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# An International Legal Review of the Relationship between Brain Death and Organ Transplantation

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## ABSTRACT

The "dead-donor rule" states that, in any case of vital organ donation, the potential donor should be determined to be dead before transplantation occurs. In many countries around the world, neurological criteria can be used to legally determine death (also referred to as *brain death*). Nevertheless, there is considerable controversy in the bioethics literature over whether brain death is the equivalent of biological death. This international legal review demonstrates that there is considerable variability in how different jurisdictions have evolved to justify the legal status of brain death and its relationship to the dead-donor rule.

In this article, we chose to review approaches that are representative of many different jurisdictions—the United States takes an approach similar to that of many European countries; the United

Kingdom's approach is followed by Canada, India, and influences many other Commonwealth countries; Islamic jurisprudence is applicable to several different national laws; the Israeli approach is similar to many Western countries, but incorporates noteworthy modifications; and Japan's relatively idiosyncratic approach has received some attention in the literature. Illuminating these different justifications may help develop respectful policies regarding organ donation within countries with diverse populations and allow for more informed debate about brain death and the dead-donor rule.

## INTRODUCTION

The dead-donor rule is a well-established ethical and legal constraint on the donation of vital or-

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gans. It requires that, before the donation can proceed, a potential donor is determined to be dead. There remains, however, some controversy on whether the dead-donor rule is ethically necessary, as well as on the nature and definition of death.

For centuries there has been general consensus on the cardiopulmonary definition of death.<sup>1</sup> This consensus was challenged in the 1950s with the development of mechanical ventilation and advanced life-support technologies, because these technologies could create a differentiation between the loss of cardiac function and the loss of brain function in some patients.<sup>2</sup> In the 1960s, physicians and jurists struggled with whether brain death (typically defined as the irreversible loss of neurological function) was an acceptable way to determine death.<sup>3</sup>

In most Western countries, the law now recognizes brain death, and vital organs can be obtained from brain-dead patients for transplantation into patients in need, provided other legal requirements (such as appropriate consent) are met. Some scholars have claimed that there is an international consensus around the neurological criteria for death and the dead-donor rule. For instance, Wijdicks asserted in 2001 that “Physicians, health care workers, members of the clergy, and laypeople throughout the world have accepted fully that a person is dead when his or her brain is dead.”<sup>4</sup> Bernat similarly maintains that “Over the last 40 years the determination of human death using neurological tests (‘brain death’) has become an accepted practice throughout the world but has remained controversial within academic circles.”<sup>5</sup> Robertson categorizes the dead-donor rule as the “ethical linchpin of a voluntary organ transplantation system,”<sup>6</sup> while Magnus and colleagues contend that, “some critics of brain death seek to abandon the dead-donor rule. Whatever one thinks of the argument for that as a philosophical position, it is far out of touch with current accepted medical and legal standards and public opinion.”<sup>7</sup>

These strong statements are belied by the fact that there is limited information in the literature about the different ways international legal jurisdictions justify brain death and its relationship to the dead-donor rule. Scholars have conducted analyses of the views of various religious traditions regarding brain death,<sup>8</sup> the approaches to obtaining consent for organ donation in different jurisdictions,<sup>9</sup> and different medical criteria for diagnosing brain death,<sup>10</sup> but, to our knowledge, this article is the first to focus on the different ways that international jurisdictions have come to justify organ transplantation from brain-dead patients.

In this article, we report on an international legal review of various jurisdictions (the U.S.; the U.K.; countries subject to Islamic jurisprudence, such as Iran, Saudi Arabia, and Indonesia; Japan; and Israel). We chose to review approaches that are representative of many different jurisdictions—the U.S. takes an approach similar to many European countries; the U.K.’s approach is followed by Canada, India, and influences many other Commonwealth countries; Islamic jurisprudence is applicable to several different nations; Israel’s approach is similar to mainstream Western countries, but includes noteworthy modifications; and Japan’s relatively idiosyncratic approach that has received some attention in the literature. We found there is greater variability in the legal justifications for brain death and its relationship to the dead-donor rule than scholars have recognized. In Islamic traditions in particular, the notion of *unstable life* is a way to justify organ donation from brain-dead patients that we believe has not been fully described previously in the literature. Illuminating these different justifications may help the development of respectful policies regarding organ donation within countries with diverse populations and allow for more informed debate about brain death and the dead-donor rule.

