Published in final edited form as:

World J Surg. 2014 July ; 38(7): 1631–1637. doi:10.1007/s00268-014-2592-1.

Futility and the Care of Surgical Patients: Ethical Dilemmas

Scott B. Grant,

Department of Surgery, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ 08901, USA

Parth K. Modi, and

Department of Surgery, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ 08901, USA. Division of Urology, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ 08901, USA

Eric A. Singer

Department of Surgery, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ 08901, USA. Division of Urology, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ 08901, USA. Section of Urologic Oncology, Rutgers Cancer Institute of New Jersey, 195 Little Albany Street, Room 4563, New Brunswick, NJ 08903, USA

Abstract

Futility has been a contentious topic in medicine for several decades. Surgery in critical or end-of-life situations often raises difficult questions about futility. In this article, we discuss the definition of futility, methods for resolving futility disputes, and some ways to reframe the futility debate to a more fruitful discussion about the goals of care, better communication between surgeon and patient/surrogate, and palliative surgical care. Many definitions of futile therapy have been discussed. The most controversial of these is “qualitative futility” which describes a situation in which the treatment provided is likely to result in an unacceptable quality of life. This is an area of continued controversy because it has been impossible to identify universally held beliefs about acceptable quality of life. Many authors have described methods for resolving futility disputes, including community standards and legalistic multi-step due process protocols. Others, however, have abandoned the concept of futility altogether as an unhelpful term. Reframing the issue of futility as one of inadequate physician–patient communication, these authors have advocated for methods of improving communication and strengthening the patient–physician relationship. Finally, we discuss the utilization of consultants who may be of use in resolving futility disputes: ethics committees, palliative care specialists, pastoral care teams, and dedicated patient advocates. Involving these specialists in a futility conflict can help improve communication and provide invaluable assistance in arriving at the appropriate treatment decision.

Correspondence to: Eric A. Singer.

S. B. Grant and P. K. Modi have contributed equally towards this study.

Introduction

The discussion of medical futility became prominent and controversial in the medical community in the 1980s [1]. Since that time, many aspects of the concept of futility have continued to spark debate. The definition of futility, its philosophical basis, clinical application and methods by which futility questions are addressed are all contested areas. While some authors have proposed strategies to understand and “solve” futility issues [2, 3], others have abandoned hope of arriving at an answer and instead have reframed the question to one about communication between the patient (or proxy) and provider [1, 4].

The concept of futility and the questions it raises are more important now than ever in the American health care system. Improved technology and critical care techniques have given medicine the ability to prolong life in the most dire of circumstances. These technological improvements, however, have come during an era of constant cost awareness and continuous pressure on the healthcare system to limit expenditures.

The ethical principles underlying medical futility are especially pronounced in the surgical care of patients. Surgery is often sought or considered in severely ill patients in whom futility discussions are most relevant. Furthermore, surgical intervention has great potential for harm to the patient and routinely requires balancing the ethical principles of beneficence and nonmaleficence. Finally, surgery requires the consent of multiple agents: patient, surgeon, and anesthesiologist. Questions of patient autonomy and a physician’s obligation to provide treatment are common in futility discussions and can be especially complex in cases in which surgical intervention is being considered.

Definitions of futility

The Oxford English Dictionary defines futility (from the Latin word *futilis*, meaning that which easily melts or pours) as “leaky, vain, failing of the desired end through intrinsic defect” [5, 6]. In discussing futility, it is important to distinguish it from similar terms. Schneiderman et al. [7] first distinguished between effect and benefit. Effective treatments, if not beneficial, may still be futile. Although an intervention may have an anatomic, physiologic, or biochemical effect on a patient, it must benefit the patient as a whole to avoid being designated futile. In modern futility discussions, this distinction has hinged on identifying “goals of care.” Interventions that do not benefit a patient by achieving a goal of care (often a regain of function, improvement in quality of life, or palliation of a symptom) can be considered futile, even if they do have a measurable effect [7]. However, when the patient or surrogate makes the prolongation of life itself the primary goal, the most burdensome interventions will potentially seem reasonable even if they cannot reverse the underlying cause of the patient’s illness or condition.

