PROTOCOL

TITLE: **BLOOD/BLOOD PRODUCTS ADMINISTRATION**

PURPOSE: To outline the management of the patient during blood/blood product transfusion therapy.

LEVEL: ___ Dependent ___ Independent X Interdependent

SUPPORTIVE DATA:

1. Blood/blood products are administered to increase circulating blood volume, increase the number of red blood cells to maintain hemoglobin levels, and to provide selected cellular components as replacement therapy (e.g. clotting factors, platelets, and albumin).

2. Witness the patient's signature on the Blood Transfusion consent form after the physician has explained the reason for the transfusion, benefits and risks, as well as alternatives. Before initiating the transfusion process, review the procedure with the patient/family and if the patient has questions, notify the ordering physician.

3. The patient, designee, or the power of attorney may sign the Blood Consent, or two RN's may receive telephone consent for the administration of the blood/blood products (see HRMC Consent Policy, AD 36B)

4. A nurse must verify and enter the following information into the electronic medical record, i.e., "Physician Order Obtained" and "Transfusion Consent signed" prior to obtaining the blood/blood product from the Blood Bank.

5. Assess the infusing volume of fluids and if indicated, discuss any appropriate measures with the physician.

6. If any physical signs of transfusion reaction are noted such as chills, flushing, itching, dyspnea, rash, chest pain or low back pain, call a Rapid Response.

7. Medications ordered to be given pre-transfusion are to be administered 30 minutes prior to the initiation of the transfusion. Post transfusion meds should be administered 30 minutes after the completion of the transfusion.

8. Any staff member who has been trained can pick up blood products from the blood bank with a completed Blood Issue Request form.

9. An Emergency Blood Release Form must be used if any blood product is released from the Blood Bank before all pre-transfusion testing is completed. (See Attached)

10. Multiple units of thawed Fresh Frozen Plasma (FFP) may be released from the Blood Bank at one time. The blood bank will issue a validated cooler for those units not started immediately. A validation sheet will be attached and must remain with the cooler on the nursing unit.

11. A Type and crossmatch is required for transfusion of Packed Red Blood Cells (PRBCs). A Type and Screen is required for transfusion of FFP and Platelets and is valid for 72 hours before a repeat is required for transfusion.

12. If a Type and Screen has been done and PRBCs are requested within the 72 hours window, only a PRBC order is required.

13. "Suspected Transfusion Related Acute Lung Injury" (TRALI), should be reported to the physician and the blood bank if non cardiogenic pulmonary edema occurs during or within 6 hours after the transfusion.

14. A blood warmer is recommended when a patient has a nonspecific cold antibody (cold agglutinin). The AABB recommends that a blood warmer be used during rapid infusions and/or massive transfusions given within a 24 hour period. Obtain a physician order if a blood warmer is recommended for use.

CONTENT:

A. Assessment

1. The patient's current vital signs: blood pressure, pulse, respirations, and temperature must be obtained within 30 minutes prior to picking up the blood from the blood bank. If the patient is febrile or otherwise unstable, the ordering physician should be notified.

2. Assess baseline cardiac status. If appropriate consider cardiac monitoring and notify the ordering physician.

3. Verify that the IV cannula is patent and infusing without complications such as infiltration or signs of phlebitis. An 18-20 gauge cannula is preferred for administration. For difficult insertion, administration of blood products may be infused using a 22 gauge cannula.

4. If multiple units are needed to be transfused, consider inserting two intravenous access sites.

5. Assess the patient's understanding of the procedure prior to the transfusion, and reinforce the rationale for the transfusion with the patient.

6. The RN will verify the blood/blood product to be transfused and identify the patient along with another licensed personnel of the facility (e.g. Physician, or LPN).

7. Patient/Blood/Blood Product Verification Process
   a. Verify the patient's name by having the patient state their name, if able.
   b. Verify that the patient name and medical record number on the patient's identification band correspond to the label on the blood bag as well as on the Crossmatch Tag.
   c. Verify that the blood/blood product, blood bag number, and blood type correspond to the label on the blood bag as well as on the Crossmatch Tag.
   d. Verify that the blood/blood product is not expired.

B. Infection Control

1. Once the unit of blood is released from the blood bank, the unit MUST be administered within a 30 minute timeframe. (If unable to initiate the transfusion within the appropriate timeframe, the unit MUST be returned to the blood bank with the Crossmatch Tag within the 30 minute timeframe.)