## THE UNITED STATES

In the U.S., the major source of organs is donors who have been determined to be dead by neurological criteria.<sup>11</sup> The law governing the determination of death in the U.S. is well known, and will be only briefly discussed. For much of U.S. history, death was defined using cardiopulmonary criteria, or, in lay terms, when the heart stopped beating and breath ceased. *Black’s Law Dictionary* historically defined natural death as “The cessation of life; the ceasing to exist; defined by physicians as a total stoppage of the circulation of the blood, and a cessation of the animal and vital functions consequent thereon, such as respiration, pulsation, etc.”<sup>12</sup> As noted above, in the 1950s and 1960s, for the first time, technologies enabled patients to persist in an irreversible coma after sustaining significant brain damage. In 1968, Henry Beecher’s Ad Hoc Committee of the Harvard Medical School responded to these changes by proposing an additional way to determine death based on the permanent cessation of neurological functioning.<sup>13</sup> This article had a profound worldwide influence on the legal acceptance of brain death as death.

Nevertheless, acceptance of the concept of brain death in the U.S. was slow.<sup>14</sup> In the 1970s, some states passed laws recognizing neurological criteria for

death, but with considerable variability in the language used in their statutes.<sup>15</sup> In its 1981 report, entitled *Defining Death: Medical, Legal, and Ethical Issues in the Determination of Death*, the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research sought to achieve national consensus about brain death. The commission rejected the "higher brain" definition for brain death and endorsed the "whole brain" definition.<sup>16</sup> This report also included proposed statutory language to move towards a uniform approach for all states. It further led to the creation of a draft law by the National Conference of Commissioners on Uniform State Laws, namely the Uniform Determination of Death Act (UDDA), which has now been adopted by all U.S. states and the District of Columbia in some form.<sup>17</sup>

Thirty-six U.S. states, the District of Columbia, and the U.S. Virgin Islands adopted the UDDA directly, and the rest of the states adopted very similar legal standards through legislation or court cases.<sup>18</sup> The UDDA holds as follows: "An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead."<sup>19</sup> The dead-donor rule is a separate legal constraint in the U.S. that is governed by state law and ensures that organ donation occurs only after death is determined. As Robertson explains, "if the organ donor is not dead, removing vital organs would cause death and potentially be punishable as homicide" under state law.<sup>20</sup> Thus, under U.S. state laws, organ donation from brain-dead donors does not violate the dead-donor rule because whole brain death is a form of death that is legally recognized throughout the U.S.

In light of recent controversy in the U.S. over the treatment of brain-dead patients,<sup>21</sup> it is worth noting that at least four states (California, New York, Illinois, and New Jersey), allow for reasonable accommodation of patients and families who do not believe in neurological criteria for death.<sup>22</sup> New Jersey requires the most of physicians and hospitals with respect to accommodation:

The death of an individual shall not be declared upon the basis of neurological criteria . . . when the licensed physician authorized to declare death, has reason to believe, on the basis of information in the individual's available medical records, or information provided by a member of the individual's family or any other person knowledgeable about the individual's personal religious beliefs that such a declaration would violate the personal religious beliefs of the indi-

vidual. In these cases, death shall be declared, and the time of death fixed, solely upon the basis of cardiorespiratory criteria.<sup>23</sup>

In states that require reasonable accommodation of patients and families who do not believe in the concept of brain death, however, questions remain about the limits on what physicians, hospitals, and insurance companies must do for brain-dead patients.<sup>24</sup>

## THE UNITED KINGDOM

There is no law or statute defining death in the U.K. Although the Human Tissue Act (2004),<sup>25</sup> which regulates transplantation in England, Wales, and Northern Ireland, empowers the Human Tissue Authority (HTA) to define death for the purposes of the act, the various HTA *Codes of Practice* and the Human Tissue (Scotland) Act 2006<sup>26</sup> and Human Transplantation (Wales) Bill 2013<sup>27</sup> are silent on the issue. However, following a number of legal cases deciding this issue, brainstem death is accepted in common law as a definition of death.

