

Ethical Issues Confronting Muslim Patients in Perioperative and Critical Care Environments

A Survey of Islamic Jurisprudence

Andrew C. Miller, MD^{a,b,*}, Abba M. Khan, MD^b,
Karim Hebishi, MD^c, Alberto A. Castro Bigalli, MSc^d,
Amir Vahedian-Azimi, PhD^e

KEYWORDS

• Ethics • Religion • Islam • Intensive care unit • Perioperative

KEY POINTS

- Some patients may have a desire to fast during the month of Ramadan, even when they are ill. Most scholars agree that infirm patients are exempt from fasting if they reasonably and justifiably fear that the fast will cause them significant loss or harm.
- Transplants, xenotransplants, and medications derived from animals considered unclean are controversial in the Muslim community, although many scholars view them as permissible. Counsel with an Islamic chaplain or local religious leader may be helpful.
- Do-not-resuscitate orders are controversial in the Muslim community, although some scholars view them as permissible if the intention is medical futility and not to hasten death. Counsel with an Islamic chaplain or local religious leader may be helpful.
- Postmortem examinations are controversial in the Muslim community. Autopsy for educational purposes is not permissible. Some scholars allow autopsy if the lives of other Muslims are at risk, or if required by law, but this may be distressing for the family.

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^a Department of Emergency Medicine, Vidant Medical Center, East Carolina University Brody School of Medicine, 600 Moyer Boulevard, Mailstop 625, Greenville, NC 27834, USA; ^b The MORZAK Collaborative, 600 Moyer Boulevard, Mailstop 625, Greenville, NC 27834, USA; ^c Departments of Internal Medicine and Psychiatry, Vidant Medical Center, East Carolina University Brody School of Medicine, 600 Moyer Boulevard, Mailstop 628, Greenville, NC 27834, USA; ^d East Carolina University Brody School of Medicine, 600 Moyer Boulevard, Room 25-20, Greenville, NC 27834, USA; ^e Trauma Research Center, Baqiyatallah University of Medical Sciences, P.O. Box 19575-174, Sheikh Bahayi Stress, Vanak Square, Tehran, Iran

* Corresponding author. Department of Emergency Medicine, East Carolina University Brody School of Medicine, 600 Moyer Boulevard, Mailstop 625, Greenville, NC 27834.

E-mail address: Taqwa1@gmail.com

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INTRODUCTION

As physicians encounter an increasingly diverse patient population, socioeconomic circumstances, religious values, and cultural practices may present opportunities and barriers to the delivery of quality care. Ethical dilemmas may arise when medical management conflicts with a patient's values, culture, religion, or legal considerations.¹ These challenges may manifest themselves as health disparities. Cultural competence and patient-centered care have been championed as means to reduce health care disparities.¹ In 2003, the Institute of Medicine called for cross-cultural training for all providers because of evidence that stereotyping, biases, and provider uncertainty contributed to unequal treatment.^{2,3} This finding may be particularly true in perioperative and critical care settings, where patient beliefs may influence choice regarding (or interaction with) lifesaving or life-prolonging treatment regimens.^{4,5} Medical professionals need an understanding of the rich and diverse array of beliefs, expectations, preferences, and behavioral makeup of the social cultures from which patients present to ensure that they are providing the best and most comprehensive care possible.⁶

BASICS OF ISLAM

Islam is a monotheistic faith that holds Muhammad ibn 'Abdullah of seventh-century Mecca (modern Saudi Arabia) to be the final prophet from among a long line starting with Adam and including Abraham, Noah, Moses, and Jesus.¹ The followers of Islam are called Muslims. The Pew Research Center estimated that Muslims accounted for 23% of the world population (1.6 billion) in 2010.⁷ The 2 largest sects are Sunni (80%–90%) and Shi'a (10%–20%). These groups share common core beliefs, including the Qur'an and legal structures (with some differences in legal sources); however, the fundamental difference relates to religious authority and political succession following the death of the Prophet Muhammad (صلى الله عليه وسلم).

FUNDAMENTALS OF ISLAMIC JURISPRUDENCE

Paramount to understanding how Islamic ethics and jurisprudence relate to medicine is an understanding of the concepts of halal (permissible or lawful), haram (prohibited), and makruh (discouraged but not legally forbidden). Often erroneously used interchangeably are the connected but not identical terms shari'ah, shari'ah law or Islamic law, and the discipline of fiqh (from the Arabic word meaning discernment). The word shara'a (Qur'an 45:18), from which the term shari'ah is derived, is an overarching concept referring to a divinely ordained and immutable path for Muslims to follow in life in order to gain salvation in the hereafter.⁸ However, comprehending what God wants from humans and fashioning this into moral principles and legal edicts requires human reasoning and discernment. Therefore, unlike shari'ah, shari'ah law is a human social construct undertaken by fuqaha (jurists) that is neither divine nor uniform and static through time. Thus, there are both consensus and diversity in the opinions of jurists in its interpretation and translation into law, even when using the same classical sources or usul al-fiqh (roots or fundamental principles of fiqh) as their framework for reasoning and opinions.⁸ However, problems arise when the terms shari'ah (divine made) and shari'ah law (man-made derived through fiqh) are used interchangeably, giving a sense of divinity and immutability to the latter.⁸

