

Accreditation Council for Graduate Medical Education (ACGME)

The ACGME's Approach to Limit Resident Duty Hours 2005-06:

A Summary of Achievements for the Third Year under the Common Requirements

Rationale for the Duty Hour Limits

This document summarizes the achievements of the Accreditation Council for Graduate Medical Education (ACGME) in promoting compliance with its duty hour requirements for Academic Year (AY) 2005-06, the third year under common program requirements that limit duty hours for residents in all accredited programs. As the body responsible for the accreditation of more than 8,100 programs that collectively provide for the education of some 105,000 residents and fellows, the ACGME is the entity to which the medical community and public look to set and enforce resident duty hour limits. The ACGME and its program and institutional Review Committees (RCs) developed the standards in response to changes in health care delivery that have increased patient acuity in teaching hospitals, and to scientific information about the negative effects of sleep loss on resident education and on the safety and well-being of patients and residents.

The ACGME uses a comprehensive approach to address resident duty hours that encompasses: (1) on-site visits and regular surveys of residents and program directors; (2) responding to complaints about duty hour violations, (3) enhancing oversight and monitoring of resident hours at the institutional level; (4) increasing residents' and the education community's knowledge of the adverse consequences of sleep loss and the benefits of the duty hour limits. Limiting resident hours is one part of the ACGME's comprehensive approach to promote high-quality learning and safe and effective patient care. Other components include faculty supervision, teaching and mentoring, educational curricula, clinical rotations that facilitate acquisition of competence for independent practice, and regular evaluation of residents, including assessment of their clinical and procedural skills.

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. The standards include:

- An 80-hour weekly limit, averaged over 4 weeks;
- An adequate rest period, which should consist of 10 hours of rest between duty periods;
- A 24-hour limit on continuous duty and up to 6 added hours for continuity of care and didactics;
- One day in 7 free from patient care and educational obligations, averaged over 4 weeks;
- In-house call no more than once every three nights, averaged over 4 weeks;
- An option for programs in some specialties to request an increase of up to 8 hours in weekly hours, with an educational rationale and approval of the sponsoring institution and relevant RRC.

The ACGME chose the weekly limit to safeguard against chronic sleep loss, and the limit on continuous duty to address acute sleep loss, while allowing time for the transfer of care and didactics. Eleven of the 26 specialty Review Committees (RCs) have set more restrictive standards than the common duty hour limits.

Achievements in Academic Year 2005-06

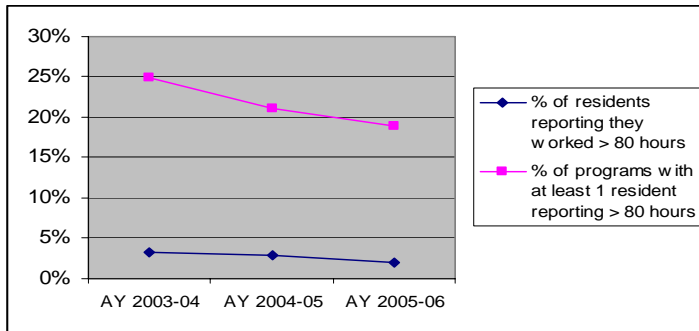
During AY 2005-06 (July 1, 2005 through June 30, 2006), the ACGME, the RCs and the residency education community continued their efforts to limit resident duty hours in the 8,186 accredited specialty and subspecialty programs. Programs and sponsoring institutions implemented changes to residents'

clinical education, patient care activities and the mechanisms for duty hour monitoring, using learning gained during the two prior years under the common standards. Among the approaches to reduce resident hours, short call, night float and other schedule changes remained popular, as has the use of nurse practitioners, physician assistants or hospitalists to assume some of the patient care responsibilities formerly held by residents. A growing number of programs are re-designing their patient care and education systems to optimize patient care and resident education under reduced resident hours.

