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Interpreting Too Many Studies Per Day

Can a radiologist be held liable for missing a lesion because he or she was “overworked” by interpreting too many studies in one day? This rare allegation may become more popular among plaintiffs’ attorneys because of the current combination of a shortage of radiologists and an increasing number of imaging examinations.

The seminal study on radiology workload revealed that radiologists in a group practice interpreted an average of about 11,000 imaging procedures per year.¹ The authors stressed that their workload data showed substantial variability, citing another study in which the average annual workload ranged up to 17,900 studies. The article contained a disclaimer emphasizing that average yearly workloads are influenced by many factors, including the type of radiologic procedure and complexity of the findings; whether previous studies were available for comparison; whether it was the radiologist or some other personnel who hung the radiographs on the view box or alternator; whether the radiologist was constantly being interrupted by telephone or in-person consultations with referring physicians; whether the radiologist had additional administrative, research, or teaching duties; the varying speeds at which different radiologists work; and the number of hours the radiologist worked in a given day. The increasing utilization of PACS technology should also affect average productivity statistics. Although this and subsequent articles urged that their results not in any way be considered to reflect the standard of care, the raw data in workload studies are potentially dangerous for practicing radiologists who are efficient, work long hours, and can devote their entire day to interpreting imaging examinations.

Assuming that the average radiologist works about 250 days a year, the average workload per radiologist ranges from 50 to 70 diagnostic procedures per day.² This would be extremely high (if not impossible) for a radiologist reading only CT or MRI scans, but far too low for one interpreting only plain films. For those interpreting mammograms, a major
textbook states that most radiologists can interpret 40 to 50 studies in a 2-hour session, as long as the current and previous films are placed on an alternator so that film handling by the radiologist is minimized. A Swedish study reported an average workload per radiologist of 150 to 200 screening mammograms per day. Several articles have evaluated the question of how much time a radiologist must devote to interpret accurately an individual imaging examination. Ironically, in one study radiologists averaged more time interpreting those cases in which errors were made than they spent on the examinations diagnosed correctly! A subsequent article reported that a large number of true-positive observations were made during the first few seconds of search. By comparing radiographs with a previously learned concept of normal, radiologists detected obvious abnormalities almost immediately, with the number of abnormalities detected increasing with the experience of the observer. Nevertheless, longer searches did result in an increased number of positive observations. Even though the authors recognized that the value of a long search time in interpreting images is overestimated, the article concluded that the radiologist who interprets an examination in a few seconds is gambling that a large proportion of radiographs show normal findings. Another study, however, has cautioned that a quarter of subtle lung lesions are missed even with unlimited viewing time. Moreover, longer viewing times are associated with an increased incidence of false positives, resulting in workups for lesions that do not exist.

Despite multiple studies, there are no scientific data to set workload numbers or interpretation times that could constitute a legally valid standard of care. Nevertheless, since enterprising plaintiffs’ attorneys may cite specific studies as evidence to support their claims of negligence related to overwork and fatigue, radiologists should consider methods to thwart this attempt. As Berlin has noted, as a useful deterrent to unfounded allegations, radiology groups should consider including in their group or department policy a reference to workload parameters, such as: “The daily workload for radiologists in the group is variable, depending on their specific duties and the degree of staffing for the department.” If a portion of the remuneration of radiologists is related to individual productivity, the group should stress in a policy statement that “productivity is a far less important factor in the determination of income than the providing of optimal patient care, which is the group’s primary goal.” Radiologists must make certain that the attention and care they devote to the last examination of the day is as intense as that for the first imaging study. Radiologists who feel “fatigued or not able to devote their full energy toward interpreting a radiologic study should