

Practicing on Newly Dead: A Type of Cadaver Simulation

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Abstract

A newly dead cadaver simulation is practiced on the physical remains of the dead before the onset of rigor mortis. This technique has potential benefits for providing real-life in-situ experience for novice providers in health care practices. Evolving ethical views in health care brings into question some of the ethical aspects associated with newly dead cadaver simulation in terms of justification for practice, autonomy, consent, and the need of disclosure. A clear statement of policies and procedures on newly dead cadaver simulation has yet to be implemented. Although there are benefits and disadvantages to an in-situ cadaver simulation, such practices should not be carried out in secrecy as there is no compelling evidence that suggests such training as imperative. Secrecy in these practices is a violation of honor code of nursing ethics. As health care providers, practitioners are obliged to be ethically honest and trustworthy to their patients. The author explores the ethical aspects of using newly dead cadaver simulation in training novice nursing providers to gain competency in various lifesaving skills, which otherwise cannot be practiced on a living individual. The author explores multiple views on cadaver simulation in relation to ethical theories and practices such as consent and disclosure to family.

Keywords

nursing, education, social sciences, simulation, cadaver simulation, ethics, religious studies, humanities

Patient safety has become the cornerstone of health care. High-quality care ensuring patient safety requires high-quality professionals to care for patients. Competence in professional skills comes from practice, but it can be unethical to practice on live patients to gain proficiency. Simulations have been identified as a superior strategy to train health care providers to gain such experiences in a controlled environment without causing any harm to patients. Sushruta, a pioneer of surgery, trained and practiced on human cadavers to gain greater understanding of human anatomy. Works of Sushruta in 600 BC have been printed in the book “Sushruta Samhita,” an oldest known surgical text book. Over 2,600 years, researchers have explored the human body through various invasive and non-invasive technologies. Enhancements in medical ethics have heavily influenced practices in health care. Modern ethics questions the feasibility of health care practices based on the ethical background. A newly dead body has to be respected, and the patient’s autonomy has to be upheld even after death. Family’s tolerance and attitude toward practicing of lifesaving skills on the physical remains of their loved one are an underexplored area. Ethically, if the patient has not granted consent for practicing lifesaving skills after death, then families’ permission has to be sought before practicing any lifesaving skills. High-fidelity mannequin-based simulation is a valuable tool for health care education, but lacks the appropriate fidelity for training various lifesaving skills (Ferrada, Anand, Amendola,

& Kaplan, 2014), whereas a newly dead cadaver is a medium to organize an in-situ training of the highest fidelity. A newly dead cadaver serves as an appropriate platform with real-life physiological realism such as flash back while inserting a central line, which otherwise is hard to simulate in a mannequin.

Nurses, in their expanded roles as practitioners, nurse anesthesiologists, and frontline caregivers, need to be prepared in their respective skill sets. Cadaver simulation can be used to train nurses in various invasive and non-invasive skills such as intravenous (IV) insertions, intubation, cricothyrotomy, central line insertion, basic life support (BLS), advanced cardiac life support (ACLS), or pediatric advanced life support (PALS) regimen. The author explores the ethical perspectives of newly dead cadaver simulation through the lens of the code of ethics for nurses by asking the following question: Can newly dead cadaver simulation be justified? The author supports cadaver simulation as much-needed supplemental practice and can be implemented with complete disclosure and proper consenting practices.

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Review of Literature

Newly dead cadaver simulation is often justified as a necessary practice for developing professional competence to provide lifesaving skills (Oman, Armstrong, & Stoner, 2002; Schmidt et al., 2004). Oman (2000) underlines the importance of examining nurse's personal beliefs such as their personal comfort in performing newly dead cadaver simulation to facilitate learning. The key factor in the popularity of newly dead cadaver simulation is related to the "affect" of simulation (dealing with a human body in practicing skills). Berger, Rosner, and Cassell (2002) make the argument that, besides "affect," newly dead cadavers also provide learners with accurate anatomical and physiological responses (e.g., fluid return), which can facilitate technical success in practice. On the contrary, Warnick (2004) suggests no difference between a computer-based simulation and a cadaver-based simulation. The realism associated with newly dead cadaver simulation wears out as the body ages. Warnick (2004) also cautions that the practice of cadaver simulation may be counterproductive, as it may drive learners to conceptualize patients as "objects" of analysis and manipulation, than as "humanbeings".