Islamic jurisprudence, or fiqh, can be reduced to 4 foundational principles called usul al-fiqh. These sources (order of primacy) include (1) the Holy Qur'an, and (2) the sunnah, which consists of the traditions or inspired sayings, deeds, tacit

approvals, character, and appearance of the Prophet Muhammad (صلى الله عليه وسلم) as recorded in a genre of literature known as hadith.⁹⁻¹² A ruling in the Qur'an or hadith may be conveyed either in text that is clear or in language that is open to different interpretations.¹³ A single word in qur'anic text or hadith may have several different meanings, resulting in different legal consequences. A definitive text is one that is clear and specific; it has only 1 meaning and admits of no other interpretations. These texts are known as qat'i.¹³ The second type of ruling is considered speculative (zanni), and independent legal reasoning (ijtihad) is required to understand the most suitable meaning.¹³ Of note, the hadith differs significantly between the Sunni and Shi'a sects.⁹

To these were added (3) *ijmā'* (unanimous consensus of jurists) and (4) *qiyās* (precedent-based analogy or analogical reasoning).^{9,14-16} On issues on which the aforementioned legal sources are ambiguous, jurists use secondary principles, although differences of opinion exist regarding their usage between the madhhab (schools of jurisprudence). Juristic principles, including *ijtihad* (independent legal reasoning),^{14,15} *istihsan* (preferential reasoning of jurists), *al-urf* (local customary precedent), and *al-masalih al-mursalah* (public interest or welfare), among others, have allowed a degree of flexibility and accommodated a diversity of pragmatic legal rulings based on social context.¹⁷ The rulings or *fatwā* (plural: *fatawa*) generated through *ijtihad* are case specific and not globally binding.^{9,12,17} Disagreements (*ikhtilaf*) among jurists are seen in a positive light; legal texts record different juristic opinions on the same issue with a specific line of literature devoted to disagreements between jurists (*ikhtilaf al-fuqaha*).⁸ This juristic *ikhtilaf* is key to understanding the development of the Islamic legal tradition and can provide an important juristic tool to interpreting *shari'ah* law as it pertains to health and medicine.

Despite historical and current evidence to the contrary, there is an incorrect assumption among some Western writers that *shari'ah* law is immutable and frozen in time, and its application is temporally and spatially uniform.⁸ The reality is that although Muslims agree on matters of *'ibadaat* (duties owed to God), when it comes to *mu'amalat* (matters connected to the temporal world), there may be consensus but also notable differences in the interpretation of *shari'ah* law. The plurality of opinions between, and within, Muslim schools of jurisprudence in ascertaining the legal and the ethical is influenced by geographic and historical differences, cultural and societal diversity, prevailing customs, and the variety of political and administrative systems within which Muslims have existed.⁸ However, under Islamic law, *ijtihad* is not reversible (*al-ijtihad la yunqad*), meaning that one ruling of *ijtihad* is not reversed by another of differing opinion.^{13,18} Classical Muslim scholars have reminded followers that their opinion is a right one with the possibility of being wrong and others' opinions are wrong ones with the possibility of being right.¹³ This advice may generate uncertainty or confusion for patients as it pertains to topics such as those discussed in this article, and explains why patients may have contrasting impressions of permissibility.

FASTING (SAWM)

Fasting (*sawm*) during the ninth month (Ramadan) of the Islamic lunar calendar is a religious obligation for able-bodied adult Muslims as prescribed in the Qur'an 2:186.¹⁹ Fasting is obligatory for all adult Muslims who are of sound mind, not ill, and not traveling more than 80 km from their city of residence (Quran 2:184). Many things that come into or out of the body invalidate fasting, such as intentional eating or drinking, oral medications that reach the stomach, deliberate vomiting, and parenteral nutrition.⁷

In cases of sickness, the decision to fast depends on the nature and severity of the illness.²⁰ If a person has a temporary sickness or condition (including menses, pregnancy, postnatal bleeding, breast feeding), practitioners may not fast on the days they are indisposed but must fast after the month of Ramadan to compensate for the missed days.^{7,20,21} If the person has an incurable sickness and is not expected to recover completely, that person is allowed to forego the fast and is obliged to feed the needy (or give an equivalent amount of money for 1 day's meals) for each fast missed (Quran 2:184).²⁰ The elderly who cannot tolerate fasting, the mentally disabled, and the sick for whom fasting would aggravate their condition or bring danger are exempt from fasting.^{7,20,22–26} This exemption may be justified by Qur'an 2:195: "...and let not your own hands throw you into destruction."

Patients may be unsure whether their level of illness exempts them from fasting. This question is important, because many Muslim patients with chronic medical conditions (eg, diabetes) still choose to fast, and may discontinue or alter treatment regimens without physician consultation, thereby risking serious complications.⁷ Some people who are unable to participate in the fast may have significant feelings of loss and may need emotional support.²⁷ Even those who are exempt may try to fast out of devotion and the desire to be a part of the shared experience of Ramadan.

