HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER MATERNITY AND CHILDREN HOSPITAL

Department:	Laboratory and Blood Bank		
Document:	Departmental Policy and Procedure		
Title:	Transportation of Blood and Blood Components		
Applies To:	All Laboratory Staff		
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1. PURPOSE:

1.1 To establish the guidelines for the transportation and shipping of blood units or components safely while maintaining the effectiveness of the components at the user end.

1.2 To establish the framework for the validation of the transfer containers to be used in moving blood components from one facility to the other thus ensure that optimum storage conditions for specific components are observed at all times during transportation.

2. DEFINITONS:

2.1 Blood Cold Chain is a system for storing and transporting blood and blood products, Within the correct temperature range and conditions from the point of collection from blood donors to the point of transfusion to the patient.

3. POLICY:

3.1 There are policies, processes, and procedures describing the requirements for appropriate transportation of blood and blood components. The implemented processes prevent damage, limit deterioration, and meet the following requirements :

3.1.1 Blood and blood components are transported in well-insulated validated transit containers which have been uniquely identified and validated to ensure the component surface limit deterioration and meet the following requirements

3.1.2 Blood and blood components are transported in well-insulated validated transit containers which have been uniquely identified and validated to ensure the component surface temperature can be maintained within the correct ranges during transportation.

3.1.3 Validation of the new transport containers should be done before putting them into service and annually or when significant change is introduced e.g. Container to be used for a new component or increased number of components to be delivered by the container.

3.1.4 The blood products must be packed according to the temperature storage requirements relevant to the specific product type.

3.1.5 Seasonal and other variations such as Shipping transit time, mode of transport, climatic conditions, and appearance of the components expiration date of the component(s) should be evaluated and be considered during transport verification. Any deviation from routine shipping or component conditions should be reported to the shipping facility and documented.

3.1.6 The containers must be able to maintain the proper transport temperature that is appropriate for the component. Bagged wet ice, commercial cooling packs, or specially designed containers may be used to maintain acceptable transport temperatures.

4. PROCEDURE:

4.1 Maintenance of the correct temperature of blood products and / or components during transport is vital for the maintenance of cell viability, product function and prevention of bacterial contamination.

4.2 Shipping and Transport of PRBCs:

4.2.1 RBCs must be transported at a temperature of 1 to 10°C. Bagged wet ice are used to maintain acceptable transport temperatures. In order to avoid hemolysis, the Whole Blood, RBCs, and segments should never come into direct contact with the bagged ice or cooling pack. So, blood units placed on the bottom, covered by cardboard then securely bagged wet ice or coolant on the top and keep in upright position.

4.3 Shipping and Transport of Platelets:

4.3.1 Platelets must be transported at a temperature of 20 to 24 °C. Well-insulated containers are used to transport platelets . If the transit time will be >24 hours for platelet shipment or if extreme climate conditions are anticipated , then double- insulated containers or room temperature coolant bags should be used.

4.4 Shipping and Transport of FFP:

4.4.1 FFP should be packaged to minimize breakage and to maintain the components in a frozen state. Dry ice in a well-insulated suitable container is used for shipping these components.

4.5 Shipping and Transport of Whole Blood

4.5.1 Whole blood must be transported at a temperature of 20 to 24 °C if we will separate platelets components. Well-insulated validated containers are used to transport whole blood.

4.5.2 Whole blood must be transported at a temperature of 1 to 10 °C if we will not separate platelets components. Well-insulated validated containers are used to transport whole blood.

4.6 Validation of the Blood Transport Containers:

4.6.1 Validation of our blood containers is done according to plans for containers validation.

4.7 These are the guidelines for the transporting facilities to validate their containers:

4.7.1 Select the appropriate container

4.7.2 Prepare a plan for validation trial for the specific container (i.e. describing plan and define acceptance criteria). The plan should include the following steps:

4.7.2.1 Take number of blood components packs considered to be maximum for the box, preferably time expired components.

4.7.2.2 If time expired components not available, fill empty packs with water to the nominal volume of component.

4.7.2.3 "Set up" temperature logger between units.

4.7.2.4 Cover with packing material, including 'wet ice' packs where applicable

4.7.2.5 Close box and secure.

4.7.2.6 Store filled container/s in area/s representative of worst case transit conditions (i.e. high and low temperature challenges) and "log" area temperature.

4.7.2.7 Leave for maximum journey storage time

4.7.2.8 Remove units and logger.

4.7.2.9 Interrogate temperature loggers.

4.7.2.10 Note period units remained between the specified temperature ranges acceptable for the blood components. E.g. 1 - 10 °C core temperature for packed red cells

4.7.2.11 Note environments temperature range.

4.7.2.12 If unable to obtain suitable storage time, repeat using alternative container and/or packaging procedure.

4.7.2.13 Repeat whole procedure with minimum load (e.g.1 unit).

4.7.2.14 On completion write report, including procedure, results, conclusions and recommendations.

4.7.2.15 Ensure report is authorized (signed) for introduction of procedure into routine, that defined procedure is available to all groups of staff involved, and that report is accessible for audit.

4.7.2.16 Label the container with a label specifying the following:

4.7.2.16.1 Container suitable for transport of. .....
4.7.2.16.2 Maximum number of components .....
4.7.2.16.3 Temperature range .....
4.7.2.16.4 Max duration of transport .....
4.7.2.16.5 Biohazard label.

5. MATERIALS AND EQUIPMENT:

5.1 Specified container.
5.2 Transport Container Label.
5.3 Electronic temperature loggers.
5.4 Plan for container validation for PRBCs shipping
5.5 Plan for container validation for FFP shipping
5.6 Container validation results
5.7 Inspection certificate report
5.8 Validation of the Blood Transport Containers Guidelines
5.9 Blood Tested Disease Release Report.

6. RESPONSIBILITIES:

6.1 Blood Bank Medical Director
6.2 Blood Bank Head/Supervisor
6.3 Blood Bank Staff
6.4 Transporting Facilities

7. APPENDICES:

7.1 **N/A**

8. REFERENCES:

8.1 National Standards for Clinical Laboratory and Blood Bank, Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI); I st edition, 2015
8.2 Standards for Blood Banks and Transfusion Services, American Association of Blood Bank (AABB), so" edition, 2016.
8.3 Saudi Food & Drug Authority.

9. APPROVALS:

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