

**TRAINING UPDATE**

**Lab Location:** SGAH and WAH      **Date Implemented:** 12.19.2014  
**Department:** Blood Bank      **Due Date:** 01.15.2015

**DESCRIPTION OF PROCEDURE REVISION**

**Name of procedure:**

LIS Downtime

**Description of change(s):**

1. Added the downtime process for transfusion orders (transfusion orders form gets faxed to the BB). This process changed due to CPOE.
2. Added information to print ISBT-128 blood product labels via HemaTrax Unity. This process changed because labels now dynamically print via Sunquest.
3. Added the following requirements:
  - a. All downtime specimens come with an order form.
  - b. BB will verify we have all required information BEFORE accepting the sample/order.

**Electronic Document Control System**



**Document No.:** WAH.BB116[1]

**Title:** LIS DOWNTIME

**Owner:** LESLIE.X.BARRETT LESLIE BARRETT

**Status:** INWORKS

**Effective Date:** 15-Jan-2015

**Next Review Date:**

Non-Technical SOP

<b>Title</b>	<b>LIS Downtime</b>	
<b>Prepared by</b>	Stephanie Codina	Date: 11/17/2011
<b>Owner</b>	Stephanie Codina	Date: 11/17/2011

<b>Laboratory Approval</b>		
<b>Print Name and Title</b>	<b>Signature</b>	<b>Date</b>
<i>Refer to the electronic signature page for approval and approval dates.</i>		
<b>Local Issue Date:</b>		<b>Local Effective Date:</b>

<b>Review:</b>		
<b>Print Name</b>	<b>Signature</b>	<b>Date</b>

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Form: PERSOAT 11/10

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- 1. PURPOSE**  
 To provide a procedure for when the laboratory information system (LIS) computer goes down.
- 2. SCOPE**  
 This procedure applies to times when the LIS computer system is unavailable for use.
- 3. RESPONSIBILITY**  
 All blood bank staff members must understand and adhere to this procedure for LIS computer downtimes.
- 4. DEFINITIONS**  
 N/A
- 5. PROCEDURE**

**Steps to be performed prior to downtime when advanced notice available**

Step	Action
<b>Perform as time permits prior to scheduled downtime....</b>	
1	Pull frequent pending log per procedure, "Blood Bank LIS Reports." A. Perform and enter the history check for all patients who have pending specimens per procedure, "Patient History Check." Document the results of the history check in the LIS computer <b>and</b> on the pending log form for use during the downtime. B. Allocate and crossmatch (if indicated) units to all patients with current transfuse orders.
2	Attempt to process all blood products that have not yet been placed into available inventory.