A comprehensive discussion of all medical illnesses, medications, and procedures in the context of Ramadan is beyond the scope of this article; however, a summary of judicial rulings in the form of fatawa are provided in **Table 1**. All 13 identified fatawa (1 Sunni, 11 Shi'a, 1 joint Sunni and Shi'a) indicate that illness is a valid reason exempting a person from fasting.^{22–26,28–35} Although specific verbiage may vary, the most common criteria are that the patient reasonably and justifiably fears that the fast will cause significant loss or harm (see **Table 1**).^{29–32,35} Two indicate exemptions for patients prohibited to fast by a physician,^{31,33} with 1 indicating that the physician should be religious and faithful.³³

Remember that the fast may be more important to devout individuals than the treatment plan, so it is important to find a workable compromise, even if suboptimal. If a hospitalized patient does fast, there are things that clinicians can do to optimize care. If it is not therapeutic for the hospitalized patient to fast, explain the reason. If there are no contraindications and the patient desires to do so, the dietary department can provide a snack that can be eaten just before dawn.²⁷ When feasible, enteral medications may be scheduled during nonfasting hours.⁷ Clinicians may reassure the patient that taking injections or having a blood test does not invalidate the fast.^{20,36} Published recommendations of care modifications for diabetic patients are available.^{7,19} In addition, clinicians may consider rescheduling elective procedures outside of Ramadan to avoid these complications.

CLEANLINESS AND PRAYER: STOMA AND URINARY CATHETERS

As in any religion, individual observance may vary; however, for many Muslims, performing the religious obligation of prayer is an important religious and cultural expression for maintaining health and preventing illness.³⁷ Although cleanliness is always valued by Muslims, this is especially true regarding prayer. Before prayer, each individual must perform ritual ablution (cleansing) to enter into a state of purity (wudhu).²⁷ This state is invalidated by voiding (eg, blood, flatulence, stool, urine).³⁸ An important dilemma for patients and health care providers may arise when a Muslim patient is counseled on issues including placement of a colostomy, cystectomy with placement of an incontinent urinary diversion, or even urinary catheters because of the belief by some that such conditions automatically invalidate their wudhu, thereby preventing

Table 1
Summary of Islamic fatawa regarding fasting during illness

Year	Source	Sect	Obligatory	Citation
1999	Ayatollah Al-udhma As-Sayyid Ali Al-Husaini as-Sistani	Shi'a	No	22,23
2000	Grand Ayatollah Hossein Vahid Khorasani (question no. 1752)	Shi'a	No	28
2002	Grand Ayatollah Hossein Ali Montazeri (question no. 343)	Shi'a	No	29
2005	Grand Ayatollah Lotfollah Safi Golpayegani (question no. 1753)	Shi'a	No	30
2006	Grand Ayatollah Mohammad Fazel Lankrani (questions no. 680)	Shi'a	No	31
2007	Grand Ayatollah Mohammad Reza Nekounam (question no. 666)	Shi'a	No	32
2009	Islamic Organization for Medical Sciences and the International Islamic Fiqh Academy of the Organization of Islamic Conference	Shi'a and Sunni	No	26
2010	Grand Ayatollah Seyed Ali Khamenei (question no. 751)	Shi'a	No	33
2012	Grand Ayatollah Naser Makarem Shirazi (question no. 564)	Shi'a	No	34
2013	Grand Ayatollah Ghorban Ali Mohaghegh Kabuli (question no. 1792)	Shi'a	No	35
2014	Sheikh Ahmed Kutty	Sunni	No	24
2016	Grand Ayatollah Seyed Ali Hosseini Khamenei	Shi'a	No	25
2019	Grand Ayatollah Nouri Hamadani	Shi'a	No	—

them from praying.³⁸ In 1 study of Egyptian patients, there was a clear relation between the impact of stoma on the performance of religious rituals and quality of life.³⁹ A clear ruling on this matter is lacking. However, in 1 survey of 134 imams (leaders of mosques in Sunni Islam) in the United Kingdom (response rate, 16.7%), greater than 90% answered that it is possible for a Muslim to perform ablution, pray, and enter a mosque with a urinary stoma.³⁸ Most imams (86.6%) also stated that refusal of a urinary stoma was not justified by religious teachings.³⁸ When asked whether patients should choose the option of a neobladder despite this surgery having greater risk, 57.5% of respondents stated that they were either unsure or agreed with this alternative.³⁸

TRANSFUSION

Transfusion of blood products is generally accepted by Islamic scholars.^{40–45} The act of blood donation and subsequent transfusion is considered by some to be morally virtuous, increasing to the status of *sadiqah jariyah* (ongoing charity), with the donor acquiring good deeds as long as the recipient benefits from the transfusion.⁴⁴ Although many fatawa are unconditional, others apply conditions including patient need, donor free will (not compelled), and that the transfusion will not endanger the donor's health.⁴⁴ Transfusion between the sexes and between Muslims and non-Muslims is generally permitted.^{40–44} Appreciation in the form of money to the blood donor is not encouraged.⁴⁶ A summary of judicial rulings in the form of fatawa is

provided in **Table 2**. All 17 identified fatawa (8 Sunni, 9 Shi'a) indicate that blood transfusion is permissible for Muslims.^{29,31,34,40–43,45–52}

TRANSPLANTATION

The topic of transplantation has been one of the most contentious discussions in Islamic medical ethics in recent decades. For many, it places at odds 2 prominent Islamic principles: (1) the importance of maintaining and improving human health and well-being, and (2) the duty to respect the inviolability of the dead.⁵³ Thus, organ donation rates are lower in Muslim-majority countries.⁵⁴

Although the Qur'an and hadith do not specifically address transplants, they serve as important lenses through which jurists view the issue. A first element in the theological argument is the idea of the sacredness of life (Qur'an 5:32). As a general rule, a human body should be respected, and deforming or degrading it is not permissible because each organ will be questioned as to its use and treatment on the day of judgment (Qur'an 17:36,70). Furthermore, in a hadith of the Prophet Muhammad (صلى الله عليه وسلم), he rebuked a man who broke a bone of a corpse that he found in a cemetery, stating: "the sin of breaking the bones of a dead man is equal to the sin of breaking the bones of a living man."^{55,56}

