The Nasty Side of Organ Transplanting (Norm Barber)

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Second Edition
Norm Barber

Chapter 1
An Invented Death

Transplant surgeons, just like movie vampires and Frankenstein doctors, like their bodies fresh and not quite dead. They need beating hearts in perfect health from warm, soft bodies to make the transfer of organs worthwhile. Their initial legal problem was that this process constituted murder of the donor.

The imperative of developing an artificial concept of death became apparent after Christiaan Barnard's historic heart transplant in December 1967. Barnard proved that heart transplants could be done, but had faced the problem of the risk of the donor heart damaging itself during the dying process.

Louis Washkansky was the world's first human heart transplant recipient. He was a Lithuanian Jew from the town of Slabodka who was deported to the Crimea when the Russians said the Jews were German spies. Louis later moved to South Africa and worked as a grocer.

Denise Durval, the world's first heart donor, was hit by a vehicle while walking to her car from a fast food shop in South Africa. Brain tissue began leaking from her ear. Denise was dying. Her father consented to the removal of her heart.

Louis Washkansky, desperately living each day at a time, was on the operating table. Hovering surgeons in full gown had opened up Denise, eagerly awaiting her heart to stop forever, but it kept vigorously beating.

Christiaan Barnard was worried the slow process of Denise's death would ruin her strong heart. Her brain was so damaged and a number of bodily functions were failing and Barnard was worried the heart in particular would suffer damage before it stopped.

When a person suffers what is called catastrophic brain damage the body temperature, blood pressure control, renal and endocrine function, and a variety of other processes progressively malfunction before the body dies, and it is this dying process that can ruin the organs. The heart is particularly vulnerable to damage during this process.

To avoid this natural shutdown medical technicians may inject a cardioplegic solution into the heart while it is still beating in the donor body. This action immediately stops the heart thus minimising the damage it may sustain as death progresses. The injection also gives it a longer shelf life before it is sewn into the recipient. It also kills the patient. Barnard couldn't do this in 1967 in South Africa because he would have been charged with murder.

When Denise's heart finally stopped, there was confusion in the operating rooms. Incredibly, Christiaan Barnard thought his brother Marius, also a surgeon, would remove the heart and he, Christiaan, would transplant it. It was resolved that Christiaan would do both, but by the time he removed Denise's healthy, pink heart it had declined to a morbid greyish-blue. It was put into a dish and taken to the anaesthetised Washkansky waiting in the next room. There was a feeling of pessimism and doubt that this heart could be restarted.

But Barnard recounts that after a few electrical shocks, Denise's heart began beating strongly and pumping lifesaving blood throughout Washkansky's body, but he died anyway, eighteen days later.
The autopsy of Louis Washkansky's body showed that Denise's heart had transplanted perfectly and, despite the patient's death, surgeons around the world rejoiced at the world's first successful human heart transplant. But there was still another problem.

The South Africans had been lucky, but heart damage would likely still occur during future donor death processes, so it would be necessary to paralyse and remove the heart before it stopped naturally. The other problem was that in South Africa and most other countries, this was considered murder. Transplant surgeons, the medical hierarchy and drug companies needed a remedy to meet the demands of this brave new medical advance.

An Invented Death

After the Washkansky transplant, the Harvard Medical School set up an Ad Hoc Committee to Examine the Definition of Brain Death—or, rather, to invent a new style of death.

This committee of thirteen neurologists, neurosurgeons, lawyers, philosophers and an anaesthetist decided in August 1968 that death could be proclaimed if a patient failed to respond to a series of reflex tests. They called it the Harvard Criteria of Brain Death Test. This allowed a patient with a healthy, beating heart and fully operating renal and endocrine system to be defined as dead, just like a cold corpse. 2

Most western countries adopted a de facto version of the Harvard Criteria of Brain Death during the 1970s and early 1980s. Some commentators say this new concept of death was devised to justify turning off expensive life-support machines used for patients not expected to recover consciousness. However, this new version of death was to the everlasting pleasure of transplant surgeons, who could now declare patients dead before their hearts stopped, then remove their vital organs and no longer worry about a murder charge. What one day was murder was the next day a brilliant surgical technique.

Surgeons began the harvesting process while the donor’s beating heart was keeping the kidneys, liver, lungs and pancreas in optimum health and thus minimising organ damage during the dying process when heart function and circulation gradually collapsed.

