

Presidential Address

Mentoring Surgeons for the 21st Century

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Background: Effective mentoring is especially critical in the training of surgeons. The practice of surgery in the 21st century is changing rapidly at every level, requiring a more complex approach to mentoring young surgeons.

Methods: This article draws on the author's own experiences in mentoring surgeons at a large tertiary care cancer treatment center and on published reports of successful mentoring strategies at other institutions.

Results: Besides clinical and surgical skills, surgical trainees must acquire a broad range of technical, interpersonal, administrative, and research skills. The 21st century brings special demands, including changing treatment patterns, increased diversity in trainees and in patient populations, restrictions on how we train our students, increased concerns about patient privacy, and an aging population. Besides the classic mentor/mentee relationship, different models of mentoring, including mosaic mentoring and collaborative mentoring, are being used to address these issues. Successful mentoring programs occur in institutions that maintain a culture that actively supports mentoring.

Conclusions: New approaches to mentoring can successfully meet the diverse needs of surgical trainees in the 21st century.

Key Words: Mentors—Surgery—Mosaic mentoring—Leadership—21st century.

Effective mentoring is an essential element in the development of physicians in any field, but perhaps especially so in the field of surgery. Surgeons have an extraordinary relationship with their patients, who approach us at a time when they are made most vulnerable by fear and who provide the most intimate access to their bodies.

Many prominent surgeons of today look back with gratitude on a traditional mentor/mentee relationship with a single individual, who served as a teacher and role model for clinical and surgical skills. Although these skills will always form the

core of surgical training, 21st century medicine brings with it the requirement for a diverse range of technical, interpersonal, administrative, and research skills. Surgeons are increasingly a part of multidisciplinary treatment teams, are involved in research projects, or are participants in large clinical trials. Their patients come from a dizzying array of ethnic and cultural groups, each of which may pose specific problems in communication and have specific differences in disease susceptibility or treatment effects. The patient population as a whole is getting older, and relatively little is yet known about the special problems of treating a geriatric population. With the cost of medical care increasing at an exponential rate, mundane issues of who will pay and what they will pay for become an unpleasant source of concern when determining treatment options. A growing number of trainees that enter our graduate medical

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TABLE 1. What makes a good mentor?

What mentors do	What mentors do not do
Listen: function as a sounding board for problems and ideas; provide wise counsel	Protect from experience: do not assume the role of problem solver for the mentees
Support and facilitate: provide networking experience; share knowledge of the system; offer assistance where needed	Threaten: do not use threats or coercion to mold the professional lives of the mentees
Teach by example: serve as a model for adhering to the highest values in every area of life	Take credit: do not assume credit for work the mentee has done, e.g., demanding first authorship on a mentee's paper
Encourage and motivate: help mentees to consistently move beyond their comfort zone	Take over: do not do what the mentees should be doing themselves, e.g., writing their papers or applications
Promote independence: give their mentees every opportunity to learn by experience	Force: do not attempt to force a mentee in one direction
Promote balance: serve as a model for balance between professional and personal needs and obligations	Use undue influence: do not use a sense of obligation to influence the mentee's professional decisions
Rejoice in the success of their mentees: recognize that students may rise to greater levels than those who trained them	Lose critical oversight: do not allow friendship to shade over into favoritism
Convey joy: the joy that they find in their work is apparent to all around them	Condemn: do not convey to the mentees that honest mistakes are career-altering disasters

education programs are women, underrepresented minorities, or graduates of foreign medical schools; this necessitates a rethinking of optimal mentoring strategies.

This article discusses the mentoring of surgical trainees and how it may need to change to meet the realities of 21st century medicine. It will consider the following questions: What makes a good mentor? What makes a good mentee? What skills are needed for surgical trainees? What are the special demands of the 21st century that mentoring will need to encompass? How will the traditional model of mentoring need to change to meet these demands? How do you develop a mentoring culture?

WHAT MAKES A GOOD MENTOR?

In every field and at every time in history, the idea of a wise and patient mentor guiding a novice has been commonplace. Ancient mythology presents us with what may be the first "mentor," the old friend and servant to whom Odysseus entrusted the care of his son when he set forth to do battle against Troy. The importance of mentors in the training of doctors has been reflected in popular culture, from the Dr. Kildare movies of the 1940s to today's ER, in which we have watched the development of emergency medicine and surgical trainees under the mentorship of Mark Greene, Kerry Weaver, and the acid-tongued but highly skilled Robert Romano.

The large cancer treatment centers in the United States have had mentors of legendary stature, including Dr. James Ewing at Memorial Sloan-Kettering Hospital and Drs. Lee Clark and Richard Martin of the University of Texas M. D. Anderson Cancer Center.

