I. Policy / Procedure Requirements

A. Blood/blood products are ordered by a physician/LIP
   i. Blood indicates packed red cells (PRBC’s).

B. Red blood cells and blood components must be administered by a RN/transfusionist

C. Consent/Refusal for Transfusion of Blood or Blood Components must be signed prior to administration and placed in the patient's medical record

D. **STOP AND NOTIFY THE BLOOD BANK** if there is a discrepancy at any time in the following process

E. An RN must accompany any patient transported off the nursing unit with blood/blood products infusing

F. Blood must be stored only in validated AABB (American Association of Blood Banks) cooling systems and should never be placed in refrigerators on nursing units

G. Adherence to Universal Standard Precautions (USP) guidelines regarding the handling of blood/body fluid is mandatory

H. Refer to laboratory procedure for obtaining blood samples during transfusion
II. Procedure

A. Assessment/ Re-assessment/ Evaluation

i. Orders

a. Order must include the following:

1. Patient’s name and unique identification number

2. Blood product and amount requested

3. Identification of the requesting physician/LIP

4. Special requirements (i.e. irradiated, CMV, leuko-depleted/poor need to divide unit)
b. Contact the blood Bank

1. Verify the need for a type and crossmatch
2. Verify that the blood product is available
3. Inform Blood Bank when blood/blood product will be needed

ii. Consent

a. Informed consent is required
b. Documentation of Informed Consent will be included in the medical record
c. Minimally the following are to be included on the consent:
   1. Description of the risks, benefits, and treatment alternatives
   2. Opportunity to ask questions
   3. Right to accept or refuse transfusion
d. For Local hospitals whose Surgical Consents incorporate transfusions during the operative period:
   1. Surgical consent provides informed consent coverage for blood product administration during surgical procedures and immediate post-op period.
   2. The immediate post-op period is identified as until the patient is assessed lucid or consenting family member is available to sign the hospital blood transfusion permit.
   3. A Blood Consent/Refusal should be signed at the earliest convenience post-operatively.
e. Non-surgical patients ordered to receive blood, the blood consent form is used (Exception: C-Sections.)
f. Notify the physician if the patient refuses to sign or if they have further questions.

g. Informed consent shall generally be obtained before each new medical or surgical treatment or procedure. However:

1. The consent form (Blood Consent/Refusal form) is valid for ALL blood products administered during one hospital admission.

2. A signed consent form may be signed for the entire course of treatment not to exceed one year.

iii. Legal Release When a Legal/Emergency Release of Uncross matched, incompatible or incompletely tested blood is required:

a. Notify Blood Bank by telephone of type (if known) and quantity of product needed.

b. The Emergency Blood Release Form, initiated by Blood Bank, will accompany the blood to the unit for MD/LIP signature.

c. Type O negative packed cells will be issued if there is not time to type a patient specimen or patient specimen has a labeling discrepancy.

d. Type O positive will be issued if O negative is not available. Type-specific blood will be issued if a properly labeled specimen can be typed in time.

e. MD/LIP must be in attendance for administration of blood incompletely tested for incompatibility or other screening tests.

f. When infusing 3-4 units in less than an hour, consult MD/LIP and consider using FFP to avoid coagulopathy and DIC.

g. Return uncross-matched blood to the blood bank ASAP when a cross-matched unit is available.

iv. Pre-administration
a. Ensure product order and informed consent is present and documented in patient medical record.

b. IV assessment

1. Determine if there is adequate venous access: Needle/catheter gauge should be decided upon based on the size of the vessel and needs of the patient.
   - #20 Gauge or larger preferred
   - Blood/blood products may be administered through any gauge IV

2. Assess patency of IV prior to obtaining blood/blood products from the blood bank

3. Additional IV access may be required
   - Blood tubing may not be “piggybacked” into a medication line
   - Medication or IV fluids (other than normal saline) may not be administered through the same IV as blood/blood products

c. Premedication

1. Assess need for premedication: If the patient has had a previous reaction to blood/blood products (esp. platelets) that patient will be prone to subsequent reactions from platelet transfusion.

