DESCRIPTION/OVERVIEW
This document standardizes the transfusion of packed red blood cells and/or other blood components.

REFERENCES

AREAS OF RESPONSIBILITY
Blood Bank, Nursing, LIPs

PROCEDURE
Licensed Independent Practitioner (LIP) ORDERS:
1. It is the responsibility of the Licensed Independent Practitioner (LIP) to write a complete order containing the following:
   1.1. Type of blood product to be administered
   1.2. The number of units, or volume in milliliters to be administered
   1.3. Duration of transfusion of each unit (must not exceed 4 hours)
   1.4. The practitioner will also write the order for pre-transfusion testing (blood typing and cross-matching)
      1.4.1 Neonates who remain in the hospital, do not require additional cross-matching until four months of age.
2. The LIP should include the following information in the order:
   2.1. Clinical indication for blood product administration
   2.2. When the blood product should be administered.
   2.3. Special preparation of the blood product (e.g. irradiation),
   2.4. Pre-medications, if required (e.g. diphenhydramine or acetaminophen)
3. The ordering LIP is responsible for obtaining informed consent. However, it is essential for nurses to understand the components of informed consent so as to effectively address patient and/or family questions or concerns, or to identify when additional information should be provided to the patient and/or family prior to blood product administration.
4. Any clinical staff who are qualified to collect blood samples may collect samples for pre-transfusion testing. The blood sample must be labeled AT BEDSIDE with:
   4.1. Patient’s identification: name, MRN and date of birth
   4.2. Date and time of the specimen collection
4.3. Initials of the individual collecting the specimen
5. If the patient has no prior transfusion history and is other than group O, the Blood Bank may request a second sample to confirm ABO group. If no second sample can be collected, the Blood Bank will issue group O blood rather than type-specific blood.
6. Use of the rapid infuser or blood warmer is considered a procedure. The clinician using this special equipment is responsible for learning the steps, rationale, and special considerations for their use.
7. All patients must be properly identified at all times according to standard hospital policy, ideally by using patient identification bracelets.

ADMINISTRATION:
1. Obtain Informed Consent
2. Pre-medicate the patient as ordered.
3. Prepare a blood request slip with the patient’s Name, MRN, and product requested. This slip is required in order to pick up blood from the blood bank. At the time of pick-up, the nurse or other clinical team member will perform a “read-back” with the blood bank issuing tech to ensure that the product bags, tags and patients information are all correct.
4. Inspect the blood for the following:
   4.1. No obvious penetration of the bag, such as leaking of the blood product from the bag.
   4.2. Color of the blood product (e.g. no discoloration or clumping or cloudiness).
   4.3. For Neonates labeling should include: leuko-reduced, irradiated.
5. If the clinician has any doubts as to the storage bag’s integrity, the blood product must not be administered. Instead, contact the Blood Bank for information on how to proceed.
6. At the bedside, with another licensed personnel, confirm that the practitioner’s order and patient name on the blood bank product tags matches the patient’s armband.
7. The same two licensed personnel should then check the name of the blood product, the blood type, blood unit number and expiration date on the blood product container against the same information on the blood product slip. The information must be identical. If it is not, return the blood to the blood bank immediately.
8. Only Registered Nurses (RN), Graduate Nurses (GN), and LIPs may administer the blood product after it has been verified.
9. Once all information has been verified, both licensed personnel will sign the blood product slip and the slip should remain on the bag until the blood has been infused.
10. All blood transfusions must be initiated within 15 minutes after the blood product arrives on the patient care unit, and completed within 4 hours. With the exception of emergency situations, if initiation of transfusion is delayed, return the blood products to the Blood Bank. Do not store any blood product in an inpatient or outpatient refrigerator. For outpatient clinics outside of the hospital, blood may only be stored in the cooler it arrives in from the blood bank for up to four hours. For outpatient clinics inside the hospital only one unit at a time will be issued by Blood Bank.
11. When feasible, it is recommended that that an 18-gauge catheter be inserted with no smaller than a 22-gauge. A 22-gauge may affect the rate of infusion as adjustment may be needed to avoid hemolysis. In pediatrics and neonates, a 24-gauge catheter is acceptable.
12. Long-term venous access devices, peripherally inserted central catheters (PICC) or long-arm catheters may be used for blood product administration if the lumen is at least a 20-gauge. If smaller, alternative venous access should be obtained.
13. For neonates/pediatric patients, PICCs must be 1.9 Fr or greater.
14. Within 15 minutes prior to blood product administration, the patient’s heart rate, blood pressure, respiratory rate, temperature and oxygen saturation should be obtained and documented.
15. Patients who have had a febrile or allergic reaction to blood product administration in the past may have pre-medication orders written. Pre-medication may include antipyretics, antihistamines, and hydrocortisone. Oral medications are given 30 minutes before the start of the infusion, while IV medication can be given immediately prior to blood product administration.

