Management of Perioperative Do-Not-Resuscitate Orders:
The Implementation and Evaluation of a Guideline to Increase Awareness and Acceptance

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Capstone Project
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ABSTRACT

Introduction: In 1993, the American Society of Anesthesiologists (ASA) developed ethical guidelines stating that automatic suspension of do-not-resuscitate (DNR) orders in the perioperative period does not support a patient’s rights to autonomy and self-determination. A patient’s DNR status must be reconsidered prior to anesthesia care. Although ethical guidelines have been in place for nearly two decades, considerable uncertainty remains regarding the implementation of DNR orders in the perioperative period.

Methods: A literature review was performed to obtain information regarding current practices, attitudes, and beliefs related to perioperative DNR orders. A survey was administered to anesthesia providers to assess their knowledge about current policies and beliefs on perioperative DNR orders. A guideline was developed using information from the survey results and the literature review. The usefulness of the guideline was then evaluated.

Results: Over half (55%) of the anesthesia providers surveyed believed there was no policy for perioperative DNR orders, or were unsure if a policy existed. Over three-fourths (77.7%) of the anesthesia providers that knew of a perioperative DNR policy at United Regional Health Care System (URHCS) believed it was one requiring routine suspension of DNR orders. Fifty percent of the providers surveyed believed a patient’s wishes to remain DNR should be respected in the perioperative period, and 50% believed surgery should be cancelled based on an active DNR status. Over 80% of the providers who offered feedback on the guideline believed it to be very useful/informative.

Conclusion: The implemented guideline for managing perioperative DNR orders was found to be very useful/informative. Its continued use as a teaching tool and reference guide will aid anesthesia providers in the care of DNR patients.
PART ONE

Introduction

Do-not-resuscitate (DNR) orders are popular and well accepted in hospitals across the United States. A patient’s DNR order indicates that in the event of cardiac or respiratory arrest, resuscitation efforts are to be withheld. It is instituted by a physician and recorded in a patient’s medical record.

Approximately 15% of patients presenting for surgery have a pre-existing DNR order.¹ Prior to the 1990s, DNR orders were automatically suspended for the perioperative period and immediate post-operative period.²,³ In 1993, the American Society of Anesthesiologists (ASA) developed guidelines stating that automatic suspension of DNR orders in the perioperative period is unethical and does not support patients’ autonomy and rights to self-determination.⁴ According to the ASA, DNR orders and advance directives must undergo reevaluation prior to anesthesia and surgery. The American Association of Nurse Anesthetists (AANA), Association of Perioperative Registered Nurses (AORN), and American College of Surgeons (ACS) developed consensus statements agreeing with the ASA’s guidelines.⁵,⁶,⁷ Although practice guidelines have been in place for nearly two decades, considerable apprehension and opposition remain regarding the implementation of DNR orders in the perioperative period.⁸ The purpose of this research project is to review current literature and professional guidelines regarding the ethical management of DNR orders in the perioperative period. In addition, a guideline for managing perioperative DNR orders was developed to increase acceptance and awareness among anesthesia providers at United Regional Health Care System (URHCS) in Wichita Falls, TX.
Overview

The following project presents a review of literature regarding the management of DNR orders in the perioperative period and a translation of the findings into practice recommendations. After surveying anesthesia providers at URHCS about managing DNR orders in the perioperative period, an intervention emerged in the form of a perioperative guideline that can be used as a reference for anesthesia providers caring for patients with pre-existing DNR orders.
PART TWO

Literature

Background

Cardiopulmonary resuscitation (CPR) by closed-chest massage was developed in the early 1960s. At first, only patients who experienced cardiac arrest in the operating room (OR) received CPR. Eventually, the practice of CPR spread to all areas of the hospital and it became routinely performed on any patient who suffered cardiac arrest. Indeed, the institution of CPR for cardiac arrest restored physiologic stability, but it also increased patient suffering. In the late 1960s, literature was released that emphasized the pain and suffering terminally ill patients experienced after multiple resuscitations that only delayed their death. Without legal or professional standards to follow, hospital staff became the decision makers on who should be fully resuscitated and who should not. They would refuse to call a “code blue,” or they would perform a “slow code” on patients they believed should be allowed to die. This practice led to controversy between health care workers and the public. Concerns arose regarding insufficient documentation, physician liability, and the fact that patients and their family members were not included in the resuscitation decisions. As a result, the DNR order was created.