These injunctions may suggest that organ transplants/donation cannot be allowed, but there is more to consider. Several principles from the Islamic jurisprudential

Table 2
Summary of Islamic fatawa regarding the permissibility of blood transfusion

Year	Source	Sect	Permissible	Citation
1959	Sheikh Hassan Mamoon, Grand Mufti, Egypt (fatwā no. 1065)	Sunni	Yes	—
1982	Fatwā Committee National Council of Islamic Religious Affairs Malaysia	Sunni	Yes	46
1999	Grand Ayatollah Mohammad Taghi Behjat (question no. 15)	Shi'a	Yes	52
2000	Grand Ayatollah Seyed Ali Mohammad Dastgheib (question no. 2973)	Shi'a	Yes	47
2001	Islamweb.net (fatwā no. 83172)	Sunni	Yes	40
2002	Grand Ayatollah Hossein Ali Montazeri	Shi'a	Yes	29
2003	Mufti Ebrahim Desai	Sunni	Yes	41
2004	Grand Ayatollah Seyed Ali Sistani (question no. 63)	Shi'a	Yes	48
2006	Grand Ayatollah Abolghasem Khoi (question 439)	Shi'a	Yes	49
2006	Grand Ayatollah Mirza Javad Tabrizi (addendum to the answer of the Ayatollah Khoi)	Shi'a	Yes	49
2006	Grand Ayatollah Mohammad Fazel Lankrani (questions no. 422–423)	Shi'a	Yes	31
2006	Islamweb.net (fatwā no. 91247)	Sunni	Yes	42
2008	Main Khalid Al-Qudah (fatwā no. 76784)	Sunni	Yes	50
2012	Grand Ayatollah Naser Makarem Shirazi (question no. 346)	Shi'a	Yes	34
2013	Grand Ayatollah Seyed Ali Hosseini Khamenei (question 12,036)	Shi'a	Yes	51
2015	Mufti Ebrahim Desai (fatwā no. 32245)	Sunni	Yes	43
2015	Mufti Muhammad ibn Adam al-Kawthari	Sunni	Yes	45

tradition do allow for transplants/donation of organs. These principles are the necessity-breaks-the-law principle (*darura*), the principle of working for the public interest or well-being of society (*al-masalih al-mursalah*), and the principle of altruism (*al-ithar*). *Darura* allows for exceptions to general rules, thereby making the prohibited lawful. The principles of *al-masalih al-mursalah* and *al-ithar* may be seen as arguments that overrule the individual in favor of the whole of society.⁴⁴

Significant disagreement between jurists (*ikhtilaf al-fuqaha*) exists in transplantation *fatawa*. A summary of rulings is provided in **Table 3**. Of the 41 identified *fatawa* on transplantation, 23 were Sunni (13 permissible, 7 conditional, 3 prohibited), 17 were Shi'a (5 permissible, 11 conditional, 1 prohibited), and 2 were jointly Sunni and Shi'a (1 permissible, 1 conditional). In total, 35 of 40 (87.5%) identified *fatawa* permit organ donation in some capacity (see **Table 3**). Autologous transplants are widely accepted if performed for medical (ie, not cosmetic) purposes, success is likely, and there is no mortality risk of the surgery.⁴⁴ Allogeneic transplants are more restricted, with some proposed requirements including (1) donor has full mental capacity, (2) donor consent (may be granted postmortem by closest relatives),⁵⁷ (3) adult (preferable >21 years),^{57,58} (4) the organ or tissue is medically determined to be life-saving or able maintain the recipient's quality of life without suitable alternative, (5) recipient benefit exceeds donor harm, and some *fatawa* stipulate (6) live donation only of nonvital (ie, self-renewing) or nonsingular organs such as hematopoietic cells, skin, kidney, lung, and possibly liver.⁴⁴ Transplant of gonads is forbidden, although transplant of other internal sex organs (eg, uterus) may be permissible.⁴⁴ Xenotransplantation is discussed later.

Given the large number of rulings on the topic, any individual local religious leader's topic knowledge may vary significantly, and public awareness of these *fatawa* is suboptimal.^{8,59-65}

XENOTRANSPLANTATION AND MEDICATIONS DERIVED FROM ANIMALS CONSIDERED UNCLEAN

In modern medicine, many medications and therapeutic products are derived (at least in part) from animal-based products. Sometimes, the products are derived from animals considered unclean by Muslims (eg, porcine, canine). This issue is addressed by the Quran 2:173: "He has only forbidden to you dead animals, blood, the flesh of swine, and that which has been dedicated to other than Allah. But whoever is forced [by necessity], neither desiring [it] nor transgressing [its limit], there is no sin upon him. Indeed, Allah is Forgiving and Merciful."

