Do-not-resuscitate order after 25 years*

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Background: **In 1976, the first hospital policies on orders not to resuscitate were published in the medical literature. Since that time, the concept has continued to evolve and evoke much debate. Indeed, few initials in medicine today evoke as much symbolism or controversy as the Do-Not-Resuscitate (DNR) order.**

Objective: **To review the development, implementation, and present standing of the DNR order.**

Design: **Review article.**

Main Results: **The DNR order concept brought an open decision-making framework to the resuscitation decision and did much to put appropriate restraint on the universal application of cardiopulmonary resuscitation for the dying patient. Yet, even today, many of the early concerns remain.**

Conclusions: **After 25 yrs of DNR orders, it remains reasonable to presume consent and attempt resuscitation for people who suffer an unexpected cardiopulmonary arrest or for whom resuscitation may have physiologic effect and for whom no information is available at the time as to their wishes (or those of their surrogate). However, it is not reasonable to continue to rely on such a presumption without promptly and actively seeking to clarify the patient's (or surrogate's) wishes. The DNR order, then, remains an inducement to seek the informed patient's directive. (Crit Care Med 2003; 31:1543–1550)**

KEY WORDS: cardiopulmonary resuscitation refusal; do-not-resuscitate order; futility; presumed consent

More than twenty-five years ago, the first hospital policies on orders not to resuscitate were published in the medical literature (1–3). As it was then, few initials in medicine today evoke as much symbolism or controversy as the DNR (do-not-resuscitate) order. The development of the DNR order marked a pivotal change in the delivery of medical care, for instead of instructing others to deliver treatment, it was the first order to direct the withholding of treatment. The DNR order has since become a part of the ritual of death in our society, so commonplace that nearly all physicians have written one, or have been ordered to adhere to one, at some point in their career. For the patient, a DNR order, or the absence of a DNR order, establishes how death will likely ensue. More broadly, the DNR order has served both as a harbinger and symbol of our society's ongoing struggle to answer two fundamental questions about foregoing medical treatment at the end of life: when is it appropriate, and who is to decide? In this article, we review the development, implementation, and present standing of the DNR order.

Historical Perspective

Cardiopulmonary resuscitation (CPR) by closed-chest message, developed in the early 1960s and initially reported primarily for patients suffering anesthesia-induced cardiac arrest, at first seemed miraculous for its effectiveness and simplicity (4). However, it soon became evident that the routine application of resuscitation efforts to any patient who suffered a cardiopulmonary arrest led to new problems. Far more often than not, CPR transiently restored physiologic stability but prolonged patient suffering. By the late 1960s articles began appearing in the medical literature describing the agony many terminally ill patients experienced from repeated resuscitations that only prolonged their death (5). In situations in which staff believed that CPR would not be beneficial, it became increasingly common for them to either refuse to call a "code blue" or to perform a less than full resuscitation attempt. New terms, such as "chemical code," "show code," "Hollywood code," and "slow code," entered the vocabulary of the hospital culture as these less than full resuscitation attempts became more pervasive. In response, institutions developed their own peculiar means of communicating who would not receive a full resuscitation attempt in the event of cardiopulmonary arrest. At some institutions, these decisions were concealed as purple dots on the medical record or written as cryptic initials in the patient's chart, whereas at other institutions, they were simply communicated as verbal orders passed on from shift to shift (6). These developments did not pass without controversy. Many were increasingly concerned that the absence of an established mechanism for advanced decision-making about resuscitation prevented adequate informed consent from the patient or patient's family, suppressed the full consideration of legitimate options by the involved parties, led to inadequate documentation procedures, and failed to provide sufficient rationale and accountability for what did transpire.

By the early 1970s, orders not to resuscitate evolved into a more formal process, made in advance of the event, and with more documentation of the rationale in the medical record. In 1974, the American Medical Association became the first professional organization to propose that decisions not to resuscitate be formally documented in progress notes and communicated to all attending staff. Moreover, the American Medical Association stated that, "CPR is not indicated in

*See also p. 1593.

