MICROPLEGIA » The Quest Strategy for an All Blood Initiative
Quest Microplegia is Pure Simplicity and Supports Blood Conservation

Microplegia is rapidly becoming the standard of care by optimizing the aerobic environment for the myocardium through an increase in oxygen supply, buffering, and the ability to adjust potassium, magnesium, and other additives to meet the specific needs of the patient. The detrimental consequences of unnecessary hemodilution, volume overload, and potential blood transfusions are avoided with Microplegia.¹

Transform the way you protect the heart with the Quest MPS² Myocardial Protection System.

The ideal cardioplegia system is not limited by roller pump technology. The MPS 2 provides independent control of multiple drug concentrations, maximizes distribution through the heart, automatically regulates temperature, and does not require a large volume of water to achieve proper potassium concentration.

Microplegia provides superior myocardial protection as compared with crystalloid cardioplegia²,³,⁴ and is known to reduce transient cardiac edema, low cardiac output syndrome, ventilation, LOS, and inotrope use.⁵

Key Elements of Microplegia

Composition
Pure blood with specific drugs designed to arrest, protect, and optimally maintain the tissue throughout the procedure.

Distribution
With the unique capability of pressure controlled flow-modulated delivery, the MPS 2 System automatically adjusts for changes in vascular resistance to optimize distribution.

Temperature Control
The MPS 2 provides an accurate temperature control feature that allows an adjustable range from responsive cold, warm, or tepid at your command.

Safety
Advanced safety features include a gravity filled non-occlusive pump, drug delivery control and monitoring, and air emboli prevention.

Microplegia attenuates myocardial damage in unstable angina, reduces transfusion, improves postoperative systo-diastolic function, and shortens hospitalization.⁶
MPS®2 | Protecting Life With Science

Intuitive perfusion controls designed for flexible case management

Route
Antegrade, retrograde, or simulgrade

Auto-Pressure
Automatically adjusts flow to maintain a constant delivery pressure

Ratio
Enables a stepwise transition to Microplegia

Flow
Precise, continuous or cyclic delivery

Ischemic | Run Timer

Delivery Volume

Pressure
System | Delivery

Temperature
Responsive cold, warm, tepid

Additive
Targeted protection

Arrest Agent
Adjustable and precise delivery
At the heart of our technology is our spline piston pumps providing targeted blood and drug delivery to patients with unparalleled precision and accuracy.⁵

Optimal perfusion, early recovery of metabolism and function are best achieved with the MPS 2 Myocardial Protection System.¹⁷

Better distribution is synonymous with better myocardial protection.⁶

- **Heat Exchanger** - Advanced temperature control and monitoring ⁶,⁷
- **Vent** - Automatic air venting/pressure relief
- **Tubing Clamps** - Antegrade | Retrograde
- **Route** - Antegrade | Retrograde single or dual delivery lines
- **Air-in-Line Sensor** - Prevents delivery of air to patient
- **Integrated Heater/Cooler**
- **Stepper Motor Control** - Provides accuracy and precision
- **Circulation Pump**
- **Main Pump Cassette**
Seamless integration | heart-lung machine | heater-cooler | data management

The Quest MPS®2 System’s innovative technology integrates with the latest cardiac surgery equipment for an effective tool in achieving an all blood initiative.

Cost-effective solution

- Eliminates costly pharmacy solutions ¹, ⁷
- Reduces transfusion rates ¹, ⁸
- Reduces inotropes and blood products ⁷, ⁸
- Significant reduction of hemodilution with whole blood as a delivery vehicle ⁷, ⁸
- Reduces need for hemoconcentrator ⁸
- Eliminates current limitations of single or double bag (high and low K) cardioplegia system ¹, ⁸

“Our patients do very well using the Quest MPS2 Microplegia system. It has made a believer out of me.”
— Kent Jones, M.D. | Intermountain Healthcare Medical Center | Salt Lake City, UT

References
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5 Khaled D Algami, et al. Microplegia reduces the risk of cardiac output syndrome after CABG: A propensity matched study. Presented at 2011 CREF Meeting
7 Kevin Fleming, BS, CCP, et al. Perfusionist- Controlled Microplegia. The Department of Cardiovascular Perfusion, Toledo Hospital, Toledo, OH
9 Data on file

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