

Blood Components Reference Manual Table of Contents

Puget Sound Blood Center King County Edition

Section B Administration Guidelines

Part VI: Administering Blood and Components VI.1

- Inspection of Blood and Blood Components..... VI.1
 - Labeling..... VI.1
 - Integrity of Unit..... VI.1
 - Appearance..... VI.2
- Red Blood Cells VI.3
 - Example of Transfusion Report for an AS-5 (Optisol®)
Red Blood Cell Unit VI.7
- Platelets VI.8
 - Example of Transfusion Report for a Pooled (6 units)
Platelet Unit VI.11
 - Example of Transfusion Report for an Apheresis Platelet Unit VI.12
- Plasma VI.13
 - Example of Transfusion Report for a Fresh Frozen Plasma
Unit (Thawed for Transfusion) VI.16
- Cryoprecipitate..... VI.17
 - Example of Transfusion Report for a Single Cryoprecipitate Unit... VI.20
 - Example of Transfusion Report for a Pooled (6 Unit)
Cryoprecipitate Unit VI.21
- Granulocytes (Neutrophils)..... VI.22
- Factor Concentrates..... VI.26

Part VI: Administering Blood and Components

Inspection of Blood and Blood Components

Inspection of blood and blood components is a critical element for ensuring safe transfusions to patients. Examination of components occurs several times by different professionals at:

- the Blood Center Laboratory at regular intervals and before shipment
- the Blood Services' Laboratory at each hospital at the time of issue
- the bedside by the transfusionist prior to administration

The inspection should include examination of the following for each component:

Labeling

Verify presence of :

- Expiration date and time
- ABO/Rh label
- Unit Number
- Component Label – ensure component type received (or acceptable substitute) is the same as the component type ordered.
- Special processes/attributes – ensure bag contains text or label indicating ordered special processes/attributes [i.e., Irradiated, CMV Negative, Leukocytes Reduced, Washed, Volume Reduction (plasma reduced).] A leukocytes reduced unit may be substituted for a CMV Negative unit.

Integrity of Unit

Inspect for leaks, especially in port areas, by inverting and applying light pressure to the unit. Observe for missing port covers. Red Blood Cells should have at least one firmly attached segment.

Inspection of Blood and Blood Components – continued

Appearance

Observe for color abnormalities. The color of a RBC bag should not be significantly darker than the attached segments. Plasma in the RBC unit should not be murky, purple, brown or red. Platelets will be clear to yellow/straw to light strawberry in color. Platelets should not contain grossly visible aggregates. Thawed FFP will be clear with the color varying from yellow straw to slight green to orange. Cryoprecipitate will usually be cloudy.

If any abnormalities are noted, the component should NOT be transfused. It should be returned to the hospital's Blood Services area or the Blood Center's laboratory.

Red Blood Cells (also refer to your facility's procedures)

1. Prepare the patient for the transfusion.
 - Ensure that informed consent has been documented as required by the institution/agency.
 - Ensure the IV line is patent and the gauge of the needle or catheter is adequate to transfuse the red blood cell units.
 - Explain the procedure to the patient.
2. Obtain the blood from the Blood Services area of your hospital. The time the blood is released to the nursing unit should be documented. Blood left out of a monitored blood refrigerator for more than 30 minutes cannot be returned to inventory. Transfusion should be completed within 4 hours of removal from refrigeration or before component expiration or compatibility testing expiration, if either time is sooner than the 4 hours. If a unit will not be transfused, return it to the Blood Services area in your hospital.
3. Inspect the blood bag for leaks, abnormal cloudiness, clots, bubbles or an abnormal dark purple-blue color. Red cells will usually be a dark red color. The color should not be significantly darker than the attached segments. If anything seems abnormal, do not transfuse, and check with the Blood Services area in your hospital or the Blood Center.
4. All blood must be given through a blood administration set with a filter. Gently agitating the unit before inserting the administration set may be helpful to re-suspend cells that may have settled.
5. When you are ready to start the transfusion, perform the following verification process to help ensure the correct unit will be given to the correct patient. Most acute hemolytic transfusion reactions occur as a result of errors in patient or component identification.
 - 5a. Recheck the physician's order against the component received to verify you have received the correct component type [including any special processing/attributes that were ordered (i.e., CMV negative, irradiated, leukocyte reduced or washed) should be indicated on the Transfusion Report and directly on the unit labels] for the patient specified in the order. All directed units are irradiated and irradiated must be indicated on the Transfusion Report and on a unit label.

Note

If the patient should be receiving autologous or directed units and these units are available, they should be administered first. If a patient has both autologous and directed units available, autologous units should be given before directed units. If a patient has both directed units and non-directed units available, directed units should be given before non-directed units.

Red Blood Cells - continued

- 5b. Two qualified individuals should verify the patient and unit identification at the patient's bedside. This process involves one individual reading the information out loud from one source and the other individual comparing the information to the other source. The steps include the following:
- i. If the patient is able, ask patient to state their name (and one or more other unique patient identifiers, if possible) and compare reply to the name and, as applicable, other identifiers on the patient identification band to ensure the patient is wearing the correct identification band. (Do not state the patient's name in a question that can be answered "yes" or "no".) If the patient is unable to provide identification information, a guardian, family member or friend may be asked to provide it.
 - ii. Compare the Transfusion Report to the Patient Identification Band (one individual reads the information out loud from the Transfusion Report and the other compares it to the ID band):

Compare Patient's Name and Patient's ID Number - read Patient's Name (Last Name, First Name and as applicable, Middle Initial or Middle Name) out loud and spell out each letter and read Patient ID Number (medical record number) from the Transfusion Report and compare each with the corresponding information on the patient identification band.
 - iii. Compare the following items from the Transfusion Report to the Blood Bag Label (one individual reads the information out loud from the Transfusion Report and the other compares it to Blood Bag Label):
 - a) Unit Number. An aliquot designation (an aliquot letter ending with a zero) of a divided unit (i.e., Pedi Pack or Assigned Aliquot) will appear on the Transfusion Report below the component description [e.g., for a Red Blood Cell Assigned Aliquot, the aliquot designation will appear as Part A0 (or B0, C0...through H0) below the component description]. The aliquot designation will also appear in the lower left quadrant of the unit label and as the last two digits of the product code on the unit label.

NOTE: Divided apheresis AS-3 RBC units will contain a designation of "1st Container or 2nd Container." This designation will appear on the Transfusion Report below the component description and will also appear in the lower left quadrant of the unit label.
 - b) Component Blood Type (ABO Group and Rh Type)
 - c) Expiration Date and Expiration Time (if provided). If the expiration time is not provided, the unit will outdate at 23:59 on the expiration date. Verify that the expiration date and time are acceptable.

Red Blood Cells - continued

- iv. Check Compatibility
 - a) Compare the Patient's Blood Type (ABO/Rh) recorded on the Transfusion Report with the Component Blood Type (ABO/Rh) on the blood bag label to ensure they are compatible. See ABO/Rh Compatibility Table in Section F. For Hematopoietic Stem Cell Transplant or ABO Incompatible Solid Organ Transplant patients, refer to your facility's ABO/Rh compatibility guidelines.
 - b) Check the results of the Compatibility Crossmatch Testing on the Transfusion Report. The results for a compatible unit appears as "Compatibility Results: COMPATIBLE". Check the date and time the compatibility crossmatch results expire (appears as "Do not transfuse after hh:mm on mm/dd/yyyy" under Compatibility Results) to verify that the date/time is acceptable. Do not transfuse the unit after this date and time. The vast majority of crossmatched units are issued compatible and are always issued ABO/Rh compatible. For information on least incompatible units or uncrossmatched units, see 2g on pages B.IV.4-.5 and your facility's policy.

