**Purpose**

To provide instructions for performing ABO/D tube typing on neonate samples.

**Policy**

Neonate is defined as <4 months old. Forward ABO/Rh typing is acceptable for neonates. Perform forward and reverse ABO/D typing on patients ≥ 4 months. Universal O Rh compatible red blood cell products will be provided for neonates.

**Procedure**

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| **Step** | | **Action** | **Related Documents** | |
| 1 | Confirm sample acceptability, per established procedures. | Sample Acceptance Evaluation | |
| 2 | Label tubes, per established procedure.   * Add reagents. * Perform a visual check to ensure that the reagent volume is correct. * Do NOT save plasma in a secondary aliquot tube. | Labeling Tubes for Manual Bench Testing  LIS Downtime Manual Bench Testing Form | |
| 3 | Prepare a 3% to 5% cell suspension of patient red cells per established procedure.   * Add 3% to 5% suspension of the patient red cells to forward testing tubes. * Mix all tubes. | Preparation of 3-5% Red Cell Suspension | |
| 4 | Centrifuge for the posted optimal time in a calibrated serologic centrifuge. |  | |
| 5 | Remove the tubes from the centrifuge.   * Check that the identifier on each tube is comparable with the name identifier on the request and on the computer screen or worksheet. |  | |
| 6 | Gently resuspend the cell button.   * Examine macroscopically for hemolysis and agglutination, including mixed field agglutination per established SOP. * Grade and record the results. | Reading and Grading Tube Hemagglutination  Sunquest Blood Order Processing | |
| 7 | | If anti-A, anti-B and anti-D are POS, a control is required:   * Utilize Seraclone Control ABO + Rh reagent * Repeat steps 2 through 6. | |  |

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| **Step** | **Action** | | | | | | | **Related Documents** | | |
| 8 | Use the following table to interpret the results: | | | | | | | | |
| **If the forward reaction of patient cells with** | | | | | **Reverse reaction with A1 and B cells are** | | | **Then interpret the ABO/D type as** |
| **Anti-A is** | **Anti-B is** | **Anti-D is** | | **Control is** |
| 0 | 0 | ≥ 2 | | ND | INT | | | OPOS |
| 0 | 0 | 0 | | ND | INT | | | ONEG |
| ≥ 2 | 0 | ≥ 2 | | ND | INT | | | APOS |
| ≥ 2 | 0 | 0 | | ND | INT | | | ANEG |
| 0 | ≥2 | ≥ 2 | | ND | INT | | | BPOS |
| 0 | ≥ 2 | 0 | | ND | INT | | | BNEG |
| ≥ 2 | ≥ 2 | ≥ 2 | | 0 | INT | | | ABPOS |
| ≥ 2 | ≥ 2 | 0 | | ND | INT | | | ABNEG |
| **H = Hemolysis, ND = Not Done, MF = Mixed Field**  **NOTE: If mixed field agglutination is observed, results cannot be interpreted until investigation and resolution have been completed.** | | | | | | | | |
| 9 | Evaluate the test results. | | | | | | ABO Discrepancy Resolution  Discrepant Result Resolution Process  Weak D by Tube Method | | |
| **If** | | | **Then** | | |
| Test results could be interpreted | | | Go to step 10 | | |
| There are any discrepancies in results when compared to the table in Step 8 | | | * Resolve the discrepancy, per established procedure, and * Proceed to Step 10 once the discrepancy is resolved. | | |

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| **Step** | | **Action** | | | **Related Documents** |
| 10 | Compare the current ABO/D results with any previous ABO/D results. | | |  | |
| **If a previous record** | **And the current and previous results** | **Then** | Sunquest Blood Order Processing  Discrepant Result Resolution Process | |
| exists | agree | Record the interpretation in the computer or on the worksheet |
| do not agree | Resolve the discrepancy, per established procedure. |
| does not exist | N/A | Perform a second ABO/D examination. |
| 11 | Confirm that the computer record or the worksheet contains the:   * date and time of completion, * technologist identification, and * Final clerical check of samples, labels, and request. | | |  | |
| 12 | Dispose of all tubes and pipettes in a biohazard waste container, per established procedure. | | | Laboratory Biohazardous Waste Procedure | |

**References**

AABB Technical Manual, Current Edition.

Judd’s Methods in Immunohematology, Current Edition

Current manufacturer’s package insert instructions.