Abstract

Undergraduate and postgraduate medical education entails acquiring and maintaining technical skills of various natures. Peripheral venous cannulation, splinting of fracture, wound suturing, venous cut-down and intra-osseous catheter placement for the most part, are considered minimally invasive procedures. The traditional way of skill acquisition could be summarised by the adage “See one, do one, teach one”. Although the saying may be a misrepresentation of the reality, it should not be an optional educational approach. Patients undergoing a procedure under general anaesthesia are often not informed of the possibility that they could be used for “ghost procedures” - part or whole of the procedure is performed by a trainee. An attitude of “don’t ask, don’t tell” devalues patients’ autonomy and the trainee’s moral integrity. In view of the polarisation of the views about teaching, acquiring, and maintaining technical skills, institutions should consider and deliberate on these principles and reach consensus on a set of guidelines to clarify and limit the practice of learning technical skills on patients and on the newly dead. Informed consent procedures and requirements must be clearly established and communicated. The learning and proficiency practices should be restricted to the staff that can truly benefit from the experience. The practice of ‘don’t ask, don’t tell’ is not an option.

Introduction

Undergraduate and postgraduate medical education entails acquiring and maintaining technical skills of various natures. Peripheral venous cannulation, splinting of fracture, wound suturing, venous cut-down and intra-osseous catheter placement for the most part, are considered minimally invasive procedures. Although intercostal drain placement, liver biopsy, pericardiocentesis, and central venous cannulation are not devoid of major risks, they surprisingly are also listed as ‘minimally’ invasive. Crico-thyrotomy and emergency thoracotomy are major and invasive emergency procedures.1

Accrediting bodies for Advanced Life Support (ALS) are mandating the assessment of recent experience in terms of procedures and their complication and failure rate. The acquisition and maintenance of these skills raise practical and ethical questions.

Principles of acquiring and maintaining technical skills

The traditional way of skill acquisition could be summarised by the adage “See one, do one, teach one”. Although the saying may be a misrepresentation of the reality, it should not be an optional educational approach.2 Viable alternatives include, for example, clinical mentorship, virtual simulation, and use of mannequins. Current medical education focuses on outcomes-based curricula with wide resort to multimedia simulation and standardised patients at skills labs.3,4 For instance, worldwide many anatomy courses are now taught without the use of cadavers. Contemporary mannequins are undoubtedly more sophisticated and closer to reality than they once were. Laparoscopic surgical skills and urogynaecologic techniques can be learnt in the skills lab. It is reported that learning on animal models is quick and accurate.5

However, what are missing in these approaches are the physical realities and emotional components of stress, fear, and failure in an actual clinical encounter.6,7 Real life conditions to acquire skills are encountered in clinical practice; “close to” real life conditions are met with the newly dead. Both have their specific ethical requirements.

Ethical dimensions of acquiring and maintaining skills

Technical skills, life saving or not, can be acquired in real life situations or in close-to-real-life situations (with the newly dead). In real life situations, we are dealing with competent, conscious or unconscious, adults or with incompetent children and their guardian. The undergraduate or postgraduate learner operates in settings either of community hospitals or in tertiary/teaching hospitals. In the former, the availability of senior medical personnel may be absent on a continuous basis. Moreover, patients are often unaware of the learner’s lack of skills. Most patients cared for in teaching hospitals are aware that in such settings care involves educating medical students
and physicians in training (registrars). There is evidence that a large majority of patients consent to minor procedures such as suturing of cuts/lacerations, splinting, and intravenous access after being informed that it is the learner’s first experience.8

In American teaching hospitals, for example, the patient is given a “conditions for admission” form that, if agreed upon and signed, consists of an “implicit consent” to be examined and treated by junior staff under the supervision of experienced senior personnel.9 Nonetheless, when relatively risky procedures are involved, explicit consent is mandatory.10 This policy gives the patient three choices:
1. To forgo the procedure;
2. To ask the procedure to be done by an experienced professional; or
3. To request that the trainee be actively assisted by an experienced physician.

In community hospitals, the “implicit consent” may not be part of the admission policy, and experienced senior professionals may not be available on site around the clock. In such settings, the temptation or the necessity by junior staff to proceed with procedures they are not familiar with is a reality. In spite of this, the moral duty to provide full disclosure of one’s lack of experience and fully informed consent remains imperative.