The donor bodies were warm, pink and essentially healthy and the harvesting process killed the donor patient, but legally it was okay.
Combined with the Washkansky breakthrough and, more importantly, Barnard’s second 1967 heart transplant into Phillip Blaiberg, who lived eighteen months, this legal "brain death" provided the impetus for the rush towards mass transplanting. The introduction of cyclosporin in 1983 gave the transplant industry its next big boost.

The Brain Death Test

The prime candidates for organ harvesting are usually those suffering catastrophic brain trauma, with haemorrhage and swelling caused by car and motorcycle smashes, cyclists or pedestrians hit by cars, gunshot or knife wounds to the head or simply being hit in the head. In these instances an artery is broken within the skull. Surging blood spills into the skull but with nowhere to go the pressure builds up in the brain and may force the brain stem downward. With little blood leaving the brain very little can enter. Circulation slows in the brain and its cells run

out of oxygen resulting in brain damage and eventual death.

Brain damage from oxygen deprivation due to heart attacks, heart failure, asphyxiation from smoke inhalation or strangulation where circulation of oxygen rich blood to the brain stops, causing global cerebral ischemia, may also make a patient a harvest candidate.
The body reacts to these injuries by shutting down functions and going into a deep coma where breathing may cease resulting in death. Ambulance crews reacting in time will blow air into the patients' lungs until they reach the hospital where a specialist will probably put the person on a mechanical ventilator to artificially maintain the patients' breathing.

Ambulance arrivals in this condition alert hospital staff to treat the patient with two views, the first being to aid recovery from injuries and, secondly, that they have a potential candidate for organ harvesting. Hospital staff may check the organ donor register and personal belongings for donor registration. The transplant coordinator may even contact next of kin and prepare for tissue matching before the patient is declared brain dead.

Depending on the country, hospital staff may spend four hours observing the patient for signs of recovery. If recovery isn't forthcoming a doctor performs the first brain death test and, if "brain death" is indicated, then a few hours later another doctor performs a final test.

However, there are many varied protocols around the world to the above that are rarely, if ever, enshrined in legislation. This allows doctors to devise their own methods to determine brain death. For example, the United Kingdom Code of Practice doesn't specify time periods between tests and repeat testing may be a formality.

The Australia New Zealand Intensive Care Society (ANZICS) recommends a series of tests but the doctor doesn't have any obligation to use them. The Society refused to provide their recommended criteria for brain death testing perhaps demonstrating how the transplant industry doesn't want potential donors to be informed on the subject. After this monograph was published on the Web they quickly added their recommendations to their web site. However, these do not include the controversial apnoea test. ANZICS cannot decide whether it should be used or not. 2a

The Test For Death Begins

Doctors usually prevent relatives observing the brain death testing as they may object to the diagnosis of death or feel sickened by the physical rigour of the

testing and the appearance that the doctor is harming their loved one. The test itself is not a pretty sight.

The doctor begins by shining a strong light into the patient's pupils. They should adjust in size to changing light and failure indicates brain injury. This won't be done if the eyes are full of blood. The doctor then holds the eyelids open and abruptly moves the head from side to side observing if the eyes move normally or remain staring straight ahead. This won't be done if the patient has a broken neck. The eyeball is poked with a cotton covered prod and painful pressure applied to the eye-socket to check for reaction. Failure to react in pain may indicate brain damage.

A catheter is stuck down the windpipe to see if the injured person coughs this being an indication of some remaining brain function. A probe is stuck into the mouth to check for gag reflex. The doctor turns the head sideways and pours 50 millilitres (two ounces) of freezing salt water into the ear. Salt water is colder than the freezing point of fresh water and when poured onto a delicate eardrum creates shock – to say the least. Painful stimulus is applied to various parts of the body to measure arms, legs and trunk reaction. Atropine may, depending on the country, be injected into the patient's blood stream. An increased heart rate of less than 10% indicates some brain death.

Some countries may also use the cerebral angiography where a dye is injected into the bloodstream and X-Rays observe the flow of blood to the brain. A lack of dye moving to the brain indicates a lack of circulation and possible brain death.