In 1974, the American Medical Association (AMA) became the first professional organization to suggest that DNR orders be documented in the patient’s medical record and communicated to all health care workers caring for the patient. The AMA stated, “CPR is not indicated in certain situations, such as in cases of terminal irreversible illness where death is not unexpected.” In 1976, two Boston hospitals developed formal policies that described the process for implementing DNR orders. Explicit policies regarding DNR orders promoted
patients’ rights to self-determination and provided structure to healthcare workers dealing with resuscitation decisions.⁹

In 1983, the President’s Commission for the Study of Ethical Problems in Medicine published a report that stated patients had a right to receive full resuscitative efforts, unless there was documentation of their wishes that stated otherwise.¹¹ In essence, CPR became the only medical treatment that required an order to prevent it. The report also stated patients had a right to “forego treatment and allow death to occur.”¹¹ The report signified a bioethical revolution in healthcare decision-making.

Prior to the 1990s, routine suspension of DNR orders in the perioperative period was standard practice.²,³ This seemed reasonable; the basic fundamentals of anesthesia involve resuscitation and ensuring cardiopulmonary stability. However, in 1990, congress passed the Patient Self-Determination Act (PSDA) that stated that all patients have the right to make decisions regarding their healthcare.¹² The PSDA also emphasized that patients have the right to refuse medical treatment and create an advance directive to outline their end-of-life wishes. Following the passing of the PSDA, the automatic suspension of DNR orders in the perioperative period came into question.²,³,¹³ There were major concerns that patients were giving up their autonomy and right to self-determination in order to undergo surgery. The ASA responded to the concerns by developing “Ethical Guidelines for the Anesthesia Care of Patients with Do-Not-Resuscitate Orders or Other Directives That Limit Treatment.”⁴ To summarize, the guidelines state:

- Policies requiring automatic suspension of DNR orders in the perioperative period do not support a patient’s rights to self-determination and should be reviewed and revised.
• A patient’s DNR order and/or advance directive must be reevaluated with the patient or surrogate decision maker prior to procedures requiring anesthetic care.

• After being reevaluated, the status of the directive should be made clear or altered based on the patient’s preferences. Suggested alterations are discussed below.

• Any discussions or alterations should be documented in the patient’s medical record.

One alternative suggested by the ASA is full attempt at resuscitation. With this option, the patient chooses to suspend their DNR order for the perioperative period. Full resuscitation will occur in surgery and in the post-anesthesia care unit (PACU), regardless of clinical situation.

The second alternative outlined in the ASA guidelines is a limited attempt at resuscitation with a procedure-directed approach. Resuscitation orders that are procedure-specific state that the patient wishes to be fully resuscitated, with the exception of certain interventions. This option usually consists of a form with a list of resuscitative interventions. The patient places checkmarks by the interventions they wish to refuse. Other than the interventions marked, full resuscitative measures are taken. For example, a patient may wish to receive life saving medications, but may refuse chest compressions or defibrillation. It is important for the anesthesia provider to convey to the patient that certain interventions listed on procedure-specific DNR orders are an imperative part of anesthetic care, such as airway management and intravenous fluids. Refusal of such interventions is inconsistent with surgery and anesthesia.

The third option listed in the ASA’s guidelines is limited attempt at resuscitation with a goal-directed approach. By choosing this option, the patient agrees to resuscitative efforts during the perioperative period only if the unfavorable clinical events are believed to be both temporary and reversible in the judgment of the anesthesia providers and surgeons. The patient and/or
surrogate decision maker must trust the judgment of the anesthesia providers and other caregivers to use resuscitative measures appropriately based on the patient’s goals and values. Also, this option requires an extensive preoperative interview and a thorough understanding of the patient's wishes and goals by the caregivers.

