

MCS[®]+

Creating a positive
donation & collection
experience

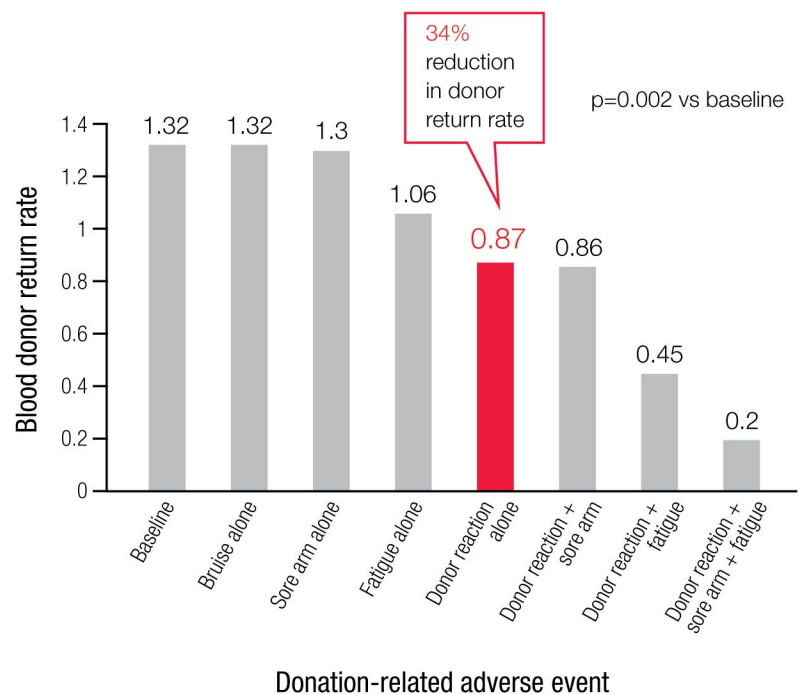
INTEGRATED DEVICES



A positive donation experience keeps donors coming back...



- The demand for blood and blood products is increasing worldwide^{1,2}
- The recruitment and retention of donors is the most challenging aspect of running an apheresis programme¹
- Satisfaction with the donation experience predicts actual donor return³
 - A good donation experience is also associated with higher intention to return for another donation²
- Donation-related adverse events, in particular donor reaction, impacted negatively on donor return rate⁴



Results of a retrospective study of 1,000 randomly selected whole-blood donors. 'Donor reaction' was defined as dizziness, feeling warm and perspiring, pallor, sudden weakness, hypotension, slow heart rate or syncope.

A positive apheresis experience



"I have been donating whole blood and platelets using the MCS+ since I was in high school. It's been a wonderful experience donating my platelets to patients who need them. I am a regular platelet donor at the blood banks near my workplace, where donating is always a comfortable experience and the staff are wonderful and friendly. The MCS+ is very reliable, and I feel very comfortable whenever I donate with it."

- Lee Ho Jun, Seoul, Korea (2009)

No discomfort with apheresis donation

"As a nursing student, I understand that the platelet shortage is not only a threat to life, but also a burden to the patient's family. I remember that I first donated platelets on a Christmas day. I felt a little bit scared before the donation, but later I found that the apheresis donation was not as scary as I imagined. I did not experience any discomfort during the process. I think I would not only take apheresis donation as a mission, but I feel that I am obliged to encourage my friends to donate platelets to save lives."

- Wang Chen Zi, Shanghai, China (2012)



Apheresis: Benefits for the donor



"Since 1990, I have donated 640 times using the apheresis method. Since reading the materials on apheresis at the blood center, besides learning how collected platelets can help cancer patients, I am constantly reminded to pay attention to my physical condition. There are stringent requirements for apheresis donors; for instance, donors cannot donate platelets if their blood is too fatty. So now, I pay special attention to my diet and reduce my intake of fatty food."

- Yeh Tsung-Lung, Taipei, Taiwan (2009)

Creating a positive donation experience for donors: MCS[®]+ ensures donor comfort



- Automated draw and return speeds adjust to each donor's unique flow capabilities
- Citrate infusion control and monitoring technology ensures optimum donor comfort
 - Tightly controlled citrate infusion rates ensure slow, gradual decreases in serum-ionized calcium, resulting in fewer citrate reactions^{5,6}
 - Lower proportion of citrate incidents with MCS[®]+ than with Trima Accel[®] or AMICUS[®]^{5,6}

Apheresis system utilized	Percentage of donors needing oral calcium for hypocalcaemia symptoms ⁷
Trima Accel [®]	75%
AMICUS [®]	62%
MCS [®] +	12%

- Single-needle technology for a simple, more comfortable procedure
- Optional saline replenishes fluids lost during donation
- Quiet operation ideal for donor and patient environments

Creating a positive collection experience for users: MCS[®]+ is easy to move and easy to use

Mobile convenience

- Only 27.5 kg – lightest on the market
- Small and portable, allowing blood collection at any location

Customized collection

- Capable of single- and double-dose collection
- State-of-the-art, continuous filtration for maximum leukoreduction (i.e., residual leukocyte count $<1 \times 10^6/\text{unit}$)
- Comprehensive LDP protocol options
 - Platelets alone
 - Platelets with saline compensation
 - Platelets and plasma
 - Platelets and plasma with saline compensation



Simple operation

- Has interactive help-screens, user-friendly interface and colour-coded disposable sets for easy operation

MCS[®]+: Creating a positive donation and collection experience...

