

Ethics of Practicing Medical Procedures on Newly Dead and Nearly Dead Patients

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OBJECTIVE: To examine the ethical issues raised by physicians performing, for skill development, medically nonindicated invasive medical procedures on newly dead and dying patients.

DESIGN: Literature review; issue analysis employing current normative ethical obligations, and evaluation against moral rules and utilitarian assessments manifest in other common perimortem practices.

RESULTS: Practicing medical procedures for training purposes is not uncommon among physicians in training. However, empiric information is limited or absent evaluating the effects of this practice on physician competence and ethics, assessing public attitudes toward practicing medical procedures and requirements for consent, and discerning the effects of a consent requirement on physicians' clinical competence. Despite these informational gaps, there is an obligation to secure consent for training activities on newly and nearly dead patients based on contemporary norms for informed consent and family respect. Paradigms of consent-dependent societal benefits elsewhere in health care support our determination that the benefits from physicians practicing procedures does not justify setting aside the informed consent requirement.

CONCLUSION: Current ethical norms do not support the practice of using newly and nearly dead patients for training in invasive medical procedures absent prior consent by the patient or contemporaneous surrogate consent. Performing an appropriately consented training procedure is ethically acceptable when done under competent supervision and with appropriate professional decorum. The ethics of training on the newly and nearly dead remains an insufficiently examined area of medical training.

KEY WORDS: medical education; invasive procedures; medical ethics.

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Performing medical procedures such as endotracheal intubation and central venous catheter insertion on newly expired patients and dying patients is a traditional training activity among physicians (Table 1).¹ Physicians have assumed the prerogative to use these bodies. Consent

for these procedures by next of kin is not commonly sought, although it is an accepted requirement for medical procedures generally.² Physicians argue that because corpses cannot have autonomy violated and families' have only limited authority over the decedent's remains, unconsented training is permissible.³ Some physicians believe that the benefit of acquiring procedure-related experience is greater than the physically inconsequential potential harms to imminently dying patients.¹ Other considerations include societal expectations for treatment of dying patients and newly dead corpses, and responsibilities of current patients, who have benefited from competent care, for the welfare of future ones.

Limited information exists describing the prevalence of training on newly and nearly dead patients. One study of 234 internal medicine residents in 3 training programs found that a third of house staff surveyed believed practicing procedures on dying patients may be appropriate, and 16% had actually done so.¹ Descriptive reports in the medical and bioethics literature suggest that this practice is widely known in medical education.^{2,4-6} In fact, in 2001 the Council on Ethical and Judicial Affairs of the American Medical Association issued recommendations for policy on training with newly deceased patients.⁷

The essential ethical dilemma is how to weigh the moral goods of having well-trained physicians in society against the need to respect persons, to minimize patient harm, and to maintain public trust. More specifically, the use of patients purely for training activities lies at the confluence of 3 important concerns: it offers no direct patient benefit, is not constrained by patient consent, and often occurs surreptitiously. Training on the newly and nearly dead is reviewed here within the framework of current ethical standards for respecting patients' and families' rights, and is evaluated against the moral rules and utilitarian assessments manifest in other perimortem practices. In our discussion, we do not distinguish between minimally invasive and more than minimally invasive procedures because this distinction is peripheral to the central ethical consideration of consent. The term *dead* refers to death by heart-lung criteria, except where otherwise specified.

Practicing Procedures on Nearly Dead Patients

Discriminating between medical interventions used for treatment and those used for training or practice is not always straightforward. One element is determining when an arresting patient becomes dead. Patients failing cardiopulmonary resuscitation (CPR) are generally accepted as dead when the resuscitating physician determines that the arrest is irreversible. There may be significant disagreement among physicians regarding when this point is

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Table 1. Invasive Procedures and Peri-arrest Training

Endotracheal intubation
Central venous catheterization
Peripheral venous catheterization
Pulmonary artery catheterization
Thoracentesis
Pericardiocentesis
Temporary transvenous pacemaker insertion

reached.^{1,8} Regardless, procedures performed after this point are clearly in the realm of training. Some physicians may, unethically, extend resuscitative activities expressly to create practice opportunities.⁹