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certain situations, such as in cases of terminal irreversible illness where death is not unexpected" (7). This recommendation was followed in 1976 by reports from two Boston hospitals describing their policies on the process for implementing decisions about resuscitation status. This movement toward explicit DNR policies soon spread to other hospitals. Policies on the DNR order filled the void that had existed within healthcare institutions by providing a structure to both the decision-making process and the communication of these decisions. Medical staff could now discuss the DNR decision well before the event with the patient or the patient's family, and with each other. In turn, these deliberations could then be communicated to potential rescuers, many of whom could have only limited personal knowledge of each patient's case but who could now feel more confident about the process through which decisions had been made.

Ethical Perspective

Major developments in the bioethical community paralleled the evolution of the DNR order in the medical community. At the core of the bioethical revolution that occurred in the final 25 yrs of the 20th century was the promotion of patient autonomy. In particular, a broad movement advocated that, in healthcare decisions, the wishes and values of the patient should have priority over those of professionals. One of the earliest and most influential writings to reflect the emerging consensus in the bioethics community on healthcare decision-making was the report of the 1983 President's Commission, entitled "Deciding to forego life-sustaining treatment: Ethical, medical, and legal issues in treatment decisions" (8). The Commission concluded that it is permissible for competent patients to refuse life-sustaining treatment. They also advocated that a competent individual is entitled to reject life-sustaining treatment through an advance directive to be implemented in the event of future loss of decision-making capacity and that a patient's family has the moral authority to forgo life-sustaining treatment for an incompetent patient who does not have an advance directive based on what they believe the patient would have wanted (the so-called substituted judgment standard). A conceptual underpinning of the Commission's discussion of DNR orders was the presumption that a resuscitation attempt is favored in nearly all instances (that is, patients are presumed to have given consent to CPR). Given this perspective, the contexts in which the presumption favoring CPR may be overridden must be explicit and must be "justified by being in accord with a patient's competent choice or by serving the incompetent patient's well being [sic]" (8). Notably, the Commission declined to legitimate futility-based DNR orders (situations in which physicians unilaterally determine, without patient or family agreement, that CPR is not indicated). Their view was based on the perception that it would be difficult to define "clear and workable categories" for futility because of the great uncertainty in outcome from a resuscitation attempt for any given individual.

The bioethics community has not embraced this view without dissent. Many, for example, question the assumption that CPR is generally beneficial and should be withheld only by exception (9–11). They argue that CPR is often not beneficial and was never intended to be the standard of care for all situations of cardiac arrest (four of the five patients in the original report experienced an unanticipated cardiac arrest in the setting of anesthesia) (4). From this perspective, CPR, like any treatment, should only be offered to those patients in whom it is medically indicated, and physicians are not ethically bound to seek consent to refrain from a procedure that is not medically indicated.

Legal Perspective

The widespread adaptation of CPR as the default treatment for cardiopulmonary arrest in hospitalized patients led to uncertainty as to whether, and under what circumstances, it could lawfully be withheld. Attempts to clarify the legal obligations of clinicians evolved through case law and legislation, establishing standards and procedures for implementation of DNR orders.

Case Law. The first reported case focusing on entry of a DNR order closely followed two seminal decisions involving the right of patients (or appropriate surrogates) to refuse medical treatment more generally (12, 13). In 1978, the Massachusetts Appeals Court was asked to rule on questions involving a DNR order: 1) could a DNR order be entered for a terminally ill patient, and 2) must the physician first obtain court authorization? The Court approached this case as one that did not pose a question of choice about life-prolonging treatment but, instead, involved a decision about what measures were appropriate to ease the imminent passing of an irrevocably, terminally ill patient—a matter that, according to the Court, was peculiarly within the competence of the medical profession. Therefore, with the concurrence of the family, the physician could enter a DNR order—without previous court approval (14). This case was an early attempt by the Court to allow greater flexibility in end-of-life care by establishing that in certain circumstances a physician could enter a DNR order for an incompetent patient, consistent with the wishes of the family, without previous judicial authorization. Subsequent cases in Massachusetts, and in other states, confirmed that patients have the right, based on common law and on the federal (or state) constitution, to refuse medical treatment, including CPR. Although the right to refuse treatment was most clearly established for competent patients, almost all courts held that incompetent patients also had this right (at least theoretically), which could be implemented in appropriate circumstances through surrogate decision makers, often without previous court approval. In several cases involving DNR orders, courts expressed the view that such decisions were best left to families, and courts set forth those circumstances in which previous judicial approval was not necessary. As case law continued to develop, the requirement that the patient must be terminally ill, with death imminent, became less stringent (at least in some jurisdictions) (15).

