

**The ACGME's Approach to Limit Resident Duty Hours:
The Common Standards and Activities to Promote Adherence**

Rationale for the Duty Hour Limits

Changes in health care delivery that have increased patient acuity and service intensity, and concerns that restricted sleep has a negative effect on performance, education and well-being have increased interest in limiting resident duty hours. As the accrediting body for 7,800 graduate medical education programs, the Accreditation Council for Graduate Medical Education (ACGME) is the entity to which the medical community looked to address this issue. In July 2003, the ACGME instituted a comprehensive approach to address duty hours in all accredited residency programs. It focuses on three areas: (1) placing appropriate limits on duty hours; (2) promoting enhanced institutional oversight; and (3) viewing standards for resident hours as one element of a comprehensive approach to promote high-quality education and safe patient care. The current ACGME efforts build on a 20-year history during which the Council made enhancements to the standards and achieved gains in compliance.

A number of other nations, including the United Kingdom, most other European nations, Canada and Australia have limited hours for physicians in training by government regulation, and the ACGME's initiative to institute common minimum standards for duty hours unfolded again a political backdrop in which groups pursued federal intervention to regulate resident hours.^{1,2,3}

The Standards

The ACGME's common duty hour standards acknowledge scientific evidence that long hours and sleep loss have a negative effect on resident performance, learning and well-being.^{4,5,6,7} They cap hours for physicians in training at 80 per week; limit continuous duty time to 24 hours, with added time for transfer of care and didactic activities; require rest periods between duty shifts and one day in seven to be free of program responsibilities. They also require in-house call to be scheduled no more frequently than every third night, and time on home-call spent in the hospital to be counted toward the weekly duty hour limit.⁸ An 80-hour limit was chosen as the upper limit to safeguard against the negative effects of chronic sleep loss, and a limit of 24 hours plus up to six hours was chosen to address the effects of acute sleep loss, and to allow for adequate time for patient hand-off and didactic learning.⁹ It was also chosen to avoid sending individuals home at the time of their circadian nadir, which has been associated with increased risk for motor vehicle accidents.^{10,11} To provide for added time beyond 80 hours to allow residents to participate in educationally valuable activities, the standards provide for an increase of up to 10 percent beyond the 80-hour weekly limit. Individual programs may apply for this exception with the endorsement of their sponsoring institution's Graduate Medical Education Committee.

Monitoring Activities

As important as the standards is diligent monitoring of compliance that is faithful to the intent of the standards to promote an appropriate environment for the education and formation of physicians. The ACGME's approach emphasizes the collective responsibility of programs, sponsoring institutions, and the accrediting body for safe and effective patient care and the learning environment for residents. Enhanced mechanisms to promote adherence to the standards are based on three principles: increasing data collection related to duty hours; shortening the response time in cases of alleged non-compliance; monitoring of Residency Review Committees' (RRCs') process of assessing compliance through the ACGME Monitoring Committee. The ACGME also has a formal mechanism for following up on complaints from residents and others with knowledge about an alleged non-compliance with the duty hour

provisions that seeks to protect the confidentiality of the individual who bring this information to the attention of the ACGME. Due to the multi-faceted nature of the implementation process, the ACGME has charged a committee with advising the Board of Directors on matters related to the implementation and monitoring of the duty hour standards, and with how to build knowledge about innovative and effective approaches to comply with the requirements.

Effect of the Duty Hour Limits

There are few broad cross-institutional assessments of the effect of the new duty hour standards, and they are often solely based on the predictions of knowledgeable individuals. Some have noted that many hospitals may try to preserve the contribution of residents to patient care at prior levels, despite reduced hours.¹² Studies in New York State, which has a 14-year history of having state-regulated duty hour limits for resident physicians, have shown that duty hour limits reduced resident fatigue, and allowed more time for reading and for family and personal pursuits with little change in in-service exam scores and quality of patient care.^{13,14} At the same time, many programs have reported that the duty hour standards have increased faculty responsibilities, in an environment where clinical faculty already feels burdened.

For some programs and institutions, adoption of the new duty hour standards may create financial and/or operational hardships. Recognizing this, what is needed is credible, consistently collected information that allows an assessment of the effect of the standards across institutions. The ACGME is soliciting feedback on the elements of the standards that may reduce the quality of education or have other unintended negative effects, with the goal of making future refinements to the standards. Prior to implementing the standards in July of 2003, the ACGME solicited language from each RRC that refined the common standards in the area of the activities residents are allowed to participate in during the post-call period. Further refinements are envisioned in areas the RRCs identify as problematic from an educational or patient care perspective.