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Step	Action
<b>Perform 30-40 minutes prior to the scheduled downtime...</b>	
3	Perform a blood bank back-up per procedure, "Blood Bank LIS Reports."
4	<p>Print a BBR8 report for the previous 3 days (T to T-3). This report will give you a list of all patients with CURRENT type and screen specimens.</p> <ul style="list-style-type: none"> <li>A. Access Sunquest SmarTerm.</li> <li>B. At the "Function" prompt, enter "BBR" and press the enter key.</li> <li>C. Select a printer.</li> <li>D. From the list of blood bank reports, select "8" and press enter.</li> <li>E. At the "Hospital ID" prompt, type the location for which the report is to be pulled and press enter.               <ul style="list-style-type: none"> <li>a. Type "SGAH" for Shady Grove Adventist Hospital.</li> <li>b. Type "WAH" for Washington Adventist Hospital.</li> </ul> </li> <li>F. The "Hospital ID" prompt will re-appear. Press enter.</li> <li>G. At the "Accept (A), Modify (M), or Reject (R)" prompt, type "A" and press the enter key.</li> <li>H. At the "Start Date &lt;Today&gt;" prompt, type "T-4" and enter.</li> <li>I. At the "Start Time" prompt, press enter to default 0000.</li> <li>J. At the End Date" prompt, type "T" for today.</li> <li>K. At the "End Time" prompt, press the enter key to default 2400.</li> <li>L. At the "Accept (A), Modify (M), or Reject (R)" prompt, type "A" and press the enter key.</li> <li>M. The report will print on the selected printer.</li> <li>N. Punch holes in the report and place it in the designated 3-ring binder. This will help the report stay in alphabetical order and minimize the potential to miss information.</li> </ul>
5	<p>Print a LO5 report for the previous 3 days (T to T-3). This report will print the patient's most current blood bank armband number (with additional information).</p> <ul style="list-style-type: none"> <li>A. Access Sunquest SmarTerm.</li> <li>B. At the "Function" prompt, enter "LO" and press the enter key.</li> <li>C. Select a printer.</li> <li>D. At the "Select Option" prompt, type "5" and press enter to print the Comprehensive Master Log.</li> <li>E. At the "Date" prompt, type "T" for today.</li> <li>F. At the "Department" prompt, type "BB" for blood bank.</li> <li>G. At the "Sort Option" prompt, press enter to default "Alpha by Last Name."</li> <li>H. At the "Hospital ID" prompt, type one of the following:               <ul style="list-style-type: none"> <li>a. Type "SGAH" for Shady Grove Adventist Hospital.</li> <li>b. Type "WAH" for Washington Adventist Hospital.</li> </ul> </li> </ul>

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Step	Action
5 Cont	<p>I. At the "Accept (A), Modify (M), or Reject (R)" prompt, type "A" and press the enter key.</p> <p>J. The report will print on the selected printer.</p> <p>K. Hole punch the report and place it in the designated binder.</p> <p>Print the report an additional 3 times. However, change the entry at the date prompt to one of the following:</p> <p>A. T-1</p> <p>B. T-2</p> <p>C. T-3</p>
6	Print a list of autologous and directed units in inventory per procedure, "Blood Bank LIS Reports."



**Performing a Patient History Check during Downtime**

Step	Action
1	<p>Review the patient history using <b>both</b> of the following computer files. Record any information in the "Previous History" box on the downtime form.</p> <p>A. Blood type via blood bank back-up data</p> <p>a. Access the computer that contains the back-up data</p> <p>i. At SGAH this is SGQLAB022</p> <p>ii. At WAH this is WAQLAB001</p> <p>b. Click on the icon "Patient Blood Type Listing."</p> <p>c. When the screen opens, search for the patient information by name.</p> <p>B. Antibodies and problems via blood bank back-up data</p> <p>a. Access the computer that contains the back-up data.</p> <p>b. Click on the icon "Antibodies and Problems."</p> <p>c. When the screen opens, search for the patient information by name.</p>
2	Look for current specimens using the printed BBR8 report, if available.
3	Look for current armband numbers using the printed LO5 report, if available.
4	Look for autologous or directed units using the printed autologous and directed unit report if available. If the report is not available, search the autologous and directed shelves of the blood product refrigerator.

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**Processing Patient Orders during Downtime**

Step	Action
1	<p>The patient access department will issue a downtime registration number for each patient admitted during a Cerner downtime. For these patients, the FIN (financial identification number) will be used as the medical record number.</p> <p>A. Labels will be printed containing the patient information.                      B. The MRN field will only contain zeros.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">                         Use for Billing Number AND MRN                     </div> <div style="text-align: center;"> <p>→ <b>FIN 46363230</b></p> <p><b>ZZZWAH</b></p> <p><b>CARENETONE</b></p> <p><b>DOS: 03/13/14 F 56Y DOB: 1/1/58</b></p>  </div> </div> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">                         Do NOT Use                     </div> <div style="text-align: center;"> <p>→ <b>MRN (WA) 40000000</b></p>  </div> </div>
2	<p>All specimen orders will be documented with a downtime order form.</p> <p>A. A copy of the lab downtime form will accompany all blood bank specimens to the department.</p> <p>B. If Cerner is down, verify that the downtime order form contains all of the mandatory information. This includes patient location (unit and bed) and provider's full name (first and last) or provider number.</p> <p style="margin-left: 20px;">a. This information is required for patient registration and order entry.</p> <p style="margin-left: 20px;">b. If missing call the patient care area immediately and request the information for the form. DO NOT wait until recovery to do this.</p> <p>C. Document the date and time the specimen was received on the downtime order form.</p> <p>D. Do not accept specimens that do not have an order form. This includes specimens arriving from the outpatient laboratory collection area.</p>
3	<p>Prepare a downtime result form for each specimen received. Document the following on the form.</p> <p>A. Patient's full name                      B. Patient's medical record number                      C. Blood bank armband number</p>
4	<p>Perform a history check per above procedure. Document the history check in the "Previous History" box of the downtime form.</p>