The permissibility of medications or xenografts derived from animals considered unclean may be the source of considerable anxiety for some patients. Although a complete listing is beyond the scope of this article, common examples include anticoagulants (eg, daltaparparin, defibrotide, enoxaparin, heparin)^{66,67}; insulin (eg, hypurin porcine)⁶⁷; tissue augmentation and substitution materials (eg, Surgibone, collagen)⁶⁸; tissue reconstructive materials (eg, pericardial patch, artificial skin)⁶⁸; hemostatic materials (eg, Angio-Seal hemostatic puncture closure device)⁶⁸; prostheses, blood vessels and biologic materials (eg, porcine valves and dermis, vascular grafts)^{68,69}; sutures and ligatures (eg, plain and chromic gut sutures)⁶⁸; vaccines (eg, Fluenz Tetra nasal spray)^{67,70}; and venom-based products.⁷¹ This question has been adjudicated on several occasions (**Table 4**). In 1995, the Islamic Organization of Medical Sciences (IOMS) along with the Eastern Mediterranean Regional Office of the World Health Organization deliberated on the use of "judicially prohibited and impure substances in foodstuffs and medicines."⁷² In relation to biotransformation (*istihalah*), the IOMS

Table 3
Islamic fatawa regarding the permissibility of transplants

Year	Source	Sect	Permissible	Notes	Citation
1959	Sheikh Hassan Mamoon, Grand Mufti, Egypt (fatwā no. 1084)	Sunni	Conditional	Deceased donor corneal transplants	98
1966	Sheikh Hureidi, Grand Mufti, Egypt (fatwā no. 993)	Sunni	Yes	Extended prior ruling to other organs	99
1966	Mufti Mohammad Shafi (1897–1976; Pakistan)	Sunni	No	—	
1969	International Islamic Conference (Malaysia)	Sunni	Yes	—	100
1972	Algiers Supreme Islamic Council	Sunni	Yes	—	100
1973	Islamic Religious Council of Singapore	Sunni	No	—	
1973	Sheikh Khater, Grand Mufti, Egypt	Sunni	Conditional	Allowed harvesting skin from unidentified corpses	101
1978	Imam Nawawi (631–671 H/AD 1233–1272)	Sunni	Conditional	Bone and teeth	102,103
1979	Saudi Grand Ulama in 1978 (decree no. 66)	Sunni	Conditional	Deceased donor corneal transplants	—
1979	Grand Mufti Gad al Haq, Grand Mufti, Egypt (fatwā no. 1323)	Sunni	Conditional	Live and deceased donor transplants if donated freely. Organ harvesting from unidentified corpse requires magistrate order	—
1980	Kuwaiti Ministry of Charitable Endowments (fatwā no. 132/79)	Sunni	Yes	Live and deceased donor transplants	—
1982	The Supreme Council of Ulama in Riyadh (fatwā no. 99)	Sunni	Yes	Sanctioned autografts unanimously; live and cadaveric transplants by majority	58
1985	Islamic Religious Islamic Council of Singapore	Sunni	Yes	—	53
1987	Islamic Fiqh Academy of the Muslim World League (decree no. 2, 10th session)	Sunni	Yes	Endorsed all prior fatawa on organ transplants	104
1988	Fourth International Conference of Islamic Jurists (resolution no. 1)	Shi'a and Sunni	Yes	Endorsed all prior fatawa on organ transplants; clearly rejected organ trafficking; stressed altruism	105
1990	Sixth International Conference of Islamic Jurists (decrees No. 56/5/6; 58/8/6)	Shi'a and Sunni	Conditional	Discussed transplants from embryos, in vitro fertilization projects, nerve tissue (including xenografts), anencephalic donors, and prohibited gonad transplants	106

1997	Sheikh Mohammed Metwali al-Sharawi	Sunni	No	—	—
1999	Ayatollah Al-udhma As-Sayyid Ali Al-Husaini as-Seestani	Shi'a	Yes	Live and deceased donor transplants, and xenografts from animals considered unclean	23
1999	Grand Ayatollah Mohammad Taghi Behjat (question no. 24)	Shi'a	Conditional	Deceased donor transplant is permissible if donor is non-Muslim, and it is lifesaving for recipient	52
2000	Grand Ayatollah Hossein Vahid Khorasani (question no. 2894)	Shi'a	Conditional	Deceased donor transplant is only permissible if lifesaving. If performed, then diyah must be paid ^a	28
2000	Grand Ayatollah Seyed Ali Mohammad Dastgheib (question no. 2969)	Shi'a	Conditional	Deceased donor transplants in permissible, but diyah must be paid ^a	47
2000	Islamweb.net (fatwā no. 82240)	Sunni	Yes	Live and deceased donor transplants, and xenografts with exception of porcine	107
2001	Sheikh Ahmad Kutty	Sunni	Yes	—	108
2001	Grand Ayatollah Hossein Nouri Hamadani (question no. 899)	Shi'a	Conditional	It is lawful for Muslims to receive transplants from non-Muslim donors if the donor is of the 'Ahl al-Kitāb ^b	93
2002	Grand Ayatollah Mohammad Ibrahiim Jannati (question no. 2991)	Shi'a	Conditional	Deceased donor transplant if lifesaving	94
2002	Grand Ayatollah Hossein Ali Montazeri (question no. 276)	Shi'a	Conditional	Deceased donor transplant from Muslim donor	29
2002	Islamweb.net (fatwā no. 84780)	Sunni	Yes	—	109
2003	Islamic Fiqh Academy of the Muslim World League (decree no. 3; 17th session)	Sunni	Conditional	Permits using leftover preembryos for stem cell research and treatment of serious ailments	110
2003	Islamweb.net (fatwā no. 85514)	Sunni	Yes	—	111
2003	Grand Ayatollah Mohammad Asef Mohseni (question no. 156)	Shi'a	Conditional	Permissible if donor is Muslim and it is lifesaving	112
2004	Grand Ayatollah Seyed Ali Sistani (question no. 85)	Shi'a	Yes	If lifesaving for recipient	48
2005	Grand Ayatollah Youssef Sanei (question no. 246)	Shi'a	Yes	Permissible among and between Muslims and non-Muslims	83
2006	Grand Ayatollah Mirza Javad Tabrizi	Shi'a	No	—	49
2006	Grand Ayatollah Mohammad Fazel Lankrani (question no. 375)	Shi'a	Conditional	Permissible if lifesaving for recipient, and donor is not approached after a life-threatening or unbearable loss	31

