


Name of Policy: Patient Pretransfusion Compatibility Testing Policy Number: 3364-108-305 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		 Effective date: 03/01/2025 Original effective date: 10/1986	
Key words: Pretransfusion, Compatibility, Type and Screen, Crossmatch, Blood			
<input type="checkbox"/>	New policy proposal	<input type="checkbox"/>	Minor/technical revision of existing policy
<input type="checkbox"/>	Major revision of existing policy	X	Reaffirmation of existing policy

(A) Policy Statement

The Blood Transfusion Service performs tests for serologic compatibility between patient and donor blood prior to transfusion, except in case of urgent blood need.

(B) Purpose of Policy

To minimize the risk of hemolytic transfusion reaction and maximize post-transfusion red cell survival.

(C) Procedure

(1) Search of Previous Records

- (a) BBIS patient records are searched and compared automatically upon Patient Registry and result entry. Records include the following:
 - (i) Patient name, date of birth, Medical Record Number (MRN)
 - (ii) ABO and Rh type
 - (iii) Results of IAT, DAT, compatibility testing
 - (iv) Blood/components crossmatched and/or transfused
 - (v) Unexpected antibodies, antigen typing
- (b) When difficulties in blood-typing or antibody screening are noted, search the Special Studies file for previous testing records.
- (c) When discrepancies between past records and current test results are detected that may indicate errors in testing or identification, notify BTS supervisor or director. Discrepancies must be resolved prior to blood release.
- (d) Search BBIS patient records by “Name” when Trauma patients or other unidentified patients are identified. These patients may have previous records under another MRN. Indicate search was performed in “Registration User Defined Field” of Registration Form in BBIS.

- (2) Routine Pretransfusion Testing
 - (a) Type and Screen
 - (i) Perform ABO grouping, Rh typing, and Antibody Screen according to Procedure Manual Section 100 and 200. When the antibody screen is negative, two units of type-compatible RBC products must be available for immediate-spin crossmatch. A positive antibody screen excludes a patient as a candidate for a “Type and Screen only.” Proceed as instructed in Section 4.
 - (b) Crossmatch
 - (i) Perform ABO grouping, Rh typing, and Antibody Screen according to Procedure Manual Section 100 and 200. If the antibody screen is negative and there is no history of clinically significant antibodies previously identified, perform an immediate-spin (IS) crossmatch of donor red cells and patient serum or plasma for each unit of RBC ordered. Donor cells from an originally attached segment must be used for the crossmatch test.
- (3) Specimen Age and Compatibility Testing
 - (a) If a patient has been transfused or pregnant within the preceding three months, or the history is uncertain or unavailable, the specimen used for crossmatch must be obtained from the patient within 3 days (D+3) of the scheduled transfusion. Specimen Collection date (D) = 0.
 - (b) All testing must be repeated on each specimen submitted with a request for compatibility testing. If a patient has not been transfused or pregnant within the last three months, a pretransfusion testing specimen may be drawn up to 30 days before a scheduled surgery and used for crossmatch up to 2 days after surgery date or subsequent transfusion.
- (4) Abnormal Test Results
 - (a) ABO discrepancies –
 - (i) Discrepancies between the ABO forward and reverse grouping must be resolved before blood is released for transfusion.
 - (ii) If blood is needed before the discrepancy can be resolved, use group O packed RBC. Notify the O.D. or the Medical Director of Blood Transfusion Service.
 - (b) Positive Antibody Screen or Crossmatch
 - (i) Perform antibody identification studies according to procedure before issuing RBC products to patients with either a positive antibody screen or incompatible crossmatch. A positive antibody screen excludes a recipient as a candidate for “Type and Screen Only.” Follow antibody identification procedures outlined in the procedure manual.
 - (ii) When an antibody is identified and determined to be clinically significant, two units of antigen negative, AHG-crossmatch compatible blood must be provided. Selected units must be typed antigen-negative with commercial antiserum and IS and 37°C-AHG or GEL crossmatch must be performed.
 - (iii) Patients with a history of previously identified clinically significant antibodies must receive antigen negative units whether or not the

antibodies are currently demonstrable, and a complete (IS and AHG or GEL) crossmatch must be performed.

- (iv) Clinically significant antibodies are those antibodies that are reactive at 37°C-AHG and are known to affect survival of transfused red cells. Blood may be issued when antibody identification studies and compatibility testing is completed.
 - (v) If antibody identification and AHG-crossmatch of compatible units cannot be resulted within a reasonable time (three hours), the O.D. or BTS Medical Director may request a specimen to be sent to ARC Reference Laboratory for resolution or confirmation. Specimens containing panagglutinins should be sent to the ARC Reference Laboratory to exclude the presence of additional alloantibody and to find compatible blood.
 - (vi) Phenotypically matched units are requested if Reference Laboratory screened units are not available. Notify the O.D. or director before blood is released for transfusion.
- (c) Positive Direct Antiglobulin Test
- (i) Patients with a positive DAT (with anti-IgG) should be tested to determine the cause of the positive reaction. If a transfusion candidate has been transfused in the past three months or has never had additional special studies, perform the elution procedure and test the eluate for the presence of blood group antibody.
- (5) Compatibility Testing for Neonates (patients less than four months old)
- (a) Complete the pretransfusion testing according to procedure including ABO reverse grouping. If a non-group O infant is to be transfused with non-group O RBC, a complete (IS and AHG) crossmatch must be performed to detect anti-A or anti-B and unexpected antibodies.
- (D) References
- (1) AABB Standards for Blood Banks and Transfusion Services, current edition.

<p>Approved by:</p> <p>/s/</p> <hr/> <p>Lauren Stanoszek, M.D. Assistant Professor Director, Blood Transfusion Service</p> <p>3/1/2025</p> <hr/> <p>Date</p> <p>/s/</p> <hr/> <p>Russell Smith Pharm D, MBA, BCPS, CPEL, FACHE Senior Hospital Administrator</p> <p>3/7/2025</p> <hr/> <p>Date</p> <p><i>Review/Revision Completed by:</i> Danielle Weilnau MLS(ASCP)^{CM}</p>	<p>Policies Superseded by This Policy:</p> <ul style="list-style-type: none">• <i>None</i> <p>Initial effective date: 10/1986</p> <p>All Review/Revision Dates:</p> <p>6/96 1/98 3/99 11/99 8/00 1/05 7/06 1/2008 6/9/2008 3/22/2011 3/01/2013 3/2/2015 3/1/2017 3/1/2019 3/1/2021 3/20/2023 03/07/2025</p> <p>Next review date: 03/07/2027</p>
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