

Advancements in Organ Preservation

Future of Transplantation & Care

Exploring modern technologies that expand opportunities and save more lives through better organ care.



Why Preservation Matters

Every organ has a story, and quality preservation ensures those stories continue with successful transplants.

The Current Landscape

100k+

Patients Waiting in U.S.

16

Lives Lost Every Day Waiting

In 2024, the U.S. surpassed 48,000 transplants for the first time. However, the need for viable organs remains at an all-time high, making better preservation a critical priority.

A New Frontier: Machine Perfusion

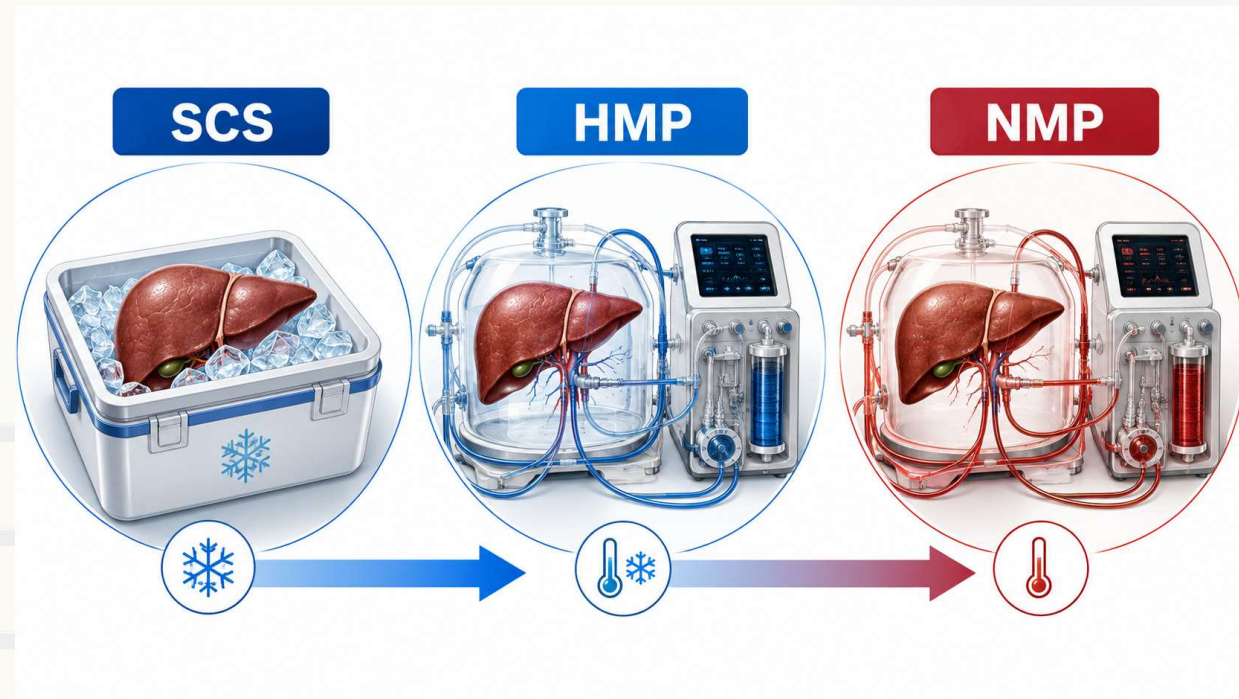
Supporting Organs Outside the Body

Machine perfusion represents a paradigm shift. Instead of just cooling the organ, we actively support its life processes.

Oxygen Delivery-Continuous

Nutrient Circulation-Active

Functional Assessment-Real-time



Static Cold Storage: The Old Way

The Gold Standard (Since 1960s)

Relies on cooling organs on ice to slow down metabolism. While it has been effective for decades, it is a passive process that allows for "ischemic injury" damage from lack of oxygen.