Note

AUTOLOGOUS AND DIRECTED DONATION UNITS: The patient identification information and the unit number on the tie on tag must be compared to the corresponding information on the patient's identification band and Transfusion Report to ensure all corresponding information matches.

Do not proceed from here unless all comparisons match exactly and all items are correct and acceptable. Contact your hospital's Blood Services area or the Blood Center Main Laboratory (206) 292-6525 immediately if ANY discrepancy exists or any items are incorrect.



















- 5c. If all information is correct and acceptable, the three verification boxes must be checked and the two people verifying the patient/unit identification information must sign the Transfusion Report.
 - The person infusing the unit must sign the "Verified and Started By" signature line and indicate the start date/time of the transfusion.
 - The second person must sign the "Verified By" signature line and indicate the verification date/time.
- 5d. Keep the Unit Record attached to the unit.

Red Blood Cells – continued

6. Take and record the patient's temperature, pulse, respirations and blood pressure before starting the transfusion. Vital signs should be rechecked after 15 minutes (or as your facility's procedures require) and as appropriate based on the patient's condition and your facility's procedures, until the transfusion is complete. Record a final set of vital signs at the completion of the transfusion.
7. Except during cases requiring urgent transfusion, for adults infuse the first 25-30 mL of blood slowly over 15 minutes and observe for adverse reactions. For pediatric patients, infuse at a rate of approximately 2 mL/kg/hr (rate should not exceed 120 mL/hr) over the first 15 minutes. Once assured the patient is tolerating the transfusion, the rate of infusion can be increased to the rate specified in the order. A unit of standard AS-5 or AS-3 red blood cells, which contains approximately 340 mL, can generally be infused into an adult patient over a 1.5 - 2 hour period. Infusion rates should be based on the patient's blood volume, cardiac status and hemodynamic condition. Red blood cells can generally be transfused at a rate of 2-4 mL/kg/hr or as the patient's condition tolerates. Patients with cardiovascular compromise may tolerate rates of no more than 1 mL/kg/hr. If rapid transfusion is necessary, the unit can be infused as fast as the patient's circulatory system tolerates. Monitoring lung sounds for rales (or "crackles") is a tool to evaluate for fluid overload.
8. Continue to intermittently observe the patient throughout the transfusion and for an appropriate time after transfusion completion.
9. A unit of red blood cells should be infused within 4 hours of the unit's removal from monitored refrigeration to reduce the risk of bacterial growth. Transfusion should be completed within the 4 hours or before component expiration or compatibility testing expiration, if either time is sooner than the 4 hours.
10. Document the transfusion in the patient chart. The Chart Record portion of the Transfusion Report should be placed in the patient chart as a permanent record.

Red Blood Cells — continued

Example of Transfusion Report for an AS-5 (Optisol®) Red Blood Cell Unit

<p>Central 206-292-6525 UDL 206-522-2462</p> <p>Puget Sound Blood Center research medicine blood & tissue services 921 Terry Ave. Seattle, WA 98104</p>	<p>IF THE UNIT IS TRANSFUSED RETAIN THIS COPY AS A PERMANENT PART OF THE PATIENT'S RECORDS</p>	<p>Bellevue 425-453-4560 Renton 425-656-7900</p> <p>Issued on: 11/16/06 at 14:35 Inspected by: 3780</p>									
<p>Hospital LOCAL HOSPITAL</p>											
<p>Last Name JOHNSON</p>											
<p>First JOHNNY</p>											
<p>Middle</p>											
<p>Patient ID Number 456456456</p>											
<p>Component RED BLOOD CELLS AS-5</p>											
<p>Unit Number W1416 06 370100</p>											
<p>Expiration Date and Time: 23:59 on 11/30/2006</p>											
<p>Compatibility Results: COMPATIBLE Do not transfuse after: 23:59 on 11/19/06</p>											
<p>Patient Blood Type A POSITIVE</p>											
<p>Component Blood Type A POSITIVE</p>											
<p>Patient Requirements Per Blood Center Records: CMV Negative, IRRADIATED, LEUKOCYTES REDUCED</p>											
<p>Processes Performed on Component: CMV Negative, IRRADIATED, LEUKOCYTES REDUCED</p>											
<p>I have verified all of the following:</p> <p><input type="checkbox"/> The name and hospital number on the patient's identification band is identical to that on this Transfusion Report.</p> <p><input type="checkbox"/> The unit number, ABO/Rh and expiration date/time on the unit label is identical with that on this Transfusion Report.</p> <p><input type="checkbox"/> The unit is normal in appearance.</p> <p>VERIFIED and STARTED BY _____ Date _____ Time _____</p> <p>VERIFIED BY _____ Date _____ Time _____</p>											
<p><u>Comments</u></p>											
<p>IF A TRANSFUSION REACTION IS SUSPECTED</p> <p>STOP THE TRANSFUSION IMMEDIATELY Do not discard the unit of blood or component</p> <ul style="list-style-type: none"> Refer to your Policy for Patient Care Instructions Perform an additional clerical check of: 1. The patient ID/arm band 2. The blood bag label 3. This Transfusion Report. Draw one or two anticoagulated (EDTA) specimens as specified by your policy. Complete a Blood Center "Report of Suspected Transfusion Reaction" form. Send the form, specimen(s) and blood bag with attached tubing and fluids to your lab. 											
<p>99-15007</p>											
<p>UNIT RECORD this section is to remain attached to blood bag</p>											
<p>Hospital LOCAL HOSPITAL Component RED BLOOD CELLS AS-5</p>											
<p>Patient Name JOHNSON JOHNNY Unit Number W141606370100</p>											
<p>ID Number 456456456</p>											
<p>Lab staff must complete this section if component is returned to the Blood Center The component has been stored in a monitored device at the temperature range indicated on the component label.</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/> Verified By: _____</p>											
<p>2006594</p>											
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">  W141606370100 </td> <td style="text-align: center;">  W141606370100 </td> <td style="text-align: right;"> JOHNSON JOHNNY 456456456 </td> </tr> <tr> <td style="text-align: center;">  W141606370100 </td> <td style="text-align: center;">  W141606370100 </td> <td style="text-align: right;"> W141606370100 RED BLOOD CELLS AS-5 </td> </tr> <tr> <td style="text-align: center;">  W141606370100 </td> <td style="text-align: center;">  W141606370100 </td> <td style="text-align: right;"> CMV Negative IRRADIATED LEUKOCYTES REDUCED ELEC CROSSMATCH 2006594 </td> </tr> </table>	 W141606370100	 W141606370100	JOHNSON JOHNNY 456456456	 W141606370100	 W141606370100	W141606370100 RED BLOOD CELLS AS-5	 W141606370100	 W141606370100	CMV Negative IRRADIATED LEUKOCYTES REDUCED ELEC CROSSMATCH 2006594		
 W141606370100	 W141606370100	JOHNSON JOHNNY 456456456									
 W141606370100	 W141606370100	W141606370100 RED BLOOD CELLS AS-5									
 W141606370100	 W141606370100	CMV Negative IRRADIATED LEUKOCYTES REDUCED ELEC CROSSMATCH 2006594									

