

CASE AND COMMENTARY

What Should an Anesthesiologist and Surgeon Do When They Disagree About Terms of Perioperative DNR Suspension?

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Abstract

This case examines perioperative suspension of a do-not-resuscitate (DNR) order during surgery. The commentary considers the appropriateness of DNR orders; types of DNR order suspension in the context of alternative anesthesia techniques; and what is required from a surgeon, anesthesiologist, and patient or surrogate to reach a decision expressing the patient's best interest. It concludes by offering communication recommendations based on joint discussion and decision sharing.

Case

A 76-year-old woman with dementia, Ms B, is brought to the emergency department after she fell at her nursing home. An X-ray reveals a left femoral neck fracture, and she is seen by an orthopedic consultant, Dr S, who recommends surgical repair.

Ms B has numerous comorbidities, including aortic stenosis and chronic atrial fibrillation (severe heart disorders that affect the heart's rhythm and overall function). To treat these conditions, she takes a blood thinner. Ms B also uses supplemental oxygen to treat her chronic obstructive pulmonary disorder. For the past 3 years, her husband took care of her at home and was her surrogate decision maker. Since her husband's recent death, Ms B's son, who lives abroad, placed her in a skilled nursing facility. Last year, Ms B's husband agreed with clinicians' recommendation that Ms B's code status should be do not resuscitate (DNR). Ms B's son, who is her current surrogate decision maker, continues to agree with this recommendation.

That night, an orthopedic surgeon, Dr O, explains via telephone to Ms B's son that surgery should be done within 24 hours to achieve the best possible outcome and that the goals of surgery are to restore Ms B's hip mobility and help palliate her pain. Ms B's son gives consent for his mother to undergo surgery in the morning.

In the morning, with surgery scheduled to begin in 30 minutes, the anesthesiologist, Dr A, meets Ms B in the preoperative holding area; she is

agitated and disoriented. Dr A calls Ms B's son to confirm her past medical history and explains that, based on her comorbidities, she is at a high risk for complications and adverse outcomes. Dr A also explains that, in many cases, a patient's DNR order is suspended during and immediately after surgery. Ms B's son seems surprised. "This is the first time I'm hearing about her being high risk. And, well, the DNR.... She's been DNR for years. Why would I suspend it now? I just talked with the surgeon yesterday about this. I thought this procedure would help reduce her pain." After a pause, Ms B's son rescinds consent for his mother's surgery.

Dr S is surprised and frustrated to learn this news. "Ms B needed this operation and delaying it will only increase her risk of mortality and other complications."

Dr A replies, "I agree that the surgical goals make sense overall. But Ms B is a sick, frail, elderly person for whom a DNR order has been appropriately in place for many years. She could die during surgery, or she could make it through but then require ventilator support and intensive care. Her son was surprised when I mentioned suspending her DNR order."

They stood together, concerned about what to do next for Ms B.

Commentary

Each year, more than 300 000 [patients over age 65](#) are hospitalized for hip fractures.¹ Unfortunately, many of these patients also have numerous comorbidities, as frailty and comorbidity increase patients' risk of falling.² Consistent with their medical complexity, 13.6% of hip fracture patients present for surgery with a DNR order in place,³ creating a variety of perioperative ethical questions that need to be addressed by anesthesiologists, surgeons, and their teams.

Why Talk About DNR Status Before Surgery?

Because the one-year mortality rate for patients who sustain a hip fracture is approximately 30%,⁴ discussing general goals of care and particular resuscitation parameters is important, especially for those patients who have not previously considered creating an advance directive. Hip fractures treated nonoperatively have dismal prognoses, with mortality rates above 80%, and complications of bed rest—including pneumonia, pressure ulcers, venous thromboemboli, and general deconditioning—are common.⁵ Recent data supports urgent surgical treatment of hip fractures, with improved 30-day mortality seen when surgical wait times are under 24 hours.⁶ Regarding anesthesia choice, spinal blocks have demonstrated reduced mortality in some studies^{7,8,9} and might also reduce sedation requirements, need for airway instrumentation, incidence of venous thromboembolism, and postoperative confusion, pneumonia, and hypoxia.^{7,8,10} American College of Surgeons and American Academy of Orthopaedic Surgeons guidelines both recommend either regional or general anesthesia and surgical treatment for patients with hip fractures.^{10,11,12}