The case law that was evolving around DNR orders in various jurisdictions reflected a consensus that was forming around so-called right-to-die cases. Beginning in 1976 with the Quinlan case and culminating in the U.S. Supreme Court decision on Cruzan, it became established that certain general principles apply to CPR and to other types of medical treatment (12, 16). Very generally, competent patients have the right, under the common law, some state constitutions, and the federal Constitution, to refuse medical treatment, including life-sustaining treatment. Although this right must be balanced against state interests, in virtually all cases involving competent individuals, patients' rights have prevailed, even in the face of such interests.

Under this case law, physicians will not face liability for entering a DNR order with the informed consent of the patient. Incompetent patients also have a common law and constitutional right to refuse medical treatment, including CPR, but states may establish different (and more stringent) standards and procedures for implementing such rights. So, for example, some states use the substituted judgment standard (in which a surrogate conveys what the now incompetent patient had previously expressed), whereas others use the best-interests standard (in which the surrogate articulates what is best for the patient). Therefore, there is less legal certainty for providers regarding DNR orders for incompetent patients. Although it is often possible to enter a DNR for an incompetent patient without court approval, such approval may be necessary, depending on the state and the circumstances (17).

Statutes. In 1988, New York became the first state to pass a statute governing DNR orders (18). This statute arose, in part, out of stories in the media that exposed a covert procedure at one New York hospital in which dot-sized purple decals were placed on the patient's nursing record cards to signal the staff not to resuscitate the patient (a decision reached without the informed consent of the patient or family and without written documentation of any decision-making in the chart) (19). Under the statute, every patient was presumed to have consented to CPR. If the patient had the mental capacity to make an informed decision, the physician had to obtain his or her consent before entry of a DNR order. An appropriate surrogate could consent to a DNR order for an incompetent patient, provided the patient was terminally ill or irreversibly comatose or if CPR was medically futile or would impose an extraordinary burden in light of the expected outcome. Clinicians were granted immunity for carrying out DNR orders entered on the basis of the statute (or for resuscitation if, in good faith, the provider was unaware of a DNR order or thought it had been revoked or canceled). There were provisions regarding dispute mediation and transfer of the patient in the event mediation was unsuccessful.

A number of states followed the lead of New York and enacted statutes governing entry of DNR orders. However, just as cases dealing with DNR orders became subsumed in cases dealing with refusal of medical treatment more generally, so too did statutes on DNR orders become incorporated, in many cases, into statues addressing more generally the rights of patients to provide advance directives regarding all forms of medical treatment. Currently, almost all states have statutes allowing for living wills, and a large number of states have also enacted proxy or surrogate decision-making statutes (17). Many of the DNR statutes, and some of the living will and surrogacy statutes, limit the conditions under which patients may request and physicians may enter a DNR order. The most common requirements are that the patient be terminally ill and that she not be pregnant (20, 21). Some of these statutory requirements are more restrictive than those set forth in case law and may interfere with constitutionally protected rights. In addition, advance directive statutes were, arguably, intended to supplement and not supersede previously existing rights (17). Therefore, the effect of such statutory restrictions is uncertain.

Religious Perspectives

Few religions have specific declarations on the legitimacy of the DNR order. Most faith traditions instead have more general declarations on decisions about life-sustaining treatment. For example, Jewish law asserts that all life is of infinite value and prohibits any shortening of life (22). According to Orthodox interpretation, attempts to resuscitate all persons are mandated when there is any chance of success. The only exceptions are when resuscitation would be physiologically unfeasible or once the patient becomes a *goses*, or moribund, imminently dying person. Authorities differ on when exactly one becomes a *goses* (23).