A second element is the intent of the resuscitating physician. Physicians may perform procedures during CPR that are neither expected nor intended to alter clinical outcome. Generally, these procedures should also be construed as practice (interventions applied for symbolic value are possible exceptions). Although physicians widely accept that the probabilities for surviving a cardiopulmonary arrest decline rapidly with passing minutes, physicians differ significantly in making actual determinations of when CPR becomes inappropriate.^{8,10,11} These honest disagreements often make it difficult to determine clearly whether specific procedures during CPR remain medically appropriate. Whether some late-code procedures are part of bona fide medical care or are entirely training exercises depends on the often-undiscernable motives and intent of the physician. Procedures are medical care when patient benefit is the principal intent and the likelihood of benefit falls within the realm of acceptable medical practice. Procedures are not medical care when these concerns are not primary.

Ethical standards of medical practice define as inappropriate the performance of unnecessary medical procedures on living patients without consent. Such activity violates norms of respect for self-determination and bodily integrity. Adherence to these obligations underlies public trust in health professionals.

Assuming consent is secured, nearly dead patients offer 2 advantages over the newly dead as training subjects. One is that patients dying during CPR provide the most realistic environment for practicing procedures common to CPR. For example, endotracheal intubation and placement of central venous catheters are more difficult during chest compressions. The other advantage is that for some procedures, physiological responses (e.g., fluid return during lumbar puncture and central venous catheter placement) often mark technical success. This feedback may be absent in procedures performed on dead patients. A disadvantage to trainees is the potential risk of needle stick injury in the less-well-controlled emergency environment. On balance, the definable but limited advantages are not compelling enough to override consent.

We observe that among dying patients, unindicated procedures are practiced exclusively on those receiving

CPR, because CPR protocols provide a socially and politically acceptable environment for the trainee's actions. During CPR, most onlookers (which may increasingly include family members¹²) cannot readily discern practice from treatment. Dying patients for whom a do-not-resuscitate order is written are rarely, if ever, recipients of unnecessary procedures. This observation suggests at least 2 concerns. First, physicians may be aware of the impropriety of training on the dying. Second, only dying patients for whom CPR is attempted are subjected to these procedures from which other dying patients are exempt.

Nearly dead patients are at risk for only limited physical harms pursuant to a trainee's errant procedure. The duration of the patient's suffering, if this can be known, is confined by the immediacy of death, and the degree of additional disability is often limited by poor pre-procedure status. However, nearly dead patients are unlikely to have the harms associated with physician training offset by commensurate benefit. In contrast, viable patients balance risks of serving as training subjects with the communally shared benefits of having more-proficient physicians during future illnesses. However, trainees should attempt only medically indicated invasive procedures on viable patients.

Practicing Procedures on the Newly Dead

Newly deceased bodies continue to have significant value for medical education. Within secular and rational philosophies, deceased bodies have no interests, are nonautonomous, and cannot have autonomy violated. Although corpses cannot be harmed, only physically damaged, the memories of deceased persons held by others may be violated, and actions against the corpse may offend observers. The absence of harms to patients in conjunction with the benefits from training opportunities support training procedures independent of family consent. We note, however, that many advances in training mannequins and computer simulators increasingly narrow the relative advantages of using corpses.¹³⁻¹⁶

However, several other considerations qualify use of the newly dead. Within some religious and cultural belief systems, the spirit or soul of the newly dead may be harmed or disturbed by postmortem bodily invasions. Other requirements that could possibly be violated by postmortem training include rapid burial, burying the corpse whole and undisturbed, and protecting the dignity of the corpse.

Respect for the corpse is a duty of physicians found in common practice, and described in bioethical discourse and in numerous professional policies and position statements.¹⁷⁻²² However, the notion of respect may, but does not necessarily, preclude training on corpses. One bioethicist views "postmortem practice as the ultimate respect for the corpse," because it honors the memory of the person represented by the corpse through an act of great social value.³ An alternate view is that corpses are