2. Assess need for diuretic administration.

d. Vital signs: Obtain baseline vital signs no more than 30 minutes prior to initiation of a transfusion. This should include:

1. HR
2. Temperature
• **Initiation of transfusion should not be held due to fever.** (There is no absolute maximum baseline temperature for patients receiving transfusions.) Consult physician if questions arise.

3. Blood Pressure

4. Respiratory Rate

III. Administration

A. Record patient’s vital signs

i. Within 5-15 minutes of initiation of the transfusion

ii. Periodically throughout transfusion as warranted by clinical observation of patient

iii. Within 30 minutes of completion of the transfusion

B. Transfusion should be completed no more than four (4) hours after was released from the Blood Bank.

i. May consult with physician/LIP to determine how rapidly to infuse product.

C. **Materials and Equipment**

i. **Blood/ blood product: Obtaining/ Issuing**

a. In Person at Blood Bank

1. Product Request: At the time of transfusion the transfusionist shall submit a blood request to the transfusion service. The blood request shall include:

   • Patient’s name and medical record number.

   • Blood product and amount requested.
2. Only one unit of blood will be issued at a time
   - Exceptions are OR, CVR (cardiovascular recovery), ICU, ED, and Hemodialysis. In an emergency situation, multiple units will be released for patients with two separate IV sites.

3. Previously donated autologous blood will be issued prior to homologous blood.

4. At the time a unit is issued, there will be a final check of the attached Transfusion form (label or tag) with the transfusion service records and each unit of blood product. Verification will include:
   - Recipient’s two unique identifiers (name and medical record number.)
   - Recipient’s ABO group and if required Rh type
   - Donor unit or pool identification number
   - Donor ABO group and, if required, Rh type
   - Interpretation of crossmatch tests (if performed)
   - Special transfusion requirements
   - Date and time of issue

5. Discrepancies between the product request and the blood product shall be resolved prior to issue.

6. Discrepancies between the product request and the blood specimen used for compatibility testing shall be resolved prior to issue.
7. Blood products will only be issued to authorized personnel

8. A visual check should be performed to ensure that unit:
   - Is intact with no broken ports or leaks
   - Contains no particular clumping, foaming or excessive air bubbles which may indicate bacterial contamination
   - Is not an abnormal color
   - There are no clots
   - There is not unusual odor

ii. **Additional Equipment:**

   a. Y-recipient tubing set and filter

   b. Blood products shall be transfused through a sterile, pyrogen-free transfusion set that has a filter designed to retain particles potentially harmful to the recipient.

      - Up to two units of blood may be transfused using a single filter if completed within 4 hours.

      - **Click on link below to be directed to Mosby’s Nursing Skills, then select extended text:**

        Blood Filters


   c. IV Pole

   d. IV: only **Normal Saline (0.9%)** may be added to blood or blood administration sets
1. No drug is to be injected into the blood bag. No medications are to be given IVP/IVPB through blood tubing while blood is infusing. Blood products must be infused directly into the IV catheter. Blood products may not be “piggy backed” into an IV line.

e. Tape
f. Band-Aid
g. Non-sterile Gloves
h. Alcohol prep pads
i. Sterile dead-end cap
j. Infusion pump appropriate for product with tubing
k. Fluid warmer and tubing (when needed, obtain from Blood Bank)
m. Rapid infuser
n. All transfusion equipment (including blood warmers shall be FDA approved

C. Implementation: Blood Administration--The following steps shall occur at the bedside without interruption

i. Recipient and Unit Identification

a. Two qualified employees shall independently verify the patient’s name and unique identification number on the patient’s armband are identical to the tag on the unit.