Brainstem death was first addressed by the English courts in *R v. Malcherek; R v. Steel* in 1981. The court of appeal heard two separate appeals, in which each defendant claimed the actions of doctors had broken the chain of causation.<sup>28</sup> In each case, doctors had discontinued mechanical ventilation once their patient had been determined to meet the criteria for brain death.<sup>29</sup> In his judgment, Lord Lane observed, "There is, it seems, a body of opinion in the medical profession that there is only one true test of death and that is the irreversible death of the brain stem, which controls the basic functions of the body such as breathing." He concluded that these doctors did not break the chain of causation without providing a legal definition of death:

This is not the occasion for any decision as to what constitutes death. Modern techniques have undoubtedly resulted in the blurring of many of the conventional and traditional concepts of death. . . . It is no part of the task of this court to inquire whether the criteria, the Royal Medical College confirmatory tests, are a satisfactory code of practice. It is no part of the task of this court to decide whether the doctors were, in either of these two cases, justified in omitting one or more of the so called 'confirmatory tests.' The doctors are not on trial.<sup>30</sup>

In 1992, proceedings were brought in *Re: A* to clarify the legality of the proposed disconnection of mechanical ventilation in a child.<sup>31</sup> Judge Johnson ac-

cepted the definition of death as recommended by the Medical Royal Colleges and their Faculties, namely brainstem death, and ruled that A was now dead for “all legal, as well as medical, purposes.”<sup>32</sup> Two features of this ruling are worthy of note. Firstly, to declare that a patient is dead, Judge Johnson ruled that doctors must satisfy the various recommendations of the Royal Colleges as to the procedure to be adopted in the diagnosis of brainstem death. This has been interpreted as giving legal weight to the Royal Colleges’ *Code of Practice* and, presumably, its successors.<sup>33</sup> Secondly, Judge Johnson ruled that “A” had been dead since the time of completion of the first set of brainstem death tests. This has led to the odd situation in the U.K. that although brainstem death is not confirmed until after the completion of the second set of brainstem death tests, the time of death is retroactively backdated to the time of the completion of the first set of tests. The significance of this feature has increased over time, as every successive *Code of Practice* has strengthened the recommendation that two sets of tests are undertaken. While in 1976 it was “customary” to repeat the tests, in 1983 the Department of Health recommended, “if the tests confirm brain death they *should nevertheless* be repeated.”<sup>34</sup> By 1998 the Academy of Medical Royal Colleges’ *Code of Practice* specified that “two sets of tests *should always* be performed,”<sup>35</sup> and the most recent version of the *Code of Practice* in 2008 states that testing “*must always* be performed on two occasions.”<sup>36</sup>

The case law that followed has continued to accept brainstem death as death.<sup>37</sup> In *Bland*, the House of Lords explicitly endorsed brainstem death criteria when considering the case of Anthony Bland, who was in a persistent vegetative state:

I start with the simple fact that, in law, Anthony is still alive. It is true that his condition is such that it can be described as a living death; but he is nevertheless still alive. This is because, as a result of developments in modern medical technology, doctors no longer associate death exclusively with breathing and heart beat, and it has come to be accepted that death occurs when the brain, and in particular the brain stem, has been destroyed.<sup>38</sup>

Brainstem death was last addressed in 2015, when the Honorable Mr. Justice Hayden quoted extensively from the 2008 *Code of Practice* and again upheld that irreversible cessation of brainstem function was sufficient to establish the criteria for death.

In all the cases taken to the English courts, organ donation and transplantation were not features

of the cases under discussion. There is thus an acceptance in the U.K. that brainstem death is death, irrespective of any consideration of organ donation. Recommendation 7 of the 2008 Organ Donation Taskforce report, endorsed by all four U.K. health departments, was that brainstem death testing should be carried out in all patients in whom brainstem death is a likely diagnosis, even if organ donation is an unlikely outcome.<sup>39</sup> This recommendation was reinforced in the 2008 *Code of Practice* by the removal of all reference to organ donation.<sup>40</sup> The code is intended to apply to the diagnosis of death in all circumstances irrespective of organ donation. Additionally, the 2008 code included for the first time criteria for diagnosing death after cardiorespiratory arrest, again irrespective of organ donation.<sup>41</sup>

The U.K. legal standard is distinctive in that it accepts brainstem death as opposed to the more internationally common “whole” brain death. This has been a feature of U.K. practice since the original 1976 Royal Colleges’ recommendation, which stated, “permanent functional death of the brainstem constitutes brain death.”<sup>42</sup> This position has been restated in every succeeding Code of Practice. The 2008 *Code of Practice* states:

