Medical Xpress

Stand-alone facility for organ retrieval is more efficient, less costly than hospital

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Retrieving organs from brain-dead donors is logistically challenging and time consuming in hospitals. Multiple surgical teams often fly to a donor's hospital but frequently face delays in retrieving organs due to crowded operating-room schedules.

However, a new study shows that moving organ donors from hospitals to a regional stand-alone facility with a designated operating room for retrieving organs is more efficient and lowers costs considerably, according to new research by transplant surgeons at Washington University School of Medicine in St. Louis.

The research is published Feb. 25 in the *American Journal of Transplantation*.

"The magnitude of these changes has been transformative, with no negative effects on the organ donation process," said the study's first author, M.B. Majella Doyle, MD, a Washington University liver transplant surgeon at Barnes-Jewish Hospital, who also directs the adult liver transplant program. "This approach of moving organ donors to a free-standing organ recovery center is one that we believe has great merit and could be implemented more broadly."

Historically, transplant teams have traveled to donors' hospitals, often at night, when operating rooms are more likely to be available, to perform time-sensitive surgeries. And typically they are assisted by local staff who are not always familiar with organ donation procedures.

To improve the organ donation process, Mid-America Transplant Services in 2001 built the nation's first stand-alone organ retrieval facility in St. Louis, a few miles from transplant centers at Washington University School of Medicine and Saint Louis University. The nonprofit organization coordinates organ donations and retrievals for eastern Missouri, southern Illinois and northeast Arkansas.

After patients are declared brain dead and families consent to organ donation, donors in areas covered by Mid-America Transplant are transported to the stand-alone facility either by ambulance, if the hospitals are within an 80-mile radius, or by air. The organization owns an airplane that can accommodate mechanical ventilators and other equipment needed to keep donors' bodies stable.

Surgical teams still must travel to the facility to retrieve donor organs, but they do not need to scramble for an open operating room. The operating room at the facility, which is primarily used by Washington University and Saint Louis University surgeons, can be scheduled as soon as a donor is available, so surgeons and patients' families all know what to expect.

"Organ donors often are given low priority in hospitals because of scheduled surgeries or emergency cases," explained the study's senior author, William C. Chapman, MD, the Eugene M. Bricker Chair of Surgery and surgical director of the Washington University transplant center at Barnes-Jewish Hospital. "In addition to the cost savings, we rarely encounter delays anymore, making organ donation easier on families who have lost loved ones and on transplant teams because we can know when donors' surgeries will take place."

The facility also is staffed by critical care nurses and other personnel who have expertise and training in organ donation.

As part of the study, the researchers analyzed 915 liver transplants performed at Barnes-Jewish Hospital during a 10-year period from 2001 through 2011, looking at where the organs were procured. In the first year, 36 percent (9/25) were retrieved at Mid-America Transplant Services, gradually increasing to 93 percent (56/60) during the last year of the analysis.

By 2011, the average cost of retrieving a liver had dropped 37 percent, from nearly $8,000 to just under $5,000, largely due to a reduction in costs at the facility compared with hospital costs. Donors' families do not pay for any costs associated with organ retrieval, and any cost savings realized by moving donors to the Mid-America Transplant facility are passed directly to patients receiving the donors' organs.

During the time period covered by the study, surgeons' average round trip travel and retrieval time was reduced from 8 to 2.7 hours, which also meant that recovered organs more quickly could be transplanted into people on waiting lists.

The researchers also found no difference in the quality of livers procured at the stand-alone facility, compared with the hospital. In addition to having its own operating room, Mid-America Transplant also has state-of-the art imaging equipment and technology to evaluate organs for transplant.

Donors' families have embraced the concept of moving their loved ones to St. Louis.

"We thought moving the donors might be a major obstacle but that has turned out not to be the case," explained Chapman, a liver transplant surgeon. "We think this is because the donation process is much more controlled, and the families can reliably know how long the surgery will take and when their loved ones will be returned to them."

Provided by Washington University School of Medicine