Machine settings were: Trima (n=50): yield 3.5×10^{11}, AC ratio 1:7 increasing to 1:10.5 (ramp time 11 min). Return and flow speed depend on donor conditions. Amicus (n=50): yield 4.5×10^{11}, citrate infusion rate: 1.25 mg/kg/min, draw 90 mL/min, return 130 mL/min. MCS+ (n=120): yield 3.0×10^{11}, CDV 60 mL/min, PLT threshold 87%, PWC factor 5, draw 60 mL/min, return 90 mL/min, number of cycles: 5.

All procedures had a mean platelet yeild > 300×10^9 and a leucocyte contamination < 1×10^6. No severe side effects were observed. The Trima and the Amicus had the highest platelet yield in the shortest time. The Trima system is easy to handle and has a clear screen. The MCS+ is also easy to handle and there were no failures during the testing period.

Automated Blood Component Collection

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As an alternative to collecting whole blood and fractionating it into its components (red cells, platelets and plasma), new technology has emerged that allows the major blood components to be collected automatically at the donor side. The feasibility of this concept was tested in our blood bank using a new device, the Cobe Trima in its late prototype/early release version. It is a new generation of highly automated blood cell separators, designed to deliver high quality blood components in standardized quantities. Depending on donor characteristics and donor time the machine will propose one or more product combinations (platelets + plasma, platelets + red cells, platelets only, platelets + plasma + red cells), based on centre-dependent predefined product definitions, combination preferences, and donor safety considerations. The operator then selects from these possibilities the procedure that best matches the donor's and the blood centre's needs. Leukocyte reduced platelet concentrates (using the LRS chamber) were collected at a target concentration of 1400×10^9/L, whilst packed red blood cells had a target volume of 225 mL and a target collection hematocrit of 80%. After the collection of red cells, 80 mL SAG-M was added. Plasma was collected on an ''as much as allowable basis'' whenever donor characteristics (including the hypovolemia limit related to those characteristics) and procedure characteristics (including time) allowed collection of plasma. The majority of the donors were recruited from our regular plasmapheresis and plateletpheresis donor population. For the red cell + platelet donations, regular whole blood donors were asked to donate. The performances of the different procedures are summarized in Table 1. Some storage parameters of the red cells are summarized in Table 2.

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Table 1.

Procedure	Run time (min)	Platelets (10^{11})	Plasma	RBC (mL at 100%)	*n*
platelet+plasma	71±12	6.7±2.5	201±35	—	76
platelet only	74±14	6.8±1.5	—	—	12
platelet+RBC*	68±12	5.4±1.4	—	173±10	56

Table 2.

Parameter	EC standard	Trima rbc	Control
Hct % (after SAGM)	55–65	61±1	61±3
At day 42			
Haemolysis %	<0.8%	0.45±0.14	0.33±0.32
Potassium		7.4±0.03	7.3±2.5
Adenylate energy charge		0.74±0.03	0.61±0.06

Also, the quality parameters for platelets at day 5 (pH= 7.14, hypotonic shock response 81% reversal) and plasma (FVIII activity of 1.05±0.38 Ill/mL and platelet concentration of 9±6 $\times$ 10^9/L platelets) fell completely with the limits. All platelet products contained less than 1 $\times$ l0^6 residual WBCs.

In conclusion, the Cobe Trima allowed the collection of platelets and/or plasma and/or red cells with a consistently high efficiency. All blood components completely met the required quality standards. For the operator, it is a user friendly device, requiring minimal experience as donor procedures are predefined by the supervisor. We expect that a subpopulation of our whole blood donors will switch to automated component donation. This allows blood donors to become red cells plus platelet donors and to donate on a four times per year basis (or whatever is legally allowed for red cell donation, given local regulations). This is advantageous for the blood bank providing services for hematological departments, having a larger population willing to donate single donor platelets, without losing the valuable packed red cells donated by those donors.

Influence of Replacement Fluid on TTP: The Experience of the anadian APheresis Group

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Thrombotic thrombocytopenic purpura (TTP) is an uncommon thrombotic disorder of unknown etiology which can be rapidly fatal. The Canadian Apheresis Group has reported previously that plasma exchange using replacement with normal fresh frozen

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