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Step	Action
5	<p>Perform the testing required per blood bank procedures. However, document all results on the downtime form.</p> <p>If testing was performed on the Echo, print a copy of each patient's results (print each patient separately; do not batch print). Document the patient's name and medical record number on the form and staple the downtime form to the front of the Echo results for the patient.</p> <p><b>All documentation must be legible to facilitate manual data entry when the LIS is usable.</b></p> <ul style="list-style-type: none"> <li>A. Use one form per patient specimen received.</li> <li>B. All manual testing will be documented on the form.</li> <li>C. Allocation and issuing of blood products will be documented on the form.</li> <li>D. Staple forms for a given patient together. For example, if you receive a T&amp;S and an ABO confirmation on a patient.             <ul style="list-style-type: none"> <li>a. The T&amp;S will be written on one form.</li> <li>b. The ABO retype on a second form.</li> <li>c. The forms will get stapled together.</li> </ul> </li> </ul>
6	<p>Results for Cord Evaluations, ABO/Rh for RhIG candidacy, fetal cell screens, and other tests that will be used to direct patient care will be sent, faxed, or called to the patient care area.</p> <ul style="list-style-type: none"> <li>A. If Sunquest is down, send a copy of the downtime testing form to the floor.</li> <li>B. If Sunquest is up, print results from Laboratory Inquiry per procedure and fax to the floor.</li> <li>C. When results are called to the patient care area, document the date and time of the call as well as the name of the person called on the downtime form.</li> </ul>
7	<p>File all forms (order and result forms) alphabetically by first letter of last name in the accordion file.</p>

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**Allocating and Issuing Blood Products during Downtime**

Step	Action
1	<p>Blood product requests will be documented on the "Transfusion Orders" form and faxed or sent to the blood bank.</p> <p>A. The provider must indicate the following on the form:</p> <ol style="list-style-type: none"> <li>a. Type and quantity of blood products requested.</li> <li>b. Laboratory values that pertain to the blood product being transfused.</li> <li>c. The indication for transfusion.</li> <li>d. Special transfusion attributes.</li> </ol> <p>B. Document the date and time the transfuse order was received on the form.</p>
2	<p>When blood product orders are received during downtime,</p> <p>A. If the patient's T&amp;S was completed manually on a downtime testing form, obtain the form.</p> <p>B. If the patient's T&amp;S was completed in the computer prior to downtime or on the Echo during downtime,</p> <ol style="list-style-type: none"> <li>a. Obtain a downtime form.</li> <li>b. Fill in the following information:             <ol style="list-style-type: none"> <li>i. Patient's full name</li> <li>ii. Patient's medical record number</li> <li>iii. Blood bank armband number</li> </ol> </li> <li>c. Perform a history check per above procedure and document on the form.</li> <li>d. Obtain units that meet the patient's transfusion criteria.</li> <li>e. Document the unit numbers on the form (allocation).                Document crossmatch testing on the form if indicated.</li> </ol>
3	<p>Obtain units that meet the patient's transfusion requirements. Document the unit numbers on the downtime form.</p> <p>A. If the unit needs modification (thawing, aliquoting, etc). Document the change using the product modification log. Time and date of modification must be documented, because they are critical to establish correct expiration dates.</p> <p>B. Red cell and whole blood units must be crossmatched. Document crossmatch results on the downtime testing form.</p>