Death entails the irreversible loss of those essential characteristics which are necessary to the existence of a living human person and, thus, the definition of death should be regarded as the irreversible loss of the capacity for consciousness, combined with irreversible loss of the capacity to breathe. . . . The irreversible cessation of brain-stem function whether induced by intra-cranial events or the result of extra-cranial phenomena, such as hypoxia, will produce this clinical state and therefore irreversible cessation of the integrative function of the brain-stem equates with the death of the individual.<sup>43</sup>

It is important not to overstate the importance of the U.K. criteria’s reliance on death of the brainstem.<sup>44</sup> The capacity to breathe is considered to be a brainstem function (not a spinal or lung function), with specific exclusion in the *Code of Practice* for relying on clinical examination when the possibility of quadriplegia or profound neuromuscular weakness exists.<sup>45</sup> Likewise, the capacity for consciousness incorporates the capacity for arousal, another brainstem function, which is present even in patients in vegetative states, excluding them from being considered to fall under the U.K. criteria for death.<sup>46</sup> The pre-eminence, from the very beginning, of the brainstem in the U.K. criteria may have been influenced by the eminent pathologist, Keith Simpson.

In 1964, he was asked how one can know someone is dead and stated, “there is life so long as circulation of oxygenated blood is maintained to live brainstem centres.”<sup>47</sup>

All international brain-death criteria require the loss of brainstem function. The U.K. criteria could be interpreted then as a basic global minimum standard; however, the U.K. criteria have always been an explicit rejection of whole-brain criteria, when that is defined as loss of all functions of the brain. The U.K. criteria affirm the scientific evidence to date that consciousness and breathing are not possible without a functioning brainstem. While there is this difference between the U.K. and most other countries (Canada and India also accept brainstem criteria), the overwhelming majority of patients who are confirmed to be brain dead in the U.K. would also be confirmed as brain dead elsewhere, and the diagnosis of death in isolated brainstem injured patients is a very rare event in the U.K., estimated to be a once in a decade experience at large neuro-intensive care units.<sup>48</sup>

### ISLAMIC LAW

There are two main branches of Islam—Shiite and Sunni—each with its own jurisprudential, theological, and ethical schools. Traditional Islamic societies regulate brain death and organ transplantation with Islamic jurisprudence (*fiqh*).<sup>49</sup> Islamic jurisprudence, including both Shiite and Sunni schools of jurisprudence, has four main sources. The first and most important one is the Holy Qur’an, which is the primary source of Islamic jurisprudence and ethics. The second source is *Sunna*, which is what the prophet (and 12 *Imams* who followed him, according to the Shiite school) said, did, or agreed to. The third source is *ijma*, which is the consensus of Islamic scholars, and the fourth is reason (*aghl*) in the Shiite schools, and analogical deduction (*qiyas*) in the Sunni schools of jurisprudence.<sup>50</sup>

According to Islamic teachings, death occurs upon the separation of the soul (*nafs*) from the body. This separation is not the subject of direct empirical observation. Although it is the focus and the main theme of many of verses in Quran, no biological criteria for death are provided.<sup>51</sup> In the Holy Scripture and in the books written by Muslim jurists in the medieval period, which still comprise the main references of Islamic jurisprudence (*fiqh*), almost no attention has been paid to the exact definition and physical criteria of death. Instead, it was submitted to the convention of ordinary people and physicians.<sup>52</sup>

The philosophical/theological relationship between the human brain/mind and the soul, and the role of the brain in intellectual functions like memory or cognition or moral judgment (which are traditionally attributed to the soul), are unclear in both Shiite and Sunni Islamic theologies.<sup>53</sup> Accordingly, Muslim jurists usually hesitate to consider a brain-dead person as having no intellectual capacity. This doubt is based on the theoretical possibility that if the human body and human spirit/soul (*ruh/nafs*) are still somehow connected in a brain-dead person, then the person can still have an intellectual life (which would allow, for example, an opportunity for redemption), even if this is not detectable by physicians or cannot be reversed to a detectable state. Other theories, such as defining life as embodied consciousness, have been proposed by some Muslim scholars to justify equating brain death with legal death,<sup>54</sup> but they have not found broad acceptance among Muslim physicians and jurists.<sup>55</sup>

Neither Sunni nor Shiite Islam has a single religious body that issues religious opinions and decrees. Rather, there are multiple councils and authorities, such as muftis among Sunnis, and Grand Ayatollahs among Shiites, who issue such religious decrees (*fatwas*).

