****

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Blood Product Entry** **(Inventory> In/Out)**BB. Routine.1016.5 | **Dept:**  | 324311 |
| **Dept Name** | Blood Bank |
| **Effective Date:** | 8/6/16  |
| **Revised Date:** | 11/24/2020 |
| **Name & Title**: CLIA Laboratory Medical Director | **Contact:** | Julie Simmons/Christina Warren |
| **Signature:** | Title 21 | **Date:** | **Title 21** |

**1. General Procedure Statement:**

 **A.** **Purpose:** To enter blood products received into the computer. To perform ABO confirmation on red cell containing products and enter results into the computer to make the products available for use.

 **B.** **Responsible Department/Scope:**

 i Procedure owner/Implementer: Julie H. Simmons/Christina S. Warren

 ii. Procedure prepared by: Julie Simmons

 iii. Who performs procedure: Department staff/management

 **C. Definitions:**

 Ag antigen

 Ab antibody

 Plt platelet

 Inventory>In/Out blood product computer entry function

 Delivery single unit entry

 Batch Delivery batch unit entry

 Results – Unit test worksheet computer entry of results for unit retypes

 Results – Test Verify verification of interfaced unit retypes

 Sterility Sterility of the component shall be maintained during the processing by use of aseptic

 methods and sterile pyrogen free equipment and solutions. Equipment that allows transfer

 of components without breakage of the seal is preferred.

 Mannitol free units AS3 and CPDA1 blood units

 TFAIL Temperature failed

 VFAIL Visual Inspection failed

 SCC Soft Computer Consultants – vendor of Blood Bank computer system

 **D. Sections**:

 I. Entering Units into SCC

 A. Delivery

 B. Batch Delivery

 C. Flow Charts

 II. Printing Received Units Report

 III. Unit ABO Confirmation Testing and Computer Entry

 IV. Correcting or Adding Blood Product Information (Incorrect Source Code, Volume, Antigen,

 Attribute)

 V. Correction of Scanning Errors That Cannot be Edited

 VI. Holding and Unholding Units

VII. Retype of Units on Ortho Vision Max Analyzers

 **E. Protocols**

1. Blood Sources
	1. Routine
2. American Red Cross
* Charlotte, NC
* Durham, NC
1. Community Blood Center of the Carolinas (CBCC), Charlotte, NC
2. Blood Connections, Piedmont, SC
3. Memorial Blood Center, Minneapolis, MN
4. Blood Center of Wisconsin
5. Blood Buy
	1. Non-routine
	2. Notify management
	3. Blood Centers must be qualified before accepting products

Exception: Units collected by a facility but distributed through blood center already qualified.

* 1. Refer to QP: Supplier Validation
1. Leukoreduced blood products will be ordered routinely
	1. If non-leukoreduced blood is the only product available,
2. Notify management
3. Non-leukoreduced RBC must be labeled with the orange sticker that reads” Use Leukocyte Reduction Filter Prior to Transfusion.”

**BB.LABEL.1085**

* 1. Receipt of a non-leukoreduced unit into SCC will generate an exception.
	2. Non-leukoreduced Whole Blood may be utilized when leukoreduced WB is not available.
	3. Units should have Non-leukoreduced sticker placed on unit



b. Use of leukoreduction filter not indicated when transfusing WB to traumas.

3.0 Bar codes must be scanned whenever possible (SCAN WHEN YOU CAN!)

4.0 When scanning is not possible

4.1 For ISBT units, enter unit number by typing W followed by the

* + - Supplier ID
		- Last 2 digits of the collection year
		- 6 numbers of the donation ID
		- 2 numbers of the flag digits
* Example: W12341333333300
	1. For Codabar units, type in all information carefully.
	2. Manual entry requires double entry of information.

5.0 All red cell containing blood products must have an ABO recheck performed and ABO Recheck label attached to front of unit before being placed into available inventory.

5.1 All blood units including granulocytes, blood in platelets pheresis, washed blood, deglyced red cells must be ABO/Rh typed upon receipt.

 a. Refer to Procedure III: ABO Confirmation testing and Computer Entry.

5.2 Rh negative red cell containing units will be retested for the D antigen by direct (IS) testing. Weak D testing is not performed.

5.3 Results are entered in the SCC under Results by building the units to a unit test worksheet.

a. Units are selected by scanning all barcodes whenever possible.

b. Units may be selected from list of units needing confirmation by selecting units.

5.4 ABO recheck interpretation must be identical to the unit ABO label.

5.5 Rh recheck interpretation for Rh negative blood units must be identical to the Rh label.

5.6 ABO (Rh) confirmation of WASHED units is documented by ordering a unit retype (RETYP) in

 Inventory – Test Order – New Add and entering reactions before tubes are discarded.

 ***Component Preparation Worksheet***

* For downtime, reactions and interpretation must be documented on the Component Preparation Worksheet BEFORE tubes are discarded and then entered into the computer when back up.

5.7 Granulocyte unit must be ABO rechecked.

5.8 Antigen negative units:

a. For 5 or more antigens on unit, use the Delivery option instead of Batch Delivery.

b. For less than 5 antigens use either Delivery or Batch Delivery in SCC.

 c. Enter antigen types by checking the Antigens box and selecting the antigen code from the drop

 down box and selecting N (negative) or P (positive).

