**Purpose**:

This process provides instructions for how to QC and maintain manual testing stations in TSL.

**Process:**

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| Required Supplies | | | |
| Cleaning/Disinfection | Labelling | Handling | Routine Reagents |
| * Disinfectant wipes * Lint-free cloths * Tissues * Paper towels * Gauze squares | * Indelible markers * Indelible ink pens | * Parafilm * 12 × 75 glass tubes * Plastic caps to fit 12 × 75 tubes * Blood bank transfer pipettes * Segment opening devices * Sample centrifuge with balance tubes * Calibrated serologic centrifuge * Calibrated cell washer * Squeeze bottle of 0.9% saline * Agglutination Viewer | Routine reagent rack with:   * Anti-A * Anti-B * A1 cells * B cells * Anti-D * Screening cells 1, 2, 3 * LISS * Anti-IgG * Antihuman globulin (AHG) control cells |
| Safety | General |
| * Eye splash protection * Scissors * Gloves * Biohazard containers * Lab coat | * 37°C dry bath * Computer terminal(s) * Laser printer * Label printer * Transfusion Tag Printer * Agglutination viewer and extra bulbs * Testing rack |

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| Additional Reagent Racks | |
| DAT Rack | * Polyspecific AHG * Anti-C3b,-C3d * Complement Control Cells * Albumin |
| ABO Resolution | * Anti-A,B * Seraclone Control ABO+Rh * A2 cells |
| Additional Antisera | * Contains antigen specific antisera. Example: anti-E |

Start of Shift

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| **Step** | | **Action** | **Related Documents** |
| **General Quality Statements** | | |
| 1 | * Manual QC and maintenance will be performed as early in the shift as possible given the workload status. * Problems found in reagent or equipment QC and maintenance will be addressed immediately and determined if other equipment is similarly affected. * Testing will be repeated if the problem may have compromised test results. * All actions are recorded on the bench QC forms. * Various codes can be used to direct attention to additional comments and/or actions. They include:   + SC: See Comments   + EB: Explained on Back   + LE: Late Entry | Quality Policy: Equipment Management |
| **Equipment Functionality QC** | | |
| **At the start of EACH shift for all benches:** | | |
| 2 | **Heat block**: Acceptable Temperatures 36 to 38oC   * Record digital and thermometer temperatures. * *Readings must agree within ± 1o* * Record acceptable fluid level in test tube (✓). * Verify SI Maintenance and Thermometer Calibration are in date. * Adjust temperature and fluid level if found out of acceptable limits. | Thermo Scientific Heat Blocks Operation & Maintenance Procedure  Heat block Daily QC Form  Helmer Ultra CW Operation, Cleaning & Maintenance Procedure  Cell Washer Daily QC Form  Helmer Ultra CW Maintenance Schedule  Helmer Serofuge Operation & Maintenance Procedure  Bench Daily Reagent & Equipment QC Form |
| **Cell Washer:**   * Perform Daily checks   + Record saline cube expiration   + Record ✓ for daily QC performed * Record lot number and expiration date of saline cube on the first of each month and as replaced. * Perform additional duties which are rotated by shift. Record ✓ and Tech ID on date performed:   + Confirm schedule and perform as needed.     - Weekly checks     - Monthly checks     - Annual checks * Empty waste, if applicable * Verify SI Maintenance is in date. |
| **Serofuge and Specimen Centrifuge:**   * Clean regularly as needed. * EBA20: Verify RPM and timer settings for TANGO, if applicable. * Verify SI Maintenance and Thermometer Calibration are in date. |
| **Step** | | **Action** | **Related Documents** |
| **Equipment Functionality QC** | | |
| **At the start of EACH shift for all benches:** | | |
| 3 | **Following completion of bench QC and Maintenance verifications:**   * Record confirmation of equipment acceptability by placing ✓ in the Equipment column. * Remove from service any equipment found to be out of validation or performing incorrectly.   ***Example:*** *Cell washer volume is required to be 54 mL. If attempts to attain 54 have failed, remove from service and notify Scientific Instruments. Complete QIM and record all actions.* | Removing Equipment from Service  Bench Daily Reagent and Equipment QC form |
| **Reagent QC** | | |
| 4 | * Confirm routine reagent rack QC has been performed by comparing lot numbers to lots listed on the Daily Reagent QC form * Perform QC if indicated * Confirm saline squeeze bottle is in date * Discard any outdated reagents. * Replace any empty reagents. * Follow up on low reagent supplies | Manual Reagent QC Procedure  Daily Manual Testing Reagent QC Record |
| 5 | Document completion of reagent QC for rack assigned to bench by entering rack designation in the Reagent Rack ID column and record Tech ID. | Bench Daily Reagent & Equipment QC Form |
| 6 | Additional Antisera and Reagent Red Cells:   * Confirm and/or perform QC when used. * Obtain 2nd review of QC prior to issuing blood product. |  |
| **Additional Duties** | | |
| 7 | Perform additional maintenance duties as specified on the MLS Shift Responsibilities Checklist.   * Duties are rotated monthly by shift * Tech is responsible for duties if not performed by assigned shift. | MLS Shift Responsibilities Checklist |

End of Shift

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| **Step** | | **Action** |
| 1 | Dampen all non-porous surfaces with disinfectant solution or wipes and allow to air dry. | |
| 2 | Ensure there are sufficient amounts of reagents in the rack for the next user. | |
| 3 | Clean, label with lot and expiration, and refill saline squeeze bottle, if needed. | |
| 4 | Fill any depleted cleaning, labeling, or handling supplies (from the Required Supplies list). | |
| 5 | Store patient samples and paperwork. | |
| 6 | Empty and replace full biohazard containers. | |
| 7 | Leave the workstation in a clean and usable condition. | |

**Reference**

Applicable Equipment User Manuals

Standards for Blood Banks and Transfusion Services, Current Edition. AABB Press, Bethesda, MD.