Schmidt et al. (2004) cite examples from studies suggesting that 47% to 63% of medical programs allow newly dead cadaver simulation, where consent is rarely obtained. Sometimes, newly dead cadaver simulation occurs with or without the knowledge of family members (Oman, Armstrong, & Stoner, 2002). Practices of cadaver simulation can be troublesome for both facilitators and families (Oman, 2000) in view of physical appearance and scars left on the body of deceased after simulation.

A study by Olsen, Spilger, and Windisch (1995) and McNamara, Monti, and Kelly (1995) found that 39% to 73% of family members consent for cadaver simulation. Consent is considered ethically as the cornerstone for granting fundamental rights for facilitator to carry out newly dead cadaver simulation and by showing respect to the body and autonomy of the patient (Schmidt et al., 2004). Goldblatt (1995) considers concealment of practicing newly dead cadaver simulation as unethical practice and disruption of public trust. On contrary, Orlowski, Kanoti, and Mehlman (1990) rationalize concealment of newly dead cadaver simulations, as it further burdens the mourning family for substantial social benefit with no risk.

Oman (2000) and Oman, Armstrong, and Stoner (2002) point to three cardinal factors about newly dead cadaver simulation: (a) Older adults believe newly dead cadaver simulation as an acceptable practice, (b) older adults believe that the families of newly dead should give consent for such practices, and (c) researchers have noted a positive association in their study between organ donation and newly dead cadaver simulation ($\chi^2 = 16.8$; $p = .00$). Researchers also reports 54% of senior adults support newly dead cadaver simulation, whereas 80% support the need for a consent. Oman, Armstrong, and Stoner (2002) also acknowledge a lack of

knowledge among public about newly dead cadaver simulation and its sensitive nature from the lack of opinion from 20% of participants in this study.

Some researches justify newly dead cadaver simulation (Jonsen, Siegler, & Winslade, 2002; Kaldjian, Wu, Jekel, Kaldjian, & Duffty, 1991; Schmidt et al., 2004). The concept of practicing newly dead cadaver simulation is not new to healthcare and has been practiced since past (Jonsen et al., 2002). Newly dead cadaver simulation has been used to train medical practitioners in various lifesaving skills (Kaldjian et al., 1991). In justification for newly dead cadaver simulation, Schmidt et al. (2004) cite the argument of Dr. Iserson: "dead body cannot be harmed and that it no longer has the rights of a person" (p. 963). From a Kantian view, Iserson's statement can be justified as cadaver simulation benefits the public without harming a patient by a novice practitioner. Experience gained through cadaver simulation helps practitioners to be trained in various lifesaving skills, which otherwise cannot be practiced on a living patient.

The concepts of non-maleficence and autonomy is hard to apply in the context of a "dead body," but based on nursing code of ethics, a nurse is obliged to approach the situation in view of patient and family (American Nurses Association, 2001). Although there is no non-maleficence associated with the dead, the risk of harm to the family, religious values, and rituals cannot be ignored unless total disclosure about newly dead cadaver simulation is made to families (Schmidt et al., 2004). Cadaver simulation on newly dead can be given credit for in-situ training but cannot be considered as the only alternative to train practitioners and nurses in various lifesaving skills. This can be further rationalized as a conducive situation since newly dead cadaver simulation occurs in random and unpredicted ways. In a clinical environment, practitioners and nurses are already expected to have mastered or be competent in various lifesaving skills. Lack of preparedness or competency in performing various lifesaving skills, when caring for a critically ill patient or trying to apply a new or untrained skill, may itself be considered as an act of maleficence.

Berger et al. (2002) point out the unethical practices of extended resuscitative activities expressly to create practice opportunities for learners. Rationalization for extended resuscitative activities is based on the following ground: (a) As a deceased body has no interest and is non-autonomous, corpses cannot be harmed, but only can be physically damaged, and (b) novice practitioners are more likely to result in harm and hence pose risk to patients. Perfection of skills comes from practice. Newly dead corpses are efficient way of perfecting skills in a wide variety of situations such as a code.

