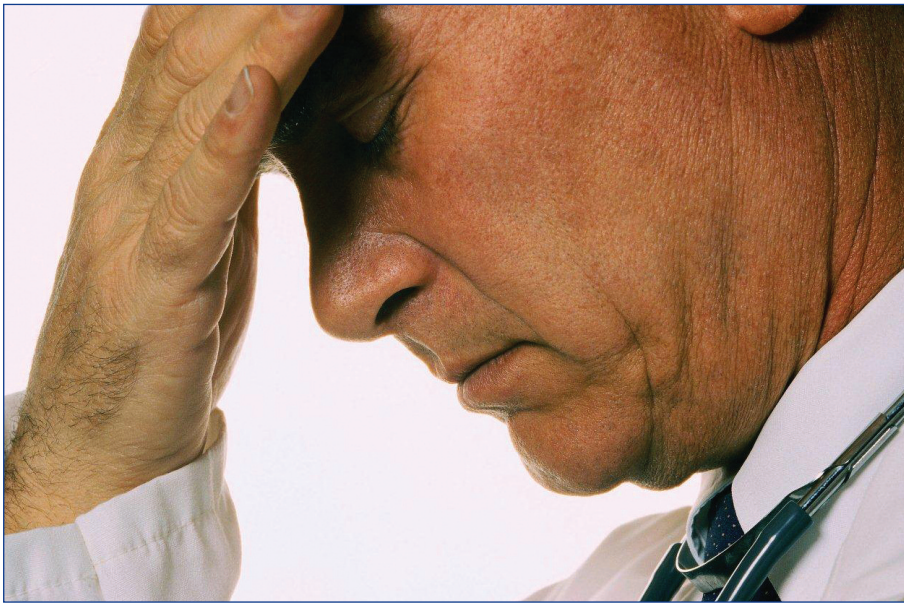


## Long Shifts, Lack of Sleep Fatigue Health Care Workers: Changing Attitudes About Rest and Reasonable Work Schedules



*Health care worker fatigue can expose patients to serious risk.*

**D**id you get your full 8 hours of sleep last night? Most Americans get 90 minutes less sleep each night than they need to be rested and productive the next day at work, says Steven Howard, M.D., director, Patient Safety Center of Inquiry, Veterans Affairs (VA) Palo Alto Health Care System in California. Health care workers are no exception.

While nodding off at their computer or in a long meeting may be the biggest risk for many tired workers, the stakes are considerably higher when health care workers are drowsy on the job. “We know fatigue is a real problem in health care, and if workers push themselves enough, they’re going to have a needlestick or give a patient the wrong drug,” Howard says. Both worker and patient safety are at risk when health care workers are fatigued.

### A History of Fatigue in Residents

Health care worker fatigue has tradi-

tionally been linked with physicians-in-training, who, until 2003, were allowed to work 120-to-130 hour weeks. These physicians are called *residents* because about 120 years ago they actually lived in hospitals. “Historically, residents weren’t allowed to marry. They lived in the hospitals day and night to care for their patients,” explains Steven Lockley, Ph.D., associate neuroscientist, Division of Sleep Medicine, Department of Medicine, Brigham and Women’s Hospital, Boston. “Things are obviously very different today, but attitudes in health care are slow to change.”

Lockley was an investigator in a study<sup>1</sup> which found that first-year residents made 36% more serious medical errors and five times as many serious diagnostic errors when they worked 30-hour shifts compared to when they worked 16-hour shifts. After their 20th consecutive hour of work, they suffered 61% more needlesticks and other sharps injuries and doubled their risk

of motor vehicle crash when driving home after their shift.

After the study came out, the Accreditation Council for Graduate Medical Education (ACGME) limited first-year residents to 16-hour shifts and all residents to 80-hour work weeks. However, ACGME regulations allow residents with more experience to work as much as 30 hours in one shift.

The regulations are an improvement from the days of 120-hour work weeks but don’t go far enough, says Lockley, who also is an assistant professor at Harvard Medical School. “The regulations suggest that if you do a year of training, you can withstand sleep deprivation, which we know is not the case,” Lockley says. “It’s also ironic that we think 16 hours is a short shift.”

Lockley lists three reasons residents are expected to work long hours. First, the long hours are considered a rite of passage for new physicians. “It’s ingrained in the culture of training that physicians have to go through this to show their worth,” he says.

A second reason for long resident shifts is that hospitals want to limit the number of patient handoffs, to provide consistent care to patients. Lockley argues that improved communication during patient handoffs alleviates the need for long shifts. “The focus needs to be on the quality of handoffs rather than the number of handoffs,” he says.

Another reason residents are expected to work long hours is cost savings. “The unspoken truth is that residents are cheap labor sources,” Lockley says. “They often do a lot of the grunt work of patient care. Hiring more doctors would mean higher costs,

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but these costs would be balanced by fewer medical errors.”

## Tips for Managing Fatigue

Fatigue is not limited to residents. Nurses, physicians, and other health care workers are often on the job 12 hours or longer, or are working the night shift, and are at risk. Circadian physiology dictates that humans are awake and alert during daylight hours and feel sleepy at night. Workers are especially vulnerable to fatigue between 3 A.M. and 5 A.M.<sup>2</sup>

Howard is no stranger to sleepiness. He is an anesthesiologist who is often on call for 24 hours and then goes in to work the next morning, “I’ve been studying fatigue for 20 years—and living it,” he says.

