**Death in the PACU: must we resuscitate?**

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**Objectives:**
- Know the ASA peri-operative recommendations for DNI/DNR
- Be better prepared to discuss peri-operative DNI/DNR with patients and their families
- Know how one’s own ethical and moral values impact patient care
- Know the concept of “Allow Natural Death”

**Case history:**
A 17 y.o. girl with end-stage metastatic osteosarcoma elects to undergo a bronchoscopy with possible bronchial stent placement under general anesthesia as a palliative intervention to relieve breathlessness. Her life expectancy is 2-3 weeks. She is under the care of a palliative care/hospice team. She has a DNI/DNR order in force.

**Questions:**
What is the purpose of a DNI/DNR order? Are there any guidelines regarding how these orders should be treated in the peri-operative period? What do the ASA guidelines recommend? As guidelines are not standards of care, how do you approach providing anesthesia care to patients with DNI/DNR orders in force? Is your approach different when dealing with minor children versus emancipated and majority aged children? What do you document in the chart?

**Case progression:**
The DNI/DNR order is suspended to allow intubation for the procedure. Examination under anesthesia shows stent placement is impossible and the procedure is aborted. After complete recovery from anesthesia, and immediately before leaving the PACU, the patient becomes unresponsive, pulseless and apneic.

**Questions:**
How would you proceed?

**Case progression:**
The cardiopulmonary resuscitation team is called. Confusion exists regarding the validity of the DNI/DNR order in this situation. BCLS is initiated while one of the surgical team consults with the family. He reports back that a full code is desired. Later in the ICU the family is appalled to see the patient intubated and ventilated with a central venous line, arterial line, multiple infusions, a foley catheter and bilateral chest drains. They demand withdrawal of treatment immediately.
Questions:
How would you handle this situation? Do the ASA guidelines provide guidance on how to proceed in this type of situation? How did the situation encountered in the ICU arise? In what ways was there a failure to communicate?

Case progression:
The information that a full code was desired was false. The conversation did not take place.

Questions:
What may have prevented the surgeon from discussing the DNI/DNR status of the patient with her family after she arrested? What do you find most difficult about discussing DNI/DNR orders with patients and their families? Would “allow natural death” (AND) rather than DNI/DNR have helped? What is AND? What do you perceive to be the pros and cons of adopting AND instead of DNI/DNR in your practice?

Discussion:
The concept of DNI/DNR arose from a desire by patients not to be kept alive by artificial means after the time when they would have died naturally. The majority of patients who opt to enact a DNI/DNR order are entering the latter stages of their lives either by virtue of age, disease or loss of function, or suffer from chronic incurable conditions that limit quality of life. It is a way of making one’s preferences for medical care known prior to the time when the patient can no longer voice them. Under Virginia law, a DNI/DNR order can only be rescinded by the person who created the order in the first place.

The ASA guidelines on peri-operative DNI/DNR orders have existed for about 20 years and are reviewed and revised by the ASA Committee on Ethics on a regular basis. Overall, they have stood the test of time. However, questions continue to be asked regarding their application which suggests that anesthesiologists are not altogether comfortable with facing end-of-life issues. Additionally, in the pediatric population when can a child participate in their own end-of-life choices? Assent for participation in a research study is required for children 7 years and older. Adult abstract cognition develops at about 8 to 9 years old. Ethical dilemmas arise when differing opinions on who should be allowed to make these decisions and when exist.

The intention of all DNI/DNR guidelines is to ensure that healthcare providers discuss with the patient how they wish to be treated should they experience cardiopulmonary collapse. This discussion should be fully documented, including nuances in care if these are requested. In the peri-operative period it is important to document if the DNI/DNR order will be suspended and if so when. Additionally, the time the order is to be reinstated (e.g. when the surgical procedure finishes, on arrival or discharge from the PACU, 24 hours post-surgery) should be recorded along with any other special provisions requested by the patient. Ideally the anesthesiologist, surgeon and OR nurse should all participate in this conversation so all OR team members understand what has been agreed to in the care of the patient. If this conversation occurs pre-operatively then it should not be difficult to decide how to respond to a cardiac arrest in the PACU. Current ASA guidelines do not mandate resuscitation in the PACU.

DNI/DNR is phrased negatively. It involves withholding care. Frequently patients and their families do not understand what it would mean to be given chest compressions, intubated, epinephrine infusions and other treatments. They only know their preferred outcome. Thus the DNI/DNR conversation may work well for clinicians who are provided with a road map of what to do in the event of cardiopulmonary collapse but it may not work well for the lay person. In 2000, the Reverend Chuck
Meyers introduced the concept of “Allow Natural Death (AND)” as an alternative to DNI/DNR. Within AND he proposed 3 levels of care: full support which includes resuscitation, intermediate support which allows interventions agreed to by the patient and their family, e.g. artificial nutrition, ventilation, and comfort support when all interventions apart from comfort care are withdrawn. Although in practice this allows the same types of intervention as the current DNI/DNR order it is phrased in a positive way. It has been criticized for being too vague in guiding clinician actions and embraced for allowing a gentler approach to the discussion of end-of-life issues than the DNI/DNR format. When using these approaches personal, professional and institutional issues all play a part.

Lastly, the ability of physicians to address and discuss end-of-life issues is essential. Increasingly medical school curricula are including how to have these conversations and the next generation of physicians should be better prepared. Physicians currently in practice who find these discussions too challenging should be offered support, counseling and education. AND has been described as gentler for patients and families. It may also be gentler on clinicians.

References:
ASA syllabus on ethics. Sections on “Perioperative DNR orders to limit resuscitation” and “ASA guidelines for the Anesthesia Care of patients with DNR orders or other directives that limit treatment”. www.asahq.org/clinicalinfo.htm

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