Viewing Ethical Arguments From a Theoretical Basis

Main ethical concepts associated with newly dead cadaver simulation are "autonomy, non-maleficence, and beneficence."

Autonomy is defined by Karlsson and Berggren (2011) as the total responsibility and total loneliness in decision making, or in the words of McCormack (2001) as the authentic consciousness in terms of sustaining life. Beauchamp and Childress (2013) explain three prominent theories associated with the concept of “autonomy.” Split-level theories of autonomy define “autonomy” as a person’s freedom to choose a second-order desire rather than pursuing the first-order (Beauchamp & Childress, 2013). A second-order desire is lesser appealing need in comparison with first-order desire, giving the person the freedom to choose. Kantian theory (Beauchamp & Childress, 2013) viewed autonomy through the lenses of rationality, according to which every rational being has a will that is legislated to the “universal law.” Per Kantian theory, every person has unreserved worth and right for autonomy. Autonomy according to utilitarian theory may be viewed as the consciousness of actions as right and wrong according to the balance of their good and bad consequences (Beauchamp & Childress, 2013).

As a living body, a patient’s autonomy has to be respected, but after death, do these same laws apply? Autonomy as per Karlsson and Berggren (2011) and McCormack (2001) and some of the prominent theories of autonomy cited by Beauchamp and Childress (2013) can be applied to a living body as it relies on a person’s will to make judgment. After death, an argument can be made in two ways: (a) “A dead body is incapable of making decision,” hence the concept of autonomy is no longer valid, and (b) “A dead body is the physical remains of living soul that had made autonomous decisions of how its physical remains have to be treated,” hence it is hard to make a definite conclusion when it comes to the concept of autonomy of a dead body.

Beauchamp and Childress (2013) identified beneficence and non-maleficence as two different ethical concepts. However, in this section, the author will discuss beneficence and non-maleficence together in relation to cadaver simulation on the newly dead. Key underpinnings of beneficence and non-maleficence include (a) not to inflict evil or harm, (b) prevent evil or harm, (c) remove evil or harm, and (d) do or promote good. Beauchamp and Childress (2013) define these key underpinnings as “thwarting, defeating, or setting back of some party’s interests, but a harmful action is not always a wrong or unjustified” (p. 153). Also “defending other’s right and removing conditions that will cause harm to others are also considered as supporting concepts to beneficence and non-maleficence” (p. 205).

Beauchamp and Childress (2013) highlight the conflict between patient autonomy and professional beneficence on a paternalistic lens. They define paternalism as

the intentional overriding of one person’s preferences or actions by another person, where the person who overrides justifies this action by appealing to the goal of benefiting or of preventing or mitigating harm to the person whose preference or actions are overridden. (p. 215)

Based on paternalistic view, an individual’s own stated preference, choices, and actions are deemed unreasonable in light of other standards the person embraces. Justification for such a paternalistic view comes from three modes of thinking as per Beauchamp and Childress (2013): (a) antipaternalism, (b) paternalism justified by consent, and (c) paternalism justified by prospective benefit. Antipaternalistic view strictly believes in “patient autonomy.” They do not support giving paternalistic authority to the state or group of physicians. All decisions are to be made by patients and have to be honored. In short, based on this view, it may not be justified to practice cadaver simulation, if such a decision has not been made by the patient before his or her death. A second mode of thinking justifies paternalism by consent. A patient can trust his or her physician to make appropriate interventions for the patient. This also explains the harmony of relationship between physician and patient and can also be seen as an autonomous decision. In this model, the physician is given the ultimate right by the patient to decide for a better quality of life for the patient. The third paternalistic mode of thinking calls for a balance between autonomy and interest. Vetoing the autonomy for one may benefit the interests of several others, but this claim lacks ethical justification on the provider’s responsibility not to marginalize their individual patient (alive or dead).

