The March issue of the *Archives of Surgery* is dedicated to a discussion of the generation gap in modern surgery. In every generation there is a perceived gap discussed ad infinitum by analysts in every discipline. The work ethic, commitment, and vision of the younger generation are questioned, and references are made to a whimsical desire to return to the “good old days.” The contributors to this issue (medical students, surgery residents, program directors, and department chairs) address the multiple factors that affect the quality of life issues faced by surgery residents. The disappointing results of the 2001 National Resident Matching Program (NRMP) have received the attention of various regulatory and administrative groups. These introductory statements summarize the policy positions of several organizations.

An unpublished report released by the University of California in December 1988 on resident hours and working conditions (Ad Hoc Committee on Housestaff Issues) was a seminal effort and is as relevant today as in 1988. It is must reading. (Interested parties may request a copy through the office of the Vice President for Health Affairs, University of California, San Francisco–East Bay, Oakland.) Hopper and his committee responded to public concern regarding the working hours of residents. The committee consisted of representatives from the University of California medical centers and 3 private California medical schools (Loma Linda University, Loma Linda; Stanford University, Palo Alto; and the University of Southern California, Los Angeles).1

The purpose of this document was to (1) examine information on resident hours and working conditions available at that time; (2) review the recommendations of various professional bodies; and (3) make recommendations for residency training at academic medical centers in California. Their report reviewed the causes and consequences of resident fatigue, alternate solutions for alleviating resident fatigue, and the impact of these potential changes. The concluding recommendations were that each teaching institution should incorporate into its policies and procedures principles and guidelines pertaining to resident work hours and working conditions and that residents recognize their complementary obligations to the training program. In a follow-up report, the estimated annual statewide cost of replacing residents with selective practitioners is summarized (Table 1). The extrapolation of these figures to the year 2001 will be left to the imagination of the reader, but by any formula, the cost would be staggering.

The July 2001 *Bulletin* of the Accreditation Council for Graduate Medical Education (ACGME) addressed framing the dialogue of resident duty hours.2 Leach, in an excellent summary of the problem, stated that “patients have the right to expect competent care in all phases of an acute illness, and residents have a right to expect competent supervision in all aspects of their education in which they interface with patients.”2(p1) In this study, the numbers of programs and institutions cited for noncompliance with work hours and related requirements in 1999 and 2000 were cited (Table 2). Leach continues that “the ACGME will continue to cite programs that violate resident duty hour standards and the associated requirements. We
will also continue to hold sponsoring institutions accountable for such violations.\textsuperscript{2(p3)}

Representative John Conyers of Michigan has introduced House Resolution (HR) 3236, the Patient and Physician Safety Protection Act of 2001. This legislation would make the following provisions a condition for hospital Medicare participation: residents may work no more than a total of 80 hours per week and 24 hours per shift; must have at least 10 hours between scheduled shifts; will be off duty at least one full day of every 7 and one full weekend per month; assigned to an emergency department will work no more than 12 continuous hours; and must not be on call in the hospital more often than every third night. In addition, HR 3236 provides equitable protection. Any hospital violating these restrictions would be subject to a civil monetary penalty not to exceed $100,000 for each residency program in any 6-month period.

The American College of Surgeons at its 2001 Clinical Congress issued the following statement regarding residency working environment and work hours:

Surgical residency is first and foremost an educational experience based in direct patient care. Implicit in a residency program is the principle that all patient care provided by residents is safe and well supervised. Patients have a right to expect a healthy, alert, responsible, and responsive physician.

It is, therefore, inappropriate for teaching hospitals to rely upon residents to perform tasks that are not directly related to either education or patient care; these demands threaten the educational system and are a principal reason for excessive work hours. It is essential that hospitals provide sufficient support personnel to perform these non-educational tasks. It is also essential that residents are provided with appropriate faculty support and supervision, and comfortable facilities in which to rest, eat, and study, and opportunities outside of the work environment for personal development.

Quality patient care, now and in the future, is dependent on quality graduate education. It is critical to monitor, modify, and optimize the work environment to achieve this important goal.\textsuperscript{3}

Under the specific program requirements for general surgery (Residency Review Committee–Surgery), their concerns are clearly stated:

Graduate education in surgery requires a commitment to continuity of patient care. This continuity of care must take precedence—without regard to the time of day, day of the week, number of hours already worked, or on-call schedules. At the same time, patients have a right to expect a healthy, alert, responsible, and responsive physician dedicated to delivering effective and appropriate care.

The program director must establish an environment that is optimal both for resident education and for patient care, while ensuring that undue stress and fatigue among residents are avoided. It is his or her responsibility to ensure assignment of appropriate in-hospital duty hours so that residents are not required to perform excessively difficult or prolonged duties regularly. It is desirable that residents’ work schedules be designed so that on average, excluding exceptional patient care needs, residents have at least 1 day out of 7 free of routine responsibilities and be on call in the hospital no more often than every third night. During these on-call hours residents should be provided with adequate sleeping, lounge, and food facilities. There must be adequate backup so that patient care is not jeopardized during or following assigned periods of duty. Support services must be such that residents do not spend an inordinate amount of time in non-educational activities that can be discharged properly by other personnel.

