Guideline 10

Request for Release of Emergency Blood, Blood Products, and Blood Components

Special Considerations for Emergency and Critical Care

10.1 Purpose

To provide nurses with guidelines that align with the standards set forth by the American Association of Blood Banks (AABB), Accreditation Canada (AC), Transfusion Services, Canadian Standards Association (CSA), and the Canadian Society of Transfusion Medicine (CSTM) for requesting the release of emergency blood, blood products, and blood components, and administration in emergency and critical care situations.

10.2 Policies

- Health Care Facilities/Service Delivery Organizations must have policies in place for the issue and transfusion of blood, blood components, and blood products prior to the completion of pre-transfusion testing, which shall be done *only* in life threatening situations.
- Health Care Facilities/Service Delivery Organizations must have policies and procedures established for equipment used in the administration of blood, blood components, and blood products. These shall be based on the manufacturer's recommendations or a validated process.
- Warming devices shall be equipped with a temperature sensing device and a warning system to detect malfunctions and prevent hemolysis or other damage to blood or blood components.

10.3 Documentation

- Patient records shall include documentation by the requesting physician/authorized prescriber confirming that the clinical situation is justified to release blood, blood products, and/or blood components before the completion of pre-transfusion testing. The ordering physician signature on the RoT is adequate.
- Patient medical records must include product name, donation number, and clearly indicate pre-transfusion testing was drawn, but not completed.
- Use of a blood warmer, and/or pressure infusion device must be documented in the patient health care record.
- When using a blood warmer the displayed temperature should be documented initially and hourly thereafter.

10.4 Quality Control

- A facility-based quality improvement system or process should be in place to monitor competency of the requesting, and use of, emergency red blood cells through random patient and health care record audits and/or other quality improvement mechanisms.

- A facility-based quality improvement system or process should be in place to monitor competency of the use of pressure infusion devices through random patient and health care record audits and/or other quality improvement mechanism.
- Health Care Facilities/Service Delivery Organizations should implement a quality improvement system facilitated through the Transfusion Practice Committee to monitor compliance.

10.5 Procedure: Request for Release of Emergency Blood

Action	Key Points
Confirm the physician/authorized prescriber order for emergency red blood cells and/or plasma.	
If requesting from Blood Bank:	
Complete the "**Request for Release of Red Cells**" **Must include:** • Clinical unit • Ordering physician • Contact phone number • Significant bleeding: Y/N • Check "uncrossmatched emergency" box • Number of units being requested	**Missing information will cause delays.**
Fax completed request for release to the Blood Bank.	
Call Blood Bank to ensure they have received the request.	**If request for release does not arrive at Blood Bank within five minutes, they will call the requesting clinical area to confirm it was sent.**
Arrange for staff member to pick up emergency blood. Bring original "Request for Release" to Blood Bank.	**Transporter must verify patient's first and last name, PHIN or unique identifier, and requesting clinical unit with Blood Bank.**
When pre-transfusion testing is NOT completed, **uncrossmatched group O red blood cells** and/or **group AB plasma** will be issued.	***Uncrossmatched group O RhD negative RBCs*** **will be issued to patients of childbearing potential 45 years of age or younger.** ***Uncrossmatched group O RhD positive RBCs*** **will be issued to all other patients.**
If retrieving from satellite fridge:	
Take RBCs from satellite fridge and complete log book as per your facilities guidelines.	**Refer to your site policy for specific details.** **See Appendix 16 – Shared Health log book**
Informed consent must be documented.	**Refer to Guideline 1** **Blood can be given without informed consent if ALL of the following is met:** • **an urgent transfusion is required to preserve the patient life, limb or vital organ.**

	• **a patient does not have decision making capacity and a substitute decision maker is not readily available.** • **a reasonable patient would consent in their circumstances.** • **no evidence that the patient objects to transfusion.**
Pre-transfusion blood specimen shall be drawn prior to transfusion of unmatched group O red blood cells whenever possible.	**Every attempt should be made to draw a pre-transfusion sample prior to administering group O emergency RBCs.** **If your patient receives multiple units of group O emergency RBCs prior to a pre-transfusion sample being collected it can be challenging to get an accurate blood group.**
Emergency product will be issued with a **red blood tag** indicating **compatibility testing has NOT been completed.** Upon receipt of emergency blood products standard inspections/checks shall be performed by two authorized providers. Refer to Guideline 4 for additional details.	**Risks of potentially fatal ABO transfusion errors are high in urgent clinical situations involving trauma patients.** **Particular care and attention must accompany patient identification procedures in this setting.**
Emergency blood can be transfused using rapid infusion devices, blood warmers, or pressure bags.	**See below for considerations when using specialized equipment.** **Refer to Guideline 8 for standard blood administration details**
The **Record of Transfusion (RoT)** for emergency blood products **must be signed** by the ordering physician/authorized prescriber and returned to Blood Bank. Refer to Appendix 12 for additional details.	**Patient records shall include a signed declaration by the requesting physician/authorized prescriber confirming that the clinical situation was sufficiently urgent to justify transfusion before completion of pre-transfusion testing.**

