

Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Nasca TJ, Day SH, Amis ES Jr. The new recommendations on duty hours from the ACGME task force. *N Engl J Med* 2010;363:e3. DOI: 10.1056/NEJMs1005800.

Web supplement: Comparison of the Proposed ACGME Requirements to the 2003 Standards and the IOM Recommendations

Category	2003 ACGME Requirements	2008 Institute of Medicine (IOM) recommendations	2010 Proposed ACGME Requirements
Supervision	<ul style="list-style-type: none"> The program must ensure that qualified faculty provide appropriate supervision of residents in patient care activities. 	<ul style="list-style-type: none"> Each RRC should establish measurable standards of supervision for each level of doctor in training, according to their specialty First-year residents should not be on duty without having immediate access to a residency program-approved supervisory physician in-house. 	<ul style="list-style-type: none"> Residents and attendings should inform patients of their role in the patient’s care Faculty functioning as supervising physicians should delegate portions of that care to resident physicians Senior residents or fellows should serve in a supervisory role of junior residents The privilege of progressive responsibility in patient care delegated to each resident must be assigned by the program director and faculty The resident is responsible for knowing the limits of his/her scope of authority Programs must set guidelines for circumstances and events where residents must communicate with appropriate supervising physicians Faculty supervision assignments should be of sufficient duration to assess the knowledge and skills of the resident and delegate the appropriate level of patient care authority and responsibility. In particular, during the PGY 1 year, residents must have supervision level 1 or 2a (see below) Levels of Supervision. In the development and description of systems to oversee resident supervision and graded authority and responsibility, each program must use the following classification of supervision. <ol style="list-style-type: none"> Direct Supervision —The supervising physician is physically present with the resident and patient Indirect Supervision: <ol style="list-style-type: none"> Direct supervision immediately available – The supervising physician is physically within the confines of the site of patient care, and immediately available to provide Direct Supervision Direct supervision available – The supervising physician is not physically present within the confines of the site of patient care, is immediately available via phone, and is available to provide Direct Supervision Oversight—The supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.
Workload	<ul style="list-style-type: none"> The learning objectives of the program must not be compromised by excessive reliance on residents to fulfill service obligations. Didactic and clinical education must have priority in the allotment of residents’ time and energy. Duty hour assignments must recognize that faculty and residents collectively have responsibility for the 	<ul style="list-style-type: none"> ACGME should require that sponsoring institutions appropriately adjust resident workload Minimize the level of residents’ work that is of limited or no educational value Provide residents with adequate time for patient care and reflection time ACGME should require RRCs to define and require appropriate limits on caseload, taking into consideration complexity of patient illness and level of residents’ competency 	<ul style="list-style-type: none"> The workload for each resident must be based on the level of training, patient safety, resident education, severity and complexity of patient illness and available support services (specialty specific guidelines to be enumerated by each specialty Review Committee) The learning objectives of the program must not be compromised by excessive reliance on residents to fulfill non-physician service obligations.

	safety and welfare of patients.		
Teamwork	<ul style="list-style-type: none"> Residents are expected to work effectively as a member or leader of a health care team or other professional group. 		<ul style="list-style-type: none"> Residents must care for patients in an environment that maximizes effective communication. Residents must have the opportunity to work in interdisciplinary teams to improve patient quality of care and assure patient safety.
Professionalism, Personal Responsibility, and Patient Safety	<ul style="list-style-type: none"> Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate: compassion, integrity, and respect for others; responsiveness to patient needs that supersedes self interest; respect for patient privacy and autonomy; accountability to patients, society and the profession; and, sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation 		<ul style="list-style-type: none"> The program must be committed to and be responsible for promoting patient safety and resident well-being in a supportive educational environment. The program director must ensure that the residents are integrated and actively participate in departmental and/or institutional clinical quality improvement and patient safety programs. The learning objectives of the program must: <ul style="list-style-type: none"> be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events not be compromised by excessive reliance on residents to fulfill non-physician service obligations. As professionals, residents must take personal responsibility for, and faculty must model: <ul style="list-style-type: none"> assurance of the safety and welfare of patients entrusted to their care provision of patient and family centered care assurance of their fitness for duty management of their time before, during, and after clinical assignments recognition of impairment, for example illness and fatigue, in self and peers attention to lifelong learning monitoring their patient care performance improvement indicators. honest and accurate reporting of duty hours, patient outcomes, and clinical experience data. The Program Director and institution must ensure a culture of professionalism that is supportive of the above listed responsibilities. All residents and faculty must demonstrate responsiveness to patient needs that supersede self-interest. Physicians must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient's care to another qualified and rested provider.

