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| **Platelet Incubator/Rotator-Operation and Maintenance** | | | | | | |
| **Purpose** | This procedure provides instructions for processes for the routine quality controls and maintenance of the platelet incubator and rotator platelet storage system used by the St. Paul Transfusion Service. | | | | | |
| **Policy Statements** | * The temperature of the platelet incubator shall be record daily. * Each device used for the storage of blood components shall be verified as part of installation validation and after major adjustments or repairs. * Quarterly verification shall be performed per posted Equipment Maintenance schedule. * Parameters selected for verification shall reflect the range of acceptable storage requirements which includes:  1. Storage temperature range of 20-24°C. 2. Continuous gentle agitation to maintain platelet function.  * Acceptable alarm results   + Low temperature of activation ≥20.5 °C   + High temperature of activation ≤23.5 | | | | | |
| **Related**  **Documents** | * [TSf 18.2.2 STP Daily QC Form](http://khan.childrensmn.org/Manuals/Lab/SOP/TS/Res/STPf/200153.pdf) * [TSf 17.28.1 Platelet Incubator Alarm Test](http://khan.childrensmn.org/Manuals/Lab/SOP/TS/Res/Sysf/199611.pdf) | | | | | |
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| **Materials** | **Equipment** | | | **Supplies** | | |
| NIST certified thermometer | | | * Thermal Printer Paper * Transfusion Service address stamp * 16 mm tube | | |
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| **Procedure** |  | | | | | |
|  | **Step** | Action | | | | |
|  | 1 | Make sure incubator is turned on. Power button is located left back corner | | | | |
|  | 2 | Open the door to the chamber. | | | | |
|  | 3 | Lay platelet units flat on the shelves. Avoid stacking so maximum air is circulation is maintained. | | | | |
|  | 4 | Label the shelf with a piece of white tape indicating the ABO/Rh and expiration date of the platelet. | | | | |
|  | 5 | Label the shelf with a piece of white tape indicating the intended recipient’s name if the platelet is on hold for a particular patient. | | | | |
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|  | **Step** | **Action** | | | | |
| Daily Quality Control | 1 | Record the digital controller (1) reading and the internal thermometer reading on the Daily Reagent and Equipment QC form. | | | | |
| Weekly printing temperature log | **Step** | **Action** | | | | |
| 1 | From the HOME Screen, the system temperature log is accessed by pressing the TEMP LOG Button | | | | |
| *2* | The LOG SCREEN is displayed | | | | |
| 3 | Press the PRINT button. | | | | |
|  | 4 | Make copy of print out. Stamp print out with date and transfusion address stamp. Date and initial the print out | | | | |
|  | 5 | Place print out on Technical Specialist desk for review. | | | | |
|  | 6 | Replacing printer paper.  1. Open the tray door by pushing the black button.  2. The door will open.  3. Remove the paper reel by gently pulling the empty reel away from the unit.  4. Make sure the paper is feeding from the bottom of the roll up through the slot | | | | |
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|  | **Step** | **Action** | | | | |
| Monthly | 1 | Clean exterior with a soft cloth and non-abrasive liquid cleanser. Do not use paper towels. | | | | |
|  | 2 | The door should be cleaned with a soft cloth and window cleaner. | | | | |
|  | 3 | Wipe down the interior walls, water drain train and flatbed agitator shelves with a disinfectant cleaner. | | | | |
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|  | **Step** | **Action** | | | | |
| Quarterly  Alarm Testing | 1 | From the Main Menu, Press the Settings Button. | | | | |
|  | 2 | Enter the Passcode and press the green confirmation Check Mark.  **passcode is: 1234** | | | | |
|  | 3 | From the Setup Menu, press the High/Low Temperature Alarm button | | | | |
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|  | 4 | Select the High Temperature Alarm Icon | | | | |
|  | 5 | Ensuring the High Temperature Alarm icon is already selected, press the Alarm test button. | | | | |
|  | 6 | A dialog box appears to ensure you want to run the test. Press the green confirmation check mark to continue. | | | | |
|  | 7 | The incubator automatically begins heating to the Test Setpoint | | | | |
|  | 8 | Once the current temperature reading reaches the High temperature Alarm setpoint the alarm is trigged. | | | | |
|  | 9 | The alarm can be silenced, if desired, by pressing the Alarm icon and press the green confirmation check mark in the dialog box that appears. | | | | |
|  | 10 | Once the Alarm has been triggered, the Test Setpoint changes to the system Temperature Setpoint, and the system begins cooling. | | | | |
|  | 11 | Low Temperature test, follow steps 1-10 but selecting the Low Temperature Alarm Icon | | | | |
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|  | **Step** | **Action** | | | | |
| Annually-Calibration of the Digital Temperature controller Display and Chart recorder | 1 | Place the NIST certified thermometer on the top shelf of the rotator inside the chamber and close the door. | | | | |
| 2 | Allow the temperature to stabilize for about 30 minutes. | | | | |
| 3 | Record the reading of the Display and the NIST certified thermometer on the Thermometer QC form.   * Acceptable: ± 1°C of the NIST thermometer. | | | | |
|  | 5 | Refer to the Boekel Platelet Incubator Operating Instructions if the temperature controller chart needs to be recalibrated. | | | | |
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| **Interpretation** | |  | | --- | | Acceptable results:   * + Low temperature of activation ≥20.5°C   + High temperature of activation ≤23.5°C   Take appropriate corrective action if temperatures of activation are too low or too high or if the alarm systems fails to function as expected (does not activate or fails to deactivate.)  Corrective actions may include:   * Retesting the alarm activation * Verifying the Alarm key switch is on. * Checking the battery/power source. * Verifying the warm and cold alarm set points (Refer to the equipment instrument manual.) * Contacting engineering or the manufacturer for service. * Transferring of blood products if the equipment/ alarm is found faulty.     Record the nature of the corrections on the appropriate QC sheet and necessary repairs on the Equipment Service notebook. | | | | | | |
| **References** | 1. Platelet Incubator Model 301500 Operating instructions, Boekel Scientific, INC. 2. Platelet Agitator Model 30120 Operating Instructions, Boekel Scientific, INC. | | | | | |
| **Approval**  **Workflow** | Transfusion Service/Technical Specialist | | | | | |
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| **Historical Record** | **Version** | | **Written/Revised by:** | | **Effective Date:** | **Summary of Revisions** |
| 1 | | L. Oakes | | 3/15/96 | Initial Version |
| 2 | | J. Wenzel | | 4/22/97 |  |
| 3 | | J. Wenzel | | 9/10/03 |  |
| 4 | | J Wenzel | | 8/11/2010 | Online Version |
| 5 | | S. Cassidy | | 04/10/2012 | CMS format |
|  | 6 | | S. Cassidy | | 1/25/2019 | Updated for new piece of equipment |
|  | 7 | | S. Cassidy | | 09/30/2019 | Changed alarm activation set points and added interpretation and corrective action steps |