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Document History:

Title: **Inter-facility Shipping of Blood, Blood Components and Plasma Protein Product**

Site(s): **All Shared Health TM Sites**

Document #:	**160-INV-18**	**Version #:**	**08**
Section:	**Shared Health Transfusion Medicine Manual**	**Subsection:**	**INV Module**

Approved by: **Signature:**	Dr. Charles Musuka	**Date:**	20-FEB-2020
		Effective Date:	02-APR-2020

Details of Recent Revision

- Revised throughout with Shared Health, eTraceLine, plasma protein products, standardized font and added SOP numbers
- 2.0 relevant notes put into bullets
- 2.3, revised PPP to refer to Table I
- 2.4, removed bullet for PPP
- 2.6 revised to reflect data loggers are enclosed if sending site has data loggers available
- 2.7 included soon-to-expire red cells, platelet plasma and expanded to indicate data logger not required between sites within WRHA if product put into inventory within 60 minutes of packing
- 3.0 removed waybill and added data logger
- 4.0 revised throughout with relevant notes put into steps, renumbering previous steps, moving order of previous steps, updated photos included returning data logger to shipping facility 4.2, removed comment about who can administer blood when a patient is transported via an ambulance or Emergency Response Services; it is not the blood bank's responsibility to regulate other professions
- 4.5, *Note* removed
- 4.14, changed "public" to "alternative" transportation; added bullet regarding addition of shipper's facility and address to shipping label
- 4.8.1, added addition of second ice pack, if required
- 6.3, reworded

Inter-facility Shipping of Blood, Blood Components And Plasma Protein Product

1.0 Principle

1.1 To provide a standardized process for shipping and tracking blood, blood components and plasma protein product (PPP) which may or may not accompany a patient:
- Blood, blood components, stock emergency red cells and PPP ordered from a Shared Health eTraceLine site may be transported using established routes to a non-eTraceLine site
- Uncrossmatched blood may be shipped to another Shared Health facility blood bank with approval from the Transfusion Medicine (TM) medical director or designate/TM physician on-call
- Thawed plasma may be shipped to another Shared Health facility blood bank with approval from the TM medical director or designate/TM physician on-call
- PPP close to expiry may be shipped to another Shared Health facility blood bank where it may be used

1.2 To ensure blood, blood components and PPP are maintained at the appropriate prescribed temperature range during shipping

2.0 Scope and Related Policies

2.1 Each shipment of blood, blood component and PPP shall be accompanied by a shipping document:
- Non-eTraceLine facilities to use INV form *Inter-facility Blood, Blood Component and Plasma Protein Product Transfer,* F160-INV-18A
- eTraceLine facilities to use eTraceLine packing slip

2.2 All blood, blood components and PPP shall be visually inspected immediately before packing for transport and the inspection documented as appropriate.

2.3 Acceptable temperature conditions for blood, blood components and PPP shall be maintained during transport:
- Blood and thawed plasma between 1-10°C
- PPP, see Table I

2.4 Blood components stored between 20-24°C shall be transported at temperatures between 20-24°C:
- Platelet agitation may be discontinued for up to 24 hours during shipping

2.5 A data logger must be included when a Shared Health eTraceLine site ships the following to a non-eTraceLine site:
- Red cells, thawed plasma and platelets
- Stock emergency red cells and patient-specific units

2.6 Red cells, thawed plasma and platelets requested to be sent with patient being transported by ambulance or Emergency Response Services (e.g., Life Flight, STARS, Child Health Transport) from one facility to another require a data logger be enclosed if the sending facility has data loggers available on site.

