

Surgical Education

Editorial comment: Regarding “moral angst for surgical residents: A qualitative study”

The manuscript titled “Moral angst for surgical residents: a qualitative study,” which is published in this issue of the *American Journal of Surgery*, is the third publication by authors from the University of Toronto exploring the role played by surgical residents in the academic health care system and the relationship between patients and resident physicians. The 3 articles, taken together, offer further insight into those factors contributing to stress in the surgical residency. The first article¹ used a qualitative case study technique to assess the level of knowledge that patients had regarding residents and resident training. The authors observed that the level of knowledge patients had about residents and their role in the care model was low. Despite a lack of knowledge, however, there was patient trust in the health care system and any anxiety regarding the presence and involvement of residents was low.

In the second article,² the authors interviewed practicing surgeons across a University Medical Center, exploring their perceptions of the residents’ role in the perioperative care of patients, as well as resident involvement in surgery. This study showed that surgeons recognize the trust that patients place in them and regard the residents as an asset in the teaching hospital. Surgeons are comfortable allowing residents to operate independently but do not voluntarily inform patients about resident involvement.

This final article in the trilogy assesses the residents’ perception of their role in patient care and identifies several themes. Residents feel that they are able to develop a good relationship with their patients but do perceive that the patient is not well informed about their role in surgery. Residents recognize that they do enjoy a degree of independence and prefer operating with another resident under staff supervision; there are clinical situations, however, in which they feel some ethical stress when the opportunity for independence may be beyond their skill set. In the event of adverse complications, residents feel ethically obligated to disclose errors.

There are several common themes that emerge from these articles. Patients feel comfortable receiving care in an academic teaching model but have little knowledge of the role that residents play in their care. This is reinforced by the residents’ perception that patients are not well informed about resident involvement in perioperative care. None-the-less, both residents and patients appear to have a good relationship. It appears clear that patients are not informed about the extent of resident involvement in their operative intervention; however, surgeons do not feel compelled to voluntarily inform patients regarding resident involvement. This may put the resident in a difficult position when patients ask who will perform an operation and, postoperatively, when complications occur. Situations that may be made more difficult and stressful when the patient does not know and understand the full extent of the resident’s involvement in their care.

Generically, the stresses associated with residency have been addressed with increasing frequency. Martin³ classified the following challenges of residency: identifying time and organizational demands; managing uncertainty and emotional discomfort; learning to work effectively with others; increasing personal communication skills; and learning shared responsibility. Luthy et al⁴ reported that residents discussed similar themes when queried about difficulties associated with training. These included communication, feelings of disrespect, constraints of collaborative work, work overload, and responsibilities to the patient. It is not unreasonable to assume that these pressures can result in the increased incidence of depression, anger, and cynicism observed in residents.^{3,5}

Recently, authors have tried to link resident stress, work hours, and patient safety. Although there has been a significant emphasis on work hours and patient safety, it does not appear that there is solid evidence, at this point, that the limitation of work hours has impacted patient safety in a measurable fashion. Fletcher et al⁶ published a systematic review of the literature from 1966 to 2004, evaluating whether adherence to the Accreditation Council for Graduate Medical Education standards for resident work hours had an impact on patient safety. The results were variable and inconclusive. Numerous endpoints were assessed in-

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cluding mortality, morbidity, intensive care unit transfers, medication errors, readmission rates, fever, and the number of diagnostic tests ordered. None of the studies reviewed showed a reduction in morbidity or mortality. One study⁷ reported an increase in adverse events associated with cross coverage and night float models. A Task Force on the Resident 80 Hour Work Week chartered by the American College of Surgeons⁸ also acknowledged that there has been no evidence-based study linking surgery resident duty hours with improved safety.

Both Martin³ and Luthy et al⁴ indicated that communication was a common factor associated with resident stress. Luthy amplified the concept, identifying resident difficulties communicating with and being respected by seniors. Davenport et al⁹ were able to directly correlate reported communication and collaboration between attending and resident physicians with patient morbidity. To confirm assumptions proposed by the Institute of Medicine that processes, teamwork, and working conditions influence patient outcomes, the authors used a multi-item survey of organizational climate safety factors (teamwork, job satisfaction, management, safety climate, working conditions, and recognition of stress) to assess the influence of these factors, along with perceived levels of communication and collaboration, on surgical morbidity and mortality using data from the Veterans Health Administration National Surgical Quality Improvement Program database. Although they were unable to show correlation with the organizational climate safety factors, they did show that positive communication and collaboration between attending and resident physicians did correlate with lower risk-adjusted morbidity.

As is apparent, themes commonly appearing in discussions of residency-associated stress and, more recently, the association between these stress factors and patient safety have included communication and collaboration. Luthy et al⁴ and Knifed in the report published in this month's *American Journal of Surgery* have added the concepts of team ambiguity, and role identification. Knifed has further suggested that clinical independence and resident skills and competencies may play a role in resident "angst" or stress. Luthy alluded to this, as well, by suggesting the presence of a gap between medical school and clinical practice.

Increasing economic constraints are impacting medical schools and the way in which medicine is learned. Hospital admissions and inpatient medical care have decreased; there has been a corresponding shift in care to the outpatient setting. The spectrum of patients seen by medical students and their involvement in the care of patients has significantly decreased. As a consequence, students have an inconsistent exposure to inpatient medical problems and complications. Clinical skills, including the ability to obtain a history and complete a physical examination, organize and synthesize data, and arrive at a diagnostic and management plan, are variable. Graduating physicians are coming to residency with variable and unpredictable clinical skill sets.

Despite this variability in skills, the resident is still expected to address a wide variety of emergent clinical problems, often off hours and without direct supervision. Decisions made in the face of uncertainty may result in increased stress, inappropriate management, an increased risk of error, and patient harm.

Although work hours have been a popular focus of recent discussion, it may be more likely that communication, team definition, role identification, and competencies play a greater role in stress associated with the surgical residency. In a previous editorial in this journal,¹⁰ I surmised that surgery, as a specialty, will need to address the fact that surgical care is increasingly adopting a team construct. Roles must be defined, and all members of the team must be identified, acknowledged, and respected. It is apparent from studies that patients possibly understand the role of residents in their general care but that they do not fully understand the role of residents in the operating room. They appear willing to accept the concept if they are prepared and educated, however. With increasing patient advocacy, this role will need to be acknowledged at some point. Resident involvement in patient care has been associated with medical errors,¹¹ and resident involvement in the operating room has been shown to increase the duration of some procedures.¹² I had recommended in that editorial that specific orientation and education should be provided for patients receiving care in an academic medical center regarding the role of residents. It would be best to address this prospectively, rather than retrospectively after problems arise and full disclosure is mandated by a third party. I would now add to that 2 additional recommendations. Attempts to objectively assess the Accreditation Council for Graduate Medical Education competencies, particularly communication, professionalism, and systems-based practice, should be supported by both the medical center and the training programs. The data would suggest that not only is it important to facilitate communication among members of the surgical care team, as medical team training exercises have done, but also to inform and communicate with the patient. Finally, to ensure baseline clinical skills and to facilitate increased resident confidence, clinical competencies should be assessed at the beginning of a residency and at critical junctures during the residency. Based on objectively identified levels of competence, education can be focused, deficiencies can be remediated, and faculty will be able to make a more objective decision regarding the level of independence given to a resident.

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