Author’s View on the Topic

Hayden, Jeffries, and Kardong-Edgren (2012) cite the need of simulation in which two are applicable to newly dead cadaver simulation: (a) lack of clinical availability for students and (b) restriction in clinical practice for students. Ensuring patient liability, safety, and ethical dilemma vacillates between the arguments of level of freedom in which students can practice on live patients. In clinical practice, perfection of skills comes with repetition, and thereby, the competency of novice practitioners may pose a risk for harming the patient (Berger et al., 2002). A dead body may not be benefited by the concept of beneficence and non-maleficence (Karlsson & Berggren, 2011). In contrast, a living body can be much benefited by an experienced practitioner where risk of error is minimal when compared with a novice practitioner. Based on an antipaternalistic view, providers may not initiate newly dead cadaver simulation if the patient has indicated otherwise, or discussion should occur before death, when patient is fully conscious. Consented paternalism justifies a physician’s ability to exercise paternalistic decision if the patient will benefit; however, it is hard to draw the boundary of this authority if it is not a rational consent. It is also hard to explain the level of a physician’s authority over the physical remains of a patient after death. Finally, the third mode of paternalistic view is the applicability of “justification of prospective benefit” in cadaver simulation. There is potential harm to a dead body, not physiologically but physically. At the

same time, this can help novice providers to gain experience in invasive procedures.

Oman (2000) explains the importance of considering personal values during cadaver simulation. The author considers autonomy as the freedom and synergy between all the parties involved. Hence, in cadaver simulations, it is important to explore the autonomy of patient, family, simulation facilitators, students, and all the other parties involved. Personal beliefs such as moral absolutes, cultural values, ethnicity, or religious values may prohibit the participation of some learners. Extended codes as described by Berger et al. (2002) have a greater potential of conflict than newly dead cadaver simulation with participant's moral and ethical absolutes. Unlike in a newly dead cadaver simulation, in an extended code, the patient is actually not pronounced dead. Extended codes for in-situ simulation training may be considered highly unethical as a body not pronounced dead is a living body.

In summation, cadaver simulation is a much-needed technique to prepare novice providers in clinical competency; however, the author believes the need of proper consenting for initiating such practices. Consent has to be initiated during admission, when the patient is in full conscious. A patient's physical remains may not have the "autonomy" as defined in health care, but a person's wish of how to be treated after death has to be honored. The consent should clearly explain what type of cadaver simulations will be implemented (for example, non-invasive simulation, invasive simulations without physical deformity of body, partial invasive with physical deformity, or a total freedom in simulation for invasive practices leading to physical deformities). Along with consenting, another important term to consider is *disclosure*. There should be a complete clarity and disclosure on institutional policy of cadaver simulation and the institution's definition for the term "cadaver simulation." On contrary, newly dead cadaver simulation should not be considered as the frontline teaching methodology, but should be more an adjunct or continuous training opportunity in view of feasibility.

Recommendations

There have been multiple studies exploring the need of "consent" for practicing cadaver simulations. There are not enough recent studies of appropriate rigor to establish a systematic process for implementing newly dead cadaver simulation. There needs to be more empirical studies to understand the benefits of cadaver simulation as a methodology for training practitioners. Benefits associated with newly dead cadaver simulations have to be compared with alternative teaching modalities such as high-fidelity computer-enhanced simulations. Need for specific guidelines in health care community needs to be assessed on procedures or skill sets that can be practiced on newly dead and the relevance of consent to these procedures. Greater public examination, disclosure, and inclusion are needed in examining social taboos

surrounding death and dying, apart from specific religious and cultural concerns.

Conclusion

Newly dead cadaver simulation is a technique that has potential benefits for providing real-life in-situ experience for providers in health care practices. A clear statement of policies and procedures on newly dead cadaver simulation has yet to be implemented. Clarity of institution's stand on newly dead simulation has to be maintained and should be available to public. Although there are benefits and disadvantages to an in-situ cadaver simulation, such practices should not be carried out in secrecy as there is no compelling evidence that suggests such training as imperative. Secrecy in these practices is a violation of honor code of nursing. As health care providers, we are obliged to be ethically honest and trustworthy to our patients.

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