

Blood Components Reference Manual Table of Contents

Puget Sound Blood Center Regional Edition

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Part III: Clinical Practice

Pre-Transfusion Compatibility Testing

Before blood is sent from the Blood Center to the hospital, each unit is tested for hepatitis B, hepatitis C, HIV I and II (the viruses that cause AIDS), HTLV I (a virus rarely associated with leukemia), West Nile Virus (WNV) and syphilis. If any of these tests is positive, the unit is not used for transfusion. Testing to determine blood group (A, B, AB or O), Rh type (Rh positive or Rh negative) and unexpected alloantibodies is also performed at the Blood Center. (For more information on ABO/Rh compatibility, see Section F, Transfusion Safety). Platelets collected by apheresis are screened for bacterial contamination.

Prior to transfusion of red blood cell components, additional tests are performed in the Hospital Blood Bank to determine whether the donor's blood is compatible with the intended recipient. See Section F, Transfusion Safety, for details about Compatibility Testing. Because of the potential for the patient to develop new red cell antibodies over time, validity of the compatibility testing is limited, usually to three days, depending on hospital policy. If the physician orders a transfusion after the compatibility testing expires, a fresh compatibility sample must be drawn.

Blood Components, containing a significant number of red blood cells, including full size RBC AS-5 units, full size RBC CPD units (for pediatric use), RBC Divided PEDI Packs, RBC Divided Assigned Aliquots, Autologous RBCs, RBC Directed units, Whole Blood including Directed Whole Blood (for pediatric cardiac bypass patients < 2 years old), Red Blood Cells Resuspended (for neonatal whole blood exchange), and Granulocytes are ordered by sending a compatibility (type and crossmatch) sample along with a requisition form to the Hospital Blood Bank.

A properly labeled and drawn sample for pre-transfusion compatibility testing (blood type [ABO/Rh], antibody screen, and crossmatch) is the first step in helping ensure your patient will receive a safe transfusion. Pre-transfusion compatibility testing is meaningless, and the resulting transfusion can be fatal, if the compatibility sample tested is from the wrong patient.

Drawing the Blood Sample for Compatibility (Type and Crossmatch) Testing

Accurately determining whether the component about to be administered is the correct component for the intended recipient is probably the single most important step in ensuring a safe transfusion for a patient. The majority of fatal acute hemolytic transfusion reactions occur because the wrong blood is administered to the wrong patient.

The identification process actually begins at the time the sample for compatibility testing is drawn. It is at this point that the person completing the requisition form and the sample tube label will provide the Hospital Blood Bank with critical patient identity information. It is from this patient compatibility sample that compatibility testing will be done, including crossmatch between the patient sample and the donor unit. It is from the patient identification information on the sample tube label that a compatibility Transfusion Report is completed. The compatibility Transfusion Report serves as an identification tool to help ensure the transfusionist administers the blood component to the correct patient. The identification that occurs by two qualified individuals at the bedside is the final safety check to ensure the blood component is properly matched to the patient.

The diagram on the next page shows three steps in the process of patient and unit identification. Note the common item is the patient identity. The people involved in the process may all be different and may even be located at different sites. Yet, the accurate, precise communication occurring among these people provides the vital link to the patient receiving the intended blood component.

Drawing the Blood Sample for Compatibility (Type and Crossmatch) Testing - continued

1. At sample collection, phlebotomist uses patient identification band to complete and/or verify patient identification information on the sample tube label. The patient identification information on the patient identification band also must exactly match the corresponding information on the blood component requisition form.



2. Hospital Blood Bank Technologist uses the patient identification information on the compatibility sample tube label to check for previous information on the patient and complete the Transfusion Report.

3. Prior to transfusion, the transfusionist, along with another qualified individual, compares the patient identification band and the unit label to the Transfusion Report to help ensure the correct unit will be transfused to the right patient.

Identification Tool

A patient should always have some form of affixed identification (identification band is normally used) to allow health care personnel to identify him or her. This identification must contain at least two independent patient identifiers, usually the patient's complete legal name and a unique patient hospital number (medical record number) or other identification number assigned only to that patient. This identification band must be used, at the bedside, to verify the patient identity information on the sample label before it is applied to the compatibility sample tube intended for pre-transfusion compatibility testing. (The patient identity information on the identification band must also exactly match the corresponding patient information on the requisition form.) The same identification band should also be used to identify the patient before transfusion administration.