**Review of Literature**

A database literature search regarding perioperative DNR orders took place between April 2013 and June 2013. The databases searched were MEDLINE, PubMed, and Google Scholar using the key terms and phrases: perioperative do not resuscitate orders, do not resuscitate, surgery, advanced directives in surgery, and guidelines for DNR policies. Non-English languages were excluded. The evidence retrieved dated from 1974-2013. The majority of the evidence included qualitative studies, such as surveys, questionnaires, and interviews. Other literature retrieved included case studies, reviews of evidence, and practice suggestions. The ASA’s guidelines were consulted, as well as position statements from various other professional organizations.  

(Table 1, Appendix A)

Although the ASA published practice guidelines two decades ago, a review of the literature suggests anesthesia providers and surgeons are hesitant to implement DNR orders in the OR. Advanced practitioners feel an obligation to intervene when a patient experiences cardiac arrest. Reasons may include a desire to save the patient, the considerable resuscitation skills and training they possess, the time, energy, and money invested into the planned surgery, worries that the surgery itself or the administration of anesthetics caused the cardiac arrest, and even the desire to keep the OR functioning smoothly. Clearly, implementing DNR orders and withholding resuscitation is complicated in the perioperative setting. In fact, the surgical setting
is described as the “last bastion of resistance to acceptance of DNR orders.” Evidence in the literature indicates resistance may stem from numerous sources, such as vague and unclear institutional policies, provider beliefs, legal concerns about the DNR order itself, and the multiple factors associated with the unique setting of the OR.

**Inadequate Institutional Policies**

Vague policies and lack of staff awareness are major factors contributing to the apprehension associated with implementing perioperative DNR orders. Policies may not state, and providers may not know, there is an option to implement DNR orders. Frequently, anesthesia providers are unfamiliar with their institution’s policy regarding perioperative DNR orders and simply assume they are automatically suspended in the perioperative period. In 1993, Clemency et al. surveyed 193 anesthesiologists regarding perioperative DNR orders. Nearly two-thirds of anesthesiologists (60%) assumed automatic suspension of DNR orders in the surgical setting. In 2000, Coopmans and Gries surveyed 228 Certified Registered Nurse Anesthetists (CRNAs) to determine their level of awareness of perioperative DNR orders. Forty-nine (21.5%) of 228 respondents had no institutional policy addressing perioperative DNR orders and 52 (22.8%) of 228 respondents were unsure of their institution’s policy. Also, many providers are unaware of the ASA’s guidelines requiring reconsideration of DNR orders in the perioperative period. In a 2009 study, Waisel et al. assessed perioperative reconsideration of DNR orders and found that only half of the anesthesiologists involved were familiar with the ASA’s guidelines requiring reconsideration of DNR orders. Also, Coopmans and Gries reported 85 (67.2%) of the 127 respondents with a policy addressing DNR orders described one of routine suspension of perioperative DNR orders. The study results demonstrate a need for provider awareness, education, and policy revision regarding perioperative DNR orders.
**Provider Beliefs**

Apprehension to implementing perioperative DNR orders may also be due to the beliefs of the anesthesia provider.\(^{14}\) Anesthesia providers tend to believe that DNR orders conflict with the administration of anesthesia care.\(^{8,14}\) After all, the assurance of cardiopulmonary stability in the OR is the primary function of the anesthesia provider and is the sole reason why he or she is there. The very basic fundamentals of anesthesia involve actions that are considered resuscitation outside of the OR. For example, endotracheal intubation, positive pressure ventilation, and the administration of vasopressors are all considered resuscitative interventions. However, the ASA states that such interventions are part of routine anesthetic care and should not be considered resuscitation in the OR.\(^{22}\) Interventions such as chest compressions and defibrillation are not part of routine anesthetic care and may be excluded from care based upon the patient’s wishes.\(^{22}\)

Anesthesia providers are not alone in their beliefs; surgeons, too, find that DNR orders conflict with goals of surgery and anesthesia. In a 2013 survey of 384 surgeons, anesthesiologists, and internists, 55% believed it was illogical for a patient with DNR orders to have a surgical procedure that requires an anesthetic.\(^{23}\) Another survey found that 54% of surgeons performing high-risk operations would refuse to operate on patients with an advance directive that limits postoperative life-support.\(^{24}\) In order to provide ethically appropriate care to a patient with a DNR order, anesthesia providers and surgeons must focus less on their own personal goals for anesthesia and surgery, and shift their concerns toward the patient’s values and goals for the particular procedure.\(^{8}\)