What, exactly, are mentors? They have been variously defined as teachers, role models, advocates, sounding boards, facilitators, and coaches.^{1–3} In any field, it is expected of mentors that they will freely share their time and knowledge, serving as a conduit for the great body of unwritten wisdom that is based on experience. This was eloquently expressed 25 years ago by Daniel Tosteson, dean of Harvard Medical School: "We must acknowledge that the most important, indeed the only thing we have to offer our students is ourselves. Everything else they can read in a book."⁴

Regardless of the skills they are imparting, all good mentors have certain traits in common (Table 1). They serve as a "safe harbor" for their mentees, providing a sounding board against which the trainees can bounce their ideas, vent their anger, express their frustration, and share their grief. They provide an entrée into the political and networking systems through which a professional surgeon must move in building a career. The mentor reflects an ancient Chinese proverb that says, "A life without challenge is a life without character," and encourages mentees to strive to be the best that they can be. They provide a role model for adherence to the

TABLE 2. *What makes a good mentee?*

What mentees do	What mentees do not do
Take the initiative: recognize the need for mentoring and seek it out	Avoid difficulties: do not expect mentors to solve all their problems for them
Avoid perfectionism: accept that they will make mistakes, and learn from them	Sidestep work: do not expect mentors to do work that they should be doing themselves
Maintain balance: preserve time for family and friends	Stay in their comfort zone: do not shy away from new learning experiences
Work hard: are prepared to give their best	Take advantage: do not use friendship with a mentor as a tool to avoid work or escape consequences of their own activities
Support their peers: exchange personal and professional support with fellow trainees	Bottle it up: do not avoid talking about problems, anxieties, or grief because it makes them seem less than perfect
Take responsibility for the long-term results of patient care: accept that their job does not begin and end in the operating room	Avoid total commitment: recognize that their traineeship is a once-in-a-lifetime opportunity
Welcome experience: are enthusiastic about pursuing the widest range of professional experience	Let their egos get in the way: recognize that everyone (faculty, residents, other trainees, nurses, and patients) has something to teach them
Seek counseling: solicit advice or counseling if they experience problems with depression, substance abuse, or burnout	Work joylessly: do not become so caught up in the rigors of training that they fail to experience the joy that should come from working in a field they love

highest values, whether in technical surgical skills or in interpersonal relationships with patients and colleagues. They recognize that the ability to think and work independently is a critical element in the practice of medicine, and they provide their trainees with opportunities to learn through experience. Perhaps most importantly, they find a tremendous joy and satisfaction in their work and an equal joy in mentoring others to assume a role in the profession they love.

On the flip side, there are certain activities, some undertaken with good intentions and some not, that are absolutely detrimental to the training and development of young doctors (Table 1). It can be tempting for a mentor to assume the role of problem solver or to take over and perform work that mentees should be doing for themselves. Some mentors may believe that, with experience on their side, they are better suited to plan the future professional direction of the mentee or even that the mentee "owes" it to them to follow such direction. In the worst cases, mentors can attempt to shape their mentees through threats or coercion, making them feel that simple mistakes are career-altering events and driving them to try to achieve an unattainable level of perfection. At the other end of the scale, some may let friendship unduly shade their judgment of the achievements and qualifications of the mentee. Avoiding these pitfalls, especially those

stemming from friendship or concern, can be difficult for some, but it is critical if the mentoring process is to be effective.

WHAT MAKES A GOOD MENTEE?

Just as all good mentors have certain traits in common, there are traits that we hope to see in our mentees (Table 2). They recognize how important mentoring will be for their career development and take the initiative to make sure that they receive it. Often an otherwise promising trainee does not receive effective mentoring simply because he or she does not seek it, believing that a mentor should find him or her. They are prepared to work hard and make a total commitment to the opportunities that their traineeship provides. While taking full advantage of the learning experience, however, they are realistic about themselves, recognizing that they will make errors during their training, some with potentially serious results. These errors do not mean the end of the career; they are only the beginning of a new avenue of learning. They learn to maintain a balance between their professional and personal lives. They realize the important source of emotional and professional support that can come from their fellow trainees. They are aware of the potential risks for stress-related problems and seek help in dealing with them.

Mentees who gain the fullest benefit from the training we offer do not try to avoid difficulties or sidestep hard work. They are committed to providing the highest quality of patient care both in and out of the operating room and do not let their personal egos or fear of new experiences stand in their way. They appreciate all that they can learn, whether it is from faculty, residents, nurses, other trainees, or patients.

WHAT SKILLS ARE NEEDED FOR SURGICAL TRAINEES?

All surgeons require the core skills involved in clinical care of their patients. Those who practice in academic medical centers may need additional skills; they may be called upon to undertake independent research, to design or participate in clinical trials, or to move up the ladder of promotion and assume academic leadership. Finally, surgeons need the skills involved in maintaining balance in their lives and avoiding mental health problems that may stem from the special demands and challenges of surgery.

Clinical Skills

The baseline skill that surgeons in training must acquire is technical competence. Because surgical skills will largely be learned through direct tutelage, the surgical skills mentor must be an exemplary role model and must also allow the mentee to gain the necessary experience. A key element of surgery is the ability to deal with ambiguity and to be adaptable in dealing with unexpected findings. Although this aspect of surgery is what draws some people to the field, for others it can be a constant source of anxiety that they must learn to deal with.

A common and unfortunate stereotype of a surgeon is that of a cold, technically competent individual who is truly comfortable with a patient only when the patient is anesthetized and covered by surgical drapes. Surgeons must be more than mere technicians, however. They must be sensitive to the needs of patients and their families and available to provide information about options, risks, and benefits. Terminally ill patients and their families have special needs that should be recognized, even though surgeons may not feel comfortable in this area. The level of interpersonal skills that are brought to these relationships can make the dif-

ference between an adequate surgeon and a great one.