Highlights from the third year under the common duty hour standards include:

- The ACGME monitored compliance with the common duty hour standards and the more restrictive RRC specific standards that exist in many specialties. Of the 2,363 programs that underwent accreditation reviews, 187 programs (7.9%) received one or more citations related to duty hour non-compliance. This represents an increase over the 147 programs (7.3% of those that underwent review) that received citations for non-compliance with the duty hour standards during AY 2004-05, and the 101 programs (5.0%) cited for duty hour violations in AY 2003-04. *Exhibit 1* compares citations for the AY 2003-04 through AY 2005-06.
- Of the 6,498 citations received by all programs during AY 2005-06, 249 (3.8%) related to non-compliance with the duty hour limits, an increase in both number and percent over 195 duty hour citations (2.8%) issued during the prior Academic Year. Non-compliance with the 24 + 6 hour limit on continuous duty accounts for the largest proportion of duty hour citations at 26.5% of the 249 citations, followed by 22.5% of citations for “other duty hour citations,” which encompasses the specialty-specific duty hour requirements. Non-compliance with the 80-hour limit accounted for 10.4% of citations, 11.2% of the citations related to the standard that 1 day in 7 must be free of all duties and 7.2% to the requirement for a 10-hour rest period. The Review Committees requested that 106 programs cited for duty hour non-compliance provide progress reports that summarize their efforts to bring duty hours into compliance. Detailed information is shown at *Exhibit 2*.
- During accreditation site visits, ACGME site visitors interviewed program directors, faculty, residents and sponsoring institution representatives, and reviewed documents that detail resident hours, including rotation schedules, call rosters and other program and institutional data to verify compliance with the standards. ACGME site visitors annually interview approximately 12,000 residents during scheduled site visits.
- The 2006 ACGME resident survey collected data on duty hour compliance from 48,176 residents in 4,703 programs, with 42,780 residents (88.9%) responding. Over the three years under the common duty hour standards, 101,250 residents have responded to the ACGME resident survey.
- The ACGME performs added monitoring of programs under a duty hour exception. At the end of AY 2005-06, 63 programs in five specialties (neurological surgery, orthopaedic surgery, otolaryngology, surgery and thoracic surgery) operated under exceptions to extend their weekly duty hours to 88 hours, compared to 68 programs during the prior Academic Year. The majority of exceptions were in neurological surgery (43 programs).
- AY 2005-06 was the first year programs with fewer than 4 residents were included in the ACGME resident survey. These programs are excluded from comparisons across academic years immediately below. For programs with 4 or more residents, in AY 2005-06, 915 residents (2.4%) in 441 programs (18.7%) reported they worked beyond the 80-hour weekly limit during their most recent rotation. This compares to 3.0% of the residents spread across 21.1% of programs working above the 80-hour limit in AY 2004-05, and 3.3% of residents across 24.8% of responding programs during the AY 2003-04.

Graph 1: Residents Reporting > 80 Weekly Hours, AY 2003-04 through AY 2005-06



- The percentage of residents and the number of programs with one or more residents reporting they worked beyond the limit decreased between AY 2003-04 and AY 2005-06, shown in **Graph 1** (data for programs with fewer than 4 residents were excluded from this analysis).
- Data from the ACGME resident survey data show that a small number of residents, spread across a sizable percentage of programs, reported they worked beyond the limits for their most recent rotation. ACGME views individual residents working above the limit the purview of program leaders, to address the reasons why they work longer hours. **Table 1** contrasts the number of residents and the number of programs (regardless of program size) with 1 or more resident working beyond the ACGME duty hour limits with the much smaller number of programs in which 15% or more of residents reported they worked beyond the limits. The duty hour standard with the largest number of programs with 15% or more of residents reporting they worked beyond the limit is the requirement that 1 day in 7 (or 4 days per month) be free of all program duties.

Table 1: Programs with Non-Compliance for Individual Residents and Under a Substantial Compliance Model, AY 2005-06

Residents Reporting They Worked beyond the Standards

ACGME Common Program Requirement	# of Residents	% of Residents
80 hours on duty per week	937	2.2%
2.5 days per week assigned in-house call (call no more often than every third night)	2,444	5.7%
24 plus 6 maximum number of continuous hours worked	3,263	7.6%
4 days per month completely free from all educational and clinical responsibilities	6,577	15.3%
10 hours off duty between duty shifts	2,248	5.2%