<p>Transitions of Care</p>	<ul style="list-style-type: none"> Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. 	<p>Teaching hospitals should design, implement, and institutionalize structured handover processes to ensure the continuity of care and patient safety</p> <ul style="list-style-type: none"> Programs should train residents and teams in effective communication and handover processes Programs should schedule an overlap in time for transitioning on and off duty The process should include a system that quickly provides staff and patients with the name of the resident currently responsible, in addition to the name of the attending physician 	<ul style="list-style-type: none"> Programs must design clinical assignments to minimize the number of transitions in patient care. Institutions and programs must ensure and monitor effective, structured handover processes to facilitate both continuity of care and patient safety. Programs must ensure that residents are competent in communication with team members in the handover process. Institutions must assure the availability of schedules that inform (patients and) all members of the health care team of faculty and residents currently responsible for patient care. Residents and attendings should inform patients of their role in the patient's care.
<p>Alertness Management</p>	<ul style="list-style-type: none"> Faculty and residents must be educated to recognize the signs of fatigue and sleep deprivation and must adopt and apply policies to prevent and counteract its potential negative effects on patient care and learning. 	<p>ACGME should adopt and enforce requirements that adhere to the following principles:</p> <ul style="list-style-type: none"> duty hour limits that promote prevention of sleep loss, additional measures should mitigate fatigue, schedules should provide for predictable, protected, and sufficient uninterrupted recovery sleep to relieve acute and chronic sleep loss, promote resident well-being, and balance learning requirements Programs should provide formal education for residents and staff on fatigue/sleep loss Sponsoring institutions and programs should ensure their practices promote that residents take the required sleep during extended duty periods 	<ul style="list-style-type: none"> The Program must: <ul style="list-style-type: none"> educate all faculty and residents to recognize the signs of fatigue and sleep deprivation educate all faculty and residents in fatigue mitigation processes adopt fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning, e.g. naps, back-up call schedules. Each program must have a process to ensure continued patient care in the event that a resident may be unable to perform his/her patient care duties. Sponsoring Institution must provide adequate sleep facilities and/or safe transportation options for residents who may be too fatigued to safely return home.
<p>Maximum hours of work per week</p>	<ul style="list-style-type: none"> 80/wk, averaged over 4 wks 	<ul style="list-style-type: none"> 80/wk, averaged over 4 wks 	<ul style="list-style-type: none"> 80/wk, averaged over 4 wks

<p>Maximum Duty Period Length</p>	<ul style="list-style-type: none"> • Continuous on-site duty, including in-house call, must not exceed 24 consecutive hours. • Residents may remain on duty for up to six additional hours to participate in didactic activities, transfer care of patients, conduct outpatient clinics, and maintain continuity of medical and surgical care. • No new patients may be accepted after 24 hours of continuous duty. 	<ul style="list-style-type: none"> • Extended duty must not exceed 16 hrs, unless a 5 hr nap is provided between 10p – 8a. The 5 hour nap must be included in 80 hr limit. After 5 hr nap, resident may continue for up to 9 more hrs for a total of 30 hrs. • No new patients after 16 hours • Extended duty (e.g. 30 hr. w/5 hr nap) must not occur more frequently than every third night. No averaging 	<ul style="list-style-type: none"> • Duty periods of first year (PGY 1) residents must not exceed 16 hours in duration. • Intermediate-level and senior residents (PGY 2 and above) may be scheduled to a maximum of 24 hours of continuous duty in the hospital. Programs must encourage residents, as professionals, to use alertness management strategies to maintain alertness in the context of patient care responsibilities. Strategic napping, especially after 16 hours of continuous duty and during the hours between 10PM and 8AM, is strongly suggested. <ul style="list-style-type: none"> It is essential for patient safety and resident education that effective transitions in care occur. Residents may be allowed to remain on site for periods of no longer than an additional 4 hours in order to accomplish these tasks. Residents may not attend continuity clinics after 24 hours of continuous in-house duty. In unusual circumstances, residents may remain beyond their scheduled period of duty to continue to provide care to a single patient. Justifications for such extension of duty are limited to reasons of required continuity for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of a patient or family. Under those circumstances, the resident must: a) appropriately hand over the care of all other patients to the team responsible for their continuing care; b) document the reasons for remaining to care for the patient in question and submit that documentation in every circumstance to the program director. The program director must both review each submission of additional service, and track both individual resident and program wide episodes of additional duty. The resident cannot be compelled to spend these additional hours in the hospital (i.e. it must be the initiative of the resident), and the additional hours must be included in the maximum of 80 hours per week averaged over one month.
<p>Maximum In-Hospital On-Call Frequency</p>	<ul style="list-style-type: none"> • Every third night, on average 	<ul style="list-style-type: none"> • Every third night, no averaging 	<ul style="list-style-type: none"> • Intermediate-level and senior residents (PGY 2 and above): every third night (no averaging).
<p>Minimum Time Off between Scheduled Duty Periods</p>	<ul style="list-style-type: none"> • Adequate time for rest and personal activities must be provided. This should consist of a 10-hour time period provided between all daily duty periods and after in-house call. 	<p>Residents must have:</p> <ul style="list-style-type: none"> • 10 hrs off following a regular daytime duty period • 12 hrs off following night duty • 14 hrs off following an extended duty period and not return earlier than 6 am the next day 	<ul style="list-style-type: none"> • PGY-I residents should have 10 hours, and must have 8 hours, free of duty between scheduled duty periods. • Intermediate-level residents, as defined by the RRC, should have 10 hours free of duty, and must have 8 hours between scheduled duty periods. They must have at least 14 hours free of duty after 24 hours of in hospital duty. • Residents in the final years of training (to be defined by the specialty Review Committee and approved by the ACGME) should have 10 hours free of duty, and must have 8 hours between scheduled duty periods. However, due to the necessity that these residents must prepare to care for patients over irregular or extended periods in certain specialties, Review Committees may create standards that allow residents to return to work with fewer than 8 hours between scheduled duty periods under the monitoring of the program director. This must occur only within the context of appropriate call and cross-cover arrangements and the 80 hour and 1 day off in 7 standards.
<p>Maximum Frequency of In-Hospital Night Duty</p>	<ul style="list-style-type: none"> • [specialty-specific requirements apply] 	<ul style="list-style-type: none"> • Night duty must not exceed 4 consecutive nights and must be followed by a minimum of 48 continuous hours off (after 3 or 4 consecutive nights) 	<ul style="list-style-type: none"> • Residents must not be scheduled for more than 6 consecutive nights of night duty (night float). (The maximum number of consecutive weeks of night float, and maximum number of months of night float per year may be further specified by the specialty Review Committee)