The Limitations

- Limited preservation window (hours, not days)
- No way to assess the organ's health during transport
- Higher risk for "marginal" or high-risk organs



Static Cold Storage: The New Way

No Ice – Homogenous Cooling

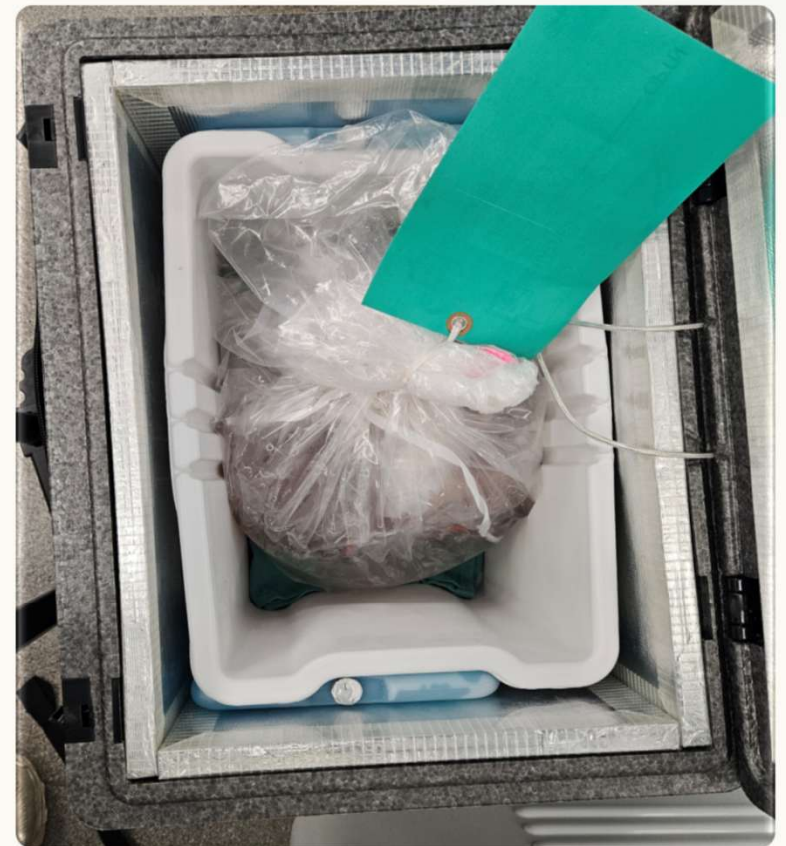
Precise Temperature Control

No risk of freezing where organ gets in contact with the ice

Extends cold time

The Limitations – Battling Against Cold Time

- Limited preservation window (hours, not days)
- No way to assess the organ's health during transport
- Higher risk for "marginal" or high-risk organs

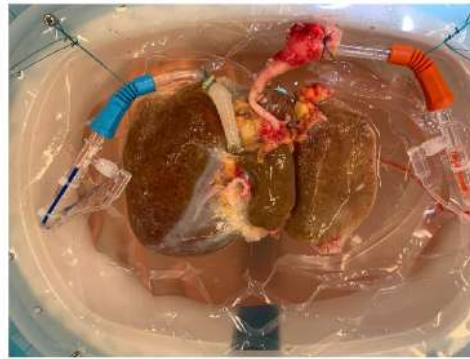


Hypothermic Oxygenated Perfusion (HOPE)

HOPE (Vitasmart, Xvivo, perLife)



DHOPE (Xvivo, perLife)



DHOPE (Organ recovery)



Vitasmart Bridge to life®



Liver Assist Xvivo®



PerLife Aferetica®



Liver transporter Organ Recovery®



Hypothermic Oxygenated Perfusion (HOPE)



Cold & Controlled

Maintains organs at cool temperatures but adds a vital ingredient: actively pumped oxygenated solution.