Platelets (also refer to your facility's procedures)

1. Prepare the patient for the transfusion.
 - Ensure that informed consent has been documented as required by the institution/agency.
 - Ensure the IV line is patent and the gauge of the catheter is adequate to transfuse the component.
 - Explain the procedure to the patient.
2. Obtain the platelets from the Blood Services area of your hospital. The time the platelets are released to the nursing unit should be documented. Platelets should be kept at room temperature. **DO NOT REFRIGERATE PLATELETS.** If the unit is not transfused, return it to the Blood Services area in your hospital.
3. Inspect the bag for leaks or excessive clumping. Platelets will usually be clear to yellow/straw to light strawberry. If anything seems abnormal, do not transfuse unit, and check with your hospital's Blood Services Area or the Blood Center.
4. Platelets (including leukocyte reduced platelets) must be given through a blood administration set with a filter. Platelets can be administered through a standard blood administration set or a blood component recipient set. With a standard blood administration set, a significant amount of component will remain in the line at the completion of the transfusion. This can be rectified by flushing with a limited amount of normal saline following the transfusion (see note below). Gently agitating the unit before inserting the administration set may be helpful to resuspend cells that may have settled. Platelets can be transfused through most infusion pumps provided the pump is approved for use with blood components.

(Note: In the rare case when a bedside leukocyte reduction filter is used, the line should not be flushed with saline at the end of the transfusion. Leukocyte reduction filters are NOT normally indicated as units requiring leukocyte reduction are normally leukocyte reduced at the Blood Center. Such units will be labeled as leukocytes reduced and a leukocyte reduction filter should not be used to transfuse them; a blood administration set or a blood component recipient set containing a standard filter should be used.)
5. When you are ready to start the transfusion, perform the following verification process to ensure the correct blood component will be given to the correct patient.
 - 5a. Recheck the physician's order against the component received to verify you have received the component ordered for the patient specified in the order and that any special processing/attributes that were ordered were completed (i.e., CMV negative, irradiated, leukocyte reduced, washed or volume reduced [a.k.a. plasma reduced] should be indicated on the Transfusion Report and directly on the unit label). A volume reduced (plasma reduced) unit will contain the volume amount on the unit label. In a pooled platelet, the number of units in the pool will be listed below and to the right of the component

Platelets - continued

description on the Transfusion Report. If pooled platelets were ordered and received, check that the number of units ordered are in the pool. Apheresis platelets are available in one dose. When apheresis platelets have been collected from either a family donor or an HLA matched donor, the words "FOR DESIGNATED RECIPIENT ONLY" will appear in the upper right quadrant of the bag label. All Family and HLA Matched Apheresis Platelets must be irradiated and irradiated must be indicated on the Transfusion Report and on the unit label.

- 5b. Two qualified individuals should verify the patient and unit identification at the patient's bedside. This process involves one individual reading the information out loud from one source and the other individual comparing the information to the other source. The steps include the following:
- i. If the patient is able, ask patient to state their name (and one or more other unique patient identifiers, if possible) and compare reply to the name and, as applicable, other identifiers on the patient identification band to ensure the patient is wearing the correct identification band. (Do not state the patient's name in a question that can be answered "yes" or "no".) If the patient is unable to provide identification information, a guardian, family member or friend may be asked to provide it.
 - ii. Compare the Transfusion Report to the Patient Identification Band (one individual reads the information out loud from the Transfusion Report and the other compares it to the ID band):

Compare Patient's Name and Patient's ID Number - read Patient's Name (Last Name, First Name and as applicable, Middle Initial or Middle Name) out loud and spell out each letter and read Patient ID Number (medical record number) from the Transfusion Report and compare each with the corresponding information on the patient identification band.
 - iii. Compare the following items from the Transfusion Report to the Blood Component Bag Label (one individual reads the information out loud from the Transfusion Report and the other compares it to Blood Component Bag Label):
 - a) Unit/Pool Number (If the unit is a split [divided] Apheresis Platelet unit, the unit will contain a designation of "1st Container or 2nd Container." This designation will appear on the Transfusion Report below the component description and will also appear in the lower left quadrant of the unit label.)
 - b) Component Blood Type (ABO Group and Rh Type)
 - c) Expiration Date/Expiration Time. Verify that the expiration date and time are acceptable. (Pooled platelets expire 4 hours from the time of pooling. Combined apheresis platelets will also have a 4 hour outdate.)

Platelets - continued

iv. Check Compatibility

Compare the Patient's Blood Type (ABO/Rh) recorded on the Transfusion Report with the Component Blood Type (ABO/Rh) on the blood component bag label to ensure they are compatible. See ABO/Rh Compatibility Table in Section F. For Hematopoietic Stem Cell Transplant or ABO Incompatible Solid Organ Transplant patients, refer to your facility's ABO/Rh compatibility guidelines.

Do not proceed from here unless all comparisons match exactly and all items are correct and acceptable. Contact your hospital's Blood Services area or the Blood Center Main Laboratory (206) 292-6525 immediately if ANY discrepancy exists or any items are incorrect.

5c. If all information is correct and acceptable, the three verification boxes must be checked and the two people verifying the patient/unit identification information must sign the Transfusion Report.











- The person infusing the unit must sign the "Verified and Started By" signature line and indicate the start date/time of the transfusion.
- The second person must sign the "Verified By" signature line and indicate the verification date/time.

5d. Keep the Unit Record attached to the unit.

6. Take and record the patient's temperature, pulse, respirations and blood pressure before starting the transfusion. Vital signs should be rechecked after 15 minutes (or as your facility's procedures require) and as appropriate based on the patient's condition and your facility's procedures, until the transfusion is complete. Record a final set of vital signs at the completion of the transfusion.
7. Except during emergent cases requiring rapid transfusion, for adults, infuse the first 25-30 mL of platelets slowly over the first 15 minutes and observe for adverse reactions. For pediatric patients, infuse at a rate of approximately 2 mL/kg/hr (rate should not exceed 120 mL/hr) over the first 15 minutes. Once assured the patient is tolerating the transfusion, the rate of infusion can be increased to the rate specified in the order. Platelets can generally be given at a rate of 4-8 mL/kg/hr or as the patient's condition tolerates. Platelets are generally administered over 40 minutes to 1.25 hours in adult patients.
8. Continue to intermittently observe the patient throughout the transfusion and for an appropriate time after transfusion completion.
9. The weighed volume of each platelet unit is hand printed on the bag label. Platelets should be infused within four hours, or by the expiration time on the unit label/transfusion report, whichever comes sooner, to reduce the risk of bacterial growth.
10. Document the transfusion in the patient chart. The Chart Record portion of the Transfusion Report should be placed in the patient chart as a permanent record.