Working in an Academic Environment

Some surgeons will opt for the challenges and opportunities found in the academic setting. The broader scope of responsibilities required in an academic position makes the need for strong mentoring especially urgent. Because of the notorious problems with funding, overcommitment of time, and difficulties with the promotion process, the best and brightest people are becoming increasingly reluctant to enter academia, although the future of medicine depends on successfully recruiting them.⁵

Many surgeons who practice in an academic environment may be required to run clinical trials, conduct retrospective studies, analyze data, write and publish papers, submit grants, and so on. Some skills required for these activities (for example, a knowledge of statistics or how to conduct a literature review) can reasonably be learned from books or classes. Other necessary skills are most effectively imparted by a mentor, who may be an experienced clinician, a nonphysician researcher, or another individual with research expertise (e.g., a research nurse or project manager). This may include strategy issues, such as whether a particular research proposal will find favorable reception by granting agencies, or interpersonal issues, such as questions of authorship on an important publication or the ability to coordinate large numbers of people in a multidisciplinary clinical study.

Time-management skills are especially important for early-stage faculty members. Mentors should teach them to be aggressive in pursuing protected time for research, or else it may have to be carved out of time that should be committed to maintaining a personal life. It is common for young faculty members to have discretionary time consumed by activities that carry little weight in long-term career success—for example, writing book chapters as a surrogate for their department chair or serving on lightweight committees. One faculty member at a major teaching hospital found herself appointed to the Furniture Committee, making decisions about the allotment of surplus office furniture; another was a token faculty member on a committee composed of secretaries and administrative assistants to plan the departmental Christmas party. It is the duty of mentors to teach their mentees that it is not enough to work hard; they must work hard at the right things.

Surgeons working in an academic environment must also be politically adept. Academic medical centers are extremely competitive; to survive, one must learn how departments work, who wields the power, and how to get promoted. For those who would become the academic leaders of tomorrow, additional competencies need to be developed. The interpersonal skills required to run a successful business are also needed to run a section, department, or school and need to be fostered in the academic leaders of tomorrow.

Mental Health Issues for Surgeons

In part because of the strong and independent personalities that are attracted to the field and in part because surgical mistakes can have such drastic consequences, an expectation of perfectionism can be found in young surgeons and in those who train them. This can easily lead to an unhealthy atmosphere in which honest mistakes are treated as career-altering disasters. Perfectionists become preoccupied with criticism and evaluation, and this leads to stress, anxiety, and depression.⁶ They may fear seeking support or asking questions, feeling that this will make them seem weak or unskilled. A good mentor will foster an environment in which honest mistakes are seen as opportunities to learn and in which no one is afraid to seek support or information from others.

A profession in which perfectionism is commonplace can also lead to an inability to deal well with the guilt and grief that arise when the surgeon "fails" and a patient is going to die. All surgeons, especially those who deal with cancer patients on a daily basis, lose patients. The feeling that they could have done more or done it better is sometimes inescapable. These feelings can lead the surgeon to recommend continued aggressive salvage therapy at a time when a patient should be eased into palliative care. There is a process that must occur—one that Shanafelt et al.⁷ described as a reframing of the physician's role from savior to shepherd. Because many surgeons have had limited training in talking with patients and their families about impending death,⁸ this is a difficult process, and failure to embrace it can lead to severe emotional problems. In fact, as many as 50% of oncologists experience burnout that leads to decreased effectiveness in their work.⁹⁻¹¹ A good mentor will provide insight into these problems and serve as a sounding board for the expressions of anger and grief so that the young

surgeon does not have to struggle with these feelings in isolation.

Performing surgery is an intense and engrossing experience that is unparalleled in other medical specialties. It can be so involving that other aspects of a normal life get badly out of balance. As young surgeons are trained and begin to progress through their careers, it often seems as if something must be omitted, and that something is frequently a personal life. As they pursue a passion for surgery, they may postpone marriage, delay having children, and cut friends out of their lives. A mentor should serve as a role model for maintaining a proper balance between professional and personal lives, demonstrating to the mentee that a rich personal life adds warmth, understanding, and dimensionality to one's professional life.

WHAT ARE THE SPECIAL DEMANDS OF THE 21ST CENTURY THAT MENTORING WILL NEED TO ENCOMPASS?

The practice of surgery in the 21st century is changing rapidly at every level: what procedures are performed, how they fit into the larger context of multidisciplinary care, how they are paid for, who our trainees are, how we are allowed to train them, who our patients are, and how we may use information about them. Dealing with these changes will require a more complex approach to mentoring young surgeons.

Changing Treatment Patterns

Driven by exciting new technical developments, surgical treatment paradigms are changing. In many areas, the dominant trend is toward less invasive surgery. In breast cancer, for example, the treatment standard 40 years ago was a modified radical mastectomy including the removal of at least the level I axillary lymph nodes. Along with the development of effective adjuvant therapy protocols came the realization that the extent of surgery had little effect on overall survival. That insight had several results. First, breast-conserving surgery was tested in large-scale clinical trials as an alternative to mastectomy and is now the treatment standard for early stage tumors. Second, the importance of axillary lymph node dissection was questioned, with the subsequent development and widespread adoption of sentinel lymph node mapping. These minimally invasive approaches, used in combination with chemotherapy, radiation therapy, and hormonal therapy, result in

patient outcomes equivalent to those seen with more invasive surgery.

