

# Letter to the Editor

## Eighty Hours a Week:

### A Third-Year Resident's Perspective on Duty-Hour Limitations

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NOT SINCE WATCHO AND OSKI'S ARTICLE entitled "Bilirubin 20 mg/dL = Vigintiphobia" have directors of pediatric training programs been so obsessed with absolute numbers (1). Concerned about issues of sleep deprivation among house-staff and their implications for care, the Accreditation Council for Graduate Medical Education (ACGME) decided to impose national mandatory limits on how many hours residents may spend in the hospital. The new regulations limit on-duty hours to 80/week, with no more than 24 consecutive hours of on-site duty, assurance of a 10-hour grace period between clinical activities, and an average of one day per week free of hospital responsibilities (2).

This policy has produced a dramatic restructuring of clinical rotations in most pediatric residency training programs, as program directors seek innovative strategies to adhere to these rules while maintaining adequate physician staffing. Furthermore, the changes have sparked vigorous debate regarding the new philosophy of resident-physician training and its implications for patient care. The debate is similar to discussions that took place in 1989, in response to New York State Code 405, upon which the new national guidelines are based. While it is believed that the rules will "greatly enhance medical education" and continue to produce "the highest quality physician," there remains concern that the system will erode the doctor-patient relationship and compromise the qualities of professionalism which distinguish medicine from other careers (3, 4).

What has been missing from this debate is a review of the issues by a pediatric house officer who has experienced both training systems. With two years in a classically designed q4 call

system, which consists of 36 hours of consecutive duty every fourth night for inpatient services and 72–108 duty-hours per week, and a final year in a program tailored to meet the ACGME criteria, I may offer a helpful perspective on how the requirements translate into pediatric-specific training. As the ACGME's own *Annotated Bibliography of Selected Articles on Resident and Physician Duty* hours includes only one article devoted to pediatric residents, it is important to evaluate the new rules in the context of some unique aspects of our medical specialty (5).

One of the greatest assets of pediatric residency is the opportunity for the physician to uninterruptedly observe the course of a disease requiring hospitalization. If the major goal of residency training is to provide an ideal environment for learning pediatrics, then hands-on teaching and didactic sessions are critical to our development (4). The ACGME guidelines, in providing for a six-hour window in order to transfer care and attend conferences, have made provisions for a noon-conference-based curriculum, thus ensuring that didactic sessions are unaffected (2). However, being required to relinquish patient-care duties for the remaining 6–8 hours that residents used to work after a call night has raised concerns over continuity of care (6). These concerns seem especially valid for the general pediatrics service, where admissions for common problems such as dehydration, respiratory syncytial virus (RSV) and hyperbilirubinemia tend to be short. While the resident may gain valuable clinical experience from admitting the patient and providing the initial management, it is now likely that the child will be discharged even before the primary/ad-

mitting resident returns, thereby denying the house-staff the training experience that could have been achieved in caring for the patient.

This inability to examine the same patient over extended periods of time is of particular concern in pediatrics, as many of the most common admission diagnoses—most notably RSV and asthma—require frequent comparison to previous clinical examinations to effectively determine improvement. Not surprisingly, as a senior resident “cross-covering” on patients and not familiar with their initial presentation, I often resort to objective data to guide management, ordering further X-rays or blood work. Substantiating this anecdotal claim are studies indicating that cross-covering on patients increases length-of-stay and amount of test-ordering (7, 8).

Continuity of care is further compromised by the inability of physicians to follow clinic patients immediately after hospital discharge. Such follow-up was especially important in our residency program because it closely approximated how general pediatrics is practiced in community hospitals. Despite ACGME guidelines allowing for attendance at clinics in the six-hour post-call window, the guidelines also eliminate attendance at outpatient clinics on the afternoon following a call night, thus providing fewer opportunities to manage the child in the outpatient setting. Over three years of residency, this would translate to current interns having  $\frac{1}{4}$  to  $\frac{1}{3}$  less outpatient-continuity clinic exposure than those trained in a traditional program. It is unrealistic to deny these opportunities to current interns and still claim that the program will produce “the highest quality physician” (3).