16. All blood and blood components must be infused through a filter.
   16.1. The long Y-type blood component recipient set includes a filter that filtrates to 170 microns. All blood and blood components may be infused through this filter.
   16.2. Pediatrics; packed RBC’s are given with the short Y-tubing blood component infusion set.
   16.3. The filter single type blood recipient set has a filter that filtrates to 170 microns, but has a small surface space; thus, only fresh frozen plasma, platelets, cryoprecipitate (AHF), and granulocytes may be infused through this tubing.

17. Each filter must be used according to manufacturer’s package instructions. Administration sets used for blood and/or blood components shall be changed immediately upon suspected contamination or when the integrity of the product has been compromised. These administration sets shall be changed utilizing aseptic technique and universal precautions. Blood product administration sets that are associated with a suspected transfusion reaction should NOT be discarded. Refer to procedure “Suspected Acute Transfusion Reaction” for instructions on handing blood product administration sets used in suspected transfusion reactions.

18. Packed Red Blood Cells and cryoprecipitate and plasma may be infused with a pump, provided correct blood tubing is utilized. It is contraindicated to administer platelets by pump.

19. Blood warmers may be ordered when the patient has suffered massive blood loss and will require massive amounts, and rapid infusion of blood products, in neonates, requiring exchange transfusions, or in patients with cryoglobulinemia.

20. Blood components must not be “piggybacked” into the primary IV solution.

21. Normal saline is the only fluid compatible with blood products.

22. Never add medications to blood products.

23. Never spike the blood product container more than once.

24. It is recommended that the patient receive a minimal amount of blood product over the first 15 minutes of the transfusion. If no reaction develops, the infusion rate should be in accordance with the physician order, and be completed within 4 hours.

25. The RN or LIP must remain with the patient the first 15 minutes of the blood product administration, and document vital signs at 15 minutes.

26. After 15 minutes, document vital signs at least hourly, and upon completion of blood product administration.
   26.1. Document vital signs a minimum of every 30 minutes on neonates.

27. Vital signs should be taken more frequently if the patient is experiencing any complications which may be related to the transfusion.

28. Documentation of blood product administration should at minimum contain the following elements:
   28.1. Patient/family education
   28.2. Confirmation of informed consent
   28.3. Pre-transfusion assessment and vital signs
   28.4 Patient identification and blood product verification
   28.5 Date/time the administration began and ended
   28.6. Frequent vital signs during infusion
   28.7. Post-transfusion assessment and vital signs
   28.8. Type of blood product administered
28.9. Amount of blood product administered  
28.10 Applicable laboratory values pre-and post-transfusion  
28.11 Occurrence of transfusion-related complications and interventions taken  

29. When the blood product has been infused, and the final patient assessment is made, one part of the slip will be retained in the patient’s paper chart as part of the patient's permanent record and the other portion returned to the Blood Bank.  

30. Once the blood product has infused, post-transfusion lab work is usually obtained.  

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<thead>
<tr>
<th>SPECIAL CONSIDERATIONS</th>
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<tbody>
<tr>
<td>Blood Transfusion of Uncrossmatched Blood</td>
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<tr>
<td>• In an emergency situation a LIP may order for the transfusion of uncrossmatched blood.</td>
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<td>• Obtain the blood from the blood bank or the designated blood refrigerator.</td>
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<td>• An attending LIP must sign the blood slip form in the section, “I request the blood be made available before completion of compatibility testing”.</td>
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<td>• The patient’s label is placed on all sections of the requisition.</td>
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<td>• The RN, GN, or LIP administering the blood must sign in the transfusionist section with the time started and ended. (There is not a second transfusionist signature required.)</td>
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<td>• The unit # must be included in the nursing documentation.</td>
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SUMMARY OF CHANGES  
Previous “Transfusion of Blood or Blood Products” contained section regarding transfusion reactions which has been transferred to a separate procedure “Suspected Acute Transfusion Reactions”, 12/6/2011.  

RESOURCES/TRAINING  
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DOCUMENT APPROVAL & TRACKING  
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<td>Nursing Officer</td>
<td>Sheena Ferguson, Chief Nursing Officer</td>
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<td>Medical Director/Officer</td>
<td>Sara Koenig, MD, Medical Director Lab, Blood Bank</td>
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<td>Official Approver</td>
<td>Erin Doles, Administrator, Professional and Support Services</td>
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