A more fundamental change that came out of these technical developments was the removal of the surgeon from the role of sole arbiter of treatment for breast cancer patients, a relic of the 19th century. Today, the surgeon functions as part of a multidisciplinary treatment team that may include imaging specialists, medical oncologists, radiation oncologists, plastic surgeons, and so on. Optimal patient care depends on maintaining clear communication and good working relationships with the other medical professionals who are part of the treatment team.

For surgeons working in academic medical centers, the ability to function as part of a team also comes into play in the administration of large-scale clinical trials. These trials are the gold standard for assessing new developments in medical care, but they are time consuming and expensive and require exquisite coordination of resources to yield usable results. Enrolling eligible patients, enlisting the participation of multiple physicians (often in multiple institutions), ensuring that all necessary end points are meticulously recorded, analyzing data, and developing multiauthor manuscripts for publications—these are all areas in which exceptional interpersonal skills are required.

Financial Issues

The issues of who pays for treatment and what they will pay for have become of increasing importance in the day-to-day running of both private surgical practices and surgery departments in academic medical centers. The simple third-party medical indemnity policies that were common 30 years ago have all but vanished. In their place is a complex web of health maintenance organizations, preferred provider networks, and medical savings accounts for those who have insurance and state-by-state interpretations of Medicaid for those who do not. Each insuring company has its own shopping list of procedures that they will fund and rates at which they will be funded. The necessity of diagnostic procedures is frequently questioned, and many new treatment approaches remain labeled as “experimental” long after they have become widely accepted in mainstream medicine. Most practicing surgeons now spend a significant proportion of their time and resources justifying treatment decisions to third-party insurers and chasing payment once the treatments have been performed.

In academic settings, a growing percentage of operating costs is coming from patient fees, and doctors are required to take on more clinical work to meet the bottom line. This detracts from time that might have been spent in research, teaching, community work, or mentoring. The emphasis on cost savings in managed care means that more surgery is being delivered in the outpatient setting and that inpatient hospital stays are cut to a minimum.

Who Are Our Trainees?

The field of surgery, once largely populated with white men, is responding to the same demands for diversity that are found in all areas of American society. The trainees that we find entering our programs are increasingly female, underrepresented minorities, or foreign born. Each of these groups presents a distinct set of challenges for the mentoring process.

Women

Because the percentage of women in US medical schools has been steadily increasing, the expectation was that significant numbers of women would now have assumed leadership positions in academic medicine. Instead, although women comprised nearly 30% of the faculty of academic medical centers as of 1999, they tended to cluster in the lower ranks and in specialties such as family practice and pediatrics.¹² Only 11% of them had achieved the rank of full professor, and a mere 6% were chairs of academic departments.¹³ Even after adjusting for obvious variables (e.g., number of publications and number of hours worked), women were significantly less likely than men to achieve senior rank. In a 2001 study that surveyed 36 clinical department chairs and division heads in US medical schools, Yedidia and Bickel¹³ reported that the lack of adequate mentors for women was a significant barrier to advancement. Effective mentoring for women is especially important because traditional gender roles continue to dictate that women assume a larger share of the care of homes and children than their male colleagues. This is exacerbated by institutional infrastructure and culture that makes no allowance for family obligations: meetings scheduled in the evenings and on weekends; hardwired promotion timelines, with no part-time tenure track available; no emergency child care; and no formal parental leave policy.¹⁴ Traditional gender roles also place women into tasks that

they may consider to be important and contributory, but which are not in their best career interests (e.g., extensive committee work, in which they may often be included as the "token" woman).

An effective mentor can keep his or her mentees focused on successful career-building strategies while serving as an advocate for institutional change to remove gender-biased barriers to advancement. Unfortunately, the number of available women mentors in fields such as surgery is far outstripped by the number of potential women mentees. Although men can and do effectively mentor women, there may be some bias in the selection of women as mentees. As suggested by Adler,¹⁵ some senior faculty members may assume that women are less likely to succeed and decide to direct their mentoring efforts elsewhere. Women may contribute to this situation by not being aggressive in pursuing a mentor relationship, believing instead that the mentor will or should approach *her*. The lack of mentoring can be at least partially corrected through institutional programs. Women can be helped to succeed by a variety of approaches, including special training aimed at women (the "fix the woman" approach),¹⁶ developing policies to ensure equal access to positions, and identifying ingrained cultural mores that may provide unconscious privileges to men. Johns Hopkins School of Medicine has demonstrated some success in eliminating gender-based career obstacles by implementing multiple targeted interventions, including a program to provide essential generic information and skills and a monthly colloquium to identify career development needs.¹⁴

Underrepresented Minorities

The fostering of ethnic diversity in medical schools is a strategy of obvious importance. Physicians who are members of underrepresented minorities are more likely to work in socioeconomically deprived areas¹⁷ and are more likely to aggressively pursue health issues that are of critical concern to their specific racial/ethnic groups. In recent findings reported by the Institute of Medicine,¹⁸ patients who were members of racial and ethnic minorities tended to receive inferior health care, even when their income and insurance status were the same as those of white patients. Increasing the ethnic diversity of our physicians is an obvious way to improve health care delivery to these patients.