5.9 Units with attributes can entered using the Delivery or Batch Delivery.

 a. Enter attributes by checking the Attributes box and selecting the appropriate attribute from the

 drop down box and selecting Y for Yes or N for No.

5.10 Autologous and Directed units should be entered using the Delivery option instead of Batch Delivery.

 a. Select Autologous or Directed from the “Donated for” drop down.

 b. Assign Autologous and Directed units to the intended patient by entering the patient medical

 record number (MR#) or first and last name when prompted.

 c. Do NOT bring in units if there is NO MRN assigned.

* + - Management should be notified.
		- Locate the Auto/Dir Unit Pending form and determine the date of need.
		- Put the patient on the calendar for the day before to check for MRN number and also as a notification that auto or dir units are available for next day.
	1. Units ordered for specific patients should be flagged by:

 a. Placing the unit in a HOLD status for the patient in Inventory > Edit> Hold.

b. A BLUE antigen typing card is then attached to the unit to add the SCC generated antigen

 sticker.

1. Place units on Special Order shelf in Refrigerator 7.
2. If unit is frozen, include the ROW in which the unit will be stored in the freezer.

6.0 Units requiring Label Check will have the label check box open as an option after the component prep

 function is completed.

* 1. Select the unit, if multiple in SCC and perform label check.
	2. If label check is not completed, then an exception will be generated when unit is selected or issued.

7.0 When Hematrax label is damaged in printing, applying or does not print, reprint in SCC by going into Inventory – Edit – Label and scanning the unit needed.

8.0 If there is an error in barcode scanning, *go to ProcedureV:* *V. Correction of Scanning Errors* for steps and

 codes to correct error.

9.0 A Products Received Report must be printed and checked against the Supplier Invoice for all non-red cell

 products and Frozen Red Cells.

 *a. Go to Section II Printing Received Units Report.*

1. ANY and ALL problems with blood product entry should be brought to the attention of management.
2. Protective equipment must be worn when handling blood and blood products at receipt, cutting segments, etc.
	1. Liquid resistant lab coat

11.2 Gloves

11.3 Safety glasses, safety goggles, face shield or splash guard

11.4 Masks available if desired

1. Sterility
	1. Maintaining sterility is essential when preparing components
2. Unit seal
	1. If the seal of a product is broken during receipt, processing, packing or component modification:
		1. Components stored at 1-6°C shall have expiration modified to 24 hours (open system)
		2. Components stored at 20-24°C shall have expiration modified (date/time) to 4 hours from the time of opening, unless otherwise specified in AABB Standards.
	2. If unit is found to be leaking upon arrival or unit bag found to be defective or compromised:
		1. Quarantine unit in SCC
		2. Look for other parts associated with unit and quarantine them in SCC
		3. Submit QA to management
3. A list of lot numbers, expiration dates of reagent/supplies used will be documented for all components modified or prepared. Select the appropriate supply when prompted during preparation in the computer.
4. Patients known to have an IgA deficiency with resultant anti-IgA antibodies must receive blood and blood components that have been washed and/or are known to come from an IgA deficient donor. Consult management or medical director. IgA Deficient is an attribute of the unit and should be added in SCC.
5. Errors resulting in compromised blood and blood products must be evaluated by the medical director to determine if product is suitable for patient use.
	1. If a product is approved by the medical director, inform management to document the deviation.
	2. Refer to QP: Deviation from Standard Procedure

**2. Procedure: I. Entering Units into Inventory**

 Chemical Risk Assessment: low

 Biological Risk Assessment: low

 Protective Equipment: Lab coat, gloves

Supplies: N/A

Reagents: N/A

Equipment: N/A

Specimen Requirements: **Units cannot be at room temperature for more than 20 minutes!**

| **STEPS** | **INSTRUCTIONS** | **CHANGE/****APPROVAL** |
| --- | --- | --- |
| **1.0** | Enter SCC |  |
| **2.0** | Check product invoice for date and time received and initials indicating acceptable appearance or comments if unacceptable. 2.1 Obtain blood product units.2.2 Verify blood product number and any special attributes, antigens or requests for unit.2.3 Place a check beside each unit on the invoice. |  |
| **3.0** | Click on *Inventory>In/Out.*  |  |
| **4.0** | Select *Batch Delivery or Delivery*.

|  |  |  |
| --- | --- | --- |
| Function | Definition | Examples |
| Delivery | Single unit entry for use with special order products or products with more than 5 antigens or attributes | Antigen negativeAutologousDirectedCMV negative |
| Batch Delivery | Multiple unit entry. Common information can be entered and saved once and then multiple units scanned prior to saving.  | 10 A positive red cells |

 3.1 Go to Section I.A. for Delivery and Section 1.B. for Batch Delivery. |  |

**A. Delivery**

| **STEPS** | **INSTRUCTIONS** | **CHANGE/****APPROVAL** |
| --- | --- | --- |
| **1.0** | **Click on *Inventory>In/Out> Delivery.***  |  |
| **2.0** | **Select Source Code from the drop down box.** |  |
| **3.0** | **Using Bar Code Reader, Scan when you can!**3.1 Proceed to step 4.0 to enter unit information.3.2 If unit scanning is complete, click *F12 from right menu* or press *F12* to save.3.3 When scanning of donor number is not possible:* ISBT: type W plus the numbers under the #1 ISBT bar code in Attachment 1
* Codabar: type the donor number as stated above the #3 Codabar bar code in Attachment 1