1. One of these individuals must be the person administering the blood product (unless the clinical situation would jeopardize patient safety)
2. It is not acceptable that one transfusionist spells the patient’s name aloud from the ID band while the witness follows along reading the form attached to the blood product unit. Errors occur when the employee reading the form attached to the unit becomes distracted.

b. When possible the transfusionist shall:

1. Ask the patient “What is your name and date of birth?” if they are conscious and rational.

2. Confirm the patient’s identity, whenever possible, with a family member or other person familiar with patient if they are present when the patient is unable to state his or her name.

c. The following unit label information shall be identical to the information on the unit requisition.

1. Unit number

2. ABO/Rh type

3. Special requirements (Irradiated, CMV negative, etc.)

4. Expiration date/time should be verified as acceptable before transfusion.

d. Both the qualified transfusionist and another qualified staff person must document in the electronic medical record (EMR) verifying that identifying information is correct.

e. If any discrepancy is noted while performing above steps, transfusion must not be initiated. Notify Blood Bank immediately.

f. All identification attached to the container will remain attached until the transfusion has been terminated.
ii. Initiate infusion of blood products within 30 minutes of receiving.

iii. RN/transfusionist must remain with patient during the first 15 minutes of the transfusion.
   a. For non-emergent transfusions, transfusions should be started slowly with close observation of the patient within the first 15 minutes following initiation of blood products for possible transfusion reaction. If no evidence of a reaction is noted, regulate rate so that blood will infuse as tolerated by the patient depending on cardiovascular status or as ordered by physician.

Click on link below to be directed to Mosby's Nursing Skills, then select extended text:

**Blood Products: Administering**
http://63.111.3.50/SkillsConnect/Default.aspx?Token=MNS691&SkillID=201

**Blood and Blood Component: Administration (Pediatric)**
http://63.111.3.50/SkillsConnect/Default.aspx?Token=MNS691&SkillID=854

iv. Troubleshooting: If the unit is packed cells and infusion rate remains slow check
   a. Bag for clumping or improper spiking of bag
   b. Filter: to full or kinked tubing
   c. IV site for infiltration
   d. After checking the above, if infusion remains slow:
      1. Transfer 30-50cc of normal saline into bag by holding packed cells below the level of the normal saline. Unclamp saline tubing.
      2. Re-clamp saline tubing after required amount of saline has entered packed cells.
3. Mix packed cells by gently inverting bag several times.

4. Resume transfusion

5. Complete transfusion

v. Pressure cuff for pressure infusion is to be used only for whole blood, packed red blood cells, or plasma. Pressure cuff can be used for all transfusions, via implanted ports. Pressure cuffs should not exceed 300 mm Hg. Blood pumps can be used with leukocyte reduction filters.

Click on link below to be directed to Mosby's Nursing Skills, then select extended text:

**Blood and Fluid Pressure Infusers**
http://63.111.3.50/SkillsConnect/Default.aspx?Token=MNS691&SkillID=205

vi. Blood/Fluid warmer may be used with a physician/LIP order for PRBC's, whole blood or FFP ONLY.

Click on link below to be directed to Mosby’s Nursing Skills, then select extended text:

**Blood and Fluid Warmer.doc**

vii. After each unit of blood has infused, clamp tubing from blood and clear tubing with saline. Resume IV fluids if indicated.

viii. If another unit of blood is to follow, maintain patency of IV until next unit is available for administration. Repeat Mosby Procedure

ix. Place empty blood bag and tubing in Hazardous Waste Container unless blood reaction is suspected. Refer to Blood Product transfusion Reaction Procedure for further information
IV. **Documentation**

A. Place Transfusion Record in the *Assessment tab* section of the patient’s chart. **The Transfusion Record will ONLY be used during downtime procedures.**

