GREENVILLE HOSPITAL SYSTEM NURSING STAFF POLICY & PROCEDURE

CRYOPRECIPITATE, ADMINISTRATION OF

POLICY:

Greenville Hospital System employees, volunteers, nursing and medical students and members of the Medical Staff may obtain blood and blood components from the laboratory.

Only one unit of blood or components may be taken at any given time for a patient on a nursing unit except in cases of extreme emergency. More than one unit may be obtained if it is to be taken to surgery or the Ambulatory Infusion Center (AIC) because these units have specialized designated blood refrigerators. (Blood left at room temperature may develop bacterial growth.)

Cryoprecipitate must be transfused through a filter. The standard blood filter is 170 to 260 microns. Multiple units given consecutively may be given through one administration set:

A. up to two (2) units within a four (4) hour limit using straight and Y-type sets; or
B. up to ten (10) units using a multiple infusion filter (see instructions for specific filter used)

Due to the risk of possible bacteria growth, filters, tubing sets and any remaining cryoprecipitate must be discarded after four (4) hours. Microaggregate filter (40 microns) are acceptable to give cryoprecipitate through, but they must be changed after each unit is given and the cryoprecipitate cannot be pressurized. See BloodPro 6, Administration of Whole Blood or Packed Red Cells, for a list of blood components and filter requirements.

All blood and blood product infusion sets are to be disposed of following universal precautions (i.e., all blood containers/tubing go in bio-hazard bags).

The blood bank bracelet on the patient, must remain on the patient for 3 days because all blood issued on the type and crossmatch will be sent with the blood bank bracelet number as a primary source of ID. The blood bank bracelet number will appear after “Other Primary ID #” on the unit label and the Transfusion Record.

Blood or blood components cannot be left out on the nursing unit after they are obtained from the lab for longer than 30 minutes before the transfusion is begun. Blood/components must never be put in a refrigerator on a nursing unit.

Blood or blood components cannot be returned to the lab after 30 minutes, except from surgery or the AIC where blood is kept in special refrigerators designated for storage of blood. Blood taken into the Trauma Resuscitation bays in the Emergency Department may not be returned to the Blood Bank, even if it has been under 30 minutes. The high temperature in the bay causes the unit to quickly go above the 10⁰ F temperature limit.

Blood or blood components which are ordered "on hold" are held for 72 hours. If the blood/component must still be on hold after this time, it must be re-ordered and a new crossmatch done.
A Consent for Blood/Blood Product Transfusion must be obtained and be on the chart prior to starting the transfusion. This consent covers all transfusions for one (1) admission, except in the AIC where the consents cover all transfusions for one calendar year.

Patients and/or their significant others should receive education when appropriate on what signs and symptoms to report to the nurse/physician that may indicate an adverse transfusion reaction.

**PERSONNEL:**

Registered Nurses can administer cryoprecipitate. Registered Nurses may check blood information and patient identification with another Registered Nurse, Licensed Practical Nurse, Physician or Physician Assistant.

**DESIRED OUTCOME:**

To administer cryoprecipitate properly and safely with a minimum occurrence of reactions and complications. To quickly detect signs of reactions and complications.

**SUPPORTIVE DATA:**

- Cryoprecipitate is a plasma derivative rich in coagulation factor VIII, factor XIII, fibrinogen, fibronectin, and von Willebrand's factor (VWF). It is used primarily in the treatment of disseminated intravascular coagulation (DIC), and in patients with uremic bleeding. It may also be used topically on a wound to stop bleeding.

- BloodPro 1 – Blood Bank Collections

**EQUIPMENT:**

1. Consent for Blood/Blood Product Transfusion, unless already signed during this admission
2. Unit of cryoprecipitate from blood bank
3. Transfusion Record
4. 250 mL normal saline (NS) bag
5. Patent IV site with #22 IV catheter or needle, or larger gauge

**To give IV drip:**

6. Blood administration set with a filter (normally 170-260 microns; a microaggregate filter is acceptable but is not usually needed since there are no cellular products that can cause aggregates.)

7. Component Y-set to infuse blood products, as this allows NS to be used to flush tubing without opening the IV line repeatedly.

**To give IV push:**
8. Component infusion set adapter (see lab for set)
9. 50 mL syringe

PROCEDURE:

STEPS

1. Verify the order. The physician should have completed the Blood Transfusion Order form (M10458).
2. Obtain Consent for Blood/Blood Product Transfusion, if not already on the chart.
3. Educate the patient and/or family on what to expect with the cryoprecipitate transfusion and what signs to report that may indicate a transfusion reaction.
4. Ensure that a patent IV is in place or establish the IV, referring to IVDevice 10 (Intravenous Catheter, Insertion of). Use #22 catheter or larger.
5. Request Cryoprecipitate from lab.
6. Obtain cryoprecipitate and an appropriate transfusion set. Complete the Blood Pick Up Form by placing a patient identification sticker on the form, filling in the blood bracelet number and indicating the number and type of unit(s) to be picked up. Also list the unit where the blood will be administered and the physician ordering the transfusion.
7. Establish proper patient identification by the following steps:
   A. At the bedside, two RN’s, an RN and MD or

