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Sort #: _____ **A1.0**

Purpose

The Central Illinois Community Blood Center (CICBC), through its Reference Laboratory is committed to providing blood testing (basic and complex) services to transfusing facilities in need of such services. In order to provide efficient and quality services, the following policies have been established.

Application

This procedure applies to all Springfield Reference Laboratory technologists trained and deemed competent in this procedure.

Reference Laboratory Requests and Specimens

The Reference Lab is available to resolve transfusion problems by phone consultation or work-up. All testing (ABO, Rh, antibody screens, DAT, elution, and antibody panels) performed prior to being sent to CICBC will be repeated when work-ups, such as adsorptions, are requested.

Step	Action
1.	Notify the Reference Lab staff, by phone, of your request. If the request is made after business hours, contact the Reference Lab technologist that is on call.
2.	Arrange for transportation of the sample. If a sample must be submitted for testing, a CICBC driver can pick up the sample or you may arrange your own transportation. If you are arranging your own transportation, please notify the Reference Lab when the sample is on the way. CICBC does not assume that you need specimen transportation, unless notified to do so.
3.	Complete MVRBC-Z-001 Reference Laboratory Request Form. This form must be fully and accurately completed to reduce any ambiguity of the testing, as well as provide important data necessary for testing, such as transfusion/pregnancy history and a list of medications. The physician's name provided should be the physician or authorized health professional who ordered the transfusion. If additional testing is requested, a new MVRBC-Z-001 Reference Laboratory Consultation Request Form must be submitted. For liability purposes, we are unable to modify the initial request.

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Reference Laboratory Requests and Specimens
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Step	Action
4.	Ensure proper specimen labeling. Specimen requirements are critical. Inadequate or improperly labeled specimens may result in delays, which may include specimen recollection. Patients and samples must be positively identified at the patient's bedside at the time of collection , with the exception of secondary tubes, which also must contain all required patient information. Specimen requirements are listed on MVRBC-Z-001 Reference Laboratory Consultation Request Form. A minimum of five (5) large EDTA tubes or four (4) 7mL EDTA tubes are necessary to perform absorptions.

Super DAT

When a request has been made for a Super DAT, a DAT, using the gel technique, will be performed initially.

If	Then
The DAT is positive	We will not proceed in performing the Super DAT.
The DAT is negative	We will proceed in performing the Super DAT.

Request for Crossmatched and/or Antigen Tested Units

If crossmatched and/or antigen tested units are requested, please send tail segments with the patient sample to aid in the turn around time of receiving the requested units. The segments shall be labeled with the unit number sticker from the back of the unit. Only send tail segments of units appropriate for the patient, i.e. if the patient is an A pos, do not send O pos tail segment unless you intend to transfuse them, if compatible. According to AABB Standards, upon receipt of the unit(s) and/or documentation of testing, the crossmatch must be repeated at your facility, *if* the CICBC Medical Director is *not* a member of your facility's transfusion committee.

ABO Discrepancy Resolution

If a patient sample is sent to resolve an ABO discrepancy, an additional fee for the resolution will be assessed, along with the charges for the testing required to determine the cause of the discrepancy.

Antibody Screen/Panels

An antibody identification panel consists of 4-12 cells, excluding the autocontrol. An antibody screen consists of 1-3 cells.

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**Historically
Tested Antigen
Negative Units**

An inventory of common antigen negative units will be managed and maintained in the Reference Laboratory. Units may be distributed based on historical antigen typing results. If the client hospital is able to provide a list of their red cell inventory, the Reference Lab can determine if the requested units are in the facility's inventory. These units will not be tagged with any antigen typing information, rather historical results will be provided on information sent to the requesting client facility. While most computer historical results are accurate, 100% accuracy of historical information cannot be fully guaranteed. It is the responsibility of the receiving facility to confirm the antigen negative status by the facilities testing protocols. Assessed charges will not be credited for inaccurate results.

**Mass Antigen
Screening Fee**

A fee will be assessed in the event that antigen negative (historically or tested) units are unavailable and units must be screened to locate the requested units. Mass screening will be performed with approval of the requesting facility. The fee includes the screening of 12 units or less. The antigen typing will be a separate charged based on the number of units ordered.

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Autoantibody Work-ups

Adsorptions will be performed if the following criteria have been met:

- Unexplained reactions are present in the plasma, in addition to a positive autocontrol, regardless if all clinically significant antibodies have been ruled out.
- The eluate is positive with all cells tested.

If	Then
The patient has not been transfused in the last 3 months and meets the criteria listed above	It will be at our discretion whether we perform an autoadsorption using PEG, or a differential adsorption. This decision will be based on the reactivity of the autoantibody, the availability of patient cells, and the availability of differential cells/stroma.
If the patient has been transfused in the last 3 months, but not in the last 21 days , and meets the criteria listed above	A three-cell differential adsorption will be performed on the plasma. It will be at our discretion whether we perform an adsorption on the eluate.
If the patient has been transfused within the last 21 days , and meets the criteria listed above	A three-cell differential adsorption will be performed on both the plasma and the eluate.
If the patient has both cold and warm autoantibody specificities	A warm adsorption will be performed first, and if the autoantibody is still reactive, a cold adsorption will then be performed on the warm adsorbed plasma.

