Policy Statement

It shall be the policy of the St. Joseph's/Candler Health System (SJ/C) Laboratories to follow the American Association of Blood Banks (AABB) "Standards for Blood Banks and Transfusion Services".

Principle

Pre-transfusion testing consists of a series of procedures performed by the Blood Bank that aim to ensure the proper selection of blood components for the intended recipient and the prevention of a hemolytic transfusion reaction. A hemolytic transfusion reaction may result when transfused blood is recognized as "foreign" to the recipient's immunologic surveillance mechanism. The most common cause of this catastrophe is a clerical error, not technical error. For this reason, strict compliance with Blood Bank procedures and policies is critical and will be rigidly followed.

Procedure

1. In the case of potential recipients of blood/blood product transfusion, obtain a second blood type determination by testing a second, current, sample collected at a different time or by agreement with a historical blood type in SJ/C's Blood Bank history.

2. When multiple transfusions of red blood cells are given over a period of days, obtain a new sample of the recipient's blood every 3 days for compatibility testing in order to detect unexpected antibodies resulting from previous transfusions.

3. Release no more than ONE unit of blood at one time. **Exceptions:** Dialysis, and in cases of severe emergencies in the operating room, emergency room, or ICU.

4. Under NO circumstances should blood or blood products be stored in a nursing station refrigerator.

5. No one shall be allowed to sign out blood on two different patients at the same time.

6. Products – the following products are available from St. Joseph's/Candler Blood Bank.
   a. Leuko-reduced Red Blood Cells **NOTE:** Whole blood is not routinely available for transfusion.
   b. Pediatric Red Blood Cells
   c. Fresh Frozen Plasma
   d. Cryoprecipitate
   e. Platelet Pheresis **NOTE:** Cross-match compatible or HLA matched may be requested at both facilities.
   f. Rh Immune Globulin

g. Granulocytes **NOTE:** Available from the American Red Cross, by special request ONLY.

7. Blood Specimen Requirements
   a. Do not draw from IV tubing, or from contiguous vein, but from fresh venipuncture site. If the tubing is used, it should be flushed with saline and the first 5mL discarded. Samples should be carefully drawn to minimize hemolysis (one indicator of donor – recipient incompatibility).
   b. ADULTS – Submit a 10mL lavender top (EDTA), or 6mL pink top (EDTA) vacutainer. **NOTE:** SST collection is not acceptable.
   c. CHILDREN – For small children, submit a 5mL lavender top (EDTA) vacutainer.
   d. INFANTS – Two full lavender (EDTA) microtainers of infant blood are sufficient.
   e. The following information is required on each Blood Bank specimen tube: the patient's full name, date of birth, collection date and time, identity of the collector, and location of patient. Use of patient name/number labels or barcoded test labels is preferable. If handwritten, information must be legible and with indelible ink. Please see *CL-BB100 Job Aid 1* for more information.
      i. If the specimen is missing any of the above information, the specimen is unacceptable and will not be accepted by the Blood Bank. This is also true if there is any discrepancy in the required information.
      ii. In addition, the sample tube must be completely labeled immediately after the blood is drawn before leaving the patient's side.

8. Routine Requests – routine requests for blood or blood products shall be processed as follows:
   a. Order a Type and Screen (TS) and products needed for the patient requiring Blood Bank Services.
   b. Ensure the Blood Bank specimen is appropriately labeled as described above.

9. Blood Type (ABO/Rh) Confirmation Testing
   a. Two blood type determinations of the recipient are required for transfusion.
   b. Obtain the first blood type determination from the current Type/Screen specimen as described above.
   c. Obtain the second blood type determination from a historical blood type in the patient's SJ/C Blood Bank history or by testing a different sample collected at a different time.
      i. **NOTE**: An EDTA Hematology specimen (ex. CBC, H&H) collected at a different time may be used for confirmatory testing. If available, the Blood Bank Technologist will create a NEW requisition and order *TYPE Confirm*.
   d. If a second sample needs to be collected, the floor will order *ABO/Rh Type Confirm*, obtain positive patient identification as described above, and collect a 5 mL lavender top.

10. Type and Screen
    a. A TS specimen is good for 3 days for all in-house and outreach patients. These samples are acceptable for crossmatching until 2359 of the third day, with the day of collection counting as Day 0. Example: A sample collected on a Monday can be used for a transfusion until 2359 on Thursday of the same week.
    NOTE: Pre-screening surgery samples are acceptable for crossmatching until 2359 of the fourteenth (14th) day with the day of collection counting as Day 0.

b. A TS includes ABO and Rh type and screening for atypical antibodies.
c. Compatibility testing will not be performed without additional instructions from the requesting physician. Use of this ordering procedure is encouraged. If significant delays are anticipated, it will be communicated to clinical personnel.

11. Pre-surgical Type and Screen
    a. Determine eligibility for extending the sample retention based on the patient's previous blood bank history and current blood bank test results.
    b. Pre-surgical specimen retention, which include specimens from EP Lab, Cath Lab, and Special Procedures, can be extended to 14 days after collection if **all** of the following apply:
        i. The patient is not currently pregnant.
        ii. The patient has not been pregnant within the last three months.
        iii. The patient has not been transfused within the last three months.
        iv. The patient does not have an antibody history.
        v. The antibody screen on the current specimen is negative.
    c. If the specimen retention cannot be extended, inform the applicable department. A new specimen must be collected within 3 days of surgery to ensure the necessary blood products are available in a timely manner on the day of the surgery.
    d. Red blood cells can be ordered and made available for future surgery upon physician's request.
    e. All pre-admit Blood Bank samples must have a pink "PRE-SURGICAL LAB WORK" label on it when received in the lab. In addition to the above mentioned, orders from the EP Lab, Cath Lab and/or Special procedures must be accompanied by the *Pre-watchman Order Form* (CL-BB100 Attachment A).
        i. Check the patient's history in Meditech to ensure the requirements above have been met to extend the retention period to fourteen (14) days.
        ii. Extend the retention period to **336** hours in Meditech.
        iii. Specimen Desktop → Select patient/specimen → Edit
            1) Select ***BBK Specimen Expiration***
            2) In the ****Hours*** field, enter ***336***
            3) In the ****Reason*** field, enter ***DOS (surgery date)***. Example: DOS 1/1/2017.