Futility must also be distanced from the impossible (walking to the moon), implausible (teleportation), or unlikely (long-term survival for a patient with diffusely metastatic pancreatic cancer) [7, 8]. Hopelessness can be confused with futility, but hope is an emotional response to a situation and not an objective determination. Rationing can also be confused with futility [1, 9]. Rationing is an attempt to optimize the use of limited resources

when treating a group of people. Rationing has also been used to constrain health care expenditures. Futility, in contrast, is a determination made regarding a course of action for an individual patient, not a group of people or society as a whole [8].

The strictest definition of futility, described by Tomlinson and Brody [10], is physiologic futility. Physiologic futility refers to a treatment that cannot be expected to provide any medical benefit to the patient and should not be offered. Schneiderman et al. [7] distinguished between qualitative and quantitative futility. Quantitative futility, often considered synonymous with physiologic futility, relies on the scientific assessment of the probability of success. An intervention with an exceedingly low probability of success, such as 1 in 100 or 1 in 1,000 is considered futile by some but not others. Most authors do not give a numerical threshold for this probability, and the decision must be made in the context of each individual patient. To arrive at the conclusion of futility, the clinician must rely on high-quality clinical evidence, when available, and his or her experience and judgment when applicable evidence is not available [7]. As in case-based bioethics, a significant challenge to this approach is determining whether the case at hand is similar enough to the prototype precedent cases to factor into the denominator. How many demographic, diagnostic, and laboratory factors must match before quantitative futility can be employed is an important unanswered question.

Imminent demise is a category of futility describing an intervention in a patient who can be expected to die prior to hospital discharge [2, 9]. For example, an intervention on a patient with multi-system organ failure that may improve the function of one system can be considered futile if the patient is expected to die soon, regardless of the success of that intervention or the number of times it is applied [9, 11, 12].

Qualitative futility refers to an intervention that, even if successful, will result in an outcome of insufficient or unacceptable functional status. As our medical culture has placed a premium on patient autonomy—and given the variety of moral and cultural beliefs held by our patients—identifying universally acceptable quality outcomes is impossible, making qualitative futility the most controversial type of futility. All medical decisions involve an analysis of benefit and risk, and patients appropriately make this determination with guidance from their physicians. Patients are free to evaluate and accept potentially debilitating results or side effects when deciding on a therapy. However, some argue that there is an extreme at the end of the spectrum of poor results: “continued biologic life without conscious autonomy” [7]. These authors argue that if the patient cannot achieve any life goals except for continued physiologic survival, an intervention should be considered qualitatively futile.

Patient autonomy and surgeon conscience

Helft et al. [1] identified the often-unstated goal of defining futility: to apply that definition in a clinical scenario as justification for a physician to unilaterally “withhold or withdraw the treatment, even over the objections of a competent patient”. This emphasizes the adversarial context of futility discussions. Historically, there has been a debate in the literature, with no consensus reached, on who ultimately should decide whether a procedure is offered. This

question can be approached from the framework of the ethical principles of autonomy, beneficence, and justice.

Arguments for the physician being the ultimate arbiter of futility often make a principle-based argument. The principle of autonomy recognizes the patient's right to self-determination—to choose or refuse offered treatments. Those who believe the physician should ultimately decide which treatments are futile argue that this principle cannot be extended to give patients the right to have access to any treatment they choose [9]. To force a physician to provide treatment he or she does not believe is appropriate would force the physician to violate his or her conscience. Additionally, physicians must adhere to the principle of beneficence and provide interventions that they believe will benefit their patients [13]. To allow patients to dictate medical therapy is to force physicians to become merely extensions of a patient's will. Furthermore, it may actually limit patient autonomy by providing the illusion of choice where one does not truly exist as well as deprive the patient of the physician's counsel [1]. Proponents of the patient's right to decide argue that only the patient can balance an intervention's merit based on an evaluation of the risks and benefits in the context of his or her personal values.