...for donors

- Automated draw and return speeds adjust to each donor's unique flow capabilities
- Citrate infusion control and monitoring technology ensures optimum donor comfort, with fewer citrate reactions^{5,6}
- Single-needle technology for a simple, more comfortable procedure
- Optional saline replenishes fluids lost during donation
- Quiet operation ideal for donor and patient environments

...and for users

- Platelets with better platelet function than products from other apheresis systems⁷⁻¹⁰
- Small and portable, allowing blood collection at any location
- Capable of single- and double-dose collection
- State-of-the-art, continuous filtration for maximum leukoreduction
- Comprehensive LDP protocol options
- Has interactive help-screens, user-friendly interface and colour-coded disposable sets for easy operation

7 Seghatchian J. Transfus Apher Sci 2006;34:125-130

8 Hagberg JA, et al. Transfusion 2000;40:182-192

9 Prochazkova R, et al. Transfus Apher Sci 2007;37:115-123

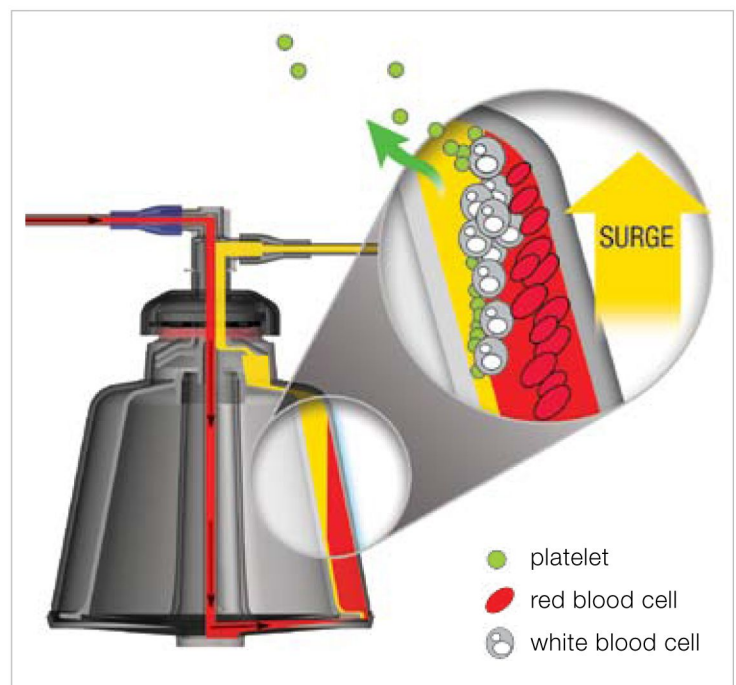
10 Jilma-Stohlawetz P, et al. Transfusion 2009;49:1564-1568

Creating a positive collection experience for users: MCS®+ yields high-quality platelets

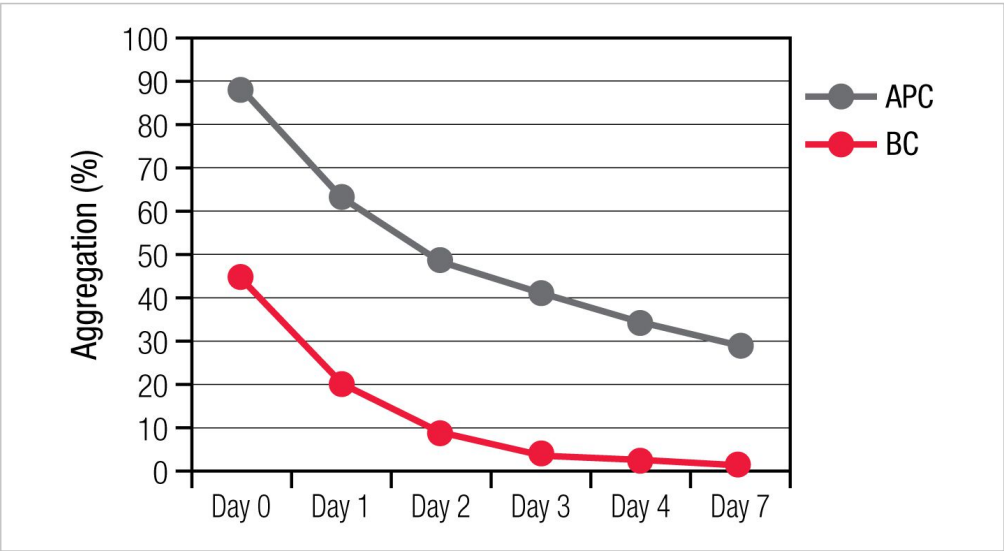
- A platelet product with well-preserved haemostatic function of platelets and **minimal platelet activation** is the ultimate goal of platelet concentrate production⁹
- However, **platelet activation and apoptosis** are induced by both collection and storage of platelet concentrates⁹
 - These metabolic and morphological alterations in platelets limit their storage and are very likely associated with decreased post-transfusion recovery in vivo⁹
- At day 3 and day 5 post-collection, platelets collected from MCS®+ showed **significantly less platelet activation** than AMICUS®-derived platelets¹¹

