

Spectra Optia MNC Procedure: AIMing for Change

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Better together.

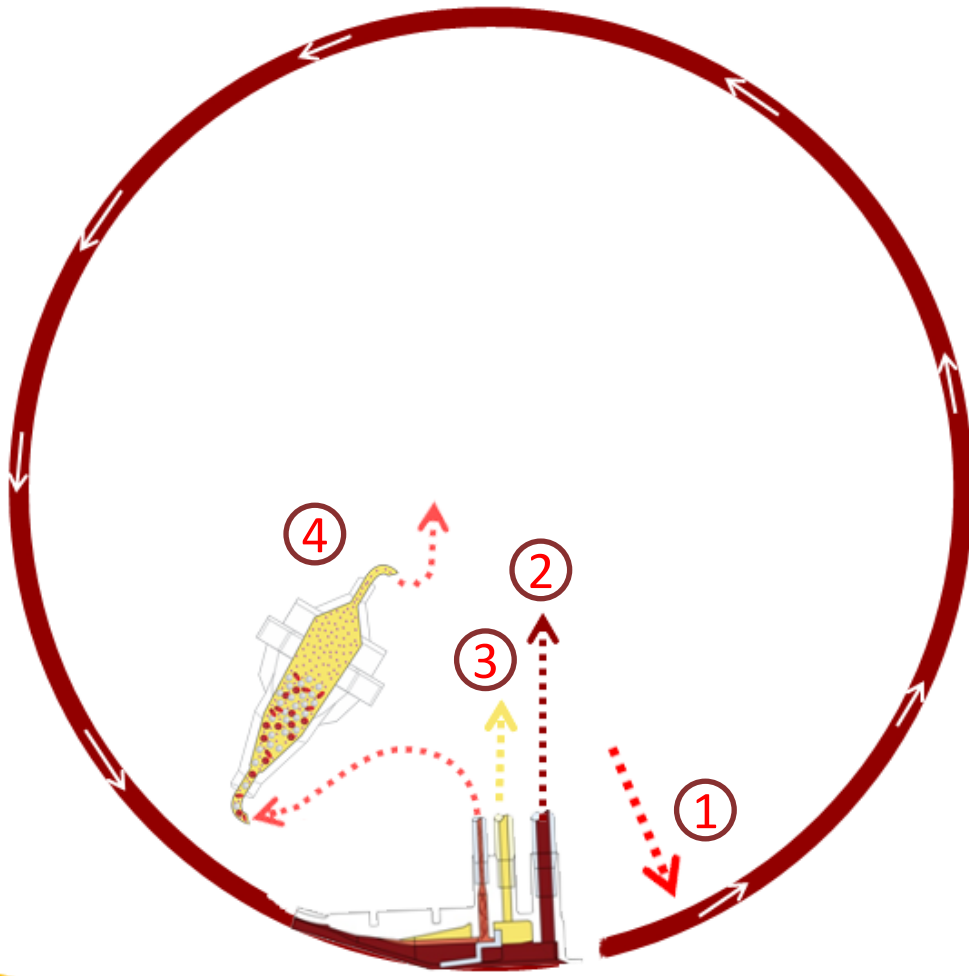
**No relevant disclosures for this
presentation**

Spectra Optia MNC Collections at Seattle Cancer Care Alliance

- MNC Collection Program Overview
- SCCA Experience with Optia MNC program
- CMNC Collection Program Overview
- SCCA Experience with Optia CMNC program

