Sutter Health
Sutter Roseville Medical Center

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Policy Area:	*Lab - Transfusion Service*
References:	
Applicability:	*Sutter Roseville Medical Center*

Use and Maintenance of Helmer Platelet Incubator

PURPOSE

To provide instruction on the use and maintenance of the Helmer platelet incubator to ensure platelets are stored with the appropriate temperature and agitation.

POLICY

- Platelets must be maintained between 20-24ºC in the incubator with continuous, gentle agitation.
- Platelets are not to be stacked and must be placed flat on shelves in such a manner that allows for appropriate air circulation and platelet agitation.
- Temperature alarms are set to activate 0.5 degrees before outer limits of acceptable temperature are reached.
- Motion alarm is to remain in the on position at all times.
- The following maintenance tasks are all to be performed **quarterly**:
  - Temperature alarm check is scheduled quarterly to be performed by eQuip, but may be performed by other personnel as needed
    - This procedure must be followed as a functional check before returning components to storage device after temperature or alarm repair
    - Perform low alarm test before the high alarm test to control temperature more closely
- ***If maintenance tasks fail or service is needed***, remove platelet incubator/agitator from service and place a ticket with eQuip with high priority. Platelets can be stored at room temperature (20-24ºC) for up to 24 hours without agitation.
  - All alarms should sound within 5 minutes of motion or temperature trigger
  - Monitoring system display and chart temperatures should agree within 1°C at time of alarm

PROCEDURE

Power Failure Alarm Test

Note: Prior to performing alarm tests, clean condenser grill using a soft brush and/or vacuum cleaner. Fan is located on the back wall inside the incubator; agitator must be moved to access the condenser grill.

Step:	Action:
1.	Confirm platelet incubator is connected to AC power and open the top right cabinet on the platelet incubator.
2.	Ensure the monitoring system backup battery key is switched to the ON position.
3.	Turn the AC power switch (black) for the incubator to the OFF position (**O**) and start stopwatch.
4.	Stop the stopwatch when the power failure alarm sounds and note the time elapsed.
5.	Switch the AC power switch back to the ON (|) position. Alarm will clear and audible alarm will cease.

Door Ajar Alarm Test

Step:	Action:
1.	Open the incubator door and start stopwatch.
2.	Stop the stopwatch when the audible door ajar alarm sounds. "Door Open" will flash on the display screen.
3.	Note the time elapsed and return the door to the closed position. Alarm will clear and audible alarm will cease.

Motion Alarm Test

Step:	Action:
1.	Open the incubator door, turn the AC power switch (black) on the front of the platelet agitator to the OFF (**O**) position, and start a stopwatch.
2.	Stop the stopwatch when the audible agitation motion alarm activates. "Agitator 1 Stopped" will flash on the display screen.
3.	Note the time elapsed and return the agitator AC switch back to the ON (|) position.
4.	Close the incubator door. Alarm will clear and audible alarm will cease.

No Battery Alarm Test

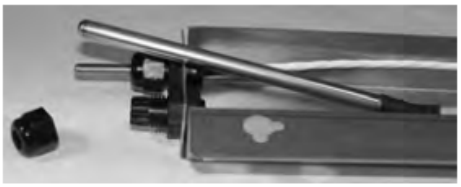
Step:	Action:
1.	Confirm platelet incubator is connected to AC power and open the top right cabinet on the platelet incubator.
2.	Ensure the AC power switch (black) for the incubator is switched to the ON (|) position.
3.	Turn the backup battery (key) for the incubator to the OFF position (**O**) and start stopwatch.
4.	Stop the stopwatch when the no battery alarm sounds and note the time elapsed.
5.	Switch the backup battery switch back ON (|). Alarm will clear and audible alarm will cease.

Calibrate Temperature Probes

Note: Calibrate the chamber temperature probe *prior to performing the manual chamber temperature alarm test.* Verify the temperature probe is reading chamber temperature correctly by comparing the chamber probe reading to the temperature read by an independent (NIST) thermometer.

Step:	Action:
1.	Place NIST thermometer in the back, right bottom corner inside the platelet incubator.
2.	Close the door and allow the chamber temperature to stabilize for 30 minutes.
3.	Observe and note the thermometer temperature.
4.	If the chamber temperature probe is not reading within 1°C of the NIST thermometer, change the value displayed on the temperature monitoring system using instructions found in steps 4-13 of *3.4 Calibrate Temperature Probes* in the service manual.

Temperature Alarm Test

Step:	Action:
1.	Access the temperature probe located inside the incubator and extend to the outside of the incubator. • Slide agitator to the left (or remove from incubator) enough to access the temperature probe housing on the right wall • Loosen the screws securing the chamber probe bracket to the chamber wall, then slide the bracket up and away from the wall
2.	Remove the probe from the bracket by unscrewing and removing the fitting securing the probe bracket. 
3.	Slide the probe tip upward and free the probe from the bracket. 
4.	Obtain a container of water that is slightly cooler than the low alarm activation point (20.5°C) as measured by the NBS thermometer, then immerse the probe in the water while simultaneously starting a stopwatch.
5.	When the low temperature alarm sounds, stop the stopwatch and note the temperature on the monitoring system display. • Record time to alarm and digital temperature reading at which alarm sounds • Record chart temperature to the nearest 0.5ºC at time of alarm
6.	Obtain a container of water that is slightly warmer than the high alarm activation point (23.5C) as measured by the NBS thermometer, then immerse the probe in the water while simultaneously starting a stopwatch
7.	When the high temperature alarm sounds, stop the stopwatch and note the temperature on the monitoring system display. • Record time to alarm and digital temperature reading at which alarm sounds • Record chart temperature to the nearest 0.5ºC at time of alarm
8.	Reinstall the probe in the chamber probe bracket.
9.	Install the fitting to secure the probe to the probe bracket, leaving approximately 1" of the probe exposed beyond the fitting.
10.	Install the probe bracket in the chamber and tighten the screws, then reposition the agitator in the center of the incubator.

All revision dates:

Attachments

Helmer Platelet Incubator Maintenance Log.pdf