3.4 Double entry is required for all manual entry of product information. *Refer to Attachment 1: ISBT and Codabar Bar Code Fields to Scan.* |  |
| **4.0** | **Scan in the unit number in the Collection Center field.**4.1 The system will fill in the correct Collection Center and unit number.4.2 NOTE: DMCBR move cursor to Orig Unit# field to begin scanning.  |  |
| **5.0** | **Scan in the Product Code.** |  |
| **6.0** | **Scan in the ABO/Rh.** |  |
| **7.0** | **Edit the volume of the unit, if needed.** |  |
| **8.0** | **Scan in the expiration date or enter the date manually.** |  |
| **9.0** | **Enter the expiration time of the unit or system will default to 23:59 internally.** |  |
| **10.0** | **Enter Location (Row A to Row H) for frozen red cells.** |  |
| **11.0** | **Enter the Invoice number.**11.1 Invoice number = shipping document number11.2 Red Cross bar code will scan.  |  |
| **12.0** | **Add unit attributes or antigens if present on unit at receipt.**12.1 Irradiation and leukoreduced attributes are already defined in the setup of ISBT  units so do not need to be added if received as leukoreduced or irradiated from a blood supplier.* + 1. CDIE attribute: RBC<10 days till expiration; Platelets < 36 hours till expiration (ARC only).
		2. In addition to the attribute, place a green dot (sticker) on the front of the unit in a place that does not cover information.
		3. Use non CDIE units (that expire on the same date as CDIE units) first.

12.2 Units transferred to DMCBR and brought into inventory should have any antigens or attributes already entered on unit. 12.3 Change Labels to 1 to automatically generate an antigen label for units that are  antigen screened by the blood supplier.  *Refer to Attachment 2: Attribute and Antigen Entry* |  |
| **13.0** | **Verify autologous and directed units correctly default by checking the “Donated for” box.** * + - Allogeneic should be O.
		- Autologous should be A.
		- Directed should be D.

13.1 Enter MRN or patient’s first and last name in the patient search window for  autologous and directed units.13.2 Click F12.13.3 Determine if patient has an MRN (already in system) or does not have an MRN  (New patient).

|  |  |
| --- | --- |
| **Patient Status** | **Steps** |
| In system | 1. Patient is found.
2. Verify information.
3. Enter to
4. Select patient.
5. Click F12.
 |
| New Patient  | 1. Patient not found.
2. System displays: “Create new patient record?
3. Click Yes if MRN is available.
4. Enter as much information as possible.
5. Look up patient Auto/Dir Pending form in “Incomplete folder” for surgery date.
6. Add to microsoft Calendar Day Before need to check on patient and MRN number to connect auto/dir unit to patient in SCC.
7. Notify management.
 |

 |  |
| **14.0** | **Verify that the condition of the units was satisfactory upon arrival:**14.1 Do visual examination and enter into SCC.a. The default is S for satisfactory.b. Routinely Visual examination is required.c. In these cases, temperature is not required.  To change, 14.2 If units arrive not properly packed or questionable.a. Take the temperature and enter in the temperature field in SCC.b. Delete the S from the condition box in SCC and select from the drop down  box. TFAIL = Temperature failed VFAIL = Visual Inspection failedc. Units will be quarantined by the system if they are received at an incorrect  temperature or if VFAIL is entered.*Refer to Protocols: Receiving Blood/Blood Products into Inventory: Attachment 1: Acceptable Storage Temp/Condition of Blood/Blood Products Received and Attachment 2: Temperature Transport of Blood/Blood Products* |  |
| **15.0** | **Click F8 to add a comment to unit.** 15.1 Free text comment. 15.2 Click F6 to add date; F7 to add Time and F8 to add Tech. |  |
| **16.0** | **Click F12 once all data has been entered.** |  |
| **17.0** | **Answer Yes to “Next Unit” if another unit to enter or No if complete.** |  |
| **18.0** | **Repeat steps 2-17 for all units for Delivery of all units.** |  |
| **19.0** | **Click No at “Next Unit” when all units are entered.**  |  |
| **20.0** | **Check List of delivered unit for number of units delivered and unit numbers.** 20.1 Click Esc. |  |
| **21.0** | **Print Received Units report.** Go to Procedure II: Printing Received Units Report |   |
| **22.0** | **Store the segment rack and invoice/Received Units Report on the central work area if not able to perform retypes.** |  |
| **23.0** | **Perform ABO confirmation testing on all red-cell containing units.**23.1 Packed Red Cells, Whole Blood, Granulocytes, Platelets containing ≥2% red  cell contamination.23.2 *Go to Routine: Unit ABO Confirmation Manual Typing BB.ROUTINE.1036 or*  *by Echo or NEO procedures.* |  |