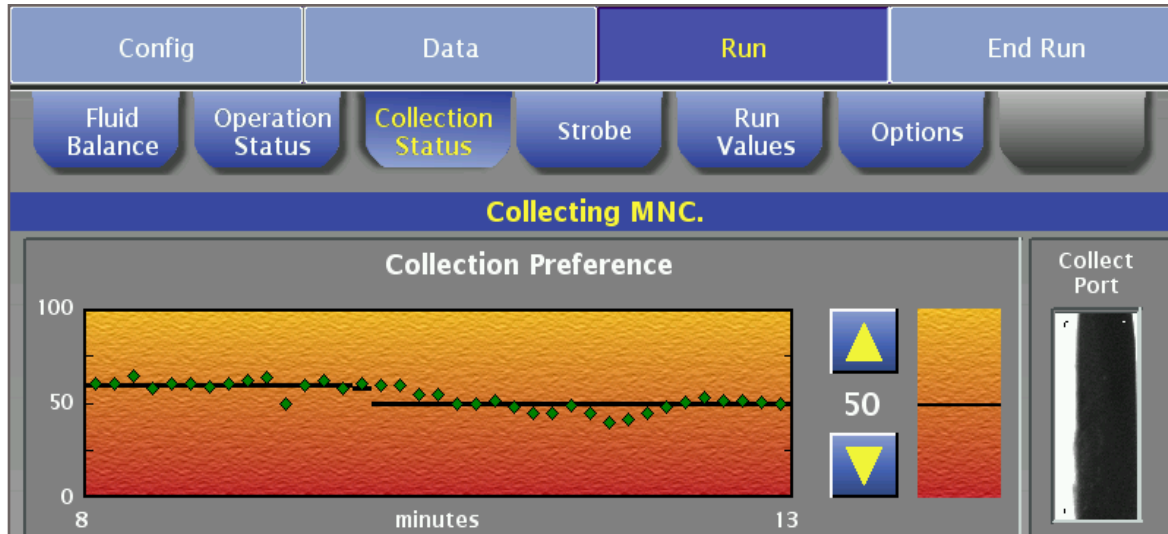
Optia MNC Program Overview

Optia MNC: Dual-stage Cell Collection



1. Whole blood IN
2. RBC OUT.
3. Plasma OUT.
4. MNCs accumulate in Chamber.
5. Chamber contents periodically collected.

MNC - Collection Status



The collection status screen provides current and historical information allowing the operator to monitor the status of the run

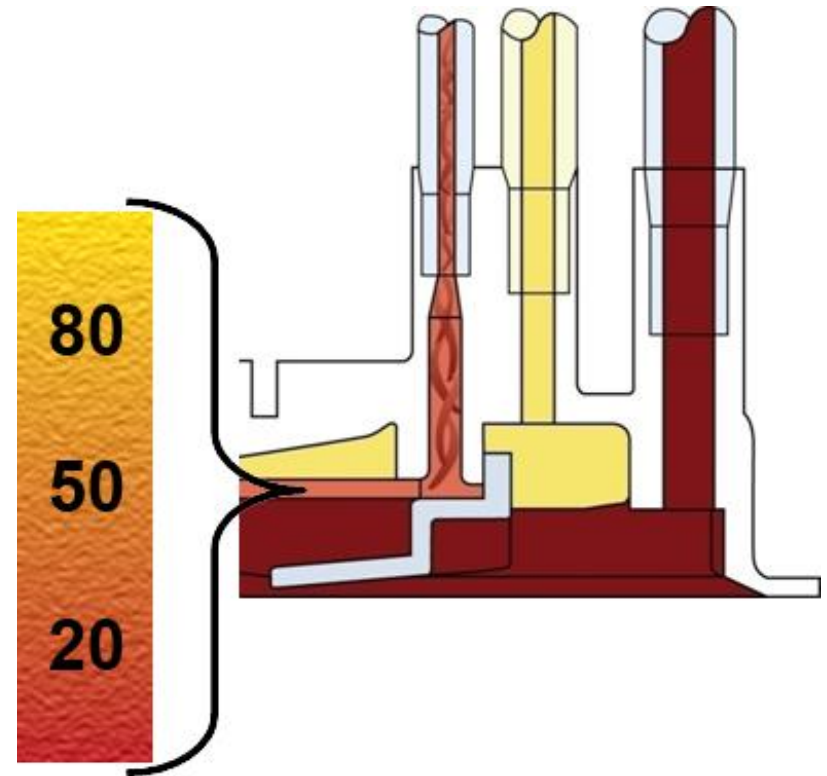
Graphical display of the concentration of cells moving through the collect port

Collect Preference adjustment

Collect Port graphic from AIM system

Spectra Optia MNC - Collection Preference

- A fine control of the **depth** at which **cells are collected** from within **the buffy coat layer**.
- Affects the **concentration of cells** that flow into the chamber and therefore **how quickly the chamber fills**.
- It replaces the COBE Spectra WBC Colorgram, providing extra consistency and less operator-dependency.