Platelets - continued

Example of Transfusion Report for a Pooled (6 units) Platelet Unit

<p>Central 206-292-6525 UDL 206-522-2462</p> <p>Puget Sound Blood Center <small>research medicine blood & tissue services</small> 921 Terry Ave. Seattle, WA 98104</p>	<p>IF THE UNIT IS TRANSFUSED RETAIN THIS COPY AS A PERMANENT PART OF THE PATIENT'S RECORDS</p>	<p>Bellevue 425-453-4560 Renton 425-656-7900</p> <p>Issued on: 11/16/06 at 14:42 Inspected by: 3780</p>
<p>Hospital LOCAL HOSPITAL</p>		
<p>Last Name JOHNSON </p>	<p>Component POOLED PLATELETS 06 POOLED</p>	
<p>First JOHNNY </p>	<p>Unit Number W1416 06 896000 </p>	
<p>Middle</p>	<p>Expiration Date and Time: 18:38 on 11/16/2006</p>	
<p>Patient ID Number 456456456 </p>		
<p>Patient Blood Type A POSITIVE</p> <p>Patient Requirements Per Blood Center Records CMV Negative IRRADIATED LEUKOCYTES REDUCED</p>	<p>Component Blood Type A POSITIVE</p> <p>Processes Performed on Component CMV Negative IRRADIATED LEUKOCYTES REDUCED</p>	
<p>I have verified all of the following:</p> <p><input type="checkbox"/> The name and hospital number on the patient's identification band is identical to that on this Transfusion Report.</p> <p><input type="checkbox"/> The unit number, ABO/Rh and expiration date/time on the unit label is identical with that on this Transfusion Report.</p> <p><input type="checkbox"/> The unit is normal in appearance.</p> <p>VERIFIED and STARTED BY: _____ Date: _____ Time: _____</p> <p>VERIFIED BY: _____ Date: _____ Time: _____</p>		
<p><u>Comments</u></p>		
<p>IF A TRANSFUSION REACTION IS SUSPECTED 19-9-056 01</p> <p>STOP THE TRANSFUSION IMMEDIATELY Do not discard the unit of blood or component</p> <ul style="list-style-type: none"> • Refer to your Policy for Patient Care Instructions • Perform an additional clerical check of: 1. The patient ID/arm band 2. The blood bag label 3. This Transfusion Report. • Draw one or two anticoagulated (EDTA) specimens as specified by your policy. • Complete a Blood Center "Report of Suspected Transfusion Reaction" form. • Send the form, specimen(s) and blood bag with attached tubing and fluids to your lab. <p>2006594</p>		
<p>99-15007 UNIT RECORD this section is to remain attached to blood bag Component POOLED PLATELETS 19-9-056 01</p> <p>Hospital LOCAL HOSPITAL 06 POOLED</p> <p>Patient Name JOHNSON Unit Number W141606896000</p> <p>ID Number 456456456</p> <p style="text-align: right;">2006594</p>		
<p>Lab staff must complete this section if component is returned to the Blood Center The component has been stored in a monitored device at the temperature range indicated on the component label. YES _____ NO _____ Verified By: _____ 2006594</p>		
<p> W141606896000</p> <p> W141606896000</p> <p> W141606896000</p>	<p> W141606896000</p> <p> W141606896000</p> <p> W141606896000</p>	<p>JOHNSON JOHNNY 456456456</p> <p>W141606896000 POOLED PLATELETS 06 POOLED</p> <p>CMV Negative IRRADIATED LEUKOCYTES REDUCED 2006594</p>

SECTION B: ADMINISTRATION GUIDELINES
 Part VI: Administering Blood and Components

Platelets - continued

Example of Transfusion Report for an Apheresis Platelet Unit

SECTION B: ADMINISTRATION GUIDELINES
Part VI: Administering Blood and Components

Central 206-292-6525 UDL 206-522-2462 Puget Sound Blood Center <small>research medicine blood & tissue services</small> 921 Terry Ave. Seattle, WA 98104	IF THE UNIT IS TRANSFUSED RETAIN THIS COPY AS A PERMANENT PART OF THE PATIENT'S RECORDS	Bellevue 425-453-4560 Renton 425-656-7900 Issued on: 11/16/06 at 14:45 Inspected by: 3780
Hospital LOCAL HOSPITAL		
Last Name JOHNSON		
First JOHNNY		
Middle _____		
Patient ID Number 456456456		
Component APHERESIS PLATELETS		
Unit Number W1416 06 000201		
Expiration Date and Time: 23:59 on 11/20/2006		
Patient Blood Type A POSITIVE		
Patient Requirements Per Blood Center Records CMV Negative IRRADIATED LEUKOCYTES REDUCED		
Component Blood Type A POSITIVE		
Processes Performed on Component CMV Negative IRRADIATED LEUKOCYTES REDUCED		
I have verified all of the following: <input type="checkbox"/> The name and hospital number on the patient's identification band is identical to that on this Transfusion Report. <input type="checkbox"/> The unit number, ABO/Rh and expiration date/time on the unit label is identical with that on this Transfusion Report. <input type="checkbox"/> The unit is normal in appearance. VERIFIED and STARTED BY: _____ Date: _____ Time: _____ VERIFIED BY: _____ Date: _____ Time: _____		
Comments		
IF A TRANSFUSION REACTION IS SUSPECTED • STOP THE TRANSFUSION IMMEDIATELY Do not discard the unit of blood or component • Refer to your Policy for Patient Care Instructions • Perform an additional clerical check of: 1. The patient ID/arm band 2. The blood bag label 3. This Transfusion Report. • Draw one or two anticoagulated (EDTA) specimens as specified by your policy. • Complete a Blood Center "Report of Suspected Transfusion Reaction" form. • Send the form, specimen(s) and blood bag with attached tubing and fluids to your lab.		
UNIT RECORD this section is to remain attached to blood bag		
Hospital LOCAL HOSPITAL Component APHERESIS PLATELETS		
Patient Name JOHNSON JOHNNY Unit Number W141606000201		
ID Number 456456456		
Lab staff must complete this section if component is returned to the Blood Center The component has been stored in a monitored device at the temperature range indicated on the component label. YES _____ NO _____ Verified By: _____		
W141606000201	W141606000201	JOHNSON JOHNNY 456456456
W141606000201	W141606000201	W141606000201 APHERESIS PLATELETS
W141606000201	W141606000201	CMV Negative IRRADIATED 2006594

Plasma (also refer to your facility's procedures)

1. Prepare the patient for the transfusion.
 - Ensure that informed consent has been documented as required by the institution/agency.
 - Ensure the IV line is patent and that the gauge of the catheter is adequate to transfuse the component.
 - Explain the procedure to the patient.
2. Obtain the plasma from the Blood Services area of the hospital. The time the plasma is released to the nursing unit should be documented. Fresh frozen plasma (FFP) is stored frozen and thawed before issue. Once thawed it is kept in a monitored refrigerator until it is released to the patient area. Plasma left out of a monitored blood refrigerator for more than 30 minutes cannot be returned to inventory. If the unit will not be transfused, return it to the Blood Services area in your hospital.
3. Inspect the bag for leaks. Plasma transfusions should be clear with the color varying from yellow/straw to light green to orange. If anything seems abnormal, do not transfuse the unit, and check with your hospital's Blood Services Area or the Blood Center.
4. Plasma must be given through a blood administration set with a filter. Plasma can be administered through a standard blood administration set or a blood component recipient set. With a standard blood administration a significant amount of component will remain in the line at the completion of the transfusion. This can be rectified by flushing with a limited amount of normal saline following the transfusion.
5. When you are ready to start the transfusion, perform the following verification process to ensure the correct component will be given to the correct patient.
 - 5a. Recheck the physician's order against the component received to verify you have received the correct component ordered for the patient specified in the order. FFP may be derived from whole blood collection or apheresis collection. FFP derived from whole blood collection will be labeled "FFP" and FFP Pedi units derived from whole blood collection will be labeled "FFP Divided." FFP derived from apheresis collection will be labeled "Apheresis FFP Divided."
 - 5b. Two qualified individuals should verify the patient and unit identification at the patient's bedside. This process involves one individual reading the information out loud from one source and the other individual comparing the information to the other source. The steps include the following:

