QUALITY CONTROL REPORT COMPLETED

TRAINING UPDATE

Lab Location:	SGAH and WAH	**Date Implemented:**	11.19.2012
Department:	Blood Bank	**Due Date:**	12.15.2012

DESCRIPTION OF PROCEDURE REVISION

Name of procedure:
Immucor CSW 100 Capture Strip Well Washer
Description of change(s):
• Prior version of procedure indicated you had to disconnect and reattach the dispense tubing when replacing exhaust filters monthly (cotton balls). Deleted the requirement to remove and reattach the dispense tubing; cotton balls can be changed without disconnecting the tubing. • Added wording to document the VOLUME of saline dispensed during verification of fill check (monthly). Techs are initialing the log, but we really need to document volume.

EMPLOYEE SIGNATURES

I have read and understand the procedure described above:

Name	**Signature**	**Date**

Non-Technical SOP

Title	**Immucor CSW 100 Capture Strip Well Washer**	
Prepared by	Stephanie Codina	Date: 9.17.2011
Owner	Stephanie Codina	Date: 9.17.2011

Laboratory Approval		
Print Name and Title	**Signature**	**Date**
Refer to the electronic signature page for approval and approval dates.		
Local Issue Date:	Local Effective Date:	

12 month (or new) management review and approval: Signature acknowledges SOP version remains in effect with NO revisions.		
Print Name	**Signature**	**Date**

Form revised 3/31/00

TABLE OF CONTENTS

1. PURPOSE

The CSW 100 is a self-contained washer that includes pre-programmed settings that have been optimized for specific washing applications. The washer's positive-displacement dispense pump assures accurate, consistent plate washing.

2. SCOPE

This procedure applies to the use and maintenance requirements of the CSW 100 Capture Strip Well Washer.

3. RESPONSIBILITY

All blood bank staff members must understand and adhere to this procedure for maintaining and using the Immucor CSW 100.

4. DEFINITIONS

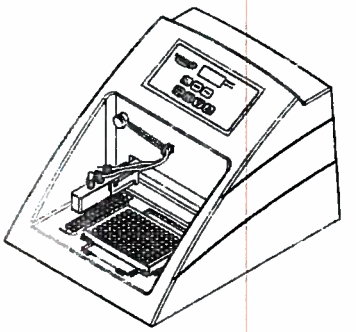
PBS (Phosphate Buffered Solution or Phosphate Buffered Saline) - A buffered saline with a pH in the range of 6.5 – 7.5 prepared by adding pHix to unbuffered saline.

5. PROCEDURE

Operation

Step	Action
1	Prime the wash reservoir lines with PBS by pressing the "Prime" button.
2	Place the modified strips in the stripwell frame starting at position 1. Do not leave spaces between the strips.

Form revised 3/31/00

Step	Action
3	Place the frame on the washer with the strips closest to the manifold. The holder should be seated completely on the platform. 
4	Press the "Select Program" button and the display arrow will appear next to "Program." A. Ensure the program is set for "P1." B. Press the up "▲" or down "▼" arrow to change the program if it is set incorrectly.
5	Press the "# Rows to be Washed" button. The arrow will appear next to "# of Rows." A. The number of rows should correspond to the number of rows of strips in the Capture plate. If 2 strips are used, the number of rows to be washed should be set for two. B. Press the up "▲" or down "▼" arrow to change the number of rows.
6	Press the "Start/Stop" button to start the current wash program. A. The CSW will begin to dispense PBS into the test wells. a. Two dispense cycles are used during the washing operation. b. Approximately 1.5 mL of PBS is dispensed per well during one cycle. c. Aspiration will be performed continuously during the dispense cycles. d. One complete aspiration is performed between the two dispense cycles. e. If an error occurs, i. Press the "Start/Stop" button once to cancel the plate processing. ii. Press the "Start/Stop" button twice to return the manifold to the standby row.
7	Remove the strips from the washer.

Form revised 2/1/09

Daily Maintenance (These steps will be performed on each day of use.)