Reduced Injury

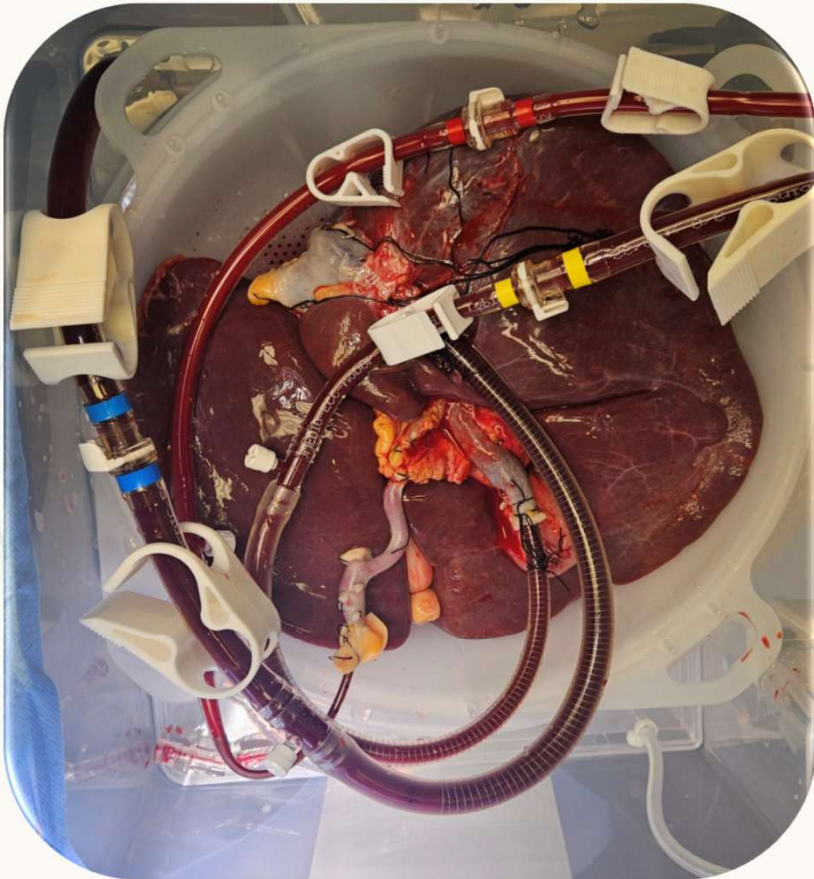
Significantly reduces "ischemia-reperfusion injury," which often happens when blood flow is restored to the organ after being on ice.



Fail-Safe Reliability

Because it is still cold, if a machine fails, the organ is still safely preserved in a cold environment, providing extra security.

Normothermic Machine Perfusion (NMP)



Mimicking the Human Body

NMP keeps organs at near-body temperature (37°C) while circulating blood and nutrients. This allows the organ to function just as it would inside the donor or recipient.