2.7 A data logger must be used when the following products are returned or redistributed from one eTraceLine site to another ***unless*** the site is within the Winnipeg Regional Health Authority (WRHA) and product will be placed into inventory within 60 minutes of packing then no data logger is required:
- Patient-specific crossmatched red cell units no longer required for patient
- Stock emergency red cells returned prior to expiry following receipt of replacement units
- Soon-to-expire stock platelets or thawed plasma
- Soon-to-expire red cells, no less than 7 days to out-date, transferred to high acuity sites:
    - if expiring in less than 7 days, call receiving facility prior to determine if units can be used

2.8 When a facility has red cells to be returned, the eTraceLine site where the units are being returned to must provide a data logger:
- eTraceLine site may send data logger when required or maintain data loggers at sites they service
- Thawed plasma and platelets no longer required for a patient **cannot** be returned and must be discarded unless shipping box is returned to issuing site unopened and security seal intact

2.9 Sites with emergency stock product for Home Program patients:
- Rotate stock when regular dose is received
- If product is within 60 days of expiry contact Home Program to determine if product can be sent to another facility

2.10 Paramedics in rural Manitoba are **not** authorized to perform blood transfusions in the ambulance:
- Blood products can only be sent with patient being transported by ambulance if a clinical staff member trained in blood product administration is accompanying the patient

2.11 Urgent requests for thawed plasma that require packing for shipment immediately following thawing, **do not** require a data logger to be enclosed.

3.0 Materials

CBS shipping containers (inner Styrofoam with a heavy outer cardboard box):
- J-82 (regular blood box), dimensions 11.5”w x 12.5”h x 11.5”d
- E-38 (large shipping box traditionally used for shipping platelets with 4“ foam plug)

Plastic bag
Gel packs in sealable bags (dimensions 10.5”w x 9.5”h):
- Room temperature for platelets
- 2-6°C for red blood cells and thawed plasma

Hard walled ice packs in sealable bags (dimensions at least 8”w x 8 h), frozen
Corrugated cardboard inserts, dimensions at least 8”w x 8”h
Packing material (e.g. crumpled paper, bubble wrap)
Address label / Shipping Label, F160-80-29
Security seals
Data logger, when applicable
Record of Transfusion (RoT)
Appropriate blood bank log
Patient report, when applicable
Packing slip (eTraceLine sites)
INV forms for non-eTraceLine facilities:
- *Inter-facility Blood, Blood Component and Plasma Protein Product Transfer*, F160-INV-18A
- *Instruction for Completion of Inter-facility Blood, Blood Components and Plasma Protein Product Transfer*, F160-INV-18B

Patient Care Team Instructions, F160-INV-18C
Blood, blood component or plasma protein product to be shipped
Shipping Container Tracking Form, F160-QCFORM-38

4.0 Procedure

4.1 Prior to shipping product, ensure receiving hospital is approved to receive product requested by reviewing the Product List on the BBM website: https://bestbloodmanitoba.ca/about/manitoba-transfusion-service-site/
- The health region must be selected
- The Product List reflects the list provided to Shared Health Quality by the TM Office

4.2 Ensure blood, blood component or PPP being shipped will be transported at room temperature inside the transport vehicle (e.g., in the cab of the vehicle with the driver)

4.2.1 If unable to ship inside the transport vehicle at room temperature, refer to CBS Customer Letter #2012-05, www.blood.ca in *Hospitals* section, in regards to appropriate shipping and packing protocol dependent if shipping container will be exposed to temperatures below 0ºC for extended periods of time

4.3 Determine which blood, blood component or PPP are to be shipped and the corresponding shipping container.

4.4 Inspect the shipping container and ensure:

- The inner container is clean and free of breaks
- The security seals and buckles are in good condition
- The outer container is free of breaks
- There are no conflicting address labels on the outer container

4.5 Prepare the shipping container according to criteria in **Table I**

4.5.1 Maximum number of blood or blood components to be packaged in one shipping container:

- Red cell units: 10
- Adult doses of platelets: 6
- Plasma (thawed): 10 units

4.5.2 CBS packing protocols allow for greater than 10 units of red cell units to be packed in a box. Shared Health protocol only allows for up to 10 units.