Most Christian denominations are supportive of a patient's right to withhold a resuscitation attempt. For example, within the Catholic tradition, DNR orders are permitted. In 1957, Pope Pius XII declared that patients could "lawfully" decline resuscitation attempts, because they "go beyond the ordinary means to which one is bound. . ..[e]ven when it causes the arrest of circulation, the interruption of attempts at resuscitation is never more than an indirect cause of the cessation of life" (24). The Catholic Church holds that withdrawing resuscitative efforts is considered neither euthanasia nor suicide and that there is no obligation to employ any life-prolonging efforts that are of little or no benefit to the patient (25, 26). The United Church of Christ and the Reorganized Church of Jesus Christ of Latter Day Saints have positions that are supportive of a patient's right to refuse CPR (27). Explicit position statements of other major Christian denominations on resuscitation or DNR could not be found. However, Orthodox Christian, Episcopal, Lutheran, Presbyterian, United Methodist, Seventh-Day Adventist, Anabaptist, and Jehovah's Witness traditions are supportive of foregoing life-sustaining treatment when it is not beneficial or only prolongs the dying process (27).

In general, the Islamic tradition holds that life-sustaining treatment is commanded until such time as death is inevitable (28). However, it is acceptable to refuse life-prolonging treatment in the case of an incurable or terminal illness. In such a case, a DNR order is permissible (28, 29).

DNR in Actual Practice

Most professional medical societies and trade organizations have issued guidelines, position statements, opinions, or patient information guides acknowledging the appropriateness of DNR orders in certain situations (Table 1) (30–50). In addition, the Joint Commission on Accreditation of Healthcare Organizations requires accredited hospitals to have basic policies on developing and implementing DNR orders (47). In general, these statements recognize a patient's right to refuse potentially successful resuscitative efforts. In addition, many of the position statements advocate that discussion around resuscitation decisions should also include the wider issues of end-of-life care in general and not merely the use of CPR. Some statements favor the language of "do not attempt resuscitation" (DNAR) over "do not resuscitate." According to this argument, the initials DNR imply that a resuscitation attempt would be successful if attempted, whereas the initials DNAR convey no such implication—simply that attempts to resuscitate the patient are not to be undertaken.

Training in communication and decision-making about DNR orders has not been a priority in medical education. Tulsky et al. (50) reported that of 100 residents surveyed, one third had never been observed talking to patients about DNR decisions and 71% had been observed two or fewer times. Thus, although the dis-

Table 1. Organizations with statements on do-not-resuscitate (DNR) orders or the forgoing of life-sustaining treatment

American Academy of Family Physicians (30)[a,b,c,d,e]	American Heart Association(40)[c,d,e,f,g,h,i,j,k,l]
American Academy of Neurology(31)[a,c]	American Hospital Association (41)[c,d,e,f,g,j]
American Academy of Pediatrics (32)[c,d,f,g,h,i]	American Medical Association (42)[c,d,f,g,j]
American Association of Neurological Surgeons (33)[a,c,g]	American Nurses Association (43)[a,c,d,e]
American College of Cardiology (34)[c,i,m]	American Society of Anesthesiologists (44)[a,c,e]
American College of Emergency Physicians (35)[a,c,g,l,n]	American Thoracic Society (45)[c,f,g,j]
American College of Obstetricians and Gynecologists (36)[a,c,g]	Canadian Medical Association (46)[a,c,d,g,i]
American College of Physicians (37)[c,d,f,g,i,j,l]	Joint Commission on Accreditation of Healthcare Organizations (47)[a]
American College of Surgeons (38)[a,c,d,e]	National Hospice Organization (48)[c,f,g,j]
American Geriatrics Society (39)[a]	Society of Critical Care Medicine (49)[a,c,d,f,g,l]

Numbers in parentheses refer to reference number in this article.