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Table 3
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Year	Source	Sect	Permissible	Notes	Citation
2007	Grand Ayatollah Mohammad Reza Nekounam (question no. 240)	Shi'a	Yes	Permissible among and between Muslims and non-Muslims	³²
2008	Main Khalid Al-Qudah (fatwā no. 76784)	Sunni	Yes	—	⁵⁰
2009	European Council for Fatwā and Research (second collection, resolution 2/6)	Sunni	Yes	If done within the prescribed limits of the Shari'ah	¹¹³
2010	Grand Ayatollah Seyed Ali Khamenei (question no. 1292)	Shi'a	Conditional	Deceased donor transplant if donor gave prior consent, the donor's death is not hastened, and the transplant is lifesaving	³³
2012	Grand Ayatollah Naser Makarem Shirazi (questions no. 282, 283)	Shi'a	Conditional	Permitted if saves recipient from death or major illness	³⁴
2013	Grand Ayatollah Seyed Ali Hosseini Khamenei (question 12,009)	Shi'a	Conditional	If donor is non-Muslim and it is lifesaving	⁵¹
2016	Islamweb.net (fatwā no. 332080)	Sunni	Conditional	Xenograft (including porcine) is permissible if no pure alternative exists and it is the only remedy	¹¹⁴

^a Under Islamic law, diyah is the financial compensation paid to the victim or heirs of a victim in the cases of murder, bodily harm, or property damage.

^b 'Ahl al-Kitāb, or People of the Book, is an Islamic term that refers to Jews, Christians, Sabians, and sometimes members of other religious groups, such as Zoroastrians.

Table 4
Summary of Islamic fatawa regarding the permissibility of using medical products and xenografts derived in part or completely from animals considered unclean (eg, Porcine, gelatin)

Year	Source	Sect	Permissible	Notes	Citation
1984	National Fatwa Committee of Malaysia	Sunni	Conditional	Gelatin use in medicine is permissible in case of emergency. If a halal element may replace the gelatin, then use of gelatin is forbidden	115
2004	Islamic Fiqh Academy of India	—	Conditional	Permits use of gelatin-containing products if nonporcine products are not available	73
2010	Egyptian Fatwā Council	Sunni	Conditional	Permits use of biotransformed products with preferred nonporcine products. Permits use of porcine heart valves in cases of extreme medical need (lifesaving) and nonavailability of nonporcine alternatives	74
2013	European Council for Fatwā and Research	Sunni	Undetermined	Undetermined opinion; awaiting final decision after further investigation	76
2015	International Islamic Fiqh Academy	Sunni	Conditional	May use porcine products in cases of extreme medical need and nonavailability of nonporcine alternatives	75

recommended that “transformation of a substance into another substance with different characteristics, changes substances that are judicially impure or are found in an impure environment into pure substances, and changes substances that are prohibited into lawful and permissible substances.”⁷²

A fatwā from the World Fatwā and Management System in Malaysia states that such haram products may be permissible where 3 conditions are fulfilled:

1. The medicine containing haram ingredients (alcohol as stated in the question, but it would apply to porcine also) must be necessary for the life of the person who takes it
2. That it was recommended by a knowledgeable and trustworthy Muslim physician
3. That there were no other halal or lawful alternatives available

Other rulings, including those by the Islamic Fiqh Academy of India (2004),⁷³ Egyptian Fatwā Council (2010),⁷⁴ and the International Islamic Fiqh Academy (2015),⁷⁵ have rendered conditional approval in cases of extreme medical need where nonporcine products of the same efficacy are not available (see [Table 4](#)).^{73,74,76–78} Meanwhile, others have asserted that medicine should not be categorized as food or drink, and thus should be excluded from the rules applying to consumption of haram items.⁷⁷ However, support for this is not unanimous. In 2013, the European Council for Fatwā & Research reached an undetermined opinion.⁷⁵

The role of physicians is to act in the best interests of our patients with respect to their cultural beliefs. When possible, clinicians are encouraged to prescribe non-porcine-based substitutes or equivalents. In the rare cases in which there is no suitable alternative, discuss this with the patient (or surrogate) and allow the patient to make an informed decision.

DO-NOT-RESUSCITATE STATUS

Do not resuscitate (DNR) is a medical order to withhold nonbeneficial resuscitation to allow natural death to take place.⁷⁹ The Islamic perspective regarding DNR orders is a “moving target.”⁷⁹ In a survey of 461 Muslim physicians in the United States and other countries, only 66.8% of the respondents thought that DNR is allowed in Islam.⁸⁰ From the Islamic perspective, the law of practicing medical procedures is based on the principle of intention (al-umur bi maqasidiha). Namely, is the intention to withhold medical intervention with consent and because of medical futility, or is it to alleviate pain by hastening death?