Patients undergoing a procedure under general anaesthesia are often not informed of the possibility that they could be used for “ghost procedures” where part or whole of the procedure is performed by a trainee. The most common of such procedures is endotracheal intubation. It is widely practised without informed consent and, even worse, without the thought that informed consent might be required. Some are of the opinion that if the procedure does not put the patient at risk there is no need for informed consent.11 The argument supporting this view is that it is unlikely that a “reasonable patient” would want this information to decide. The fact is that about two thirds of patients do agree to be a “teaching prop” for endotracheal intubation.12 It would not take much time and effort to ask the patient’s permission. An attitude of “don’t ask, don’t tell” devalues patients’ autonomy and the trainee’s moral integrity.

The same rules should apply to procedures practised on comatose patients. Advanced directives made by the patient not to resuscitate, to withhold or withdraw life-saving interventions must be respected, as should, in their absence, proxy decisions.

The third option is to learn technical skills on patients who have recently died. This has been a longstanding practice that has educational value.13 It should be emphasised from the outset that a number of European countries strictly prohibit the use of cadavers as ‘crash dummies’. The ethical argument hinges on two basic principles: respect for autonomy through informed consent, and respect for the corpse of recently deceased person as it represents his or her humanity. The American Medical Association’s position on teaching procedures using the newly dead recommends that informed consent should be obtained. However, the policy is nonbinding.14

A parallel can be drawn with organ donation. In countries like Belgium, France, and Israel, there is a policy for organ donation called “presumed consent”. A newly dead is lawfully seen as a potential organ donor, unless he or she did clearly ‘opt-out’ while still alive.15 In the absence of declared opting-out, a repeat consent by the deceased’s relatives is mandatory even if there is evidence of opting-in. In reality, it seems that few people have a living will that specifically makes provision for allowing their body to be used for the training in medical procedures. In that sense, the authorisation must be sought from the proxy decision-maker(s). One way to overcome the proxy’s likely objection to use the deceased body for training is to use the utilitarian argument that it would help ‘to save other peoples’ lives.

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The main argument in support of using corpses as a ‘shell’ to acquire skills is that it meets society’s expectation that healthcare professionals possess and maintain proficiency in life-saving skills. This view pits firmly entrenched principles of respect for autonomy and human dignity against the common good. According to Joel Feinberg, this view shows “a poor sort of respect” for it denies physicians the skills to keep the living from joining the dead. Iserson even goes further by saying that physicians must (his emphasis) use the newly dead. He adds that the pretence of past autonomy is stretched (too far) as it is used to prohibit the teaching of life-saving skills. He, however, restricts the permissibility of learning on corpses to “rapid, non-disfiguring” procedures. Finally, Iserson’s closing argument is that corpses no longer can be harmed.16

Iserson’s argument raises a number of issues. Granted that learning and maintaining proficiency in life-saving skills is indispensable and expected from healthcare professionals, one may wonder what kind of skills can be acquired rapidly and without disfiguring a corpse. This is because the skills mainly include intubation, central venous cannulation, cut-down, tracheotomy, and insertion of an intercostals drain. Besides intubation, all the others would leave a permanent trace and cause disfigurement of the corpse. Learning endotracheal intubation can be done in vivo in the operating theatre under the supervision of an experienced anaesthetist with the patient’s consent. If one follows Iserson’s line of argument, there is, in practice, no room for training on corpses.

One could argue that, to circumvent the argument of informed consent, one could use the corpses of forensic pathology services since no consent is required. This, however, would again limit the permissible procedures to those that are minimally disruptive, and that would be endotracheal intubation. Any disruptive, disfiguring, or mutilating procedure could interfere with pathologic evidence now and in the future (in case exhumation is ordered for additional forensic evidence).

Respect for autonomy and human dignity places strict restrictions on the possibility of using the newly dead. The utilitarian argument for the common good bears some weight as it rightfully claims that no harm can be done to a corpse (provided one limits the notion of harm to physical harm), and that it meets society’s rightful expectation that life-saving skills are thought and kept proficient. The weakness is that, given the restrictions to the type of skills that are gained, it would apply only to endotracheal intubation, which does not need cadavers to be learnt. The utilitarian position would also depend on how utility, the common good, is calculated.

In view of the polarisation of the views about teaching, acquiring, and maintaining technical skills, institutions should consider and deliberate on these principles and reach consensus on a set of guidelines to clarify and limit the practice of learning technical skills on patients and on the newly dead. Informed consent procedures and requirements must be clearly established and communicated. The learning and proficiency practices should be restricted to the staff that can truly benefit from the experience. The practice of ‘don’t ask, don’t tell’ is not an option.
References