Dr Peter Doyle, of the British Department of Health, says the cerebral angiogram is unreliable and may register blood circulation in the brain one minute but four minutes later or earlier there might not have been any. 2b

Another test is the Radioisotope Study where radioactive tracers are injected into the bloodstream. These radioisotopes emit radiation and their presence is detected by devices, like Geiger Counters, which respond to radioactivity. Since these radioisotopes are carried by the blood stream one can determine the flow of blood to the brain by the presence of radioisotopes inside the skull.

Many methods of determining brain injury are used around the world. There is no one perfect method because no reliable procedure for determining brain death has been invented. The difficulty in determining if patients are dead or alive may preclude them from being harvested.

Dr David Wainwright Evans from Queens College, Cambridge, gives some further description of angiograms and radioisotope studies in Appendix One.

The Apnoea Test
Doctor Turns Off The Breathing Machine

The Apnoea Test is the final procedure for brain death testing done to potential organ donors. If the patient doesn't respond sufficiently to the above mentioned tests the doctor turns off the ventilator, which has maintained the patient's breathing, and leaves it disconnected for up to ten minutes though it varies according to country and doctor.

Oxygen is pumped down the trachea into the still lungs, but the patient suffers oxygen deprivation because the ventilator is no longer raising and lowering the lungs. The theory behind this is that a brain that has recovered during the treatment in hospital will recommence the breathing process. However, if the apnoea test is performed just a few hours after admission then the theory becomes redundant.
If the patient doesn't begin breathing without the machine, the doctor declares the patient "brain dead" and re-starts the ventilator.

Second Brain Death Test

Before commencing the harvest a second doctor performs another brain death test. In Japan the second doctor waits six hours, in Spain twelve hours with adults and twenty-four hours with children. Australians wait two hours.

If the patient fails to respond to the second test the doctor certifies him or her brain dead. The patient is no longer considered a legal entity, has no human rights and is referred to as the "heart-beating cadaver". The ventilator is turned back on and the corpse, though legally dead, is kept alive on life support until surgeons have been assembled and transplant hopefuls brought to the hospital. This may take quite some hours or days.

All treatment to heal the injured brain will cease and doctors will administer high amounts of fluid drip, drugs to increase blood pressure and sometimes anti-psychotic psychiatric medications like chlorpromazine to maintain the harvestable organs. The patient, if it hasn't already happened, may be transferred to a hospital better equipped to harvest organs though this is universally denied.

Various Types of Brain Death

Most European countries and some American states recognise the "whole brain death" criteria that requires "irreversible cessation of all functions of the entire brain, including the brainstem" as defining brain death.

The United Kingdom, most Commonwealth countries and some American states, particularly Minnesota, went further and have adopted the lesser "brain stem death". The brain stem is situated between the brain and top of the spinal cord. It controls physical functions like breathing and regulation of blood pressure. The concept of "brain stem death" means part of the brain may be alive but when the brain stem is destroyed this is considered identical to brain death which is identical to being legally dead which is identical to being really dead, or so the logic goes.

Chapter 2
Donors May Need Anaesthetic

The residual doubts about the cadaver's health status increases when it reaches the harvest table. Let us assume it is a twelve-year old girl, diagnosed "brain dead", after being hit by a car while riding her bicycle. Her body is cleaned, shaved, tubes inserted and hooked up to various machines and everyone pretends it is a plain, dead corpse.

Donor Body Registers "Fear" to being Harvested

On the harvest table the surgeon draws a deep, clean slice down the middle of her torso cutting through skin, muscle and fat. But then a strange event occurs. Instead of lying dead and still like a corpse her twelve-year-old body registers fear and panic when the knife slices it open. Her heart and pulse speed up identically to a living human twelve-year-old cut with a knife.

More violent reactions would occur but don't because the anaesthetist injects pancuronium or another paralysing drug. This prevents her torso jerking and arms and legs flailing about and what has been rarely described as coordinated attempts to "grab the knife".

Anaesthetists trained to prevent pain during surgery may assuage their doubts and the distress of other theatre staff by anaesthetising donors to prevent possible pain. But hospitals and donation agencies bitterly resent medical staff using anaesthetic because they spend their working lives trying to persuade distressed friends and relatives that the patient has actually died. But many medical experts doubt this.

