A patient was being cared for by home hospice. The implantable cardioverter defibrillator (ICD) was not turned off. The wife watched her husband die as the defibrillator shocked him over 30 times before the battery ran down.

A patient with a history of coronary artery disease and complete heart block for which a pacemaker was placed was admitted with hypotension due to sepsis. The patient’s medical status continued to decline. The patient requested comfort measures only and that cardiopulmonary resuscitation not be done as delineated in her advance directive. The patient later requests the pacemaker to be turned off. The consulting service feels uncomfortable turning off the pacemaker.

End-of-life care poses challenging situations for the patient, patient’s family, and physician. In addition to medical and legal concerns, the physician’s comfort level can pose issues in granting a patient’s request to deactivate a pacemaker, ICD, or ventricular assist device (VAD). The discussion of deactivating these life-sustaining therapies is essential early on to avoid, for example, shocks in the final moments of life which can be distressing to patients and their families.

Life-sustaining therapies are being increasingly utilized. From 2001-2006, the annual number of pacemakers placed in the United States increased from 177,000 to 195,000 and the annual number of ICD implants more than doubled. VADs, originating as “bridge to transplant” devices, are also placed as permanent or “destination therapy.” Fewer than 500 ventricular assist devices are implanted for destination therapy in the United States each year secondary to complication rates, cost, and high risk to benefit ratio. The majority of these patients are the elderly. From 2001 to 2006, nearly 85% of pacemakers and 60% of ICDs were placed in patients 65 years or older. Under the United States (U.S.) Census Bureau Projections, the number of persons 65 years and older will more than double between 2000 and 2030 from 35 million to more than 70 million. Thus, physicians will be caring for an increasing number of elderly patients with life-sustaining therapy and addressing end-of-life issues.

Physicians will receive requests from patients and/or their families to withdraw or withhold these life-sustaining treatments. In a prospective survey of deaths in U.S. intensive care units, limiting life-sustaining treatments is a predominant practice. Withholding life-sustaining therapy is “the considered decision not to institute a medically appropriate and potentially beneficial therapy, with the understanding that the patient will probably die without the therapy in question.” Withdrawing life-sustaining therapy is “the cessation and removal of an ongoing medical therapy with the explicit intent not to substitute an equivalent alternative treatment; it is fully anticipated that the patient will die following the change in therapy.” There is no ethical or legal difference between withdrawing and withholding treatments. It is ethical and legal for patients to refuse treatments and to request withdrawal of treatments, including pacemakers, ICDs, and VADs. In the United States, the legal justification of these actions is primarily by informed consent and informed refusal principles. In the Quinlan case, the New Jersey Supreme Court claimed an individual’s privacy rights include the right to refuse medical interventions. In the Nancy Cruzan case, the U.S. Supreme Court accepted the principle that a competent patient’s right to refuse medical interventions is an interest protected under the Fourteenth Amendment to the U.S. Constitution. The Cruzan decision strongly implies the right of an incompetent person to refuse treatment as clearly stated in living wills, durable power of attorney, and explicit statements. Furthermore, a U.S. Court has not found a physician liable for wrongful death or murder for honoring a patient’s or surrogate’s request to refuse or withdraw life-sustaining treatments.
The principle of autonomy underscores the patient’s right to initiate, continue, or withdraw medical treatments intended to treat the primary terminal illness or another condition.\textsuperscript{13} The Study of Ethical Problems in Medicine and Biomedical and Behavioral Research\textsuperscript{14} and the Guidelines on the Termination of Life-Sustaining Treatment and the Care of the Dying\textsuperscript{15} recommend that treatments should be considered as to the potential benefit versus burden to the individual. Benefit is “determined by the patient’s assessment of the value or desirability of the treatment’s result”.\textsuperscript{16} Burdens are “the cost, discomfort, pain, and inconvenience, of the treatment in question; it includes his or her quality of life assessment”.\textsuperscript{16} Life-sustaining treatments initiated in emergency situations should be discontinued if it is later determined that the patient would not have wanted the intervention.\textsuperscript{17}

Withdrawing or withholding medical treatment is not physician–assisted suicide or euthanasia. In physician-assisted suicide, the physician provides an external means in which the patient personally terminates their life. In euthanasia, the physician directly terminates the patient’s life. Physician-assisted suicide or euthanasia causes death regardless of disease. In the withholding or withdrawal of treatments, the patient often dies of their underlying disease, not the withdrawal or withholding of treatments.

