Friday, December 21, 2007
Defining death sparks debate
Need for organs raises tough questions
Pittsburgh Business Times - by Kris B. Mamula

Two doctors hurriedly arrange surgical tools, a blue plastic basin, pounds of ice and big bags of fluid around an unconscious man before they go into the next room where a piece of brown paper has been taped over the only window.

The man is 57 years old, his belly has been swabbed with rust-colored disinfectant. In a little while, his heart will stop and his kidneys will be removed for transplant to another person.

The man's wife and daughter are led into the operating room at Shadyside Hospital to say goodbye. The wife strokes his upper arm, the daughter holds his limp hand and looks at the floor. They are seated, dressed in disposable white suits - heads, faces and shoes covered. Both cry softly as a monitor marks each beat of the man's heart, 74 times a minute. Beep, beep, beep. A mechanical whoosh fills his lungs with air. His chest rises, falls.

The daughter then raises her head and nods to a nurse who is standing nearby. The tube forcing air into her father's lungs is withdrawn. Beep-beep-beep; beep; beep-beep; beep. Silence. The time of death is 6:51 a.m., Tuesday, Nov. 27. The man's wife and daughter are led out of the operating room, and the surgeons return from the next room to remove his kidneys.

The man's carefully choreographed death and organ recovery operation, called donation after cardiac death, is part of the Center for Organ Recovery and Education's strategy to boost donations at a time when demand for organs far exceeds supply.

But not everyone is comfortable with CORE's procurement policies and the push to recover an ever-increasing number of organs.

Nationwide, the number of recovered organs has been increasing every month since 2003, with a growing number of donors in their 60s and 70s. Although they still comprise only about 8 percent of the total organs donated nationally, donations after cardiac death, like the one performed at Shadyside Hospital, rose 733 percent between 1997 and 2006, according to the Scientific Registry of Transplant Recipients. It is the fastest growing source of organs.

CORE is among 58 agencies nationwide that coordinate the recovery of human

organs for research and transplantation. The O'Hara nonprofit also has among the highest "conversion" rates in the country, which is the ratio of potential donors who wind up donating organs.

To further increase the number of organs available for transplant, donation after cardiac death recovery efforts will soon move to the hospital emergency room from the operating room. That means people who arrive in the hospital ER, have indicated their desire to serve as an organ donor on their driver's license and meet the criteria for cardiac death could be donors. The program will be piloted at UPMC Presbyterian Hospital with the idea of eventually copying the procedures at hospitals around the country.

Ethical questions

Signing a driver's license organ donor card hardly qualifies as informed medical consent to override a family's wishes, some critics say. For example, drivers in Wisconsin, like those in Pennsylvania, can agree to organ donation on their driver's license. But unlike in the Pittsburgh area, the Wisconsin Donor Network in Milwaukee requires family consent for organ donation, regardless of what the driver's license says, according to Director Jay Campbell.

"We have walked away from cases where there was a signed consent and the family was adamantly opposed," Campbell said. "No is as good of an answer as yes."

Moreover, the rules governing family consent and the declaration of death and removal of organs vary dramatically around the country, raising questions about when life ends. For people meeting the donation after cardiac death criteria, for example, UPMC Presbyterian Hospital surgeons wait two minutes after the heart has stopped before starting to recover organs, the shortest wait time in the United States. Across town at Mercy Hospital of Pittsburgh, it's four minutes. In Philadelphia and 45 hospitals in southeast Wisconsin, the required wait is five minutes.

Another policy variation is the routine use of an anti-clotting drug called heparin, which is given to donors intravenously before organs are removed in the Pittsburgh area. In Cuyahoga County, Ohio, home to The Cleveland Clinic Transplant Center, the drug is prohibited in similar situations.

These inconsistencies and aggressive efforts to continually increase organ donation alarm some doctors and ethicists who worry the policies might ultimately discourage people from donation.

"When are you dead?" said Dr. David Crippen, medical director of the neurocritical care unit at UPMC Presbyterian Hospital. "When your doctor

says you're dead. There's no fine line anymore."

How to define death

Death has historically been defined as what happens when the heart and lungs stop. But as medicine found ways to keep people alive with mechanical ventilation, the definition was expanded in the late 1960s to include brain death, which is the absence of activity in the brain, regardless of whether the heart and lungs are working.