Providers may also choose to simply ignore a patient’s DNR order. Boyd and Boudreaux reported that 34% of health care providers would resuscitate a patient with a DNR order, even if they felt the precipitating cause of the cardiac arrest was due to their disease process and 68%
would resuscitate a patient with a DNR order if they felt the cause of the cardiac arrest was iatrogenic in nature. In a 1997 interview with several terminally ill patients with existing DNR orders, Clemency and Thompson reported that patients actually find the cause of the cardiac arrest insignificant. Patients are more concerned with their readiness to die and reducing the physical, financial, and emotional burdens for themselves and their families.

Also, the anesthesia provider performing the preoperative evaluation of the surgical patient may not understand why the patient has chosen to refuse resuscitation, and he or she may not believe the DNR order is appropriate. Many questions surrounding the DNR order are unable to be answered in the brief preoperative evaluation on the day of surgery. For example, why was the DNR order written and what events lead up to the writing of it? With whom was the DNR order discussed? Also, did the clinician that wrote the DNR order sway the patient or family members’ decision? Advance directives are questionable, as well. Oftentimes, they are outdated, vague, and difficult to interpret which complicates decision making for the anesthesia provider. When taking over the care of a patient, advanced practitioners feel inclined to lean towards aggressive treatment unless they are confident they should do otherwise. Without a clear view of the events leading to the writing of the DNR order, anesthesia providers are reluctant to implement a DNR order in the perioperative period.

*Operating Room Environment*

Production pressures and time constraints are native to the surgical environment and add to the complexity of implementing perioperative DNR orders. Discussing, investigating, and resolving issues, such as DNR status, demands extra time. In addition, to fully educate the patient about every aspect of a DNR order in the OR, a lengthy, in-depth, and preferably...
multidisciplinary discussion must take place. An extensive meeting between the patient, patient’s designated decision maker, primary care physician, surgeon, and anesthesia provider on the day of surgery is nearly impossible. Ideally, anesthesia providers and surgeons would be made aware of pending cases in which there are directives limiting resuscitation days before the surgery. This would allow adequate time to address the patient’s goals and properly reevaluate the DNR order in the context of the surgery. However, in clinical practice, early notification of surgery patients with DNR orders rarely occurs.

Despite the hurried atmosphere, a preoperative discussion with the patient about their DNR status and goals for surgery is imperative. Both patients and health care providers strongly agree that a preoperative discussion about DNR status should occur. However, oftentimes no discussion takes place. In fact, only about 50% of anesthesia providers discuss perioperative resuscitation and DNR status with their patients. Redmann et al. recently surveyed 2100 randomly selected vascular, neurologic, and cardiothoracic surgeons and reported that only 52% sometimes or always discuss advance directives before surgery. Unfortunately, there is a lack of training and education regarding end-of-life discussions, and many providers find the conversation difficult. Because of this, a discussion about DNR status prior to surgery may not take place.

**Legal Concerns**

Decisions about perioperative resuscitation are also guided by legal concerns. Anesthesia providers worry that complying with a DNR order will make them liable for a patient’s death if the family changes their mind after the patient has died. However, the risk for liability is minimal for complying with a well-thought-out and appropriately documented perioperative DNR order. Waisel et al. states, “Although there is always a potential risk of liability for withholding care at
the end of life, in fact there are relatively few cases in which physicians have been sued
successfully for adhering to a DNR order, even though many patients die with such an order in
place.18 Contrarily, physicians and hospitals have been sued for resuscitating a patient against
the patient’s or family’s wishes.18

Synthesis of the Literature

Perioperative DNR orders are confusing and controversial.9,14,17,19,20,21,23,29 The AANA,
ASA, AORN, and ACS all state that automatic suspension of a patient’s DNR orders in the
perioperative period is unethical.4,5,6,7 The ASA has specific guidelines that state a patient’s DNR
status must be reevaluated for the perioperative period. Prior to surgery, a thorough discussion
with the patient about their goals and expectations for surgery is essential and
required.4,5,6,7,14,20,26,29 The details of the discussion should be documented in the patient’s
medical record, and decisions about perioperative resuscitation should be communicated with
everyone involved in the patient’s care.4,14,30 Healthcare providers in the perioperative setting
need further education and training on the ethical management of perioperative DNR
orders.19,21,28 Also, a flexible, clearly defined policy outlining the ethical management of
perioperative DNR orders is essential.16,18