TABLE I: For Transportation Inside Transport Vehicle at Room Temperature

Blood Product / Amount	Type of Pack	Placement of Packs and Cardboard Inserts^	Pack Storage Temperature Before Using
Red cell units & thawed plasma up to 10 units	Ice pack, frozen Gel pack, 2-6ºC	**Ice pack**: Place upright at one end of the shipping container **Cardboard:** Place 2 inserts next to each ice pack as needed* **One gel pack**: Place gel pack beside red cells/thawed plasma on other side of the shipping container **Data logger:** Place between units** and secure with elastic	**Ice Pak:** -17°C or colder for at least 24 hours* **Gel pack:** 2- 6°C for at least 24 hours
Platelets 1 to 4 units	Gel pack, room temp	**Three packs**: Place two flat at bottom of container and one on top of units, then 4" foam plug **Data Logger:** Place between units** and secure with elastic	**Gel pack:** 22 ± 2°C for at least 24 hours
Platelets 5 to 6 units	Gel pack, room temp	**Two gel packs:** Place one flat at bottom of container and one on top of units, then 4" foam plug **Data Logger:** Place between units and secure with elastic	**Gel pack:** 22 ± 2°C for at least 24 hours
PPP requiring refrigeration	Ice pack, frozen	**One ice pack**: Place upright at end of shipping container **Cardboard*:** Place 2 inserts next to ice pack	**Ice Pak:** -17°C or colder for at least 24 hours*
PPP not requiring refrigeration	none required	Not applicable	Not applicable

*****if the ice pack storage is colder than -17ºC, ensure there are 4 cardboard inserts between ice pack and product

******When transporting a single unit, ensure unit is folded over the data logger (see platelet picture for example)

^Fill empty space with packing material

4.6 Prepare shipping container:

- Non-eTraceLine sites, INV form *Inter-facility Blood, Blood Component and Plasma Protein Product Transfer*, F160-INV-18A
- eTraceLine sites, eTraceLine packing slip
- Obtain the name of the destination facility and the identity of the transport personnel, if the shipment accompanies a patient

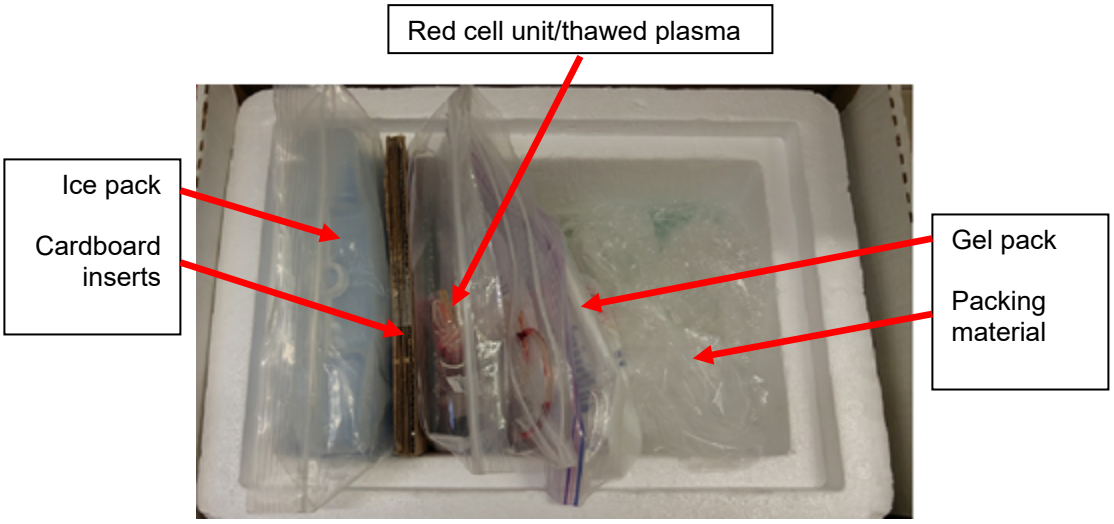
4.7 Remove product from storage and issue before packaging:

- For non-eTraceLine sites, refer to INV procedure *Issuing Blood, Blood Components and Plasma Protein Product,* 160-INV14, and ensure documentation of return is completed in appropriate lab log
- For eTraceLine sites, ensure product is issued from eTraceLine as per TL procedures *Issuing of Blood, Blood Components in eTraceLine to Patients: Within a Facility/To an External Facility*, 160-TL-06; *Issue of Plasma Protein Products in eTraceLine to: Patients within a Facility/External Facility/Home Program*, 160-TL-07; and *Issue in eTraceLine: Stock Plasma Protein Products or Stock Emergency Red Cells*, 160-TL-08
- Place units into a plastic bag along with RoT, if applicable

4.8 Prepare shipping container box

4.8.1 Packing red cell units or thawed plasma to be transported inside a transport vehicle at room temperature:

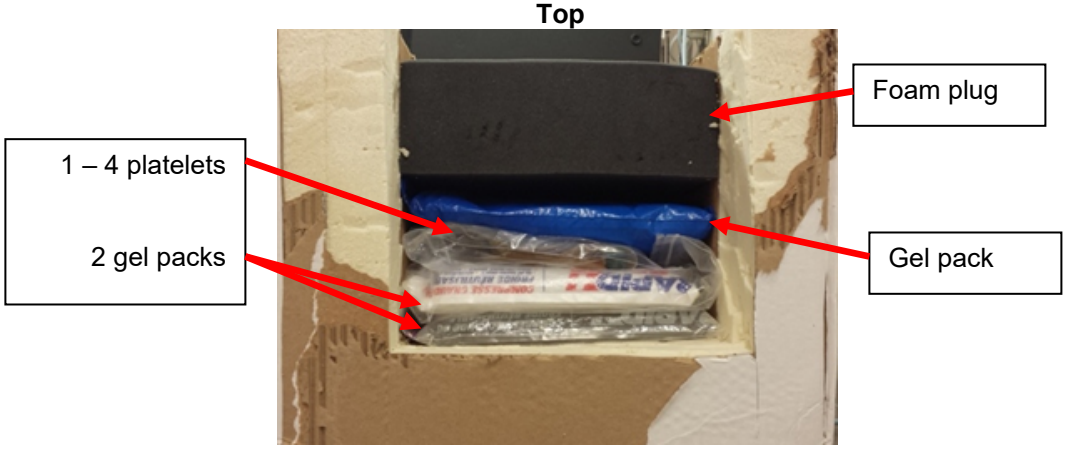
- Use one ice pack per container and place at one end of shipping container; a second ice pack may be required depending upon sending facility's location
- Place cardboard insert next to ice pack. Two insulated corrugated boards are required. If ice pack storage is colder than -17°C, ensure there are four cardboard inserts between the ice pack and red cell units or thawed plasma
- Close box for 5-10 minutes allowing temperature to equilibrate before placing product inside
- Place red cell units or thawed plasma upright next to cardboard inserts; ports of red cell units may be folded, if necessary.
- Place a gel pack (2-6˚C) beside the red cell units or thawed plasma on other side of shipping container
- Empty air space in the container must be minimized; move the gel pack close to the product and fill empty space with packing material



4.8.2 Packing platelets. Platelets shall always be transported at room temperature. If packing more than one unit of platelets reverse the ports to ensure platelets will lay flat:

- For 1 to 4 platelets, place 2 gel packs (20 – 24˚C) flat on bottom of shipping container
- For 5 to 6 platelets, place 1 gel pack (20 – 24ºC) flat on bottom of shipping container
- Place platelets on top of gel packs
- Place 1 gel pack (20 – 24ºC) on top of platelets
- Place 4" foam plug on top of gel pack

