

Title: Manual Platelet Washing using PAS-3/Intersol

Principle: Washing removes additional plasma which includes isoagglutinins and A & B substance that can form immune complexes. The immune complexes can attach to platelets resulting in decreased survival. Plasma reduction is also desirable for patients with IgA deficiency and for patients with repeat transfusion reactions to plasma proteins. Additionally, removing plasma reduces platelet specific antibodies for cases of neonatal immune thrombocytopenia.

Policy: Washed platelets are prepared for patients with various diagnoses or conditions as delineated in SH.857 *Transfusion Protocol Chart*. Washed platelets are also indicated to remove ABO incompatible plasma for transfusions of ABO compatible/non-identical platelets as defined in SH.778 *ABO Selection of Blood Products*. Platelets expire 4 hours from the time the unit is first spiked or the original expiration date and time, whichever is sooner. The expiration date and time of the washed product is recorded in the electronic record of the unit and on the modified product label.

During times of platelet shortages, and instances where infants require washed products, it is acceptable to split platelet products in half and wash a half dose of platelets. An additional bag of PAS-3/Intersol may be necessary.

Platelets will be routinely re-suspended in PAS-3/Intersol. Additional volume depletion is unnecessary.

Scope: MT and MLT trained in Blood Bank procedures

Specimen: N/A

Records/Forms/Documents: QCF 58 and 59 Lot Number Tracking Sheets, QCF 88 Washing Inventory Card, SH.517 Washing Platelets, SH.729 Sterile Tubing Welder, SH.240 Sorvall Refrigerated Centrifuge Operation

QC: Pre and post specimen are collected for quality control testing concurrently during the performance of washing platelets on a routine basis as specified by the quality assurance program.

Procedure:

Materials:

2-600ml transfer packs
10% Bleach
Scale
Heat Sealer
Floor model centrifuge

Hemostat
Platelet product
500ml bag of PAS-3/Intersol
Plasma extractor

2 Needle-free spikes
Platelet Label
Scissors
Sterile connector

Procedure Steps:

1. Verify that the centrifuge is at room temperature. Make temperature adjustments as appropriate.
2. Complete all necessary computer work per SH.517 *Washing Platelets*.
3. Record the transfer sets, needle free spike sets and PAS-3/Intersol lot number and expiration date if not already done on the QCF 58 and 59 *Lot Number Tracking Sheets*.
4. Spike the platelet with a needle free spike set.
5. Attach appropriately labeled transfer pack to the spike in the platelet bag. Hang platelet bag and allow all platelets to enter the transfer pack. Express air from the transfer pack.
6. Hemostat the line of the transfer pack.
7. Spike the bag of PAS-3/Intersol with a needle free spike set. Label PAS-3 bag.
8. Attach line of the transfer pack containing platelets to the spike in the PAS-3 bag. Hang PAS-3/Intersol bag, release hemostat and fill transfer pack to fill with PAS-3/Intersol to a net weight of 550g. Once final weight is reached, place a hemostat on the tubing closer to the transfer pack.
9. Attach an empty transfer pack to the transfer pack containing the platelet/PAS-3 following SH.729 *Sterile Tubing Welder*.
10. Reserve the labeled PAS-3/Intersol bag for resuspension.
11. Centrifuge the donor unit following SH.240 *Sorvall Refrigerated Centrifuge Operation*. Settings for Sorvall BP8 centrifuge are as follows: 4315xg (3850 RPM) for 5 minutes at $22 \pm 2^{\circ}$ C.
12. Open the plasma extractor by pulling down on the handle and latching it in place.
13. Taking care not to mix the contents, hold the transfer pack at the top, with the label to the back. Insert the prongs on the extractor into the two holes at the top of the bag.
14. Release the sterile connecting weld from the transfer tubing.
15. Slowly release the extractor handle and allow the plastic plate to express the supernatant into the transfer pack to a net weight of 475g. Clamp the tubing with the hemostat.
16. Pull down on the extractor handle and latch it as before.
17. Remove the transfer pack from the extractor and return the handle of the plasma extractor to the upright position.
18. Attach the reserved PAS-3/Intersol to the platelet bag following SH.729 *Sterile Tubing Welder*.
19. Hang the PAS-3/Intersol bag, release the sterile connecting weld from the tubing. Allow PAS-3/Intersol to fill transfer pack to a net weight of 150g. Clamp the tubing with the hemostat.
20. Heat seal the tubing closer to the platelet bag. Use 2 metal clips to seal tubing if a heat sealer is not available.
21. Allow platelets to rest without agitation for 10-30 minutes.
22. Gently mix platelets manually. Place on platelet shaker for 5-15 minutes.
23. Visually inspect platelets for clumps and swirling.
24. Cut transfer pack containing expressed supernatant with scissors and drain into the dirty sink.

25. Dispose of the transfer pack in a red-bagged garbage container.

26. Spray sink with 10% Clorox, then rinse with tap water.

Limitations:

- An additional bag of PAS-3/Intersol may be required for low weight and/or split platelets.
- Washing very large volume platelets may result in a product containing a higher percent of residual plasma.
- In the event PAS-3/Intersol is unavailable, refer to supervisor, TIC, QA Specialist, or Blood Bank physician.
- Platelets suspended in 100% plasma will result in excessive residual plasma levels and should not be used for washing.

Interpretation:

- For any platelet that is out of the acceptable weight range or contains large clumps, check with a supervisor, TIC, QA Specialist, or Blood Bank physician to determine suitability of use. Document approval and possible reason for the problem on the washing inventory card.

Results Reporting:

- Product weight is recorded on QCF 88 *Washing Inventory Card*. All other product tracking requirements are documented in the BBLIS.

References:

The following regulatory agencies have been reviewed for all applicable current regulations and standards of practice:

1. AABB Standards for Blood Banks and Transfusion Services, current edition
2. AABB Standards for Immunohematology Reference Laboratories, current edition
3. CAP All Common and Transfusion Medicine Checklists, current version
4. FDA, eCFRs and guidance documents, current versions
5. NYS, General System Standards and Laboratory Blood Services and Immunohematology
6. FACT - JACIE International Standards for Hematopoietic Cellular Therapy Product Collection, Processing and Administration, current edition

Additional References:

E. A. Pineda, V. W. Zylstra, D. E. Clare, M. K. Dewanjee, and L. A. Forstrom "Viability and functional integrity of washed platelets" *Transfusion* 1989; 29:524-527.