Deactivating an ICD often allows death due to the underlying disease and sparing the shocks which can be distressing to observing family members. Deactivating a continuously operating pacemaker, like ventilators, may lead to a rapid death or a slow death due to bradycardia and subsequent organ failure.

A pacemaker or ICD can be deactivated without an invasive procedure, as similar to withdrawing a ventilator. Most pacemaker generators cannot be turned off. Yet, the rate and output voltage can be adjusted downward to a level as to make them nonfunctional.\textsuperscript{18}

A patient’s request to deactivate life-sustaining treatments should be carried out whether the patient is in their home, a hospice facility, a nursing home, or a hospital. In a cross-sectional survey, Goldstein et al. found that 97% of hospices admitted patients with ICDs, yet only 10% of hospices had a policy addressing deactivation.\textsuperscript{19} Hospice policy that addressed deactivation was associated with a higher percentage of device deactivation (73% vs. 38%).\textsuperscript{19} However, no policy required deactivation of these devices. In regard to deactivating these devices, only twenty-five percent of hospices had a magnet to deactivate the ICD and 64% of hospices provided training in the use of the magnet.\textsuperscript{19}

Should a DNR (do not resuscitate) order be interpreted as authorizing deactivation of a pacemaker, ICD, or VAD? Paola et al., using a biofixture (an intrinsic part of the patient) analysis, believe a specific consent for the deactivation of ICDs should be obtained.\textsuperscript{20} A DNR order may be obtained when an ICD or pacemaker is already active and perhaps was not discussed specifically.\textsuperscript{20} A second consent to withdraw the ICD or pacemaker is to be obtained. This is similar to a situation in which a patient was intubated prior to the order of DNR. The family would reasonably expect a physician to obtain specific consent to withdraw the ventilator.

The discussion of deactivating these life-sustaining therapies is essential early on to avoid, for example, shocks in the final moments of life which can be distressing to patients and their families. Patients who prepared advance directives received care that strongly reflected their preferences.\textsuperscript{21} End-of-life discussions are associated with less aggressive medical care which is associated with better patient quality of life near death. Those patients with better quality of life near death had caretakers who experienced less regret and had improvements in physical and mental health in the grieving period.\textsuperscript{22}

When addressing end-of-life issues, physicians need to consider patients’ cultural and religious beliefs. A lack of understanding of religious beliefs may lead to confusion, conflict, and untoward clinical events.\textsuperscript{23} In order to prevent these conflicts, physicians should enhance their knowledge of and respect their patients’ religious beliefs. However, physicians do not appear to inquire often about their patients’ religious beliefs. Monroe et al. surveyed primary care physicians at teaching hospitals and revealed that 84.5% of physicians felt they should be aware of the religious beliefs and spirituality of their patients; however, most would not ask about these issues unless a patient were dying.\textsuperscript{24} Less than one third of physicians felt they should ask about religious issues during a scheduled office visit.\textsuperscript{24} Ehman et al. showed that 66% of surveyed outpatients visiting a pulmonary center, agreed or strongly agreed that they would like their physicians to inquire if they had religious beliefs that would affect their medical decisions if they became very ill.\textsuperscript{25} Furthermore, sixty-six percent of respondents felt this dialogue would strengthen the trust they had in their physicians.\textsuperscript{25} In a survey of adult inpatients, King et al. showed that 77% of respondents felt
physicians should consider patients' spiritual needs; however, 68% said their physician had never discussed religious beliefs with them.26

There are variants of opinion regarding end-of-life issues among religions and within each religion. Furthermore, an individual’s understanding and practice of their religion can be unique to that individual. This reinforces the need of physicians to discuss and clarify their patients’ specific religious and cultural beliefs regarding end-of-life issues. The following are religious perspectives of end-of-life issues for three monotheistic religions—Judaism, Islam, and Catholicism.

