Virtual Mentor
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CASE AND COMMENTARY
Patient Care and Student Education, Commentary 3
Commentary by Arthur R. Derse, MD, JD

Case
Dr. Harvey was admitted yesterday to the general medical service of a teaching hospital. This is his third admission in 8 months. One prior admission was, like this one, due to exacerbation of long-standing chronic obstructive pulmonary disease (COPD). The other admission was prompted by dizziness and fainting brought on by his poorly controlled diabetes. Mr. Harvey is 57 years old and African American. Management of his health is complicated by obesity and (as he confessed to Miss Rogers, the third-year medical student who interviewed him when he arrived on the unit) his continued smoking.

A chest X-ray ordered in the emergency department before Mr. Harvey's admission shows results consistent with pneumonia. Blood culture results are not back yet. Antibiotic treatment administered intravenously is indicated, but Mr. Harvey's peripheral circulation is poor and several attempts this morning to place the IV in his arms failed. Becoming somewhat irritable with the attempts, Mr. Harvey complained that, "No one in this place can ever find my veins."

Dr. Gage, the senior resident, decides that a subclavian central line should be placed to gain intravenous access. Then antibiotics, fluids, and other medications, if needed, can be easily and effectively administered without continuing to poke at Mr. Harvey's peripheral veins.

Dr. Gage is supervising 2 third-year medical students who are in week 6 of their 8-week internal medicine rotation. The students are Mr. Crane and the previously mentioned Miss Rogers who has interviewed Mr. Harvey. Dr. Gage has established good working relationships with both students, who are highly motivated and competent. Dr. Gage takes her role as educator seriously and wants to be confident that students gain the experience and, to the extent possible, the skills they should while under her supervision.

Mr. Crane has successfully placed central lines on several occasions during his rotation. Miss Rogers has been unsuccessful on 2 attempts with different patients. Each time Dr. Gage stepped in (using her 3 sticks and you're out rule). For a couple of reasons, Mr. Harvey is a good patient for Miss Rogers next attempt. His condition is not emergent; he is accustomed to the teaching hospital routine, and has taken Miss Rogers' into his confidence. He considers her to be "on his side." On the

other hand, his obesity makes the procedure more difficult than usual. Because of his multiple health problems, complications, should Miss Rogers' puncture his lung, would be life-threatening. He is already irritable about the inability of those at this hospital to "find his veins." Mr. Harvey is a Medicaid patient, and Dr. Gage is sensitive to the potential for Medicaid patients to shoulder more than their share of student and intern "practicing." Were she acting solely as clinician and not as educator, Dr. Gage would ask Mr. Crane to place the line.

Miss Rogers knows that she should succeed at placing a central line before completing her internal medicine rotation, and time is running out. She is on her way in to inform Mr. Harvey about the procedure and its risks and to obtain his consent for it. She identified herself as a student when she first introduced herself and interviewed him. They seem to communicate well. If Dr. Gage asks her to attempt to place the line, she wonders, how much will she have to tell Mr. Harvey about her past attempts. When she goes into Mr. Harvey's room, he is chatting with his grown daughter who has just arrived to see what's going on with her father.

Commentary 3

If today's medical trainees do not learn techniques such as medical interviewing, physical examination, and medical and surgical procedures through practice with real patients, not only will these trainees lack the necessary training, but tomorrow's physicians will not have the skills to care for all of us. Nonetheless, patients should not have trainees practicing these procedures without their knowledge and consent.

This case raises 3 important issues: Under what circumstances should a trainee be allowed to practice a technique? What should be disclosed in order for a patient, or patient representative, to give adequate consent? How can the burdens of medical training be distributed equitably among patients?

First, under what circumstances should a trainee practice a technique on a patient? Trainees should practice a technique in cases where the danger from their mistakes does not pose more than a minimal incremental risk over the inherent risk to the patient. Where the risk is minimal (eg, the patient is stuck with a needle for an IV without success and has additional pain from the attempt), there should be no impediment to a trainee who has been properly educated in the procedure being permitted to practice the procedure, even without supervision.