Of the approximately 1000 surgeons who complete residency training in surgery every year, only 5% are members of underrepresented minorities.¹⁹ Those who move on to become faculty members in aca-

demic medical centers may feel particularly isolated. Not only are there few minority faculty role models, but there are also few minority colleagues. At the same time, ironically, they may be excessively burdened with administrative duties, because medical schools work to ensure that there is minority representation on every significant committee. Mentoring is critical for these young physicians but is often unavailable. In a seminal study about mentoring in African American graduate and professional students published in 1983, Blackwell²⁰ reported that 87% of these students did not have a mentor while in school. The limited number of recent studies in this area indicate that this figure is unlikely to have changed significantly in recent years.^{19,21,22} Several institutions have approached this problem at an infrastructural level. In particular, the University of Pennsylvania has instituted aggressive faculty development programs in which: (1) a cadre of faculty has been designated to either serve as minority mentors or to help minority faculty find appropriate mentors, and (2) a formal training program is in place that includes annual career development meetings with new minority faculty members and assistance in developing research skills.^{21,22} The critical thing for these young surgeons, as expressed by Johnson and colleagues,²² is to train them to assume positions of leadership, rather than "...assuming service roles under the guise of faculty membership."

Foreign-Born Physicians

Because of the position of American academic medical centers as leaders in the development of innovative new approaches for disease treatment, these institutions are a magnet for trainees from around the world. At the University of Texas M. D. Anderson Cancer Center, potential clinical fellows go through a written and oral interview process and are required to pass the United States Medical Licensing Examination medical boards to get a clinical permit from the hospital. Thus, the level of professional knowledge of the foreign-born trainees is usually not an issue in their training. As their training proceeds, however, there are two areas of concern.

First, for those who have English as a second language, communication skills may pose a problem. Although their knowledge of formal English may be acceptable, effective patient communication requires both a facility in casual English and a meticulous understanding of often-confusing technical terms. For someone with limited English at the beginning of his or her training, telling a patient that she had re-

ceived a segmental mastectomy instead of the biopsy she expected may be an understandable error, but it would not be perceived as such by the distraught patient.

A more philosophical problem involved in the teaching of foreign-born trainees has to do with cultural differences in the paradigms of medical care. In her famous book *Medicine and Culture*, Lynn Payer²³ discusses how different world views of how the human body works and what a physician's role is can radically affect the type of medical care that is given. Payer discussed differences in four Western countries (the United States, France, Germany, and England) that show similar overall mortality rates but very different views on appropriate treatments for different diseases. At the time when she was writing (the late 1980s), American doctors tended to perform six times more cardiac bypass operations per capita than English doctors; low blood pressure was a therapeutic goal in the United States but was treated as an ailment in Germany, where it was thought to be implicated in chronic fatigue and fainting; and hysterectomies and cesarian deliveries were among the most common major operations in the United States but were performed infrequently in France. Although some of these differences may have stemmed from differing levels of resources, in large part they can be seen as coming from differing philosophies of medicine. Some differences in medical practices among these Western countries have predictably lessened with increased professional interaction and communication, but American physicians are still seen as extremely proactive—always wanting to do something. Cultural differences can be even more striking in comparing Western medical systems with non-Western systems. Many non-Western cultures emphasize homeopathic approaches that believe in returning the body to normalcy, whereas Western systems tend to be allopathic and are oriented at actively treating disease conditions. For trainees who come from very different cultural backgrounds, working in an American institution with an aggressive treatment philosophy can be a difficult adjustment.

Restrictions on How We Train Our Students

Residency training has historically been a time of enormous pressure fueled by the need to gain a large body of medical experience in a set time period. Residents are expected to take every opportunity to perform multiple procedures and are also responsible for maintaining continuity of care and for transferring care to other physicians. To encompass all these

activities, extended duty shifts have been the norm. These scheduling issues have become even more acute as the demands of managed care have dictated shorter hospital stays for patients and less support for the residents caring for them. Problems with professional burnout, fatigue-related errors, and stress increased to such a degree that the Accreditation Council for Graduate Medical Education recently imposed new limits on duty hours for participants in medical residency training programs. These limits include (1) a limit of 80 hours per week, with the possibility of increasing hours up to 10% if an educational benefit can be demonstrated and the safety of patients and residents is maintained; (2) limitations on moonlighting; (3) at least one 24-hour day out of seven free of patient care duties; (4) on-call duty no more than every third night; (5) a minimum rest period of 10 hours between duty periods; and (6) continuous time on duty limited to 24 hours, with an additional period of no more than 6 hours for patient transfers and educational activities. Individual institutions are responsible for residents' duty hours and must make sure that faculty are available at all times and that residents are given adequate support. These changes are very recent, and it is not yet clear what effects they will have on the quality of the educational experience or on depletion of the already strained resources of most academic medical centers.

Who Are Our Patients?

Ethnic Diversity and Cultural Competence

For anyone who watched the television medical shows of the 1960s, it seemed that almost all patients spoke English and most were Caucasian. In the 21st century, the ethnic and cultural diversity of the patient population has expanded hugely. According to the 2002 update of the United States Census Bureau, the foreign-born population of the United States is now over 28 million, and almost 14% of people living in this country speak a language other than English at home.²⁴ Different ethnic groups that live here are not culturally homogeneous. Among Hispanics, for example, are people from Mexico, Puerto Rico, Cuba, and Central and South America and representatives of all known racial groups. People from different cultures can have very different attitudes about the nature of illness and the desirability of treating it. Many will believe that disease is God's will or the result of fate or karma. Among some Vietnamese, there is a belief summed up by the phrase "sweeping creates dirt." That is, to test for a disease

can cause the disease to occur. Among the Hmong people, some believe that illness is a spiritual disruption, a belief that the soul is wandering. There can be striking differences among cultures in the importance of self versus the importance of family, and some may believe that the expense of time and money on personal health issues is unwarranted if it causes hardships for the family.

