1.0 PURPOSE:

1.1. To coordinate and mobilize a complex time sensitive response to the need for Massive Transfusions.

2.0 DEFINITIONS:

2.1. Blood cooler pack:
   2.1.1. The coolers into which the Blood Bank places blood and blood products for the Massive Transfusion Protocol (MTP).
   2.1.2. Each cooler pack consists of two coolers: one with red blood cells; the other with platelets and plasma.

2.2. Lab Services: a department within Diagnostic Services of Manitoba (DSM) at SBH that is responsible for sample accession (i.e. receiving and processing).

2.3. Massive Transfusion: An emergent situation where there is expected transfusion of four or more units of red blood cells within 1 hour and on-going substantial need is expected.

2.4. Massive Transfusion Package: Pre-prepared package that includes blood and lab requisitions, MTP evaluation, MTP stickers for requisitions and red tags for pneumatic tube inserts.

2.5. Massive Transfusion Protocol (MTP) Order Set: The Physician Order Set for the massive transfusion protocol (See Electronic Patient Record (EPR)).

2.6. Physician: An Attending physician or their designate (Resident, House Medical Officer, Physician Assistant etc.) who has primary responsibility for the direct care of the patient involved in the massive transfusion.

2.7. Transfusion Medicine Physician: The Transfusion Medicine Physician On-Call.


2.9. Unit Staff: Staff on the patient care unit on which the patient is located.
3.0 **POLICY:**

3.1. The MTP can be initiated in the following locations:
   - Emergency Department
   - Intensive Care Medical-Surgical Unit (ICMS)
   - Operating Room
   - Post-Anaesthesia Recovery Room (PARR)
   - Labour & Delivery
   - Intensive Care Cardiac Surgery (ICCS)

3.2. Only physicians working in the clinical areas designated in 3.1 can initiate the MTP.

4.0 **PROCEDURE:**

4.1. **Initiating the Massive Transfusion Protocol:**
   4.1.1. The MTP order set is activated by the Physician when the requirement for a Massive Transfusion is identified (note 2.6).
   4.1.2. Unit staff will activate MTP by dialling “55” and stating “Transfusion 25” and the location. NOTE: Nursing Supervisors will attend the affected location on evenings, nights, weekends and statutory holidays.
   4.1.3. Unit staff will use the Massive Transfusion package for documents required during a Massive Transfusion event. The package is kept on the units identified in 3.1 and re-ordered through Print Centre.

4.2. **Transfusion Medicine Physician On-Call**
   4.2.1. Upon receipt of “Transfusion 25”, the Transfusion Medicine Physician On-Call shall call the patient care unit and receive: patient demographics, full name of the Responsible Physician, and contact person in the unit for future call back.
   4.2.2. Transfusion Medicine Physician will then call:
      4.2.2.1. Blood Bank to confirm patient demographics and confirm preparation of products.
      4.2.2.2. Canadian Blood Services (CBS) to review supply quantities and notify if more blood or blood products are needed and relay patient demographics and discuss current blood component inventory levels.

4.3. **Blood Cooler Packs**
   4.3.1. Upon receipt of paging notification and faxed Request for Release of Blood/Blood Component/Derivatives Item#7102-2076-5, the Blood Bank will begin preparation of the Blood Cooler Packs. Preparation will continue as detailed in the Massive Transfusion Order Set until notified by the Physician or designate that the protocol is discontinued.
   4.3.2. Transport staff will proceed to the affected unit to pick up a copy of the Request for Release of Blood/Blood Component/Derivatives. Transport will bring the Request for Release of Blood/Blood Component/Derivatives directly to the Blood Bank, pick up the Blood Cooler Pack(s) and proceed directly to the unit to deliver the Blood Cooler Pack(s).
   4.3.3. The products for the first blood cooler pack will be ready as follows:
      4.3.3.1. Red blood cells will be ready for pick up in 15 minutes from MTP activation.
4.3.3.2. Plasma and one adult dose of platelets will be ready for pick up in 30 minutes from MTP activation.

