

# 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.

J GEN INTERN MED 2002;17:774-778.

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).<sup>1</sup> 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.<sup>2</sup> Physicians argue that because corpses cannot have autonomy violated and families' have only limited authority over the decedent's remains, unconsented training is permissible.<sup>3</sup> Some physicians believe that the benefit of acquiring procedure-related experience is greater than the physically inconsequential potential harms to imminently dying patients.<sup>1</sup> 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.<sup>1</sup> Descriptive reports in the medical and bioethics literature suggest that this practice is widely known in medical education.<sup>2,4-6</sup> 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.<sup>7</sup>

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.<sup>1,8</sup> 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.<sup>9</sup>

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.<sup>8,10,11</sup> 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 members<sup>12</sup>) 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.<sup>13-16</sup>

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.<sup>17-22</sup> 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.<sup>3</sup> An alternate view is that corpses are

disrespected if used for purposes not anticipated by the decedent.

Although many obligations of physicians end when the patient expires, other obligations persist. Often, respect for patients requires respect for the family, because an individual's sense of self is shaped by the shared religious, cultural, and moral beliefs of the family system, and by the intimate relationships within social nests. Before death, families are often active participants in treatment decisions, offer the patient emotional support, and provide actual physical care. After death, physicians have an ethical obligation to treat the patient's remains in accordance with patient or family wishes. Legally, families have a limited property right in the corpse.<sup>23</sup> Abrogation of these responsibilities may offend the family, and undermine generally held faith in physician fidelity. Deference to family may not be a barrier to medical training. Several studies conclude that a majority of persons, if asked, would provide consent for training on their newly dead relatives, including infants.<sup>24-27</sup>

### Disclosure, Truth-telling, and Consent

Our society expects its clinicians to attend to disclosure and truth-telling to a greater degree than do other societies. Clearly, procedures on living patients require informed consent as discussed above. Even after death, formal consent from a surrogate is required for medical procedures such as organ donation and autopsy, and for disposition of the body. These precedents suggest the need for consent for nonindicated training procedures. Serious societal interests may supercede consent for postmortem procedures such as autopsies in criminal investigations (and family members are aware of these examinations), but no public consensus exists regarding appropriating bodies for physician training. Furthermore, formal consent is required for harvesting cadaveric organs, despite the great public benefit they offer. Untoward effects of unconsented practice on the newly dead may include further disenfranchisement of minority families who, when asked, tend to consent to training less often than do whites.<sup>25,28</sup>

Even if issues of family fealty as a basis for requiring consent are set aside, there are at least 3 additional arguments in support of formal consent. One is a pragmatic concern. Should family members learn of a gratuitous procedure, trust in their community health facility and physicians may be damaged. Furthermore, public awareness of this practice might damage trust in the health care system and compromise physicians' claims of professional integrity.

Second, requiring consent promotes security for the living. Our society's norms of upholding the patient's prior wishes (e.g., honoring wills) ensure order in society and promote comfort in the present through assurances about the future regarding the treatment of remains and the welfare of heirs. Regard for family bonds also helps to maintain social order. It follows that deference to the

family's wishes regarding the handling of the deceased is appropriate, absent patient instructions.

Third, society authorizes the practice of medicine (a public and societal activity) and provides the normative setting that defines the scope of ethical medical practice (a reflection of collective moral and social values). It is insufficient for the medical profession alone to allow unconsented practice on newly and nearly dead persons. Goldblatt notes that "democratic societies do not permit private individuals to determine what the societal responsibilities of other individuals are and how they are to be met."<sup>29</sup>

If consent is a criterion, might it simply be implied through a patient's acceptance of admission to a teaching hospital? Available evidence finds public opposition to this suggestion.<sup>26</sup> Moreover, emergency hospitalization precludes choice of facility, and health insurers may stipulate location of inpatient care. Some patients choose academic hospitals with the expectation of more highly expert care. Patients may not be aware of all the implications of choosing an academic hospital, and physicians at nonacademic facilities also may practice to maintain skills. Simply expiring in a teaching hospital does not substitute for consent for any established postmortem activity and should not apply to practicing nonindicated procedures.

The degree to which patient consent is informed is inadequate in many circumstances. For example, we seriously doubt that patients who are a trainee's first subject for a procedure are informed of this fact. This information is material to meaningful informed consent. We suspect that full disclosure is generally not offered because the greater likelihood of consent refusal would thwart the important goal of physician training. One may argue that the absence of objections by physicians or the public to imperfect informed consent for treatment suggests that a lesser quality of consent is acceptable for practicing procedures on a dying patient, given the parallel concerns in consent refusal and the need to train physicians, and also because physical harm is inconsequential in this setting. However, acceptance of inadequate consent should not justify unconsented medical procedures. Rather, current informed consent practice ought to be viewed as a deficient baseline from which more meaningful disclosure and greater transparency of operations should be pursued.

