Provincial Redistribution Program for Transfusion Services in Ontario

Ontario Regional Blood Coordinating Network

Inspiring and facilitating best transfusion practice in Ontario.

Provincial Redistribution Program for Transfusion Services in Ontario

The Provincial Redistribution Program was established in order to provide a mechanism for hospitals to redistribute blood and blood products with an aim of reducing the overall number of components and products that outdate at Ontario hospitals.

The Ontario Regional Blood Coordinating Network (ORBCoN) and the Factor Concentrate Redistribution Program (FCRP) have worked with stakeholders both in Ontario as well as other provincial blood offices to validate shipping containers to be used by hospitals for inter-hospital transfers for the redistribution of blood components or plasma protein products (PPP) or for transferring blood components and products with a patient being transported to another hospital. Implementing these strategies can maximize utilization, minimize wastage and help ensure safe and equitable access to all products for all patients.

The processes for redistributing blood components and products were evaluated by a provincial working group. Standardized procedures are available as part of this toolkit to ensure that the security and safety of the redistributed blood components and products are maintained during shipment. The process is validated to demonstrate that acceptable temperatures and traceability will be maintained when redistributing or transferring components or products between facilities.

Below in Tables 1 and 2, results of the validation testing are summarized. The listed times are the shortest times in the containers demonstrated capability of maintaining acceptable temperature using the packing configuration in the validation protocol. The containers performed well at external (ambient) temperatures that were mild but not as well when exposed to more extreme temperatures.

Table 1- Shortest Time J82 Shipping Container Maintained Acceptable Temperature

Product/Acceptable Shipping Temperature	Target Extreme Winter Temperature (<-30°C)	Target Moderate Fall/Spring Temperature (1°C - 6°C)	Target Moderate Summer temperature (19°C to 25°C)	Target Extreme Summer temperature (> +30°C)
1-8 RBCs (1°C - 10°C)	3 hours	24 hours	12 hours	8 hours
1 - 8 PPPs (2°C - 25°C)	2 hours	24 hours	24 hours	24 hours

Table 2 – Shortest Time E38 Shipping Container Maintained Acceptable Temperature

Product/Acceptable Shipping Temperature	Target Extreme Winter Temperature (<-30°C)	Target Moderate Fall/Spring Temperature (1°C - 6°C)	Target Moderate Summer temperature (19°C to 25°C)	Target Extreme Summer temperature (> +30°C)
1 – 6 Plts (20°C - 24°C)	2 hours	5 hours	24 hours	9 hours
1 – 8 PPPs (19°C - 25°C)	24 hours	24 hours	24 hours	6 hours

A validated shipping container, procedures and a training package are provided for hospitals to use in implementing the provincial redistribution program in their area. To ensure the shipping container is performing as expected, an operational validation should be performed for each site that is shipping components to ensure variation in transport and personnel are tested.

Operational Verification Protocol Template for Shipping Blood Components/Products for Redistribution

ORBCoN will ensure that random spot checks are completed annually on the shipping containers to ensure the containers are performing as expected against the validation testing completed in September 2017.

Due to the shortened time the containers maintain acceptable temperatures in extreme ambient temperatures it is recommended that the transportation of components and products be done within the confines of the vehicle's interior (passenger area of the vehicle where ambient temperatures are more adequately controlled without extremely high or low temperatures). Facilities should receive confirmation from their courier systems that the shipping container can be placed inside the vehicle's passenger area. If couriers cannot place containers inside the cabin of the vehicle, then confirmation of ambient temperature where the containers will be placed is needed and this confirmation should be documented.

NOTE: Implementation of some of the following may require prior consultation with the transfusion service Medical Director and/or hospital transfusion committee.

ONE	• **Reviewing Inventory Stock:** ***Setting target inventory levels based upon actual historical utilization*** When determining if your site will participate in the provincial redistribution program, the transfusion service (TS) must determine target inventory levels and maintain these levels by using an "order up to" policy. Please refer to section one of the Inventory Management Toolkit. Good inventory management principles are essential in ensuring that the supply of blood components and products will be sufficient to meet the transfusion needs of patients while minimizing wastage. Smaller hospitals should consider an arrangement to transfer "soon to outdate" blood components and products to a nearby larger hospital with a higher demand. Packing procedures must ensure the blood components/ products are maintained at the appropriate conditions during transport and that the appropriate documentation accompanies the transfer.	**Utilization Data Tools** • Calculating your blood inventory • Provincial Blood Utilization Graphs • RBC Inventory Calculator • PLT Inventory Calculator

TWO	• **Review Available Hospital Courier Systems:** ***Your hospital may already have an established courier*** For hospitals that are part of a corporation or consolidated organization, established courier systems can be utilized to support the redistribution of blood components and products. Consider the transportation of referred testing samples to sites within the group of hospitals. There are often couriers transporting documentation to sites within the group that could be asked to pick up shipping containers and transport them to a hospital on the route. If there is no courier system established for a group of hospitals that are considering redistribution, the cost of the courier could be shared by the group of hospitals. If a hospital has to ship blood components or products for redistribution more than once per week, then it is recommended that the inventory of that particular hospital be reassessed to see if adjustments are needed ORBCoN and FCRP will work with hospitals to ensure that the courier costs are covered for the redistribution of blood products, as often the products are redistributed outside of the hospital corporation or consolidated organizations. An operational validation should be performed for each site that is shipping components to ensure variation in transport and personnel are tested	• Operational Verification Protocol Template for Shipping Blood Components/Products for Redistribution • Purolator Canada

