Name of Policy: Blood and Component Storage, Expiration, and Transportation
 	
Policy Number: 3364-108-202
 	
Approving Officer: Senior Hospital Administrator
       Director, Blood Transfusion
       Service
 	
Responsible Agent: Blood Transfusion Service
       Supervisor
       Administrative Director, Lab
 	
Scope: University of Toledo Medical Center
Pathology/Laboratory – Blood Bank
	UT **UTOLEDO HEALTH**
	
	Effective date: 03/07/2025
	
	Original effective date: 07/2004	

Key words: Blood Storage, Component Storage, Blood Expiration, Blood Transportation, Transfer

☐	New policy proposal	☐	Minor/technical revision of existing policy
☐	Major revision of existing policy	X	Reaffirmation of existing policy

(A)   Policy Statement

The Blood Transfusion Service stores, transports, and prepares blood and components under acceptable conditions regarding temperature, expiration period and maintenance of sterility.

(B)   Purpose of Policy

To provide a safe, adequate supply of blood and components that maintains viability and function after infusion and poses minimal risk to the recipient.

(C)   Procedure
   (1)   Storage Conditions and Expiration Periods
       (a)   *Red cell products* - AS-1 Red Blood Cells, Leukocyte-reduced Red Blood Cells, CPD Red blood cells, Whole Blood, and IBM washed or deglycerolized RBC are stored between 1°C and 6°C. Temperatures below 1°C will cause hemolysis. Temperatures above 6°C may enhance bacterial growth and hemolysis. Store blood on ice with a temperature indicator attached to the back of the unit if transfusion is not started within   30 minutes or return the unit to the monitored refrigerator within 30 minutes. Units that have been spiked are assigned a 24-hour expiration time.

       (b)   *Platelets* - Single-Donor Pheresis Platelets are stored between 20°C and 24°C with gentle agitation on a platelet agitator. Maximum time without agitation is 24 hours.

       (c)   *Fresh Frozen Plasma (FFP)/ Plasma frozen within 24 hours of collection* – Frozen Plasma is stored at or below -18°C. Store Thawed Plasma at 1-6°C and use within 5 days of thawing.

       (d)   *Plasma, Cryoprecipitate Reduced (CRP)* - Plasma is stored at or below -18°C. After thawing, maintain the units at 1-6°C and use within 24 hours.

(e)   *Cryoprecipitated AHF* – Cryoprecipitated AHF is stored at or below -18°C. After thawing, maintain the units at 20°C to 24°C and use within six hours. Units that are spiked for pooling (open system) are assigned a four-hour expiration time.

(2)   Section 2: Transfers and Returns

(a)   *Red cell products* - shipped in the Red Cross blood boxes packed with wet ice equal in volume to the red cells or frozen chemical coolant (not in direct contact with RBC units) to maintain a temperature of 1 to 10°C.

(b)   *Fresh Frozen Plasma, Plasma frozen within 24 hours of collection, Plasma Cryoprecipitate Reduced and Cryoprecipitated AHF* – shipped in Red Cross blood boxes packed with dry ice.

(c)   *Single-Donor Pheresis Platelets* - shipped in a Red Cross platelet box at 20 to 24 °C.

(d)   *Outdated Returns* – Blood may be returned to ARC only if ARC requests return. Blood and components are packed appropriately as stated above and accompanied by a copy of the ARC Return Authorization form. Retain a copy for UTMC records.

(e)   *In-date Transfers* - Blood and components are packed appropriately as stated above. Units are visually inspected prior to shipping for signs of contamination and hemolysis. Units must be transferred in BloodHub. Sign the Storage certification statement in the designated space on the ARC Transfer form which is printed from BloodHub. Notify the receiving hospital Blood Bank of the impending transfer. Retain a copy for UTMC records. Forward the transfer form printed from BloodHub to the receiving hospital. When in-date transfers are received from a hospital, ascertain the Storage certification statement is completed and fill in the "For Receiving Hospital Use Only" section stating proper storage before accepting units into UTMC inventory.

(f)   *Monitoring of Shipment Temperature* - ARC, in cooperation with UTMC, periodically monitors shipment temperatures of blood and components. The Blood Transfusion Service maintains a copy of these records.

Product	Storage Conditions	Expiration Period	Shipping
Red cell Products ▪ AS-1 or AS-3 RBC ▪ Leukocyte-reduced RBC ▪ IBM washed or deglycerolized RBC ▪ CPD RBC	1° C and 6° C	21-42 days from collection as marked; irradiated units have expiration of no more than 28 days; units that have been spiked expire 24 hours from time entered if refrigerated, and 4 hours if at room temperature.	On ice or with frozen chemical coolant in ARC boxes or cooler.
Platelets ▪ Leuko-reduced single donor platelets, pheresis	20° C – 24° C with agitation. Maximum time without agitation is 24 hours.	5 days from collection	No ice in ARC platelet boxes
Fresh Frozen Plasma ▪ FFP	At or below –18° C Thawed: 1°C – 6° C	Frozen FFP: 1 yr from collection	In ARC boxes with dry ice.

▪ Plasma frozen within 24 hours of collection		Thawed Plasma: 5 days	
Thawed Plasma	1°C – 6° C	5 days	N/A
Plasma, Cryoprecipitate Reduced	At or below –18° C Thawed: 1°C–6° C	Thawed: 24 hours	In ARC boxes with dry ice
Cryoprecipitated AHF	At or below –18° C Thawed: 20°C - 24°C	Frozen: 1 yr from collection Thawed: 6 hrs from thaw time or 4 hrs if pooled in open system.	In ARC boxes with dry ice

(D)   References
    (1)   AABB Standards for Blood Banks and Transfusion Services, current edition.
    (2)   Quality Plan Manual, AABB 1994

Approved by: /s/ _____ Lauren Stanoszek, M.D. Assistant Professor Director, Blood Transfusion Service 3/1/2025 _____ Date /s/ _____ Russell Smith Pharm D, MBA, BCPS, CPEL, FACHE Senior Hospital Administrator 3/7/2025 _____ Date *Review/Revision Completed by:* Danielle Weilnau MLS(ASCP)^{CM}	Policies Superseded by This Policy: • *None* Initial effective date: 07/2004 All Review/Revision Dates: 01/05 6/9/2008 03/22/2011 03/01/2013 3/2/2015 3/1/2017 3/1/2019 3/1/2021 3/20/2023 03/07/2025 Next review date: 03/07/2027