Summary

The literature synthesis provided data for the development of a perioperative guideline
for the management of DNR orders. The implementation of this guideline was used as an
intervention to facilitate practice and decrease resistance to DNR orders in the perioperative
period. The guideline was also used to educate providers about the ethical management of DNR
orders in the surgical setting.
PART THREE

Intervention

A group of fourteen nurse anesthetists and six anesthesiologists provide anesthesia for nearly 10,800 patients per year at URHCS in Wichita Falls, Texas. Approximately 15% (1,620) of these patients have a pre-existing DNR order. A guideline on the management of perioperative DNR orders was designed as a reference tool for anesthesia providers to use when caring for surgical patients with a DNR order. Implementation of the guideline aims to educate the anesthesia providers regarding the ethical management of DNR orders.

Development of the Guideline

The anesthesia providers at URHCS were surveyed regarding their awareness of current policies, experience, and opinions on perioperative DNR orders. The purpose of the survey was to determine if there was a need for a guideline and education pertaining to the management of perioperative DNR orders. Information from the survey was coupled with the evidence from the literature synthesis and a perioperative guideline was developed. (See Anesthesia Provider Survey, Appendix B)

The guideline for managing perioperative DNR orders was developed based on the ASA’s “Ethical Guidelines for the Anesthesia Care of Patients with Do-Not-Resuscitate Orders or Other Directives that Limit Treatment.” It includes information on reevaluation requirements, delineation of responsibilities for reevaluating DNR orders, an outline of options, documentation requirements, time limitations for the DNR order, caregivers’ right to withdraw from the patient’s care, the role of iatrogenic disease, and resources available for assistance and contact information. A presentation was created using the background information on DNR orders in the OR and included evidence supporting the need for a guideline and staff education. The
presentation was displayed in a poster format and outlined the clinical implications of DNR orders in the perioperative setting.

Nurse anesthetists and anesthesiologists at URHCS were asked to reference the guideline when they were faced with a surgical patient with pre-existing DNR orders and then evaluate the benefits of the guideline. A follow up survey was distributed to the anesthesia providers to gather feedback about the usefulness of the guideline. The feedback was then used to make adjustments to the guideline where needed.

(See Guideline for Managing Perioperative Do-Not-Resuscitate Orders, Appendix C)
PART FOUR

Implementation and Results

Guiding Framework

The Stetler Model of Evidence-Based Practice

The model selected as the framework for the implementation of a guideline on the management of DNR orders in the perioperative period is the Stetler Model of Evidence-Based Practice. The Stetler Model of Evidence-Based Practice consists of five phases. (Figure 1, Appendix A)

Phase I focuses on preparation. In this phase, variability of practice and knowledge regarding the management of perioperative DNR orders was identified as the issue at hand. The results of the initial survey served as internal evidence and affirmed the perceived problem. Also, a desired outcome was defined: create a useful guideline for providers to follow when dealing with DNR orders in the OR. Another desired outcome was to educate the anesthesia department about current best practices associated with perioperative DNR orders. Phase I included the process of gathering relevant evidence, such as clinical guidelines and consensus statements, that directly related to managing patients with DNR orders in the surgical arena.

Phase II of the Stetler Model is the validation phase. In this phase, literature was further critiqued and determination was made as to whether or not the literature was credible. A table of evidence was created and each piece of credible evidence was graded based on the level of evidence. (Table 1, Appendix A)

Phase III is the comparative evaluation phase, also known as the decision making phase. In this phase, the literature was synthesized and a decision was made concerning the use
of the evidence for a change of practice. Stetler’s Model of Evidence-Based Practice suggests the terms “to use,” “to not use,” and “to consider use” when making a decision about using the literature. According to Stetler, “To not use means a decision to reject the findings totally, to use means to accept and thereby use the findings immediately, and to consider use means the final decision to apply the findings is delayed until additional information or internal evidence is obtained by the individual or group.” For the proposed implementation of a guideline on managing perioperative DNR orders, a decision was made to use the synthesized literature.