Plasma - continued

- i. If the patient is able, ask patient to state their name (and one or more other unique patient identifiers, if possible) and compare reply to the name and, as applicable, other identifiers on the patient identification band to ensure the patient is wearing the correct identification band. (Do not state the patient's name in a question that can be answered "yes" or "no".) If the patient is unable to provide identification information, a guardian, family member or friend may be asked to provide it.
- ii. Compare the Transfusion Report to the Patient Identification Band (one individual reads the information out loud from the Transfusion Report and the other compares it to the ID band):

Compare Patient's Name and Patient's ID Number - read Patient's Name (Last Name, First Name and as applicable, Middle Initial or Middle Name) out loud and spell out each letter and read Patient ID Number (medical record number) from the Transfusion Report and compare each with the corresponding information on the patient identification band.
- iii. Compare the following items from the Transfusion Report to the Blood Component Bag Label (one individual reads the information out loud from the Transfusion Report and the other compares it to Blood Component Bag Label):
 - a) Unit Number. An aliquot designation (an aliquot letter ending with a zero) of a divided unit will appear on the Transfusion Report below the component description if the plasma component has been divided [i.e., for FFP Pedi units and Apheresis FFP units, the aliquot designation will appear as Part A0 (or B0, C0, etc.) below the component description]. The aliquot designation (Part A0; or B0, C0...) will appear in the lower left quadrant of the unit label and as the last two digits of the product code on the unit label.
 - b) Component Blood Type (ABO Group and Rh Type)
 - c) Expiration Date and Expiration Time. Verify that the expiration date and time are acceptable.
- iv. Check Compatibility

Compare the Patient's Blood Type (ABO/Rh) recorded on the Transfusion Report with the Component Blood Type (ABO/Rh) on the blood component bag label to ensure they are compatible. See ABO/Rh Compatibility Table in Section F. For Hematopoietic Stem Cell Transplant or ABO Incompatible Solid Organ Transplant patients, refer to your facility's ABO/Rh compatibility guidelines. (Note: The Rh type of the plasma does not matter as plasma contains no red blood cells, therefore, Rh negative or Rh positive plasma can be given to either Rh negative or Rh positive patients.)

Plasma - continued

Do not proceed from here unless all comparisons match exactly and all items are correct and acceptable. Contact your hospital's Blood Services area or the Blood Center Main Laboratory (206) 292-6525 immediately if ANY discrepancy exists or any items are incorrect

- 5c. If all information is correct and acceptable, the three verification boxes must be checked and the two people verifying the patient/unit identification information must sign the Transfusion Report.
- The person infusing the unit must sign the "Verified and Started By" signature line and indicate the start date/time of the transfusion.
 - The second person must sign the "Verified By" signature line and indicate the verification date/time.
- 5d. Keep the Unit Record attached to the unit.
6. Take and record the patient's temperature, pulse, respirations and blood pressure before starting the transfusion. Vital signs should be rechecked after 15 minutes (or as your facility's procedures require), and as appropriate based on the patient's condition and your facility's procedures, until the transfusion is complete. Record a final set of vital signs at the completion of the transfusion.
7. Except during emergent cases requiring rapid transfusion, for adults, infuse the first 25-30 mL of plasma slowly, over 15 minutes, observing for any adverse reactions. For pediatric patients, infuse at a rate of approximately 2 mL/kg/hr (rate should not exceed 120 mL/hr) over the first 15 minutes. Once assured the patient is tolerating the transfusion, the rate of infusion can be increased to the rate specified in the order. Plasma can generally be infused at a rate of 4-8 mL/kg/hr or as the patient's condition tolerates. A unit of plasma is generally administered over 40 minutes to 1.25 hours in adult patients.
8. Continue to intermittently observe the patient throughout the transfusion and for an appropriate time after transfusion completion.
9. The weighed volume of each plasma unit will appear on the unit label. The approximate volume is ~ 250 mL. A unit of plasma should be infused within four hours, or by the expiration time on the unit label, whichever comes sooner, to reduce the risk of bacterial growth.
10. Document the transfusion in the patient chart. The Chart Record portion of the Transfusion Report should be placed in the patient chart as a permanent record.

Plasma - continued

Example of Transfusion Report for a Fresh Frozen Plasma Unit (Thawed for Transfusion)

SECTION B: ADMINISTRATION GUIDELINES
Part VI: Administering Blood and Components



Central 206-292-6525 UDL 206-522-2462 Bellevue 425-453-4560 Renton 425-656-7900


Puget Sound Blood Center
research | medicine | blood & tissue services
921 Terry Ave. Seattle, WA 98104

IF THE UNIT IS TRANSFUSED
RETAIN THIS COPY
AS A PERMANENT PART OF
THE PATIENT'S RECORDS


Issued on: 11/16/06 at 14:49
Inspected by: 3780

Hospital **LOCAL HOSPITAL**

Last Name **JOHNSON**

 First **JOHNNY**

 Middle _____

Patient ID Number **456456456**


Component **THAWED FFP**

Unit Number **W1416 06 000202**


Expiration Date and Time: 13:48 on 11/17/2006

Patient Blood Type **A POSITIVE**

Patient Requirements Per Blood Center Records

Component Blood Type **A NEGATIVE**

Processes Performed on Component

I have verified all of the following:

- The name and hospital number on the patient's identification band is identical to that on this Transfusion Report.
- The unit number, ABO/Rh and expiration date/time on the unit label is identical with that on this Transfusion Report.
- The unit is normal in appearance.

VERIFIED and STARTED BY _____ Date _____ Time _____
 VERIFIED BY _____ Date _____ Time _____

Comments

IF A TRANSFUSION REACTION IS SUSPECTED

- STOP THE TRANSFUSION IMMEDIATELY** Do not discard the unit of blood or component
- Refer to your Policy for Patient Care Instructions
- Perform an additional clerical check of: 1. The patient ID/arm band 2. The blood bag label 3. This Transfusion Report.
- Draw one or two anticoagulated (EDTA) specimens as specified by your policy.
- Complete a Blood Center "Report of Suspected Transfusion Reaction" form.
- Send the form, specimen(s) and blood bag with attached tubing and fluids to your lab.

