**Purpose**

This procedure provides instructions for how to perform a weak D test, which can be used to help resolve Rh typing discrepancies and to determine whether RHIG is required for a postpartum patient.

**Policy Statement**

* Weak D positive individuals are considered Rh Positive as donors.
* Weak D positive individuals are considered Rh Negative as recipients.
* Candidacy for administration of Rh Immune Globulin will be determined by clinical care team.

**Procedure:**

|  |  |  |
| --- | --- | --- |
|  | **Action** | **Related Documents** |
| **Perform Weak D Test** |
| **1** | * Check anti-D reagent manufacturer’s instructions:
	+ Same tube may be used for the weak D test if the original direct test with anti-D was done by tube.
* Is a Control tube required?
	+ **Weak D test is Positive ≥ W+**
	+ Manufacturer’s reagent instructions
		- Saline control
		- Direct Antiglobulin Test
		- Manufacturer’s control
 | * Manufacturer’s Package Insert
 |
| **If the original D test**  | **Then** |  |
| * Can be used
 | * Proceed to Step 3.
 |
| * **Cannot** be used
 | * Proceed to Step 2.
 |
| **2** | * Add reagents to clean labeled tubes:
* Place **1** drop of anti-D reagent into a tube.
* Place **1** drop of ABO/Rh control into a second tube, if required by manufacturer.
* Prepare a 3% to 5% patient red cell suspension, if not already available, per established procedure.
* Add 1 drop of the 3% to 5% cell suspension into each tube.
 | * Labeling Tubes for Manual Bench Testing
* Preparation of 3-5% Red Cell Suspension
 |
|  | **Action** | **Related Documents** |
| **3** | * Mix and incubate tubes for 15 to 30 minutes at 37 C.
 |  |
| **4** | * Wash the tubes four times with saline per established procedure.
 | * Washing Red Cell Samples (Manual or Automated Procedure)
 |
| **5** | * Add **2** drops of anti-IgG antiglobulin reagent.
 |  |
| **6** | * Mix the tubes immediately.
* Centrifuge for the posted time in a calibrated serologic centrifuge.
 |  |
| **7** | * Immediately after centrifugation:
* Resuspend the cell button and observe for agglutination.
* Read macroscopically and record results per established procedure.
 | * Reading and Grading Tube Hemagglutination Reactions
* SQ Blood Order Processing Test Result Guide
 |
| **8** | * Validate all negative or weak antiglobulin results by adding Check cells:
* Add **1** drop of IgG-coated control cells to each tube with a negative or weak result.
* Centrifuge for the posted time in a calibrated serologic centrifuge.
* Resuspend the cells.
* Read macroscopically for agglutination and record the results.
	+ ***Valid control results****: Agglutination of at least grade 2 must be present or the test results are invalid and the test must be repeated*.
 |
| **9** | * Analyze the reactions of the IgG-coated RBCs as follows:
 |  |
|  | **If agglutination is…** | **Then…** |  |
|  | * Present
 | * Test is complete.
 |  |
|  | * Absent
 | * Test is invalid:
* Repeat Steps 1-7.
* Consider cell washer problem or inactive AHG.
 |  |
| **Validate Completed Test Results** |
| **10** | Testing is unresolved/invalid* Positive anti-D tube with no control tube performed
* Positive control
* Positive DAT with anti-IgG
* Mixed field reaction
 | * Additional lot numbers
* Other manufacturers
* Result testing on ABO/D Discrepancy Worksheet
* Eluate
* Antibody Investigation
* Transfusion history
 | ABO/D Discrepancy WorksheetEluate Testing GuidelinesGuidelines for Antibody Identification |

|  |
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| **Interpreting weak D test results** |
|  | * Interpret the **valid** IAT results as follows:
 |  |
| **If the anti-D IAT result shows** | **And the control IAT result shows** | **Then interpret the D result as** |
| * Agglutination
* ≥ W +
 | * No agglutination
 | * D positive.
* Update BAD file: “Patient is Wk D Pos, Give Rh Neg”
 |
| * No agglutination
 | * No agglutination or not required by manufacturer
 | * D negative
 |
|  | * Mixed Field agglutination
 | * No agglutination
 | Do Not interpret until further investigation and resolution is completed | Discrepant Result Resolution Process  |

**References:**

Standards for Blood Banks and Transfusion Services, Current Edition

AABB Technical Manual, Current Edition

Current version of reagent manufacturer’s package insert instructions