SCCA Experience - Optia MNC

Old Platform: COBE Spectra

COBE Spectra MNC Collection Parameters	
Anticoagulant	10 u heparin / 1 mL ACD-A
AC Ratio	15:1 – 35:1
AC Infusion Rate	0.8 mL / min / LTBV
Collection Target - Autologous	6 x TBV
Collection Target - Donor	12 L
Inlet Flow Rate - Autologous	150 mL/min
Inlet Flow Rate - Donor	100 mL/min
Calcium Replacement*	Calcium gluconate 1 g/hr
Ending +Fluid Balance	Not to exceed 20% TBV

* Large-volume collections only

New Platform: Spectra Optia

Spectra Optia MNC Collection Parameters – INITIAL	
Anticoagulant	10 u heparin / 1 mL ACD-A
AC Ratio	AC Ramping → 20:1
AC Infusion Rate	1.2 – 1.5 mL/min/LTBV
Collection Target - Autologous	6 x TBV (up to 24 L)
Collection Target - Donor	12 L
Inlet Flow Rate - Autologous	125 mL/min
Inlet Flow Rate - Donor	125 mL/min
Calcium Replacement *	Calcium gluconate 1 g/hr
Ending +Fluid Balance **	Not to exceed 20% TBV
Chamber Flush / Chase	Default 16/4

REGIME CHANGE !