**B. Batch Delivery**

| **STEPS** | **INSTRUCTIONS** | **CHANGE/****APPROVAL** |
| --- | --- | --- |
| **1.0** | **Click on *Inventory>In/Out> Batch Delivery.***  |  |
| **2.0** | **Select Source Code from the drop down box.** |  |
| **3.0** | **Enter any common information for units:**a. Expiration timeb. Volumec. Invoice number (Invoice number = shipping number) Red Cross invoice number bar code will scan.d. Temperature (if taken)e. Condition (if needs to be changed)f. Comments3.1 Click F12 to Accept common information. a. Click Yes to Accept common data for delivered units. b. Begin scanning in the Batch unit delivery screen.  |  |
| **4.0** | **Take temperature:**4.1 If units arrive not properly packed or questionable and enter the  temperature in the Temp field.  **a.**  Units will be quarantined by the system if they are received at an incorrect  temperature.4.2 Routinely, when shipping is documented as satisfactory, skip temperature field.*Refer to Protocols: Receiving Blood/Blood Products into Inventory: Attachment 1: Acceptable Storage Temp/Condition of Blood/Blood Products Received and Attachment 2: Temperature Transport of Blood/Blood Products* |  |
| **5.0** | **Using Bar Code Reader, Scan when you can!**5.1 Proceed to step 6.0 to enter unit information.5.2 If unit scanning is complete, click *F12 from right menu* or press *F12* to save.5.3 When scanning of donor number is not possible:* ISBT: type W plus the numbers under the #1 ISBT bar code in Attachment 1
* Codabar: type the donor number as stated above the #3 Codabar bar code in Attachment 1

5.4 Double entry is required for all manual entry of product information. *Refer to Attachment 1: ISBT and Codabar Bar Code Fields to Scan.* |  |
| **6.0** | **Scan in the unit number in the Collection Center field.**6.1 The system will fill in the correct Collection Center and unit number.6.2 If the collection center is entered incorrectly and units are accepted, go to Procedure IV. Correcting or Adding Blood Product Information (Incorrect Source Code, Volume, Antigen, Attribute) |  |
| **7.0** | **Scan in the Product Code.** |  |
| **8.0** | **Scan in the ABO/Rh.** |  |
| **9.0** | **Scan in the expiration date or enter the date manually as month, day, year.** |  |
| **10.0** | **Enter volume if it does not default to correct volume (mls).** |  |
| **11.0** | **Enter location (Row A to Row H) for frozen red cells.** |  |
| **12.0** | **Click F12 to accept unit list when all units are entered.** |  |
| **13.0** | **Enter any attributes or antigens or comments or edit volume in Batch unit delivery edit screen that appears.**13.1 Use F8 to Copy above field for subsequent units or Shift F8 to copy above line  information. |  |
| **14.0** | **Add unit attributes or antigens if present on unit at receipt.**14.1 Irradiation and leukoreduced attributes are already defined in the setup of ISBT  units so do not need to be added if received as leukoreduced or irradiated from a blood supplier. *Refer to Attachment 2: Attribute and Antigen Entry* |  |
| **15.0** | **Verify autologous and directed units correctly default by checking the “Auto/Dir” section.** * + - Allogeneic should be O.
		- Autologous should be A.
		- Directed should be D.

15.1 If auto or directed unit that did not default correctly, then select the correct type  from the drop down menu under the Auto/Dir column. 15.2 Enter MRN or patient’s first and last name in the patient search window for  autologous and directed units.15.3 Click F12.15.4 Determine if patient has an MRN (already in system) or no MRN (New patient).

|  |  |
| --- | --- |
| **Patient Status** | **Steps** |
| In system | 1. Patient is found.
2. Verify information.
3. Enter to
4. Select patient.
5. Click F12.
 |
| New Patient  | 1. Patient not found.
2. System displays: “Create new patient record?
3. Click Yes if MRN is available.
4. Enter as much information as possible.
5. Look up patient Auto/Dir Pending form in “Incomplete folder” for surgery date.
6. Add to microsoft Calendar Day Before need to check on patient and MRN number to connect auto/dir unit to patient in SCC.
7. Notify management.
 |

 |  |
| **16.0** | **Click F8 to add a comment to unit.** 16.1 Free text comment.16.2 Click F6 to add date; F7 to add Time and F8 to add Tech. |  |
| **17.0** | **Click F12 once all data has been entered.** |  |
| **18.0** | **Answer Yes to “Accept Unit list” if complete.** |  |
| **19.0** | **Print Received Units report.** 19.1 Refer to Procedure II: Printing Received Units Report. |   |
| **20.0** | **Print an Antigen Label for units antigen typed by blood supplier.**20.1 Go to Inventory>Edit>Label and scan or enter unit number.20.2 Verify correct unit and Escape.20.3 Click beside Unit (antigen) Label and F12 to accept.20.4 Select correct printer and Enter-Select. |  |
| **21.0** | **Store the segment rack and invoice/Received Units on the central work area if not able to perform retypes.** |  |
| **22.0** | **Perform ABO confirmation testing on all red-cell containing units.**22.1 Packed Red Cells, Whole Blood, Granulocytes, Platelets containing ≥2% red  cell contamination.22.2 *Go to Routine: Unit ABO Confirmation Manual Typing BB.ROUTINE.1036 or*  *by Echo or NEO procedures.* |  |



