Sutter Health
Sutter Roseville Medical Center

Origination:	*4/3/2020*
Effective:	*Upon Approval*
Final Approved:	*N/A*
Last Revised:	*4/8/2021*
Next Review:	*2 years after approval*
Owner:	*Nadera Poirier: Spvr, Transfusion Services*
Policy Area:	*Lab - Transfusion Service*
References:	
Applicability:	*Sutter Roseville Medical Center*

Outpatient Infusion Center Remote Blood Product Storage

PURPOSE

The purpose of this procedure is to provide instructions on how blood products will be transported, stored, and monitored in the Outpatient Infusion Center.

POLICY

- Blood products must be transported in an approved transport device that will maintain the appropriate transport temperature of the blood products: RBC/plasma (FFP) 1-10°C and platelets 20-24°C.
- Blood products may only be stored in the Outpatient Infusion Center remote blood product storage devices during Outpatient Infusion Center hours of operation.
- Blood products may only be stored in the Outpatient Infusion Center remote blood product storage devices when the devices are being continuously monitored and are within acceptable temperature ranges: Refrigerator 1-6°C and platelet incubator 20-24°C.
- Monitoring of the Outpatient Infusion Center remote blood product storage devices is the responsibility of Outpatient Infusion Center personnel.
- Changing, monitoring charts and adjusting chart temperatures are to be performed by trained personnel only.
- Blood products will be removed one at a time from the remote blood product storage device for a single patient at the time of infusion.
  Note: One care giver may only sign out a single blood product at a given time except in case of apheresis plasma exchange.
- Bag of ice from morning delivery should be left in sealed Outpatient Infusion Center cooler throughout the day in the event that blood products are to be returned to Transfusion Services.
- Transfusion Services must be notified and products returned immediately whenever the remote blood product storage device exceeds acceptable temperature range.
- Blood product transport devices and any unused blood products must be returned to Transfusion Services before the Outpatient Infusion Center closes at the end of the day. Only Transfusion Services trained personnel may determine whether or not a blood product is acceptable for reissue.
- Alarm checks must be performed and approved before placing the Outpatient Infusion Center remote blood product storage devices into use, quarterly and after repairs that affect the temperature or alarm on the units. Alarm checks will be coordinated with Plant Operations or eQuip by Transfusion Services personnel.

- Outpatient Infusion Center personnel are responsible to coordinate repairs with Plant Operations (RBC/FFP refrigerator) or eQuip (platelet incubator).

PROCEDURE

Monitoring

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1.</td><td>Document the following information on the corresponding log (SRMC OP Infusion Center RBC/FFP Refrigerator Temperature Log and SRMC OP Infusion Center Platelet Incubator Temperature Log) at the beginning of the shift.
Time
Internal Temp (Thermometer): Document the temperature to the nearest 0.5°C of the internal thermometer.
Chart Temp: Document the temperature to the nearest 0.5°C of the chart recorder.
Initials
Note: DO NOT move the chart pen off of the chart to read temperature. Chart pen should only be moved weekly when charts are changed.
Acceptable Limits:
Refrigerator :1-6°C
Platelet Incubator: 20-24°C
The chart recorder must agree within 2°C of the thermometer.
<table>
<tr><th>If:</th><th>Then:</th></tr>
<tr><td>Refrigerator temperature is within 1-6°C or platelet incubator is within 20-24°C but the chart does not agree within 2°C of thermometer reading</td><td>Ok to store blood products in remote blood product storage device.
Recheck chart reading in 1 hour. If it still does not match, adjust chart to reflect thermometer reading and make notation of adjustment in Comments section of temperature log.</td></tr>
<tr><td>Refrigerator temperature outside range of 1-6°C or platelet incubator outside range of 20-24°C</td><td>Blood cannot be stored in respective remote blood product storage device.
Pick up blood products individually for each patient from Transfusion Services.</td></tr>
</table>
</td></tr>
<tr><td>2.</td><td>Change the continuous monitoring charts on Mondays.
Select a new chart taking care to use the correct temperature range chart for the device in question.
Stamp the back of the new chart using the designated Outpatient Infusion Center remote blood product storage device stamp.
Document the identification of the remote blood product storage device on the line marked EQUIP with Blood or Platelet.
Document the initials of the person putting on the chart, the date and time in the corresponding fields ON BY, DATE, TIME.</td></tr>
</table>

3.	Remove the old chart record. • Press the changing chart button (3) until the pen moves off the paper. • Unscrew the knob and remove the chart.
4.	On the back of the chart being taken off document the initials of person removing the chart, the date and time in the corresponding fields *OFF BY, DATE, TIME*.
5.	Place the new chart record from step 2 on the chart recorder. • Line up day of the week and approximate time on the chart with the engraved line on the edge of the recorder. • Screw the knob down tightly. • Press the changing chart button (3) until the pen moves onto the paper. • Check to make sure that the temperature on the chart matches the thermometer. • Recheck chart 2-4 hours after changing chart to verify that the chart is moving.
6.	At the end of each month, return the chart recorders, the Outpatient Infusion Center temperature logs, and the Outpatient Infusion Center storage logs to Transfusion Services for review.