Programs in Which at Least One Resident Reported Working beyond the Standards

ACGME Common Program Requirement	# of Programs	% of Programs
80 hours on duty per week	462	9.8%
2.5 days per week assigned in-house call (call no more often than every third night)	1,174	25.0%
24 plus 6 maximum number of continuous hours worked	983	20.9%
4 days per month completely free from all educational and clinical responsibilities	2,158	45.9%
10 hours off duty between duty shifts	1,293	27.5%

Programs in Which 15% or More of the Residents Reported Working beyond the Standards

ACGME Common Program Requirement	# of Programs	% of Programs
80 hours on duty per week	92	2.0%
2.5 days per week assigned in-house call (call no more often than every third night)	496	10.5%
24 plus 6 maximum number of continuous hours worked	447	9.5%
4 days per month completely free from all educational and clinical responsibilities	1,573	33.4%
10 hours off duty between duty shifts	566	12.0%

Source: ACGME Resident Survey, 2006

- In its enforcement of the duty hour standards, the ACGME uses a substantial compliance model that distinguishes between individual residents reporting they work beyond the duty hour limits, and programs where at least 15% or 10 residents responded that they worked beyond three or more duty of the hour standards. A total of 131 programs were found in which 15% or 10 or more residents reported a duty hour violation on three or more standards. The model does not extend to programs under a duty hour exception; rather, any non-compliance is cause for concern in this cohort. Eleven programs with a duty hour exception for which at least one resident reported working beyond the extended limit are subject to additional follow-up by the RCs.
- The ACGME received seven complaints from residents related to non-compliance with the of duty hour standards. This constituted 11% of the complaints ACGME received during the Academic Year. The number of duty hour complaints represents a reduction from the 16 complaints ACGME received during AY 2004-05 and the 53 complaints during AY 2003-04. For complaints that were substantiated, the ACGME instituted appropriate follow-up.

Expanding the ACGME's Focus to the Greater Learning Environment for Residents

The ACGME communicates its approach to limiting resident duty hours and its compliance efforts to the academic community and the public through published articles, interviews and information presented on its web site and in the quarterly *Bulletin*. The ACGME also shares with the academic community compliance activities and innovative ideas related to duty hours that could be adopted or adapted by other programs. The ACGME firmly believes that an effective approach to protect patient safety and resident education and promote resident well-being requires a broader approach that views duty hours as one factor in a larger set that contribute to a high-quality learning environment.

To learn more about this larger set of factors, the ACGME authorized the Committee on Innovation in the Learning Environment, to promote improvement and innovation in the settings where residents are educated. The objective of this effort is to create models for redesign of the learning environment that are responsive to changes in residents' hours and other aspects of their education and clinical engagement. Important elements include improving efficiency and effectiveness in teaching settings, and integrating lifelong learning, practice-based learning and improvement and systems based practice into residency curricula and clinical activities. Projects include innovative approaches to reduce resident hours by analyzing redundant activities, application of systems engineering, efforts to identify the attributes that make up a high-quality learning and patient care environment, and a conference at which 160 attendees participated in a series of sessions to provide concrete suggestions for the redesign of the resident learning environment for the future.

