

Blood Components Prepared by the Buffy Coat Production Method

- Information For NURSES -

Canadian Blood Services (CBS) is the supplier of blood components (red cells, plasma, platelets, etc.) to hospitals in all provinces and territories of Canada except Quebec. CBS is in the process of implementing the Buffy Coat component production method in Canada. This production method has been widely used in Europe since the late 1980's and has already been implemented in Northern Alberta, Northwest Territories, British Columbia and the Yukon. The Buffy Coat production method increases the yield of platelets and plasma from each unit of donated blood.

Some of the implications of interest to nurses are listed below:

Description of change	Impact(s) *
1. Platelets will be provided in pools obtained from 4 donors and suspended in plasma from one of the male donors, for a final volume of about 300 mL and a total platelet count similar to that previously obtained from 5 donors.	<ul style="list-style-type: none"> • Nurses will hang only one bag for a pool of platelets instead of hanging 4 or 5 bags in hospitals that do not already pool platelets. • Wording of platelet orders needs to change e.g. order "one adult dose platelets" instead of "5 units of platelets." • A small number of single random donor platelets will still be available for neonatal transfusions. • Less platelet dysfunction due to the production method.
2. Pooled platelets will be tested for bacterial contamination by CBS. This is already the case for single donor apheresis platelets.	<ul style="list-style-type: none"> • All platelet products will be tested for bacterial contamination by CBS. • There will be some product recalls due to positive screening test results after platelets have been distributed to hospitals.
3. The products will be distributed in different bags. 4. The port protectors are slightly different.	<ul style="list-style-type: none"> • Hospitals must use blood component administration sets compatible with the new bags.
5. The labels on the bags will look slightly different.	<ul style="list-style-type: none"> • No significant impact.

* Special considerations may apply to neonates.

Some things will not change:

- All cellular components will be leukoreduced (most white blood cells removed during processing).
- The requirements for suitable administration sets, filters, infusion times and rates, and patient monitoring for adverse effects do not change.
- The only fluid compatible with blood products is sterile 0.9% sodium chloride USP solution.

Spiking the Bags

- Do not over spike the red cell bags. Over-spiking will result in inability to remove the infusion set.
- Always insert/remove the infusion set using ¼ turn motions (same as for current Pall bags). Insert with clockwise ¼ turn twists and remove with counter clockwise ¼ turn twists. Do not twist in both directions while spiking or unspiking. Pulling the spike out in a straight downward motion will result in the tightening of the port on the spike.

More details, including a short video showing the spiking method, are available at www.transfusionmedicine.ca.