### The Sunni Perspective

The majority of Muslims in the world are Sunni (about 90 percent). Sunni jurisprudence (Islamic law or *Sharia*) has a profound influence on the lifestyle and decision making of Muslims, and also is considered an influential source of law in many countries, including Saudi Arabia, the Arab Gulf States, Nigeria, Bangladesh, Indonesia, and many countries in the Middle East.

Sunni jurisprudence relies mostly on the Holy Scripture (Holy Quran and *Sunna*). Because no exact definition of death is specified in the Scripture, determining death is left to the convention of experts, who, in this case, consist of physicians. In addition, the principle of public good (*maslaha*) and the quotations from the prophet (*hadiths*) that urge Muslims to seek treatment and preserve their health and life led the majority of Islamic scholars to accept organ donation from brain-dead patients. This conclusion is justified either by equating brain death with cardiovascular death, or by considering brain death as an intermediate stage between life and death, which will be explained in greater detail below in the section discussing the Shiite perspective.

Among the views of Sunni Muslim juridical councils and expert groups regarding the concept of brain death, five are most prominent.<sup>56</sup>

1. In 1986, the Third International Conference of Islamic Jurists in Amman/Jordan passed a resolution with a majority of votes that equated brain death with legal death. The importance of this resolution is clear, as it paved the way for establishing programs of organ donation from brain-dead persons in some conservative Sunni countries, such as Saudi Arabia.<sup>57</sup>

2. In 1988, the Organization of Islamic Conferences' Islamic Fiqh Academy (OIC-IFA) took the position that Islamic law has two legal standards for the declaration of death: (a) when all vital functions of the brain end irreversibly and the brain has started to degenerate, as determined by expert physicians; (b) when heartbeat and respiration cease fully and irretrievably, as declared by physicians. This verdict explicitly considered the two legal standards to be equal. The OIC-IFA does not specify whether the whole-brain or brainstem criteria of brain death would fulfill these conditions.<sup>58</sup> This dual definition of death has been the subject of criticism by other Muslim scholars, who claim that it causes ambiguity and is not consistent with the teachings of the Quran.<sup>59</sup>

3. Similarly, the Islamic Medical Association of North America (IMANA) issued a briefing after consultations with Islamic scholars and reviews of juridical opinions. According to the IMANA's perspective, a person is considered dead when the functions of the brain, including the brainstem, have permanently ceased, even if some other organs may continue to show vital activity.<sup>60</sup>

4. U.K.'s Muslim Law Council, after a long course of discussions involving both Sunni and Shiite scholars in 1995, took the position that medical doctors are the proper authority to determine the criteria of death. In reliance on medical opinion in the U.K., brainstem criteria are accepted for determining death.<sup>61</sup>

5. In 1985, the Islamic Organization of Medical Sciences (IOMS), which consists of Islamic scholars and medical scientists, equated brainstem death with *al hayat ghair al mustaqirr* (unstable life) within Islamic law, and allowed for removal of life support, but not formal declaration of death for a person in such a state.<sup>62</sup> This position is similar to the one adopted by Shiite scholars and will be discussed in greater detail below.

### **The Shiite Perspective (Iran)**

Whereas the majority of Muslims in the world are Sunni, the vast majority of Iranians are Shiite. Iran is the only country in the world in which, according to its constitution, laws and regulations must

be based on Shiite jurisprudence (*fiqh*). As mentioned above, diagnostic criteria for death are not established by classical references of Islamic (including Shiite) jurisprudence. Instead, this subject is discussed in detail in the part of Islamic texts that address hunting and the legality of consuming a hunted or decapitated animal. It is important for Muslims to decapitate a hunted animal before it dies, because an animal is allowed to be consumed only if it was ritually decapitated while it was alive. Therefore, scholars have debated how one can understand whether a hunted and injured animal is still alive (such that it can be decapitated and consumed) or is already dead (such that its consumption is forbidden). In attempting to answer this question, Muslim jurists defined two states of life: the stable state of life (*al hayat al mustaqirr*) and the unstable state of life (*al hayat ghair al mustaqirr*).<sup>63</sup> The stable state of life is the conscious and normal state of life. The unstable state of life, however, describes the life of a hunted animal that is near death, with imminent cessation of cardiac and respiratory activity.

