Department of Health Government of Nunavut	NURSING POLICY, PROCEDURE AND PROTOCOLS		
	Community Health Nursing		
TITLE:		**SECTION:**	**POLICY NUMBER:**
Administering Blood and Blood Components		Pharmacy	09-015-00
EFFECTIVE DATE:	**REVIEW DUE:**	**REPLACES NUMBER:**	**NUMBER OF PAGES:**
February 10, 2018	February 2021		7
APPLIES TO:			
Community Health Nurses			

POLICY 1:

A physician's order is required to administer blood or blood components.

POLICY 2:

The nurse is authorized to administer uncrossmatched blood during emergency situations, as ordered by the physician and in accordance with the *Health Centre Laboratory Manual*.

POLICY 3:

The nurse will ensure safe transfusion in accordance with the *Health Centre Laboratory Manual*. The nurse will assess client status during and after the blood transfusion. Every effort should be made by the health care team to reduce the risk of wasting blood products which are in short supply.

PRINCIPLES:

Review "Blood Transfusions pages 785-801, Potter and Perry (2010) *Clinical Nursing Skills & Techniques 7th edition*" for further steps in ensuring safe administration of blood and blood components.

DEFINITIONS:

A **blood transfusion** is a procedure in which blood or blood components are given intravenously to a client. The major components of whole blood usually used for transfusion include; red blood cells, plasma, cryoprecipitate, and platelets.

RELATED POLICIES, GUIDELINES AND LEGISLATION:

Health Centre Laboratory Manual – Transfusion manual
- Uncrossmatched Blood Procedure
- Administration of Blood and Blood Products – Emergency Uncrossmatched Blood Consent Form
- Receiving Blood, Blood Component and Fractionated Products Procedure
- Temperature Check of Blood and Blood Components Procedure
- Visual Inspection of Blood, Blood Components and Fractionated Products Procedure
- Issuing Blood Components
- Shipment of Blood and Blood Components to External sites

Policy 09-014-00 Acquiring Blood and Blood Components
Guideline 09-015-01 Guidelines for Administering Blood Products
Guideline 09-015-02 Guidelines for Using a Pressure Device in Blood Transfusions
Policy 09-016-00 Suspected Adverse Reaction to Transfusion

REFERENCES:

Government of Nunavut. Health Centre Laboratory Manual.

Perry & Potter (2010). *Clinical Nursing Skills & Techniques*. Mosby.

GUIDELINE 09-015-01

NURSING ALERTS:

1. Blood is only compatible with 0.9% Sodium Chloride solution**.** Other intravenous solutions can cause precipitates and/or destruction of the red blood cells.

2. The rate of infusion for blood, blood components and fractionated products must be ordered by a physician. Packed Red Blood Cells are generally administered at a rate of 1.5 to 2 hours per unit. Total infusion time should not exceed 4 hours for each blood unit.

3. Medications must not be added or co-administered with blood or blood components.

4. Return unused blood to the Regional laboratory immediately as per the policies and procedures contained within the *Health Centre Laboratory Manual*. Contact the staff at the Regional Laboratory for additional assistance if required.

5. Blood and blood components must be transfused within four hours.

6. During a life-threatening situation, unmatched O negative red cells may be administered according to the policies and procedures contained within the *Health Centre Laboratory Manual.*

7. A blood administration set must be changed after a maximum of four units of red cells have been infused. A blood administration set must be changed at least once every 24 hours. Infuse 0.9% Sodium Chloride to maintain venous access between each unit.

8. Monitor the client for potential transfusion reactions and circulatory overload. All suspected transfusion reactions must be documented, reported and investigated. Refer to Policy 09-016-00 Suspected Adverse Reactions to a Transfusion.

9. Use large bore IV access to avoid hemolysis of red blood cells (suggest 20 gauge or larger when possible).

10. Obtain vital signs including temperature prior to initiating transfusion, then at 5 minutes, 15 minutes and every 30 minutes until one (1) hour after the completion of the transfusion.

11. A pressure device is used to infuse red blood cells or whole blood when oxygen carrying capacity and blood volume of the client needs to be increased rapidly. The pressure limit should not exceed 300 mmHg. Never apply pressure with a blood pressure cuff. Do not use a pressure device with a PICC line.

12. If client condition permits, transfusions should be initiated at a slow rate for the first fifteen minutes.

EQUIPMENT:

Administration set for delivery of Red Blood Cells:

- Gravity set – straight type or Y type (Y type is preferred) OR
- Infusion pump set – Y type
- 170-260 micron filter
- IV catheter large bore (20 Gauge or larger)

PROCEDURE:

1. Obtain physician order for blood product administration and arrange transport of blood products from Regional Laboratory and medivac team (if applicable).

2. Verify temperature and quality of blood products upon arrival in the health centre, as per the policies and procedures in the *Health Centre Laboratory Manual*.