Veatch and Spicer [14], proponents of the patient being the ultimate arbiter of futility questions, argued that disagreements of futility can be scientific or valuative in nature. Scientific disagreements revolve around the accuracy or applicability of relevant data in the medical literature. Despite the presumed objectivity of scientific data, they argued, scientific conclusions have nonscientific components (i.e., the *p* value as a level of significance). On the other hand, the patient and provider may agree that an intervention has a 1 in 1,000 chance of success but disagree on the value of pursuing an intervention with those odds [14]. Veatch and Spicer conceded that physicians, guided by medical evidence, are considered experts by society and should be able to abstain from interventions that are determined not to have *any* effect. They argued, however, that the majority of futility disagreements are disagreements about the *value* of an effect. Physicians have no particular expertise, they argued, in determining the value of an outcome for a patient. The benefit of an intervention is a judgment based on the beliefs and values people hold and about which people may disagree. In this situation, Veatch and Spicer [14] argued, the physician's judgment cannot be the deciding factor.

For further discussion on surgeon conscience and refusing to offer an intervention, please see the separate article in this issue entitled, "When is it Ethical to Say No to an Operation?"

Mechanisms for resolving futility disputes

Although futility may be difficult to define, what can be even more challenging is trying to successfully resolve futility disputes when there is significant disagreement between the health care team and the patient and/or surrogate decision-maker(s). Many mechanisms have been developed to aid clinicians in addressing these differences of opinion.

Community and/or institutional standards can be created proactively to define evaluation criteria for defining or recognizing futility and establishing a process for addressing futility

claims on a case-by-case basis. One such system was established by Baruch Brody and Amir Halevy in Houston, Texas, at Baylor College of Medicine [12]. After convening an ad hoc group of the Houston Bioethics Network in August 1993, the Houston City-Wide Task Force on Medical Futility developed the Houston Policy for medical futility [12]. The policy-creating committee was dedicated to establishing a fair procedural process that was inclusive of a diverse range of perspectives in its creation, guaranteed patient or surrogate decision-maker input, reserved the right of patient transfer, and prevented patient abandonment [12].

The Houston policy requires patient or surrogate inclusion from the start, encouraging them to be present at the institutional review mechanism and providing them with adequate preparation time (at least 72 hours after notification) [12]. The policy prevents unilateral physician action so that any conflict not resolved by informal discussions must be referred to an interdisciplinary review system within the institution and requires the physician to obtain a second opinion [12]. The policy preserves the patient's right to transfer, either to another physician within the same institution or to another institution [12]. The caveat is that the policy bans intrainstitutional transfers after an institutional determination of futility (to preserve professional and institutional integrity) [12]. It prevents patient abandonment by stressing that even an institutional determination that a particular intervention is futile results only in discontinuing or withholding that specific intervention while continuing all other medically appropriate interventions [12]. The policy further adds that a care plan emphasizing comfort measures and preservation of patient dignity is obligatory if futile interventions are to be discontinued or withheld [12].

The Houston policy was supplanted by the Texas Advance Directives Act of 1999 [15]. It provides a process for resolving conflicts between patients or surrogate decision-makers and health care providers regarding the perceived futility of particular therapeutic interventions via an institutional committee [15]. After following a protocol, if the institutional committee decides that a particular level of treatment is "inappropriate," the committee may override a patient or a family's wishes for continued aggressive therapy and withdraw or withhold potentially lifesaving interventions [15, 16]. The patient or surrogate must be given at least 48 hours advance notice of the committee meeting and have the opportunity to attend and receive a written explanation of the committee decision [15, 16]. If the health care providers and the patient or surrogate decision-maker cannot reach consensus, the physician must try to transfer the patient to another physician or institution [15, 16]. If the requested treatment is considered inappropriate by the committee, and no health care provider can be found to accept the patient in transfer, then the physician and institution "are not obligated to provide life-sustaining treatment after the 10th day after the written decision" [15, 16]. The patient or surrogate decision-maker can obtain a court-ordered extension but only if the court thinks it is likely that an alternate health care provider or health care institution can be found [15, 16]. The Act does not specify the composition of the institutional ethics or medical committee that reviews potential futility cases other than stipulating that the attending physician of the case cannot be a member of the committee [15, 16]. Unlike the Houston Policy, the Texas Advance Directives Act of 1999 does not require preliminary steps prior to appealing to the institutional committee for a determination of inappropriate treatment [15, 16]. The reported experience with the Texas Advance Directives Act of 1999 shows that

only a minority of Texas Hospital Association hospitals have used the law to review specific cases and that most cases were resolved before the 10-day waiting period [17].