19-9-056 01
2006594


99-15007 **UNIT RECORD** this section is to remain attached to blood bag


Hospital **LOCAL HOSPITAL** Component **THAWED FFP**


Patient Name **JOHNSON JOHNNY** Unit Number **W141606000202**


ID Number **456456456**


Lab staff must complete this section if component is returned to the Blood Center
 The component has been stored in a monitored device at the temperature range indicated on the component label.
YES _____ **NO** _____ Verified By: _____


 W141606000202

 W141606000202

 W141606000202

 W141606000202

 W141606000202

 W141606000202

JOHNSON
JOHNNY
456456456

W141606000202 THAWED FFP

2006594

Cryoprecipitate (also refer to your facility's procedures)

1. Prepare the patient for the transfusion.
 - Ensure that informed consent has been documented as required by the institution.
 - Ensure the IV line is patent and that the gauge of the catheter is adequate to transfuse the component.
 - Explain the procedure to the patient.
2. Cryoprecipitate is stored frozen and thawed before issue. Cryoprecipitate should be maintained at room temperature once it is thawed. Obtain the cryoprecipitate from the hospital Blood Services area of the hospital. The time the cryoprecipitate is released to the nursing unit should be documented. If the unit is not transfused, return it to the Blood Services area in your hospital.
3. Inspect the bag for leaks. Cryoprecipitate will usually be cloudy. If anything seems abnormal, do not transfuse unit, and check with your hospital's Blood Services area or the Blood Center.
4. Cryoprecipitate must be given through a blood administration set with a filter. Cryoprecipitate can be administered through a standard blood administration set or a blood component recipient set. With a standard blood administration a significant amount of component will remain trapped in the line at the completion of the transfusion. This can be rectified by flushing with a limited amount of normal saline following the transfusion.
5. When you are ready to start the transfusion, perform the following verification process to ensure the correct component will be given to the correct patient.
 - 5a. Recheck the physician's order against the component received to verify you have received the correct component for the patient specified in the order. The Component Description on the Transfusion Report will indicate either CRYOPRECIPITATED AHF or CRYOPRECIPITATED AHF (with "06 POOLED" under the description.) The former description indicates a single unit of Cryoprecipitate and the latter a pool of 6 units.
 - 5b. Two qualified individuals should verify the patient and unit identification at the patient's bedside. This process involves one individual reading the information out loud from one source and the other individual comparing the information to the other source. The steps include the following:

Cryoprecipitate - continued

- i. If the patient is able, ask patient to state their name (and one or more other unique patient identifiers, if possible) and compare reply to the name and, as applicable, other identifiers on the patient identification band to ensure the patient is wearing the correct identification band. (Do not state the patient's name in a question that can be answered "yes" or "no".) If the patient is unable to provide identification information, a guardian, family member or friend may be asked to provide it.
- ii. Compare the Transfusion Report to the Patient Identification Band (one individual reads the information out loud from the Transfusion Report and the other compares it to the ID band):

Compare Patient's Name and Patient's ID Number - read Patient's Name (Last Name, First Name and as applicable, Middle Initial or Middle Name) out loud and spell out each letter and read Patient ID Number (medical record number) from the Transfusion Report and compare each with the corresponding information on the patient identification band.

- iii. Compare the following items from the Transfusion Report to the Blood Component Bag Label (one individual reads the information out loud from the Transfusion Report and the other compares it to Blood Component Bag Label):
 - a) Unit Number
 - b) Component Blood Type (ABO Group and Rh Type)
 - c) Expiration Date and Expiration Time. Verify that the expiration date and time are acceptable.
- iv. Check Compatibility as applicable

Cryoprecipitate transfusions may be given without regard to Blood Type (ABO/Rh) unless given to a child under the age of two years. If the recipient is less than two years old, compare the Patient's Blood Type (ABO/Rh) on the Transfusion Report with the Component Blood Type (ABO/Rh) on the blood component bag label to ensure they are compatible. (See ABO/Rh Compatibility table in Section F.) For Hematopoietic Stem Cell Transplant or ABO Incompatible Solid Organ Transplant patients, refer to your facility's ABO/Rh compatibility guidelines. (Note: The Rh type of the cryoprecipitate does not matter as cryoprecipitate contains no red blood cells, therefore, Rh negative or Rh positive cryoprecipitate can be given to either Rh negative or Rh positive patients.)

Do not proceed from here unless all comparisons match exactly and all items are correct and acceptable. Contact your hospital's Blood Services area or the Blood Center Main Laboratory (206) 292-6525 immediately if ANY discrepancy exists or any items are incorrect.











Cryoprecipitate - continued

- 5c. If all information is correct and acceptable, the three verification boxes must be checked and the two people verifying the patient/unit identification information must sign the Transfusion Report.
- The person infusing the unit must sign the "Verified and Started By" signature line and indicate the start date/time of the transfusion.
 - The second person must sign the "Verified By" signature line and indicate the verification date/time.
- 5d. Keep the Unit Record attached to the unit.
6. Take and record the patient's temperature, pulse, respirations and blood pressure before starting the transfusion. Vital signs should be rechecked after 15 minutes (or as your facility's procedures require) and as appropriate based on the patient's condition and your facility's procedures, until the transfusion is complete. Record a final set of vital signs at the completion of the transfusion.
7. Except during emergent cases requiring rapid transfusion, for adults, infuse the first 25-30 mL slowly for the first 15 minutes, observing for any adverse reaction. For pediatric patients, infuse at a rate of approximately 2 mL/kg/hr (rate should not exceed 120 mL/kg/hr) over the first 15 minutes. Once assured the patient is tolerating the transfusion, the rate of infusion can be increased to the rate specified in the order. Cryoprecipitate can generally be infused at a rate of 4-8 mL/kg/hr or as the patient's condition tolerates. In adults, a 6-unit pool of Cryoprecipitate is generally infused over approximately 30-40 minutes.
8. Continue to intermittently observe the patient throughout the transfusion and for an appropriate time after transfusion completion.
9. The cryoprecipitate should be infused within four hours, or by the expiration time on the unit label, whichever comes sooner, to reduce the risk of bacterial growth.
10. Document the transfusion in the patient chart. The Chart Record portion of the Transfusion Report should be placed in the patient chart as a permanent record.

Cryoprecipitate - continued

Example of Transfusion Report for a Single Cryoprecipitate Unit

SECTION B: ADMINISTRATION GUIDELINES
Part VI: Administering Blood and Components

<p>Central 206-292-6525 UDL 206-522-2462</p> <p>Puget Sound Blood Center research medicine blood & tissue services 921 Terry Ave. Seattle, WA 98104</p>	<p>IF THE UNIT IS TRANSFUSED RETAIN THIS COPY AS A PERMANENT PART OF THE PATIENT'S RECORDS</p>	<p>Bellevue 425-453-4560 Renton 425-656-7900</p> <p>Issued on: 11/16/06 at 14:51 Inspected by: 3780</p>
<p>Hospital LOCAL HOSPITAL</p>		
<p>Last Name JOHNSON</p> 	<p>Component CRYOPRECIPITATED AHF</p>	
<p>First JOHNNY</p> 	<p>Unit Number W1416 06 000203</p> 	
<p>Middle</p>	<p>Expiration Date and Time: 20:51 on 11/16/2006</p>	
<p>Patient ID Number 456456456</p> 		
<p>Patient Blood Type A POSITIVE</p> <p>Patient Requirements Per Blood Center Records</p>	<p>Component Blood Type A POSITIVE</p> <p>Processes Performed on Component</p>	
<p>I have verified all of the following:</p> <p><input type="checkbox"/> The name and hospital number on the patient's identification band is identical to that on this Transfusion Report.</p> <p><input type="checkbox"/> The unit number, ABO/Rh and expiration date/time on the unit label is identical with that on this Transfusion Report.</p> <p><input type="checkbox"/> The unit is normal in appearance.</p> <p>VERIFIED and STARTED BY: _____ Date: _____ Time: _____</p> <p>VERIFIED BY: _____ Date: _____ Time: _____</p>		
<p><u>Comments</u></p>		
<p style="text-align: center;">IF A TRANSFUSION REACTION IS SUSPECTED</p> <ul style="list-style-type: none"> • STOP THE TRANSFUSION IMMEDIATELY Do not discard the unit of blood or component • Refer to your Policy for Patient Care Instructions • Perform an additional clerical check of: 1. The patient ID/arm band 2. The blood bag label 3. This Transfusion Report. • Draw one or two anticoagulated (EDTA) specimens as specified by your policy. • Complete a Blood Center "Report of Suspected Transfusion Reaction" form. • Send the form, specimen(s) and blood bag with attached tubing and fluids to your lab. 		
<p>UNIT RECORD this section is to remain attached to blood bag</p>		
<p>Hospital LOCAL HOSPITAL</p> <p>Patient Name JOHNSON JOHNNY</p> <p>ID Number 456456456</p>	<p>Component CRYOPRECIPITATED AHF</p> <p>Unit Number W141606000203</p>	
<p>Lab staff must complete this section if component is returned to the Blood Center. The component has been stored in a monitored device at the temperature range indicated on the component label.</p> <p>YES _____ NO _____ Verified By: _____</p>		
 W141606000203	 W141606000203	<p>JOHNSON JOHNNY 456456456</p> <p>W141606000203 CRYOPRECIPITATED AHF</p>
 W141606000203	 W141606000203	<p>2006594</p>
 W141606000203	 W141606000203	<p>2006594</p>