Self-determination vs Clinical Expertise

The appropriateness of DNR orders in perioperative environments has been debated for many years. As the administration of anesthesia inherently involves resuscitative techniques, the informed refusal of cardiopulmonary resuscitation and the informed consent to anesthesia are in some ways mutually exclusive.¹³ Before the Patient Self-Determination Act (PSDA) of 1990, DNR orders were frequently automatically suspended without discussion with patients, their surrogates, or treatment teams.^{14,15,16} A seminal article by Robert Truog in 1991 exposed the inherent conflict between automatically suspending DNR orders and the PSDA.¹⁶ Truog argued for preoperative discussion of DNR order suspension followed by case-by-case decision making instead of a universal policy, suggesting that temporary informed suspension of a DNR order might be most appropriate in perioperative settings.^{16,17} American Society of Anesthesiologists (ASA) guidelines followed in 1993,¹⁷ stating that “policies automatically suspending DNR orders ... may not sufficiently address a patient’s rights to self-determination in a responsible and ethical manner. Such policies ... should be reviewed and revised.”¹⁸ With the addition of a goals-directed, limited-attempt-at-resuscitation (LAR) option in 1998,¹⁷ the ASA guidelines suggested 3 options for suspending DNR orders in perioperative settings: [full attempt at resuscitation](#), LAR with regard to specific procedures, and LAR with regard to patients’ goals and values.¹⁸ These 3 options, discussed below, still guide practice today.

Three Ways to Enact Suspension

Full attempt at resuscitation. A patient or surrogate could elect to have the DNR order suspended with a full attempt at resuscitation. This option allows not only full suspension of an existing DNR order but also the use of any indicated resuscitative methods and procedures to treat the patient in the intraoperative and immediate postoperative periods.¹⁸

Procedure-directed LAR. With a procedure-directed LAR, a patient or surrogate specifies which interventions and resuscitative measures—such as endotracheal intubation, use of vasoactive medications, positive-pressure ventilation, or electrical defibrillation—can and cannot be performed during surgery.^{15,18} Although procedure-directed LAR clearly identifies specific interventions, its inflexibility could result in clinicians withholding treatment for easily reversible conditions¹⁹ because they might feel that their hands are tied in situations in which decisions about medical or surgical interventions are being made by patients without medical or surgical expertise. For example, a patient in respiratory failure due to an opioid overdose might be treated with temporary ventilatory support and naloxone. However, if assisted ventilation is prohibited by a procedure-directed LAR, a patient’s demise would be imminent, avoidable, and likely a source of distress to an anesthesiologist whose hands are tied by the patient’s order, regardless of whether the patient really understood the clinical impact of a critical decision to preclude an indicated clinical option.

Goal-directed LAR. With a goal-directed approach, patients articulate their goals and values and rely on anesthesiologists to use their clinical judgment to determine which resuscitative measures are indicated and to interpret which measures best correspond with those goals and values in a specific surgical situation.^{18,19} This approach would permit full resuscitation for easily reversible adverse events but also allow withholding interventions that are interpreted as contrary to a patient's quality of life goals, for example, particularly if they're likely to result in major disability, prolonged dying, or subsequent unwanted life-sustaining interventions.

Regardless of the mode used to suspend a DNR order, presurgical plans should be made to indicate whether, when, and where (in a postanesthesia care unit, on a ward, or somewhere else) a DNR order will be reinstated.¹⁸ Interestingly, inpatients' DNR status is not associated with increased morbidity.³ Accordingly, the presence of an active DNR order in patients' health records should not influence their care unless an intervention is resuscitation related.

Choice Perception and Need for Education

In the case, there is discord among the anesthesiologist, surgeon, and Ms B's son, the surrogate, who believes that his mother's long-standing DNR order and his consent for anesthesia are fundamentally irreconcilable. He acts on this belief by withdrawing consent for Ms B's surgery without adequate discussion with her anesthesiologist and surgeon. While the surgeon and anesthesiologist disagree about whether imminent surgery is appropriate, most likely they are working together to support Ms B's best interests but have not yet reached agreement. A good next step for Drs A and S would be to invite collaborative discussion with her son, with the goal of explaining to him that her situation is more nuanced than the binary option he sees before him. Specifically, Ms B's son needs help seeing the 2 LAR options with partial DNR order suspension that are intermediate between the 2 extremes of surgery with complete DNR order suspension (ie, with full attempt at resuscitation) and no surgery due to maintenance of the DNR order with resuscitative attempts disallowed. Another option not currently visible to Ms B's son is proceeding with surgery while keeping the DNR order in place.