**Section C. Flow Charts**



**2. Procedure: II. Printing Received Units Report**

| **STEPS** | **INSTRUCTIONS** | **CHANGE/****APPROVAL** |
| --- | --- | --- |
| **1.0** | **Enter SCC.*** 1. Select ***Inventory>Reports>Received Units***
	2. Select Source Code.
	3. Enter Invoice number.
	4. Enter Donation type or date range if needed.
 |  |
| **2.0** | **Click *F12* to accept.**  |  |
| **3.0** | **Select printer # at the *PRINTER:* prompt, press Enter** 3.1 Printer ***814*** – front printer3.2 Printer ***812*** – back printer |  |
| **4.0** | **Retrieve report from printer** |  |
| **5.0** | **Check the information on the printed report against the shipping invoice**Items to check include:* Donor number
* Unit ABO/Rh
* Unit expiration

6.1 Place check mark next to unit number on report as information is confirmed. |  |
| **6.0** | **Staple completed Received Units report to the Shipping Invoice and place with Invoices for reconciliation.**6.1 Both Received Units report and Shipping Invoice are scanned to keep  electronically.  |  |
| **7.0** | **Alternatively Printing list of units with RETYP completed.**7.1 See attachment 4: List of units with RETYP completed. |  |

**2. Procedure: III. Unit ABO Confirmation Testing and Computer Entry**

**(Manual Method: Hemagglutination by tube testing)**

| **STEPS** | **INSTRUCTIONS** | **CHANGE/****APPROVAL** |
| --- | --- | --- |
| **1.0** | **Obtain segment(s) from unit(s) to be ABO Confirmed.*** 1. Incoming Red Cell containing donor units (packed red cells, whole blood, granuloctyes):
1. Place BARCODED donor number label vertically on a 12x75 tube
2. Remove one (1) to two (2) segments from unit and place in labeled 12x75 tube.
3. Label two (2) segments with unit label to be retained segment.
4. Complete computer entry of products
5. Print SCC Received Units Report
	1. Washed Red Cells and Deglyced units
6. Label 12x75 tube with complete donor number
7. Remove segment from washed / deglyced unit, place in tube
 |  |
| **2.0** | **For manual typing : Access Blood Bank SCC Computer System: Results**2.1 Select ***“Unit Test Worksheet”***.  |  |
| **3.0** | **Build Units to a Worksheet.**

|  |  |
| --- | --- |
| **Type of Process** | **Do** |
| **Worksheet:** | 1. Select Retype from drop down box.
2. F12 to accept.
3. Scan or Click each unit that is being confirmed.
4. F12 to accept.
5. Click Yes to accept the choice or No if error.
6. Click on Rack using for QC beside Default rack#.
 |

3.2 Leave screen up and proceed with testing |  |
| **4.0** | **Place labeled segment tubes in a testing rack, label(s) facing forward.**4.1 This tube will be used as the segment suspension tube. (see Step 6.0) |  |
| **5.0** | **Label 10x75 test tubes with a minimum of the LAST 5 number of the donor number and testing to be performed using a permanent marker. Place test tubes in rack in spaces adjacent to corresponding segment tube.**5.1 Weak D testing is not required on RhD negative donor units5.2 A saline control is not required for AB Positive units5.3 Refer to the chart for required manual donor testing:

|  |  |  |
| --- | --- | --- |
| **Unit ABO/Rh**  | **Required Testing**  | **Label Test Tube with Antisera Used** |
| **A POS** **B POS** **AB POS** | Anti-A and  Anti-B | **A** **B** |
| **O POS** | Anti-A,B | **AB** |
| **A NEG****B NEG** **AB NEG** | Anti-A and Anti-B and Anti-D | **A****B****D** |
| **O NEG** | Anti-A,B andAnti-D | **AB****D** |

 |  |
| **6.0** | **Prepare a 3-5% cell suspension of the donor red cells for manual testing.**6.1 Add 1-2 drops of packed donor red cells from obtained segment into a properly  Labeled tube using a ***TypeSafe*** device. *Refer to Equipment: How to use TypeSafe Device BB.EQUIP.1000*6.2 Go to ECHO or NEO procedures for testing samples on instruments if testing on  automation. If not, continue with next step. 6.3 Add 0.9% saline to produce a red cell suspension.6.4 Mix red cell suspension.6.5 Compare color of suspension with that of a commercial reagent red cell  suspension.1. If suspension appears <3%, add sufficient patient red cells to achieve a 3-5% suspension.
2. If suspension appears >5%, add sufficient saline to suspension to achieve a 3-5% suspension.
 |  |
| **7.0** | **Add one drop of the appropriate antisera to each of the labeled 10x75 test tubes**7.1 Read vial label carefully each time of use before dropping antisera to confirm  correct antisera.7.2 Read test tube label with antisera before dropping.7.3 Label tubes and drop antisera

|  |  |  |
| --- | --- | --- |
| **Tube label** | **Vial** | **# Drops** |
| A | Anti A | 1 |
| B | Anti B | 1 |
| AB | Anti A,B | 1 |
| D | Anti D | 1 |