The American Medical Association (AMA) Council on Ethical and Judicial Affairs also suggested a procedural due process approach as the best method for dealing with disagreements regarding futility determinations [18]. The AMA separated the process into three phases. The first phase involves four steps aimed at deliberation and resolution [18]. The second phase has two steps to secure alternatives when there are still irreconcilable differences [18]. The third and final phase has one step to achieve closure when all alternatives are exhausted [18].

The AMA's first step is a preventive step of deliberating and negotiating a shared understanding between patients, proxies, and doctors regarding what constitutes futile treatment versus therapies within acceptable limits [18]. The advantage is that if serious disagreements arise the patient can be transferred preemptively to avoid later conflicts [18]. The second step is joint or shared decision-making using outcomes data when possible and incorporating the physician's and patient's (and/or proxy's) goals for treatment within the process of informed consent [18]. The third step is to involve a consultant or patient representative to facilitate discussions [18]. The fourth step of the deliberation and resolution phase is to involve an institutional committee (e.g., ethics committee), which should have a lay representative and should have a full hearing from the patient, proxy, or patient representative [18].

The fifth step, and the first in the second phase of securing alternatives with irreconcilable differences, involves transferring the patient to another physician within the institution if the institutional process yields to the patient's desires but the attending physician is not persuaded [18]. If instead the institutional process favors the attending physician's position, the patient may be transferred to another institution [18]. The last step in the third phase of achieving closure occurs when no accepting physician or institution can be identified, perhaps because the request falls outside accepted professional standards and medical ethics. In these cases, such an intervention need not be provided, although there may or may not be legal ramifications for this course of action [18].

Reframing the futility debate

The late great physician and philosopher Pellegrino [19] viewed medical futility differently and recognized it as a prudential guide for medical decision-making. Pellegrino focused on futility as a method for determining what is the right and good healing action for a particular patient. It requires weighing a treatment's effectiveness, benefits, and burdens in the context of an individual patient [19]. As evaluating effectiveness relies on empirical studies published in the medical literature as well as physician knowledge and experience, it is thus best determined by the physician [19]. Evaluating benefit focuses on the patient's subjective idea of what is good for him and how a treatment helps him achieve his life's goals and thus is best determined by the patient [19]. Evaluating burden requires an examination of the physical, psychological, fiscal, and other costs/side effects of a treatment, and therefore is best assessed by both physician and patient [19].

When the balance of the effectiveness, benefit, and burden is favorable treatment is ethically justified, whereas if the balance is unfavorable treatment is not defensible [19]. As only effectiveness is solely within the domain of the physician, futility determinations are not unilateral but are made via collaboration with the patient or surrogate. Patient requests for futile therapies need not be honored, with the possible exception of compassionate use (e.g., temporarily providing treatments to prolong a patient's life so that personal, religious, or spiritual obligations may be fulfilled—such as allowing family and friends to arrive and say a final goodbye—provided the treatment is not excessively burdensome, a finite time frame is set, and the patient or surrogate consents) [8]. Futility definitions and processes focusing “on which group can ‘trump’ the authority of the other are divisive and produce adversarial rather than complementary physician–patient relationships” [8].