Even among patients who accept the need for medical care, trainees must learn to recognize and work with the culturally influenced ways that people use space, time, and context.²⁵⁻²⁷ A physician must understand the patient's concept of physical distance. Arabic cultures tend to value close interaction, whereas European cultures demand that a certain distance be maintained. In Western cultures, time is considered to be a linear commodity that can be managed. People value being on time, they do one thing at a time, and they are upset by others whom they perceive as "wasting their time." They tend to be proactive and interested in activities in the present that can forestall future outcomes. In the alternate concept of time, seen in some Mediterranean and South American cultures, people do not place such a high value on managing their time, nor do they see time as strictly linear. They may value doing many things at once. They are less likely to be proactive and may be difficult to convince that screening tests are important. The idea of context is concerned with how information is exchanged. People from low-context cultures (e.g., United States, Germany, and Sweden) tend to value verbal skills and explicit language, whereas people from high-context cultures (e.g., American Indians and some Asian cultures) tend to exchange information in the physical context and value nonverbal communication.

Of course, the obvious issue in dealing with people from other cultures has to do with language barriers. In dealing with patients who are non-English speaking or who have limited command of the language, providers may tend to order fewer diagnostic tests because they do not understand the patient's description of symptoms or to order more tests than necessary to compensate for not understanding. Patients may inadvertently be noncompliant because they do not understand instructions. The use of family members as interpreters brings its own set of problems, because they may try to shield the patient from bad news or to present the patient to the physician in a more favorable light. Larger institutions now have professional interpreters on hand to assist in medical interactions. Even in this situation, how-

ever, care should be taken to maintain patient privacy. In some groups that have only a small representation in a given area (for example, Hmong people in Houston), most members of that group may know each other personally, and it may be difficult to find a disinterested interpreter.

The Aging of America: Issues in Geriatric Medicine

Americans are getting older, and targeted knowledge about the special problems of the elderly remains relatively sparse. According to the US Census Bureau, the population aged 65 years or older grew from 20 million to almost 35 million between 1970 and 1999.²⁴ The "baby boom" generation will begin joining the ranks of those 65 or older in the next few years, and by 2030, one in five Americans will be in this age group. The fastest growing segment of the population is the "oldest old," those 85 and above; this segment has tripled since 1970. Medical care of the elderly remains a hit-or-miss proposition. Because little research has directly assessed medical care issues for the elderly, incorrect assumptions often direct treatment choices. For example, it has been common to treat elderly patients with breast cancer very differently than younger patients. In a recent review of the tumor characteristics and clinical outcome of elderly women in the Surveillance, Epidemiology, and End Results database, Diab and colleagues²⁸ found that most women older than 55 years of age received modified radical mastectomies, with the exception of women older than 85 years, who were more likely to be treated with partial mastectomy. Older women were also less likely to receive additional local therapy or adjuvant systemic therapy, with the exception of tamoxifen. This is, at least in part, because patients over the age of 65 or 70 have been generally excluded from the large-scale prospective trials that have defined modern developments in breast cancer management. In some cases, older women have been seen as too frail to withstand the rigors of aggressive therapy. However, studies that have specifically looked at treatment outcomes in older women have generally found that, in the absence of comorbid conditions, elderly women tolerate standard breast cancer management very well. For example, Vlastos and colleagues²⁹ performed a retrospective study of elderly breast cancer patients treated at the University of Texas M. D. Anderson Cancer Center and found that breast-conservation therapy with segmental mastectomy and postoperative radiation therapy with or without axillary dissection provided excellent local control and disease-free survival in the elderly. As the pop-

ulation continues to age, our trainees will need to be at the forefront of developing and testing new treatment strategies for older patients, rather than relying on old assumptions.

Health Insurance Portability and Accountability Act Rules and Patient Privacy

Two important elements of medical practice in the 21st century are at direct odds with each other. On the one hand, it has never been easier to share information, and the resulting growth in the body of medical knowledge has been exponential. On the other hand, the very tools that allow us to share information—computers, fax machines, e-mail, and digital cameras—contribute to an increased probability of violating doctor-patient confidentiality. This has become an important issue in an era when identity theft, high medical insurance rates, and job discrimination are rampant. A medical record that was once confined to a physician's locked file cabinet now travels electronically to insurers, consulting physicians, hospital information systems, and clinical researchers. A patient's belief that his or her medical records are widely available can hamper the therapeutic process; patients may be less candid with their doctors about health issues if they believe that the information will stigmatize them in the future. Because of this, requirements were added to the Health Insurance Portability and Accountability Act for maintaining the privacy of electronic patient medical information. These requirements restrict the use of patient electronic records, without additional authorization from the patient, to purposes of treatment, payment, and health care operations. Patients are given specific rights of access to their medical records, including the right to request corrections and the right to know with whom their medical information has been shared. These regulations necessitate the development and implementation of security provisions that will add another layer of cost and complexity to the day-to-day management of health care facilities. Without them, however, patients are right to be concerned about who has access to their health care information and what they are doing with that information.