Labeling Samples

Before leaving the patient, an accurate label must be placed on the compatibility sample tube at the bedside. If a handwritten label is used, the patient information listed on the tube label should be transcribed directly from the patient's identification band immediately prior to sample collection. A pre-printed hospital label (including computer-generated labels and addressograph labels) may be used in place of a handwritten label; follow your hospital's procedure. The label must be compared to the patient's identification band at the bedside, immediately prior to sample collection, and all corresponding patient information (at minimum full name and patient hospital number) must be identical.

The patient information on the patient's identification band must also exactly match the corresponding information on the requisition form.

All labels must be legible, include the information described in the following procedure, and be compared with the patient's identification band immediately before the sample is drawn.

Drawing the Blood Sample for Compatibility (Type and Crossmatch) Testing - continued

Compatibility Sample Draw Procedure - Suggested Steps:

An example procedure for drawing and labeling samples for pre-transfusion testing appears below.

Materials Required:

- identification band affixed to the patient
 - 7 ml EDTA (purple top) tube for adult transfusion, refer to facility's procedure for pediatric sample requirements
 - blood component requisition form
 - sample tube label(s)
 - alcohol preps or other cleansing preps as established by facility's procedure
 - tourniquet (as applicable for a peripheral draw)
 - needle and syringe or Vacutainer system per establish facility's procedure
 - gauze pad and Band-Aid (as applicable for a peripheral draw)
 - gloves
1. Gather the above materials.
 2. Complete the requisition form using the provider's order and your facility's instructions for ordering blood components.
 3. Once at the bedside, ensure there is an accurately labeled hospital identification band affixed to the patient; if no band is present, follow facility's procedure to properly identify the patient and affix an identification band **before drawing the sample**.
 4. If patient is able to respond, ask patient to state their name (and one or more other unique patient identifiers, if possible) and compare reply to name and, as applicable, other identifiers on the hospital identification band to ensure correct band is on patient. If any discrepancies are found, the sample draw should not occur until the patient's identity is clarified and the discrepancies are resolved. If the patient is unable to provide identification information, a guardian, family member or friend may be asked to provide it.
 5. Compare the requisition form to the patient's identification band. All corresponding patient identification information [patient name and patient hospital number (medical record number) at minimum] must match exactly.

Compatibility Sample Draw Procedure - continued

6. If a handwritten tube label is used, using the patient identification band, complete the patient information listed below (at minimum, must include * required information) on the sample tube label. If a pre-printed patient identification label is used, ensure it contains the information below and hand write on the label any missing information (at minimum, must include * required information):
 - hospital location/unit where transfusion will occur: should be provided on either the tube label or the requisition form
 - **date of sample draw (mm/dd/yy) required***, time (optional) of draw also recommended
 - **patient’s name required:** last name, first name, and as applicable middle initial or middle name (**exactly as on patient’s identification band**)*
 - **patient’s hospital number (Medical Record Number) or Social Security Number required (exactly as on patient’s identification band)***
 - Identification (signature, initials, or employee identification number) of person drawing the sample (must be provided on either the tube label or on the requisition form).

*** If draw date, patient name, or patient hospital number (Medical Record Number or SSN) are missing on the tube label, the sample will not be accepted.**
7. Compare the tube label to the patient’s identification band before drawing the sample. All corresponding patient identification information [patient name and patient hospital number (medical record number) at minimum] must match exactly.
8. Draw the sample according to facility’s established procedures. Draw the sample using sterile technique.
9. Attach the completed label to the sample tube immediately after collection. This must be done before leaving the patient’s side.
10. All corresponding patient identification information [patient name and patient hospital number (medical record number) at minimum] on the sample tube label must exactly match the corresponding patient identification information on the requisition form.

Compatibility Sample Draw Procedure - continued

11. The person drawing the samples and verifying patient identification should sign, initial, or provide employee identification number on the requisition form and write the date (mm/dd/yy) and time (time optional, but preferred) the sample was drawn.
12. If your facility's procedure requires a double-check to verify patient identification information, the second individual performing the check should also sign, initial, or provide employee identification number on the requisition form.
13. Send the properly completed requisition form along with the properly labeled sample tube to the Hospital's Blood Bank using established hospital procedures.

Pick-Up of Blood Components from the Hospital Blood Bank to Deliver to the Patient Area

Hospitals should have policies and procedures addressing the pick-up and delivery of blood components and appropriate training for the staff performing these functions. Blood Banks must have a mechanism to identify the intended recipient and requested blood component at the time of issue. Refrigerated Blood Components should not be out of monitored storage for more than 30 minutes before the transfusion is started. To avoid delays, venous access should be established prior to removal of blood from the blood bank.