In a previous article in this Journal, Grossman and Angelos [4] reframed the futility debate as a failure to communicate effectively and a breakdown in the doctor–patient relationship. After describing the case of one of his patients, Angelos told the family that continued treatment would be futile and suggested comfort care measures [4]. To his surprise, the family was offended and questioned how someone outside the family could weigh the burdens versus the benefits of treatment. They became suspicious and lost trust [4]. Using the word “futile” alienated and isolated the family [4]. Grossman and Angelos [4] recognized invocation of the term “futility” as a power grab by physicians to resurrect paternalistic authority from the pendulum swing toward patient autonomy. Once futility is declared, it limits patient and family members from being significant participants in future medical decision-making [4]. Using the term “futility” risks abandoning or marginalizing patients and surrogates [4]. Grossman and Angelos stated that “Because invoking the term *futility* worsens communication and lessens patient care we recommend that increased efforts be made to educate patients and their families regarding realistic expectations of the patient's disease and its prognosis” [4]. Grossman and Angelos [4] concluded that the only ethical option is to communicate and honestly disclose prognosis, offer the best medical advice, and not hide behind “futility”.

One of the ubiquitous phrases used in end-of-life care is discussion of “goals of care.” This concept is useful in that it promulgates open dialogue and discussion between the physician and the patient and family. Furthermore, it encourages collaboration and shared decision-making instead of the more divisive and adversarial debate over whether a therapy is futile. An important question is when to have “goals of care” discussions. This type of conversation is especially helpful at the start of the doctor–patient relationship or at the time of a new diagnosis, prior starting a new therapy, at the time of disease progression or recurrence, when new side effects or toxicities arise, or whenever the surgeon senses a divergence between what he or she believes are possible or reasonable outcomes and what he or she perceives to be the patient's or surrogate's unrealistic expectations. Too often “goals of care” conversations occur only once there have been complications or when the patient's health is in a rapid downward spiral. Just as the process of obtaining informed consent helps build the surgeon–patient relationship, so too does having a shared vision for the desired outcomes of the surgical enterprise. Schwarze et al. [20] have written about the concept of “surgical buy-in” and how surgeons initiate operations with a preoperative expectation that their patients will continue with therapy postoperatively based on a bidirectional contract. However, the

extent to which surgeons make their expectations explicit varies [21]. It is important before operating that surgeons and their patients have a mutual understanding of what they are hoping to achieve with the operation as well as how to proceed if their goals are not met or complications arise. Therefore, another important time to have a “goals of care” discussion is prior to surgery.

Operating on patients with advanced malignancies or multiple comorbidities often raise issues similar to those seen in futility debates. For example, the management of advance directives, including do not resuscitate (DNR) orders, in the perioperative setting requires planning and effective communication [22]. Although a full discussion of perioperative DNR orders is beyond the scope of this article, a brief review follows.

Since 1976, DNR orders have been discussed in the medical literature [23]. It was not until 1991, however, that the ethics of perioperative DNR orders were explored [24–26]. Cohen and Cohen [27] coined the phrase “required reconsideration,” which even after two decades is still the guiding ethical principle when addressing the issue. The idea of required reconsideration is that patients and health care providers should reexamine DNR orders before surgery whenever possible [27]. The American College of Surgeons, American Society of Anesthesiology, and the Association of Operating Room Nurses have published guidance to their members, declaring that the automatic suspension of DNR orders in the perioperative setting is unethical [28–30].

Required reconsideration often results in a negotiated suspension of the DNR order with reinstatement when the orders are again appropriate [27]. Achieving the objective(s) of surgery would be limited if patients were allowed to die of reversible cardiac or respiratory arrest in the perioperative setting. Perioperative arrest often results in a better outcome because of earlier identification and more easily reversible causes that a negotiated suspension of the DNR order often occurs [27]. Required reconsideration permits patients to go to surgery with a DNR order still in place. It also acknowledges, though, that if surgery can help achieve the patient’s goals the DNR order does not preclude surgery [22, 27–31].