HOW WILL THE TRADITIONAL MODEL OF MENTORING NEED TO CHANGE TO MEET THESE DEMANDS?

One of the most venerable mentor/mentee relationships ever portrayed in American culture was that between Leonard Gillespie and James Kildare in the

pre-World War II movies and in the 1960s television series. In this traditional model, the mentor served as technical expert, political strategist, role model, coach, and confidant. Many of us were lucky enough to have benefited from such a relationship during our own training and would like to provide that experience for our trainees. Although this model for mentoring will always have a place, other models are being explored to answer the special needs of 21st century medical training.

Mosaic Mentoring

In the 2003 presidential address before the Association for Surgical Education, Leigh Neumayer² pointed out that aspiring surgeons in the 21st century may need multiple mentors: one for clinical surgery, one for research, one for personal life, and one for community service. One might also consider mentors for political strategy, communication skills, and team management, to name a few. The learning needs of today's surgical trainees are so diverse and the time of available mentors is already stretched so thin that it is increasingly unlikely that one individual can provide optimal mentoring in all areas. Page Morahan¹⁶ of Hahnemann University has called this *mosaic mentoring*, and it is becoming an accepted model at many institutions. Whereas trainees may be free to find ad hoc mentors to advise them in specific areas, another approach is to have senior faculty members who are identified as temporary mentors; they might be thought of as serving as triage agents for young trainees, dealing directly with their issues whenever possible or helping to match them up with appropriate mentors in defined areas. Mosaic mentoring may avoid some of the drawbacks of the traditional dyadic model (personality differences, sexual issues, dependency, and time limitations for senior mentors) while increasing the proactive capabilities of the trainees to recognize where they specifically need help.

Collaborative Mentoring

Because some young physicians fall through the cracks in traditional mentoring programs, several institutions have sought more formalized approaches to ensure that necessary skills are passed on in a uniform and effective manner. Collaborative mentoring (also called peer-group mentoring) is designed to provide essential aspects of professional development in a milieu of peer support and interaction combined with a program of directed learning. Such programs

may be especially valuable for those just beginning a career in academic medicine. One such program for entry-level assistant professors was conducted at the Brody School of Medicine at East Carolina University during 1999 and again in 2001.³⁰ The program had an initial 3-day session, followed by a 1-day program once a month for 6 months. Sessions were devoted to team building, value clarification, career planning, collaboration, negation, conflict resolution, oral and written presentations, and gender and power issues. Participants in the program rated the collaborative mentoring process very highly. They valued the interactions with their peers in a non-judgmental environment. One participant commented that the experience was especially valuable because it "takes the power out of the relationship." Participants established strong networking relationships with their peers that carried over into their day-to-day professional lives, fueled by a sense of commonality with people who shared the same problems and issues.

Mentoring Through Professional Organizations

Young physicians who do not find mentoring for professional development in their own institution may look for help through professional organizations. Every year, the American Society of Clinical Oncology, in conjunction with the American Association for Cancer Research, hosts a 7-day workshop in Vail, CO, to introduce clinical trainees and junior faculty to methods in clinical cancer research. The workshop is designed to help students identify important research questions and to develop studies to answer those questions. This spring, the American Association for Cancer Research will host a program in which clinical and translational cancer researchers in training can discuss career development issues with top clinical researchers. Professional organizations should be encouraged to include additional professional development programs as part of their annual meeting agendas.

Midcareer Mentoring

Although we typically think of mentoring in terms of clinical trainees and entry-level faculty members, there is often a need for midcareer mentoring. Keeping up with technical advances, training for leadership, dealing with mental health issues, and adapting to the changing sociology of medicine—these are all areas in which midcareer faculty may need mentoring.

The era in which one could keep up with technical advances by skimming through a few professional journals and going to an occasional continuing medical education conference, ideally at an attractive resort, are long gone. As of March 2003, almost 4000 journals were listed in the *Index Medicus*, and an explosively growing body of new information is available on the Web. In surgical oncology, the impetus from this vast sea of information has been toward less invasive operations and increased dependence on multidisciplinary care. Those who do not stay on the leading edge of this paradigm shift risk becoming obsolete. There are still practicing surgeons who are recommending mastectomy for most breast cancer patients, and this is not acceptable. Midcareer faculty members may need advice and support in maintaining up-to-date technical excellence in their fields. This could include, for example, on-site training from visiting experts or the opportunity to spend short sabbatical leaves learning new techniques at recognized centers of excellence.

Few people go into the field of surgery with the idea of becoming the academic leaders of the future; thus, training in leadership skills is not something that is normally undertaken. It was once the case that a doctor was considered eligible for leadership if he or she brought funding, reputation, and clinical skill to the table. This is no longer enough. Running a section, department, or school has become a business that requires a successful business acumen to succeed. To become effective leaders, midcareer faculty members need mentoring in communication, negotiation, team building, adaptability, and emotional competence.

