**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 * 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 |
| ABO Resolution | * Anti-A,B * Seraclone Control ABO+Rh * A2 cells |
| Additional Antisera | * Contains antigen specific antisera. Example: anti-E |

Procedure A: Start of Shift

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|  | | | **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. * 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:**  Verify the functioning and calibration date of all equipment | | | | |
| **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:**  *There are two different manufacturer cell washers in TSL. Dispensed volumes may differ.*   * Perform Daily checks   + Record saline dispensed volume at least once a day and after replacement of saline cube.   + Record saline cube expiration   + Record **Y** 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 **Y** 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. | |

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|  | | **Action** | **Related Documents** | |
| **Equipment Functionality QC** | | | |
| **At the start of EACH shift for all benches:**  Verify the functioning and calibration date of all equipment | | | |
| **3** | **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. | |  |
| **4** | **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. Attempts to attain 54 have failed. Remove from service and notify Scientific Instruments. Complete QIM. Record all actions.* | | * Removing Equipment from Service * Bench Daily Reagent and Equipment QC form |

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|  | | **Action** | **Related Documents** |
| **Reagent QC** | | |
| **At the start of EACH shift for all benches:**  Verify QC and acceptability of reagents | | |
| **5** | * 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 * Perform Reagent QC review as needed * 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 |

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|  | | **Action** | **Related Documents** |
| **Reagent QC** | | |
| **At the start of EACH shift for all benches:**  Verify QC and acceptability of reagents | | |
| **6** | * Document completion of reagent QC for rack assigned to bench by entering rack designation in the Reagent Rack ID column. * Record Tech ID. | * Bench Daily Reagent & Equipment QC Form |
| **7** | Additional Antisera and Reagent Red Cells:   * Confirm and/or perform QC when used. * Obtain 2nd review of QC prior to issuing test results. |  |

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| **Additional Duties** | | |
| **8** | 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 |

Procedure B: End of Shift

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|  | | **Action** |
| **1** | Follow these instructions at the **end of every shift**. |
| **2** | * Dampen all non-porous surfaces with disinfectant solution or wipes. * Allow to air dry. |
| **3** | Ensure there are sufficient amounts of reagents in the rack for the next user. |
| **4** | Clean, label with lot and expiration, and refill saline squeeze bottle, if needed. |
| **5** | Fill any depleted cleaning, labeling, or handling supplies (from the Required Supplies list). |
| **6** | Store patient samples and paperwork. |
| **7** | Empty and replace full biohazard containers. |
| **8** | Leave the workstation in a clean and usable condition. |

**Reference**

Applicable Equipment User Manuals

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