But is this a trade-off at all? Several studies have found decreased performance on standardized tests after prolonged sleep loss (9, 10). It is not surprising that test scores, which use objective measures of cognitive skills, would decrease with the irritability and fatigue associated with sleep deprivation (11). What is not clearly defined is to what extent these observations directly translate into poor medical judgment. As early as 1971, Friedman and colleagues demonstrated that the ability to interpret an EKG decreases in sleep-deprived interns (12). Yet as we know from experience, an overnight call does not consist of a series of cognitive performances or a constant test of EKG interpretation. It is, rather, an exercise in:

- a) Clinical evaluation of patients—Does this patient appear to be in distress and

must these abnormal vital signs be acted upon acutely?

- b) Information triage—Will the patient’s test results, be it a chest X-ray, MRI or EEG, if obtained tonight, affect his or her management acutely?
- c) Prioritization—There are three admissions and two calls from the wards. Who gets seen first?
- d) Clinical skills—The patient needs a blood culture or an IV replaced.

Furthermore, the pace of an overnight session is often a key factor in the degree of fatigue the next morning. My personal experience (and those, anecdotally, of other house-staff) suggests that a call-night in which the resident is paged once an hour all night will result in less alertness than a steady, constant but manageable stream of work. Taking these parameters into account, Storer, in an evaluation of 45 pediatrics residents, found no decreases in the level of clinical knowledge, ability to obtain IV access or intubate, with sleep deprivation (13).

Current ACGME duty-hour requirements are partially derived from the 1987 *New York State Department of Health Ad Hoc Advisory Committee on Emergency Services Report on Supervision and Resident Working Conditions*, which originally outlined the 80-hour work week-limit and the consecutive 24-hour limit (14). This report resulted from a grand jury investigation into the death of Libby Zion, an 18-year-old woman who died in a New York City hospital in 1984. The grand jury cited five circumstances contributing to Zion’s death, one of which was that her junior physicians admitted her at 2 AM, after 18 hours of work. However, this situation was still permissible under the new rules (15). Thus, the unfortunate clinical outcome that led to the new regulations can still occur in the context of new ACGME policies.

Also problematic is the fact that the “night-float” system constructed by many hospitals to conform to the New York State guidelines, has consistently been shown not to increase the total sleep time of residents (16). Yet the system still impedes continuity of care and disrupts the sense of autonomy that senior residents gain through training (17).

The waning sense of responsibility that house-staff physicians feel they have for cross-cover patients has been seen as straining the bond between patient and doctor (4). The best advice I received as a house officer came from a senior cardiology fellow, who told me, “As-

sume everyone else is trying to kill your patient.” The implication was clear: Take responsibility for all aspects of your patient’s care and be accountable for the actions you take to improve the patient’s health. Increasingly, cross-coverage schemes and night float mechanisms disconnect the primary pediatrics resident from care, engendering a “shift-work” mentality in which doctors are trained to think of themselves as hourly wage professionals who provide a service to health-care consumers (15, 17). While this system may still provide adequate care for a self-reliant adult, it certainly is not the ideal model for pediatric medicine, in which the relationship between parent-child and physician is built up over the patient’s childhood years. This is even more important as children reach adolescence, since they are less likely than adults to divulge risk-associated behaviors to physicians with whom they do not share a long-term bond.

Balancing the education obtained from long hours in the hospital setting with the exhaustion those hours cause is a daunting task for medical educators. To achieve competency in pediatrics one must witness a spectrum of clinical material. Yet one cannot be so fatigued that the lessons learned from seeing patients are lost. Pediatrics is unique among medical specialties in that its patients cannot be expected to advocate for themselves or offer complaints. Thus, the detection of many pediatric problems relies on frequent, serial physical assessments by house officers. The new national ACGME guidelines interrupt this pattern of patient care. Such disruption will no doubt detach house officers from patients, eroding personal responsibility in a young physician at a time when learning to be a child advocate is critical. Other unique factors of pediatrics, such as the short hospital stays and the prime importance of continuity of care, may also not be well suited for current duty-hour policies. Further experience under the new system will better demonstrate the effects of these rules on pediatric care.

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