**Judaism**

Jewish medical ethics are based on the concept of Jewish Law (Halacha). Unlike United States Law, Jewish Law distinguishes between the withdrawal and withholding of life-sustaining therapies.27,28 Jewish Law also differentiates between active and passive acts27,28. Halacha permits passively allowing events to occur, yet forbids acting in a manner to hasten death.

Orthodox, Conservative, and Reform sects are different branches of Judaism that are distinguished by various degrees of observance of Jewish Law. There are variants of opinion regarding end-of-life issues among and within these sects. This, again, reinforces the need of physicians to discuss and clarify each patient’s religious and cultural beliefs regarding end-of-life issues.

The following information pertains to terminally ill patients from an Orthodox Jewish perspective.

**Judaism—Suicide, Assisted Suicide, and Euthanasia**

Judaism values human life and “Man’s body and his life are not his to give away …the proprietor of all human life is …God.”29 Thus, suicide, assisted suicide, and euthanasia are forbidden under Jewish Law.30

**Judaism—Withholding Treatment**

Jewish patients are obligated to take care of their health and seek beneficial treatment when possible. However, those patients who are near the end-of-life, comatose, and/or are suffering from pain, are allowed according to Jewish Law to withhold treatment if the physician judges the treatment to be futile, involves great complications, delays the dying process, or involves suffering.31,32 Nevertheless, hydration and nutrition (by the oral route, feeding tubes, or intravenous lines) are not considered medical interventions but are considered supportive, basic care (similar to washing or grooming a patient) and must be provided to the patient.31,32 However, if a competent, adult Jewish patient refuses hydration or nutritional support after attempts have been made to convince the patient to agree to the care, one must respect the patient’s wishes.31,32 In regard to oxygen therapy, if intubation is chosen to be withheld, a means of oxygen therapy should be administered to decrease patient discomfort.33 Under Jewish Law, there is no obligation to prolong pain and suffering of a dying patient, but any action which intentionally and actively shortens life is prohibited.

Cardiopulmonary resuscitation (CPR) may be withheld from or refused by Jewish patients who are terminally ill.34 For patients who are near end-of-life, CPR may serve only to delay the dying process and may increase pain and suffering.34 Halachic authorities recommend a family to consult with their rabbi in situations involving the consideration of a do-not-resuscitate (DNR) order.
Judaism - Withdrawing Treatment

The withdrawal of interventions is generally not allowed under Jewish Law. Many Orthodox Jewish authorities differentiate continuous and intermittent modes of treatments with respect to the withdrawal of treatments. Withdrawing continuous forms of treatments (pacemaker or ventilator) is forbidden since it is withdrawing care and actively expediting death. Withdrawing intermittent forms of treatment (chemotherapy or an implanted cardiac defibrillator) is accepted since each new treatment cycle requires a new decision to either administer (renew) or withhold the treatment. In this situation, omitting the next treatment is withholding the treatment, not withdrawing the treatment.

Judaism - Mechanical Ventilator

When a terminally ill patient is dying, one is not compelled to place the patient on a mechanical ventilator. So, mechanical ventilation may be withheld; however, once mechanical ventilation has begun it may not be actively withdrawn. Some Halachic authorities allow the patient to be placed on a ventilator with a timer so care is not actively withdrawn. With a timer, the ventilator then shuts off at a set time (for example, one week). At this point, the physician reevaluates the patient’s medical condition. If the patient’s condition is improving, the ventilator can be reset on the automatic time clock. If the patient’s condition is deteriorating or not showing signs of improvement, a decision can be made jointly with the family and a rabbi as to whether the ventilator should be restarted, again. Most importantly, one must have the knowledge to know to start the timer when the patient is placed on the ventilator.