 |  |
| **8.0** | **Add one drop of 3-5% donor red cell suspension to the tubes containing appropriate antisera.**8.1 Reconfirm identifying information on donor suspension tube with test tube(s) |   |
| **9.0** | **Mix tube gently, centrifuge immediately at room temperature, 3400-3600 RPM for the immediate spin (IS) calibrated time as noted on centrifuge.** *Refer to Equipment: Clay Adams Sero-Fuge Operation BB.EQUIP.1026* |  |
| **10.0** | **Carefully remove 2-3 tubes from centrifuge at a time** |  |
| **11.0** | **Dislodge / resuspend cell button from bottom of tubes gently over an approved agglutination lamp.** 11.1 Observe agglutination strength

|  |  |  |
| --- | --- | --- |
| **Reaction**  | **Explanation** | **Interpretation** |
| 3+ to 4+ agglutination | *Expected Reaction for presence of antigens* | **Positive** |
| *No agglutination* | *Absence of an antigen/antibody reaction*  | **Negative** |
| ≥2+with or without mixed field agglutination | *Valid positive reaction indicating presence of antigens* | **Positive** |
| Weak (<2+) reactions | *Weaker than expected reaction* .*Examine for mixed field.**Reactions may be enhanced by RT incubation for up to 20 minutes* | Refer to Routine: *Grading of Positive and Negative Reactions. BB.R.1018for further instruction and interpretation*  |

 |  |
| **12.0** | **Document reactions and make ABO (Rh) interpretation IN COMPUTER as they are performed.** 12.1 Confirm donor number on test tube with donor number on computer screen 12.2 Observe agglutination strength in tube, key in reactivity strength into  ***ABO/RH(D)*** grid for each antisera tested. Cursor will advance across grid as

|  |  |
| --- | --- |
| **Reaction Strength** | **Computer Code** |
| 4+ | 4 |
| 3+ | 3 |
| 2+ | 2 |
| 1+ | 1 |
| Neg | 0 |
| Not Tested | N |

 reactions are entered. 12.3 Cursor will advance automatically to the ***Interpretation*** field upon completion of the ***ABO/RH(D)*** grid. Make interpretation of testing results.

|  |  |  |
| --- | --- | --- |
| **Cells with** **Anti-A** | **Cells with** **Anti-B** | **ABO group****Interpretation** |
| NEG | NEG | O |
| 2-4+ | NEG | A |
| NEG | 2-4+ | B |
| 2-4+ | 2-4+ | AB |

1. RH Positive Units
* Type interpretation of ABO and Rh even though Rh was not resulted.
* Click ***F12*** to accept results.
1. RH Negative Units
* Type interpretation of ABO and Rh.
* Click ***F12*** to accept results.

12.4 Click ***F12*** when all results have been entered and interpreted. 12.5 A ***Batch results*** box will appear showing that product test results with a status  of C for completed.  a. Status can be changed to “In Process” or to “Repeat” if test needs to be repeated. 12.6 Click ***F12*** to accept and complete the unit transaction.12.7 Answer the message “There are ( ) tests done and to be confirmed. Confirm?”  with Yes to confirm the test results. a. Click NO if results should not be confirmed.12.8 Click ***F12***  to accept. 12.9 Clear the completed test from worksheet by clicking Yes when message  Appears “Test(s) from () line of () has been completed. Clear the completed test  from worksheet?”  a. Unit is removed from worksheet. 12.10 Obtain ABO Group Confirmed label that prints automatically for each unit  typed. 12.11 ABO (Rh) confirmation of WASHED units is documented in the computer.  a. Order a Retype on Washed unit and result in computer.  b. During downtime document on the Cobe/IBM Component Preparation  Worksheet. c. Reactions and interpretation must be documented BEFORE tubes are  discarded. 12.12 ABO (Rh) confirmation of deglyced units is documented immediately in the  computer. a. During downtime document on the Cobe/IBM Component Preparation  Worksheet. b. Reactions and interpretation must be documented BEFORE tubes are  discarded. 12.13 Discrepant results or units with reaction results <2+ must be investigated* Quarantine unit
* Notify management / write QA
* Return unit(s) to supplier
 |  |
| **13.0** | **Confirm unit Donor number(s) and ABO/Rh type on bag label by comparing printed *Received Units Report* or *List of units with RETYP completed*  report with blood bag label(s).** 13.1 Take Report corresponding to units tested to refrigerator13.2 Compare donor numbers and ABO/Rh on Report with bag Labels13.3 **If identical, apply a *ABO Group Confirmed* sticker next to the blood group** **on the blood bag label.**ABO GROUP CONFIRMED Tested: by:Wake Forest Baptist Medical CenterABO Group Confirmed Sticker13.4 Move units to appropriate storage. |  |
| **14.0** | **Initial Received Units/RETYP completed report and file with Shipping Documents.** |  |