In the late 1980s, the University of Pittsburgh Medical Center refined the definition of death to make it more precise, which created another way for people to donate organs after their heart had stopped. It was the first such policy in the nation to set objective standards for things such as the length of time between cardiac standstill and the pronouncement of death.

Prompting the change was a young, dying woman who was treated by Dr. Michael DeVita, now a medical ethicist and associate medical director at UPMC Presbyterian Hospital. She wanted to donate her organs but was blocked at first because the hospital only had procedures for people who were brain dead.

"I want you to do it," DeVita remembers her saying. He told her he would see what he could do.

After consulting with transplant pioneer Dr. Thomas Starzl, arrangements were made to remove the woman's breathing tube in the hospital's intensive care unit, then move her to the operating room where her organs could be recovered when her heart stopped beating. In the end, her organs could not be used, but DeVita said the experience was a defining moment in his career.

"It was an epiphany: It's about the patient who wants to donate and giving them that opportunity," he says. "It was just like a light going on in my head."

Pittsburgh sets nation's Protocol

After the woman's death, DeVita helped develop guidelines for organ donation after cardiac death, dubbed the Pittsburgh Protocol, which became a model for hospitals nationwide. For the first time, hospitals had protocols for recovering organs when the patient did not meet brain-death criteria.

DeVita also will lead the trial at UPMC Presbyterian to make organ donation possible in the emergency department after all resuscitation efforts have failed, a first in the country. The pilot is expected to get under way by early summer. If successful, the program could yield as many as 45 more

organs annually from Presby alone, he said.

Fueling demand for organs is the increase in the number of transplant centers over the past decade and expansion of existing programs. Locally for example, Allegheny General Hospital began transplanting livers in November and soon plans to begin lung transplants, driving demand for organs.

Administrators say organ transplant programs have a halo effect on other services at a hospital, improving overall care and attracting patients and top surgeons. But organ transplantation also can be a source of revenue. For a well-run program, hospitals can clear up to $30,000 on each heart transplant, according to Dr. John Fung, director of the transplant program at The Cleveland Clinic.

CRITICS FEAR Policy is too aggressive

But critics such as Dr. John Hoyt, an Allegheny General Hospital anesthesiologist and intensive care medicine specialist, say the organ donor status indicated on a driver's license falls far short of the informed medical consent required even for outpatient surgery.

Hoyt, who has been practicing medicine for more than 30 years, says the two-minute cardiac standstill criteria used in such procedures as the recent one at Shadyside Hospital is inadequate. He says he once clashed with CORE employees who moved to recover organs from a patient whose driver's license indicated he was an organ donor, but the family was adamantly opposed to donation.

"I'm a big supporter of transplantation, but I don't think most people know what they're getting into when they sign that card," Hoyt says. In candidates for organ donation after cardiac death, "their brains aren't dead, their hearts aren't dead and we're taking their organs.

"I think that's wrong."

Leslie Whetstine, an assistant professor of philosophy at Walsh University in North Canton, Ohio, who has studied issues related to organ donation after cardiac death, is also troubled by the two-minute criteria.

"What you're saying is the heart has stopped beating for two minutes and that's enough," she said. "What's to say one minute isn't enough, 30 seconds?

"There's a very thin line between a dying patient and a dead patient, and a donation after cardiac death patient is right there."

One Man's Legacy

The man whose kidneys were recovered at Shadyside Hospital began having chest pain before midnight after Thanksgiving. He was alert when paramedics arrived at his home a short time later, but his heart stopped before he reached the hospital. His heart was restarted and doctors at the hospital found a completely blocked artery in his heart. The blockage was cleared and a stent was implanted to prop open the vessel, but the man never fully regained consciousness, despite having brain activity.

For families like his, organ donation is a way to make something good out of a tragedy, advocates say. And the need for organs continues to grow: despite a 67 percent increase in organ donation between 1995 and 2006, 17 people die every day waiting for a transplant. Advocates of expanded donor criteria say it's a way to honor a person's final wish.

"We want to provide outstanding end of life care," DeVita said, "and part of that is creating a legacy of the patient's choosing."