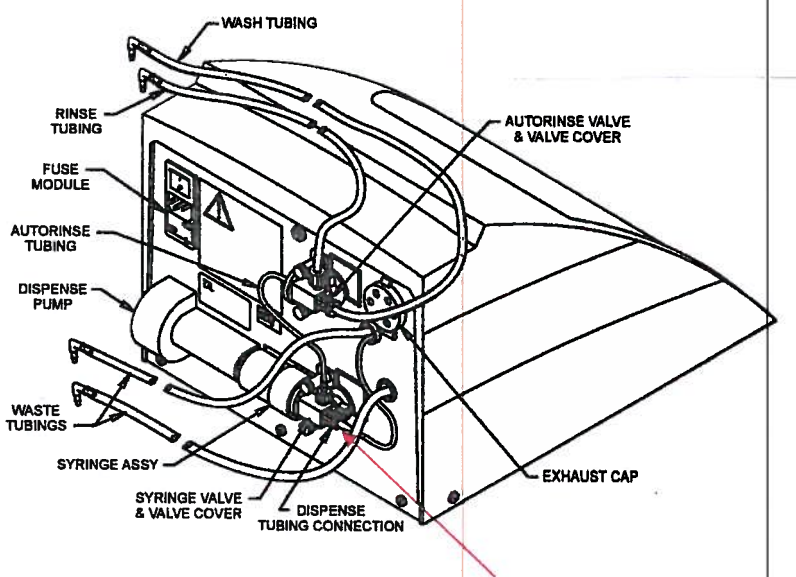
Step	Action
1	Run the Prime and Instrument Checks. A. Ensure that a plate with strip wells is placed on the washing device. B. Press the "Prime" button in order to remove air bubbles from the tubing. C. While running the Prime, observe the dispense and aspirate needles for signs of clogs. a. All dispense needles should dispense the PBS in a steady stream into the wells and not in a drop-wise manner. b. All aspirate needles should aspirate PBS out of wells. c. Stylus and flush the manifold if these checks fail. D. Inspect the tubing and manifold needles for signs of contamination. The tubing should be relatively clear and not discolored. The manifold needles should be free of debris or protein deposits. Refer to the "As Needed Maintenance" section of this procedure if the checks fail.
2	Perform a Residual Saline Verification Check. A. The intent of the residual saline verification is to provide an indirect way of assessing probe height. When the washer probe is at the correct height, a very small amount of saline will remain (approximately 4-8 µL). It is not required that the exact amount of saline be measured. B. Place Capture test strip wells in a plate and place on the washer platform. C. Prime the washer and intake line with PBS. Set the program to P1 and wash the applicable number of rows. D. Check the residual saline in each well. a. The well should appear almost dry. b. The amount of saline that remains in each well of a blank plate can be gauged by turning the plate over a paper towel and slamming the plate down. i. The blots formed on the paper towel can help in determining the amount of saline remaining in the wells and if the wells are filled equally. ii. The wetted areas on the towel should approximate the size of the well opening. iii. The moisture blots should not run together or thoroughly saturate all areas of the towel. iv. If the amount of saline cannot be visualized, the plate can be weighed. Weighing the plate (10 µL remaining in all wells should increase the plate weight by 1g).
3	Empty the waste container.
4	Fill the PBS and deionized (DI) water reservoirs.

Form revised 3/31/09

Weekly Maintenance

Step	Action
1	Backflush the reservoir filters. The inline filters in both the Wash and Rinse reservoirs should be back-flushed at least once a week to remove trapped particles and prevent excessive back pressure on the dispense module and aspiration pump. A. Fill a syringe with the appropriate rinse solution (DI water or PBS). B. Place clean gloves on your hands. Use of clean gloves will help to minimize the possibility of contamination. C. Unscrew the bottle (DI water or PBS) that corresponds to the fluid in your syringe and remove the filter from the line. D. Attach the syringe to the top of the filter. E. Squeeze the fluid (DI water or PBS) through the filter into the sink or another container. F. Reattach the filter to the line. G. Perform daily maintenance or prime the instrument to remove air bubbles from the lines.