**2. Procedure: IV. Correcting or Adding Blood Product Information (Incorrect Source Code, Volume, Antigen, Attribute. Etc.)**

| **STEPS** | **INSTRUCTIONS** | **CHANGE/****APPROVAL** |
| --- | --- | --- |
| **1.0** | **Enter SCC.*** 1. Select ***Inventory>Edit and appropriate SCC Function from table below.***

| CORRECT or ADD | SCC FUNCTION | Steps |
| --- | --- | --- |
| Invoice Number | UNIT | 1. Scan or type in unit number and product code
2. F12 to accept
3. Type in the correct information.
4. F12 to accept.
5. Exception appears – give reason.
 |
| ABO/Rh Type | UNIT | Same as above |
| Expiration Date | UNIT | Same as above |
| Volume | UNIT | Same as above |
| Comment | UNIT | Same as above |
| Autologous | UNIT | 1. Scan or type in unit number and product code
2. F12 to accept
3. Select autologous from drop down beside “donated for”.
4. F12 to accept.
5. Search for patient by either MRN or first and last name.
6. Refer to Delivery or Batch Deliver for additional information.
 |
| Directed  | UNIT | Same as above except select directed. |
| Location | Location | Same as above except modify location. |
| Antigens | ANTIGEN | 1. Scan or type in unit number and product code
2. F12 to accept
3. Highlight correct option :

Add, Edit, Display or Delete1. Enter to select.
2. To add – select antigen from drop down and type P for Positive or N for Negative beside antigen..
3. To delete – highlight attribute to delete.
4. To edit – select antigen and change P or N.
5. F12 to accept.
 |
| CORRECT or ADD | SCC FUNCTION | Steps |
| Attributes | ATTRIBUTE | 1. Scan or type in unit number and product code
2. F12 to accept
3. Highlight correct option :

Add, Edit, Display or Delete1. Enter to select.
2. To add – select attribute from drop down and click in box.
3. To delete – highlight attribute to delete.
4. F12 to accept.
 |
| TemperatureOrAppearanceOr Source/Collecting facility  | Cannot be edited*Refer to* *Procedure V: Correction of Scanning Errors* | Delete unit number (s) that were entered with incorrect temp or appearance and/or incorrect source/collecting facility and then re-enter units with correct information IF the unit retype has not been resulted.1. Select Inventory>In/Out>Unit Delete
2. Type in the incorrect unit number carefully.
3. Verify information and then Click Esc.
4. Click Yes to the Message “Delete Unit”.
5. Type in reason when Exception box appears.
6. F12 to save.

*If unit retype has been completed, then unit cannot be deleted and a comment should be entered under each unit indicating the correct information.*  |

 |  |

**2. Procedure: V. Correction of Scanning Errors That Cannot be Edited**

| **STEPS** | **INSTRUCTIONS** | **Acceptable Y(yes)/N (no) Preceptor Initial/Date** |
| --- | --- | --- |
| **1.0** | **Delete any incorrect unit number that is accepted before realizing the scan was incorrect AND the unit retype has not been resulted.** |  |
| **2.0** | **Select *Inventory>In/Out>Unit Delete***2.1 Type in the incorrect unit number carefully. 2.2 Verify information and then Click Esc.2.3 Click Yes to the Message “Delete Unit”.2.4 Type in reason in Exception box. 2.5 F12 to save.Refer to Attachment 3: Deleting a Unit in SCC |  |
| **3.0** | **If the retype has been resulted, then the status of the unit will need to be changed to discarded with a comment.**3.1 Go to Inventory> Edit > Status.3.2 Type in incorrect unit number carefully.3.3 Verify correct unit displays.3.4 Click Esc.3.5 Select discarded from the drop down beside status. 3.6 F12 to accept.3.7 Enter reason from drop down when box appears.3.8 F12 to save. |  |

**2. Procedure: VI. Holding and Unholding Units**



**2. Procedure VII: Retype of units on Ortho Vision Max Analyzers**

| **STEPS** | **INSTRUCTIONS** | **CHANGE/****APPROVAL** |
| --- | --- | --- |
| **1.0** | **Obtain segment(s) from unit(s) to be ABO Confirmed.*** 1. Incoming Red Cell containing donor units (packed red cells, whole blood, granuloctyes):
1. Place BARCODED donor number label vertically on a 10x75 or 12x75 tube
2. Remove segment(s) from unit and place in labeled tube.
* One segment needed for 10 x 75 tube
* Two segments needed for 12 x 75 tube
1. Label two (2) segments with unit label to be retained segment.
2. Complete computer entry of products
3. Print SCC Received Units Report or after completion of RETYP print List of units with RETYP completed report.
 |  |
| **2.0** | **Manually ordering Retypes for Rh positive units to utilize A,B and A/B Cards**2.1 **Before** loading samples onto the instruments select “Create Order” If samples are loaded before orders are created the instrument will query and run test:  REYTP in A/B/D Monoclonal Grouping card2.2 Scan unit number2.3 Select “packed cells” as sample type2.4 Select test:

|  |  |  |
| --- | --- | --- |
| Test | Unit ABORH | Card used |
| RETYPOP | O positive | A,B Monoclonal Grouping |
| RETYPRHP | A or B positive | A/B Monoclonal Grouping |