KEY POINTS

1. If the physician has not completed the Blood Transfusion Order form, call the physician to complete the form.
2. If the physician has not completed the Blood Transfusion Order form, call the physician to complete the form.
3. The patient and/or family should be advised to report signs of a transfusion reaction which include itching, swelling, dizziness, dyspnea, chest pain and pain at the IV site.
4. A large gauge catheter is not necessary because RBCs are not being transfused and plasma is not viscous.
5. 10 to 15 units or more may be ordered. These units may be pooled into one unit.
7. If the patient's name or identifying numbers do not match EXACTLY, DO NOT BEGIN TRANSFUSION. Notify the blood bank immediately.
an RN and LPN must check the following information on the blood unit label and Transfusion Record against the information on the patient’s ID bracelet:

1) Blood bracelet number
2) Full name
3) Date of birth
4) Medical Record Number

B. Also at the bedside, the same individuals must check the following information on the Transfusion Record and the unit label against the information on the unit of cryoprecipitate:

1) ABO type
2) donor number or pooled unit number
3) expiration date

C. When possible, a second ID check is recommended by asking the patient to state his name, or by requesting such information from a significant other at the bedside.

D. Inspect the unit for abnormal color, gas bubbles (which may indicate bacterial growth), or any type of clots. If found, do NOT infuse. Return the unit to the blood bank immediately.

8. Both persons checking the cryoprecipitate unit must sign the Transfusion Record. Record the date and time the transfusion is begun.

9. Document the transfusion information on the Transfusion Record. For outpatient transfusions, complete Outpatient transfusion area on the Transfusion Record.

10. Check the patient’s vital signs and level of consciousness and document on the Transfusion Record.

11. Stop any maintenance IV fluid. Flush IV with Normal Saline. Approximately 20-30 mL is recommended to flush the line completely if NS is not already infusing.

B. Note that it is not necessary to match the Rh type when giving cryoprecipitate. The Rh antigen is not present in plasma.

9. See Appendix A of BloodPro 8 for a copy of the Transfusion Record.

10. Vital signs are to be checked and documented at the start of transfusion, 20 minutes after the transfusion is started, and at the end of the transfusion.

11. NS is the only solution that should be used to flush the line before or after administration of blood/blood products. Other IV fluids and IV meds can cause the following problems: precipitation, agglutination,
12. To administer cryoprecipitate IV push:
   A. Close both control clamps on the administration set.
   B. Expose the port of the component bag and spike the port with the administration set, using a twisting motion.
   C. Expose the Y-port and attach the 50 mL syringe.
   D. Open the control clamp above the Y-connector and aspirate cryoprecipitate into the syringe.
   E. Open the lower control clamp and prime the tubing.
   F. Close the upper clamp.
   G. Connect the end of the administration set to the IV.
   H. Gently infuse cryoprecipitate from the syringe at a rapid rate (approximately 10 mL/minute).

**STEPS**

I. At completion of the administration, spike a bag of NS with the administration set and aspirate 30-50 mL of NS into the syringe. Flush administration set with saline until clear.

**KEY POINTS**

I. To ensure all the cryoprecipitate has been infused

13. To administer cryoprecipitate IV drip:
   A. Close the control clamp on the administration set.
   B. Expose the port of the cryoprecipitate bag and spike the port with the administration set.
   C. Follow manufacturer’s instructions for priming the blood filter.
   D. Open the control clamp and prime the infusion line with cryoprecipitate, then close the clamp.
   E. Connect the primed component administration set to the IV.

and hemolysis.

12. Clumping of cryoprecipitate being given IV push has been reported. If this is a problem, go to the IV drip method.
F. Administer cryoprecipitate IV drip at a rapid rate (approximately 5-10 ml / minute), or as ordered by the patient's physician.

14. Observe the patient for adverse reaction. If the patient develops symptoms of a possible reaction, stop transfusion of cryoprecipitate and keep IV open with Normal Saline at KVO rate.

15. When the transfusion is completed, flush the IV line with normal saline. Return the IV to the ordered IV fluid, or keep the IV open with NS at KVO for at least 30 minutes if no other IV fluids are ordered.

14. Complete a Transfusion Reaction Report. If it is discovered that the cryoprecipitate has been infused to a patient for whom it was not intended, this must be worked up and steps taken as if this were a transfusion reaction and the blood bank notified immediately.

15. The IV is maintained so that the IV is available should a reaction occur after completion of the transfusion.

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**STEPS**

16. Check vital signs and document on the Transfusion Record.

**KEY POINTS**

16. Vital signs are to be checked and documented at the start of transfusion, 20 minutes after the transfusion is started, and at the end of the transfusion.

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**DOCUMENTATION:**

1. Complete the Transfusion Record. See Appendix A of BloodPro 8 for an example of the Transfusion Record.

2. Notify the Blood Bank of the infusion either by electronic message or approved manual method. It is the responsibility of the nurse completing the transfusion to ensure the message is sent before the end of the shift. If an electronic message is sent, save the printed confirmation in the patient’s chart or designated area on the unit.

3. Document the amount transfused on the Fluid Balance Record.

**NOTES:**

1. Classic hemophilia type A patients are now treated with recombinant factor VIII concentrates, available from the pharmacy (example: Hemophil-M). This is given as a medication. Cryoprecipitate is now rarely given to hemophilia A patients. Cryoprecipitate is often given as a “pooled unit” in which cryoprecipitate of many donors is pooled into one unit. The bag will be marked with a pooled unit #.
2. Regardless of the emergency, two (2) people must check the patient ID and information on each unit prior to hanging the unit.

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REFERENCES:


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