Shiite jurists in Iran have used this theoretical background to explain how organ procurement could be permissible from brain-dead donors.<sup>64</sup> Subsequently, the Organ Transplantation and Brain Death Act, once rejected in 1995, was approved by Iran's parliament in 2000, permitting organ transplantation using brain-dead donors.<sup>65</sup> According to this act, the organs of brain-dead persons, with the consent of their close relatives, can be transplanted to persons in need, provided that doing so is necessary for saving a life. Accordingly, only the transplantation of vital organs like the heart can be considered a legitimate reason to end a brain-dead person's life. Using other organs that would not save the life of another, like a kidney or cornea, would only be permitted after first removing the donor's heart, which is understood to result in the death of the donor (who was previously understood to be alive in an unstable sense).<sup>66</sup>

According to Islamic teachings, human life is sacred and should be protected and preserved. It is forbidden and considered a sin to take an innocent human life. By using the concept of unstable life, the Muslim jurists refrain from accepting brain death as equal to death, and, at the same time, pave the way for lifesaving organ transplants from brain-dead persons. In sum, under Shiite jurisprudence, brain-dead persons are still alive and their life is sacred, so it is forbidden to remove life support and declare them dead, but it is permitted to sacrifice their sacred but "unstable" life in order to save a stable,

more valuable life. Therefore, one can argue that Islamic/Shiite jurisprudence takes a somewhat utilitarian approach in this type of case.

### ISRAEL

According to the Israeli law, the Chief Rabbinate Council of Israel is the supreme rabbinic and spiritual authority in Israel. The Chief Rabbinate Council is made up of two chief rabbis who serve a 10-year term and are selected by representatives of both secular and religious communities. The council is in charge of providing responses and opinions on matters of religious law to persons seeking its advice.<sup>67</sup>

The need to provide organs for transplantation led the Chief Rabbinate Council of Israel to issue a religious decree in 1986 that accepted brain death as a valid determination of death.<sup>68</sup> Nevertheless, a consensus does not exist among different branches of Judaism regarding the concept of brain death.<sup>69</sup> For example, ultra-orthodox Jews follow a strict interpretation of the *halacha* (the collective body of Jewish religious laws derived from the Written and Oral Torah) and define the time of death as the moment of cessation of respiratory function; therefore, they do not accept brain death as biological death, as long as breathing continues (even if it requires mechanical support through a ventilator). In addition, the principle of the sanctity of life makes Jewish religious authorities hesitant to accept radical changes in the criteria of death.<sup>70</sup>

In an empirical study, a large portion of the Jewish population who consider themselves to be “religious” or “religious-traditionalist” said that they rejected organ donation after brain death because they did not consider brain death as a type of death.<sup>71</sup> However, a group of Jewish scholars argues that brain death is similar to decapitation, and since, according to the *halacha*, a decapitated animal is considered dead—despite the persistence of some vital functions in its body—the brain-dead person should also be considered dead.<sup>72</sup>

A clinical guideline promulgated by the Israeli Ministry of Health regulated the determination of brain death in Israel from 1996 to 2008. This guideline was based on the practice parameters of the American Academy of Neurology. In 2008, the Knesset (the legislative branch of the Israeli government) passed the Brain-Respiratory Death Act into law; this included most of the requirements of religious authorities, the most important one being that death may only be determined when *spontaneous* respiratory functions terminate permanently.<sup>73</sup> Al-

though “permanent loss of spontaneous respiratory functions” is also required by any jurisdiction that accepts brain-death as biological death, Israeli law emphasizes that brain death explicitly accommodates and incorporates the Chief Rabbinate Council’s requirement for cessation of spontaneous respiration.