Complete Phenotype

It will be at the discretion of the Reference Laboratory to perform a complete phenotype on complex workups. This will aid in future antibody identifications, as well as provide an avenue to give phenotypically matched transfusions, if so desired. A complete phenotype includes, but is not limited to C, c, E, e, K, Fya, Fyb, Jka, Jkb, M, N, S, and s.

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Molecular Phenotypes

CICBC offers a phenotype tested by PCR using patient/donor DNA. This phenotype includes C, c, E, e, K, k, Kpa, Kpb, Jsa, Jsb, Jk^a, Jk^b, Fy^a, Fy^b, M, N, S, s, Lu^a, Lu^b, Di^a, Di^b, Co^a, Co^b, Do^a, Do^b, Jo(a), Hy, LW^a, LW^b, Sc1, Sc2 and Hemoglobin S. This methodology is an excellent tool for building donor inventories. It is also useful in testing for rare antigens that have no commercial antisera available. This testing is indicated in patients who have recently been transfused, in patients whose red cells are positive in the DAT, to distinguish alloantibody from autoantibody, and to detect weakly expressed antigens. This test methodology has not yet been approved by the FDA, but has been validated by CICBC. These results are not intended as the sole means for patient management decisions. There are situations where the genotype of a person may not reflect the red cell phenotype and not all performance characteristics have been determined. Mutations that inactivate gene expression or rare new variant alleles may not be identified in these assays. Specimen requirements are one (1) - 5mL EDTA tube stored at 2°-8°C.

Hemoglobin S Testing

Hemoglobin S screening for both patients and donor units is also available. A qualitative test kit will be used for testing for the presence of Hemoglobin S. This test does not distinguish between Sickle Cell Disease and Sickle Cell Trait. Specimen requirements are one (1) – EDTA tube stored at 2°-8°C.

Cell Separations

CICBC offers two types of cell separation techniques, Reticulocyte Separation and Sickle Cell Separation. The Reticulocyte Separation technique provides an avenue to recover autologous red cells in a blood sample from recently transfused patients (which may or may not have a positive DAT), or patients with a positive DAT (which did not respond to EGA treatment). The Reticulocyte Separation technique is contraindicated in patients who are known to have conditions associated with a low reticulocyte counts. The sickle cell separation technique allows for the recovery of autologous red cells of a patient with sickle cell disease from the transfused red cell population. Both techniques are useful in the evaluation of a positive DAT, as well as when extended phenotype information or autoadsorptions are indicated. For optimal separation, the sample shall be obtained 4 days post-transfusion and the separation and testing performed within 24 hours of collection. Separations may be necessary in warm autoantibody workups to determine if the antibody is an autoantibody or an antibody to a high frequency antigen.

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HTLA Work-up An HTLA work-up will consist of, but not limited to antibody identification panels, antibody titer, enzyme treatment, DTT treatment, and depending upon the reactivity of the antibody, possibly a complete phenotype. The charge for the workup will be reflective of the tests performed, rather than a single charge for the “HTLA workup.”

Send Out Testing

If CICBC is unable to either properly identify an antibody or perform necessary testing, we will send the sample to a laboratory:

- certified through CLIA,
- registered with the FDA,
- and accredited by AABB or an equivalent accrediting body.

CICBC will not charge for any testing that has been performed at CICBC but repeated by the send out facility, with the exception of crossmatches and/or antigen testing of the unit, if applicable.

You will, however, be responsible for the secondary reference laboratory charges, as well as the courier charges.

If CICBC is unable to properly identify an antibody or perform necessary testing, but you do not want *us* to send the sample to another reference laboratory, you will be responsible for any alternate arrangements, and the transportation of the samples, as well as being charged for the testing completed at CICBC.

If CICBC performs testing on a specimen referred from the St. Louis or Davenport MVRBC reference labs, we will repeat all testing previously performed at these sites. However, we will *not* charge for these repeated tests, only any new test procedures performed.

Rare Unit Fee

A fee will be assessed on each unit requested to be negative for 5 or more antigens. A unit will also be assessed a rare unit fee if the combined antigen frequency is $\leq 2\%$; this includes ABO, Rh, and CMV frequencies as well. Antigen frequencies will be obtained from the most current edition of the AABB Technical Manual.

Import Search Fee

A fee will be assessed when it is necessary to locate and obtain rare units from other blood centers.

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Importing Fee This fee is a reflection of the charges submitted to CICBC by the facility from which CICBC is importing rare units.

Supporting Documents

Document Number	Document Name
MVRBC-Z-001	Reference Laboratory Consultation Request Form

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