Phase IV of Stetler’s Model of Research Utilization deals with translation and application. This phase focused on how to implement the literature synthesized. According to Stetler, there are three ways literature can be used: cognitive, symbolic and/or instrumental. For the purpose of the guideline, the research was used cognitively on an informal group level. Cognitive use of the research was based on validation of current practices and the focus was based on increasing awareness within a group of individuals. The guideline and poster presentation were designed to help anesthesia providers better understand and appropriately manage the care of patients with pre-existing DNR orders.

**Results**

Results were collected in two stages. First, data from the initial anesthesia provider survey was analyzed to determine if there was a need for a perioperative guideline for managing DNR orders. When presented with the survey, the anesthesia providers seemed interested in the topic of perioperative DNR orders and were willing to complete the survey. Of the 21 anesthesia providers (14 nurse anesthetists, 1 resident registered nurse anesthetist, and 6 anesthesiologists), 20 responded to the survey administered (95.2% response rate). One anesthesiologist was on
vacation at the time the survey was administered. Data from the survey is presented in table 2 of
the appendix.

Ninety percent of the anesthesia providers surveyed had administered anesthesia to a
patient with an active DNR order. When asked if their anesthesia department had a policy
addressing DNR orders in the perioperative period, 11 of the 20 (55%) providers indicated either
there was no policy, or they were unsure if a policy existed. Of the providers who indicated their
anesthesia department did have a policy, 7 out of 9 (77.7%) indicated the policy was one of
routine suspension of DNR orders with patient informed. Half of the providers surveyed believed
a patient’s wish to not be resuscitated in the perioperative period should be respected. In
addition, half of the providers surveyed believed surgery should be cancelled if a patient wishes
to maintain their DNR status in the perioperative period.

One provider did not mark an answer, but instead wrote in the word “unsure” in response
to question #1: *Have you ever provided anesthesia to a patient with an active do-not-resuscitate
(DNR) order?* Providers who answered “yes” to question #2, *Does your anesthesia department
have a policy addressing DNR orders in the perioperative period?* were asked to describe the
policy in question #3. Providers who answered “no” to question #2 were asked to skip to
question #4. For this reason, there were only 11 responses to question #3.

Data was also collected from a feedback survey following the utilization of the guideline
in clinical practice. Only eleven responses were received from this survey due to the low number
of patients presenting to surgery with active DNR orders at the time of data collection. Providers
were asked to rate the usefulness of the guideline on a scale of one to five; one indicating the
guideline was very useful/informative and five being not useful at all. The majority of anesthesia
providers (9 out of 11, or 81.8%) found the guideline to be very useful/informative. One provider
rated the guideline a 3, which indicated he or she found the guideline somewhat useful, and another provider rated the guideline a 5.
PART FIVE

Evaluation

Stetler’s fifth and final phase focuses on evaluation. United Regional Health Care System does, in fact, have a policy that states a patient’s DNR status must be reevaluated prior to surgery. However, over 50% (11 out of 20) of the anesthesia providers indicated either no policy existed or they were unsure if a policy addressing the management of DNR orders in the perioperative period existed. This data showed a lack of awareness and a need for education regarding current institutional policies. In addition, half of the providers surveyed believed surgery should be cancelled if a patient wished to maintain their DNR status perioperatively. The results of the initial survey gave information that supported the need for a perioperative guideline and further education.

(Table 2, Appendix A)

The desired outcome for the implementation of the perioperative guideline was for it to be useful and informative. A feedback survey, which was attached to the guideline, served as an evaluation tool. Over 80% (9 out of 11) of providers who gave feedback believed the guideline was very useful/informative. An evaluation of the outcomes achieved reveals the implementation of the perioperative guideline was successful.