The Latham bowl-Surge technique results in increased yield of high-quality platelets

- The MCS®+ Surge technique combines elutriation with centrifugal separation
- Plasma which accumulates in the plasma/air bag during draw, is re-circulated back into the centrifuge bowl within the surge sequence
- Plasma surge elutes platelets from the buffy coat layer
- Post-elutriation, plasma and red cells flow back to the donor

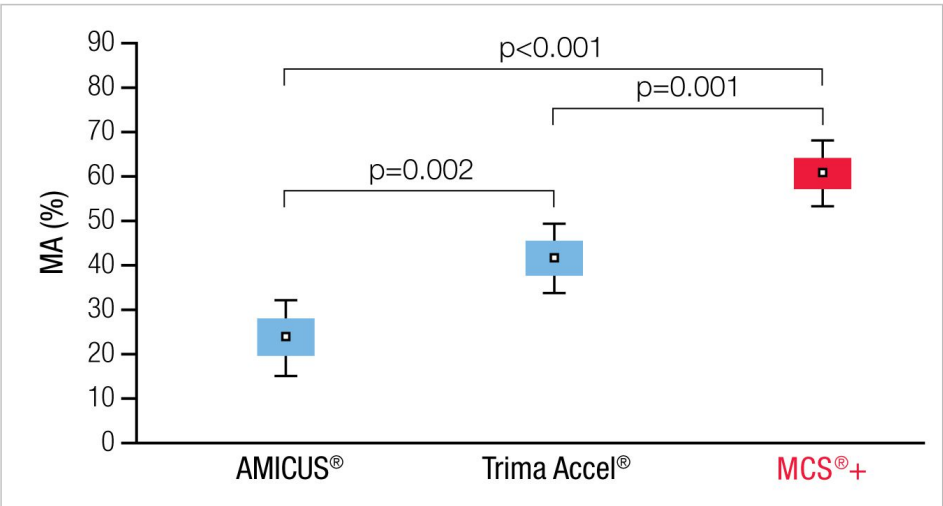


- Platelets obtained from apheresis display better platelet function than products obtained from whole blood¹²
 - Post-collection, apheresis platelet products showed **significantly better response in aggregation testing** compared with buffy coat-derived platelets¹²



APC, apheresis-derived platelet concentrate; BC, buffy coat-derived platelet concentrate
 aggregometry measurements of platelet concentrates collected from whole blood or via apheresis. Aggregation was induced by ADP (10⁻⁴ M).

- Platelets obtained from MCS®+ display **better platelet function** than products from other apheresis systems⁷⁻¹⁰
 - Post-apheresis, MCS®+ platelet products showed **significantly greater platelet activity** than Trima Accel® - or AMICUS®-derived products¹⁰



MA, maximal aggregation
 Light transmission aggregometry measurements of 60 platelet concentrates collected by the AMICUS®, Trima Accel® or MCS®+. Data are presented as mean (small box), standard error of mean (large box) and 95% confidence intervals (bars).

Specifications

Dimensions	Cabinet cover open	Cabinet cover closed
Height	68,5 cm	44 cm
Width		56,5 cm
Depth	56,5 cm	36.5 cm
Weight		27,5 kg

Conditions	Values
Ambient operating temperature	+18° C to +27° C
Tested storage temperature	0° C to +40° C
Storage humidity level	Maximum relative humidity rate of 90% ± 5%, non-condensing

Characteristics	Values (relative to input voltage)
Input voltage	230 VAC ± 10%
Operating current	~1.9 A
Fuse rating	F2.5 A @ 250 V
Operating frequency range	50 – 60 Hz
Maximum leakage current	500 µA

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Ordering Information

List-Nr

Haemonetics® MCS®+, MultiComponent Device 9000-220-EW

Protocols

LDP, Leukodepleted Platelets	89961-*
PBSC, Peripheral Blood Stem Cells	89965-*
PPP & FFP, Platelet Poor Plasma & Fresh Frozen Plasma	89960-*
RBCP+, Red Blood Cells & Plasma	89963-*
SDR & TAE, Single Donor Red Blood Cells & Therapeutic Autologous Erythropoiesis	89969-*
TPE, Therapeutic Plasma Exchange	89967-*
UPP™, Universal Platelet Protocol (UPP—For distribution outside of the U.S. Only)	11320-*

Accessories

Mobile Transport Case	9012
Machine Cart	*

* For Protocol card language translations and additional machine cart information, please contact your local sales representative.

Marketed by:



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(Head Office)

021-34303170-71

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Sukkur

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