Comparing Total Duty Hour Citations for AY 2003-04 through AY 2005-06

Specialty	Academic Year 2003-04			Academic Year 2004-05			Academic Year 2005-06		
	No. of Programs Reviewed	No. of programs cited	% Cited	No. of Programs Reviewed	No. of programs cited	% Cited	No. of Programs Reviewed	No. of programs cited	% Cited
Allergy and Immunology	21	3	14.0%	17	0	0.0%	27	3	11.1%
Clinical Laboratory Immunology	10	0	0.0%	1	0	0.0%	0	0	--
Anesthesiology	41	2	0.0%	33	1	3.0%	35	6	17.1%
Anesthesiology Subspecialties.	53	5	9.4%	51	2	3.9%	46	2	4.3%
Colon and Rectal Surgery	10	0	0.0%	14	1	7.1%	18	4	16.7%
Dermatology	26	0	0.0%	26	0	0.0%	41	1	2.4%
Dermatology Subspecialties	26	0	0.0%	24	1	4.2%	33	0	0.0%
Emergency Medicine	29	1	3.4%	29	3	10.3%	43	9	20.9%
Emergency Med. Subspecialties	19	0	0.0%	5	0	0.0%	11	1	9.1%
Family Practice	154	26	16.9%	97	18	18.6%	107	25	23.4%
Family Practice Subspecialties	35	0	0.0%	34	2	5.9%	45	1	2.2%
Internal Medicine	74	14	18.9%	99	14	14.1%	60	12	20.0%
Internal Medicine Subspecialties	344	10	2.9%	362	12	3.3%	283	12	4.2%
Medical Genetics	12	1	8.3%	13	0	0.0%	19	0	0.0%
Molecular Genetic Pathology	4	0	0.0%	5	0	0.0%	7	0	0.0%
Neurological Surgery	17	0	0.0%	32	3	9.4%	19	5	26.3%
Neurology	29	2	6.9%	33	5	15.2%	31	5	16.1%
Neurology Subspecialties	37	0	0.0%	42	3	7.1%	81	2	2.5%
Nuclear Medicine	13	0	0.0%	16	2	12.5%	16	1	6.3%
Obstetrics and Gynecology	68	4	5.9%	76	9	11.8%	93	13	14.0%
Ophthalmology	34	0	0.0%	21	0	0.0%	38	0	0.0%
Orthopaedic Surgery	57	3	5.3%	52	3	5.8%	40	3	7.5%
Ortho. Surgery Subspecialties	56	0	0.0%	49	2	4.1%	71	0	0.0%
Otolaryngology	29	0	0.0%	27	1	3.7%	26	2	7.7%
Otolaryngology Subspecialties	5	0	0.0%	6	1	16.7%	7	0	0.0%
Pathology	41	0	0.0%	38	0	0.0%	56	2	3.6%
Pathology Subspecialties	88	2	2.3%	71	1	1.4%	146	1	0.7%
Pediatrics	41	2	4.9%	44	8	18.2%	59	15	25.4%
Pediatrics Subspecialties	124	4	3.2%	106	9	8.5%	193	10	5.2%
Phys. Medicine & Rehabilitation	20	0	0.0%	22	3	13.6%	25	5	20.0%
PM & R Subspecialties	8	0	0.0%	9	0	0.0%	16	0	0.0%
Plastic Surgery	45	2	4.4%	23	3	13.0%	31	2	6.5%
Plastic Surgery Subspecialties	21	0	0.0%	7	1	14.3%	5	1	20.0%
Preventive Medicine	17	1	5.9%	13	0	0.0%	19	0	0.0%
Medical Toxicology	3	0	0.0%	1	0	0.0%	0	0	--
Psychiatry	44	1	2.3%	37	2	5.4%	50	3	6.0%
Psychiatry Subspecialties	61	1	1.6%	79	2	2.5%	83	4	4.8%
Radiation Oncology	21	0	0.0%	19	1	5%	22	0	0.0%
Diagnostic Radiology	52	0	0.0%	52	4	7.7%	46	4	8.7%
Diagn. Radiology Subspecialties	98	0	0.0%	72	2	2.8%	67	2	3.0%
Sleep Medicine	0	0	--	0	0	--	72	0	0.0%
General Surgery	63	2	3.2%	68	10	14.7%	100	20	20.0%
General Surgery Subspecialties	71	1	1.4%	61	4	6.6%	65	1	1.5%
Thoracic Surgery	31	3	9.7%	33	3	9.1%	30	2	6.7%
Urology	27	2	7.4%	36	2	5.6%	41	2	4.9%
Urology Subspecialties	4	0	0.0%	4	0	0.0%	6	0	0.0%
Transitional Year	30	3	10.0%	43	8	18.6%	34	7	20.6%
Totals, All Specialties/Subspecialties	2,027	101	5.0%	2,002	147	7.3%	2,363	187	8.1%