Implications

Lessons Learned

The information gained from this implementation project demonstrates a need for further education and discussion regarding perioperative DNR orders. Anesthesia providers have varying attitudes and beliefs regarding the management of perioperative DNR orders. Providing anesthesia for a patient with DNR orders or directives that limit care is a complex task and must
be taken seriously. Awareness regarding current best-practice guidelines, institutional policies, as well as personal awareness of one’s own values and beliefs, is essential when caring for a surgical patient with DNR orders. It is unethical to automatically suspend a DNR order in the perioperative period; doing so denies a patient their right to autonomy and self-determination. However, anesthesia providers are not required to sacrifice their own morals and values and may withdraw from the case if their views conflict with the patient’s goals. Communication and comprehension among all parties involved, in addition to thorough documentation, is crucial to the process of implementing perioperative DNR orders.

**Future Directions**

The implementation of this guideline has implications for further development and training in the future. People are living longer and as the population increases in age, an increasing number of patients will present for surgery with a DNR order. The guideline presented in this paper will hopefully continue to serve as a useful tool in the future for anesthesia providers caring for patients with DNR orders. Also, with the continued use of this guideline, other members of the perioperative health care team will gain knowledge and insight pertaining to the care of surgical patients with DNR orders.

**Recommendations for Future Studies**

Recommendations for future studies on the perioperative management of DNR orders would include a follow-up survey of the anesthesia department at URHCS to determine whether their awareness of best-practice guidelines and institutional policies has increased. This would aid in defining further educational needs and would indicate if the methods used to educate the anesthesia department have been effective.
References


### APPENDIX A

**Table 1. Synthesis of the Evidence**

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<th>Article</th>
<th>Year of Publication</th>
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*Level 1 – Local and current random sample surveys, Level 3 – Local non-random sample, Level 5 – Mechanism-based reasoning*
APPENDIX A

Figure 1. Stetler’s Model of Evidence-Based Practice
## APPENDIX A

### Table 2. Anesthesia Provider Survey Results

<table>
<thead>
<tr>
<th>Survey Questions and No. Responses (%)</th>
<th>Have you ever provided anesthesia to a patient with DNR order?</th>
<th>Does a policy exist that addresses DNR orders in the perioperative period?</th>
<th>Describe the policy.</th>
<th>A patient’s wish to remain DNR should be respected during the perioperative course.</th>
<th>If a patient wishes to remain DNR, surgery should be cancelled.</th>
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<td><strong>Yes</strong></td>
<td>18 (90%)</td>
<td>Yes 9 (45%)</td>
<td>Routine suspension, patient informed 7 (77.7%)</td>
<td>Strongly disagree 5 (25%)</td>
<td>Strongly disagree 4 (20%)</td>
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<td><strong>No</strong></td>
<td>1 (5%)</td>
<td>No 1 (5%)</td>
<td>Reevaluation required, patient informed 1 (11.1%)</td>
<td>Disagree 3 (15%)</td>
<td>Disagree 3 (15%)</td>
</tr>
<tr>
<td><strong>Unsure</strong></td>
<td>1 (5%)</td>
<td>Unsure 10 (50%)</td>
<td></td>
<td>Neither 2 (10%)</td>
<td>Neither 2 (10%)</td>
</tr>
<tr>
<td><strong>Strongly disagree</strong></td>
<td></td>
<td></td>
<td></td>
<td>Agree 5 (25%)</td>
<td>Agree 6 (30%)</td>
</tr>
<tr>
<td><strong>Disagree</strong></td>
<td></td>
<td></td>
<td></td>
<td>Strongly agree 5 (25%)</td>
<td>Strongly agree 4 (20%)</td>
</tr>
<tr>
<td><strong>Neither</strong></td>
<td></td>
<td></td>
<td></td>
<td>Prefer not to answer 1 (5%)</td>
<td></td>
</tr>
<tr>
<td><strong>Agree</strong></td>
<td></td>
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<tr>
<td><strong>Strongly agree</strong></td>
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APPENDIX B

Anesthesia Provider Survey

Participation in this survey implies consent to use the information provided by the survey. Names of participants will not be identifiable.

