Ochsner Journal 16:176–179, 2016

Do Not Resuscitate, Anesthesia, and Perioperative Care: A Not So Clear Order

William D. Sumrall, MD,[1] Elizabeth Mahanna, MD,[2] Vivek Sabharwal, MD,[1,3] Thomas Marshall, MD[1]

[1]Department of Anesthesiology, Ochsner Clinic Foundation, New Orleans, LA [2]Department of Neuro Critical Care, Ochsner Clinic Foundation, New Orleans, LA [3]The University of Queensland School of Medicine, Ochsner Clinical School, New Orleans, LA

Background: Advance directives guide healthcare providers to listen to and respect patients' wishes regarding their right to die in circumstances when cardiopulmonary resuscitation is required, and hospitals accredited by The Joint Commission are required to have a do-not-resuscitate (DNR) policy in place. However, when surgery and anesthesia are necessary for the care of the patient with a DNR order, this advance directive can create ethical dilemmas specifically involving patient autonomy and the physician's responsibility to do no harm.

Methods: This paper discusses the ethical considerations regarding perioperative DNR orders and provides guidance on how to handle situations that may arise in the conduct of perioperative care.

Results: Because of the potential conflicts between ethical care and the restrictions of DNR orders, it is critically important to discuss the medical and ethical issues surrounding this clinical scenario with the patient or surrogate prior to any surgical intervention. However, many anesthesiologists do not adequately address this ethical dilemma prior to the procedure.

Conclusion: Practitioners are advised to first consider what is best for the patient and, when in doubt, to communicate with patients or surrogates and with colleagues to arrive at the most appropriate care plan. If irreconcilable conflicts arise, consultation with the institution's bioethics committee, if available, is beneficial to help reach a resolution.

Keywords: *Ethics, ethics consultation, perioperative care, resuscitation orders*

Address correspondence to William D. Sumrall, MD, Department of Anesthesiology, Ochsner Clinic Foundation, 1514 Jefferson Hwy., New Orleans, LA 70121. Tel: (504) 842-3755. Email: wsumrall@ochsner.org

INTRODUCTION

On December 1, 1991, the Patient Self-Determination Act (PSDA) took effect as a result of the Nancy Cruzan case. The PSDA is intended to encourage discussion between healthcare providers and patients regarding autonomy, especially at the end of life. The law mandates at a federal level that any healthcare institution receiving Medicare or Medicaid funds must inform patients of state laws governing individuals' rights to make their healthcare wishes known through the implementation of a living will and/or the designation of a surrogate medical decision maker.[1] Advance directives guide healthcare providers to listen to and respect a patient's right to die under clinical circumstances when cardiopulmonary resuscitation is required.

Hospitals accredited by The Joint Commission are required to have a do-not-resuscitate (DNR) policy in place. The DNR order provides clear instructions to healthcare providers in a wide array of clinical settings. However, the discussion concerning the DNR order and the subsequent decision to activate it can be difficult for both the patient and the healthcare provider.

When surgery and anesthesia are necessary for the care of a patient with a DNR order, the previously recorded advance directive can create ethical dilemmas for anesthesia personnel, specifically involving patient autonomy and the physician's responsibility to do no harm.[2] Anesthesia personnel frequently voice their ethical conflicts in these situations.[3] Providers are concerned about the often temporary effects of anesthetic interventions, such as severe hemodynamic instability or cardiac arrest, that require interventions tantamount to resuscitation.[3] Both anesthesia and surgery carry a real risk of morbidity and mortality that is different from medical risks outside the operating room.[4] The risks of anesthesia and surgery include both iatrogenic and unpredictable adverse events that may occur precipitously and unexpectedly during the procedure or while recovering in the postanesthesia care unit. Both inhaled and intravenous anesthetics can lead to myocardial depression, hemodynamic instability, and cardiac dysrhythmias. The resuscitation administered by the anesthesiologist in response to these events is routine, in contrast to the heroic measures taken when a patient needs resuscitation in other environments. In addition, each type of surgical procedure carries its own distinct risks and may further increase the risks of adverse outcomes. Some risks

are highest during the perioperative period and revert to a near baseline state shortly thereafter.[5]

Because resuscitation is fundamental to an anesthesiologist's duties and a DNR order is in direct opposition to these duties, resuscitation may conflict with the ethical principle of patient autonomy.[6] Consequently, it is critically important to discuss the medical and ethical issues surrounding this clinical scenario with the patient prior to surgical intervention. However, in one study involving a standardized patient actor, only 57% of anesthesiologists addressed resuscitation during the preoperative interview of a patient with a properly documented DNR order.[7] Patients who choose to proceed with general anesthesia and surgery require thorough preparation and informed consent.

