



## Medical



THE BETTER WORLD REPORT *PART TWO*

# Technology Transfer Works:

## 100 Innovations from Academic Research to Real-World Application



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## Researchers Improve Storage for Transplant Organs

*University of Wisconsin-Madison (WARF)*

In 1986, University of Wisconsin scientists Folkert Belzer M.D., and James Southard, Ph.D., developed the gold standard for organ preservation techniques. Backed by funding from the National Institutes of Health, they developed a synthetic solution that allowed organs to be safely stored outside the body for longer periods of time. The advancement, known as the UW Solution, was a major breakthrough in preserving organs for transplant surgeries.

Prior to the UW-Madison scientists' discovery, organs such as livers could only be stored for six hours and kidneys could be preserved for up to three days. The beauty of the Wisconsin Solution was that due to its extended preservation time, fewer organs were wasted and, consequently, more lives were saved.

Since the UW Solution was originally invented, UW-Madison veterinary surgeon Jonathan McNulty, D.V.M., along with his colleague, veterinary ophthalmologist Christopher Murphy, D.V.M., have



*The UW Solution, a synthetic solution enriched with proteins, can safely store transplant organs like this canine kidney contained in a beaker, for longer periods of time with less risk of tissue damage. Photo by: Jeff Miller and UW-Madison University Communications.*

improved on the original UW Solution by developing a totally natural solution that includes proteins called trophic factors. The modified UW Solution increases organ quality and length of storage time possible.

This modified UW Solution has not only led to greater improvement in preventing damage to organs during storage, it has a positive, direct affect on donor pools and successful organ transplant surgeries.