# Lecture 10: Transplantation

## I. History of transplantation

The history of transplantation – the bioethical history of transplantation -- is to some extent the confluence of two streams in the second half of the last century: two streams of technological development.

A: Dialysis

Let's start with the invention in the '60s of **dialysis** for kidney failure. The kidneys are basically the garbage disposal of the body. They extract undesired elements from the blood and dump them into the urine. If the kidneys fail, the poisons accumulate in the blood, and people die.

During WWII the idea was suggested of extracting the blood from the body and cleansing it external to the body of the toxins that the kidneys were no longer able to remove. It was able to be used only as a one-off until in 1960, when a couple of people in Seattle came up with a shunt that could be semi-permanently implanted in the body so that this procedure could be repeated. Kidney failure began to be seen as an incredible inconvenience, a chronic disease, instead of a sentence to a quick death.

They opened the first dialysis center. For a cost of $10-20,000 a year per patient, the life of critically ill people with kidney failure could be extended; and it was estimated that there were somewhere between 5 and 20 people per million who could profit from this procedure. So dialysis became a paradigmatic scarce resource—a scarce and an expensive one. So the seattle hospital had to figure out who could be saved when not all could be saved—a severe problem of resource allocation.

They established two committees: a committee of physicians who evaluated possible candidates for the medical feasibility of successful treatments; and a second one to choose among medically acceptable candidates who had been passed by the first committee. The second committee was basically a citizen's committee: the membership changed, but it had at one point a minister, a lawyer, a housewife, a labor leader, a businessman, and two doctors from unrelated areas.

In 1962 a journalist learned about this second committee, officially termed the Allocation and Policy Committee, and wrote an article about it for the Saturday Evening Post in which she dubbed it "the God committee"—for, as she noted, this committee ' decided who would live and who would die.' The criteria by which they decided included such things as marital status, income, occupation, educational background, past performance and future potential—social worth criteria, basically. The ideal candidate was a boy scout leader with 6 kids; and there was a scandal at some point about the denial of candidacy of an Indian man with a history of drinking.

The article opened a national dialogue about the conflict of social worth and social justice. 10 years later the End Stage Renal Disease Amendment provided federal funding for people with end-stage kidney failure; probably the first precursor of Medicare. It was an attempt to bypass forever the question about how much social worth should count in access to scarce resources. (Of course the same questions resurface in connection with every scarce resource—and all health resources are scarce.)

B: The second parallel development: In the 10 years between 1954 and 1964 there were 600 attempted translations. The first organ transplanted was the kidney, from living donors, often from monozygotic twins. The first one lived 18 days. The next lived

594 days (in the hospital, of course). By 1969 there had been 160 procedures of kidney tx, and 10 survivors. The 2 year survival rate was 50%. The first heart transplant was performed in 1967. In 1978 Cyclosporin, the first anti-rejection drug, was invented, and things got a little less risky.

Kidney transplantation took people off dialysis. It restored them to virtually normal function. You can see how the convergence of the two parallel developments was interesting. If nothing else, it raised a question that health economists could address with some chance of getting a clear answer. Two procedures, one expensive and life long, the other more expensive but removing the need for life-long dialysis (and as a bonus, a bit better quality of life for those who survive it). The federal decision to fund dialysis was extended to renal transplantation fairly uncontroversially, by an economically justifiable calculation on length of life and the expense of the % of that time that would be spent under costly medical care.

The question surrounding kidney transplation was: is it right to remove a healthy organ from a healthy person to save the life of another person?

II:

What are the options for obtaining organs from (a) the living, or (b) the dead? As we said several weeks ago, 50 states and c. 80 foreign countries have adopted the provisions of the Uniform Definition of Death, legally allowing for diagnosis of death on neurological criteria (=brain death), opening the possibility of organ retrieval from the folks dead enough to be declared dead, but alive enough to have organs that would survive translocation and function in their new setting. If it is (increasingly) medically feasible to do that, what are the social conditions surrounding it? Under what conditions are the organs obtained? Can you buy them? Can you (for the living, at least) sell them?

All the readings in the text for today talk about the ethical issues associated with the propriety of selling organs when the donor (or as one of our authors has it, vendor) is alive—organs the living can (or think they can) spare. And there are some nicely cynical remarks in some of them, too. “The rich and healthy are against anything that is to the advantage of the destitute and dying.” Or: “Why should the person who gives the organ be the only person in the entire transaction that cannot profit from it?”

The readings on last Thusday and in week 8 as well relate to a second, different question—organs from the dead, organ retrieval from non-living donors. And here the questions center around a fairly important issue: who is dead? Who is dead enough? Who is still ‘alive’—or alive enough to merit certain kinds of treatment? What kind of treatment IS appropriate for our human dead? Are they respected in their own right, or viewed only as means to the end of another?

As the Childress article and some of the history I have recounted make clear, the increasingly precise and qualified definitions of death, and various procedures around organ retrieval, are a consequence of the development of parallel technologies that make possible treatment of the dead that are not and could not be taken into consideration by the several million years of development of our attitudes toward our dead.

> We know from anthropological and archeological evidence that from The most ancient and the most primitive societies to the most modern, humans honor their dead; they are buried, not thrown out with the trash, not eaten; their death is associated with rites and rituals of reverence and respect; that even when

> there is evidence of anthrophagy—humans eating members of their own species—it is associated with ritual and an arcane form of respect.
>
> When we encounter mass burials of nameless victims of battles or massacres, it is a scandal; the 'collatoral damage' of death in war is its major tragedy and outrage.

So the question arises:

Is it respectful of the dead or dying to view them as the temporary possessors of things of value that can be 'harvested'—procured—for the advantage of the living? Is my body the property of my heirs? If there are none, the property of my society, to be used for its own purposes? Is it property at all? Mine, or not? Mine, or—ME?

And there's another question of considerable interest as well:

Who is 'dead' enough that his or her body can be sustained for purposes of life-saving transplantation—considering that the person must be able to be declared, legally, dead—but the organ itself must be 'alive' enough to be able to resume its function in another person's body? The readings on DCD—donation after cardiac death—are particularly interesting in light of this question (and in terms of the phrasing of the UDD); critics suggest that the only thing 'irreversible' in the procedures being adopted under that heading is that the stakeholders decide that they won't attempt resuscitation, so the permanence of death is—by their decision, rather than by the physiology of the circumstances.

Transplantation of not only the corneas, the kidneys—but the liver, the heart, and fairly recently, lungs and part of the bowel—has become accepted medical practice. But it has never been free of ethical controversy, and probably never will be. I suspect that one of the reasons people at the moment are so obsessed with stem cell research is a science-fiction hope—that some day from information now being learned it will become possible to grow from *my* cells a replacement for *my* heart, without having to take my continued life at the cost of anyone else's.

My sources: *Birth of Bioethics* by Al Jonsen; *Strangers at the Bedside* by David Rothman.

Some excellent reading: Renee Fox and Judith Swayze: *The Courage to Fail* (1978); *Spare Parts* (1992); and an article in the Hastings Center Report in 2005 called "Leaving the Field."

If you go to google and type in CHW's position on donation after cardiac death, the result is a powerpoint by our local Carol Bayley on why Catholic Healthcare West will not be encouraging their hospitals to introduce the DCD protocol. (Bayley is 'vice president for ethics and justice education.' How's that for a job title?)