HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Laboratory and Blood Bank		
Document:	Internal Policy and Procedure		
Title:	Immunohematological Testing Introduction		
Applies To:	All Blood Bank Staff		
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1. PURPOSE:

1.1 To define the basis, methods, and available tests of immunohematological testing.

2. DEFINITONS:

N/A

3. POLICY:

3.1 Immunohematology studies the reactions that take place between antigens present on blood cells and antibodies present in plasma.

3.2 Pre-transfusion testing, including ABO/Rh typing, screening for and identification of unexpected antibodies, as well as compatibility testing, is an important measure in the provision of blood that may be transfused to the patient in the safest possible manner.

3.3 A range of tests are used to detect antigens present on blood cells ranging from simple tube and gel tests to more complex advanced molecular techniques. Molecular techniques are increasingly used in immunohematology to determine the antigen profile of patients, resolve complex problems and large scale red cell typing.

3.4 A range of tests are used to detect and identify antibodies in the patient's plasma from simple tube and gel tests to more complex absorption and elution techniques as well as advanced molecular techniques.

3.5 The methods available in MCH blood bank are slide method, tube method, and gel testing method.

3.6 The widely used technique in MCH blood bank is the gel testing method. Testing can be done either manually or through an automated machine. Slide and tube methods are rarely used.

3.7 The ABO system is the most important of all blood groups in transfusion practice. It is the only blood group system in which individuals have antibodies in their serum to antigens that are absent from their RBCs.

3.8 All blood donor samples are subjected initial immune-hematological testing.

3.9 ABO/Rh-D of donated blood must be confirmed using a segment from RBC components.

3.10 Any discrepancies are solved before releasing any blood/blood components.

3.11 For the patients, the following tests are available:

- 3.11.1 ABO grouping (forward and reverse).
- 3.11.2 Rh-D type (including a test for weak-D as per availability).
- 3.11.3 Rh phenotyping (as per availability).
- 3.11.4 Direct antiglobulin test "DAT" (Direct Coomb's test).
- 3.11.5 Indirect antiglobulin test "IAT" (Indirect Coomb's test = Antibody screening).
- 3.11.6 Antibody identification (as per availability).
- 3.11.7 Antibody titration (as per availability).
- 3.11.8 Cross matching.

4. PROCEDURE:

4.1 Preparation of red cell suspension (A, B, and O red cell suspension) is rarely used. This is due to the availability of ready-made suspension supply.
4.2 In Different tests, Gel technique is widely used. It is rarely to use slide or tube methods.
4.3 The availability of reagents required for some tests determines the availability of those tests.

5. MATERIALS AND EQUIPMENT:

N/A

6. RESPONSIBILITIES:

6.1 Blood bank staff -As described in the following policies for each procedure.

7. APPENDICES:

N/A

8. REFERENCES:

8.1 The Unified Practical Procedure Manual For Blood Banks In The Arab Countries, 1434-2013.
8.2 The Standard Policy For Blood Banks In The Kingdom Of Saudi Arabia, 1st edition, 1435-2014.
8.3 Modern Blood Banking & Transfusion Practices, 6th edition, 2012.
8.4 http://www.isbtweb.org/working-parties/immunohaematology/.
8.5 Good Manufacturing Practice for Blood Establishments, Version 2.0, May 2019, Saudi FDA

9. APPROVALS:

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