Where the inherent risk of the procedure is moderate (eg, placing a central line in someone with normal clotting abilities, with the risk of internal arterial bleeding or pneumothorax, with resolution of the complication possible by pressure or chest tube insertion) and there is minimal incremental risk in placement by an inexperienced individual, the procedure should be closely supervised. These complications can happen in the best hands, and the minimal incremental risk at the hands of a trainee should be permitted.

When the inherent risk of the procedure is severe (eg, intubation, with inherent risks of anoxia if the patient is not properly intubated), even with minimal incremental risk in attempts by inexperienced trainees, supervision should not only be close, but the trainee must have sufficient experience in other patient care knowledge and experience to warrant the intervention (eg, animal and mechanical model training or successful attempts in patients who are ideal candidates under optimal circumstances).

In the case of Mr. Harvey, the risks of placing the central line as described above are moderate, assuming that Ms. Rogers has been properly educated in the procedure, these attempts may be judged to be a minimal increment over the normal risks of the procedure, and hence permissible.

The second question is what should be disclosed to the patient? Certainly, most patients who come to teaching hospitals are aware that there are medical students, residents, and fellows in the hospital who are being trained in medicine and its subspecialties. Admission forms that patients sign explain that they may be treated by these trainees. Whether there is a legal requirement that the trainees identify themselves as trainees (and inform the patient that they are still learning the procedure) is not a settled question. Certainly the law of informed consent requires that physicians inform patients of the material risks inherent to the proposed procedure, though, in almost all jurisdictions, physicians who have been trained and are in practice are not legally required to disclose their past experience or "batting average" in order for consent to be informed.

Nonetheless, should the ethical standard be different? If the trainee is inexperienced in the procedure, this should be disclosed. Beyond the basic fact of inexperience, there should be no ethical mandate to disclose past experience with the procedure, though certainly if a patient or anyone else specifically asks the physician about his or her experience, the physician should answer truthfully. And trainees should identify themselves to patients in all circumstances. In this case, the trainee, Ms. Rogers should and did identify herself as a student.

Third, how can the burden of training be born equitably? Mr. Harvey is African American and a Medicaid patient, and care must be taken to make sure that patients in a teaching hospital are not selected inequitably for teaching practice. This is why all patients in a teaching hospital should be eligible for trainees practicing procedures.

It should be noted that studies have shown that patients do not get inferior care because they are being treated at a teaching hospital, and many state-of-the-art treatments are developed and provided at teaching hospitals. Nonetheless, patients may prefer to forgo treatment by trainees. If the patient expresses this preference, it should be dealt with honestly. Some institutions may not offer patients the choice to refuse.

In this case Dr. Gage thinks that were she acting solely as a clinician, and not as an educator, she would ask the more experienced and successful student to place the line. I would argue that if Dr. Gage were truly acting solely as a clinician who wanted the best for her patient, she would forgo both students for her own, more experienced, hand, since it is more likely that Dr. Gage with her experience, would be successful more often than Mr. Crane. Yet, just because Mr. Crane has been successful, he may not yet have learned how to avoid mistaken placement of the line. And without practice, Ms. Rogers will have no more experience and will be unable to perform the procedure when the next patient needs it, and at some point in her training, a patient will need it emergently and she will be the only one available immediately. And that patient would be better off with a well-trained physician. Finally, because Mr. Harvey has poor peripheral veins, he could well be the next patient needing a well-trained physician.

Should Ms. Rogers inform Mr. Harvey that she is inexperienced and learning the procedure? Yes. How much should Ms. Rogers tell him about her past attempts? Nothing, unless he asks, and then she should answer truthfully. Since she is a student, her past attempts are no indication of her future performance. She is learning to avoid her past mistakes.

Arthur R. Derse, MD, JD is a senior consultant for Academic Affairs, Institute for Ethics, of the American Medical Association and associate clinical professor of Bioethics and Emergency Medicine, at the Medical College of Wisconsin in Milwaukee.

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