Howard lists a few things health care workers can do to keep awake until their shift ends. For example, the strategic use of caffeine and energy drinks will temporarily mask the symptoms of fatigue. “Caffeine is great for that, but it’s the most abused drug in the world,” Howard says. “It would be good if people used caffeine only when they needed it, but most people use it routinely and have coffee every morning, rather than use it strategically. When you use caffeine routinely, you become addicted and need to use greater amounts to stay alert.”

Social interaction and bright lights also keep people awake. “If you see someone struggling to stay awake, engage them in conversation and keep them standing up,” Howard recommends. “As soon as they sit down in a dark corner, they’ll fall asleep.”

Health care workers with sleeping disorders, such as narcolepsy—characterized by excessive daytime sleepiness even after adequate nighttime sleep—need to seek medical treatment. Amphetamines and other stimulants to the central nervous

system are the main treatment. However, these drugs are very controversial when used by health care workers who do not have sleep disorders.

“It’s certainly an ethical question whether doctors should take drugs to remain alert,” Howard says.

“Amphetamines have a lot of side effects and could lead to addiction, especially if taken by someone who doesn’t have a medical need for them.”

## No Substitute for Sleep

Despite all the short-term tactics health care workers may employ to stay awake, the only real solution to fatigue is getting more sleep. With this in mind, some health care organizations are beginning to let health care workers nap on the job. “Workers were fired for this in the past, but more hospitals are realizing it’s better for workers to sleep and be rested than to be awake and making mistakes,” Howard says.

Howard and his colleagues at the VA Palo Alto Health Care System began a napping pilot program about five years ago in the hospital’s two critical care areas. One room is set up in each critical care area with a bed, a phone, and an alarm.

Workers in these areas, mainly nurses on 12-hour shifts, can combine their two 30-minute breaks and get roughly 45 minutes of shut eye. “The program has been variably successful, with nurses in one unit using the nap room more than those in the other unit,” Howard says.

A 45-minute nap will help rejuvenate a worker, but the key to avoiding fatigue is coming to work well rested. Health care workers have a personal responsibility to get the sleep they need before each shift. “There are no sleep police, so you need to come to work prepared, not impaired,” says Howard.

Of course, health care workers have many reasons for not getting enough sleep. The Internet and 24-hour television stations compete for our attention.

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Money is also an incentive to work two shifts in a row or moonlight at a different job, especially when someone has made a big purchase such as a house, an automobile, or a boat. Some health care workers pile up their work hours at the beginning of the month so they can have two weeks off later in the month without having to miss out on pay or use up their vacation time.

“People don’t want to be unsafe, but life is complicated,” Howard says. “On one side is money and lifestyle; on the other side is patient safety. These sides often clash.”

And coming to work sleepy is socially accepted, although Lockley and Howard say people need to look at sleepiness the same way they look at intoxication. They both cite a study<sup>3</sup> which found that workers’ performance after 24 hours straight without sleep is the same as their performance with a 0.1 blood alcohol level. “People don’t think it’s okay to come to work impaired after having several shots of alcohol; they shouldn’t think it’s okay to come to work impaired due to a lack of sleep,” says Howard.

## Making a Commitment to Sleep

A lax sleep plan will only get you so far, especially if you work a night shift. Howard suggests some ways to make a serious commitment to getting enough sleep. First of all, you can’t have a baby or small child at home and expect not to be interrupted. Invest in a babysitter, ask relatives to watch your child, or arrange a babysitting exchange with other parents.

If you’re trying to sleep during the day, shut off your phone and consider





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*In some cases, 16 hours is considered a short shift for residents.*

using ear plugs and eye shades. “Decreasing sensory input will help your body fall asleep during the day,” Howard explains.

Make your bedroom conducive to sleep by installing room-darkening shades and keeping the temperature cool. Avoid caffeine, alcohol, nicotine, and exercise two hours before going to sleep. Don’t go to bed hungry or with an extremely full stomach.

Turn off that action-packed television show or put down that thrilling book as your bedtime approaches. “People laugh at the thought of counting sheep, but doing something that’s not stimulating is best right before bedtime,” Howard says. “I’ve got plenty of things to read that will bore you to death if you’re having trouble sleeping.”

## Medical System Opening Its Eyes to Fatigue

Experts concur that the only sure fixes for health care worker fatigue are shorter work hours, longer sleep periods, and more workers.

Lockley says hospitals across the nation have begun shortening residents’

shifts. For instance, Coney Island Hospital in New York City limits resident shifts to 12 hours.

Lockley recommends 8-to-10 hour shifts as ideal, and cautions against scheduling health care workers up to the 16-hour limit. “You can’t schedule people to the legal limit because you want them to stay if there’s a problem,” he says. “You don’t want them to be halfway through a medical procedure and have to leave because they’ve reached 16 hours.”

He also advises supervisors to keep in mind when scheduling workers that it is easier to adapt to shifts that rotate in a forward direction (days—evenings—midnight) than shifts that go from nights to days or follow no pattern.

Shorter shifts are less of a problem for an organization when there are more people to relieve workers. Medical centers need to hire more staff to relieve their exhausted colleagues. Because of the shortage of physicians and nurses, medical centers are beginning to hire physician assistants and nurse practitioners to take up the slack. “These two careers are bringing posi-

tive changes to the health care profession,” Lockley says.

Lockley points to a need for more government funding to help support training for more new physicians. “In the long term, we need more physicians and certainly more nurses,” he says. “Health care worker fatigue is a public safety issue and one that deserves funding and every consideration to keep patients safe.” **PS**

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