PROCEDURE

Storage

Step	Action
1.	Document the following information on the corresponding log (*SRMC OP Infusion Center RBC/FFP Refrigerator Storage Log* or *SRMC OP Infusion Center Platelet Incubator Storage Log*) when blood products arrive at the Outpatient Infusion Center from Transfusion Services: • Patient's name and medical record number. • Blood product unit number(s).
2.	If: / Then: Blood product is **not** to be transfused immediately upon arrival in the Outpatient Infusion Center → • Transfer RBC/FFP into the Outpatient Infusion Center refrigerator and platelets into the Outpatient Infusion Center platelet incubator. • Document *TIME* and initials(*INIT.*) in *Directly to Storage* column of appropriate log. Blood product is to be transfused immediately upon arrival in the Outpatient Infusion Center → • Document *TIME* and initials(*INIT.*) in *Directly to Patient* column of appropriate log.
3.	Once the patient has been fully prepared for transfusion, remove desired blood product from the remote blood product storage device. Document *TIME* and initials (INIT.) in *Storage to Patient* column of the appropriate log. *Note: Only 1 unit may be removed for a single patient at the same time by the same provider.*
4.	If: / Then: Transfusion initiated → Document in Blood Administration flow sheet in EPIC.

	Transfusion delayed	• Immediately return blood product to appropriate remote blood product storage device and notify Transfusion Services immediately. • Transfusion Services will arrange for a new blood product to be prepared or obtain Pathologist approval to continue transfusion of blood product stored at the Outpatient Infusion Center. • If applicable, return blood product to Transfusion Services for disposition. Document *TIME* and initials(*INIT.*) in *Returned to TS* column of appropriate log. Refer to SOP *Returning Blood Products to Transfusion Services from the Outpatient Infusion Center in Approved Transport Devices.*
5.	At the end of each day, return any unused blood products to Transfusion Services. Document the *TIME* the blood is removed from the remote blood storage device for return and your initials (*INIT.*) in the *Returned to TS* column of the appropriate log. Refer to SOP *Returning Blood Products to Transfusion Services from the Outpatient Infusion Center in Approved Transport Devices.* • Units returned from the Outpatient Infusion Center must be accompanied by the corresponding storage log and a copy of the corresponding temperature log for review to determine whether the units are acceptable for reissue. • Units with unacceptable or incomplete storage documentation will be discarded.	

PROCEDURE

Alarms

Step	Action
1.	• Plant Operations is responsible for maintenance, alarm checks, alarm related issues, and scheduling repairs of the RBC/FFP refrigerator. • eQuip is responsible for mainetenance, alarm checks, alarm related issues, and scheduling repairs of the platelet incubator.
2.	If an alarm sounds, document the internal temperature of the refrigerator or incubator and record in the *Comments* section of the *SRMC Outpatient Infusion Center RBC/FFP Refrigerator Temperature Log* or *SRMC OP Infusion Center Platelet Incubator Temperature Log*.

If:	Then:
Refrigerator temperature is within 1.5-5.5°C or platelet incubator is within 20.5-23.5°C	Products in affected remote blood storage device can continue to be stored in the storage device. Silence alarm for 1 time period and continue to monitor temperature.
Refrigerator temperature is at or exceeds limit of 1-6°C or platelet incubator temperature is at or exceeds limit of 20-24°C	Return products in affected remote blood storage device immediately to Transfusion Services.

3.	Check the remote blood storage device to determine if there is a logical reason for alarm.

If:	Then:

	Door is ajar	Close door. Proceed as instructed in step 2.
	Device has been opened and closed multiple times within short period of time.	Proceed as instructed in step 2.
	No apparent reason for alarm.	Notify Plant Operations (RBC/FFP refrigerator) or eQuip (platelet incubator).
4.	If repairs have been made to a remote blood product storage device, ask Transfusion Services to review list of repairs to determine whether an alarm check must be done prior to resuming product storage.	
5.	If the remote blood product storage device has gone out of temperature, products may be returned to it for storage as soon as the temperature returns to within acceptable limits and alarm checks have been performed and approved, if indicated. Document temperatures on the *Outpatient Infusion Center RBC/FFP Refrigerator Temperature Log* or *Outpatient Infusion Center Platelet Incubator Temperature Log*.	

Note: The remote blood product storage devices are not on emergency power. If power is lost, ALL blood products must be returned immediately to Transfusion Services. When power is restored and the internal temperature is within acceptable range, blood products may be stored in the respective remote blood product storage devices.

RELATED DOCUMENTS

Returning Blood Products to Transfusion Services from the Outpatient Infusion Center in Approved Transport Devices

All revision dates: 4/8/2021, 4/3/2020

Attachments

SRMC OP Infusion Center Platelet Incubator Storage Log.pdf
SRMC OP Infusion Center Platelet Incubator Temperature Log.pdf
SRMC OP Infusion Center RBC_FFP Refrigerator Storage Log.pdf
SRMC OP Infusion Center RBC_FFP Refrigerator Temperature Log.pdf

Approval Signatures

Step Description	Approver	Date
Laboratory Director	Lindsey Westerbeck: Dir, Lab	pending