Different specialties and different rotations may require different working hours and patterns. A distinction must be made between on-call time in the hospital and on-call availability at home and their relation to actual hours worked. The ratio of hours worked to on-call time will vary particularly at the senior levels and therefore necessitates flexibility.

Residency training in surgery is a full-time responsibility; activities outside the educational program must not interfere with the resident’s performance in the educational process, as determined by the program director, nor must they interfere with the resident’s opportunities for rest, relaxation, and study.\textsuperscript{6(p167)}

With the increasing relevance of technology to our profession, the rapidly expanding knowledge base, and current changes in our health care system, these governing bodies should be encouraged to introduce and monitor the needed changes in our surgical education curriculum. Niccolo Machiavelli has reminded us in The Prince . . . there is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success than to take the lead in the introduction of a new order of things. Because the innovator has for enemies all those who have done well under the old conditions and lukewarm defenders in those who may do well under the new.

\textbf{Corresponding author and reprints:} Claude H. Organ, Jr, MD, Archives of Surgery, University of California–San Francisco, East Bay, 1411 E 31st St, Oakland, CA 94602-1018 (e-mail: corgan@acmedctr.org).
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2. Leach DC. Framing the resident duty hours. *ACGME Bulletin*. July 2001;1-3.

3. American College of Surgeons. Statement regarding the residency working environment and work hours. Presented at: American College of Surgeons 87th Annual Clinical Congress; October 9, 2001; New Orleans, La.


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**Readership Poll**

Please read the special articles related to the Generation Gap in Modern Surgery in this issue, and then take the poll below:

Recent trends in NRMP matching for categorical positions in surgery show a definite decrease for 2001. This can be attributed best to:

- (a) night call and in-hospital work hours
- (b) lifestyle issues
- (c) duration of training
- (d) lack of flexibility in training programs
- (e) other

Please visit our Web site at www.archsurg.com to submit your response. The results of this query will be published in an upcoming issue of the journal and on the Web site.
The authors report an impressive operative time of 15 minutes (range, 9.45 minutes) for successful catheter placement with the cephalic vein cutdown approach. Previous series have reported an operative time ranging from approximately 25 to 75 minutes. In my own published series of 100 consecutive cancer patients, the operative time was 44 minutes (range, 26-79 minutes).4

Most surgeons who use the cephalic vein cutdown believe that for successful catheter placement, this approach takes longer than the percutaneous subclavian vein approach because of the added time needed to identify, dissect out, and prepare the cephalic vein to accept the catheter. It would be interesting to know the authors thoughts about how they accomplished such a rapid operative time.

Stephen P. Povoski, MD
Columbus, Ohio


Important Technical Considerations for Skin-Sparing Mastectomy With Sentinel Lymph Node Dissection

Two of the most important new developments in the surgical treatment of early-stage breast cancer include skin-sparing mastectomy and sentinel lymph node biopsy. Combining these surgical techniques may achieve an optimal aesthetic outcome while minimizing the potentially significant morbidity associated with axillary dissection. Therefore, we congratulate Stradling et al1 on their insightful article that carefully describes the surgical nuances of these combined operative techniques. However, one potentially critical aspect of the combined procedure was not addressed. This concerns the intraoperative identification of axillary lymph node metastases. The false-negative rate for the detection of axillary metastases using frozen section and touch preparation techniques has been reported to be as high as 89%; at our institution it is about 54%.2,3 Therefore, the true status of the sentinel lymph node may be available only after a permanent histologic examination several days following the procedure. Although the current standard of care is to perform a completion axillary lymph node dissection if a sentinel node is found to contain metastases, this can significantly affect immediate autologous breast reconstruction. At our institution and many others, the vessels of the thoracodorsal vascular system are the preferred recipient vessels for free transverse rectus abdominis musculocutaneous (TRAM) breast reconstruction. In this situation, reoperative axillary surgery has the potential to compromise the vascular pedicle of the reconstructed breast. The presence of a plastic surgeon during reoperative axillary surgery may enhance the safety of this operation. Furthermore, the optimal time to remove additional axillary nodes may be after adjuvant therapy, allowing for the establishment of a local blood supply to the TRAM flap. Other options that would eliminate the risk of vascular injury during reoperation include the use of the internal mammary vessels as recipient vessels for a free TRAM flap or the use of a pedicled TRAM flap. New developments in breast cancer treatment necessitate a team approach with increased communication between the breast surgeon, pathologist, and plastic surgeon in planning surgery for these patients. It is also of utmost importance to inform patients of the potential implications of skin-sparing mastectomy with sentinel node biopsy and immediate free TRAM breast reconstruction.

Henry Mark Kuerer, MD, PhD
Saviti Krishnamurthy, MD
Steven J. Kronowitz, MD
Houston, Tex


Correction

Error in Text. In the article titled “The Generation Gap in Modern Surgery” in the March 2002 issue of the ARCHIVES (2002; 137:250-252), the second paragraph at the top of page 251 contained an incorrect statement. The text should have read as follows: “The Board of Regents of the American College of Surgeons accepted in principle a statement from the Candidate and Associate Society regarding working hours in residency. This statement is intended to serve as a platform for the development of programs and initiatives aimed at improving the educational environment for surgery residents.”