MB Guideline 4

Administration of Blood and Blood Components

1.0 Purpose

1.1 To provide best practice guidelines for nurses that align with the standards set forth by the American Association of Blood Banks (AABB) and the Canadian Society of Transfusion Medicine (CSTM) for the administration of blood and blood components.

1.2 The standards state that a protocol/policy is required for the administration of blood and blood components. This includes:

- **a.** The use of infusion devices and ancillary equipment.
- **b.** Identification, evaluation and reporting of adverse events related to transfusion Refer to MB Guideline 7.
- **c.** Administration of blood and blood components will be under medical direction.

Blood refers to whole blood.

Blood Components: Red Blood Cells, Platelets, Plasma (fresh or frozen) and Cryoprecipitate.

2.0 Policy

Health care facilities/Regional Health Authorities (RHA) in Manitoba must implement processes and procedures that include:

Pre-transfusion:

2.1 Ensure direct venous access for administration.

2.2 Transfusionist and one other authorized personnel will verify the following:

- **a.** Complete order from authorized practitioner includes:
  - Intended recipient's two independent identifiers: Unique identifier and first & last name
  - Product and dosage/units required
  - Date and time transfusion/infusion to take place
  - Modification or special requirement to product if applicable
  - If multiple products ordered, indicate the sequence
  - Clinical indication for transfusion/infusion
- **b.** The intended recipient's ABO group, Rh type and presence of antibodies

c. Donation identification number, donor ABO group and if required, the Rh type

d. Positive identification of the intended recipient. Refer to MB Guideline 2

2.3 Inspect the product for any leakage, discoloration, or abnormalities such as evidence of clots or hemolysis. See Appendix 12 Visual Inspection. If product fails visual inspection, contact the blood bank immediately.

2.4 Explain the procedure to the patient and to report signs/symptoms of adverse reaction(s) immediately.

2.5 Assess the patient for symptoms prior to the transfusion/infusion that might be confused with a transfusion reaction and document same (i.e. fever, rash).

Administration:

In non-urgent, non-bleeding patients, blood, blood components and/or plasma protein products should be transfused/infused during daytime hours and given one at a time.

2.6 Blood, blood components and/or plasma protein products must be administered through a standard site sterile, pyrogen-free administration set that has a filter designed to retain particles potentially harmful to the patient (i.e. Adults:170-260 microns, Pediatrics: Refer to established hospital policy and procedure or Product Monograph for filter size or specific tubing set).

a. Red blood cell administration set should be changed after:
- Maximum of 4 hours
- Four consecutive units of red blood cells have been infused through the same set. If administering different products a separate set must be used for each
- More than 30 minutes have elapsed between units
- Set becomes occluded

b. Infusion of one unit of Red Blood Cells must not exceed 4 hours

c. Medication must never be added to any infusion of blood, blood components and/or plasma protein products.

2.7 Transfusion of blood and/or blood components should be initiated at a slower rate and patient monitored for first 15 minutes for signs and symptoms of an adverse reaction (recommended initial rate of 50ml/hour). If no reactions after 15 minutes proceed to ordered rate of transfusion.

2.8 Patient must be monitored throughout the transfusion for adverse reactions. Post transfusion monitoring is at the discretion of the person administering the transfusion.

2.9 Consider a slower rate for patients at risk of circulatory overload.

All identification attached to the blood, blood component shall remain attached until the transfusion has been completed/ terminated.

If any discrepancies are identified or the product fails inspection do not administer. Contact blood bank.

If the blood product needs to be returned to Blood Bank please refer to Appendix 19.

3.0 Documentation

The patient's medical record shall include the following:

a. Transfusion order
b. Documentation of patient consent
c. Name of blood/ blood component, donation identification number/ lot number,
d. Date and time of administration
e. Pre-transfusion, intra-transfusion, and post-transfusion vital signs
f. Amount transfused
g. Name of Transfusionist and second personnel verifying product prior to administration.

See Appendix 6 Cumulative Blood Product Record Completion Guide

Complete required information on the product tag and/or Record of Transfusion (ROT) and return to blood bank. This ensures traceability of blood components and vein to vein process standards are met.

4.0 Quality Control

4.1 Health care facilities/Regional Health Authorities (RHA) in Manitoba should implement a quality improvement system to monitor compliance with the policies for the administration of blood components and blood products.

4.2 A competency program shall be established for all personnel involved in the transfusion process.

5.0 Notes/Special Considerations

5.1 Only approved infusion devices and ancillary equipment that meet provincial safety standards and are approved by Health Canada shall be used for transfusion.

- **a.** Only approved infusion devices and ancillary equipment that meet provincial safety standards and are approved by Health Canada are to be used for administration of blood, blood components and/or plasma protein products
- **b.** Blood warming device must be validated and have a temperature sensor and an audible alarm system. *See Appendix 10: Blood Warming Devices*.
- **c.** Pressure exerted by pressure pumps should not exceed 300mm Hg.
- **d.** Rapid infusion devices shall be used only by appropriately trained staff.

EMERGENCY BLOOD ADMINISTRATION

For the administration of Emergency Blood, a pre-transfusion blood specimen must be drawn prior to the transfusion of unmatched Group O red cells.

Transfusion records shall include a signed declaration by the requesting physician/ authorized practitioner confirming that the clinical situation was sufficiently urgent to justify releasing blood products before completion of pre-transfusion testing. See Appendix 7 Record of Transfusion Emergency Component.

When only Group O Rh positive units are available the Blood Transfusion Service will notify the TM Medical Director on call within 24 hours if the recipient is determined to be Rh negative and is a female less than or equal to 45 years of age in order to determine need for administration of RH immune globulin. This may include a consultation with the attending physician.

5.2 Outpatient Settings:

a. The patient should be monitored for adverse reactions until the transfusion has been completed. Post transfusion monitoring shall be at the discretion of the person administrating the transfusion.

b. Information of post transfusion adverse effects must be provided prior to outpatient being discharged from care. See Appendix 1 "A Blood Transfusion Reaction; what you should know" patient information sheet.

Facility endorsement if guideline is used as Standard Operating Procedure (SOP)

Approved by: _____ _____

(Senior Management) (Senior Management)

Facility effective date: _____

(Date of implementation)