THREE	• **Completing the Memorandum of Understanding:** ***this document outlines the responsibilities of all parties involved in the redistribution process*** As there is a potential that hospitals will have to redistribute or ship components or products with a patient outside of the corporation or consolidated organization, it is requested that all hospitals within the province review and complete a memorandum of understanding (MOU). This document identifies and documents responsibilities for each partner in the provincial redistribution program and will be maintained by ORBCoN. The agreement will be understood between the signing facility and ORBCoN/FCRP. Once it is completed by the facilities that are participating in the redistribution program or will be shipping components and products with a patient the MOU should be returned to ORBCoN and it will be made available upon request to any facility participating in the program if required for accreditation. ❖ *If your facility can not follow the recommendations listed in the validation reports for the J82 and E38 shipping containers, then you must validate the containers based on parameters set by your facility and results must be made available to share with any sites that your facility may be shipping to. Please contact your ORBCoN office for assistance.*	**MOU Tools:** • Memorandum of Understanding Template • Validation Report for J82 Shipping Container • Validation Report for E38 Shipping Container • Canadian Blood Services Validation Summary Report VSR-SPR-050 • Canadian Blood Services Validation Summary Report VSR-SPR-051
FOUR	• **Creating/Revising Current Procedures for Redistribution of Blood Components:** Procedures templates have been developed and revised to aid facilities in the development and maintenance of their own policies and procedures when shipping blood components for redistribution. They have been revised to incorporate the steps required for the packing configurations used to validate the J82 and E38 shipping containers for the purposes of redistribution.	**Redistribution of Blood Component Tools:** • IM.006 Shipping Blood Components using the J82/E38 Shipping Containers SOP • Packing Configuration of J82/E38 Shipping Containers • IM.006F1 Inter-hospital Redistribution Form • IM.006F2 Shipping Address Labels • IM.011 Shipping Blood Components/Products Using MTS Shipping Containers SOP • IM.011F Materials/Devices Pre-Conditioning Log for Redistribution

FIVE	• **Creating/Revising Current Procedures for Redistribution of Frozen Components:** A procedures template has been developed to aid facilities in the development and maintenance of their own policies and procedures when shipping frozen blood components revised to incorporate the steps required using the validated Smith shipping containers for the purposes of redistribution.	**Redistribution of Blood Component Tools:** • IM.012 Shipping Frozen Blood Components using the J82 Shipping Container SOP • IM.006F1 Inter-hospital Redistribution Form • IM.006F2 Shipping Address Labels
SIX	• **Creating/Revising Current Procedures for Shipping Blood Components and Products with a Patient** Procedure templates have been developed and revised to aid facilities in the development and maintenance of their own policies and procedures when shipping blood components and products with a patient to an external facility.	**Shipping Blood Components and Products with Patient Tools:** • IM.007 Shipment of Blood Components/Products Accompanying a Patient SOP • IM.007F1 Inter-hospital Transfer Form- Blood Components/Products Accompanying a Patient • IM.007F2 Shipment of Blood Components/Products Accompanying a Patient Form
SEVEN	• **Creating/Revising Current Procedures for Reporting Blood Products for Redistribution:** Procedure templates have been developed to aid facilities in the development of their own policies and procedures when reporting blood products to be redistributed.	**Reporting Blood Products for Redistribution:** • IM.013 Reporting Blood Products for Redistribution SOP • Example of Expiry Report
EIGHT	• **Creating/Revising Current Procedures for Redistribution of Blood Products:** Procedure templates have been developed to incorporate the steps required using validated shipping containers for the purposes of redistribution of blood products.	**Redistributing Blood Product Tools:** • IM.014 Shipping Blood Products using J82/E38 Shipping Containers • Packing Configuration of J82/E38 Shipping Containers • Plasma Protein Product Acceptable Shipping and Storage Requirements • IM.006F1 Inter-hospital Redistribution Form • IM.011Shipping Blood Components/Products Using MTS Shipping Containers
NINE	• **Training your staff.** Providing training to staff on the redistribution process will ensure that components and products are packed and shipped appropriately and reduce the wastage of the valuable resource due to errors in the redistribution process	**Training Tools:** • Shipping Blood Components and Products Training Checklist • Redistribution Training Presentation • Redistribution Training Quiz

TEN	• **Process for Annual Verification** Annual verification of the shipping containers is a requirement for accreditation[1]. ORBCoN will provide selected shipping hospitals with data loggers to include in their shipment to a receiving site. The data loggers will then be sent back to ORBCoN and the data will be downloaded, reviewed and uploaded to the ORBCoN website under the redistribution tab for facilities to access at any time. It is recommended if there are any issues with shipping or receiving blood components or products that the process be reviewed internally. If using the Pelican Golden Hour EMT shipping containers, replacement of vacuum insulated panels (VIP) is recommended when the container is not meeting the acceptable temperature range for shipping components and products or if it appears to be cracked or damaged.	**Annual Process Verification Tools:** **Coming Soon**

ACKNOWLEDGEMENTS

This document was developed in collaboration with the Ontario Redistribution Working Group which is made up of representatives from the Ontario Regional Blood Coordinating Network (ORBCoN), Factor Concentrate Redistribution Program (FCRP), Canadian Blood Services Hospital Product Management (CBS), and the following listed below.

Timmins District Hospital	Sue Souckey
Kingston General Hospital	Angela Sirosky-Yanyk
St. Michael's Hospital	Monique Anderson
Peterborough Regional Hospital	Lorraine Villeneuve
Lakeridge Health	Lisa Richards
Grey Bruce Health Services	Danielle Watson
Sunnybrook Health Sciences Centre	Connie Colavecchia
Hamilton Health Sciences Centre	Allanha Elahie
London Health Sciences Centre	Jeff Kinney
Ornge	Russell MacDonald

[1] Institute for Quality Management in Healthcare Medical Laboratory Accreditation Requirements and Guidance Information, Version 7.1, Toronto, ON: Institute for Quality Management in Healthcare, 2017: IV 2 TM070