1 Justifying Patient Risks Associated With Medical Education

2 Winston Chiong, MD, PhD - University of California, San Francisco Department of Neurology

3

4 Justifying Patient Risks Associated the Risks With Medical Education

5 Winston Chiong, MD PhD - University of California, San Francisco Department of Neurology

6

7 In the traditional view of the patient-physician relationship, physicians are obligated to
8 act in the best medical interests of their individual patients and should not compromise their
9 patients' care for the sake of third parties (persons outside this relationship). In truth, it is
10 doubtful that physicians have ever fully upheld this uncompromising standard, and more recently
11 some have advocated a balance between concern for the individual patient and concern for the
12 greater good in contexts like clinical research and cost containment.[1,2,3] But the traditional,
13 exclusively patient-centered ethic continues to exert a powerful hold on physicians' self-
14 conceptions and patients' expectations, perhaps in part because the medical profession so far has
15 failed to articulate an alternative principle to guide how physicians should weigh the claims of
16 patients and third parties.

17 Although potential conflicts between patient and public interests have been explored in
18 the literature on clinical research and cost containment,[1,2,3,4,5,6]less attention has been paid to
19 similar conflicts in medical education.[7,8] Medical students and residents, as well as fully
20 credentialed physicians learning new techniques, attain proficiency in skills by practicing them
21 in the course of patient care. For example, any physician who routinely performs an invasive
22 procedure such as lumbar puncture or central venous catheterization must have, at some point,
23 performed it on a patient for the first time. Although everyone benefits from the skills cultivated
24 by practicing on patients, few would wish to be that first patient. The *overall* care available to
25 patients in teaching hospitals is in some cases generally superior to that available in nonteaching
26 institutions,[9,10] in terms of greater access to cutting-edge interventions and the round-the-clock

27 availability of house staff. Nonetheless, when a trainee performs a procedure even though a more
28 experienced clinician is also available, this decision is not guided solely by concern for the
29 individual patient.

30 Like clinical research, medical education may expose patients to risks that are not offset
31 by the prospect of benefits to those individual patients, but instead by the prospect of benefits to
32 other individuals. Such conflicts in clinical research and cost containment reflect ethical
33 dilemmas raised by the special circumstances of high-technology, 21st-century medicine. By
34 contrast, the conflicts that arise in medical education are not specific to any time or place but
35 instead are intrinsic to medicine as a learned profession and must be faced by every physician in
36 the course of his or her training.

37

38 Risks and Deception

39 At present, these conflicts are largely hidden from patients. Trainees (in concert with
40 educators) may disguise their status or the nature of their involvement in patients' care[11,12]—in
41 part because of fear that patients will not consent to their participation but perhaps also because
42 of private worries that practicing their still-unrefined skills on patients is not justified.

43 Gawande[13] expresses skepticism that the compromises inherent in medical education can
44 be explicitly justified to patients. He reports that, as a surgical resident and the father of a child
45 born with a congenital heart defect, he insisted on having his son followed in clinic by a faculty
46 member rather than by a cardiology fellow, which led him to suggest that patients cannot be
47 relied on to participate in medical education if presented with a choice and that experiential
48 learning must therefore be "stolen" from patients without fully informed consent.

49 This conclusion should be avoided. It would be hopeless to try to train medical students

50 and residents to respect informed consent if, at the same time, the quality of their clinical training
51 depended on continually violating it. In addition to its ethical and educational pitfalls, this
52 approach may systematically expose medical trainees and academic medical centers to potential
53 lawsuits alleging fraud, invasion of privacy, breach of confidentiality, and battery.[14,15,16] While
54 patients typically prefer to have procedures performed by the most experienced hands available,
55 patients may feel more strongly about not being deceived by their doctors.[17]
56 One way to avoid the problems raised by these conflicts in medical education is simply
57 not to acknowledge them. But this does not make them go away, nor does it offer any real
58 guidance on how medical students and residents should think about their relationships to the
59 patients that they care for in the course of their training. Rather, it is important that the
60 involvement of patients in medical education can be explicitly justified in terms that in principle
61 can be addressed directly to patients.
62

63 Balancing Patient and Public Interests

64 If physicians really did refuse to ever compromise the welfare of their individual patients
65 for the sake of third parties, trainees would not perform procedures if a more experienced
66 physician were also available. But physicians would still need to learn how to perform
67 procedures—they would only lose the ability to do so under supervision, within the controlled
68 setting of a formal training program. Such a policy would not eliminate the risks associated with
69 procedures performed by physicians who are still learning, but would only add to these risks by
70 preventing physicians from acquiring the skills necessary for competent medical practice in a
71 responsible way. Ultimately, if physicians adhered to the exclusively patient-centered ethic in
72 contexts like medical education, all patients' quality of care would decrease.