Ms B's son's perception of a lack of choices suggests that he might not fully understand clinically relevant facts about hip fractures in general or what's at stake for his mother in terms of surgical management of her injury. These and other specific points would likely be helpful focal points of discussion to make sure his consent or refusal is adequately informed.²⁰ Dr S should discuss the nature and surgical management of the hip fracture in detail with Dr A and Ms B's son, as the details of the case might influence the anesthesiologist's technique and the son's decision. For example, a displaced femoral neck fracture might require 2 hours of operating time, lateral positioning, muscle paralysis of the patient, and a large open approach for hemiarthroplasty.

However, a nondisplaced femoral neck fracture might require 30 minutes, supine positioning of the patient, no paralysis, and placement of 3 percutaneous screws, which could be performed under minimal anesthesia or with a peripheral block. Dr S should discuss risks and benefits of nonoperative and operative treatment options to help clarify goals of care for Ms B. Dr S should also explain that Ms B's risk for complications is high and why surgery is still recommended despite those risks. Drs A and S are responsible for educating their patient's surrogate and helping him cultivate understanding so that he can give informed consent or refusal for surgery and other interventions over the course of his mother's care.

Drs A and S should also consult Ms B's health record and ask Ms B's son about her preexisting DNR order—specifically, whether endotracheal intubation or electrical defibrillation is permitted. Alternative anesthesia options should also be explored, including use of positive pressure ventilation, vasoactive medications, and a regional block. Frequently, patients and surrogates are unaware of these anesthetic techniques. Explaining these options to Ms B's son could motivate his deeper and fuller understanding of her care and lead to agreement on her treatment plan—even if that plan is to perform wide-awake surgery under regional anesthesia with an active DNR order, for example. Although surgery under an active DNR order could be uncomfortable for Drs A and S, the risks and benefits of surgery in the face of no resuscitative ability should be discussed with Ms B's son and fully considered.

In this case, it is important that Drs A and S and Ms B's son all understand these facts. Recall that the health outcomes of patients with a natural history of hip fractures are extremely poor. While risk of a patient dying during surgery is real, 1-year mortality risk without surgery is 84.4%.⁵ Simply framing the treatment options as surgery or nonoperative management is misleading, as both options have significant mortality and morbidity risks. The patient (or surrogate), surgeon, and anesthesiologist must be honest, recognizing that no treatment pathway for a frail patient is without risk. If Ms B's son refuses all surgical intervention after discussing the details just considered, discussion should proceed to risks and prognosis of nonoperative management of Ms B's injury. A goals-of-care discussion would also be helpful at this time, as would a palliative medicine consultation.

Communication Recommendations

Perioperative DNR conversations are time-consuming but vital for maintaining good relationships with patients and their surrogates and for expressing respect for patients' autonomy. DNR order suspension should be examined on an individual case-by-case basis and reexamined with relevant changes in a patient's health status and clinical context.^{16,21} Complete suspension of a DNR order should never be assumed, as this assumption undermines patient autonomy.^{13,18} Although negotiating which resuscitative techniques are indicated and appropriate is typically the purview of an anesthesiologist, it is

imperative that the patient (or surrogate), surgeon, and anesthesiologist jointly discuss and share their perspectives to motivate informed and shared decision making. Ideally, discussion should occur as soon as surgery is planned to avoid surprise or conflict just prior to surgery. If the patient (or surrogate), anesthesiologist, or surgeon disagree about the terms of a perioperative DNR suspension, surgery should be delayed until effective communication is established or restored to forge consensus or at least facilitate agreement.

A patient's values and treatment goals should also be outlined in the discussion. As part of this discussion, iatrogenic and worst-case medical scenarios should be considered, as well as an appropriate length (eg, days, weeks, indefinite) of an intervention.¹³ The discussion should cover details of the operation to be performed, such as need for muscle paralysis, position of the patient, expected length of surgery, expected blood loss, and other risks and benefits of undergoing or not undergoing surgery. Perioperative DNR conversations should also include anesthesia options with attention to a patient's relevant medical history and current health state.¹⁸

A patient or surrogate might choose to maintain a DNR order, thereby prohibiting intensive care escalation or resuscitative efforts and perhaps limiting surgical intervention. Conversely, a patient might elect to suspend a DNR order entirely and allow full resuscitation attempts. In our experience, most patients opt for procedure-directed or goal-directed LAR. Combining procedure-directed LAR and goal-directed LAR is also appropriate and should be honored when a patient or surrogate selects this option.

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