

MARROW CELLUTION™ BMA SYSTEM

No Centrifugation Required

The patent-pending Marrow Cellution™ Bone Marrow Aspiration System is a novel bone marrow access and retrieval device that incorporates features designed to minimize limitations of traditional trocar needles.

Traditional needles aspirate primarily through an open-ended cannula, which leads to excess blood collection that requires additional manipulation (i.e. centrifugation or chemical separation in a laboratory). By overcoming these limitations, Marrow Cellution™ maximizes stem- and progenitor-cell recovery and minimizes peripheral blood infiltration.

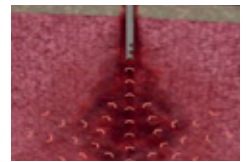
Marrow Cellution™ accesses aspirate flow collected exclusively laterally, as the tip of the aspiration cannula is closed. This allows marrow collection perpendicular to and around the channel created by the tip of the device, thus avoiding excess peripheral blood infiltration. The device also incorporates technology to precisely reposition the retrieval cannula within the marrow space after each aspiration. These features achieve a clinician's desire for a single entry point as a single puncture. Marrow Cellution™ provides high quality bone marrow aspirate collected from numerous sites within the marrow geography.

MC-RAN-13C

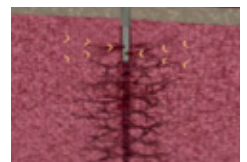
Marrow Cellution™ BMA System includes a smaller gauge than traditional Bone Marrow Aspirate Devices. It also has a closed tip to prevent infiltration of peripheral blood during the aspiration procedure, as well as a mechanical means for a measured and controlled movement of the aspiration cannula within the marrow space.

MC-RAN-8

Marrow Cellution™ System provides the additional benefit of harvesting bone dowels percutaneously for bone grafting procedures. Thereby, reducing donor site morbidity without sacrificing the cellularity of the bone graft.



Traditional Needle



Marrow Cellution

Marrow Cellution™ Benefits

- First and only bone marrow system that does not require centrifugation
- Micro aspirations from various depths limit peripheral blood infiltration to yield the highest amount of CFU-f's on the market
- Single aspiration through a 13-gauge cannula allows for in-office procedures with decreased pain for the patient
- Highest level of sterility available as the sample never leaves the sterile field

MARROW CELLUTION™ BMA SYSTEM

Marrow Cellution™ has a number of benefits that should be considered when making a clinical decision.

Reduce the Cost of Utilizing Biologics

The Marrow Cellution™ System delivers a solution at a reduced cost compared to other cadaveric or synthetic biologic options for surgical application.

Minimize Sample Waste

Centrifugation systems discard up to 80% of the aspirate due to high levels of peripheral blood, which wastes desired cells (approx. 40%). As regenerative cells increase in density prior to division, they are processed into the undesired red cell centrifuge component and then discarded, limiting the regenerative potential of the resulting sample.

Eliminate the Need to Filter

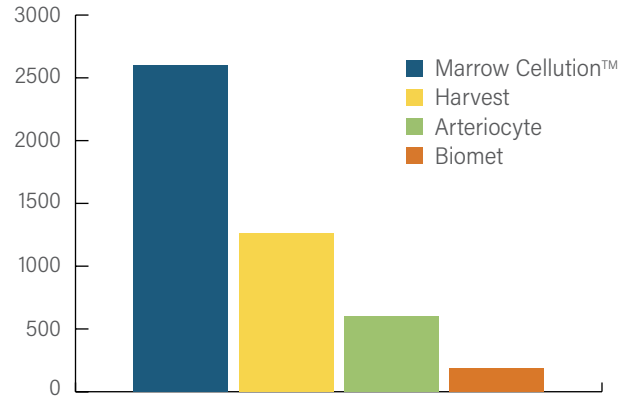
Cells bound within a cell aggregate can be delivered to the patient when mixed with graft material or injected. Filtering takes additional time, but more importantly filtering reduces regenerative potential.

Minimize O/R Time

Eliminate the centrifugation step that typically requires 20 minutes or more of spin time, additional personnel and support time for prep and cleanup of the equipment.

MARROW CELLUTION™ OUTPERFORMS OTHER LEADING BMAC NEEDLES ON THE MARKET

A comparison: CFU-F per mL vs. Centrifuge Based Systems



REFERENCES

1. Connolly J. et al. JBJS 1989;71: 684-91.
2. Hernigou P. et al. JBJS 2006; 88 Suppl 1: 322-27.
3. Hernigou P. et al. JBJS 2005; 87: 1430-7.
4. Hedge V. et al. Journal of Orthopedic Trauma 2014; vol 28; issue 10; p 591-598

ITEM NUMBER	DESCRIPTION	INTRODUCER	COMPONENTS
MC-RAN-13C	Marrow Cellution™ Bone Marrow Aspiration System – Smaller gauge than traditional BMA tools	13 Gauge effective length: 3.5"	13 Gauge x 3.5" Introducer Needle 13 Gauge Blunt Stylet 17 Gauge Aspiration Cannula 10 mL Syringe
MC-RAN-11C STS	Marrow Cellution™ Bone Marrow Aspiration System – Same as MC-RAN-11C but with longer intruder for obese patients	11 Gauge effective length: 4.5"	11 Gauge x 3.5" Introducer Needle 11 Gauge Blunt Stylet 14 Gauge Aspiration Cannula 10 mL Syringe
MC-RAN-8C	Marrow Cellution™ Bone Marrow Aspiration System & Bone Dowel Harvesting System with added ability to harvest bone dowels for grafting procedures	8 Gauge effective length: 4.0"	8 Gauge x 4" Swaged Tip Introducer Needle 8 Gauge Blunt Stylet 11 Gauge Aspiration Cannula 10 mL Syringe Measurement Probe Cancellous Bone Dowel Extraction Tool

Ask your Representative for additional sizing options.