Cryoprecipitate - continued

Example of Transfusion Report for a Pooled (6 Unit) Cryoprecipitate Unit

Central 206-292-6525 UDL 206-522-2462 Bellevue 425-453-4560 Renton 425-656-7900

Puget Sound Blood Center
research | medicine | blood & tissue services
921 Terry Ave. Seattle, WA 98104

IF THE UNIT IS TRANSFUSED
RETAIN THIS COPY
AS A PERMANENT PART OF
THE PATIENT'S RECORDS

Issued on: 12/26/06 at 14:42
Inspected by: 2258

Hospital **CITY HOSPITAL**

Last Name **PATIENT**
First **WILLOWEE**
Middle **C**
Patient ID Number **654321**

Component **CRYOPRECIPITATED AHF
06 POOLED**
Unit Number **W1416 06 919005**
Expiration Date and Time: 18:41 on 12/26/2006

Patient Blood Type **A POSITIVE**
Patient Requirements Per Blood Center Records

Component Blood Type **A POSITIVE**
Processes Performed on Component

I have verified all of the following:
 The name and hospital number on the patient's identification band is identical to that on this Transfusion Report.
 The unit number, ABO/Rh and expiration date/time on the unit label is identical with that on this Transfusion Report.
 The unit is normal in appearance.
 VERIFIED and STARTED BY: _____ Date _____ Time _____
 VERIFIED BY: _____ Date _____ Time _____

Comments

IF A TRANSFUSION REACTION IS SUSPECTED
 • **STOP THE TRANSFUSION IMMEDIATELY** Do not discard the unit of blood or component
 • Refer to your Policy for Patient Care Instructions
 • Perform an additional clerical check of: 1. The patient ID/arm band 2. The blood bag label 3. This Transfusion Report.
 • Draw one or two anticoagulated (EDTA) specimens as specified by your policy.
 • Complete a Blood Center "Report of Suspected Transfusion Reaction" form.
 • Send the form, specimen(s) and blood bag with attached tubing and fluids to your lab.

99-15007 19-9-056 01 7179258

UNIT RECORD **this section is to remain attached to blood bag**

Hospital **CITY HOSPITAL** Component **CRYOPRECIPITATED AHF
06 POOLED**
Patient Name **PATIENT
WILLOWEE
C** Unit Number **W141606919005**
ID Number **654321**

Lab staff must complete this section if component is returned to the Blood Center
The component has been stored in a monitored device at the temperature range indicated on the component label.
YES _____ **NO** _____ Verified By: _____ 7179258

W141606919005	W141606919005	PATIENT WILLOWEE C	654321
W141606919005	W141606919005	W141606919005	CRYOPRECIPITATED AHF 06 POOLED
W141606919005	W141606919005		7179258

SECTION B: ADMINISTRATION GUIDELINES
Part VI: Administering Blood and Components

Granulocytes (Neutrophils) (also refer to your facility's procedures)

1. Prepare the patient for the transfusion.
 - Ensure that informed consent has been documented as required by the institution.
 - Ensure the IV line is patent and the gauge of the catheter is adequate to transfuse the component.
 - Explain the procedure to the patient.
2. Obtain the granulocytes (neutrophils) from the Blood Services area of the hospital. A 4-hour expiration time is placed on the granulocytes once preparation is started at the Blood Center. The time the granulocytes (neutrophils) are released to the nursing unit should be documented. Granulocytes (neutrophils) are stored at room temperature and should be kept at room temperature. If the unit is not transfused, return it to the Blood Services area in your hospital.
3. Inspect the bag for leaks. Granulocyte (neutrophil) transfusions will usually be dark pink to red (hematocrit may be 5-20%). If anything seems abnormal, do not transfuse unit, and check with your hospital's Blood Services Area or the Blood Center.
4. Granulocytes (neutrophils) must be given through a blood administration set with a filter. Do not use leukocyte reduction filters or microaggregate filters for transfusion of granulocytes. Gently agitating the unit before inserting the administration set may be helpful to re-suspend cells that may have settled. Infusion pumps may be used to administer granulocytes provided the pump is approved for use with blood components.
5. When you are ready to start the transfusion, perform the following verification process to ensure the correct unit will be given to the correct patient. Most acute hemolytic transfusion reactions occur as a result of errors in patient or component identification.
 - 5a. Recheck the physician's order against the component received to verify you have received the component ordered for the patient specified in the order and that any special processing/attributes that were ordered were completed (i.e., CMV Negative should be indicated on the Transfusion Report and on the unit labels; volume reduction will only be noted on the Transfusion Report, not on the unit labels, however, volume amount will appear on the unit label). All granulocyte (neutrophil) transfusions must be irradiated and irradiated must be indicated on the Transfusion Report and on a unit label.

Granulocytes (Neutrophils) - continued

- 5b. Two qualified individuals should verify the patient and unit identification at the patient's bedside. This process involves one individual reading the information out loud from one source and the other individual comparing the information to the other source. The steps include the following:
- i. If the patient is able, ask patient to state their name (and one or more other unique patient identifiers, if possible) and compare reply to the name and, as applicable, other identifiers on the patient identification band to ensure the patient is wearing the correct identification band. (Do not state the patient's name in a question that can be answered "yes" or "no".) If the patient is unable to provide identification information, a guardian, family member or friend may be asked to provide it.
 - ii. Compare the Transfusion Report to the Patient Identification Band (one individual reads the information out loud from the Transfusion Report and the other compares it to the ID band):

Compare Patient's Name and Patient's ID Number - read Patient's Name (Last Name, First Name and as applicable, Middle Initial or Middle Name) out loud and spell out each letter and read Patient ID Number (medical record number) from the Transfusion Report and compare each with the corresponding information on the patient identification band.
 - iii. Compare the following items from the Transfusion Report to the Blood Component Bag Label (one individual reads the information out loud from the Transfusion Report and the other compares it to Blood Component Bag Label):
 - a) Unit Number
 - b) Component Blood Type (ABO Group and Rh Type)
 - c) Expiration Date and Expiration Time. Verify that the expiration date and time are acceptable.
 - iv. Check Compatibility
 - a) Compare the Patient's Blood Type (ABO/Rh) recorded on the Transfusion Report with the Component Blood Type (ABO/Rh) on the blood component bag label to ensure they are compatible. See Granulocytes Compatibility Chart in Section F. For Hematopoietic Stem Cell Transplant or ABO Incompatible Solid Organ Transplant patients, refer to your facility's ABO/Rh compatibility guidelines.