Alternatively, to avoid the active withdrawal of care, oxygen cylinders may be utilized instead of a central wall oxygen source to support the ventilator. The use of oxygen cylinders allows the conversion from a continuous to an intermittent treatment. When the oxygen cylinder is depleted, the physician along with the family and rabbi can decide whether the oxygen tank should be replaced with a new tank.

Interestingly, in 2005, the Dying Patient Act was passed in the Israeli Parliament. Under this Act, a dying patient is defined as a patient expected to die within 6 months despite medical therapy. This Act is the first law worldwide regulating medical care at end-of-life. It is based on ethical and cultural assumptions derived from Jewish Law and values. The Israel Law of the Dying Patient calls for the placement of timers on ventilators to convert continuous treatment to discrete treatment.

Judaism - Pacemakers, Implanted Cardioverter Defibrillator, Ventricular Assist Devices

Continuous forms of treatment like a cardiac pacemaker or ventricular assist device are forbidden to be withdrawn. Yet, an implanted cardioverter defibrillator is an intermittent form of treatment and thus can be withdrawn under Jewish Law.

Judaism - Advance Directives

A durable power of attorney of healthcare is acceptable for Jewish patients. The patients designate a health care proxy and a preferred rabbinical authority to aid in medical decision making in the event the patients are unable to make and communicate their decisions personally.

Islam

The Qur’an, Sunnah, constitute the foundations of religious life among Muslims. Islamic bioethical views vary with degrees of religious observance and among different sects within Islam. Most Islamic
communities will defer to the opinion of their own recognized religious scholars, because the Islamic faith is not monolithic but has a diversity of views. 38

**Islam-Suicide, Assisted Suicide, and Euthanasia**

For Muslims, life is sacred, a divine trust, and its term is fixed by an “unalterable divine decree”. 39 Euthanasia, physician assisted suicide and suicide are forbidden. 39

**Islam-Withholding and Withdrawing Treatment**

Terminally ill Muslim patients are permitted to have life-sustaining treatments withheld or withdrawn if the physician judges the treatment to be futile, does not improve the patient’s condition or quality of life, involves great complications, delays the dying process, or involves suffering. 39 However, it should be a collective decision acquired on the basis of informed consent after consultation with the patient’s family and all individuals involved in providing care. 38 In these situations, death is allowed to take its natural course. Basic nutrition should not be discontinued because such an action would starve a patient to death- a crime in the Islamic faith. 40

**Islam-Advance Directives**

A durable power of attorney of healthcare is acceptable for Muslim patients. 41 Patients not capable of making healthcare decisions can call upon an authorized representative to express his or her wishes and make treatment decisions on behalf of their best interest.

**Catholicism**

Christianity upholds the sanctity of human life as a creation of God. Christianity encompasses religious groups including Catholics, Lutherans, Orthodox Christians, Unitarians, Seventh-Day Adventists, Mormons, and Anglicans. These groups differ in matters of bioethics involving end-of-life decisions. The following information pertains to terminally ill patients from a Catholic perspective.

**Catholicism-Suicide, Assisted Suicide, and Euthanasia**

Catholicism believes that life is a gift from God and people are stewards, not owners, of their bodies and are accountable for the life God has given to them. 42 Suicide, assisted suicide, and euthanasia are forbidden in Catholicism. 43