In the years following its implementation, the Brain-Respiratory Death Act has been modified and amended. For example, in the first version of the act, a patient’s family members were informed of the intention to perform brain-death testing before performing the tests; however, according to the new version of the act, physicians are to seek information on the patient’s views on brain death in writing. The rationale behind this change is to take into consideration the strong religious views of ultra-orthodox Jews that brain death is not equivalent to death. In addition, in the new version of the act, the apnea test and ancillary testing are mandatory; physicians have to undergo training that includes medical, ethical, and religious components before they can make brain-death determinations, and an authorization committee oversees determinations of brain death in hospitals to ensure that they are performed in accordance with the requirements of the Chief Rabbinate Council. It has been argued that these changes were made to accommodate the orthodox minority of the population and that they impose hurdles that lower the number of cases of determination of brain death and organ donation.<sup>74</sup>

In conclusion, although Israel formally validated the concept of brain death through the Brain-Respiratory Death Act, the law contains unique protections designed to ensure that vital organs are not removed from those with religious objections, protections that arguably have reduced vital organ transplantation in the country overall.

### JAPAN

Japan’s Organ Transplantation Law was first enacted in 1997 and was revised in 2009. One of the major changes in the revised law concerned the rules of consent for organ donors, which is important to understanding the controversy regarding the determination of death in Japan. The original law required donors to opt in and affirmatively choose to be donors, and gave veto power to the person’s family. The revised law switched to an opt-out system, while its text still explicitly requires the consent of family members. The law also contains language that can be understood as providing a definition of death. Although interpretation of this language is some-

what controversial, insofar as the original law is concerned, it seemed obvious to many that individuals were allowed to define whether brain death would be death in their own case. Modifications to the definition of death were made during a 2009 revision of the law, and one plausible understanding is that the new law simply equates brain death with biological death. However, as we shall explain in this section, another understanding that is at least equally plausible is possible, according to which individuals are still entitled to choose whether or not to accept brain death as a legal form of death under the new law.

To understand the controversy, one needs to go back to the actual wording of the original law, and see how it could be interpreted as allowing individuals to define for themselves whether brain death is biological death. A sentence in Section 6 of the original law (which remained the same after the revision) maintains that “organs can be procured for transplantation from a dead body (including the body of a brain dead person. . .).”<sup>75</sup> This indicates that brain death is equated with human death in Japanese legislation. But, in the original law, in an important qualifier, the sentence in the section that immediately follows states, “ ‘the body of a brain dead person’ means the body of a person *whose organs are going to be procured for transplantation surgery* [*noushi shita mono no shintai toha sono shintai kara ishokujutsu ni shiyō sareru tame no zoki ga tekishutsu sareru koto to naru mono no de atte*] and whose whole brain, including its brain stem, is declared to have irreversibly ceased its functioning.”<sup>76</sup> The important part of this, for our present discussion, is the first half of the qualifier, which should strike many as odd, due to the claim that whether a person is dead depends on what is going to occur afterwards, and, as we shall see, this part was eliminated in the 2009 revision.

In addition, as mentioned above, the law used to have a strong opt-in system to confirm a donor’s wish to donate, maintaining that “organs may be procured for transplantation surgery” only if “the dead person had provided while alive a written will to donate organs for transplantation surgery.”<sup>77</sup> The law also provided additional veto power to the family. So for organs to be procured, both the brain-dead person and the family needed to provide consent to donation.

Reading all these sentences together, a brain-dead person’s body could be considered a dead body only when organs were going to be procured for transplantation, but organ procurement could occur only when the person gave prior written consent. In

other words, based on this reading, a person is not dead even when the whole brain has irreversibly lost its function unless the person gave written consent to organ donation while still competent. Thus, for example, Makoto Ida maintained that “there is no other way but to understand that the law provides the ‘choice of brain death’ as an ‘exceptional option.’”<sup>78</sup> This unorthodox manner of defining human death was also described with noted curiosity by Canadian anthropologist Margaret Lock: “Brain death is equated with death in Japan, therefore, *only* when patients and families wish to donate organs. The law refers to ‘the body of a brain-dead entity’ [*noshi shita mono no shintai*], but nowhere does it state explicitly that brain death is equivalent to human death.”<sup>79</sup>

In 2009, the law was revised in a few significant ways. First, the opt-in system was replaced with an out-out system for confirming what the donor wanted.<sup>80</sup> Second, in the sentences defining human death, the phrase “whose organs are going to be procured for transplantation surgery and” was eliminated from the above sentence of Section 6. When the revised law first came out, media reports, including those in the major newspapers, stated that the new law equated brain death with biological death.<sup>81</sup> It appeared to be natural to think that that was what the revision intended to do, considering the content of the phrase that was eliminated. Nevertheless, a careful reading of the revised sentences suggests that the same problem, that is, that the definition of death is a matter of individual choice, remains.