4.3.4. After the initial Blood Cooler Pack(s), subsequent packs will be prepared for transportation every 60 minutes from initiation, until discontinuation of the MTP.

4.3.5. Unit staff will open coolers and products only when needed.

4.3.6. Blood products in a cooler with an intact security loop may be administered to a patient within 8 hours of being released from the blood bank.

4.3.7. Once the cooler is opened, initiation of infusion of the products must occur within the Blood Bank approved timelines for individual blood products.

4.3.8. Complete Record of Transfusions of all products received as per usual process.

4.3.9. Patient Transport ensures that when coolers are empty or no longer required, the coolers are externally cleaned by unit staff prior to being returned to the Blood Bank (see 4.9).

4.4. Transportation of Blood Samples & Blood Products

4.4.1. Where the pneumatic tube system is available, use to forward blood samples (for Type and Screen and/or Chemistry/Hematopathology) with the red Massive Transfusion paper from the Massive Transfusion package facing the exterior of the pneumatic tube carrier.

4.4.2. Where the pneumatic tube system is not available, Transport will transport blood samples to and from the Blood Bank and Lab Services. Blood samples must be handed directly to a laboratory staff person and indicated as part of the MTP.

4.4.3. If Transport cannot immediately assist they will clearly communicate this to the patient care unit and indicate how long before they are available to take on transport duties for the Massive Transfusion. In these scenarios, the unit will send their own Health Care Aide with a copy of the Request for Release of Blood/Blood Component/Derivative to pick up the Blood Cooler Pack(s) from the Blood Bank.

4.5. Transferring an active MTP patient to another care area

4.5.1. During a massive transfusion event, a patient may be transferred to patient care unit identified in 3.1

4.5.1.1. The sending unit will phone Blood Bank to notify them of the transfer and provide the patient name and the receiving unit location. They will leave a message with details if the phone is not answered.

4.5.1.2. The sending unit will pick up and deliver to receiver any Blood Cooler Pack(s) required within 15 minutes from time patient is transferred into receiver unit.

4.5.1.3. If using, the sending unit will notify Transport of patient location change and requirements.

4.5.2. The receiving unit will notify the Transfusion Physician on-call of the change in patient location and provide new physician contact information.

4.5.3. The receiving unit will contact Transport (if applicable) to arrange for the next cooler pack pick up.

4.6. Discontinuation of the Massive Transfusion Protocol:

4.6.1. The Massive Transfusion Protocol ends when the patient has stopped bleeding, the bleeding is controlled, the patient has died or resuscitation efforts have been withdrawn.

4.6.2. The unit staff will inform the Blood Bank and Transport (if used) when the Massive Transfusion Protocol has ended.
4.7. **After the MTP is completed:**
   4.7.1. Return the completed Record of Transfusions to the Blood Blank using the pneumatic tube system.
   4.7.2. The team collaborates to complete the evaluations contained in the Massive Transfusion Printed package. Return the Debrief form to the Patient Safety Office through interdepartmental mail services.

4.8. **Blood cooler packs are cleaned:**
   4.8.1. Externally by unit staff before leaving the patient care unit with a facility approved disinfectant (eg Oxivir TB wipes).
   4.8.2. Internally by blood bank.
   4.8.3. Heavily soiled coolers will need to be cleaned more thoroughly by housekeeping before being returned to the Blood Bank.
   4.8.3.1. Unit staff will contact the housekeeping aide responsible for their clinical area to clean heavily soiled coolers.

5.0 **REFERENCES:**

6.0 **RESOURCES:**
   6.1. Pre-Printed Massive Transfusion Protocol package
   6.2. Massive Blood Transfusion EPR Order Set
   6.3. Massive Transfusion Algorithm (Appendix A)
   6.4. Massive Transfusion Protocol RIE Working Group