Role of the Sponsoring Institution

The duty hour standards emphasize the responsibility of sponsoring institutions, which goes beyond coordinating and monitoring programs' compliance. Institutions and their leaders play a vital role in creating an environment within their residency programs that promotes safe patient care and high-quality learning. They are expected to assume additional responsibilities, including educating residents in recognizing the signs of fatigue and facilitating the application of preventive and operational countermeasures, and creating incentives for their faculty to be involved in resident education. While the duty hour standards will have little or no effect in many specialties and programs, in others they will necessitate significant changes that will require the support of the sponsoring institution.

Innovative Approaches

There is demand for information on innovative, successful strategies to comply with the standards for duty hours and those in related areas. The efforts to identify approaches also seek to address concerns that limiting resident hours could reduce the quality of care in teaching institutions, as was found in several studies of the effect of duty hour limits in New York State.^{15,16,17} Successful approaches for reducing hours that preserve a balance between education and service could be disseminated for adaptation by other programs and institutions.

Knowledge about how institutions and programs create a better learning environment needs to be disseminated to allow others to learn from these models. To date, evidence from the field suggests there is a dearth of these approaches, and a need for research to develop new models of care in teaching settings that do not rely as extensively on residents to provide patient services. Setting a research agenda to assess the effect of the interventions is a high priority, with a focus

on studies that combine institutional knowledge with cross-institutional research about how to improve the patient care and education environment in teaching institutions.

¹ Evans L. Regulatory and legislative attempts at limiting medical resident work hours. *Journal of Legal Medicine*. 2002; 23:251-67.

² 107th CONGRESS, 1st Session, H. R. 3236. The Patient and Physician Safety and Protection Act of 2001, November 6, 2001.

³ Petition to the Occupational Safety and Health Administration (OSHA) filed by Public Citizen, the American Medical Student Association and the Committee of Interns and Residents (CIR); April 30, 2001.

⁴ Veasey S, Rosen R, Barzansky B, Rosen I, Owens J. Sleep Loss and Fatigue in Residency Training: A Reappraisal. *JAMA*. 2002;288:1116-24.

⁵ Weinger MB, Ancoli-Israel S. Sleep Deprivation and Clinical Performance. *Journal of the American Medical Association*. 2002; 287:955-57.

⁶ Browne BJ, VanSusteren T, Onsager DR, Simpson D, Salaymeh B, Condon RE. Influence of sleep-deprivation on learning among surgical house staff and medical students. *Surgery*. 1994; 115:604-610.

⁷ Smith, C. Sleep states and memory process. *Behav Brain Res*. 1995; 69:137-145.

⁸ Accreditation Council for Graduate Medical Education, Common Program Requirements for Duty Hours, February 11, 2003 (<http://www.acgme.org>, accessed December 9, 2003).

⁹ Accreditation Council for Graduate Medical Education, Report of the Work Group on Resident Duty Hours and the Learning Environment, June 11, 2002; (<http://www.acgme.org>, accessed December 9, 2003).

¹⁰ Babkoff, H; Caspy, T; Mikulincer, M. Subjective Sleepiness Ratings – the effects of sleep-deprivation, circadian rhythmicity and cognitive performance. *Sleep*. 1991; 14:534-539.

¹¹ Steele MT, Ma OJ, Watson WA, Thomas HA Jr, Muelleman RL. The occupational risk of motor vehicle collisions for emergency medicine residents. *Acad Emerg Med*. 1999 Oct;6(10):1050-3.

¹² Weinstein, Debra F.. Duty Hours for Resident Physicians - Tough Choices for Teaching Hospitals. *New England Journal of Medicine*. 2002; 347:1275-1278.

¹³ Conigliaro J, Frishman WH, Lazar EJ, Croen L, 1993.

¹⁴ Kelly A, Marks F, Westhoff C, Rosen M. The effect of the New York State restrictions on resident work hours. *Obstetrics and Gynecology*. 1991 Sep;78(3 Pt 1):468-473.

¹⁵ Holzman, IR, Barnett, SH. The Bell Commission: Ethical implications for the training of physicians. *Mount Sinai Journal of Medicine*. 2000; 56:136-139.

¹⁶ Conigliaro J, Frishman WH, Lazar EJ, Croen L. Internal medicine housestaff and attending physician perceptions of the impact of the New York State Section 405 regulations on working conditions and supervision of residents in two training programs. *Journal of General Internal Medicine* 1993 Sep;8(9):502-507.

¹⁷ Laine, A, Goldman, L, Soukup, JR, Hayes, JG. The impact of a regulation restricting medical house staff working hours on the quality of patient care. *Journal of the American Medical Association*. 1993; 269:374-378.