10.6 Special Considerations for Administration

Infusion devices

- Pressure bags
  - Pressure bags must be equipped with a pressure gauge and pressure should not exceed 300mmHg.
  - Pressure bags must be continually monitored because excess pressure can cause red cell hemolysis and/or rupture the seams of the blood bag.
  - Blood pressure cuffs are not suitable because they do not exert uniform pressure against all parts of bag possibly causing the bag to leak.
  - **Platelets must never be given under pressure;** plasma and RBCs may be given under pressure.
- Blood warmers
  - The use of a blood warmer device requires an authorized prescriber's order *except* in clinical areas where there is an established hospital policy (i.e. most emergency departments, ICUs, and ORs should have a policy in place for using a blood warmer – check with your hospital/SDO).
  - Routine warming of blood is NOT recommended.
  - Warming of blood during a massive bleeding event (MHP) is recommended for prevention of hypothermia and associated complications.
  - The blood warmer should be set at 37°C or as recommended by the manufacturer and must trigger an audible or visible alarm if the temperature exceeds 42°C.
  - **Platelets must never be given via blood warmer;** plasma and RBCs may be given via blood warmer.
  - Refer to Appendix 13 - Quick Reference Guide for Blood Warmers.
- Rapid infusion devices
  - Rapid infusion devices warm blood products and operate under constant pressure. The same principles of pressure bags and blood warmers apply.
  - **Platelets must never be given via rapid infusion device;** plasma and RBCs may be given via rapid infusion device.
  - Refer to Appendix 14 – Belmont Operators Manual and Appendix 15 – Level 1 user manual.

Compatibility

- When giving multiple products it is best practice to use separate tubing for different blood products.
- Medications must not be added to blood or blood components. If it is necessary to administer medications concurrently with blood or blood components, it is best practice to use an alternate intravenous site.

Order of transfusion

- When you have multiple blood components to be administered it is recommended to start with RBCs, followed by plasma or platelets; unless otherwise indicated by your authorized prescriber.

Administration sets

- **Administration sets for fluid warmers** (Ranger and Hotline) must adhere to the same principles as regular blood tubing and should be changed:
    - Every 4 hours
    - After 4 consecutive units of blood or blood components
    - Between different blood components
    - If the set becomes occluded
    - when more than 30 minutes have elapsed between units
- when using **Administration sets for rapid infusers** please refer to manufactures recommendations, general guidelines outlined below:
    - Belmont Rapid Infuser
        - Tubing should be changed every 4 hours
        - If the set becomes occluded
        - More than 30 mins have elapsed between units
    - Smith Level One Rapid Infuser
        - Tubing and filter should be changed every 3 hours
        - if the set becomes occluded
        - More than 30 mins have elapsed between units

10.7 Notes/Special considerations

- When there is insufficient time to complete the patients ABO and RhD type and screen, group O uncrossmatched red blood cells shall be issued. If plasma is required, group AB plasma shall be issued.
- For the purpose of Transfusion Medicine in Manitoba, an individual of childbearing potential is defined as a menstruating person 45 years of age or younger.
- Uncrossmatched group O RhD negative RBCs will be issued to patients of childbearing potential 45 years of age or younger.
- Uncrossmatched group O RhD positive RBCs will be issued to all other patients.
- In urgent situations when group O RhD negative is not available, group O RhD positive can be given to an individual of childbearing potential or those who are known RhD negative after notifying the ordering physician/authorizer prescriber.
- If an Rh negative person of childbearing potential 45 years or younger is issued emergency group O RhD positive red cells, the Transfusion Medicine (TM) physician on-call shall be notified. Administration of Rh immune globulin will be determined following consultation with ordering physician/authorized prescriber.