[a]Policy or position statement; [b]patient information guide; [c]resuscitation decisions should be guided by the patients' wishes (the order should be in writing), and if preferences are unknown, on his or her best interest; [d]discussions with patients concerning resuscitation status should be initiated by the physician, occur in an out-patient setting or early in hospitalization, preferably before a crisis, and include a description of what specific measure will be taken; [e]states that DNR orders should be reassessed periodically or in the perioperative period; [f]guideline; [g]emphasizes that the DNR order pertains specifically to resuscitative efforts; it does not imply refusal of other therapeutic or palliative interventions that may be appropriate for the patient; [h]states that the physician should make a recommendation concerning code status; [i]states that, although consideration should be given to patient and family preferences, the physician is not obligated to offer, initiate, or continue nonbeneficial or inappropriate treatment; [j]affirms that, when resuscitation is not medically indicated, the physician may justifiably write a "unilateral" DNR order; [k]DNR orders may be rescinded by the physician, until organ procurement, if consent for organ donation is given; [l]expresses disapproval of "slow codes"; [m]conference proceedings; [n]cautions that "futility" is a poorly defined criterion for unilateral decisions and should not be used.

cussion of the DNR order is a pivotal decision in a patient's life, residents are trained by a see-and-do approach rather than through observation and feedback.

The relative lack in training about how to talk to patients about their preferences for CPR is compounded by instability in patient preferences on this issue. Two studies have reported that nearly 20% of seriously ill patients who did not want to be resuscitated had changed their minds within 2 months (51, 52). Another recent study found that among approximately 1,800 seriously ill hospitalized adults, communication about preferences for CPR occurred in fewer than one forth of all cases (53).

Who Gets a DNR Order?

Empirical research into the use of DNR orders suggests that there is no broad agreement on which patients should not be resuscitated. Recent cross-sectional studies that have evaluated resuscitation decisions and DNR orders have found that a DNR order has been entered for between 18% and 28% of hospitalized patients (54–56). The rate of DNR orders increases with greater severity of illness at admission. Even so, many patients with limited short-term prognoses do not have DNR orders. For example, in one study, only 31% of the patients in the highest acuity quartile, with a predicted risk of mortality of 65% within 6 months of admission, had DNR orders, despite the fact that many, if not most, of these patients had a poor chance of meaningful recovery from CPR (57).

Research also demonstrates that there is significant disparity in DNR order rates by certain patient characteristics, exclusive of severity of illness (55–57). For example, patients with different diseases but similar prognoses have very different DNR order rates. Wachter et al. (58) showed that patients with AIDS or cancer were more likely to have a DNR order than patients with cirrhosis or heart failure, independent of expected mortality. Women are more likely than men to have their refusal of CPR recorded, similar to evidence of sex disparity for access to invasive cardiac care, renal dialysis, transplantation, and other areas (54). The use of DNR orders is substantially lower in African Americans than in whites, even after adjusting for severity of illness and other covariates. Another consistent finding is that increasing age (again, even after adjusting for relevant covariates) is associated with greater DNR order rates (57, 59). Several studies have also found greater than a tenfold variation in rates of DNR orders across hospitals (60–62). Finally, patients with a DNR order are also more likely to have other therapeutic interventions withheld even although there is no accompanying order to specifically limit these treatments (and with no evidence that such limitation was discussed with, and requested by, the patient or family). These data suggest that clinicians often interpret a DNR order to be consistent with a broader decrease in the intensity of care to be provided to these patients (56, 63, 64). What might account for such marked variability in the application of DNR orders? Patients, like their physicians, do not have homogeneous values about matters at the end of life. Thus, disparity in DNR rates may in part reflect differences inpatient preferences or differences in physician decision-making. However, Goodlin et al. (65) recently reported that in a study of 2,500 seriously ill hospitalized patients aged 80 yrs or older who experienced cardiopulmonary arrest, the physician estimate of survival and patient preference had an important effect on use of CPR but were similar in magnitude to other variables such as age, race, and geographic location. Indeed, in this study, geographic location was found to be more influential on whether a patient received an attempted resuscitation than was patient preference. Significant geographic variation in care has been described in many other areas of healthcare delivery, suggesting that the culture of local medical practice is a potent but still poorly understood influence on how and why decisions are made (66, 67). It may also be that some patients have an overly optimistic expectation about the outcome of CPR fostered by the media. For example, a recent review of the fictional portrayal of CPR on television found that nearly 67% of the "patients" seemed to have survived. However, survival after cardiac arrest for hospitalized patients reported in the medical literature ranges from 6.5% to 32%, and nearly 44% of survivors of in-hospital CPR have a significant decline in functional status (68, 69).