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Step	Action
4	<p>Handwrite all information on <b>both</b> the Blood Bank Product Tag and Administration Record (pink form and label). <b>The documentation must be legible.</b> The required information is as follows:</p> <p>A. Blood Bank Administration Record</p> <ol style="list-style-type: none"> <li>a. Recipient's full name</li> <li>b. Recipient's medical record number</li> <li>c. Recipient's blood group and type</li> <li>d. Recipient's blood bank armband number</li> <li>e. Unit number of DIN of blood product</li> <li>f. Product type (RBCs, Plasma, Platelet, Cryoprecipitate will suffice)</li> <li>g. Blood group and type of blood product</li> <li>h. Volume of blood product               <ol style="list-style-type: none"> <li>i. For red cells, use 270 mL for CPDA-1 units and 335 mL for adsol units.</li> <li>ii. Use the actual volume printed on the blood product label for non-red cell products.</li> </ol> </li> <li>i. Expiration date and time, if indicated, of blood product</li> <li>j. Crossmatch results for red blood cells and whole blood only</li> <li>k. Unit antigen typing and special attributes</li> <li>l. Tech</li> </ol> <p>B. Blood Bank Product Tag</p> <ol style="list-style-type: none"> <li>a. Recipient's full name</li> <li>b. Recipient's medical record number</li> <li>c. Recipient's blood bank armband number</li> <li>d. Recipient's blood group and type</li> <li>e. Unit number of DIN of blood product</li> <li>f. Blood group and type of blood product</li> <li>g. Crossmatch results for red blood cells and whole blood only</li> </ol>
5	<p>Notify the patient care area when blood products are available for transfusion. Document the phone call on the downtime form.</p>
6	<p>Store the blood product at the appropriate temperature until the floor requests the product for transfusion.</p>
7	<p>Issue the blood product when requested for transfusion.</p> <ol style="list-style-type: none"> <li>A. Be especially careful to review all data at the time a blood product is issued to ensure the ABO retype has been performed and the blood product meets all recipient transfusion requirements.</li> <li>B. Document the date and time of issue as well as to whom the product was issued on the downtime testing form.</li> <li>C. File the forms (order and downtime result) in the accordion file alphabetically by last name.</li> </ol>

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**Entering Blood Products into Inventory during Downtime**

Step	Action
1	<p>Whenever possible, blood products should not be processed during downtimes.</p> <ul style="list-style-type: none"> <li>A. If the downtime is scheduled, increase inventories leading up to the downtime to ensure we have enough blood products through the downtime event.</li> <li>B. If unscheduled downtime, only process blood products as needed for patient care.</li> <li>C. Store unprocessed blood products in their shipping boxes or on the designated shelf of the blood product storage containers.</li> </ul>
2	<p>Document the following information on a "Downtime Blood Processing Sheet." Use one sheet per invoice/box received.</p> <ul style="list-style-type: none"> <li>A. Supplier name</li> <li>B. Received date</li> <li>C. Received time</li> </ul>
3	<p>Document the following information on the "Downtime Blood Processing Sheet" for EACH unit entered into inventory during downtime.</p> <ul style="list-style-type: none"> <li>A. Unit number</li> <li>B. Product code (number from bag)</li> <li>C. ABO/Rh</li> <li>D. Volume               <ul style="list-style-type: none"> <li>a. 270 for CPDA-1 units</li> <li>b. 335 for Adsol units</li> <li>c. Volume written on bag for all other units</li> </ul> </li> <li>E. Expiration date</li> <li>F. Special Attributes</li> <li>G. Tech</li> </ul>
4	<p>Perform unit retypes on red blood cells and whole blood units per departmental procedure.</p> <ul style="list-style-type: none"> <li>A. Document testing results for each unit on the form.</li> <li>B. It is permissible to leave blank spaces where reagents were not tested.</li> </ul>
5	<p>Interpret the blood type and confirm that the blood product label matches the testing interpretation for all red blood cell and whole blood units.</p>

