**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 TestingLIS 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 HemagglutinationSunquest 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 ResolutionDiscrepant Result Resolution ProcessWeak 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 ProcessingDiscrepant 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.