Monthly Maintenance

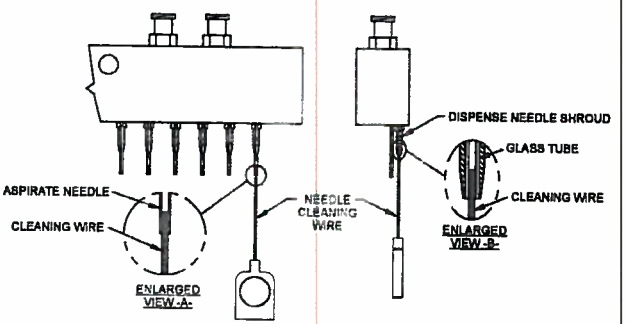
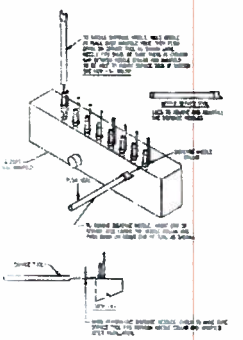
Step	Action
1	Replace exhaust filters.  10 A. Open the exhaust cap on the rear panel. B. Remove the cotton balls and replace with 2 clean cotton balls. C. Re-attach the exhaust cap.

Form revised 3/31/00

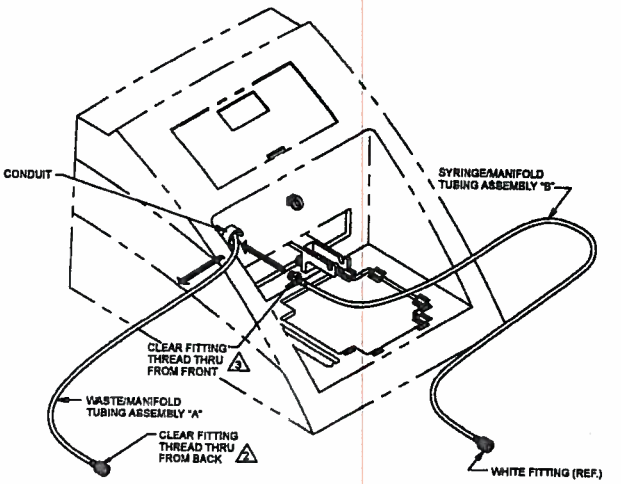
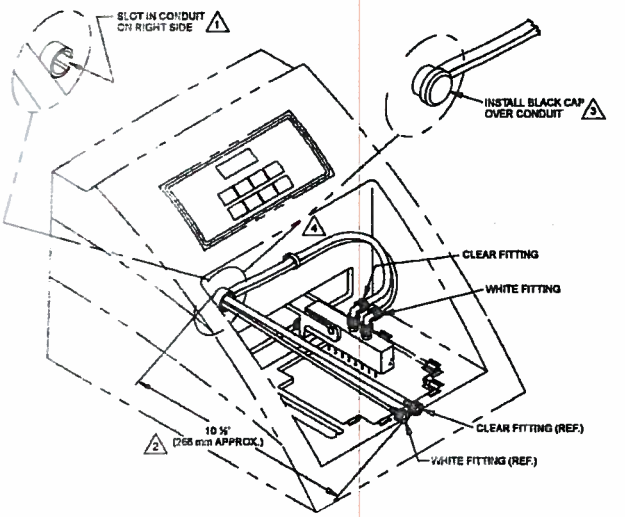
Step	Action
2	Perform verification of fill check. A. Prime the instrument twice. a. Press the "Prime" button. b. The instrument will perform a prime cycle. Wait until the cycle completes. c. Press the "Prime" button a second time. d. The instrument will perform a second prime cycle. B. Disconnect the saline tubing from the manifold and place it into a graduated cylinder. C. Set the wash program to P1. D. Set the row selection to 1. E. Press start and allow the instrument to complete a wash cycle. Allow the saline to dispense into the graduated cylinder during the wash cycle. F. Reattach the tubing after the second cycle and before the final dispense. G. The fill cycle should deliver 21.6 – 26.4 mL. H. Document the volume of saline on the QC form. I. Remove the instrument from service if the saline dispense is out of range.

