

Blood Components Prepared by the Buffy Coat Production Method

- Information For PHYSICIANS -

Canadian Blood Services (CBS) is in the process of implementing the Buffy Coat component production method in Canada. This production method increases the yield of platelets and plasma from each unit of donated blood. **Some of the implications of interest to physicians are listed below:**

| Description of Change | Impact(s) * |
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| 1. Anticoagulant for whole blood collections will be CPD (and not CPDA-1 or CP2D). | <ul style="list-style-type: none"> For most transfusions, none. CPD has lower glucose levels. |
| 2. RBC preservative solution will be Saline Adenine Glucose Mannitol (SAGM) rather than AS-3. | <ul style="list-style-type: none"> No significant impact identified. |
| 3. Plasma from all whole blood donations will be frozen within 24 hours (frozen plasma, FP) rather than within 8 hours (fresh frozen plasma, FFP). | <ul style="list-style-type: none"> Coagulation factor function is retained at a clinically appropriate level in FP. Apheresis FFP will still be available. Cryoprecipitate labeled for Fibrinogen/VWF replacement not FVIII. |
| 4. Products will be distributed in different bags . 5. Port protectors are slightly different. | <ul style="list-style-type: none"> Hospitals must use blood component administration sets compatible with the new 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. Insert with clockwise ¼ turn twists and remove with counter clockwise ¼ turn twists. Pulling the spike out in a straight downward motion will result in the tightening of the port on the spike. |
| 6. Platelets will be provided in pools obtained from 4 group-matched donors and suspended in the 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"> Decreased recipient exposure to multiple donors. Wording of platelet orders needs to change e.g. order “one adult dose of platelets” or “one unit” instead of “5 units of platelets.” Less platelet dysfunction due to production method. |
| 7. Pooled platelets will be tested for bacterial contamination by CBS using the BacT/ALERT system. 8. Due to the short shelf life of platelets, distribution will not be delayed to await final test results. | <ul style="list-style-type: none"> All platelet products will be tested for bacterial contamination by CBS. There will be some unavoidable product recalls due to positive test results after platelets have been distributed to hospitals. |
| 9. Autologous blood will be collected in CPD and separated into SAGM red cells and plasma only. | <ul style="list-style-type: none"> Autologous red cells and plasma, but not whole blood, will be available. Autologous red cells will have a shelf-life of 42 days instead of previous 35 when collected in CPDA-1. Autologous plasma will be available only if indicated on the “Physician Request for Consideration for Autologous Transfusion” form prior to donation (for rare indications). |
| 10. Directed donations will be collected in CPD and separated into SAGM red cells and plasma only. | <ul style="list-style-type: none"> Directed whole blood will no longer be available. Directed donor red cells will have a shelf-life of 42 days instead of 35 when collected in CPDA-1. Directed frozen plasma will only be provided if compatible and the request is made on the “Physician Request for Directed Donation” form. Maternal frozen plasma will not be provided (TRALI prevention initiative). |
| 11. Pediatric Considerations | |
| <ul style="list-style-type: none"> A small number of whole blood random donor platelets will be available for pediatric transfusion. Maternal apheresis platelets will still be available for treatment of NAIT. Apheresis single donor platelets or pooled buffy coat platelets may be aliquotted into several pediatric doses. Order platelets in mL: Children: 5-10 mL/kg up to a max. of 300 mL (adult dose); Neonates: 15-20 mL/kg. | |

* Some things will not change: All cellular components will be leukoreduced.