The Resident Work Hour Restriction: Good, Bad, or Indifferent?

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In 1984, a young woman named Libby Zion died at The New York Hospital after a brief illness that was complicated by a rare drug interaction. This tragedy was blamed in large part on overworked and tired residents whose judgment was impaired by exhaustion and distraction from having responsibility for so many patients while on call. There may be some debate that this incident had just as much to do with lack of supervision or improper advice given by the attending physician. Regardless, her death resulted in the New York State Department of Health code section 405, which became known as the Libby Zion Law, limiting resident work hours to 80 per week in all New York hospitals. In 2003, the Accreditation Council for Graduate Medical Education prescribed that the same type of regulations be applied nationwide.

As I reflect on my own residency training in the 1970s, I am amazed that I survived it, especially the 2 years in general surgery. Almost half of my intern year was every other night of in-house call, and nearly all of postgraduate year 2 was on that schedule. Somehow my colleagues and I got through it while in a perpetual state of “tiredness.” We learned and did a lot. The thrill of being able to operate and the miracle of a patient’s recovery made it all worthwhile. I have to admit that I walked around like a zombie on many of those days.

The Accreditation Council for Graduate Medical Education regulations for nationwide application were implemented in 2003, revised in 2011, and adjusted in 2017. The hope was that a more reasonable work schedule that would lead to safer care for patients and a better work–life balance and more rest for residents would prevail. Sleep deprivation has effects similar to those of alcohol consumption, and physical and mental performance while profoundly tired is similar to that while driving under the influence. Trying to address at least that aspect of long work hours seems sensible and reasonable and could bring about additional positive outcomes. However, we must remember that fewer hours spent and fewer repetitions completed intuitively mean less experience gained. One report suggested that the implementation of work hour restriction stimulated more applications to orthopedic residency programs. However, many unintended consequences arose from this new work paradigm, including the need for more handoffs; the need for more mid-level providers to pick up the slack of work traditionally done by house staff; the creation of a new on-call system—“the night float”; and the worry that forcing residents to leave at a certain time would foster a shift worker mentality. There is no way to be sure that the intended consequences—more rest and more study time—are actually happening. There are even more germane concerns about the effect on the educational issues, particularly as they relate to surgical experience. The regulations also impose a significant burden on the residency programs and the residents themselves to document work hours and enforce strict time-off rules.
It is fair to say that the effects of these regulations have not been totally positive. In the literature, reviews of the process have been mixed and even contradictory. In particular, studies of surgical experience under this system show conflicting effects. Some specialties seem more amenable to the regulations and have embraced them better than others (surgical) because they, as a matter of practice, routinely share patients, whereas surgeons generally do not. Furthermore, surgery leads to a special, trusting relationship between the surgeon and the patient. This relationship imposes a serious responsibility that extends beyond the surgical procedure, often involving intensive care postoperatively and the management of complications of surgery.

To determine residents’ assessment of the process, I designed a short questionnaire for the orthopedic surgery residents at West Virginia University. These 20 residents are enthusiastic, hardworking, wonderful young people with an incredible work ethic and sense of responsibility (no shift worker mentality here). They work at only 1 hospital, and they have a close relationship with each other and with the faculty who are dedicated to resident education. All 20 residents completed the questionnaire anonymously. They graded the effects of work hour restriction in 8 categories as good, neutral, or bad in their opinion. (The specific issue of “burnout” was not addressed in the survey.) The results are displayed Table 1. This questionnaire certainly was not a validated survey instrument, and I do not know what the results would be if it were sent to all US orthopedic surgery residents. However, it is clear that these residents view work hour restriction as a good thing overall. They did not feel that it harmed their surgical experience, but at the same time, they did not feel that it greatly enhanced patient care or safety. One thing is clear: the reporting requirements are a burden. As an aside, the night float rotation seems to be a real downer that they must endure twice during their residency. My observation is that the work hour restriction has not resulted in a shift worker mentality in this group of residents.

What my contemporaries and I endured during training was brutal, and just because we survived it does not make it less so or right. The work hour restriction is a good thing, but it will require continued monitoring and reassessment. There is so much more to learn now than there was in the 1970s. Residents need time to absorb this knowledge. Limiting the time spent in the hospital should provide more opportunity to study and to “have a life.” Residents need time for family, exercise, and sleep. The reporting requirements should not be draconian, and an occasional violation should not be deemed a mortal sin for the resident or the program. Although instantaneous and constant communication among residents, faculty, and hospital staff and residents’ ability to work on the electronic medical record from home are great conveniences, they require modulation so that they do not negate some of the desired effects of work hour restriction. At this juncture, do I dare bring up the fact that there are no work hour restrictions for attendings? We need to maintain perspective and to continue to improve this process for the benefit of all engaged in educating orthopedic surgery residents. We must remember Malcolm Gladwell’s 10,000 Hour Rule—10,000 hours of “deliberate practice” are needed to become world-class in any field.

**Table 1**

<table>
<thead>
<tr>
<th>Category</th>
<th>Grade, No.</th>
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<tbody>
<tr>
<td>Work–life balance</td>
<td>Good: 10, Neutral: 8, Bad: 2</td>
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<tr>
<td>Personal/family time</td>
<td>Good: 14, Neutral: 6, Bad: 0</td>
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<tr>
<td>Professional life</td>
<td>Good: 12, Neutral: 6, Bad: 2</td>
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<tr>
<td>Operative experience</td>
<td>Good: 5, Neutral: 11, Bad: 4</td>
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<tr>
<td>Patient care/safety</td>
<td>Good: 7, Neutral: 10, Bad: 2</td>
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<tr>
<td>Work hour reporting requirements</td>
<td>Good: 3, Neutral: 5, Bad: 12</td>
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<tr>
<td>Training environment</td>
<td>Good: 9, Neutral: 8, Bad: 3</td>
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<tr>
<td>Overall assessment of work hour restriction process</td>
<td>Good: 13, Neutral: 4, Bad: 3</td>
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*aOne abstention.*

**REFERENCES**