Top

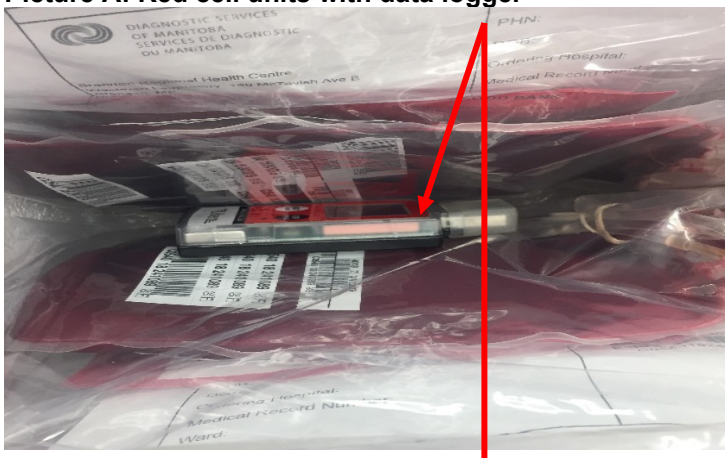


Bottom

4.8.3 For red cells, thawed plasma or platelets shipped with a data logger:

- Complete *Shipping Container Tracking Form,* F160-QCFORM-38
- Place programmed data logger between the units and secure with elastic as per **Pictures A** and **B** below
- For red cells, place units in fridge for 5 to 10 minutes
- For thawed plasma, place units in fridge for 30 to 60 minutes
- Start data logger then immediately remove product from fridge and place into shipping container
- Refer to INV procedure *Temperature Verification for Blood and Blood Component Shipments: Use of Temperature Data Logger and Download of Data Files,* 160-INV-11A
- Red cells, thawed plasma or platelets to be sent with patient being transported by ambulance or Emergency Response Services from one facility to another only require a data logger if the sending site has one available; data logger not required if unit will be transfused enroute
- Urgent requests for thawed plasma requiring packing as soon as thawed do not require a data logger

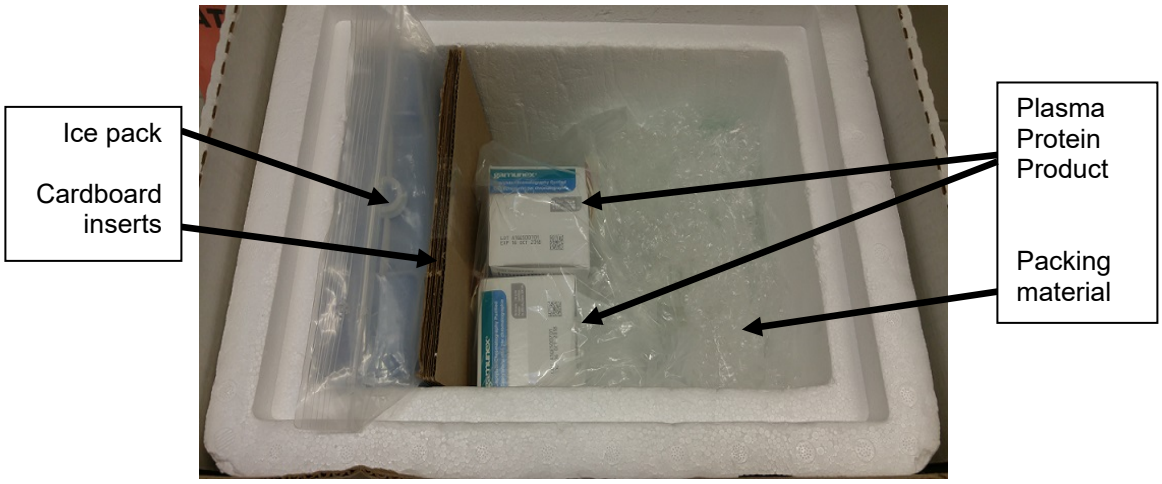
Picture A: Red cell units with data logger



Picture B: Thawed plasma or platelet

4.8.4 Packing PPP requiring refrigeration when transporting inside a transport vehicle at room temperature:

- Place cardboard insert next to ice pack .Two insulated corrugated boards are required.
- If the ice pack storage is colder than -17°C, ensure there are four cardboard inserts between the ice pack and PPP
- Place PPP next to cardboard inserts
- Empty air space in the container must be minimized. Move the ice pack close to the product and fill empty space with packing material
- If packing PPP not requiring refrigeration, place product in container and fill empty space with packing material



