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|  <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p> <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p> | Document Code: | DPOTMH-E-52-P01-S04 |
| | Effective Date: | 07-31-2021 |
| | Document Type: | Standard Operating Procedure |
| | Page Number: | 1 of 5 |
| | Department/Section: | Blood Bank Section |
| | Document Title: | BLOOD STORAGE AND DISTRIBUTION |

PURPOSE:

To provide guidelines on the proper blood storage and distribution to maintain component function and viability of blood for transfusion and to keep blood and blood products safe and to avoid bacterial contamination.

SCOPE:

Applies to all Blood Bank Section Staff of Laboratory Department of Dr. Pablo O. Torre Memorial Hospital (DPOTMH)

PERSON RESPONSIBLE:

Medical Technologists

GENERAL GUIDELINES:

- 1 Blood units shall be stored only in the temperature controlled blood refrigerators and NOT in ward or domestic refrigerators.
- 2 Blood units to be transported from blood centers shall be placed in a transport box with coolant during transportation.
- 3 Blood units can be stored until the given expiry date.
 - * Whole blood and Packed RBC - 35 days from date of extraction
 - * Platelet concentrate - 5 days from date of extraction
 - * Fresh Frozen Plasma - 1 year from date of extraction
- 4 Blood units must not be out of the designated temperature storage areas for more than 30 minutes. Otherwise, it will be considered as wastage.



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- 5 Stored units must be arranged by:
 - 5.1 Blood type
 - 5.2 Type of component
 - 5.3 Crossmatched units
 - 5.4 Available / Uncrossmatched units
- 6 Blood bank staff shall monitor and record every shift the temperature of the blood bank refrigerator and plasma freezer on the temperature log sheet provided.

PROCEDURE:

1. Upon receiving the blood unit/s, check for the proper transfer of blood from the blood center to the blood bank.
2. After checking the blood unit/s, immediately store the blood in the blood bank refrigerator for whole blood and packed RBC, in room temperature for platelet concentrate and in the plasma freezer for fresh frozen plasma.

Storage Temperature for the Different Blood Products

| Blood and Blood Products | Storage Temperature |
|---------------------------------|--|
| Whole blood and red cells | 2 ⁰ C to 8 ⁰ C |
| Platelets | +20 ⁰ C to +24 ⁰ C with continuous agitation |
| Fresh frozen plasma | -20 ⁰ C or lower |

Whole blood and red cells must always be stored at a temperature between 2⁰C to 8⁰C



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Storage Temperature for Red Cells

| Condition | Temperature Range | Storage Time |
|---|--|-----------------------|
| Transport of pre-processed blood | +20 ⁰ C to +24 ⁰ C | Less than 6 hours |
| Storage of pre-processed or processed blood | 2 ⁰ C to 8 ⁰ C | Approximately 35 days |
| Transport of processed blood | 2 ⁰ C to 8 ⁰ C | Less than 24 hours |

Fresh frozen plasma (FFP) is plasma that has been separated from a unit of whole blood within 6 to 8 hours of collection, and has been rapidly frozen and maintained at all times at a temperature of -20⁰C or lower.

Storage Time according to Temperature for Fresh Frozen Plasma

| Storage Temperature | Maximum Storage Time |
|--|----------------------|
| -65 ⁰ C or below | 7 years |
| -40 ⁰ C to -64 ⁰ C | 24 months |
| -30 ⁰ C to -39 ⁰ C | 12 months |
| -25 ⁰ C to -29 ⁰ C | 6 months |
| -20 ⁰ C to -24 ⁰ C | 3 months |



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Platelet concentrates should be stored at a temperature of between $+20^{\circ}\text{C}$ to $+24^{\circ}\text{C}$ with continuous agitation. Storage conditions and expiry dates should also be strictly adhered to in order to prevent septic shock for the recipient.

Length of Time Permitted for the Storage of Platelet Concentrates within the Temperature Range $+20^{\circ}\text{C}$ to $+24^{\circ}\text{C}$

| Process | Maximum Storage Time |
|---------------------------------|----------------------|
| Storage | 5 days |
| Transport | 24 hours |
| After issue, before transfusion | 30 minutes |
| Open system and / or pooled | 4 hours |




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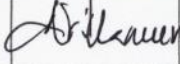