Form revised 3/31/00

As Needed Maintenance

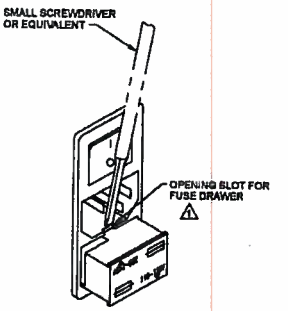
Step	Action
1	Clean the manifold needles. A. Wipe the outside of the manifold needles with an alcohol swab (70% isopropyl alcohol). B. If a clog is suspected, rinse the manifold assembly with warm water. a. Remove the manifold from its slot. b. Disconnect the fittings from the manifold. c. Fill a syringe with warm water. d. Attach the syringe to the fittings. e. Gently press the syringe to force the water through the dispense and aspirate needles. C. Use a cleaning wire to unclog aspirate or dispense needles when the rinse fails. a. Exercise care to prevent breakage of the precision glass inserts. The needles contain an outside sheath of plastic housing an inner precision bore glass capillary tube. b. Avoid bending the assembly when handling. c. Excessive pressure on the cleaning wire can break or chip the glass tube. 
2	Replace dispense manifold needles. A. A needle service tool is required to replace manifold needles. B. Insert the needle service tool under the dispense needle collar. C. Pry the dispense needle upward with the tool. This will loosen the needle from its press fit with the manifold. D. Place the new needle into the open end of the needle service tool and firmly insert it into the manifold. 

Form revised 3/3/00

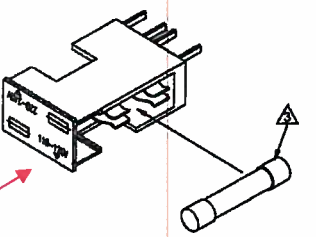
Step	Action
3	Install manifold tubing. A. Identify the existing or new tubing, waste/manifold assembly "A" and tubing syringe/manifold assembly "B." B. Thread the clear fitting on tubing assembly "A" through the conduit from the rear of the unit. C. Thread the clear fitting on tubing assembly "B" through the conduit from the front of the unit. D. Turn the conduit so the tubing relief slot is at the right side when viewed from the front of the instrument. E. Measure to ½ inch of tubing from the front of the case to the end of the luer fitting. F. Install the black cap to close off the front end of the conduit. G. Thread both luer fittings through the tubing clip.  

Form revised 3/31/00

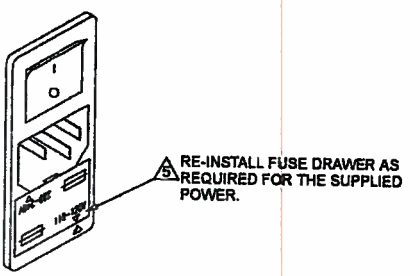
Step	Action
4	Change the fuse. A. Disconnect the power cord. B. Remove the fuse drawer using a small screwdriver by prying at the slot at the top middle of fuse drawer.



C. Temporarily place the fuse drawer on the bench.
D. Remove the fuse from the fuse drawer.
E. Install a new fuse in the fuse drawer. Note: You must look at the wording on the fuse drawer.
   a. The words "110-120 V" must be facing the correct direction.
   b. The fuse must go in the right side of the fuse drawer.



F. Reinstall the fuse drawer with the "110-120V" wording facing the correct direction.



G. Replace the power cord.

Form revised 3/1/00

Step	Action
5	Decontaminate the instrument. A. Use an alcohol pad (70% isopropyl alcohol) to clean all outside surfaces of the CSW 100. B. Dry the surfaces of the CSW 100 with paper towels or gauze. Use a cotton swap to clean and dry hard to reach areas. C. Pump 70% isopropyl alcohol through the manifold. a. Remove the manifold from its slot. b. Disconnect the fittings from the manifold. c. Fill a syringe with 70% isopropyl alcohol. d. Attach the syringe to the fittings. e. Gently press the syringe to force the alcohol through the dispense and aspirate needles. D. Empty and dispose of all liquids (PBS, DI water, waste).

6. RELATED DOCUMENTS

None

7. REFERENCES

ImmucorGamma CSW 100 Capture Strip Well Washer Operation and Maintenance Manual, ImmucorGamma, Norcross, GA, 11/1997.

8. REVISION HISTORY

Version	Date	Reason for Revision	Revised By	Approved By
000	11.14.12	Section 5: Removed instructions to disconnect and re-attach the dispense tubing during monthly maintenance. Added wording to document the volume of saline dispensed during fill check on the QC form.	SCodina	NCacciabeve

9. ADDENDA AND APPENDICES

Immucor Manual Capture Equipment Maintenance Record (see Attachment tab of Infocard)

Form revised 3/31/00