* Large-volume collections only

** Donors – not to exceed 15% TBV

Challenge: Platelet Clumping

10u heparin / 1mL ACD-A



Platelet clumping in centrifuge – mostly with normal WBC/PLT



Low AC Ratio – 15:1-20:1 patient, 8:1-15:1 donor



Increased calcium replacement + Long collections



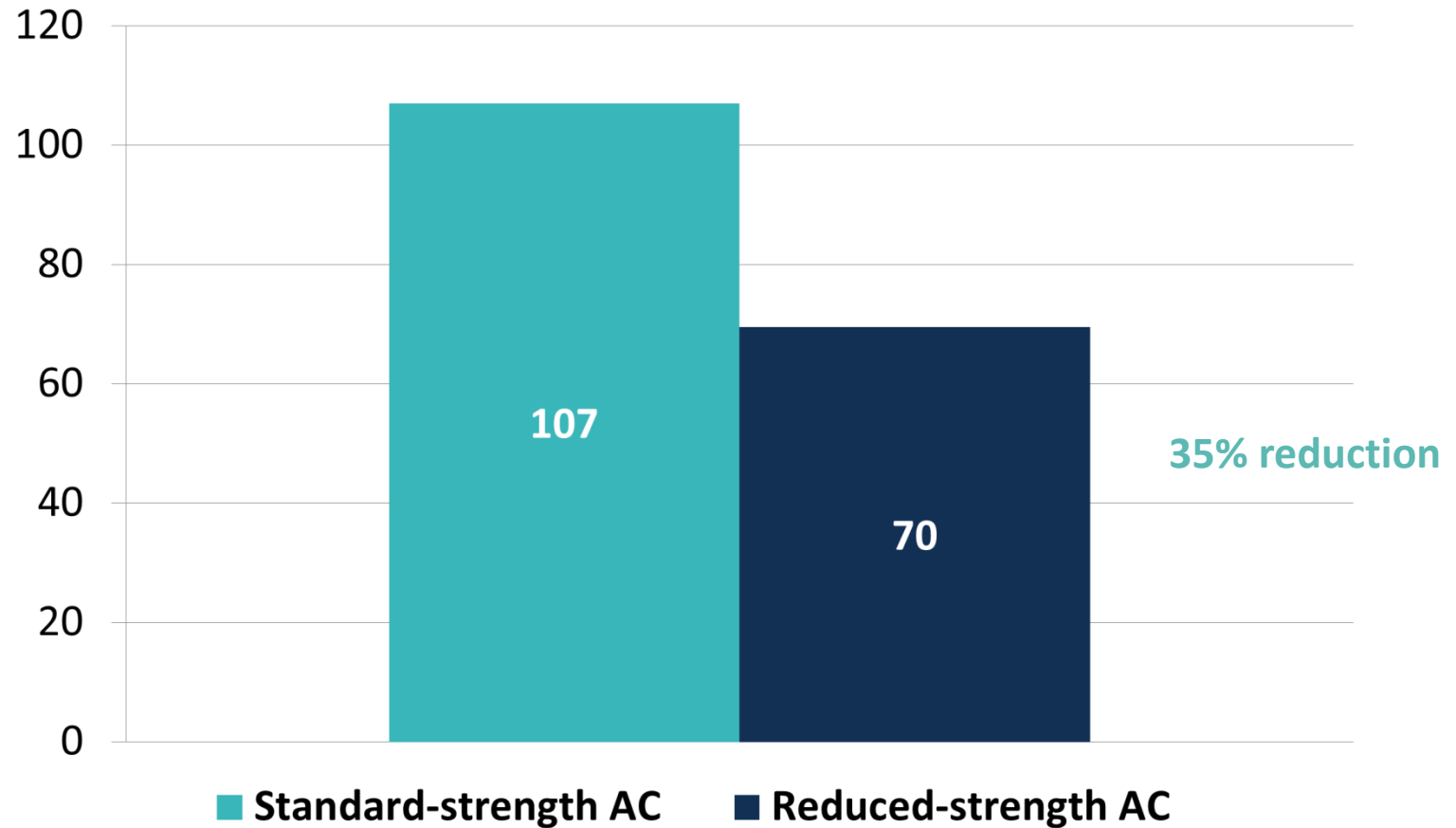
Higher ending fluid balance

Optia MNC – Take 2!

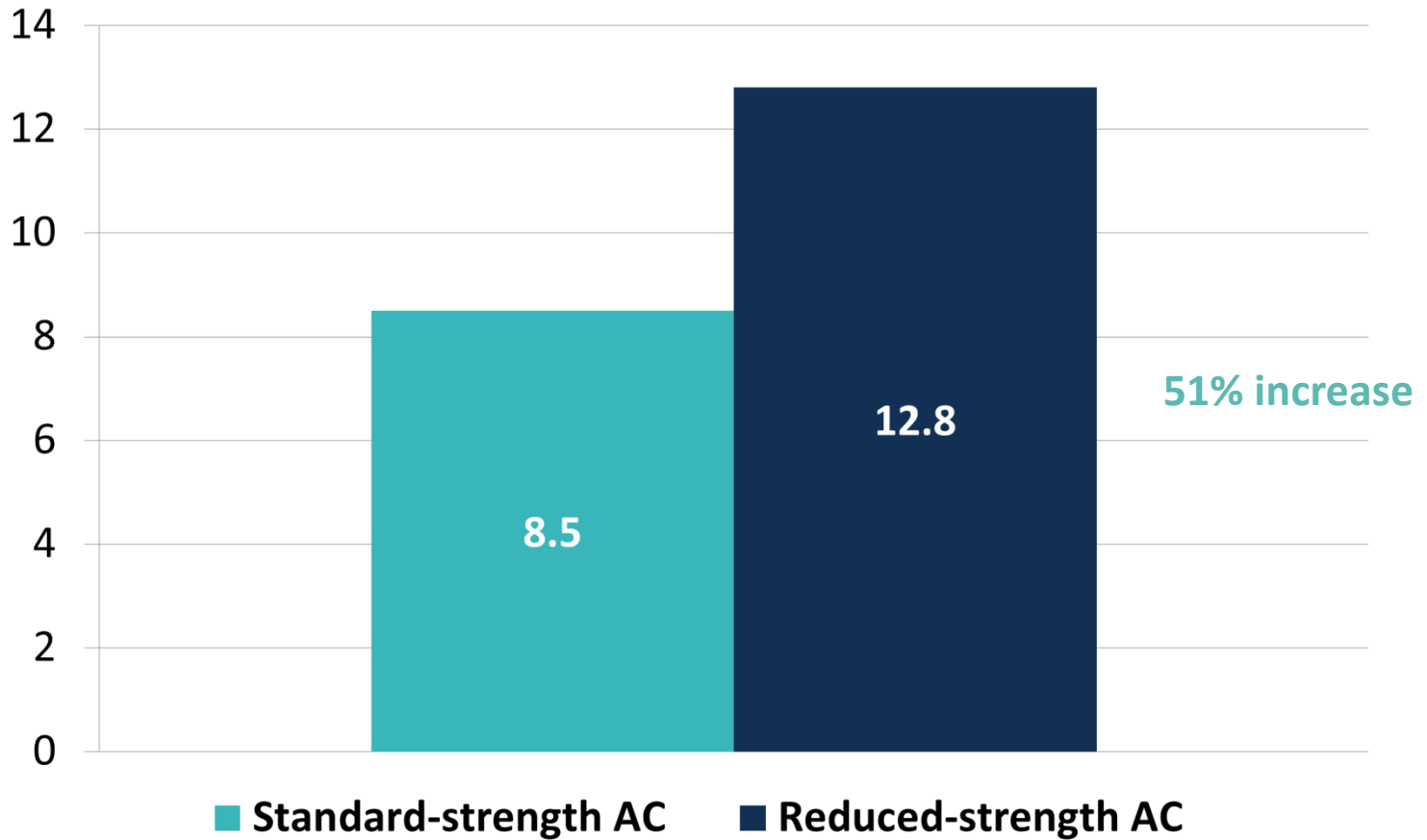
Spectra Optia MNC Collection Parameters – REVISED	
Anticoagulant	5 u heparin / 1 mL ACD-A
Aspirin 81 mg – donors only	PLT > 80,000
AC Ratio	AC Ramping → 20:1
AC Infusion Rate	1.2 – 1.5 mL/min/LTBV
Collection Target - Autologous	6 x TBV (up to 24 L)
Collection Target - Donor	12 L
Inlet Flow Rate - Autologous	125 mL/min
Inlet Flow Rate - Donor	125 mL/min
Calcium Replacement*	Calcium gluconate 1 g/hr
Ending +Fluid Balance *	Notify provider if 20% TBV
Chamber Flush / Chase	Default 16/4

