

## The Man Who Remade Death

Guy Alexandre was the first surgeon to remove organs from a patient with a beating heart. His colleagues thought him a murderer; Alexandre disagreed and revolutionized our understanding of death.

By [Robby Berman](#) | February 5, 2019 12:00 AM

Yechezkel Nakar's heart kept on beating for three weeks after he died. In 2017, the Orthodox Jewish man was admitted to NewYork-Presbyterian Hospital/Columbia Medical Center and shortly thereafter suffered a stroke. His family requested that the hospital not perform neurological testing. In spite of their protests, it did. Upon discovering his brain was dead, the hospital **issued a death certificate**. Feeling wronged, the family, accompanied by members of Agudath Yisrael of America, an ultra-Orthodox Jewish organization, took their case to court. On Jan. 15, 2019, Judge Devin Cohen, justice of the Supreme Court of New York, **ordered the hospital to change its records** and declare Nakar undead at the moment of brain death.

To understand this bizarre story and the judge's ruling, which directly contradicts conventions of modern medicine and U.S. law, requires going back not only two weeks or two years but a little over half a century to the days in Belgium when a physician by the name of Guy Alexandre became the first transplant surgeon ever to remove organs from a patient with a beating heart. In 1963 his colleagues thought he was committing murder. Alexandre thought not.

I met Alexandre a few months ago in his home in an upscale suburb of Brussels. The octogenarian is charming, affable and avuncular but he does not mince words: The physicians who accused him of murder "were hypocrites. They viewed their brain dead patients as alive yet they had no qualms about turning off the ventilator to get the heart to stop beating before they removed kidneys. In addition to 'killing' the patient, they were giving the recipients damaged kidneys that suffered ischemia ... oxygen deprivation. The kidneys did not work well; they did not last long."

Given that brain death was not well known by the public in 1963, I asked Alexandre how he succeeded in getting consent from families to donate the organs. "It was simple. I didn't ask. I told the families the situation was grim and I removed the organs in the middle of the night. When the family returned the next morning I told them their loved one had died during the night."

In 1961, Alexandre was in his third year of surgical training. He left Brussels for Boston to attend Harvard Medical School where he studied under professor Joseph Murray, the surgeon famous for performing the first successful kidney transplant between twins in 1954. After Alexandre successfully executed a number of kidney transplants between dogs in the laboratory, he was invited by Murray to join him in the operating room to operate on humans. It was there that Alexandre noticed a curious phenomenon.

Murray turned off the ventilator in order to cause the heart to stop beating and only then did he extract the organs. Alexandre felt there was no need to damage the kidneys by depriving them of oxygen. He believed when looking at a human body with a dead brain that he was looking at a corpse that was

suffering from a bizarre medical condition: a beating heart. In other words, the organism was dead but the organs remained alive.

Upon finishing his graduate fellowship at Harvard, armed with new surgical skills, new anti-rejection drugs, and a new perspective on death, Alexandre returned to Brussels. He worked at the Universitaires Saint Pierre in Louvain under Dr. J Morelle, chief of surgery. Alexandre shared his thoughts about death with Morelle and they were of a similar mind: Brain death with a beating heart is death.

Although they were not neurologists, Alexandre and Morelle decided upon five criteria to establish that the brain was dead: For a patient that had a head trauma, if he also had dilated and fixed pupils, no reflexes or response to pain, no autonomous respiration, falling blood pressure and a flat EEG, they considered the patient dead.

On June 3, 1963, Alexandre had such a patient.

Alexandre and Mollere told the family the situation was dire and when the family left the hospital they wheeled the body into the operating theatre and there—for the first time in modern medical history—organs were purposely removed from a human body that had a beating heart. Those first cuts of the scalpel not only destroyed the skin but also the conventional definition of death—brain death plus cardiac arrest—that had reigned for thousands of years:

Morelle and Alexandre did not invent the concept of brain death. Brain death with a beating heart was fully described in the medical literature in 1959 by French Physicians Mollaret and Goulon who called it *comma dépassé*, literally “beyond coma.” But they did not consider brain death to be death; how could they in the presence of a beating human heart?