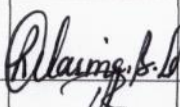

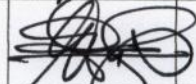
| | Name/Title | Signature | Date |
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| Prepared by: | MELISSA THERESE B. LABAYEN, RMT Blood Bank Section Head | | 07.07.2022 |
| Verified by: | MONICA B. VILLANUEVA, RN, RMT, PhD Laboratory Manager | | 7-7-2022 |
| | MELANIE ROSE B. ZERRUDO, MD, FPSP Chair, Department of Pathology | | 7-7-2022 |
| Reviewed by: | DENNIS C. ESCALONA, MN, FPSQua Quality Assurance Supervisor | | 7-07-2022 |
| Recommending Approval by: | ROSARIO D. ABARING, MAN, PhD Ancillary Division Officer | | 07.07.2022 |
| | FREDERIC IVAN L. TING, MD OIC - Total Quality Division | | 7-8-22 |
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| KEY TASK | PERSON RESPONSIBLE |
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| 1. Checks for the proper transfer of blood from the blood center to the blood bank. | Medical Technologist |
| 2. Stores immediately the blood in the blood bank refrigerator after checking the unit for whole blood and packed RBC, in room temperature for platelet concentrate and in the plasma freezer for fresh frozen plasma. | |

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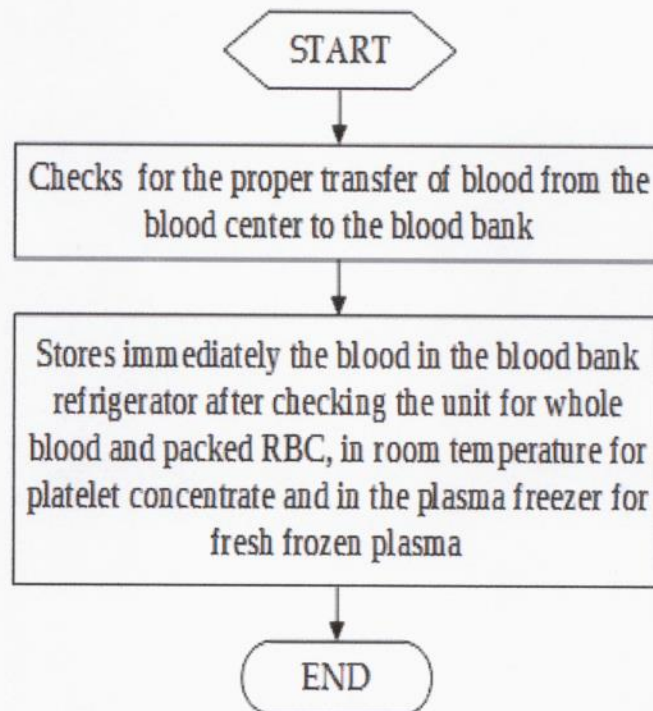


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FLOWCHART




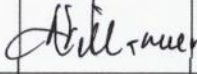


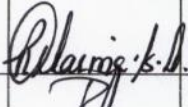

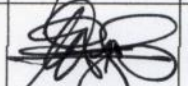



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PERSON RESPONSIBLE:

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
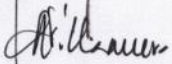


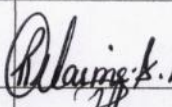

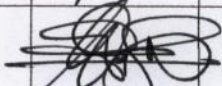



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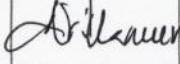


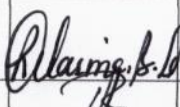

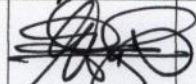
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| KEY TASK | PERSON RESPONSIBLE |
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| 1. Checks for the proper transfer of blood from the blood center to the blood bank. | Medical Technologist |
| 2. Stores immediately the blood in the blood bank refrigerator after checking the unit for whole blood and packed RBC, in room temperature for platelet concentrate and in the plasma freezer for fresh frozen plasma. | |

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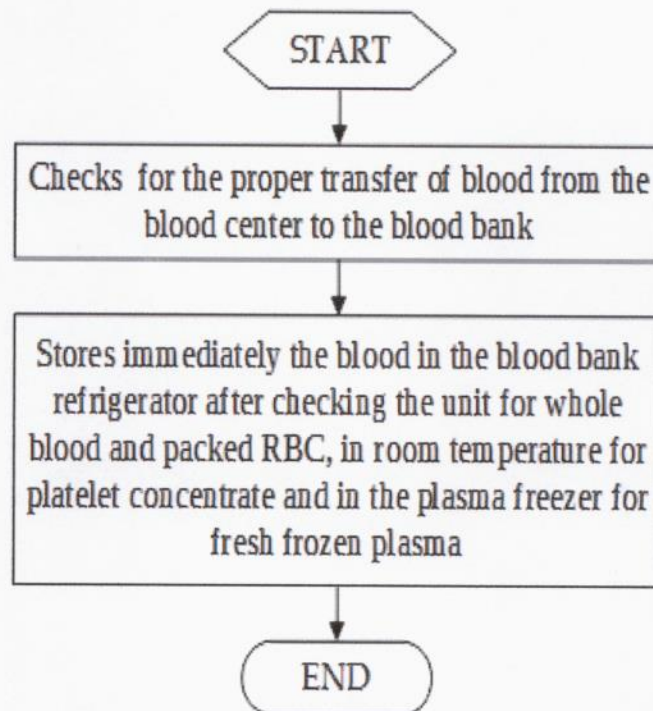


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FLOWCHART





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