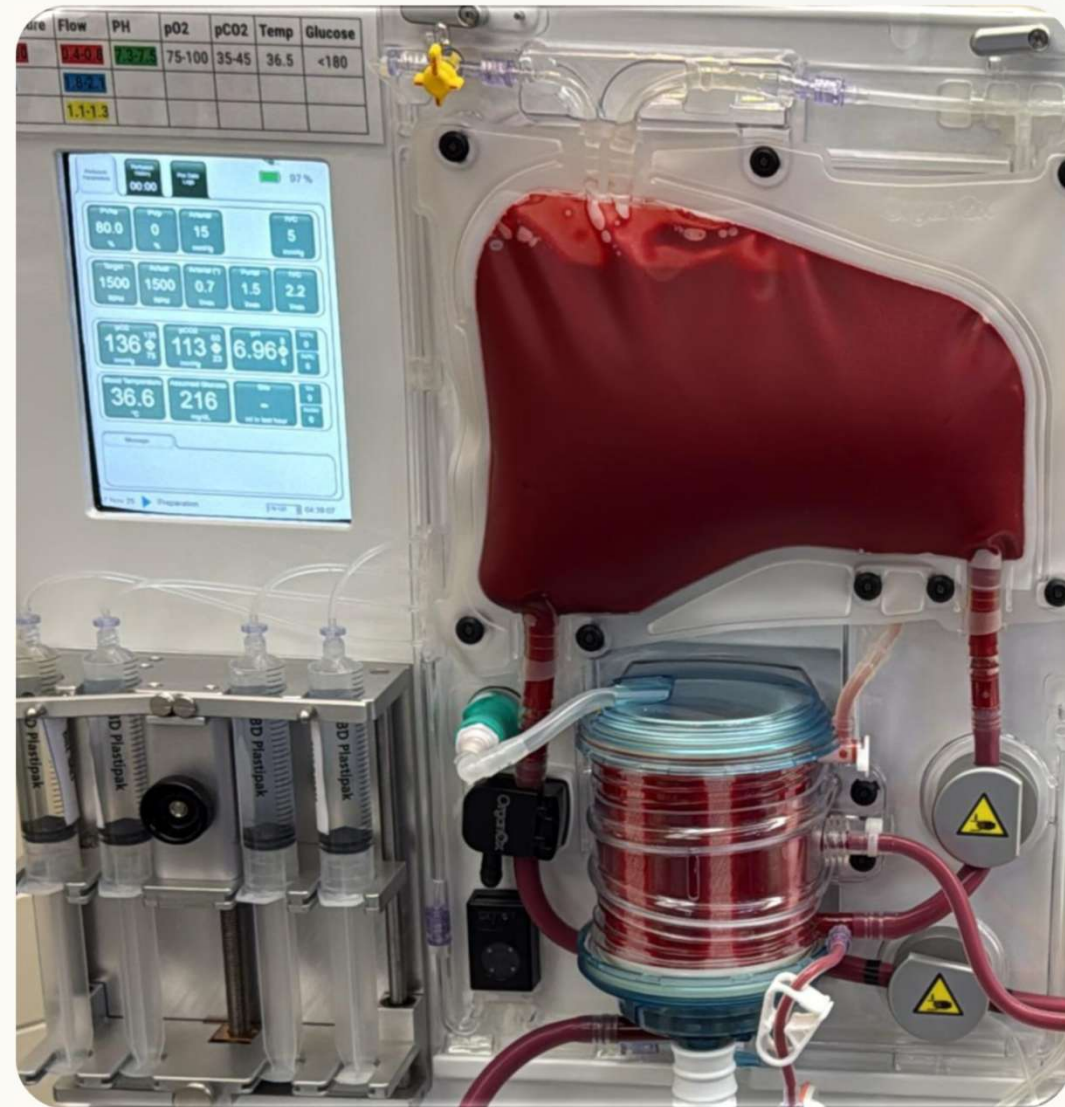
"The Ultimate Test Drive"

We can watch and test a liver produce bile before it is transplanted, ensuring the best outcome for the patient.

Ensuring a Perfect Match

Beyond the "Gold Standard"

By assessing function in real-time, we can use organs that might have not have been ideal in the past. This expansion of the donor pool directly helps patients on the waitlist get their gift of life sooner.



Future Innovations

Rehabilitation

Fixing organs during preservation using genetic or cellular therapy.

Supercooling

Advanced methods to pause time for organs for days or weeks.

Organ Banking

A future where organs are available "on-demand" from storage.