2. 0.9% normal saline is compatible with blood products; the use of dextrose solutions is contraindicated because it can cause coagulation of donor blood.

3. Verify that the appearance of the blood product is free of leaks, clots, or discoloration.

4. Transfusion of blood/blood products may not exceed four hours because of the danger for bacterial growth.

5. The blood tubing must be used for only one transfusion.

6. The blood/blood product bag and tubing is discarded in biohazard waste unless there is a suspected transfusion reaction.

C. Monitoring

1. Monitor pre and post transfusion lab results for the patient, and discuss with the physician prior to the initiation of subsequent transfusions.

2. Monitor accurate intake and output of patient.

3. Remain with the patient during the first 15 minutes of the transfusion to monitor the patient reaction to the transfusion.

4. Infusion Rate:
   a. Start the infusion slowly at 75ml/hr. If there are no signs of adverse reaction, the nurse

may increase the rate, but continue to monitor the patient closely.
b. Increase the infusion rate after 15 minutes to 125cc/hr, according to the patient's ability to tolerate the infusion, in order to complete the transfusion within the 4 hour time limit
c. Platelets may be run as rapidly as possible according to patient's status.

5. Vital Signs (blood pressure, pulse, temperature, respirations):
   a. At initiation of the transfusion (pre-pickup of blood)
   b. After the first 15 minutes of the transfusion.
   c. At the completion of the transfusion.

6. Monitor IV site and the status of the patient. Observe the patient for any changes in vital signs and also for chills, flushing, itching, dyspnea, rash, chest pain, lower back pain or any other possible signs or symptoms of a transfusion reaction or fluid overload.

7. A rise in temperature of 2^{o} F or 1^{o}C from baseline and which achieves an endpoint of $\geq$ 100.6^{o}F or **$\geq$38.1^{o} C** is a suspected transfusion reaction.

8. If you suspect a transfusion reaction, STOP the transfusion and follow the HRMC Blood/Blood Product Reaction Procedure. (8620.070a)

9. If you suspect a fluid overload, notify the physician immediately. If the physician is not immediately available, call a Rapid Response and monitor the patient's status.

Patient Education

1. Instruct the patient of the rationale for transfusion and anticipated amount of time for completion of transfusion.

2. Discuss with the patient and the family the rationale for frequent vital sign monitoring throughout the transfusion.

3. Instruct the patient and family to promptly notify the nurse of symptoms resulting in; itching, chest pain, swelling, dyspnea, or low back pain, because these may indicate a possible transfusion reaction.

4. Instruct patient to notify nurse if pain, swelling, or redness occurs at the IV site, because these may indicate a possible infiltration.

Documentation

1. Documentation of the two verifying licensed professionals is completed in the EMR. The original Crossmatch Tag should be placed in the patient chart in the Laboratory Section.

2. Complete the transfusion documentation in the electronic medical record (EMR) or Crossmatch Tag if electronic documentation is not available. Example: Patient coming out of the OR, continue to document on the crossmatch tag. If the electronic record was started prior to the patient going into the OR the OR will document remaining transfusion events on the crossmatch tag.

3. Document the following:
   a. Pre transfusion
      i. Physician order was obtained
      ii. Transfusion consent signed
      iii. Pre-transfusion vital signs.
   b. Immediate Prior to Initiation
      i. Signatures of verification on crossmatch tag
      ii. Blood unit number and product type
      iii. Equipment used
      iv. Transfusion start date and time
      v. Blood product volume(volume estimated by the Blood bank and found on

Crossmatch Tag.

c. During transfusion (15 Minutes after initiation)
   i. Vital signs
   ii. Signs of reaction, if none document no transfusion reaction noted

d. Post Transfusion (immediately after completion)
   i. Transfusion stop date and time
   ii. Transfusion completed
   iii. Vital signs
   iv. Transfusion amount (not to include 0.9% NS used to prime and flush)

e. All patient education regarding blood transfusion process in patient education section of EMR.

REFERENCES

1. Nettina S. M. (2006). Lippincott Manual of Nursing Practice 8th Ed, Lippincott, Williams and Wilkins; pg 962-969

2. Perry, A. G., & Potter, P. A., (2006). Clinical Nursing Skills and Techniques. Blood Therapy p. 965-982.

3. AABB Standards for Blood Banks and Transfusion Services, 26th Edition 2009, pp 40-42

4. AABB Technical Manual 16th Edition 2008, pp 613-622