples as quickly as possible following the emergency release by calling the ordering department. If patient specimens are not received after **15 minutes** following the emergency release, solicit assistance to escalate the request as follows:' Added 'If DBCK is needed, dispatch a laboratory phlebotomist	7/1/11

	E.4. F.2. F.4. F.7. F.9. G.2.a.iv) G.2.b.iv) G.2.c.iii) G.2.d. G.2.d.iv) Associated Documents:	if possible to collect a second specimen.' Added 'Time Stamp all requisitions upon receipt.' Added 'Check patient's transfusion history in RILIS and CIPS and document history check on the requisition or the Emergency Release form. If it is discovered that the patient has a history of antibody or positive antibody screen, notify physician immediately and document readback on the Emergency Release form. Refer to Critical Values section below.' Added 'drawn separately'. Added '(refer to Compatibility Testing SOP)'. Added 'Enter all Critical Values notification and readback as Result Comments at the appropriate interpretation fields. Refer to section for Critical Values below.' Added 'Enter all Critical Values notification and readback as Result Comments in RILIS Millennium at the ABSC interpretation field.' Added 'Enter all Critical Values notification and readback as Result Comments in RILIS Millennium at the ABSC interpretation field.' Added 'Enter all Critical Values notification and readback as Result Comments in RILIS Millennium at the Crossmatch interpretation field.' Added 'either historically or newly'. Added 'Enter all Critical Values notification and readback as Result Comments in RILIS Millennium at the Crossmatch interpretation fields or ABID interpretation field(s).' Attached SFOWI-0574 Emergency Release, from Regional Lab as reference.	
8	Procedure A.3. Procedure. B.14. Procedure G.1.b.	Changed instructions to generate Crossmatch reports from mandatory to optional. Added QSI number for MTP SOP. Added antibody screen.	9/16/11
9	Procedure B 4 & 7	Add notify pathologist	11/27/11
10	Approver	New Lab Director.	5/16/13
11	Approver Procedure G.3.	New BB Medical Director. Changed 'blood' to Platelets'. Added reference to SFOWI-0078.	8/5/13
12	Procedure A.3. Procedure B.12, C.3, C.4. Procedure C.3. Procedure C.6. Procedure C.7. Procedure D.4. Specimen and Requisition B. Procedure B. Procedure B.4.	Moved to Procedure Notes. Deleted instructions that referenced Crossmatch Reports. Added option to skip crosscheck if time does not permit. Changed cooler expiration from 2 to 4 hours. Added that one of the two signed copies of the 'Emergency Release of Donor Blood' form is for the patient's chart. Added that it is NOT necessary for Millennium generated Crossmatch Reports to accompany emergency released units. Rephrased to clarify exception for specimen acceptance. Added to inquire patient's name and MR#. Deleted instructions to request physician's and pathologist's approval prior to release of uncrossmatched antigen untested RBCs. Added NOTE to not delay emergency release even if patient has history of positive ABSC or antibody.	4/29/14
13	Procedure D.1 Associated Documents	Revised due to restriction by LIS for laboratory to add person. Remove SFOWI-0574.	8/9/16

Notification List:

Approvals:

First Approver's Signature

Name: Maria F Serrano/CA/KAIPERM
Title: Transfusion Service Medical Director

Aug 10, 2016 08:43:56 AM PDT - Approved by: Maria F Serrano/CA/KAIPERM

Second Approver's Signature

Name: Eric Suba/CA/KAIPERM
Title: Chief of Pathology; CLIA Director

Aug 10, 2016 10:28:19 AM PDT - Approved by: Eric Suba/CA/KAIPERM

Document History Section