3. Ensure client has a patent intravenous access (central or peripheral) prior to preparing blood and products for transfusion**.**

4. Obtain baseline vital signs including temperature just prior to initiating transfusion, then at 5 minutes, 15 minutes and every 30 minutes until one (1) hour after completion of the transfusion.

5. Prime blood administration set with appropriate solution.

6. Inspect the product for any abnormalities: color, presence of clots etc.

7. Two nurses (with at least one being an RN) must perform a pre-transfusion check prior to initiating a blood/component transfusion to ensure the right client will receive the right blood/component.

The following information must be checked at the recipient's bedside:

1. Verify the recipient's name and date of birth

2. Verify the following information:
    a) blood/component type and identification number
    b) ABO group and Rh (D) of blood unit
    c) ABO group & Rh (D) of recipient against ABO group & Rh (D) of blood unit
    d) expiry date

3. If a discrepancy exists, immediately notify the lab tech from the Regional Laboratory and determine if the blood is to be returned.

4. The same two nurses must sign the Transfusion Medicine issue report after completion of the pre-transfusion check. The date and time of the verification must be documented on the issue report

5. Initiate transfusion of red blood cells. Begin transfusion slowly and transfuse over 1.5 to 2 hours or as ordered by physician.

6. Monitor vital signs as indicated in Nursing Alert #10 and continually assess for adverse reactions.

POTENTIAL ADVERSE TRANSFUSION REACTIONS:

- Hemolytic
- Febrile
- Allergic
- Sepsis
- Circulatory overload
- Anaphylactic
- TRALI (Transfusion-related acute lung injury)
- TA-GVHD (Transfusion associated Graft versus host disease)

PEDIATRIC CONSIDERATIONS:

- Infuse the first 50ml of a blood transfusion very slowly in a pediatric client. 5ml/minute for the first 15 minutes. Nurse should stay with the child during this time frame.
- A 27-, 26-, or 24-Gauge cannula can be used to infuse packed red cells without significant hemolysis. The use of a small gauge cannula often requires positive pressure through an infusion pump when the blood will not infuse by gravity alone.

CLIENT EDUCATION:

- Instruct client to notify nurse if experiencing any changes in status. Symptoms such as fever, chills, flushing, itching, rash, back pain, dizziness, and shortness of breath should be reported at once.

- Outpatients receiving blood transfusions must receive information about the signs and symptoms associated with latent transfusion reactions. Teaching must include information about what to do if a transfusion reaction occurs after discharge from the health centre.

- Recruit assistance from a clerk interpreter as required.

DOCUMENTATION:

Document the following on the client health record:

- Type of blood/blood component
- Blood/component unit identification number (do not affix numbered sticker)
- Date and time transfusion starts and ends
- Vital signs (baseline, 5min, 15 min, and every 30 min until one (1) hour after the transfusion)
- Client's response during and after the transfusion
- Identity of the individual who administered the transfusion
- Total volume infused and whether a pressure device was used.
- Client teaching regarding signs and symptoms of a transfusion reaction

REFERENCES:

Canadian Blood Services (2002). Circular of Information for the Use of Human Blood and Blood Components.

Canadian Society Transfusion Medicine – CSTM Standards for Hospital Transfusion Services (2004).

Canadian Standards Association – Z902-04- CSA Standards for Blood and Blood Components (2004).

Potter, P., A. & Perry, A., G. (2010). *Clinical Nursing Skills & Techniques* (7th Edition). Mosby.

Nunavut *Health Centre Laboratory Manual*

GUIDELINE 09-015-02

PROCEDURE FOR PRESSURE DEVICE IN BLOOD TRANSFUSION:

1. Apply the pressure device around the unit of blood
2. Pump device to maximum pressure of 300 mmHg
3. Assess the flow rate and maintain maximum pressure as unit of blood empties

CLIENT EDUCATION:

- Instruct client to notify nurse if experiencing any changes in status. Symptoms such as fever, chills, flushing, itching, rash, back pain, dizziness, and shortness of breath should be reported at once.
- Outpatients receiving blood transfusions must receive information about the signs and symptoms associated with latent transfusion reactions. Teaching must include information about what to do if a transfusion reaction occurs after discharge from the health centre.
- Recruit assistance from a clerk interpreter as required.

DOCUMENTATION:

Document the following on the client health record:

- Type of blood/blood component
- Blood/component unit identification number (do not affix numbered sticker)
- Date and time transfusion starts and ends
- Vital signs (baseline, 5 min, 15 min, and every 30 min until one (1) after the transfusion)
- Client's response during and after the transfusion
- Identity of the individual who administered the transfusion
- Total volume infused and whether a pressure device was used.
- Client teaching regarding signs and symptoms of a transfusion reaction

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Potter, P., A. & Perry, A., G. (2010). Clinical Nursing Skills & Techniques (7th Edition). Mosby.

Approved by:	Effective Date:
11 FEB 2011 **Chief Nursing Officer** **Date**	April 1, 2011
February 11, 2011 **Deputy Minister of Health and Social Services** **Date**	