DNR Orders During Anesthesia and Surgery. Written documentation of patient refusal of consent to CPR was initially used primarily for patients on hospital wards, with slower acceptance both into the outpatient setting and into areas more devoted to acute care, such as emergency departments and intensive care units. In particular, resistance to DNR orders has been greatest for patients undergoing an operation, a situation in which standard practice has been to automatically suspend all DNR orders during the perioperative period.

Many of the reasons for this position are obvious (70). The induction of general anesthesia involves the administration of medications that often produce respiratory or circulatory instability. After provoking these problems, the anesthesiologist resuscitates the patient with assisted ventilation, tracheal intubation, or cardiovascular medications. In essence, any general anesthetic involves the deliberate depression of vital systems, followed by their resuscitation. Separating anesthesia from resuscitation is therefore difficult and somewhat artificial. Despite such concerns, the American Society of Anesthesiologists has adopted positions more deferential to patient autonomy. In 1993, the American Society of Anesthesiologists approved a guideline that stated, in part, "Policies automatically suspending DNR orders. . .before procedures involving anesthetic care may not sufficiently address a patient's rights to self-determination in a responsible and ethical manner.. . .Such policies...should be reviewed and revised" (71). In other words, although not specifying that resuscitation procedures should be withheld from patients with a DNR order, the American Society of Anesthesiologists did state that it was mandatory for the order to be reconsidered and that automatic suspension was not appropriate. The American College of Surgeons has echoed these views (38).

Despite these pronouncements from professional societies, the practice of honoring a patient's or surrogate's refusal of CPR in the operating room has been accepted slowly. One of the barriers to acceptance may be related to the method of specifying and documenting the order. DNR orders have typically been procedure-directed, consisting of a list of resuscitative procedures that can be checked off in a yes or no fashion. The greatest advantage of these orders is clarity. By focusing on procedures, the form addresses in very concrete terms exactly what will or will not be done in the event of a cardiopulmonary arrest. Mittelberger et al. (72) found, for example, that the number of ambiguous DNR orders decreased from 88% to 7% after implementation of a procedure-specific DNR order form. However, this gain in precision and clarity can also restrict appropriate discretionary latitude for caregivers at the bedside. For example, patients with DNR orders may not be treated for unexpected but easily reversible events (such as transient respiratory depression from an opioid, which could be quickly treated and reversed with appropriate maneuvers). Procedure-directed orders require patients and caregivers to anticipate the most likely etiologies for problems and suffer from limited flexibility when the situation is not the one expected. For the most part, this trade-off has been necessary to achieve successful implementation of DNR orders in situations in which the patient has multiple caregivers, such as the typical ward setting in a hospital.

An alternative to the procedural approach that has evolved at many hospitals is the goal-directed DNR order, which focuses on the patient's goals, values, and preferences rather than on individual procedures (73). With this approach, the question of which procedures will be performed is left up to the judgment of the clinician at the time of cardiac or respiratory instability. Proponents of the goal-directed approach advocate that patients are often less concerned with the technical details of the resuscitation than with more subjective and personal issues, such as, "Will resuscitation be painful?" "Will I suffer severe neurologic damage if I survive?" "Will I require a long intensive care unit stay following resuscitation, with the need for mechanical ventilation, invasive procedures?" (74). If the patient experiences an arrhythmia after receiving a medication required to induce anesthesia, for example, then several moments of chest compressions may be appropriate while the rhythm disturbance is corrected. If the patient suffers a cardiac arrest from a massive intra-operative myocardial infarction, however, then chest compressions may be inappropriate. By this approach, decision-making is left to the anesthesiologist and surgeon, based on a clear understanding of the context of the medical situation and the patient's values and goals. Although there may be a compelling argument for this flexible strategy, some may believe it to be an unrealistic strategy because the outcome of CPR is not entirely predictable. Nevertheless, the American Society of Anesthesiologists has endorsed both procedure-directed and goal-directed approaches for patients during anesthesia and surgery and has developed a prototype form employing both these strategies (74).