In 2001, in 2008, and in October 2013, the American Society of Anesthesiologists (ASA) published guidelines addressing the anesthesia care of patients with DNR orders.[8] These guidelines address anesthesia in both elective and emergent situations for patients who are both competent and incompetent. In the context of these guidelines, this paper discusses the ethical considerations regarding perioperative DNR orders and provides guidance on how to handle situations that may arise in the conduct of perioperative care.

ETHICS OF PERIOPERATIVE DNR ORDERS

When making decisions about the perioperative care for patients with DNR orders, physicians should always apply 4 principles of ethics. The first and most important is patient autonomy. This principle recognizes a patient's right to self-determination and is the basis for informed consent. As a result of self-determination, a patient may exercise the right to refuse treatment for any reason; for example, a Jehovah's Witness may refuse blood products for religious reasons.

The second principle is nonmaleficence, a concept that is rooted in every healthcare provider's mind as "first, do no harm." The principle of nonmaleficence guides the physician to constantly assess his/her interventions and ensure they do not harm the patient.

The third principle is beneficence. Beneficence motivates healthcare providers to do good for their patients while also acting to remove them from harm. Yet acting in the best interest of the patient may also create a conflict for providers because of their perspective and interpretation of the situation. For example, if a patient undergoing anesthesia has a DNR that specifically requests no vasopressors be administered, the anesthesiologist may feel that providing anesthesia would expose the patient to undue harm.[5] In this case, respecting the patient's autonomy means exposing the patient to harm.

The fourth principle is distributive justice, the idea that society should balance resources to allow the most number of people to benefit. Essentially, this principle asks society as a group to be fair and equitable.

MAKING PERIOPERATIVE DNR DECISIONS

Most experts recommend that hospital policy incorporate the requirement for a "required reconsideration" of DNR orders prior to surgical or anesthetic care[9] and that automatic suspension of DNR orders cannot be justified.[10] This type of policy encourages physicians involved in a patient's perioperative care to review any DNR order with the patient and develop a plan for how to respect the patient's wishes in the critical setting of surgery and anesthesia. Alarmingly, however, a 2013 study at the Mayo Clinic of more than 500 patients and 200 physicians found that 30% of physicians and 18% of anesthesiologists believed DNR orders should automatically be suspended intraoperatively. Automatic suspension of a DNR order might be seen as removing the conflict arising from the ethical principle of nonmaleficence. By removing questions about what to do, no matter the circumstance, the provider may feel a sense of protection. However, such a course of action effectively removes the patient from the decision-making process and eradicates the right to self-determination. Of the 500 patients surveyed in the Mayo Clinic study, 57% thought DNR orders should be suspended, but 92% felt there should be a preoperative discussion of resuscitative plans.[5]

Consequently, the first duty of the surgeon and anesthesiologist is to communicate with the patient about a perioperative DNR order. Determining whether the patient is a competent decision maker or if a surrogate is available is critical. After a collaborative discussion of the risks and benefits, patients frequently choose to modify their DNR orders.[5] Modification of a DNR order prior to surgery is recognized in the ASA practice guidelines and can be organized into 3 categories as outlined in the sidebar.[8]

Ochsner Health System has adopted a written policy designed to assist both the patient and the provider during the perioperative period. First, the policy recognizes that an advance directive can specify the range of acceptable resuscitative interventions, as well as the ability to designate a surrogate decision maker. Furthermore, the policy provides for reevaluation of an existing DNR order prior to surgery and anesthesia. The perioperative DNR order should only be modified by an authorized practitioner, and the discussion should be conducted by the primary physician, surgeon, or anesthesiologist. Having a clear, specific conversation with the patient and informing him/her of available resuscitative measures will allow the patient to affirm, clarify, or modify the DNR order based on his/her preference. Such a discussion should aim to clarify whether the existing DNR order is to be modified, exactly which resuscitative measures are acceptable to the patient, and at what point the preexisting DNR order is to be resumed. Once this conversation takes place, clear documentation in the medical record is required to ensure communication with other members of the care team.[11] The modified resuscitation plan should also be discussed in person with all appropriate members of the perioperative team.