Professional Opinion

Dr Phillip Keep, a consultant anaesthetist at the Norfolk and Norwich Hospital in the United Kingdom, risked his career by publicly saying what the anaesthetist profession had been debating privately for decades,

"*Almost everyone will say they have felt uneasy about it. Nurses get really, really upset. You stick the knife in and the pulse and blood pressure shoot up. If you don't give anything at all, the patient will start moving and wriggling around and it's impossible to do the operation. The surgeon always asked us to paralyse the patient.*" *3*

Dr Keep adds, "*I don't carry a donor card at the moment because I know what happens,*" *4*

Harvest theatre nurses also express doubt about the health status of the donor. Dr David Hill, also an anaesthetist, checked operating theatre registers at Addenbrooke Hospital in the United Kingdom and discovered that nurses recorded the time of death at the end of harvesting as if the donor had come in to the harvest room alive.5

Dr David Wainwright Evans, a cardiologist, formerly of Papworth Hospital in Cambridgeshire, England observes that,

"*Nursing staff treat deep coma patients with continuing tenderness and address patients by name, as the coma deepens rather than lightens, perhaps from an intuitive feeling that hearing has been retained.*"

Dr Evans says surgeons tell of persistent uneasiness at the unpleasant job of harvesting organs, particularly the heart. He says they don't get over it despite doing it many times.6
The Swedish medical writer, Nora Machado, quotes one expert as saying,

"*...Even surgeons are sometimes heard to say that the patient "suffered brain death" one day and "died" the following day."7*

D.A. Shewmon, Professor of Neurology and Paediatrics, University of California (Los Angeles) School of Medicine, in his presentation to the Linacre Centre for Health Care Ethics, also says some surgeons feel they are killing the donors.8 When interviewed by the Australian Broadcasting Corporation he indicated a change of mind about brain death being the death of the patient.9

Wendy Carlisle: So is brain death the death of the person, in your opinion?

Alan Shewmon: I used to think that it was. But in fact, during the 1980s and early 90s I read a number of articles and gave lectures supporting that idea, and since then I have had to change my opinion about it due to an accumulation of evidence to the contrary....

Wendy Carlisle*: I think you've actually called somewhere the notion of brain death a medical fiction.*

Alan Shewmon: *A legal fiction.*

Wendy Carlisle: *A legal fiction. What does that mean, then, in your opinion for the whole donor debate?*

Alan Shewmon: *I guess it's also a medical fiction. You're right.*

Dr David Evans is among a number of medical professionals who doubts that all organ donors diagnosed "brain dead" are actually brain dead,

"*The reason why the heart goes on beating in patients pronounced "brain dead" is, usually, that their brain stems are not really and truly dead but still providing the "sympathetic tone" necessary for the support of the blood pressure. In other words, the state of "shock" (profound hypotension) that characterises the destruction of the brain stem has not occurred in those patients."10*

Dr David Hill concurs saying,

"*A measure of life is the continuing hypothalamic function which controls body temperature. If the patient is warm then that part of the brain is functioning."11*

Despite scientific advances there still isn't an absolute determination when a person is finally dead
Japanese cardiologist, Dr Yoshio Watanabe adds,

"*...if the entire brain including the brain stem has indeed sustained irreversible damage, cardiorespiratory arrest would inevitably ensue, bringing about the person's death. However, the duration of this stage may well last for several days to several weeks when a respirator is used and hence, this stage at best only predicts that death of the individual is imminent, not that it is confirmed. The fact that some brain dead pregnant women have given birth to babies can be taken as strong evidence that the person is still alive, and the use of terms such as biomort or heart-beating cadaver is nothing but a sophism to conceal the contradiction in transplant protagonists'*

logic.12

Medical and government authorities in the United Kingdom are now trying to stifle professional debate and public knowledge by telling medical staff in the government health system not to define death and avoid terms like "brain death". The new term is "certified dead" which avoids uncomfortable medical definitions that are difficult to defend or explain. Death is then when a doctor says the patient is dead, regardless.

But once an idea based on fact gains credence no power can crush it. It was Drs Basil Matta and Peter Young, who wrote the now famous editorial in “Anaesthesia”, the journal of the British Royal College of Anaesthetists, recommending the use of anaesthetic to prevent possible pain in donors,

"*The act of organ donation is a final altruistic one and we should ensure the provision of general anaesthesia at least sufficient to prevent the haemodynamic response to surgery."13*