4.9 Close the lid of the inner Styrofoam container

4.10 Retain a copy of:

- For non-eTraceLine sites, INV form *Inter-facility Blood, Blood Component and Plasma Protein Product Transfer*, F160-INV-18A
- For eTraceLine sites, eTraceLine packing slip
- If shipping red cells, thawed plasma or platelets with data logger, *Shipping Container Tracking Form,* F160-QCFORM-38

4.11 On the top of the Styrofoam lid in the shipping container place:

- For non-eTraceLine sites, the original INV form *Inter-facility Blood, Blood Component and Plasma Protein Product Transfer*, F160-INV-18A and BTS patient report, if applicable
- For eTraceLine sites, one copy of the eTraceLine packing slip and Transfusion Medicine Results Report, if applicable
- If shipping red cells, thawed plasma or platelets with data logger, completed *Shipping Container Tracking* form, F160-QCFORM-38

4.12 Close the cardboard shipping container, fasten the strap securely and attach a security seal to the strap:

- Security seals are usually plastic and must be placed through the two sides of the strap. This provides assurance the box was not opened en route.

4.13 Address the shipping container:

- If shipping by alternative transportation (e.g., regional courier, volunteer driver), place a large label with the address of the receiving and shipping facility on the outside of the container using *Shipping Label*, F160-80-29
- If shipping with a patient, complete INV form *Patient Care Team Instructions*, F160-INV-18C, and tape to the outside of the container
- Ensure a *Do not Refrigerate-Keep at Room Temperature* label is affixed

4.14 Prepare a waybill, if applicable, and attach to the shipping container; retain shipper copy

4.15 Contact one or more of the following to arrange for shipping:
- Designated transport personnel
- Patient care area
- Patient transport personnel

4.16 To the receiving facility lab/blood bank/BTS:
- For non-eTraceLine sites fax a copy of INV form *Inter-facility Blood, Blood Component and Plasma Protein Product Transfer*, F160-INV-18A
- For eTraceLine sites fax a copy of eTraceLine packing slip
- When a data logger is enclosed, return data logger to shipping facility as per INV procedure, *Temperature Verification in Blood and Blood Component Shipments: Use of Temperature Data Logger and Download of Data Files*, 160-INV-11A. Contacting the shipping facility may be required to determine courier details.

5.0 Reporting

5.1 For non-eTraceLine sites, document the transfer information (including facility) and the blood, blood components or plasma protein product information in the appropriate blood bank log.

6.0 Procedural Notes

6.1 If product is being transported with a patient and final destination blood bank has not been determined, fax a copy of the *Inter-facility Blood, Blood Component and Plasma Protein Product Transfer*, F160-INV-18A, or packing slip to the TM Office for investigation.

6.2 Facility fax numbers may be found on the Shared Health intranet.

6.3 If a Shared Health site receives a shipment from CBS intended for another Shared Health site and there is no mechanism in place to deliver the box directly to the correct site without opening it:
- Notify CBS immediately by telephone and follow-up with a completed *CBS Customer Feedback* form
- Deface all patient identifiers from packing slips prior to filing and document this has occurred on the *CBS Customer Feedback* form
- Document receipt of the product in manual log book, if applicable, but do not include the original patient demographics
- Document unit information with comment units sent in error and ensure final disposition is complete
- If the product received is difficult to replace (e.g. special phenotyped units or washed red cells etc) call the TM physician on-call for instructions

6.4 If there is a delay in the transport of products:
- Identify the reason with the transport driver
- Unpack the box and perform visual inspection
- Quarantine product
- Call TM physician on-call for instructions
- Complete a *TM Physician Consult* form, F160-ADM-01
- Ensure all documentation for product and final disposition is complete