Source: ACGME Citation Database, July 2004, August 2005, August 2006

AY 2004-05 Duty Hour Citations by Specialty, Citation Detail

	Total Programs	Programs Reviewed 2005-06(1)	All Duty Hour Citations	% of Duty Hour Citations	80 hours per week	1 day in 7 free	10-hour rest	>24+6 hours	Call q 3rd night	Moon-lighting	Over-sight	Other Duty Hour Standards
Overall Totals	8,186	2,363	249	100%	26	28	18	66	10	10	34	56
Allergy and immunology	72	27	3	1.2%	0	0	0	0	0	1	1	1
Clin Laboratory Immunology	1	0	0	--	0	0	0	0	0	0	0	0
Anesthesiology	129	35	6	2.4%	3	0	0	0	0	0	3	0
Anesth. Subspecialties	185	46	2	0.8%	0	0	1	0	1	0	0	0
Colon and rectal surgery	43	18	4	1.6%	0	0	0	0	0	0	0	4
Dermatology	112	41	1	0.4%	0	1	0	0	0	0	0	0
Dermatology Subspecialties	77	33	0	--	0	0	0	0	0	0	0	0
Emergency medicine	135	43	13	5.2%	2	1	0	3	0	1	0	6
EM Subspecialties	37	11	1	0.4%	0	0	0	0	0	0	0	1
Family medicine	466	107	27	10.8%	0	1	1	12	0	1	9	3
FM Subspecialties	117	45	1	0.4%	0	0	0	0	0	0	1	0
Internal medicine	388	60	16	63%	1	1	1	2	0	0	3	8
IM Subspecialties	1490	283	16	6.4%	2	3	0	1	0	0	5	5
Medical genetics	48	19	0	--	0	0	0	0	0	0	0	0
Molecular Genetic Pathology	15	7	0	--	0	0	0	0	0	0	0	0
Neurological surgery	97	19	5	2.0%	1	2	0	2	0	0	0	0
Neurology	121	31	5	2.0%	0	0	0	3	0	0	0	2
Neurology Subspecialties	209	81	2	0.8%	1	0	0	1	0	0	0	0
Nuclear medicine	61	16	1	0.4%	0	1	0	0	0	0	0	0
Ob-Gynecology	252	93	17	6.8%	0	3	0	3	1	0	1	9
Ophthalmology	117	38	0	--	0	0	0	0	0	0	0	0
Orthopaedic surgery	151	40	3	1.2%	1	0	0	1	0	0	1	0
Ortho. Surgery Subspecialties	192	71	0	--	0	0	0	0	0	0	0	0
Otolaryngology	103	26	2	0.8%	0	0	0	0	0	0	1	1
Otolaryngology Subspecialties	20	7	0	--	0	0	0	0	0	0	0	0
Pathology	152	56	2	0.8%	0	2	0	0	0	0	0	0
Pathology Subspecialties	365	146	1	0.4%	0	0	0	0	0	0	0	1
Pediatrics	204	59	15	6.0%	0	0	1	12	0	0	2	0
Pediatric Subspecialties	661	193	11	4.4%	0	0	0	2	1	3	3	2
Physical Medicine and Rehab.	79	25	5	2.0%	2	0	0	0	0	1	0	2
PM&R Subspecialties	35	16	0	--	0	0	0	0	0	0	0	0
Plastic surgery	90	31	3	1.2%	0	0	0	1	0	0	2	0
Plastic Surgery Subspecialties	19	5	1	0.4%	0	0	0	0	0	0	0	1
Preventive medicine	75	19	0	--	0	0	0	0	0	0	0	0
Medical Toxicology	5	0	0	--	0	0	0	0	0	0	0	0
Psychiatry	181	50	3	1.2%	0	0	0	0	0	1	0	2
Psychiatry Subspecialties	283	83	4	1.6%	0	0	0	0	0	2	0	2
Radiation oncology	81	22	0	--	0	0	0	0	0	0	0	0
Radiology-diagnostic	190	46	5	2.0%	1	0	1	1	0	0	0	2
Diagn. Radiology Subspecialties	282	67	2	0.8%	0	0	0	0	0	0	2	0
Sleep Medicine	25	72(1)	0	--	0	0	0	0	0	0	0	0
Surgery-general	252	100	54	21.7%	10	9	10	15	7	0	0	3
Surgery Subspecialties	212	65	1	0.4%	0	0	0	1	0	0	0	0
Thoracic surgery	88	30	6	2.4%	0	2	2	1	1	0	0	0
Urology	119	41	2	0.8%	0	1	0	0	0	0	0	1
Pediatric urology	20	6	0	--	0	0	0	0	0	0	0	0
Transitional year	130	34	9	3.6%	2	1	1	5	0	0	0	0

(1) A number of new Sleep Medicine applications underwent multiple reviews.

Source: ACGME Citation Database, August 2006