In addition to procedural mechanisms to address futility concerns, as well as improved communication through mechanisms such as goals of care discussions and required reconsideration of perioperative DNR orders, another mechanism for improving successful reconciliation of futility conflicts is the appropriate use of consultants. As discussed earlier, the Houston policy requires that an attending obtain a second opinion before bringing a futility case for institutional review [12]. In addition to another physician bringing a fresh perspective to the case, the Houston policy also recognized that social workers, chaplains, patient representatives and advocates, and ethics consultants or committees are often useful resources. These consultants bring considerable specialized knowledge, skill, and experience to difficult cases. They can also enter the case without the same emotional investment that can potentially bias decision-making and can facilitate discussion and reverse communication breakdowns. It is helpful for the surgeon to suggest bringing these individuals onto the care team proactively, rather than having them brought in reactively via institutional futility procedure mechanisms. By volunteering to bring in additional resources, it shows the patient and surrogates that the physician is open to discussion and different

viewpoints—that he or she is still actively working toward achieving the best outcome for the patient.

One additional group of practitioners that can play a useful role in these situations is the palliative care team [32]. Bradley and Brasel [33] developed guidelines or triggers for identifying patients in the surgical intensive care unit (SICU) who would benefit from palliative care services. The top five “triggers” for a palliative care consultation identified were (1) family request; (2) futility considered or declared by the medical team; (3) family disagreement with the medical team, advance directive, or each other lasting >7 days; (4) death expected during the same SICU stay; or (5) SICU stay greater than 1 month [33]. Incorporating the palliative care team can be a delicate issue, as some patients and surrogates incorrectly see this consultation as a sign of imminent death and doctors giving up. It is therefore important to distinguish palliative care, which can be involved at any point in the disease process, including during active treatment with curative intent, and hospice, where comfort is the primary goal and life-prolonging measures are usually stopped [32].

One of the reasons futility discussions become so heated is the implicit assumption that they are merely a disguise for cost-cutting and rationing. Huynh et al. asked 36 critical care specialists to perform a daily assessment of ICU patients and classify them as not receiving futile treatment, probably receiving futile treatment, or receiving futile treatment. There were 1,136 patients assessed during a 3-month period (November 2012 to March 2013) at the David Geffen School of Medicine, University of California Los Angeles [34]. The assessments found that 80 % of patients were never perceived to have received futile treatment, 9 % were perceived to probably have received futile treatment, and 11 % were perceived as having received futile treatment [34]. They found a 6-month mortality rate of 85 % for patients perceived as having received futile treatment and the other 15 % of patients perceived as having received futile treatment were in severely compromised health states, often still dependent on life-sustaining treatments [34]. They estimated the cost of futile treatment in critical care during this 3 month period at \$2.6 million [34]. The study concluded that futile critical care is common and costly, but the question remains whether it was “futile” for the patients and whether this treatment should be restricted [34].

One additional tool that surgeons can use for discussions with patients and surrogate decision-makers is the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) surgical risk calculator [35]. This freely available risk calculator utilizes outcomes data from the NSQIP database to estimate the chances of an unfavorable outcome such as a complication or death after surgery. It uses data including the CPT code for the procedure, age, sex, functional status, and comorbidities and risk factors (e.g., diabetes, hypertension requiring medication, previous cardiac event, congestive heart failure, chronic obstructive pulmonary disease, dialysis, steroid use, ascites, sepsis, and body mass index, among others) to project the risk. It provides more evidenced-based outcomes data for surgeons to use to facilitate discussions with patients. It would certainly help inform both surgeons and patients participating in the “efficacy/benefit/burden” model of viewing futility as a prudential guide [19, 36].

Conclusions

Futility has long been debated in the medical ethics literature. The contentious nature of futility discussions has prevented physicians and ethicists from arriving at a consensus on the definition or application of futility in clinical practice. Whether futility is thought of as an issue of patient autonomy, physician conscience, or as a prudential guide, it is clear that it is a dilemma that will not readily be “solved.” Indeed, the mere use of the word “futile” tends to stifle communication between health care providers, patients, and families at a time when better understanding between these parties is essential. Improved communication that begins at the start of the physician–patient relationship, the use of consultations from ethics committees, palliative care specialists, pastoral care teams, and patient representatives, as well as frank discussions with patients and families regarding the goals of care can help avoid futility conflicts and improve surgical outcomes.

Acknowledgments

This work was supported in part by a grant from the National Cancer Institute (P30CA072720).

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