As mentioned above, studies suggest a majority of the public may consent to training on their newly dead relatives. However, significant barriers to consent exist. Many laypersons support the use of advance directives for postmortem medical training, similar those used for organ donation.<sup>26,27</sup> However, experiences with organ procurement suggest that, in fact, prior consent would have little effect on using these corpses for training.<sup>30</sup> Discussions with family members for consent may cause additional emotional distress.<sup>24,28</sup> Health professionals making the request may have greatly varied levels of comfort with this role.<sup>24,28</sup> Specific training may be needed for physicians



who make postmortem requests of families.<sup>31</sup> Cultural concerns that may limit cadaveric organ donation, such as fear of angering or causing suffering for the spirit of the deceased, or reservations about mutilation of the corpse, may similarly limit consent for postmortem training.<sup>32-34</sup>

Should consent requirements be rejected? In consequentialist constructs, where some individual interests are subjugated to larger interests, the use of corpses for training purposes without explicit consent can be justified. Here, possible burdens to the deceased person or family are accepted for the societal good. The use of corpses minimizes harm to living patients who otherwise would bear the burden of being training subjects. In this system, practical concerns regarding harm to living persons override concerns about damage to corpses, or the harms from offending individuals' notions of death and dying. Our Western societal norms more closely reflect an individualistic ethic than a communitarian ethic.

## Summary and Recommendations

In evaluating the competing harms and benefits of training on newly dead and nearly dead patients, we recognize informational limitations. Empiric evidence does not exist evaluating the effects of current practice on physician training and competence, or the effects on professional ethics of condoning unconsented training. There are no data on the effects of required consent on training opportunities or clinical competence. Evidence is also insufficient in describing public attitudes toward practicing medical procedures and public attitudes about requirements for consent. However, some of the above referenced data suggest significant public receptivity to training on the newly dead with consent from next of kin.

Despite these limitations in knowledge, obligations to respect persons and the normative requirements of ethical medical practice support the importance of consent for training on nearly or newly deceased patients. These imperatives are not absolute and may be subjugated to larger societal needs if physician training is sufficiently compromised by greater informed consent requirements.

We believe health care institutions are ethically obligated to maximize patient and family involvement in physician training to minimize harm to living patients and to maintain public trust. These institutions are also obligated to provide adequate training opportunities for their physicians, and to provide their communities with future generations of well-trained physicians. Serious attention to maintaining public trust requires efforts to educate the public about the workings of medical teaching facilities.

When an institution increases consent requirements and training opportunities decline as a consequence, the institution should optimize training opportunities through the use of technically advanced training mannequins and virtual reality technology in the morgue, the intensive care unit, and in the operating room. Opportunities should be

maximized to use brain-dead patients as training subjects, since these bodies offer living physiology. Unquestionably, it is desirable to better train physicians in communication skills, bereavement support, and grief counseling. Additional social and psychological support for families may facilitate consent for training activities. Public education about training concerns should be similar to education for organ donation.

Less-experienced physicians performing invasive procedures are more likely to fail or harm patients.<sup>35,36</sup> This suggests that using corpses to train physicians will minimize potential risks to living patients while advancing the important common social goods of competent physicians. The pursuit of these goods, consistent with current social norms, requires a variety of efforts. Leaders in public health and social welfare must inform and energize public discourse about postmortem medical training and organ donation. Public acceptance of presumed consent for medical training on newly dead patients ought to be explored. Advance directives to guide medical care (albeit with debatable success) have been expanded to include organ donation, and should be considered for medical training and research. Social taboos surrounding death and dying, apart from specific religious and cultural concerns, should undergo greater public examination. The medical community must continue its efforts in the areas of informed consent, disclosure, and end-of-life care.

## Conclusion

Training procedures on the newly dead, with prior patient consent or consent of an appropriate patient representative, are ethically acceptable when done under competent supervision and with appropriate professional decorum. Unconsented unindicated training procedures on still-living patients are ethically unacceptable. Unconsented procedures on newly dead patients are not appropriate according to our ethical analysis. Extending resuscitation activities solely for the purpose of medical training is ethically inappropriate. The ethics of training on the newly and nearly dead remains an insufficiently examined area of medical training.

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*The authors appreciate comments on the topic by members of the Committee on Bioethical Issues of the Medical Society of the State of New York and of the Bioethics Committee of Winthrop University Hospital, Mineola, New York.*

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