DNR Orders Outside the Hospital Setting. For many years, first-responders and emergency medicine services personnel were directed to initiate CPR on all persons found in cardiopulmonary arrest, except in cases such as decapitation and rigor mortis. Professional organizations have since developed policies allowing emergency medicine services personnel to recognize out-of-hospital DNR orders (75–77). Most position statements assert that first-responders should not attempt to resuscitate terminal or irreversibly ill patients who wish to forego such interventions and who have legal out-of-hospital DNR orders. This position reflects developments in law and public policy. As of 1999, 42 states have enacted out-of-hospital DNR statutes or protocols—all but Delaware, Iowa, Mississippi, Nevada, North Dakota, Pennsylvania, South Dakota, Vermont, and the District of Columbia (78). All existing state statutes require that comfort care, such as pain medication, symptom relief, and emotional support, be provided. Furthermore, all these states have some form of unique identification procedure to certify the authenticity of the DNR order. These range from single-page forms kept in the home to wallet cards, bracelets, or necklaces kept on the patient. Importantly, most statutes allow emergency medicine services personnel to ignore the order if its validity is in doubt. Although these state protocols can be used to convey the patient's wishes concerning resuscitative efforts outside the hospital, it is unclear if a hospital is bound to follow an out-of-hospital DNR order in an inpatient setting. Similarly, most hospital DNR orders only apply to the institution in which the order was initiated. Only Virginia has a true, "portable," or "durable" DNR order that is intended to be valid in all settings and binding on all healthcare providers (78).

The validity of DNR orders in the school setting has recently been the focus of more attention. The Americans with Disabilities Act of 1990, the Education for All Handicapped Children Act, and advances in health care have allowed mi-

nors with disabilities greater access to public education. As a result, some chronically ill or technology-dependent children are at risk for having a cardiopulmonary arrest while at school. The American Academy of Pediatrics has recently issued a statement supporting DNR orders in schools (79). Similarly, the National Education Association (80) and the National Association of School Nurses (81) have statements affirming the inclusion of students with DNR orders in the school setting on an individual basis. Only a few states' emergency medicine services–DNR protocols explicitly extend out-of-hospital DNR orders to cover minors, and even fewer encompass the school setting. In a recent survey of state emergency medicine services directors, only 17 of 26 could confirm that the out-of-hospital DNR statute in their state applied to minors (82).

CPR Not Indicated. From the earliest days of CPR, few issues have been more contentious than whether a physician may determine, without patient or surrogate consent, that CPR is not indicated. Many hospitals require patient (or surrogate) consent to the withholding of CPR, a policy consistent with the approach of most of the (very few) court decisions in this area. However, some hospitals have adopted a "do not ask, do not tell" approach to this question by allowing unilateral or futility-based DNR orders without asking or informing the patient of the decision. Still other policies employ a "do not ask, do tell" approach when unilateral DNR orders can be written at the discretion of the attending physician, who then informs the patient or patient's family of the decision, allowing them (at least theoretically) the option to transfer to other caregivers (83, 84).