Granulocytes (Neutrophils) - continued

- b) Check the results of the Compatibility Crossmatch Testing on the Transfusion Report. The results for a compatible unit appears as "Compatibility Results: COMPATIBLE". Check the date and time the compatibility crossmatch results expire (appears as "Do not transfuse after hh:mm on mm/dd/yyyy" under Compatibility Results) to verify that the date/time is acceptable. Do not transfuse the unit after this date and time.

Note

Granulocyte (neutrophil) concentrates contain a large number of red blood cells and a large volume of plasma. Compatibility crossmatch testing is required.

Do not proceed from here unless all comparisons match exactly and all items are correct and acceptable. Contact your hospital's Blood Services area or the Blood Center Main Laboratory (206) 292-6525 immediately if ANY discrepancy exists or any items are incorrect.

- 5c. If all information is correct and acceptable, the three verification boxes must be checked and the two people verifying the patient/unit identification information must sign the Transfusion Report.
- The person infusing the unit must sign the "Verified and Started By" signature line and indicate the start date/time of the transfusion.
 - The second person must sign the "Verified By" signature line and indicate the verification date/time.
- 5d. Keep the Unit Record attached to the unit.
6. Take and record the patient's temperature, pulse, respirations and blood pressure before starting the transfusion. Vital signs should be rechecked after 15 minutes (or as your facility's procedures require) and as appropriate based on the patient's condition and your facility's procedures, until the transfusion is complete. Record a final set of vital signs at the completion of the transfusion.
7. Reactions to granulocyte (neutrophil) transfusions are common, usually consisting of chills and fever. Mild to moderate reactions occur in 10 to 50% of transfusions. Checking vital signs and observing the patient is important to detect reactions early. Patients with a history of non-hemolytic febrile transfusion reactions may be at greater risk of reaction to granulocyte (neutrophil) concentrates.

Granulocytes (Neutrophils) - continued

8. Granulocyte infusion should begin as soon as possible after collection because granulocytes do not store well and their viability rapidly diminishes with time. For adults, infuse the first 25-30 mL of granulocyte (neutrophil) concentrate slowly over 15 minutes, observing for any adverse reaction. For pediatrics, infuse at a rate of approximately 2 mL/kg/hr (rate should not exceed 120 mL/hr) over the first 15 minutes. Once assured the patient is tolerating the transfusion, the rate of infusion can be increased to the rate specified in the order. Generally granulocyte (neutrophil) concentrates are infused slowly, 2-4 hours per unit, in order to reduce the adverse symptoms often associated with granulocyte (neutrophil) transfusions.
9. Continue to intermittently observe the patient throughout the transfusion and for an appropriate time after transfusion completion.
10. Granulocytes should be infused within four hours, or by the expiration time on the unit label, whichever comes sooner, to reduce the risk of bacterial growth.
11. Document the transfusion in the patient chart. The Chart Record portion of the Transfusion Report should be placed in the patient chart as a permanent record.

Factor Concentrates (also refer to your facility's procedures)

1. Prepare the patient for the Factor Concentrate infusion.
 - Ensure that informed consent has been documented as required by the institution/agency.
 - Ensure the IV line is patent. A small gauge needle or catheter (23- or 25-gauge) is adequate to infuse clotting Factor Concentrates.
 - Explain the procedure to the patient.
2. Remove the Factor Concentrate from refrigeration and allow it to come to room temperature. (Porcine Factor VIII Concentrate must be stored frozen.) Check the expiration date on the box of Factor Concentrate and on the powder vial. Check the physician order for the patient dosage. Check the dose (IU) on the powder vial of Factor Concentrate. Often more than one box is required to reach the dose specified by the physician order. (Mixing and labeling may be performed by the hospital pharmacy.)
3. Most Factor Concentrates should be filtered as they are drawn into the syringe. A filter needle is provided with the product for this purpose. This filter needle is NOT to be used for administering the product.

The physician may order the Factor Concentrate to be administered by slow continuous IV infusion or by IV syringe push.

For IV syringe push, reconstitute the appropriate dosage of Factor Concentrate with the diluent provided according to the manufacturer's instructions. Factor Concentrate should be administered within 3 hours of reconstitution. It should be stored at room temperature after reconstitution. If the reconstituted Factor Concentrate will not be immediately given, appropriately label the syringe with the medication name, dosage and the patient identification. (Mixing and labeling may be performed by the hospital pharmacy.)

Continuous infusion requires small volumes to be given over 6-12 hours. The order will specify IU/kg bodyweight/hour or IU to be given over a specified number of hours. The patient will need to have an IV line designated for this purpose so as not to interrupt the factor infusion. Minimal tubing is advised and must be primed with Factor Concentrate since the infusion rate may be slow, e.g. 8cc/hour. For continuous infusion, the factor should be reconstituted as described above and then mixed with a small volume of Normal Saline. An IV soluset bag containing Factor Concentrate can hang for up to 12 hours if it is prepared under a laminar flow hood. The factor will be filtered as it is being drawn into the syringe during reconstitution so an additional blood filter is not required during administration.

Factor Concentrates - continued

4. When you are ready to start the infusion recheck the following:
 - patient identification
 - have patient state full name (or compare identification band for hospitalized patients)
 - chart order and prepared Factor Concentrate
 - product ordered and dosage to be given

If there are any discrepancies in the above information, do not infuse. Contact your hospital pharmacy or the Blood Center Main Lab immediately at (206) 292-6525.

5. Take and record the patient's temperature, pulse, respirations and blood pressure before starting and at the completion of the Factor Concentrate administration.
6. Factor VIII and Purified Factor IX Concentrate can be administered rapidly. They are generally administered IV push but can be given IV drip. The rate is specified in the product insert and is usually about 10 mL per minute.

Crude Factor IX Concentrate should be given slowly, approximately 100 IU per minute in an adult. It can be administered IV by push or gravity drip depending on the dosage required. Maintaining the prescribed rate of infusion is very important with this product. Crude Factor IX Concentrate administered too quickly carries the risk of thrombosis which can lead to heart attacks or strokes.

Porcine Factor VIII Concentrate is to be administered slowly over 20-40 minutes. It has a special use for patients with factor VIII inhibitors. Prior to reconstitution, the powder vial must be stored frozen.
7. If the Factor Concentrate is given IV drip, flush the line with normal saline at the end of the infusion to ensure the patient receives the entire dosage.
8. Factor Concentrates should be infused within 3 hours of reconstituting because of the risk of bacterial growth, unless they have been prepared under a laminar flow hood.
9. Document the clotting factor administration in the patient chart according to your institution's policy.
10. For questions about Clotting Factor Concentrate administration or continuous infusion of Clotting Factor, a Hemophilia Program Clinical Nurse Specialist can be reached by calling (206) 292-6507 during office hours or (206) 292-6525 and paging after hours (request the Hemophilia Nurse on call.)