The Qur’an does not directly address the DNR order; however, several hadith serve as important lenses through which jurists view the issue. For example, in Sahih Al-Bukhari (hadith no. 575), it is recorded that Prophet Muhammad (صلى الله عليه وسلم) said: “None of you should wish for death because of a calamity befalling him but if he must wish for death, he should say: ‘O Allah! Keep me alive as long as life is better for me and let me die if death is better for me’.” In another hadith narrated by Usamah bin Sharik and recorded in Sahih Al-Bukhari, the Prophet Muhammad (صلى الله عليه وسلم) said: “For Allah does not create any disease but He also creates with it the cure.”

Of the 7 identified fatawa (5 Sunni, 2 Shi’a) on the topic of DNR orders (Table 5), DNR was ruled as permissible by 5,^{81–85} and prohibited by 2.^{32,86} For example, the Islamic Religious Council of Singapore (2006) ruled that:

It is permissible by Islamic law for a sane individual to make pledge to refuse life supporting treatment when terminally ill. It can be assumed that he or she decides to be patient and more willing to die naturally believing that death cannot be avoided at a certain point.⁸²

Moreover, the Iftaa’ Department of the Hashemite Kingdom of Jordan (decision no. 117; 2006) ruled:

There is no prohibition in Islam to refrain from putting a cancer patient on life support or respirator or dialysis if the medical and treatment team have confirmed and are certain that there is no hope of benefit for the patient in these measures, on the condition that this report is prepared by a medical team consisting of not less than three physicians, being specialists, fair, and trustworthy.^{84,87}

In addition, the Administration of the Islamic Research and Ifta in the Kingdom of Saudi Arabia (fatwā no. 12086; 1998) delineated 6 situations in which a DNR order is permissible and stated that:

If three knowledgeable and trustworthy physicians agree that the patient’s condition is hopeless, the life-supporting machines can be withheld or withdrawn. The family members’ opinion is not included in the decision-making as they are unqualified to make such decisions.^{79,81,88,89}

This statement is contrasted by the Grand Ayatollah Mohammad Reza Nekounam, who ruled (question no. 283; 2007) that:

Table 5
Summary of Islamic fatawa regarding the permissibility of advanced medical directives and do-not-resuscitate orders

Year	Source	Sect	Permissible	Notes	Citation	
1988	Administration of Islamic Research and Ifta, Kingdom of Saudi Arabia	Sunni	Yes	—	81	
2005	Islamic Religious Council of Singapore	Islamic	Sunni	Yes	—	82
2005	Grand Ayatollah Youssef Sanei (question no. 291)	Shi'a	Yes	It is not obligatory for physicians to treat patients who do not hope to be cured, so refraining from continuing treatment is permissible, but it is not permissible to take medicines that help accelerate death	83	
2006	Iftaa' Department of the Hashemite Kingdom of Jordan	Sunni	Yes	—	84	
2006	Dr Hatem al-Haj	Sunni	No	If the cardiopulmonary resuscitation will save the person's life, and that person is not in a vegetative condition, then it is not allowable to request a DNR order	86	
2007	Grand Ayatollah Mohammad Reza Nekounam (question no. 283)	Shi'a	No	Discontinuation of treatment is not permitted for those who do not hope for a cure. Physicians should not shorten the usual and conventional treatment or take action to help the premature death	32	
2017	Mufti Ebrahim Desai	Sunni	Yes	—	85	

*Discontinuation of treatment is not permitted for those who do not hope for a cure. The physician should not shorten the usual and conventional size of the treatment.*³²

The idea that medical staff may unilaterally determine DNR status may seem unusual or concerning. In the United States, this is in part caused by the increase in patients' (or surrogates') right to request treatments from which physicians thought they would receive no medical benefit that followed the legal cases of Wanglie (1991) and Baby K (1994), in which the courts ruled in favor of this right. However, the pendulum has begun to swing in the opposite direction. In 1999, the Texas legislature passed the Texas Advance Directives Act. This law established a legally sanctioned extrajudicial process for resolving disputes about end-of-life decisions if the physician feels ethically unable to agree to patients' or surrogate's request. This law has become a model

for other states (eg, Virginia HB 226; New York S07156) and for individual hospitals seeking to make changes in statutory regulations and institutional policies regarding end-of-life treatment decisions.

More discussion is needed to clarify the origin, scope, circumstances, intention (nia), and resultant permissibility of DNR orders for Muslims. Situations in which the physician believes that resuscitation is futile should be handled on a case-by-case basis through a predefined process that includes multiple safeguards to ensure that patients' rights are fully protected. The authors advise that the physician thoroughly explain to the patient or surrogate the reasons for the medical futility determination and document this discussion in the medical record. Entering a DNR order over the objection of a patient or surrogate should be reserved for rare or extreme circumstances after thorough attempts to settle or successfully appeal disagreements have been tried and have failed. In some cases, reaching out to an Islamic chaplain or local religious leader for patient counsel may be beneficial.