73 Thus, no patient could reasonably want physicians to focus exclusively on the medical
74 well-being of individual patients, without regard for third parties. After all, every person is a
75 "third party" with respect to other people's patient-physician relationships, and in contexts such
76 as medical education, conduct within these relationships can affect the quality of medical care
77 across society as a whole. Of course, most individual patients might prefer that his or her own
78 physician is exclusively concerned with his or her welfare, and that at the same time other
79 people's physicians also keep his or her interests in mind when treating their patients. But it
80 would be unreasonable to expect anybody else to accept such an arrangement or to think that the
81 principles of medical ethics should make special exceptions for one individual's well-being but
82 not for others.

83 These considerations suggest that, in seeking an alternative principle, an important
84 consideration is whether and how it would be reasonable for all individual patients to want their
85 physicians to weigh the interests of patients and third parties, taking into account that all are
86 patients (from the perspective of the individual patient-physician relationships) *and* third parties
87 (from the perspective of other such relationships). This perspective is an application of the
88 Kantian ideal of living according to principles that the individual could also will that other
89 people should live by.[18,19] But this ethical thinking has intuitive appeal even before philosophical
90 argument. When parents teach morality to children and adolescents, for instance, it is natural to
91 invite them to imagine what the world would be like if everyone behaved (or misbehaved) in
92 some way.

93 There are good reasons for wanting physicians to be especially concerned with their
94 patients' welfare, in ways that go beyond the humane concern they have for everyone else.
95 Patients follow physicians' advice because of the belief that such advice is given for that

individual patient's benefit rather than for the benefit of strangers. Patients confide in physicians because individual patients expect physicians to keep information confidential even when (or especially when) others might profit from it. This trust has great therapeutic value and would not be possible if physicians did not give high priority to the interests of their patients. But even though physicians should give high priority to their patients' welfare, they should not give *absolute* priority. In some cases, physicians should be willing to accept compromises in the care of their patients for the sake of third parties—in particular, as in clinical research and medical education, when such compromises are necessary to sustain competent medical practice as a whole.[3]

What Can Reasonably Be Asked of Patients?

If all patients were to refuse to participate in medical education out of concern for their own health, the health of all patients would be much worse-served. Therefore, there is a shared interest and responsibility in maintaining the quality of medical care, which depends on the involvement of patients in medical education.

Some evidence suggests that medical educators and trainees have, to this point, done a poor job of honestly presenting these tradeoffs and their necessity to patients.[11,12,20,21,22] Much as with clinical research, empirical studies of patients' reasons for participating in medical education reveal a mixture of self-interested and altruistic motives,[17,20,23] and trainees appear to underestimate the extent to which patients are altruistically motivated.[23] One study suggests that a patient is more willing to consent to a student performing procedures on him or her when that patient has already established a relationship and rapport with the specific student.[24] Patients might be more motivated by the thought of contributing to a particular trainee's education than

119 by the thought of contributing to medical education in the abstract.

120 Alternatively, one concern is that proclaiming a duty to participate in medical education
121 might imply that patients do not have the right to withhold consent from procedures by trainees,
122 thereby compromising patients' rights to bodily integrity.[25] On the contrary, patients' duties to
123 participate in medical education might be compared to duties of charity, which allow for
124 considerable individual discretion about how and when those duties are discharged. There are
125 many patient and physician characteristics that could prompt a patient's legitimate refusal to
126 participate in a specific circumstance. Some patients (for instance, those with histories of sexual
127 abuse) might refuse intimate examinations by students while being willing to undergo medical
128 procedures. A particular trainee's or attending physician's self-assured manner might put off one
129 patient, while putting a different patient entirely at ease. Some parents might allow residents and
130 fellows to perform inpatient procedures on their child, while still insisting that the child is cared
131 for by an attending physician in clinic. Although patients should bear a reasonable share of the
132 burdens of medical education, this does not require them to accede to every request.

133

134 Proposals

135 Some practical measures to address these problems include general issues of mitigating
136 risk and improving communication. The risks associated with medical education can be
137 mitigated beforehand by better preparing trainees before actual procedures by using rubber
138 models, trained patients, cadavers, and computer simulations. Such risks can also be mitigated
139 during procedures with appropriate supervision, and also by ensuring the availability of
140 equipment to reduce complications, such as standardized procedure kits and ultrasound devices
141 for line placement.

142 Improving communication is crucial for ensuring meaningful informed consent; it also
143 enhances patients' satisfaction and their sense of participation in the educational process.[17]
144 Patients and trainees must share the attitude that trainees are full-fledged members of the medical
145 team, who share responsibility for patient care as well as their own learning. In outpatient clinics,
146 attending physicians should take the opportunity to discuss the place of trainees with patients and
147 to request permission for the trainee's participation at the beginning of the encounter. Such
148 discussions are not always possible on inpatient services, especially when patients are admitted
149 overnight or when multiple patients are admitted simultaneously. In these circumstances,
150 attending physicians should make efforts near the time of admission to explain to patients their
151 role in the medical team and their ultimate personal responsibility for the care that patients
152 receive under their supervision.