1. Have you ever provided anesthesia to a patient with an active do-not-resuscitate (DNR) order?
   _____ Yes
   _____ No

2. Does your anesthesia department or institution have a policy addressing DNR orders in the perioperative period?
   _____ Yes
   _____ No
   _____ Unsure

3. If your answer to question 2 was yes, please describe this policy by placing a mark next to the single answer that best represents the policy currently in place. If your answer to question 2 was no, skip to question 4.
   _____ Routine suspension of DNR, patient informed
   _____ Routine suspension of DNR, patient not informed
   _____ DNR status review required, patient involved
   _____ DNR status review required, patient not involved
   _____ Other:___________________________________________________
   _____ Unsure

4. A patient’s wish to not be resuscitated should be respected during the perioperative course (while under the direct care of the anesthesia team to include the post anesthesia care unit).
   _____ Strongly disagree
   _____ Disagree
   _____ Neither agree or disagree
   _____ Agree
   _____ Strongly agree
   _____ Prefer not to answer

5. During a pre-operative interview with your DNR patient, they tell you they do not want to be resuscitated if their heart stops during the perioperative period (while under the direct care of the anesthesia team to include the post anesthesia care unit). Their surgery should be cancelled.
   _____ Strongly disagree
   _____ Disagree
   _____ Neither agree or disagree
   _____ Agree
   _____ Strongly agree
   _____ Prefer not to answer
APPENDIX C

Guideline for Managing Perioperative Do-Not-Resuscitate Orders

Patients with DNR orders may be suited for anesthesia and surgery, especially for procedures that are palliative in nature.

What is the policy at URHCS for DNR orders in the perioperative period?

It is URHCS policy that DNR orders must be reevaluated and clarified prior to anesthesia care. Alterations and clarifications must be documented in the patient’s medical record. Automatic suspension of DNR orders violates a patient’s right to self-determination and autonomy. (See Policy: “Do Not Resuscitate – No Code”)

Who is responsible for reevaluating the DNR order?

The attending anesthesiologist, along with the patient’s primary physician (or surgeon). A thorough discussion with all parties involved must take place prior to anesthesia care.

What are the patient’s options?

A detailed “DNR in the OR” consent form that outlines the options listed below can be found on URHCS intranet.

- Option One: Full resuscitation
- Option Two: Limited resuscitation, Procedure-oriented: accept certain resuscitative measures but refuse others, which must be fully documented.
- Option Three: Limited resuscitation, Goal-oriented: allow the anesthesiologist and/or surgeon to decide which interventions are appropriate based on the patient’s goals and wishes
- Option Four: No resuscitation in any circumstance.

What if the cause of cardiac arrest is due to the surgery itself or the administration of anesthetics?

Very important! Discuss this scenario with the patient and document the details.

What are the documentation requirements?

An entry into the Progress Notes along with a signed order in the Physician’s Orders. Progress Notes should include: the decision making process, role of professional staff involvement, role of patient/surrogate decision maker involvement, and the data on which the decision is to be based.

When is the original DNR order reinstated?

Once the patient leaves the care of the anesthesiologist and is transferred out of the OR or PACU. Time limitations for the DNR order must be addressed and documented.

What if I don’t feel comfortable administering anesthesia to a patient with an active DNR order?

Physicians and other caregivers have the option of declining to participate in the surgery. If you believe ethical or legal consultation is necessary, contact a URHCS Compliance Officer: (940)764-8325.

Please rate this guideline (1=very useful/informative, 5=not useful at all)
College Review for Human Subjects

To: Hannah Soukup
From: Dr. Rhea
CC: Dr. Sadler & Dr. Wells
Date: 7/11/2013
Re: NURS

Dear Hannah Soukup:

Your protocol entitled, “Appropriate Management of Do-Not-Resuscitate Orders in the Perioperative Period,” has been recommended for approval by the Nursing Review Board and has now been approved by Dr. Rhea, Associate Dean of Research in Harris College, for the period of 7/11/13 – 7/11/14. Please note that any changes in the protocol will have to be submitted and recommended for approval by the Nursing Review Board and then on to Dr. Rhea. You must also report in writing any adverse events to Dr. Wells, Chair of the Nursing Review Board, and Dr. Rhea within one week of the event taking place. This letter is to verify that your study is identified as minimal risk with no high risk populations. This letter will be your proof of approval.

Best wishes with your study,

[Signature]

Dr. Rhea
Associate Dean – Research
Harris College