* ALL POPULATIONS

ACD-A to Donor (mL per liter WBP)



Whole Blood Processed (WBP) in Liters



Revision Results

YAY!!!	BOOOO!!!
↓ Platelet clumping	Slightly less calcium delivery
↑ AC Ratio – patients 20:1	Slightly less fluid positive
↑ AC Ratio – donors 15:1-20:1	Slightly shorter procedure
↑ WB processed – donors	

Challenges: Non-mobilized MNC

Platelet clumping

- Normal PLT count
- Heparin likely aggravating PLT clumping

Unstable Interface

- Thin WBC layer / Normal PLT layer

Minimal chambers collected

- 1st chamber ~3000 mL
- 3-4 chambers for a 12L collection

Non-mobilized MNC Optimization

- Aspirin 81mg – donors with PLT > 80,000
- 5 u heparin / 1 mL ACD-A
- Collection preference 30
- Collect 1st chamber by 2000 mL
- Inlet volume control @ 1200 mL



Upside – higher cellular yield

Equivocal – larger volume product

Downside – occasionally higher product HCT%

Optia MNC: Lessons Learned

- Use less heparin
 - Use Aspirin
 - More calcium will be needed
 - Ask Terumo for collection optimization assistance
 - Estimate 45" longer than predicted procedure time
- 
- A yellow decorative wave graphic at the bottom of the slide.