Mental health issues may be a problem for the midcareer physician, especially in a field such as surgical oncology, in which day-to-day exposure to seriously ill and dying patients is the norm. Although it has not been demonstrated that the incidence of problems such as depression is higher in physicians than in the normal population, research suggests that they are at a higher risk for suicide.³¹ In a consensus statement published in *JAMA* in 2003, a group of physicians and lawyers found that physicians who sought help for problems such as depression were often stigmatized in ways that included discrimination in medical licensing, hospital privileges, and medical advancement.³¹ They called for a shift in professional attitudes and institutional policies to support physicians who seek counseling for mental health problems, including depression. As we encourage our young trainees to deal with such problems proactively, we must also ensure that mid-

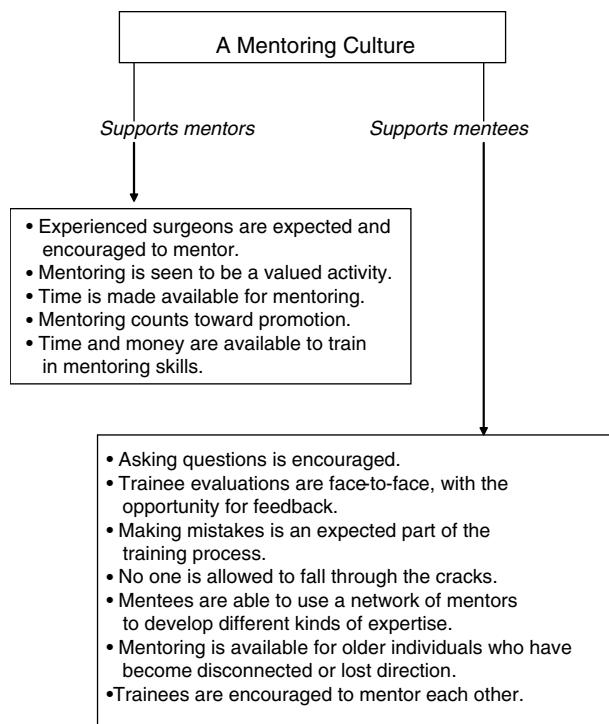


FIG. 1. Characteristics defining a mentoring culture for the training of surgeons.

career physicians can get support without jeopardizing their professional livelihood.

The increasing ethnic and cultural diversity of our patients may be a problem for physicians who have been in practice longer.³² Although younger physicians are more likely to have experienced this diversity growing up and in school, physicians who have been in practice longer are likely to have trained in an era before these issues were commonly faced. Mentoring in the area of cultural competence can thus be especially important in this group.

HOW DO YOU DEVELOP A MENTORING CULTURE?

Institutional Changes

As a background to setting up any mentorship program, the institution must actively foster a mentoring culture (Fig. 1). Mentoring must be recognized as a valued activity. Mentors must be allocated time for mentoring and should be rewarded for these activities. Mentoring activities should routinely be listed on curricula vitae and should be part of the presentation of achievements that is considered by promotion committees. Some institutions offer an-

nual awards to outstanding mentors or otherwise celebrate these achievements. Junior doctors need to be encouraged to ask questions and to engage in dialogue about issues (both professional and personal) of concern to them. In addition, senior faculty who may be in need of mentoring should be encouraged to seek it, without the risk of stigmatization.

Training Successful Mentors

Although some people seem to be born mentors, many of the skills needed to be a successful mentor can be learned. Would-be mentors should be allocated time and funding support to pursue training in these skills:

1. Interpersonal communication skills: These are probably the most critical skills that a mentor can bring to the relationship with a mentee. Skill in building rapport with others can make the mentee comfortable in seeking advice and sharing information and feelings.
2. Time-management skills: The mentor must model in his or her own lifestyle the ability to prioritize medical, administrative, and personal aspects of day-to-day life.
3. Negotiation and team-building skills: Mentors must learn and pass along the skills needed to function as part of a team, whether in the multidisciplinary care of patients or in the coordination of large clinical trials. In both instances, a surgeon may need to forge alliances among people with powerful egos and seemingly unshakable personal priorities. The common reactions to these sometimes difficult situations—anger, giving in, and starting over again—are counterproductive. Better responses, based on maintaining a sense of detachment and understanding the strategies of others, can be learned by the mentor and conveyed to the mentees.
4. Presentation skills: A mentee will look to the mentor for examples of good oral and written presentation skills. A would-be mentor who feels lacking in these areas should take advantage of the numerous books and classes that are available that teach these presentation skills. An especially important skill for the 21st century is the appropriate use of e-mail. Without proper care, e-mails can be brusque, inaccurate, and sloppy. In addition, they are often not private, and one's thoughts can be forwarded across the country or around the world in an instant. Another important consider-

- ation is that, even if “deleted,” e-mail messages are retrievable.
5. Teaching skills: Surgeons practicing in academic medical centers may be required to teach undergraduate or graduate medical students. This requires appropriate presentation skills as a baseline, but it also requires something quite different—an ability to see an old problem or technique as something new and to explain or demonstrate it in such a way that it becomes obvious and intuitive to the novice. Good teachers are able to light a spark in their students so that they want to learn more. Some individuals are natural teachers and have the ability to re-present the same material in ways that always seem fresh and alive.

By providing experienced surgeons with the training and tools needed to be effective mentors, it becomes more likely that they will step forward to participate in this very rewarding activity: helping to shape the surgeons of tomorrow.

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