**Catholicism-Withholding and Withdrawing Treatment**

Catholic patients are obliged to choose ordinary means to preserve life, yet may decline extraordinary means to preserve life. 43 Gerald Kelly defines ordinary means of preserving life as “all medicines, treatments, and operations which offer a reasonable hope of benefit for the patient and which can be obtained and used without excessive expense, pain, or other inconvenience”. 44 Extraordinary means of preserving life are defined by Gerald Kelly as “all medicines, treatments, and operations, which cannot be obtained without excessive expense, pain, or other inconvenience, or which, if used, would not offer a reasonable hope of benefit.” 44 Terminally ill Catholic patients are permitted to withhold and withdraw life-sustaining treatments if the methods are judged to be extraordinary by the patient and family. 45 These life-sustaining treatments include CPR, mechanical ventilation,
pacemakers, and ventricular assist devices. Hydration and nutrition, including by medically assisted means, are considered ordinary means to preserve life and must be provided to patients including patients with apparently chronic irreversible conditions expected to live indefinitely.\textsuperscript{43} The administration of nutrition and hydration by natural or medically assisted means is not morally obligated when food and water cannot be processed by the patient’s body, cause significant physical discomfort, or become a burden to the patient.\textsuperscript{46} In regard to oxygen therapy, if intubation is chosen to be withheld, a means of oxygen therapy should be administered to decrease patient discomfort. The United States Conference of Catholic Bishops, which guides Catholic-sponsored healthcare in the United States, states “The free and informed judgment made by a competent adult patient concerning the use or withdrawal of life-sustaining procedures should always be respected and normally complied with, unless it is contrary to Catholic moral teaching”.\textsuperscript{43} Furthermore, the United States Conference of Catholic Bishops states “reflection on the innate dignity of human life in all of its dimensions and on the purpose of medical care is indispensable for formulating a true moral judgment about the use of technology to maintain life”\textsuperscript{43}

**Catholicism—Advance Directives**

A durable power of attorney of healthcare is acceptable for Catholic patients.\textsuperscript{23} Patients not capable of making healthcare decisions for themselves in partnership with their physician, can call upon designated family members or substitute decision makers to make treatment decisions on behalf of their best interest.

**Summary: Religious Perspectives**

Judaism, Islam, and Catholicism all uphold beneficence and nonmaleficence. In terms of autonomy, Catholicism focuses on the patient’s decision for treatment while Islam and Judaism incorporate the judgment of religious advisors in the determination of what is best for the patient’s health and welfare in accordance with religious laws.

Physicians need to be aware of their patients’ understanding and practice of religion and the possibility that some procedures or treatments they suggest could seriously disregard the patient’s beliefs and lead to predicaments of the patient’s conscience. It is imperative to discuss the religious beliefs of patients early on in their care and especially prior to the placement of life-sustaining treatments.

**Recommendations**

As life-sustaining therapies are being increasingly utilized, it is essential for physicians to openly discuss with their patients end-of-life issues and the possible withdrawal of life-sustaining therapies. Furthermore, physicians need to discuss and clarify their patients’ specific religious and cultural beliefs regarding end-of-life issues. The following are recommended with the placement of a life-sustaining treatment such as a pacemaker, ICD, or VAD:

**Placement of Life-Sustaining Treatment**

1) Prior to the placement of a life-sustaining treatment, the physician should ensure that the patient has a clear understanding of their health condition, the action of the pacemaker, ICD, or VAD, and the possibility of withdrawing or deactivating the device at a later date should the therapy be ineffective, no longer needed, or no longer desired by the patient. Clinicians discussed deactivating the ICD in only 27 out of 100 cases with the next of kin.\textsuperscript{47}

2) The patient should be encouraged to have an advance directive to communicate their wishes.
3) The physician should record the patient’s preferences in their medical record and encourage the patient to communicate their wishes to surrogates and in their advance directive.

**Patient Beliefs and Physician Values**

4) The physician should be aware of and sensitive to patients’ cultural and religious beliefs.
5) The physician whose values and goals conflict with the patient’s goals and values should transfer the patient’s care to another physician with comparable skills and competency.
6) In ambiguous situations, an ethics consult should be readily available.

**Life Changes**

7) A system should be in place to be able to contact an individual to carry out the patient’s wishes to withdraw treatment whether the patient is in their home, a hospice facility, a nursing home, or a hospital.
8) A patient’s goals and preferences should be revisited after significant life changes.
References:

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Disclosure

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