However, having taken all these appropriate steps to place the patient first and do no harm, ethical conflicts can still arise. For this reason, the Ochsner DNR policy also addresses the duty of the anesthesia provider to appropriately and safely transfer care. In urgent or emergent situations, the responsibility of the anesthesiologist or nurse anesthetist is to provide care for the patient as if no DNR order were in place. Once an alternative provider is identified, care can be transferred when applicable and in accordance with what is understood of the patient's wishes, but until that point, regardless of the conflict, the anesthesiologist or nurse anesthetist will care for the patient as if no

American Society of Anesthesiologists Resuscitation Alternatives[8]

Full Attempt at Resuscitation

The patient or designated surrogate may request the full suspension of existing directives during the anesthetic and immediate postoperative period, thereby consenting to the use of any resuscitation procedures that may be appropriate to treat clinical events that occur during this time.

Limited Attempt at Resuscitation Defined With Regard to Specific Procedures

The patient or designated surrogate may elect to continue to refuse certain specific resuscitation procedures (for example, chest compressions, defibrillation, or tracheal intubation). The anesthesiologist should inform the patient or designated surrogate about which procedures are (1) essential to the success of the anesthesia and the proposed procedure and (2) which procedures are not essential and may be refused. (Depending on the type of anesthesia or surgery, certain procedures may not be necessary. For example, intubation may not be needed for monitored anesthesia care, and vasopressors may not be needed for a slowly dosed epidural.)

Limited Attempt at Resuscitation Defined With Regard to the Patient's Goals and Values

The patient or designated surrogate may allow the anesthesiologist and surgical team to use clinical judgment in determining which resuscitation procedures are appropriate in the context of the situation and the patient's stated goals and values. For example, some patients may want full resuscitation procedures to be used to manage adverse clinical events that are believed to be quickly and easily reversible but to refrain from treatment for conditions that are likely to result in permanent sequelae, such as neurologic impairment or unwanted dependence upon life-sustaining technology.

DNR order were in place. Alternative sources of clarification in urgent and emergent situations include the medical record, the patient's family members, or a designated surrogate. In difficult situations, bioethics committee consultations may be available to help providers navigate policy issues and conflicts.

PEDIATRIC PATIENTS

While the subject of DNR orders for adults undergoing anesthesia and surgery has attracted growing attention, little guidance has been available for managing the pediatric age group. Yet more than 80% of pediatric surgeons and anesthesiologists have been asked to care for children with DNR orders.[9] DNR orders for pediatric patients are appropriate when a physician deems attempts to resuscitate the child would not yield any benefit; further, DNR orders are written if the child's parent or surrogate decision maker—with the assent of the child, if possible—prefers that resuscitation be withheld in the event of cardiopulmonary arrest.[9]

Since 2004, recommendations for perioperative practitioners have been available from the American Academy of Pediatrics.[9] The recommendations relate to the duration of DNR order suspension if suspension becomes necessary and to the decision to suspend and resume DNR orders for pediatric patients during the perioperative period. DNR orders should remain suspended until the child recovers fully from anesthesia, a time period that can be variable depending on the baseline health status of the child. Generally, however, recovery should not take longer than 24 hours. DNR orders can be reinstated after the postanesthetic visit shows the patient has recovered, mechanical ventilation has been weaned, or the family and primary care physician agree to reinstate such orders. Under certain circumstances, DNR orders can also be reinstated intraoperatively, such as when arrest appears to be attributable to the child's underlying medical condition rather than an anesthetic-related effect. When pursuing the required reconsideration of an existing DNR order prior to surgery, discussion with the child's parent or surrogate should include the likelihood and type of resuscitative measures, their reversibility and chance of success, and possible outcomes. Agreement should be reached on specific resuscitative procedures acceptable to the parent or surrogate. The decision to suspend or continue DNR orders in the perioperative period should take into consideration the planned procedure (palliative vs elective), its likely benefit, and risk of compromise. After agreement is reached, the plan needs to be recorded in the medical record and communicated to the entire perioperative team. Healthcare professionals who are unable to honor the agreement need to be given the opportunity to withdraw from the case except in an emergent situation when no substitute is available.