The shorter Section 3 of the new law now reads, the “ ‘body of a brain dead person’ means the body of a person whose whole brain, including its brain stem, is *declared* to have irreversibly ceased its functioning.”<sup>82</sup> A further complication occurs due to the provision regarding the “declaration” of brain death. According to Section 6-3, doctors may make “The declaration concerning organ procurement mentioned in the preceding section” either when the brain-dead person, while competent, agreed to donation and the family does not object later, or when the brain-dead person did not express an opinion while competent, but the family later provided consent.<sup>83</sup> In other words, organs may be procured under the new law *unless* the patient had previously documented a refusal to donate organs. In Japan, as in most other countries, for a patient to be declared brain dead for purposes of transplantation, doctors must conduct a legally specified set of tests to make sure that the patient’s conditions meet the criteria of brain death. Section 6-3 states that these tests

should be applied to a brain-dead patient only if the patient's willingness to donate organs is confirmed.

One implication is that there will be patients who have suffered neurological damage who refuse to donate organs, and therefore do not undergo testing to determine whether they meet the neurological criteria for brain death, and are not officially "declared" brain dead. Among these patients, there would be some who are in fact brain dead, according to the whole-brain formulation, but have not been declared as such. Reading the above two sentences of the new law together, therefore, it seems that the law now maintains that these patients (who are actually brain dead, but who are not determined to be so) are not dead. Or at least this is how the law is interpreted by some scholars today.<sup>84</sup>

The uniqueness of this Japanese legislation needs to be understood with care. Even in other countries, patients who are only apparently brain dead will not be treated as dead until their doctor conducts a legally specified set of tests to make sure that the patients' condition meets specific criteria. Further, many doctors will normally only conduct tests when a patient (or the family) agree to donate organs (or did not refuse to donate organs, in opt-out countries). Such decisions by doctors to test or not test will be guided as much by local practice and culture as by national guidance and law. Hence, the situation in many countries may, in practice, be substantially similar to Japan's.

Although the difference is subtle, the difference still remains. In those other countries where brain death is equated with biological death, this definition is understood to apply to everyone. In contrast, in Japan, as believed by some, the same definition of death does not apply to all. The new definition (equating brain death to human death) applies only to those who do not refuse to donate organs. If one refuses, the more traditional, cardiopulmonary definition applies.

Why this subtle (or rather trivial, one may think) difference in interpretation should be the subject of discussion in Japan is a question that is difficult to answer. However, a possible reason may be that it is often believed that Japanese people tend to resist the idea of equating brain death with biological death more than people in other cultures. One poll done by a major newspaper in 2009 reported that 40 percent of people agree that brain death is a form of biological death, but as many as 39 percent do not.<sup>85</sup> Thus it may be thought that allowing individuals to choose a definition of death for one's own case takes a pluralistic approach that is appropriate for Japan's situation.

To summarize, the definition of death in Japanese law is not very clear, and it leaves room for interpretation. A reasonable interpretation of the current law is that the definition of death is a matter of individual preference: individuals can choose whether to be considered dead even if they meet the neurological criteria for death, by way of expressing preferences regarding organ donation.

## CONCLUSION

Although there is widespread legal support for vital organ transplantation from brain-dead donors, different jurisdictions take somewhat distinct approaches to justifying and determining brain death. It is noteworthy that some approaches are grounded in an understanding of when death occurs for other biological organisms, including other animals. Additionally, many jurisdictions attempt to respect the views of minority groups that brain death is not equivalent to death, but to different degrees and in different ways. Along with the continued controversy regarding brain death in the bioethics literature, this analysis indicates that much work remains to be done before there is a clear legal consensus on neurological criteria for death and the dead-donor rule. Moreover, approaches like the notion of "unstable life" in Islamic jurisprudence have not been well recognized, and offer a way to justify organ donation from brain-dead patients that does not rely upon the dead-donor rule. This review may help policy makers to develop appropriate guidance regarding organ donation within countries that have diverse populations, with different religious and cultural traditions, and may also spur more informed debate about the relationship between brain death and the dead-donor rule.

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