Optia CMNC

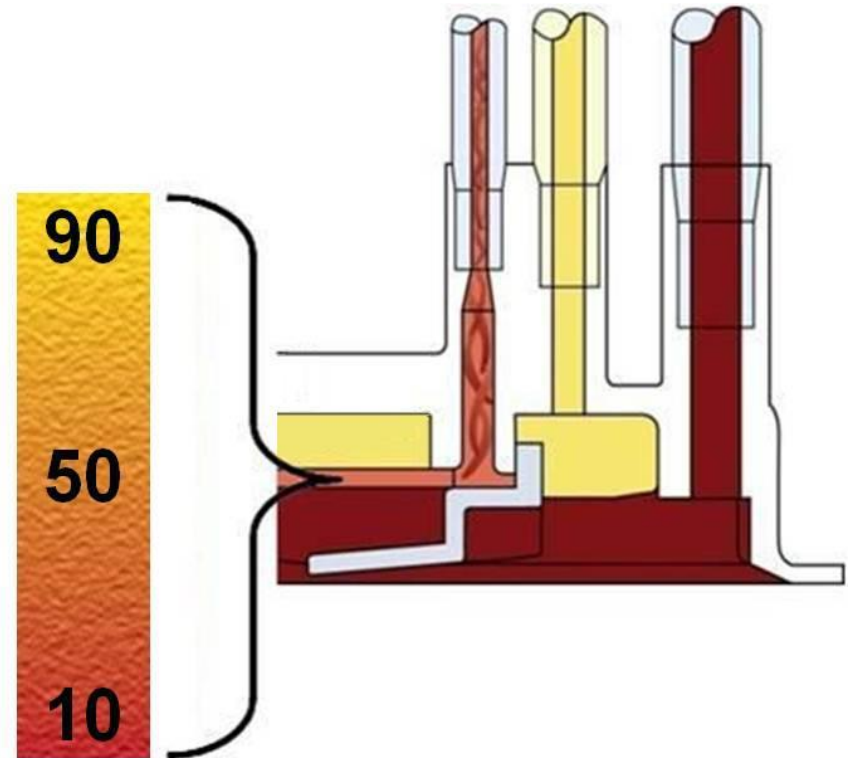
CMNC Cell Separation



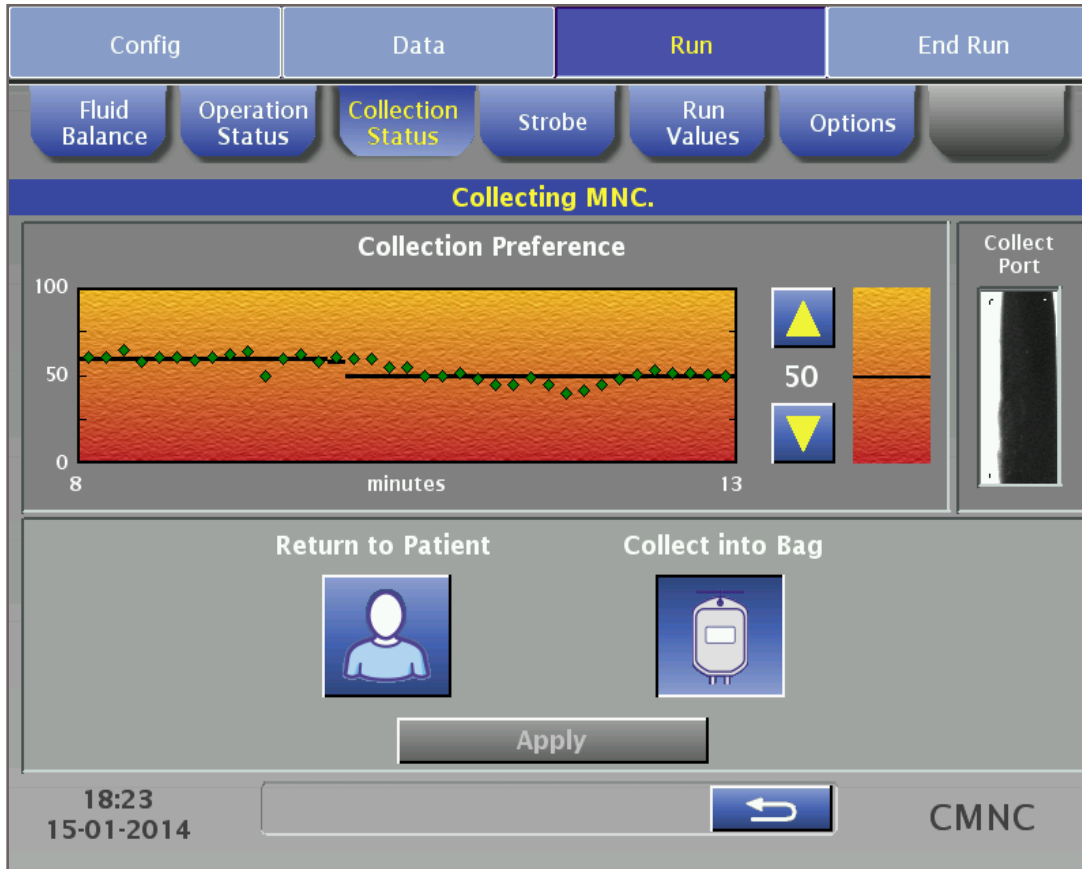
1. Whole blood enters the channel.
2. Red blood cells (RBC) flow passively to the reservoir.
3. Plasma is pumped into the reservoir or it is collected.
4. Cells are **continuously pumped** into the collection bag.