But why? What stopped them? Given the knowledge they had about the role the brain plays in animating our sentience and making us human, what prevented men of medicine from jumping this conceptual chasm? Why did a beating human heart captivate them? As with most “why” questions the reasons branch off and multiply:

First and *foremost* physicians are sworn to the Hippocratic oath: not to harm their patients. In the early days of transplantation, the attending doctor, whose primary purpose was to cure the patient, might also be the one removing the organs. The physician most likely felt the need to know with complete certainty that his patient was dead. A beating human heart inside a warm human body does not an appearance of a death make.

Culture also played a role. Culture functions as a powerful feedback loop reinforcing societal beliefs. Society always viewed a beating human heart as a symbol of human life and as such the heart looms large in literature and lyrics, poetry and paintings. When have you ever told your sweetheart that you love them from the bottom of your brain? But indeed it is the brain, not the heart, that is the repository of one's emotions. Symbols, unlike people, do not easily die.

Then there was the simple fact of inertia. For many millennia the cardiac arrest criterion of death was the standard of death in all cultures. To suddenly ignore a beating heart as a sign of human life would be to overturn all of medical knowledge. It would be the ultimate paradigm shift, reframing the boundary between life and death and quite a bureaucratic change to boot.

Our perceptions also fail us. The corpse is warm to the touch and the person looks sleeping. The chest rises and falls with every injection and extraction of air from the ventilator. We can't with the naked eye see inside the skull. Moreover, our language is weak. The term "brain death" is linguistically difficult to use in a consistent way. If brain death is indeed death, why is a physician conveying to the family a diagnosis of brain death? Just tell the family the patient has died. If a doctor states a patient is brain dead he is implying the patient is alive suffering from a condition called brain death. Should one refer to the body as a cadaver or a patient? Should one use the term brain death alone or must one say brain dead with a beating heart?

"Brain death" is indeed a strange medical state. In fact, only 0.0024 percent of all deaths occur where the brain dies but the heart continues to beat. But the medical community's focus on explaining brain death is misplaced. The medical condition that needs to be explained to the family is the stubborn heart, not the dead brain. Everyone who dies has a dead brain. Not everyone who dies still maintains a beating heart.

The heart has its own biological pacemaker in the upper right-hand quadrant that causes it to beat. If oxygen is artificially supplied from a ventilator, the heart continues to beat unaware that the brain has died. The heart is not connected to the brain in any significant way.

A heart can beat in a bucket of saltwater and no one would confuse it with a human being. So if a heart beats inside a corpse, why would we think it's a living human being? The greatness of Alexandre's insight was that he was able to see the insignificance of the beating heart.

But his charge that doctors were hypocrites for turning off a ventilator on a brain-dead heart-beating corpse might be a little harsh. It is possible doctors viewed the patient as alive but did not feel they were killing him by turning off the ventilator. They were simply removing an impediment that was preventing the body from doing what it wanted to do—die. They didn't cause the death of the heart—the disease or the trauma the body underwent did.

Philosophers question whether there is a principled distinction between killing someone and allowing someone to die. The oft-posed quandary in philosophy seminars asks: What is the moral and legal difference between drowning a baby and watching a baby drown without saving him?

The law cannot dwell in timeless questions, it has to provide immediate rules. Israeli legislation forbids doctors from removing a patient from a ventilator unless the patient recovers or the heart dies. But the law does allow for physicians to attach a timer to the ventilator that turns it off after a period of time. The doctor then has the option to restart the timer or refrain from doing so.

Dr. Rabbi Avraham Steinberg, a world-renowned pediatric neurologist at Shaare Zedek Hospital in Jerusalem, has had his hand in all of Israel's legislation on brain death and organ donation—both in the Knesset and in the Office of the Chief Rabbinate of Israel. When questioned about the ventilator-timer he admitted there is not much principled distinction between shutting off a ventilator and passively allowing it to switch off without turning it back on, but emotionally he prefers the latter: "... If it's so simple and it's the same thing, you switch it off."