The concept of futility has provoked great debate in the medical profession. In general, two approaches to futility have been advocated: definitional and procedural. Definitional-based approaches attempt to describe futile, nonbeneficial, inappropriate, or not indicated treatments in specific terms such as lack of physiologic effect or low likelihood of survival. The assumption underlying this approach is that physicians are best qualified to determine whether and when a medical therapy is indicated (85). Procedural-based approaches to futility, on the other hand, were developed in the belief that achieving an accepted definition of what constitutes futile medical treatment is not possible. This approach assumes that end-of-life decisions inherently involve value-laden choices about life around which people will not always agree (86). Given this, the approach that has been recommended by the American Medical Association, and which has been increasingly adapted into hospital policy and state legislation, focuses on a procedural approach to dealing with controversy over medical futility. In particular, in circumstances in which CPR may have no physiologic effect or may have a low likelihood of success, many hospitals and regions have developed a framework to identify conflict before trust is broken (preventive-ethics). These institutions have implemented specific steps for a mediation process as a means of resolving conflicts over futility (87–90). Many procedural approaches can still be referred to as unilateral because one possible outcome of mediation is that the final decision rests with the physician or institution rather than with the patient or surrogate. Despite the description of these policies, and the controversy they have generated, data on the actual prevalence of unilateral DNR orders in the medical literature are lacking.

Future Directions

The introduction of the DNR order brought an open decision-making framework to the resuscitation decision and did much to put appropriate restraint on the universal application of CPR for the dying patient. However, even today, many of the early concerns remain. Substantial variability and inconsistencies exist as to which patients are asked about their wishes involving CPR (and have these wishes recorded), suggesting variations in practice that depend more on factors such as clinician biases rather than on patient-related variables. Many patients, families, and caregivers inappropriately interpret DNR orders as limitations to a variety of treatments in addition to resuscitation, when such other limitations have not been discussed and agreed on. Disagreement persists as to whether there are circumstances in which physicians may unilaterally determine that CPR is not indicated.

Many of these persistent problems with the DNR order can be traced to the ambiguity inherent in the concept itself. The original foundation of the consent process in medicine is the principle that permission is needed "to touch." This is true even if the intent of the person who seeks to touch is solely to promote health and treat illness. Conversely, consent is generally not needed "not to touch." However, there are circumstances in which consent to touch is presumed (and failure to touch would be inconsistent with standard medical practice). Because the DNR order is an order not to touch—when that touch may be both highly invasive and life-preserving—it is particularly important to clarify whether touching, in the form of a resuscitation attempt, is wanted or not. The only person who can clarify whether touching is wanted is the patient or an appropriate surrogate for the patient.

In our view, the determination that touching is or is not wanted is ultimately a value judgment made by the patient, utilizing information as to efficacy (or futility) provided by the physician. Attempts at defining "CPR not indicated" inevitably unmask value judgments on the part of clinicians. These value judgments may be based on the clinicians' training and experience and may reflect their deeply held views about the goals of medicine and the role of clinicians. Nonetheless, in our society, the value judgments of the patient, whether deemed wise by others, predominate.

After 25 yrs of DNR orders, it remains reasonable to presume consent and attempt resuscitation for people who have an unexpected cardiopulmonary arrest or for whom resuscitation may have physi-

After 25 yrs of do-not-resuscitate orders, it remains reasonable to presume consent and attempt resuscitation for people who have an unexpected cardiopulmonary arrest or for whom resuscitation may have physiologic effect and for whom no information is available at the time as to their wishes.

ologic effect and for whom no information is available at the time as to their wishes (or those of their surrogate). However, it is not reasonable to continue to rely on such a presumption without promptly and actively seeking to clarify the patient's (or surrogate's) wishes. The DNR order, then, remains an inducement to seek the informed patient's directive.

The problems inherent in the current concept of DNR orders may also point the way toward the next developments in these orders, or even toward transcendence of the concept in favor of alternative frameworks. DNR orders focus on what will not be done for the patient, as opposed to what should be done for the patient. DNR orders also place focus on the final event in the dying process (cardiopulmonary arrest), whereas many other important aspects of the process of dying are often overlooked. These anomalies are being addressed through the palliative care movement, which recognizes that good care at the end of life depends much more on what we provide than on what we forego and that a "good death" requires much more than just appropriate treatment at the time of cardiopulmonary arrest. These insights are not new. Accompanying the first reports on hospital DNR policies was a third article promoting the need for advance directives on all aspects of end-of-life care (91).

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