Bio-Printing

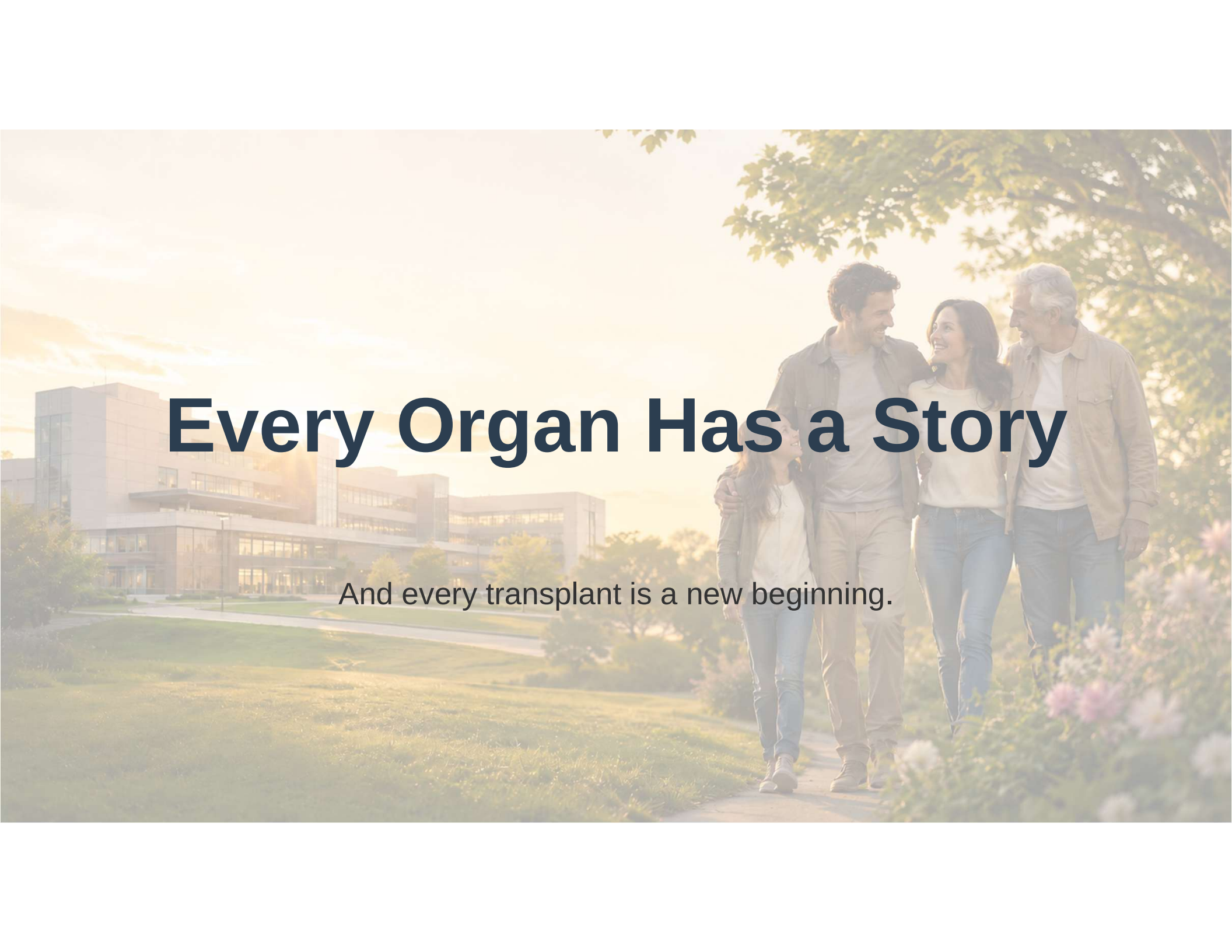
Combining preservation with laboratory-grown tissues.



Expanding the Donor Pool

- ✓ **Increased Utilization:** Using DCD organs (Donation after Circulatory Death) with higher confidence.
- ✓ **Better Evaluation:** Real-time functional assessment helps "marginal" organs become viable.
- ✓ **Longer Transport:** Machines allow organs to travel across time zones safely.
- ✓ **Improved Outcomes:** Fewer complications post-surgery and shorter hospital stays for patients. Less time on waiting lists.



A family of four (a man, a woman, and two children) are walking together on a paved path in a park-like setting. In the background, a large, modern hospital building with many windows is visible. The scene is bathed in the warm, golden light of a sunset or sunrise, with long shadows and a soft glow. The family is smiling and looking at each other, conveying a sense of happiness and well-being.

Every Organ Has a Story

And every transplant is a new beginning.

Thank You

Advancing Preservation. Saving Lives.