12. Emergency Requests-Blood Bank Personnel Procedure
    a. There shall be two determinations of the recipient's blood type.
        i. Obtain the first blood type determination from the current Type/Screen specimen as described in CL-BB022.
        ii. Obtain the second blood type determination from a historical blood type in the patient's SJ/C Blood Bank history or by testing a different sample collected at a different time.
    b. If the physician considers the patient's condition serious enough to warrant transfusion before compatibility testing or donor blood processing is complete, inform the physician of the following:
        i. The physician must accept responsibility for the release of the uncrossmatched blood by signing the *Emergency Request for Blood* form (CL40164) within 24 hours of the issue of products.

ii. Compatibility testing will be started immediately upon receipt of a properly labeled specimen. The physician will be notified of the results.
iii. The physician must draw a Blood Bank specimen **BEFORE** transfusing any emergency released blood components to the patient.

c. If the situation will allow for the delay, the patient has a historical blood type, and a properly identified current sample has been received, perform a Blood Type, then release the specific blood.
d. If the situation is emergent and the patient is a female **less than** 50 years of age, issue Group O, Rh negative red blood cells. Consider the limited availability of O negative RBC units.
e. If the situation is emergent and the patient is a female **above** 50 years of age or male, issue Group O, Rh positive red blood cells.

13. Massive Transfusion Protocol (MTP)

Occasionally, general surgery and trauma cases in the operating room, emergency room, or in other critical care areas require rapid massive blood transfusions. In order to avoid miscommunication and delay in blood transfusion during traumas, coordination among physicians, nurses, and the blood bank is essential. Based on the severity of the patient's injuries, the massive transfusion protocol is activated by physicians to provide optimal patient care.

a. Massive transfusion protocol includes the following, which are performed/released immediately:
   i. Type and screen
   ii. 4 units of PRBCs
   iii. 4 units of FFP
   iv. 1 unit of Platelet Pheresis

NOTE: A 10mL lavender top (EDTA) or 6mL pink top (EDTA) vacutainer for Type and Screen must be collected and properly labeled prior to blood transfusion in emergency situations when uncrossmatched blood is issued.

14. Miscellaneous Services

a. **Rh Immune Globulin (RhIG)**: Used for maternal prophylaxis against sensitization by the Rho (D) antigen. Submit one sample of maternal blood and one of infant blood. Evaluation must be completed and product administered within 72 hours of delivery of an Rh-positive baby. RhIG should also be given to Rh negative women following induced or spontaneous abortions, amniocentesis, ectopic pregnancy and antepartum hemorrhage.
b. **Direct and Indirect Antiglobulin (Coombs) Test**: The direct test is performed to detect antibody coating the patient's own cells; the indirect test is performed to detect antibody in the patient's plasma, which may or may not be directed at an antigenic determinant on the patient's own red cells. These tests are offered routinely, and require a 10mL lavender top (EDTA) or 6mL pink top (EDTA) vacutainer.
c. **Pediatric RBCs**: RBC products selected for pediatric patients less than 4 months of age should be anticoagulated with CPDA-1 or AS-3, O Neg or O pos, anti-CMV negative, Hemoglobin S negative, and be the freshest processed unit of packed RBCs. If suitable blood is not in stock, it must be ordered from the Red Cross.
d. **Pediatric Platelets and FFP**: Platelets selected for pediatric patients less than 4 months of

age should be ABO specific/compatible and anti-CMV negative. Transfusion of ABO-incompatible plasma should be avoided in children, and especially infants, because of their small blood and plasma volumes. Plasma products should also be freshly thawed.

e. **Autologous Transfusions**: At the written request of the patient's physician, a patient's blood can be pre-drawn, stored, and transfused at the time of surgery through consultation with the Red Cross. This blood must be crossmatched before transfusion, and requires written request of physician. The patient/donor must meet certain criteria. Blood must be collected no less than 72 hours prior to surgery.

f. **Directed Donations**: At the written request of the patient's physician and the patient, designated donors may be selected by the patient to donate for anticipated transfusion. The blood is collected by the Red Cross if the designated donor meets all criteria required of blood donors. A minimum of five full working days is required to provide this product.

g. **Therapeutic Apheresis**: Available upon written request of a physician. These services will be scheduled and performed by the Dialysis Unit.

h. **CMV negative** products and **Hemoglobin S negative** products are available from the Red Cross reference laboratory. Hemoglobin S negative red cells may be screened in house at the Diagnostic Immunology department at Candler.

i. **Irradiated products** are available upon physician request. Availability is dependent upon product type. A small quantity of irradiated red cells is kept in inventory at Candler.

j. **Granulocytes** are available upon physician request. The request is set up by the physician through the Red Cross, who must find a donor for the patient.

k. **Washed red cells/washed platelets** are generally indicated for patients with IgA (IgA deficient) and other severe allergic reactions to transfusion. There must be indications other than febrile reactions to obtain. A pathologist must be consulted. Washed red cell units are washed to remove almost all of the plasma and have a 24-hour expiration date from the time of preparation at the blood center. Washed platelets expire 4 hours after washing.

Approved:

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Signature

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