153 Such preliminary conversations can facilitate (but do substitute for [7,21]) more specific
154 informed consent when procedures are medically indicated. Teaching hospitals should also
155 consider systems-level changes to facilitate informed consent, such as adding text to pre-printed
156 consent forms when trainees are involved in procedures, which may serve as the beginning of
157 more detailed conversations. Although such efforts cannot eliminate the risks involved in
158 medical education, they can foster more open and, ultimately, more satisfying relationships
159 between patients and trainees.

160

161 Financial Disclosures: None reported.
162 Funding/Support: None
163 Acknowledgment: I wish to thank William Ruddick, PhD, Department of Philosophy, New York
164 University; Julia Mitrevski, MD; Lyn Aung Thet, MD, Department of Medicine, University of

165 Wisconsin; Kelley Skeff, MD PhD and Keith Posley, MD MS, Department of Medicine,

166 Stanford University; for their valuable discussion and insights. None received compensation for

167 their assistance in the development of this article.

---

[1] Ubel PA, Arnold PM. The unbearable rightness of bedside rationing: Physician duties in a climate of cost containment. *Archives of Internal Medicine* 1995;155:1837-1842.
[2] Bloche MG. Clinical loyalties and the social purposes of medicine. *JAMA* 1999; 281:268-274.
[3] Chiong W. The real problem with equipoise. *American Jounral of Bioethics* 2006;6:37-47.

[4] Fried C. *Medical Experimentation: Personal Integrity and Social Policy*. New York, NY: American Elsevier Publishing; 1974.
[5] Freedman, B. Equipoise and the ethics of clinical research. *New England Journal of Medicine* 1987; 317:141-145.
[6] Angell M. The doctor as double agent. *Kennedy Institute of Ethics Journal* 1993;3:279-286.
[7] Jagsi R, Lehmann LS. The ethics of medical education. *BMJ* 2004;329:332-334.
[8] Wendler DS, Shah S. How can medical training and informed consent be reconciled with volume-outcome data? *Journal of Clinical Ethics* 2006;17:149-157.
[9] Dimick JB, Cowan JA, Colettie LM, Upchurch GR. Hospital teaching status and outcomes of complex surgical procedures in the United States. *Archives of Surgery* 2004;139:137-141.
[10] Kupersmith J. Quality of care in teaching hospitals: A literature review. *Academic Medicine* 2005;80:458-466.
[11] Silver-Isenstadt A, Ubel PA. Erosion in medical students' attitudes about telling patients they are students. *Journal of General Internal Medicine* 1999;14:481-487.
[12] Ubel PA, Jepson C, Silver-Isenstadt A. Don't ask, don't tell: A change in medical student attitudes after obstetrics/gynecology clerkships toward seeking consent for pelvic examinations on an anesthetized patient. *American Journal of Obstetrics and Gynecology* 2003;188:575-579.
[13] Gawande A. Education of a knife. In *Complications: A Young Surgeon's Note on an Imperfect Science*. New York, NY: Metropolitan Books; 2002: 11-34.
[14] Kapp MB. Legal implications of clinical supervision of medical students and residents. *Journal of Medical Education* 1983;58:293-299.
[15] Helms LB, Helms CM. Forty years of litigation involving residents and their training: II. Malpractice issues. *Academic Medicine* 1991;66:718-725.
[16] Kocher MS. Ghost surgery: The ethical and legal implications of who does the operations. *Journal of Bone & Joint Surgery (Am.)* 2002;84:148-150.
[17] Lynöe N, Sandlund M, Westberg M, Duchek M. Informed consent in clinical training – patient experiences and motives for participating. *Medical Education* 1998;32:465-471.
[18] Kant I. *Groundwork of the Metaphysic of Morals*. Paton HJ, trans. New York, NY: Harper Torchbooks; 1964 [1785]: 80-107.
[19] Scanlon TM. *What We Owe Each Other*. Cambridge, MA: Harvard University Press; 1998: 189-247.
[20] Nicum R, Karoo R. Expectations and opinions of pregnant women about medical students being involved in care at the time of delivery. *Medical Education* 1998;32:320-324.
[21] Santen SA, Hemphill RR, Prough EE, Perlowski AA. Do patients understand their physician's level of training? A survey of emergency department patients. *Academic Medicine* 2004;79:139-143.
[22] Santen SA, Hemphill RR, McDonald MF, Jo CO. Patients' willingness to allow residents to learn to practice medical procedures. *Academic Medicine* 2004;79:144-147.
[23] Magrane D, Gannon J, Miller CT. Student doctors and women in labor: Attitudes and expectations. *Obstetrics and Gynecology* 1996;88:298-302.
[24] Santen SA, Hemphill RR, Spanier CM, Fletcher ND. 'Sorry, it's my first time!' Will patients consent to medical students learning procedures? *Medical Education* 2005;39:365-369.
[25] Waterbury JT. Refuting patients' obligations to clinical training: A critical analysis of the arguments for an obligation of patients to participate in the clinical education of medical students. *Medical Education* 2001;35:286-294.