B. Record patient’s vital signs

C. Record any unusual reactions

D. The patient’s medical record will include:

   i. Intake and Output Record – Amount of IV fluids and blood infused
   
   ii. Transfusion order
   
   iii. Documentation of patient consent
   
   iv. The name of the component
   
   v. The donor unit or pool identification number
   
   vi. The start and stop date and time of transfusion
   
   vii. Pre- and post-transfusion vital signs
   
   viii. The amount transfused
   
   ix. The identification of the transfusionist
   
   x. Transfusion related adverse events, if applicable

V. **General Information**

A. It is recommended that Blood/Blood products be infused using an infusion pump. The rate of infusion is as follows:

   i. **Whole Blood or Packed Cells** – Infuse 2mL/min (120 mL/hr) during the first 15 minutes. If no reaction occurs, regulate drip rate so that blood will infuse as tolerated by the patient depending on cardiovascular status or as ordered by physician, but no longer than four (4) hours after being released from the Blood Bank.
ii. **Cryoprecipitate** - Infuse slowly for the first 15-20 minutes. If no reaction occurs, regulate drip so that Cryoprecipitate will infuse at a rate of 1-2mL/minute.

iii. **Fresh Frozen Plasma** - Infuse 2mL/min (120 mL/hr) during the first 15 minutes. If no reaction occurs, regulate drip rate so that plasma will infuse as tolerated by the patient depending on cardiovascular status or as ordered by physician, but no longer than four (4) hours after being released from the Blood Bank.

iv. **Single Donor Pheresis/ platelets** - Infuse 2mL/min (120 mL/hr) during the first 15 minutes. If no reaction occurs, regulate drip rate so that platelets will infuse as tolerated by the patient depending on cardiovascular status or as ordered by physician, but no longer than four (4) hours after being released from the Blood Bank. *Only one unit per tubing should be used.*

v. **Factor Concentrates/ Albumin** - Product from pharmacy. Administer per manufacturer’s instructions

vi. For patients requiring transfusion of blood components, facilities shall have a system to reduce the risk of mistransfusion. Presently acceptable systems are:

a. Documenting the ABO group of the intended recipient on a second sample collected at a separate phlebotomy (including documentation in the facility’s historical record)

b. Utilizing a mechanical barrier system or an electronic identification verification system

c. To prevent laboratory error, the transfusion service shall have a system to verify ABO/Rh testing. Acceptable methods include:

1. Historic medical records
2. Automated testing
3. Testing of the separate (second) specimen
VI. Supportive Evidence

A. Definitions

**Blood and Blood Product Administration:** for the management of replacing blood loss, maintaining blood volume and replacing deficient blood products and/or clotting factors to the patient and will occur safely without adverse reactions.

**Transfusionist:** A qualified licensed employee who oversees the transfer of blood or a component of blood, such as red blood cells, plasma, or platelets from one person to another to replace losses caused by injury, surgery or disease. Ex: RN, RNFA, anesthesia provider, perfusionist and/or physician.

- A Licensed Practical Nurse may monitor a patient following initiation of a transfusion, but may not initiate a transfusion.

**Emergency Blood Release/ Legal Blood Release:** Procedures to expedite transfusion in life threatening emergencies

**Autologous:** Stored blood from that individual. Blood which a patient has previously donated for themselves

**Homologous:** Stored blood of others

B. References


ii. Circular of Information for the use of Human Blood and Blood Components, AABB, ARC, CCBC, 2009


iv. Primer for Blood Administration, AABB, 2009

v. Transfusion Medical Checklist, College of American Pathologists, 2009

C. Appendices

Blood Administration
HO.PC.31
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<th>Key Words:</th>
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| Core Active Date        | 4/20/10                                                  |

| Local Hospital Approver | Nursing Practice Council                                  |
|                        | Jennifer Cordia, RN BSN MBA                               |
|                        | Vice President Patient Care Services                      |
|                        | Chief Nurse Executive                                    |
| Facility Active Date   | 09/08/2010                                               |
|                        | Review: 8/11                                             |
|                        | Revise: 01/12, 07/12, 05/13                              |