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**Product Modification during Downtime**

Step	Action
1	<p>Blood product modification will be documented on the modification-specific forms.</p> <ul style="list-style-type: none"> <li>A. Irradiation will be documented on the Irradiation Log Sheet.</li> <li>B. Neonatal aliquots will be documented on the Product Modification Log.</li> <li>C. Thawing of plasma and cryoprecipitate will be documented on the ISBT-128 Label Verification Log.</li> <li>D. Modified apheresis platelets will be documented on the ISBT-128 Label Verification Log.</li> </ul> <p><b>Be sure to verify the appropriate expiration date and time with the procedure manual!</b></p>
2	<p>Blood product labels for modified products will be manually printed using the HemaTrax Unity system.</p> <p>Note: HemaTrax Unity uses a network connection for printing. The computer can be directly connected to the printers during periods of network downtime.</p>
3	<p>Label verification by a second tech is required per procedure.</p>

**Recovery**

Step	Action
1	<p>When the computer system comes back up, begin by entering all patient orders and transfusion orders into the LIS.</p> <ul style="list-style-type: none"> <li>A. Obtain the date and time of collection from the sample labels.</li> <li>B. Obtain the date and time of receipt from the downtime order forms.</li> <li>C. Register patients in the lab system as indicated.</li> </ul>
2	<p>Enter any blood products into the computer that were entered into inventory during the downtime (if any). Be sure to enter the date and time of original processing.</p>
3	<p>Result all patient testing, blood product allocation, blood product issuing, and all other remaining downtime transactions into the system.</p> <ul style="list-style-type: none"> <li>A. Modify blood products in the computer as needed for each patient from the downtime records. Be sure to enter the original date and time of modification to ensure the expiration date is calculated properly.</li> <li>B. Replace handwritten blood product tags with computer-generated tags for all allocated products in inventory.</li> </ul>

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Step	Action
4	A second person must review the data entry of all results for accuracy. A. This can be done in "Blood Order Processing" or in "Blood Bank Inquiry" by clicking on the "Reaction Results" button. B. The person must initial the "Computer Review Tech" line of the downtime results form to document the results were entered accurately. For all other forms, the reviewer will stamp the form with the "Reviewed by: _____" stamp and initial the form.
5	Print pending logs to verify that all patient testing has been resulted in the LIS.
6	Verify the blood product inventory by printing a BBR2 Product File List and reconciling the blood product inventory.
7	File downtime forms per departmental policy. A. Downtime testing order forms get returned to processing for filing and storage. B. Downtime "Transfusion Order" forms will be filed in the appropriate file. C. Downtime results get filed with other manually entered result records.

**6. RELATED DOCUMENTS**

- SOP: Blood Bank LIS Reports
- SOP: Patient History Check
- SOP: ISBT-128 Label Production
- Form: Downtime Blood Bank Testing Form (AG.F144)
- Form: Downtime Blood Processing Sheet (AG.F145)
- Form: Irradiation Log Sheet (AG.F109)
- Form: Product Modification Log (AG.F01)
- Form: ISBT-128 Label Verification Log (AG.F82)

**7. REFERENCES**

None

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**8. REVISION HISTORY**

Version	Date	Reason for Revision	Revised By	Approved By
		Supersedes WAB730.01, SGAH B730.01		
000	12.12.14	Section 5: Updated downtime process for blood product orders with CPOE, updated process for filing forms, added requirement to check downtime forms for completeness before accepting, added requirement for downtime form before testing. Footer: version # leading zero's dropped due to new EDCS in use as of 10/7/13.	SCodina	NCacciabeve

**9. ADDENDA AND APPENDICES**  
None

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