Alexandre came down on the proactive side of shutting down the heart upon the discovery of neurological death because he believed death had already occurred. He had already removed organs from nine heart-beating cadavers when he presented at the CIBA conference in London in 1965, the first international conference on the ethics of transplantation. His colleagues were shocked.

Dr. Tom Starzl, the pioneer liver transplant surgeon who attended the conference, said that no member of his team would consider the patient “dead as long as there was a heartbeat.” Dr. Roy Calne said that Alexandre’s behavior will cause the field of organ donation “to fall into disrepute.” Professor Louisell warned that such behavior “could incur the danger of a possible charge of homicide.”

Alexandre held his ground and continued his work. He was vindicated five years later in 1968 when the Harvard Ad Hoc Committee concluded that brain death was death. What happened in that five-year period from 1963 to 1968 that caused other physicians to come around is not clear. Most likely it was the growing success of transplants and the accompanying growing need for organs. Alexandre was even further vindicated when the committee determined the criteria to establish brain death: They were identical to Alexandre’s. But vindication was bittersweet: Nowhere was Alexandre’s name mentioned.

What about the charge of stealing organs? Alexandre defends himself: “In Belgium the coroner is allowed to order an autopsy, even over the objection of the family.” Indeed at that time it was also the law in France and England. “So shouldn’t a surgeon be allowed to take an organ out of a dead body, without the permission of the family, to save someone else’s life? And to tell you the truth, I don’t ever remember the doctors who turned off the ventilator and removed kidneys getting permission from families either!”

As far back as the 17th century, common law established that there are no property rights over a dead body. A corpse is *res nullius*, a thing that is ownerless. Since the body was on the grounds of the hospital, in effect the hospital could decide what do with it. And in Europe, deference to physicians is much greater than in America. In fact, in 1986 Belgian legislation explicitly granted physicians the authority to remove organs for transplantation without asking permission from the family unless the donor had expressed opposition during his or her lifetime.

Also in 1986, the Office of the Chief Rabbinate of Israel—and both its Ashkenazi and Sephardic chief rabbis—declared brain death to be death in spite of the beating heart that was artificially being supplied with oxygen. But some rabbis objected. They viewed the living heart as a sign of human life in and of itself and demanded that the family have the right to insist on medical care for what the medical establishment viewed as a corpse with a beating heart.

In 1986, the states of New York and New Jersey—the two states that house the largest population of Orthodox Jews in America—were coping with the religious objection to brain death by Jewish organizations. They adopted legislation that required hospitals to offer “reasonable accommodation” for religious families concerning the diagnosis of death. In other words, if the medical staff suspected the death of the brain and they knew the family was not going to accept brain death as death as long as the heart was still beating, the hospital would refrain from carrying out the neurological tests and the accompanying declaration of death. This was done primarily to enable the families to demand insurance companies continue to pay for medical treatment of the beating heart cadaver.

Two weeks ago, Judge Cohen ruled that in the case of the death of Yechezkal Nakar, “reasonable accommodation” had not been afforded to the family. The hospital performed the tests after the family already expressed its opposition to the neurological testing. But the court’s remedy is strange. The judge ordered the hospital to vacate the death certificate and reissue it on the day Nakar’s heart died. This contradicts modern medicine and U.S. law. The matter, then, which Dr. Alexandre first opened more than 50 years ago, is far from closed.

As Alexandre slowly walked me to his door in his home in Brussels, he put his arm around my shoulder

and gave me one more justification for his decision to remove organs upon brain death: “The blood pressure eventually falls and the heart stops beating on its own within a few days anyway.”

Well, that might have been true in the 1960s. But if the reports about Jahi McMath from Oakland, California, are true, she had been brain dead for five years before her heart stopped beating in 2018. This could be significant or perhaps—and most likely—not. If she was brain dead her beating heart was simply a testimony that modern medicine and technology have gotten so sophisticated it can keep a heart beating inside a corpse for a very long period of time

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