2.5 Repeat for all units in rack2.6 Load Rack2.7 Results will automatically cross into SCC2.8 Promptly remove sample from analyzer to prevent the instrument from querying  |  |
| **3.0** | **Retypes for Rh negative units or Rh positive units to utilize A/B/D Cards****3.1 Load units onto the instrument. The system will automatically run test: RETYP in an A/B/D Monoclonal Grouping Card****3.2 Results will automatically cross into SCC** |  |
| **4.0** | **Confirm unit Donor number(s) and ABO/Rh type on bag label by comparing printed *Received Units Report* or *List of units with RETYP completed*  report with blood bag label(s).** 13.1 Take Report corresponding to units tested to refrigerator13.2 Compare donor numbers and ABO/Rh on Report with bag Labels13.3 **If identical, apply a *ABO Group Confirmed* sticker next to the blood group** **on the blood bag label.**ABO GROUP CONFIRMED Tested: by:Wake Forest Baptist Medical CenterABO Group Confirmed Sticker13.4 Move units to appropriate storage. |  |
| **5.0** | **Initial Received Units/RETYP completed report and file with Shipping Documents.** |  |

 **3. Review/Revised/implemented:**

 All procedures must be reviewed according to document control protocol.

 All new procedures and procedures that have major revisions must be signed by the CLIA Director.

 All reviewed procedures and procedures with minor revisions can be signed by the designated section

 medical director or designee.

**4. Related Procedures: NA**

**5. References**: Standards for Blood Banks and Transfusion Services, American Association of Blood Banks, revised

 periodically

**6. Attachments**:

Attachment 1: ISBT and Codabar Bar Code Fields to Scan

Attachment 2: Attribute and Antigen Entry

Attachment 3: Deleting a Unit in SCC

Attachment 4: List of units with RETYP completed Report

**7. Revised/Reviewed Dates and Signatures:**

 See Archived Document Change Control

**Attachment 1: ISBT and Codabar Bar Code Fields to Scan**

|  |  |  |  |
| --- | --- | --- | --- |
| ISBT | FOR | SCANBARCODE # |  **C:\Documents and Settings\bturner\My Documents\My Pictures\ISBT LABEL.jpg**21431 |
| SupplierSupplier unit # | 1 |
| Component, Division #Container, Volume * For platelets, plasma, and apheresis rbcs key in volume from label
 | 2 |
| ABO/RH | 3 |
| Expiration Date, TimeDraw Date, TimeReceived Date, Time | 4 |
|  |
| Codabar | Supplier | 1 | C:\Documents and Settings\bturner\My Documents\My Pictures\codabar label\codabar label 002.jpg15432 |
| Component, ContainerType FPCLR (LR), FPC (non-LR)Volume* For platelets, plasma, and apheresis rbcs key in volume from label
 | 2 |
| Division -*Press TAB or scan 00 barcode attached to computer screen* |  |
| Supplier Unit # | 3 |
| ABO/RH | 4 |
| Expiration Date, TimeDraw Date, TimeReceived Date, Time | 5 |

**Attachment 2: Attribute and Antigen Entry**

| **For**  | **Click**  | **Select from Drop Down** | **Info to Enter**  | **To “Add” specific unit info** |
| --- | --- | --- | --- | --- |
| **Attributes**  |  Attributes | Plt ct 3.0Plt ct 3.1Plt ct 3.2Plt ct3.3Plt ct3.4Plt ct 3.5Plt ct 3.6Plt ct 3.7Plt ct 3.8Plt ct 3.9Plt ct 4.0Plt ct 4.1Plt ct 4.2Plt ct 4.3Plt ct 4.4Plt ct 4.5Plt ct 4.6Plt ct 4.7Plt ct 4.8Plt ct 4.9Plt ct 5.0Plt ct 5.1Plt ct 5.2Plt ct 5.3Plt ct 5.4Plt ct 5.5Plt ct 5.6Plt ct 5.7Plt ct 5.8Plt ct 5.9Plt ct 6.0+Plt ct less than 3.0Double bag plateletpheresisCMV negativeCredit Due if ExpiresNonleukoreduced ProductNeonate PlateletSickle negativeHLA matchedIgA deficientIrradiatedLeukoreducedAnti-A & -B titers less than 200Anti-A &-B titers over 200Washed PlateletWashed RBC | Select Y or NY = YesN = No | F12 to acceptNote: For subsequent units in Batch Delivery you may use F8 to copy the information from the field above OR Shift F8 to copy the above line.  |
| Antigens  |  Antigens | Select antigen code from drop down box | Select P or NP = PositiveN = Negative | **F12 to accept**Note: For subsequent units in Batch Delivery you may useF8 to copy the information from the field above ORShift F8 to copy the above line. |

**Attachment 3: Deleting a Unit in SCC**

****

**Attachment 4:**

**List of units with RETYP completed.**

For use when checking units when adding the unit confirmation sticker.

1. Go to Management > Testing history > Units
2. Change date range: change the “from” to current date and the time should be before the units were placed on the instrument for testing. Keep “to” as the current date/time.
3. Uncheck the Summary box. This is important otherwise you will not see the unit #s.
4. Keep the status of “Tests” as C (for complete)
5. Select RETYP from the dropdown menu under Codes.
6. For “Instructions” remove the C so it is blank.



1. F12
2. The list of units will show.
3. The print, click on F9 to print (or click it on the right of the screen)
4. Select printer to print.
	1. The date/time on the report is when the unit was received.