Mandatory Time Off Duty	<ul style="list-style-type: none"> • 24 hrs off per 7 day period, averaged over 4wks, inclusive of call. 	<ul style="list-style-type: none"> • 24 hrs off per 7 day period. No averaging. One "golden weekend" per month. 	<ul style="list-style-type: none"> • 24 hrs off per 7 day period, (when averaged over 4 weeks). Home call cannot be assigned on these free days.
Moonlighting	<ul style="list-style-type: none"> • Moonlighting must not interfere with the ability of the resident to achieve the goals and objectives of the educational program. • Internal moonlighting must be considered part of the 80-hour weekly limit on duty hours. 	<ul style="list-style-type: none"> • Internal and external moonlighting count as part of 80 hour limit • Require sponsoring institutions to include provisions to in resident contracts that residents must receive permission from PD to moonlight, and resident performance will be monitored to ensure no adverse effects from moonlighting. 	<ul style="list-style-type: none"> • Internal and external moonlighting count as part of 80 hour limit • PGY-I residents must not be permitted to moonlight, internal or external.
Duty Hour Exceptions	<ul style="list-style-type: none"> • A Review Committee may grant exceptions for up to 10% or a maximum of 88 hours to individual programs based on a sound educational rationale. 	<ul style="list-style-type: none"> • A Review Committee may grant exceptions for up to 10% or a maximum of 88 hours to individual programs based on a sound educational rationale. 	<ul style="list-style-type: none"> • Duty Hour Exceptions of 88 hours per week averaged for select programs with a sound educational rationale are permissible. Prior to submitting the request to the review committee the Program Director must obtain permission from the Designated Institutional Official and the Graduate Medical Education Committee.
Home Call	<ul style="list-style-type: none"> • The frequency of at-home call is not subject to the every-third-night, or 24+6 limitation. However at-home call must not be so frequent as to preclude rest and reasonable personal time for each resident. • Residents taking at- 		<ul style="list-style-type: none"> • Time on home call spent by residents in hospital must count towards the 80 hour Maximum Weekly Hour Limit. The frequency of at home call is not subject to the every third night limitation. At home call must not be so frequent or taxing to preclude rest or reasonable personal time for each resident. • Residents are permitted to return to the hospital while on home call to care for new or established patients. Each episode of this type of care, while it must be included in the 80 hours weekly maximum, will not initiate a new "off duty period."

	<p>home call must be provided with one day in seven completely free from all educational and clinical responsibilities, averaged over a four-week period.</p> <ul style="list-style-type: none">• When residents are called into the hospital from home, the hours residents spend in-house are counted toward the 80-hour limit.		
--	---	--	--