BURIAL AND POSTMORTEM EXAMINATION

Islam teaches that human beings should always maintain their dignity, even in disease and misfortune. The human body, living or dead, should be venerated likewise. After death, the body is thought to belong to God and should not be cut or harmed in any way, and modesty should be maintained as in life.²⁷ The dead are treated reverently and are buried quickly. The Islamic teaching of a quick burial without embalming may conflict with local laws. If the family is not sure how to proceed, seek assistance from an Islamic chaplain or local religious leader.²⁷

For these reasons, postmortem examination is generally not performed unless required by law.²⁷ Under such circumstances, family and loved ones may experience significant distress over permissibility of the postmortem examination. However, performing postmortems need not be tantamount to mutilation of the corpse or an act of disrespect.

The authors identified 16 fatawa on postmortem examination (**Table 6**). Postmortem examination was determined to be permissible by 5,^{32,83,90–92} conditional by 8,^{22,23,31,33,34,47,93,94} and prohibited by 4.^{28,48,49,51} The first fatwā to address this topic was issued in 1952 by Hasanayn Muhammad Makhful, Chief Mufti of Egypt (1945–1990), in which he concluded that, although postmortems are permissible, they must be performed only when necessary and not too often. Doctors should be God fearing and should “know that God is All-seeing, Almighty and All-guiding.”⁹⁰ Several subsequent fatawa have applied conditions to postmortem examinations, ruling that autopsy is not permissible for educational purposes but is only permissible if the life of another Muslim depends on it and the autopsy of a non-Muslim would not provide the answer.^{22,23,28,33,34,47,93,94} Others have added that consent should be granted by the deceased in their wills (or by their heirs),⁸³ and 1 indicated need for requisite approval from a religious leader.³¹

In cases in which a patient or surrogate is opposed to autopsy on religious grounds, an alternative may be a virtual autopsy (virtopsy). Virtopsy is a forensic radiological imaging approach developed in Switzerland and used in the United Kingdom and other countries.⁹⁵ It relies on noninvasive methods, including computed tomography and MRI, is noninvasive, and is associated with reduced time per autopsy.^{95,96} Although discernment of the cause of death may be limited with such techniques, virtopsy provides an alternative that may be more palatable compared with traditional postmortem examination.⁹⁷

Table 6
Summary of Islamic fatawa regarding the permissibility of autopsy

Year	Source	Sect	Permissible	Notes	Citation
1952	Hasanayn Muhammad Makhful, Chief Mufti of Egypt	Sunni	Yes	—	90
1999	Ayatollah Al-udhma As-Sayyid Ali Al-Husaini as-Seestani	Shi'a	Conditional	Not permissible for education. Permissible if the life of another Muslim depends on it	22,23
2000	Grand Ayatollah Seyed Ali Mohammad Dastgheib (question no. 2966)	Shi'a	Conditional	Permissible if the life of another Muslim depends on it and autopsy of non-Muslim would not provide the answer	47
2000	Grand Ayatollah Hossein Vahid Khorasani (question no. 2891)	Shi'a	No	—	28
2001	Grand Ayatollah Hossein Nouri Hamadani (question no. 892)	Shi'a	Conditional	Permissible if autopsy of non-Muslim would not provide the answer	93
2002	Grand Ayatollah Mohammad Ibrahiim Jannati (question no. 3002)	Shi'a	Conditional	Permissible if the life of another Muslim depends on it and autopsy of non-Muslim would not provide the answer	94
2004	Islamweb.net (fatwā no. 87495)	Sunni	Yes	—	91
2004	Grand Ayatollah Seyed Ali Sistani (question no. 55)	Shi'a	No	—	48
2005	Grand Ayatollah Youssef Sanei (question no. 277)	Shi'a	Yes	Permissible with consent granted by the deceased in the will or by the heir	83
2006	Grand Ayatollah Abolghasem Khoi (question 233)	Shi'a	No	If performed, then diyah must be paid	49
2006	Grand Ayatollah Mohammad Fazel Lankrani (questions no. 15, 16, 20)	Shi'a	Conditional	Autopsy of a Muslim is permissible only under special circumstances and should have permission from a religious ruler	31
2007	Grand Ayatollah Mohammad Reza Nekounam (question no. 269)	Shi'a	Yes	If rational and respectful	32
2008	Mufti Ebrahim Desai (fatwā no. 16282)	Sunni	Yes	Permissible in cases of necessity when it is required by law or in criminal cases	92
2010	Grand Ayatollah Seyed Ali Khamenei (question no. 1292)	Shi'a	Conditional	If new information discovered is needed to save the life of people threatened by a disease	33

(continued on next page)

Table 6
(continued)

Year	Source	Sect	Permissible	Notes	Citation
2012	Grand Ayatollah Naser Makarem Shirazi (question no. 42)	Shi'a	Conditional	Permitted if (1) the obtained information is the only way to save the life of another Muslim, (2) autopsy of a non-Muslim would not provide the necessary information, and (3) the doctor does not do more than is necessary	34
2013	Grand Ayatollah Seyed Ali Hosseini Khamenei (question 12,018)	Shi'a	No	—	51

SUMMARY

It is important that health care providers be sensitive to the religious and cultural framework that guides their patients' health care decisions. Islamic jurisprudence is complicated and welcoming of divergent opinions. As it pertains to critically ill and perioperative patients, some Muslim patients may have strong, religiously rooted convictions on procedures affecting cleanliness, prayer, and fasting; the permissibility of transplants, xenografts, and medications from animals considered unclean; DNR orders; and decisions on postmortem examinations. By understanding how faith may affect the health care decisions of Muslims, providers may optimize their care in a culturally respectful manner.

CONFLICTS OF INTEREST

None declared.

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