CMNC - Collection Preference (CP)

- The AIM system controls the concentration of cells flowing through the collect port (CP) by adjusting the plasma pump flow rate
- CP will always default to 50 at the beginning of each procedure to minimize RBC contamination



CMNC - Collection Status

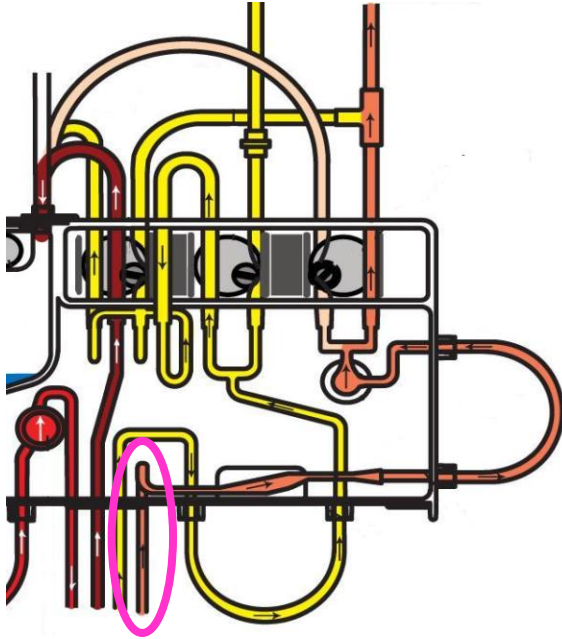


The collection status screen provides current and historical information allowing the operator to monitor the status of the run

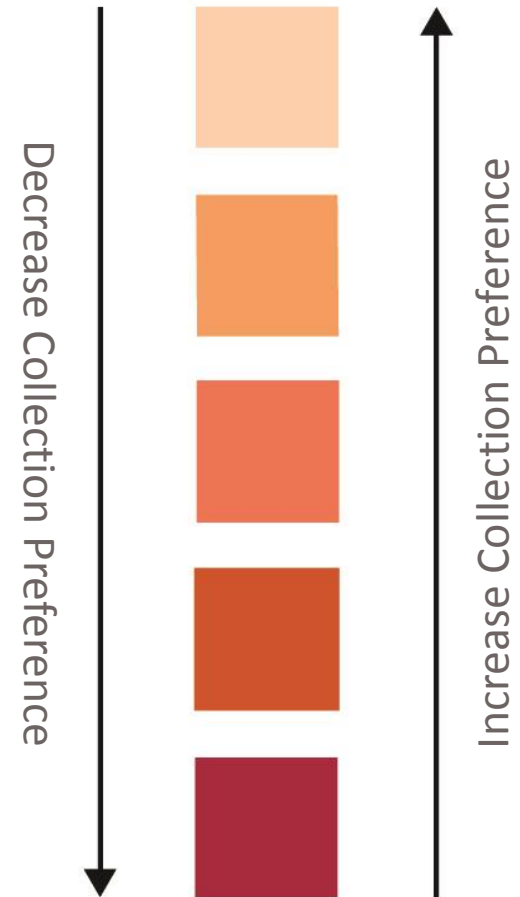
- Collect port graphic from **AIM system**
- **Collection Preference (CP)** adjustment
- Graphical display of the concentration of cells moving through the collect port

- Ability to return cells to patient to minimize cross-cellular contamination
- System warns operator if cells are not being collected.

Collect Line From the Centrifuge



Collect line exiting centrifuge is always visible to operator
Color in the line can easily be monitored



SCCA Experience - CMNC

Spectra Optia CMNC Collection Parameters	
Anticoagulant	5 u heparin / 1 mL ACD-A
Aspirin 81 mg – donors only	PLT > 80,000
AC Ratio	15:1 – 35:1
AC Infusion Rate – 12L	0.8 mL/min/LTBV
AC Infusion Rate – Large vol.	1.2 mL/min/LTBV
Collect Pump Flow Rate	1.5 mL/min
Inlet Flow Rate - Autologous	142 mL/min
Inlet Flow Rate - Donor	100 mL/min
Calcium Replacement*	Calcium gluconate 1 g/hr

* Large Volume collections only

SCCA Experience - CMNC

- No PLT clumping
- Achieved AC Ratios of 25:1 – 35:1
- CE:
 - DLI 83%
 - Mobilized donors 53 – 65%
- Product HCT 2 – 4% correlated with operator target
- No citrate toxicity
- Fast!

Thank you!

Better together.