THE ROLE OF SIMULATION TRAINING

Because of the potential for conflict, institutional policies and published guidelines aim to educate providers in how to approach difficult situations that require reconciling advance directives and ethical care. Yet policies and published guidelines often reflect ideal circumstances, and situations may arise that challenge even the most up-to-date directives. Simulation training may further serve to solidify the consistency of perioperative reevaluation of DNR orders and lead to enhanced understanding of the issues by the perioperative healthcare team members.[7]

CONCLUSION

The ethical principles of autonomy and nonmaleficence have led to the creation of the DNR order that allows patients to clearly communicate the extent to which resuscitation is acceptable. However, the DNR order can set the stage for possible conflict during the perioperative period when healthcare providers may face a moral dilemma when not performing resuscitation is perceived as doing more harm than good. Practitioners are advised to first consider what is best for the patient and, when in doubt, to communicate with

patients or surrogates and with colleagues to arrive at the most appropriate care plan. If irreconcilable conflicts arise, consultation with the institution's bioethics committee, if available, is beneficial to help reach a resolution.

ACKNOWLEDGMENTS

The authors have no financial or proprietary interest in the subject matter of this article.

REFERENCES

1. Koch KA. Patient Self-Determination Act. *J Fla Med Assoc*. 1992 Apr;79(4):240-243.
2. Scott TH, Gavrin JR. Palliative surgery in the do-not-resuscitate patient: ethics and practical suggestions for management. *Anesthesiol Clin*. 2012 Mar;30(1):1-12. doi: 10.1016/j.anclin.2012.02.001.
3. Nurok M, Green DS, Chisholm MF, Fins JJ, Liguori GA. Anesthesiologists' familiarity with the ASA and ACS guidelines on advance directives in the perioperative setting. *J Clin Anesth*. 2014 May;26(3):174-176. doi: 10.1016/j.jclinane.2013.11.011.
4. Ewanchuk M, Brindley PG. Perioperative do-not-resuscitate orders—doing 'nothing' when 'something' can be done. *Crit Care*. 2006;10(4):219.
5. Clemency MV, Thompson NJ. Do not resuscitate orders in the perioperative period: patient perspectives. *Anesth Analg*. 1997 Apr; 84(4):859-864.
6. Burkle CM, Swetz KM, Armstrong MH, Keegan MT. Patient and doctor attitudes and beliefs concerning perioperative do not resuscitate orders: anesthesiologists' growing compliance with patient autonomy and self determination guidelines. *BMC Anesthesiol*. 2013 Jan 15;13:2. doi: 10.1186/1471-2253-13-2.
7. Waisel DB, Simon R, Truog RD, Baboolal H, Raemer DB. Anesthesiologist management of perioperative do-not-resuscitate orders: a simulation-based experiment. *Simul Healthc*. 2009 Summer;4(2):70-76. doi: 10.1097/SIH.0b013e31819e137b.
8. American Society of Anesthesiologists. Ethical guidelines for the anesthesia care of patients with do-not-resuscitate orders or other directives that limit treatment. Updated October 16, 2013. http://www.asahq.org/~/media/Sites/ASAHQ/Files/Public/Resources/standards-guidelines/ethical-guidelines-for-the-anesthesia-care-of-patients.pdf. Accessed March 30, 2016.
9. Fallat ME, Deshpande JK; American Academy of Pediatrics Section on Surgery, Section on Anesthesia and Pain Medicine, and Committee on Bioethics. Do-not-resuscitate orders for pediatric patients who require anesthesia and surgery. *Pediatrics*. 2004 Dec;114(6):1686-1692.
10. Truog RD, Waisel DB, Burns JP. DNR in the OR: a goal-directed approach. *Anesthesiology*. 1999 Jan;90(1):289-295.
11. Brindley PG. Perioperative do-not-resuscitate orders: it is time to talk. *BMC Anesthesiol*. 2013 Jan 14;13:1. doi: 10.1186/1471-2253-13-1.

This article meets the Accreditation Council for Graduate Medical Education and the American Board of Medical Specialties Maintenance of Certification competencies for Patient Care, Medical Knowledge, and Professionalism.